



State of Washington
 Department of Ecology
 Office Of Columbia River
 Report of Examination for
 New Surface Water Right Application

File No. G4-33098 WR Doc ID 5965681
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PRIORITY DATE October 28, 2013	APPLICATION NUMBER G4-33098
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MAILING ADDRESS Methow Valley Irrigation District PO Box 860 Twisp, WA 98856	SITE ADDRESS (IF DIFFERENT)
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Quantity Authorized for Withdrawal or Diversion		
WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
6,016	GPM	2,684†

Purpose						
PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Irrigation	5,396		GPM	2,435.6		04/15 – 10/15
Municipal	620		GPM	248.4		Year round
IRRIGATED ACRES						
ADDITIVE	NON-ADDITIVE					
1036.7 less the acres irrigated under S4-33097*						

REMARKS

† The consumptive use between G4-33098 and S4-33097 is limited to the maximum amount available in the water bank of 2,995.9 ac-ft. The total annual quantity for G4-33098 and S4-33097 is limited to 5,592 ac-ft/yr.
 * The maximum number of acres to be irrigated between G4-33098 and S4-33097 is 1036.7 acres.

Source Location			
COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Okanogan	Groundwater	Twisp & Methow River	48 – Methow

SOURCE FACILITY/DEVICE	TWP	RNG	SEC	QQ Q
Up to 100 Wells				
Town of Twisp Well #1	33N.	22E.W.M.	8	SW, SW
Town of Twisp Well #2	33N.	22E.W.M.	17	NW, NW
Town of Twisp Well #3	33N.	22E.W.M.	17	NE, SW
Town of Twisp Well #4	33N.	22E.W.M.	17	SW, NE

All other wells located within Sec 12, T. 33N., R. 22E.W.M.;
 Sections 7, 17, 18, 20, 21, 27, 28, 34, and 35, T. 33N., R. 22E.W.M.;
 Sections 2, 3, 9, 10, 16, and 20, T. 32N., R. 22E.W.M.

Place of Use
LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Irrigation lands within the Methow Valley Irrigation District (see Figure 1).

Area served by the Town of Twisp in its most recent approved Water System Plan. If the criteria in RCW 90.03.386(2) are not met and Water System Plan was approved after September 9, 2003, the place of use of this municipal portion of the water right reverts to the service area described in that document. If the criteria

in RCW 90.03.386(2) are not met and no Water System Plan has been approved after September 9, 2003, the place of use reverts to the last place of use described by the Department of Ecology in a water right authorization.

Proposed Works

Water historically diverted will be left instream in the Methow and Twisp Rivers and Alder Creek and will be conveyed to the Department of Ecology's Trust Water Rights Program with a trust water right agreement to establish the MVID Water Bank. The consumptive use and a portion of the non-consumptive use is intended to serve as mitigation for new water rights to be issued to MVID for beneficial use for the realigned district facilities.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
April 1, 2015	October 1, 2016	October 1, 2021

Measurement of Water Use

How often must water use be measured?	Weekly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm or cfs)

Provisions

Limitations between G4-33098 and S4-33097

1. The consumptive use between G4-33098 and S4-33097 is limited to the maximum amount available in the water bank of 2,995.9 ac-ft.
2. The total annual quantity for all purposes of use under G4-33098 is limited to 2,684 ac-ft. The total annual quantity for G4-33098 and S4-33097 is limited to 5,592 ac-ft/yr.
3. The maximum number of acres to be irrigated between G4-33098 and S4-33097 is 1036.7 acres.

Measurements, Monitoring, Metering and Reporting

1. An approved measuring device must be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.
2. Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Central Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Regional Office for forms to submit your water use data.
3. No later than January 31 every 5 years, starting in 2020, MVID shall estimate and report to the Department of Ecology and its Members total combined consumptive water use. The consumptive use between G4-33098 and S4-33097 is limited to the maximum amount available in the water bank of 2,995.9 ac-ft. The total combined irrigated acreage under S4-33097 and G4-33098 does not exceed 1,036.7 acres for the non-municipal portion of these permits. MVID shall demonstrate and report its consumptive use for irrigation as follows:
 - a) Evaluate aerial photography, infrared imagery, or other remote sensing data sources to determine the land area irrigated with MVID water during the preceding irrigation season;
 - b) Determine the amount of water diverted or withdrawn from all sources used by MVID or its members to supply water to MVID lands using the combined metering reports from provision 2;

- c) If the total irrigated land is not greater than 1036.7 acres AND the combined total water diversions and withdrawals for the year are less than 4146.8 ac-ft, the consumptive quantity demonstration would be satisfied. If either the irrigated acreage is larger, or the quantity of water diverted or withdrawn is greater, then the following additional analysis must be performed and submitted to the Department of Ecology:
 - i. Using the procedures in PRO-1210, estimate the water use per acre irrigated during that year and calculate the consumptive portion of the total water diverted and withdrawn;
 - ii. Multiply the consumptive use calculated per acre irrigated by the total acreage irrigated during the preceding irrigation season.
4. The consumptive use (124.2 ac-ft) quantity associated with the municipal portion of G4-33098 will be equal to the total annual diversion minus the quantity of return flow via the Twisp wastewater treatment plant and pipe leaks. The Department of Ecology will verify Twisp's measurement in cooperation with the Department of Health through review of water system planning documents, SEPA and annual metering submittals. These planning documents must describe the coordinated monitoring and management of the proposed water and sewer utilities to ensure the consumptive use limit will be observed in perpetuity. An accounting of the previous years' compliance shall be addressed within all future Twisp Water System Plans, which is approximately every 6 years.
5. Each year no later than January 31, MVID shall demonstrate the acres allocated to G4-33098 and S4-33097. Water savings on a per acre-foot basis originating from Trust Water ROE CS4-MVID156 (Twisp River) may only be allocated to S4-33097 (Methow River) if they are offset by an equal per acre-foot savings from efficiency improvements to the East Canal or transfer of former East Canal uses to groundwater under G4-33098; otherwise the acreage is limited to what the Qi (12.28 cfs) from the Trust Water ROE CS4-MVID156 can support.

Well Construction Standards

All wells constructed in the state shall meet the "Minimum Standards for the Construction and Maintenance of Wells" (WAC 173-160) and "Water Well Construction" (RCW 18.104). In general, wells shall be located at least 100 feet from sources of contamination and at least 1,000 feet of the boundary of a solid waste landfill. Any well which is unusable, abandoned, or is an environmental, safety, or public health hazard shall be decommissioned.

All wells shall be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag shall remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

Installation and maintenance of an access port is required as described in WAC 173-160- 291(3).

Overlap with Twisp Change Authorization CS4-SWC945 & CS4-WRC003935

This authorization will create a temporary water right overlap of 262 acre-feet associated with existing 2001 change authorization CS4-SWC945. This authorization will create a temporary water right overlap of 138 acre-feet associated with existing 2001 change authorization CS4-WRC003935. The municipal portion of this water right authorization shall not be exercised in addition to the 2001 change authorizations. If the change authorizations CS4-SWC945 & CS4-WRC003935 subsequently cancel, this provision shall not apply.

General

For regulation purposes, the effective priority date of this authorization shall be the same as the mitigation provided for in the water bank. See Trust Water Right Agreement (Appendix C). Any valid priority calls against the source Trust Water Rights CS4-MVID@155, CS4-MVID@156 and CS4-11827CL, based on local limitations in water availability, will result in temporary curtailment of the use of water under the permit until the priority call for water ends.

295 acre-feet of this permitted quantity under S4-33097 and G4-33098 shall not be allocated to new uses until MVID provides supplemental verification that canals have been abandoned and/or riparian vegetation has been removed or died. MVID can submit this verification incrementally as construction occurs and the project is implemented. If appropriate a supplemental order would authorize that portion of the 295 acre-feet verified for allocation as provided under these permits.

MVID may assign portions of this permit to a 3rd Party provided such assignment is in accordance with RCW 90.03.310 and the Trust Water Agreement. In such case, MVID shall propose and the Department of Ecology shall approve appropriate provisions from the parent permit that apply to the assigned portion.

The irrigation portion of this authorization to use public waters of the state is classified as Family Farm Public Entity Permit in accordance with chapter 90.66 RCW. This means the land being irrigated under this authorization shall comply with the following definition: Family Farm - a geographic area including not more than 6,000 acres of irrigated agricultural lands, whether contiguous or noncontiguous, the controlling interest in which is held by a person having a controlling interest in no more than 6,000 acres of irrigated agricultural lands in the state of Washington which are irrigated under water rights acquired after December 8, 1977. Furthermore, the land being irrigated under this authorization must continue to conform to the definition of a family farm.

The water source and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right change authorization by this Department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between applicant and owner of that land.

Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Water Use Efficiency

The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

Proof of Appropriation

Final beneficial use calculations, well locations and irrigated acreage totals for each water right G4-33098 and S4-33097, shall be determined during the investigation at the Proof of Appropriation stage.

The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the water right. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s),

annual quantity, place of use, and satisfaction of provisions. The water right holder may obtain the services of a certified water rights examiner (CWRE) to carry out proof of appropriation.

Findings of Facts

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 the purpose(s) of use are beneficial; and that there will be no detriment to the public interest. I further concur that, to the extent this application may result in impairment of existing rights in the form of instream flows, approval of the application will serve the overriding considerations of the public interest.

Therefore, I ORDER approval of Application No. G4-33098 and that a permit issue, 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 RCW 43.21B and WAC 371-08. "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 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	Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel RD SW, Ste 301 Tumwater, WA 98501	Pollution Control Hearings Board PO Box 40903 Olympia, WA 98504-0903

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>.

Signed at Yakima, Washington, this _____ day of _____ 2014.

Mark C. Schuppe, Operations Manager
Office of Columbia River

INVESTIGATOR'S REPORT

Application for New Surface Water Right – Methow Valley Irrigation District
Water Right Control Number G4-33098

Melissa Downes, Department of Ecology and Daniel Haller, Aspect Consulting

INVESTIGATOR'S REPORT ORGANIZATION

A draft Investigator's Report was authored by Dan Haller, P.E. of Aspect Consulting as part of a front-loaded application process, which was subsequently reviewed, amended, and formatted for use by Ecology as part of the formal decision-making process for the MVID Instream Flow Improvement Project. This Report is organized as follows:

- Background
 - MVID History
 - MVID Instream Flow Improvement Project Description
 - MVID Water Bank
 - MVID – Twisp Purchase and Sale Agreement
 - Summary of Proposed New Water Rights
- Legal Requirements for Application Processing
- Investigation (S4-33097 and G4-33098)
 - Beneficial Use
 - Water Availability
 - Impairment
 - Public Interest
- Findings and Conclusions
- Recommendations
- Appendices
 - Appendix A: SEPA Checklist
 - Appendix B: MVID – Twisp Purchase and Sale Agreement
 - Appendix C: TWRA

BACKGROUND

On October 28, 2013, the Methow Valley Irrigation District (MVID) submitted two water right applications to the Washington State Department of Ecology (Ecology), one for a new appropriation of groundwater and one for a new appropriation of surface water that will be offset by MVID's existing water rights that are being placed in Washington's Trust Water Rights Program (TWRP). The applications were accepted and assigned Application Nos. G4-33098 and S4-33097.

The proposed project is to develop a more efficient water distribution system for MVID and to increase the water supply for the Town of Twisp. This is proposed to be accomplished by placing MVID's existing water rights into trust for water banking purposes, and to use the banked water as mitigation to offset new surface and groundwater appropriations for MVID and Twisp. The groundwater application, G4-33098, requests up to 100 points of withdrawal, including four existing wells for irrigation and municipal supply purposes for the Town of Twisp, with the remaining 96 points of withdrawal being individual MVID wells for irrigation purposes. Attributes of the application are presented in Table 1. The surface water application, S4-33097, requests the existing East Canal point of diversion on the Methow River for irrigation. Attributes of this application are presented in Table 2.

MVID History

The MVID historically encompassed an area of approximately 2,276 acres of land on the floor of the Methow Valley, generally between the Towns of Twisp and Carlton. MVID uses two canals to divert and transport water. The west canal diverts water from the Twisp River at River Mile (RM) 4.3 and serves lands lying west of the Methow River. The east canal diverts water from the Methow River at RM 44.8 and serves lands lying east of the Methow River.

The MVID system was constructed at the turn of the 20th Century and supplied water to orchards and other lands that principally used flood irrigation methods. Many orchards were severely damaged by cold weather in 1968 and were cut down. The majority of current water use in the MVID is for alfalfa, grass hay, pasture, lawn, and orchard. Sprinkler systems are now commonly used throughout MVID.

During the 1980s and 1990s, MVID evaluated several alternatives to improve their water use efficiency and provide more reliable water service to its patrons. During 2000, 115 applications for change were processed by Ecology for those individuals that were conditionally excluded from MVID and converted to individual wells. Ten of the applications were denied and 105 applications were approved, totaling approximately 712.7 acres of irrigation. These changes provided reliable water supply to those users at the lower ends of both canals, however these exclusions reduced the number of assessed acres and MVID patrons.

Project Description

In 2012, MVID signed a Memorandum of Agreement with the Washington Water Project of Trout Unlimited to provide technical assistance on the MVID Instream Flow Improvement Project (MVID Project). The purpose of the MVID Project is to improve the MVID delivery system near Twisp, Washington with resulting benefits to instream flows and fish habitat in the Twisp River, Methow River, and Alder Creek, improved service for MVID members, and additional public water supply for the Town of Twisp (also an MVID member). A comprehensive description of the MVID Project is provided in Alternative 5 of the *Methow Valley Irrigation District Alternatives Evaluation Report*, Anchor QEA (August 2013)¹, with additional detail and updated descriptions of changes since August 2013 in Section 11 of the MVID Project SEPA Checklist (Appendix A). The following is a general project overview:

- **West Canal:** The West Canal will be reconfigured into shorter pressurized pipe systems (North Satellite Systems) serving approximately 141 assessed acres supplied by MVID production wells, with the remainder of former west canal members served by individual or group wells. A new end spill/drain will be created for system flushing and route any in-season operational water to the Methow River. The existing diversion structure on the Twisp River will be abandoned.
- **East Canal:** Portions of the East Canal will be converted to a pressurized pipe system, with several individual or group well conversions. Some laterals will be rehabilitated to improve efficiency. New East Canal spills will be created at the end of the system and near the canal/pipe interchange to route operational water (e.g. Barkley spill that currently enters the MVID East Canal) to the Methow River.
- **Alder Creek:** The Alder Creek diversion structure will be abandoned and formerly-diverted quantities will remain in the creek.
- **Town of Twisp:** 262 acre-feet is currently authorized under change authorization CS4-SWC945 for use for irrigation in Twisp. This quantity will continue to be conveyed through the new

¹See www.mvid.org

- system by MVID for irrigation in Twisp, subject to a lease between MVID and Twisp. 138 acre-feet is currently authorized under change authorization CS4-WRC003935 for irrigation in Twisp. This quantity is subject to a 2014 Purchase and Sale Agreement (PSA) between MVID and Twisp (Appendix B).

Town of Twisp

Twisp is fully integrated into the MVID Project as a water service provider, permitter, funder, and watershed planning representative to the project. For example, Twisp has the following roles and responsibilities:

- MVID and Twisp have a shared water service area within the district boundaries and town retail service area.
- Twisp will need to issue a conditional use permit and waive well drilling prohibitions within the town limits.
- A portion of the lease between MVID and Twisp is being restructured into a permanent water right sale that meets both MVID member needs and Twisp municipal growth needs, pursuant to Twisp's determined future development. Twisp's purchase of a portion of the leased water quantity in perpetuity provides funds of \$276,000, which allows MVID to continue to pursue water system/delivery improvements.
- Twisp is one of the initiating governments of watershed planning in the Methow Basin (WRIA 48) and has endorsed this MVID project as consistent with watershed planning objectives.

MVID Water Bank

Three water right change applications submitted by MVID were reviewed by Ecology and changes of purpose of use to instream flow and mitigation were approved on August XX, 2014. These water right changes are CS4-MVID@155 (SWC 945), CS4-MVID@156 (S4-003935CL) and CS4-118277CL (S4-118277CL). Combined, the three water rights represent a total consumptive use of 2995.9 ac-ft/yr.

Prior to initiation of the water bank, the three MVID water rights will be conveyed to Ecology's Trust Water Right Program (TWRP). They will be managed by Ecology under the terms of the trust water right agreement negotiated between Ecology and MVID. See Appendix C.

The trust water right agreement provides the procedures and substantive requirements to enable MVID to request and obtain new water right permits for groundwater or surface water uses consistent with Alternative 5 of the MVID Instream Flow Improvement Project. The agreement also provides Ecology with the now-changed MVID water rights to improve instream flows within the lower Twisp River and in Alder Creek. The consumptive use associated with all new permits Ecology would issue to MVID (or its members) would be offset by the three above-mentioned water rights held in trust by Ecology, up to a combined maximum consumptive use of 2995.9 ac-ft/yr.

The quantity being banked for the East Canal is 12.28 cfs and 3,206 acre-feet. These quantities were estimated based on 426.2 acres (838.2 combined MVID/Barkley acres less 412 Barkley acres), an on-farm application of 2.83 acre-feet per acre, a reasonable canal efficiency based on the 2003 Waste Order, and 262 acre-feet associated with the Twisp Lease under Change Authorization CS4-SWC395.

The quantity being banked for the West Canal is 10.93 cfs and 2,854 acre-feet. These quantities were based on the 2,716 acre-feet delivered to 455.1 acres under the 2003 Water Order, which accommodated an on-farm application of 2.83 acre-feet per acre, a reasonable canal efficiency, and 138 acre-feet associated with the Twisp Lease under Change Authorization CS4-003935CL. The 10.93 cfs

estimate is slightly less than the 11 cfs described in the 2003 Waste Order because the trust quantities were calculated based on monthly averages instead of a daily peak flow.

MVID – Twisp Purchase and Sale Agreement

In 2001, MVID leased 400 acre-feet to the Town of Twisp, and Ecology approved two change applications associated with the lease in June 2002: Application Nos. CS4-SWC945 and CS4-WRC003935. The 400 acre-feet leased to the Town of Twisp was comprised contractually of two 200-acre-foot portions of these two water rights. However, the 2001 water right changes divided these amongst MVID’s Twisp and Methow River rights in proportion to the acreages MVID has served under Certificate No. 945 and Claim No. 003935: 262 acre-foot (from Certificate SWC945, Methow River) and 138 acre-foot (from Claim 003935, Twisp River). These two rights continued to be for seasonal irrigation and were changed to be withdrawn from the Town’s wells for use within the Twisp service area. Both change authorizations remain subject to development schedules and are considered to be in compliance with the development schedules. These two 2001 change authorizations will be cancelled when new water rights are issued to MVID and/or the Town of Twisp for municipal use from the MVID water bank. Until such time, there will be a temporary water right overlap of 138 acre-feet associated with existing 2001 change authorization CS4-WRC003935 and an overlap of 262 acre-feet associated with existing 2001 change authorization CS4-SWC945. Four hundred (400) acre-feet of these trust water authorizations shall not be exercised in addition to the 2001 change authorizations.

On February 25, 2014, MVID and Twisp executed a Purchase and Sale Agreement (PSA) to permanently integrate their mutual planning responsibilities within the Twisp service area. Key elements include:

- Reservation of 262 acre-feet for irrigation use in the Twisp service area to be supplied under the redesigned MVID system.
- Sale of 138 acre-feet to Twisp for municipal use in Twisp, with said quantity determined to be surplus to MVID member irrigation needs within Twisp.
- Preservation of an asserted Determined Future Development (DFD), for an exception to relinquishment, dating to the 2002 Change Authorizations and 2001 Leases.

Summary of Proposed New Water Rights

MVID has applied for two new water rights that will rely on the MVID Water Bank for mitigation. If issued, the new groundwater permit will be a general permit that will allow MVID, MVID members within MVID, and the Town of Twisp to withdraw groundwater from numerous points of withdrawal. Table 1 describes the attributes of groundwater Application No. G4-33098 and Table 2 describes the attributes of surface water Application No. S4-33097.

Table 1 Attributes of Water Right Application No. G4-33098

Applicant Name	Methow Valley Irrigation District	
Priority Date	10/28/2013	
County	Okanogan	
WRIA	48	
Source	Up to 100 Wells	
Purpose	Irrigation	Municipal
Place of Use	Within Boundaries of MVID	Town of Twisp service area
Points of Withdrawal	Within Sec 12, T. 33N., R. 22 E.W.M.; Sections 7, 17, 18, 20,	SW¼SW¼, Section 8, T. 33N., R. 22E.W.M. NW¼NW¼, Section 17, T. 33N., R. 22E.W.M.

	21, 27, 28, 34, and 35, T. 33N., R. 22E.W.M.; Sections 2, 3, 9, 10, 16, and 20, T. 32N., R. 22E.W.M.	NE¼SW¼, Section 17, T. 33N., R. 22E.W.M. SW¼NE¼, Section 17, T. 33N., R. 22E.W.M.
Acres	616 ac	Domestic, Lawn & Garden
Instantaneous Rate (Q_i)	18.29 cfs	3.94 cfs
Annual Quantity (Q_a)	4,316 ac-ft/yr	400 ac-ft/yr
Period of Use	April 15 to October 15	Year Round

Table 2 Attributes of Water Right Application No. S4-33097

Applicant Name	Methow Valley Irrigation District
Priority Date	10/28/2013
County	Okanogan
WRIA	48
Source	Methow River
Purpose	Irrigation
Place of Use	Within Boundaries of MVID
Point of Diversion	NE¼, NE¼ Section 25, T. 34N., R. 21E.W.M.
Acres	752 ac
Instantaneous Rate (Q_i)	12.7 cfs
Annual Quantity (Q_a)	3,309 ac-ft/yr
Period of Use	April 15 to October 15

Legal Requirements for Application Processing

The following requirements must be met to process a water right application and issue a water right permit

Water Resources Statutes and Case Law

Chapters 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describe the process for obtaining water rights. Laws governing the water right permitting process are contained in RCW 90.03.250 through 90.03.340 and RCW 90.44.050. In accordance with RCW 90.03.290, determinations must be made on the following four criteria in order for an application for a water right permit to be approved:

- Water must be available
- There must be no impairment of existing rights
- The water use must be beneficial
- The water use must not be detrimental to the public interest

RCW 90.42.100(1) states that Ecology is authorized to use the TWRP for water banking purposes.

RCW 90.42.100(2)(a) states that water banking may be used to mitigate for any beneficial use under chapters 90.03, 90.44 or 90.54 RCW, consistent with any terms and conditions established by the transferor, except that return flows from water rights authorized in whole or in part for any purpose shall remain available as part of total water supply available and to satisfy existing rights for other downstream uses and users.

RCW 90.90.020 directs Ecology to develop new water supplies to improve instream flow and out-of-stream uses, including irrigation (i.e. MVID) and municipal use (i.e. Twisp).

Public Notice

RCW 90.03.280 requires that notice of a water right application be published once a week, for two consecutive weeks, in a newspaper of general circulation in the county or counties where the water is to be stored, diverted, and used. Notice of this application was published in Methow Valley News on November 20 and November 27, 2013. A copy of the affidavit of publication is on file with Ecology. No comments or protests were received by Ecology during the 30-day comment period.

State Environmental Policy Act (SEPA)

This project required SEPA review under WAC 197-11-310. Ecology and Okanogan County, acting as co-lead agencies for this project, reviewed a SEPA checklist prepared by the applicant (Appendix A). A Mitigated Determination of Non-Significance was issued on May 21, 2014. A Final Mitigated Determination on Non-Significance was issued on July XX, 2014.

Expedited Processing

This application qualifies for priority processing under WAC 173-152-050(2)(g) whereby water right applications may be processed prior to applications submitted at an earlier date when the proposed water use is water budget neutral as defined in WAC 173-152-020(18). This project will use water banking to offset the new appropriation of water.

INVESTIGATION

MVID is located in the Methow River Basin (WRIA 48). MVID submitted these new groundwater and surface water applications on behalf of its current members to convert some members over to a groundwater source in lieu of its current surface water diversion on the Twisp River and provide more reliable service to all its members. The groundwater application requests to drill up to 100 wells for irrigation purposes within MVID, and municipal supply purposes for the Town of Twisp. The applicant proposes to mitigate these new groundwater withdrawals with water from the MVID water bank. Applications for changes of MVID's water rights to change the purpose of use to instream flow and mitigation have been investigated and approved by Ecology. Additional details describing how MVID may operate its water bank are contained in the trust water right agreement (Appendix C).

Water right Application No. G4-33098 requests to serve 616 acres of irrigation located within the MVID boundaries and 400 ac-ft/yr for municipal supply purposes. The use of water for municipal water supply purposes and irrigation purposes are defined in statute as beneficial uses (RCW 90.54.020(1)). Irrigation use is seasonal (April 15 to October 15), whereas municipal use is year-round (365 days). On the west side, 141 acres will be served by a ground water well(s) through pressurized pipe system and laterals. In addition, 445 ac will be served by individual wells. On the east side, approximately 30 acres will be switching over to individual wells. A combination of new and existing wells is proposed. Water right Application No. S4-33097 requests to serve 752 acres of land located within the MVID boundaries with water for irrigation, utilizing the existing MVID East Canal diversion located on the Methow River.

Site Visit

A site visit was performed by Melissa Downes on January 7, 2014.

Overlapping water rights

The proposed municipal portion of G4-33098 is additive to Twisp's portfolio of water rights. The Town of Twisp has the following water rights in its municipal portfolio:

1. Groundwater Certificate 6151-A, having a priority date of February 16, 1967, authorizes an instantaneous rate of 500 gpm and an annual quantity of 224 ac-ft for year-round municipal supply associated with well No. 2.
2. Groundwater Certificate G3-00139, having a priority date of November 16, 1971, authorizes an instantaneous rate of 1100 gpm and an annual quantity of 224 ac-ft for year-round municipal supply associated with well Nos. 1, 3 and 4.

There are approximately 333 existing groundwater rights (permits, certificates, claims, water right change authorizations, etc...) within the boundaries of MVID. These authorizations for irrigation lands within MVID being sought through these applications are non-additive to existing groundwater rights for irrigation within the boundaries of the MVID.

Four Statutory Tests

This Investigator's Report evaluates whether the statutory tests for issuing new permits based on applications G4-33097 and G4-33098 are met. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

1. The proposed appropriation would be put to a beneficial use;
2. Water is available for appropriation;
3. The proposed appropriation would not impair existing water rights; and
4. The proposed appropriation would not be detrimental to the public welfare.

Beneficial Use

In the Supreme Court case *Ecology v. Grimes* (1993)², the Court held that "for the purposes of appropriated water rights, 'beneficial use' has two elements: (1) the purposes or types of activities for which the water may be used and (2) the amount of water that may be used as limited by the principle of 'reasonable use' ". Reasonable use of water is determined by analysis of the factors of water duty and waste.

The applications request seasonal irrigation and year-round municipal use. The uses of water for irrigation and municipal supply purposes are defined in statute as beneficial uses (RCW 90.54.020(1)). Thus, these applications meet the requirement that the purposes or types of activities for which the water will be used are beneficial.

Water Duty

Water duty is typically estimated by using published sources of evapotranspiration, and then adjusting it for the type of water delivery system to be used. The closest weather stations to MVID where evapotranspiration is monitored are Winthrop and Omak. Several published estimates for crop irrigation requirement (i.e. evapotranspiration less effective rainfall) are available in this area.

² <http://www.ecy.wa.gov/programs/wr/caselaw/images/pdf/grimes.pdf>.

Depending on the published source which all use varying data and methodology, results vary. These include:

Winthrop Stations

- Irrigation Requirements for Washington (1982): Pasture/Turf (26")³ and Apples w/Cover (32").
- Washington Irrigation Guide (1985): Pasture/Turf (18.61") and Apples w/Cover (23.5").
- Washington Irrigation Guide (2014 Provisional): Grass Mean (28.5") and Apples w/Cover (29.8").

Omak Stations

- Irrigation Requirements for Washington (1982): Pasture/Turf (34") and Apples w/Cover (41").
- Washington Irrigation Guide (1985): Pasture/Turf (26.89") and Apples w/Cover (31.67").
- Washington Irrigation Guide (2014 Provisional): Grass Mean (26.6") and Apples w/Cover (26.8").
- Bureau of Reclamation AgriMet⁴ (2013 Data): Grass (29.8 inches).

Methow Stations

- Washington Irrigation Guide (1985): Pasture/Turf (26.49") and Apples w/Cover (31.25")
- Washington Irrigation Guide (2014 Provisional): Grass Mean (26.1") and Apples w/Cover (25.7")

MVID Members irrigate many different crops each year, including grass, hay, lawn, garden and apples. Ecology's Water Resource Program Procedure PRO-1210 (Ecology, 2005) and Guidance GUID-1210 (Ecology, 2010) allow for use of multiple data sources to estimate site-specific crop irrigation requirements. The crop irrigation requirement value for Pasture/Turf in the Washington Irrigation Guide (1985) is 8 to 16 inches less than all other data sources, and Ecology believes this to be an outlier. The average values of all remaining crop irrigation requirements, excluding provisional 2014 Washington Irrigation Guide data, equates to approximately 28.6". Crop irrigation requirements from the above listed data are consistent with the provisional/pending 2014 Washington Irrigation Guide data. Therefore, irrigation water use for these water rights is calculated using the value for grass (28.5"), which is in the range of the published sources available and amongst the crop types grown by MVID members.

Given MVID's objective to increase its current water duty from 2.83 acre-feet/acre to as much as 4 acre-feet/acre, Ecology considered the relative efficiencies and consumptive use of these water duties. In summary, a range of water duties from 2.83 acre-feet to 4 acre-feet for pasture irrigation corresponds to a range of efficiencies spanning 59% to 84% (63% to 88% for apples). Ecology's GUID 1210 provides ranges of sprinkler efficiency across numerous application methods. Generally, a range of 55% to 85% is common for sprinkler application efficiency.

For this analysis, the crop irrigation requirement for MVID lands is estimated to be 28.5". This is consistent with the crop irrigation requirement used in the MVID Trust Water Right Report of Examination (ROE). The estimated consumptive use of water for irrigation under both applications (G4-33098 and S4-33097) is:

- The total available consumptive use quantity to mitigate for new water supply from MVID water bank is 2995.9 ac-ft.

³ The symbol " represents a water equivalency of acre-inches per acre

⁴ <http://www.usbr.gov/pn/agrimet/monthlyet.html>.

- Crop irrigation water requirement (CIR) is 2.375 ac-ft/ac for seasonal irrigation (April 15 to October 15).
- The total irrigation water requirement (TIR) = CIR/E_a = 2.375/0.593 or 4.0ac-ft/ac.
- The irrigation efficiency (E_a) is 59.3% based on Ecology's Guidance GUID 1210 for sprinkler irrigation at the intended 4 ac-ft/ac application rate.
- Based on GUID 1210, the percent consumptive use is 59.3% + evaporative loss of 10%, or 69.3%.
- The total consumptive use per acre is 4.0 x 0.693 or 2.77 ac-ft/ac.
- The consumptive use for the Town of Twisp is estimated at 124.2 ac-ft (138 ac-ft x 90% Consumptive Use = 124.2 ac-ft).
- The total number of acres that can be irrigated (less the quantity allocated to Twisp) without exceeding the consumptive use available in the MVID Water Bank would be 2871.7 ac-ft/2.77 ac-ft/ac, or 1036.7 ac.

The Town's average use over the last 11 years has been about 285 gpcd. In 2012, it was 195 gpcd. Both of these rates are used to project future water needs for the Town. These projections are based on the Town's baseline firm water rights totaling 224 acre-feet, as noted in the overlapping water right section above.

- Projections include lower and higher potential growth rates: 2% and 3.4%.
- Projected planning horizons of 2020 and 2030 (which equates to 7 and 17 years out) are used, which is slightly different than the 6 and 20 year planning norms under DOH guidelines.
- At a low growth rate (2%) and low demand rate (195 gpcd) through 2030, the Town needs an additional 61 acre-feet.
- At a high growth rate of (3.4%) and a high demand rate (285 gpcd) through 2030, the Town needs an additional 311 acre-feet.
- Other combinations of demand, growth rate, and planning horizon generally fall within the 61 acre-foot to 311 acre-foot range.

Reasonable Use

MVID's requested quantity of water for Application No. S4-33097 is 12.7 cfs and 3,309 acre-feet for seasonal irrigation. MVID's requested quantity of water for Application No. G4-33098 is 10,009 gpm and 4,716 acre-feet for seasonal irrigation and continuous municipal use. To determine whether this is a reasonable quantity of water for the intended purposes, Ecology first considered the amount of water being trusted in the MVID Water Bank under Trust Water ROE's CS4-MVID155, CS4-MVID156, and CS4-118277CL. The collective trust quantities total 2,995.9 acre-feet of consumptive use and 6,420 acre-feet of total use.

Under the MVID Project, several aspects of MVID deliveries to its customers are expected to change.

- First, the on-farm duty is expected to increase to a maximum of 4 acre-feet per acre, which was recognized in the *MVID I* case as a reasonable on-farm water duty.
- Second, some water users are expected to be converted to wells.
- Third, some assessed, but currently non-irrigated lands are expected to become irrigated based on consumptive use savings associated with riparian canal vegetation from canal abandonment.

- Finally, 400 acre-feet of water formerly delivered under the Twisp Lease will continue be delivered to the Town and MVID members with the Town, but with some contractual restructuring.

Because the design of the project and the process to identify individual MVID member service preferences are proceeding concurrently with the permitting, there is some uncertainty associated with the final service characteristics of the project. These uncertainties include the final number of well conversions and their locations (east side versus west side), final canal/pipe lengths/efficiency, and final project funding. Additionally, the East Canal is a shared service canal to both MVID and Barkley lands, and Ecology is aware that Barkley is considering a rehabilitation project that may alter or discontinue end-spill into the MVID Canal. These uncertainties were considered in determining whether the requested quantities are reasonable.

Ecology evaluated a number of alternatives for the East Canal, all consistent with the 2003 Waste Order requirements that future deliveries must include a reasonable on-farm water duty and canal conveyances at least equal to that evaluated by the Court in the several waste cases (e.g. *MVID I* and *MVID II*). Table 3 summarizes East Canal service area configurations to compare to Application No. S4-33097. All of these scenarios would be governed by trust water consumptive use accounting for the MVID Water Bank. S4-33097 is the surface authorization for the project and would be limited to the final East Canal design.

Table 3: Anticipated Use Under S4-33097 for Various Surface Water (East Canal) Improvements

Improvement	Qi (cfs) ¹	Qa (ac-ft) ¹	Acres
<i>Application No. S4-33097</i>	12.7	3,309	--
<i>Trust ROE CS4-MVID155</i>	12.28	3,206	--
<i>2003 Waste Order based on service to 838.2 combined Barkley and MVID acres</i>	20	4,909	838.2
New System Assumptions (excluding Barkley Lands)			
If on-farm duty increases to 4 ac-ft/acre on MVID lands and East Canal piped with 10% pipe loss below Mill Hill, with remaining losses in existing canal from waste order. ²	13.4	2,946	488.7
If on-farm duty increases to 4 ac-ft/acre on MVID lands, entire East Canal piped with 10% pipe loss, 35 acres converted to wells, and 106.5 acres ³ of new lands added.	15.3	3,377	560.2
If on-farm duty increases to 4 ac-ft/acre on MVID lands, entire East Canal piped with 10% pipe loss, and all 615 assessed, irrigable acres served on East Side (current Reclamation design criteria). ⁴	16.9	3,707	615

1. All quantities shown are "less Barkley Inflow" per the 2003 Waste Order.
2. Qa based on 2003 Waste Order assumptions for East Canal, as modified by proposed project, including 4 ac-ft/acre on 488.7 acres (426.2 acres from Order plus 62.5 acres of MVID service in Twisp), plus 10% pipe loss below Mill Spill, existing cumulative conveyance loss of 27% of canal above Mill Spill, and 10% spill: $(4) \times (488.7) \times (1.1) \times (1.37)$. Qi based on $(0.02 \text{ cfs/acre}) \times (488.7 \text{ acres}) \times (1.37)$.
3. Based on all 295 acre-feet of former canal riparian consumptive use and 2.77 acre-feet/acre CU within a 4 ac-ft/acre on-farm duty, (see 2014 Haller Technical Memo, Page 23). Note that the 106.5 acres identified here would be added in some combination to east and west side MVID

4. Members, not both. However, this Investigator's Report evaluates the beneficial use and impact of this allocation occurring on either side of the river. $Q_a = (4) \times (560.2) \times (1.1) \times (1.37)$. $Q_i = (0.02 \text{ cfs/acre}) \times (560.2 \text{ acres}) \times (1.37)$.
5. $Q_a = (4) \times (615) \times (1.1) \times (1.37)$. $Q_i = (0.02 \text{ cfs/acre}) \times (615 \text{ acres}) \times (1.37)$.

Table 3 compares the quantities requested in S4-33097 to various design and allocation scenarios. Application No. S4-33097 requests 12.7 cfs and 3,309 acre-feet, which is in the range of reasonable alternatives evaluated. The final quantities perfected will ultimately be constrained by the consumptive trust water quantities available for allocation from the MVID Water Bank and reasonable beneficial use for the final system constructed.

Ecology evaluated a number of alternatives for the West Canal, all consistent with the 2003 Waste Order requirements that future deliveries must include a reasonable on-farm water duty and pipe conveyances at least equal to that evaluated by the Court in the several waste cases (e.g. *MVID I* and *MVID II*). Table 4 summarizes West Canal service area configurations to compare to Application No. G4-33098. All of these scenarios would be governed by trust water consumptive use accounting for the MVID Water Bank. Since well conversions could include MVID Members from both the east and west canal, G4-34098 could debit trust water quantities originating from Trust Water ROE's CS4-MVID155 and CS4-MVID156.

Table 4: Anticipated Use Under Various Groundwater (East and West Canal) Improvements

Improvement	Qi (gpm)	Qa (ac-ft)	Acres
<i>Application No. G4-33098</i>	<i>10,009 gpm</i>	<i>4,716</i>	<i>--</i>
<i>Trust ROE CS4-MVID155 (Methow River)</i>	<i>5,511 gpm (12.28 cfs)</i>	<i>3,206</i>	<i>--</i>
<i>Trust ROE CS4-MVID156 (Twisp River)</i>	<i>4,906 gpm (10.93 cfs)</i>	<i>2,854</i>	<i>--</i>
<i>2003 Waste Order based on service to 455.1 MVID acres</i>	<i>4,937 gpm (11 cfs)</i>	<i>2,716¹</i>	<i>455.1</i>
<i>2003 Waste Order based on service to 838.2 combined Barkley and MVID acres (quantities less Barkley Inflow)</i>	<i>8,976 gpm (20 cfs)</i>	<i>4,909</i>	<i>838.2</i>
New System Assumptions			
If on-farm duty increases to 4 ac-ft/acre on MVID lands, 94 west-side acres are served by piping with 10% loss, 35 east side acres to wells ² , and 248.4 acre-feet allocated to Twisp ³ .	5,058 gpm (11.3 cfs)	2,258	493.1
If on-farm duty increases to 4 ac-ft/ac on MVID lands, 94 west-side acres are served by piping with 10% loss, 35 east side acres to wells, 106.5 acres ⁴ of new lands added served by wells, and 248.4 acre-feet allocated to Twisp.	6,016 gpm (13.4 cfs)	2,684	599.6

1. Note, the waste order quantity of 2,716 ac-ft did not account for the Twisp leased quantity, which is the difference in the Trust ROE for CS4-MVID 156 of 2,854 ac-ft.
2. Acres = 455.1 acres from Order, plus 35 acres from East Side, plus 3 acres of the 65.5 acres under the Twisp PSA. $Q_a = (493.1 \text{ acres}) \times (4 \text{ ac-ft/ac}) \times (10\% \times 94 \text{ acres} \times 4 \text{ ac-ft/ac}) + (248.4 \text{ ac-ft})$. $Q_i = (9 \text{ gpm/ac}) \times (493.1 \text{ acres}) + 620 \text{ gpm}$.

3. Twisp allocation of 248.4 ac-ft is based on a consumptive use of 124.2 and 50% municipal return flow. Instantaneous rate is based on 620 gpm based on MVID / Twisp PSA relating to 1.38 cfs change authorization.
4. Based on 295 acre-feet of former canal riparian consumptive use and 2.77 acre-feet/acre CU within a 4 ac-ft/acre on-farm duty, (see 2014 Haller Technical Memo, Page 23). Note that the 106.5 acres identified here would be added in some combination to east and west side MVID Members, not both. However, this Investigator's Report evaluates the beneficial use and impact of this allocation occurring on either side of the river. $Q_a = (599.6 \text{ acres}) \times (4 \text{ ac-ft/ac}) \times (10\% \times 94 \text{ acres} \times 4 \text{ ac-ft/ac}) + (248.4 \text{ ac-ft})$. $Q_i = (9 \text{ gpm/ac}) \times (599.6 \text{ acres}) + 620 \text{ gpm}$.

Table 4 compares the quantities requested in G4-33098 to various design and allocation scenarios. The applied for quantities exceed the reasonable range of alternatives evaluated, because at the time the applications were made, there was the potential for more MVID Members to be served by wells. As the design has matured, the largest anticipated diversion is 6,016 gpm and 2,684 acre-feet from groundwater. These annual quantities are reasonable, and will ultimately be constrained by the consumptive trust water quantities available for allocation from the MVID Water Bank.

Finally, 248.4 acre-feet of the groundwater quantity allocated under G4-33098 is intended to be assigned to the Town of Twisp to cover their municipal water needs. Based on historic growth and the Town's success in achieving its water conservation goals, the Town estimates that it needs 150 acre-feet to 400 acre-feet over the next 20 years. The 248.4 acre-foot quantity is reasonable based on the Town's planning projections.

In summary the total maximum reasonable beneficial use for the project (Application Nos. S4-33097 and G4-33098) is 26.1 cfs (11,716 gpm) and 5,592 ac-ft based on the following:

- The total number of acres that can be irrigated (less the quantity allocated to Twisp) without exceeding the consumptive use available in the MVID Water Bank would be 2871.7 ac-ft/2.77 ac-ft/ac, or 1036.7 ac.
- An on-farm water duty of 4 acre-feet/acre.
- Reasonable conveyance losses and spill (0% for individual wells, 10% for pipe, 27% for existing east canal leaks, and 10% for east canal spill).
- Twisp municipal system = 248.4 ac-ft and 620gpm.
- 5,592 ac-ft based on:
 - 3,309 ac-ft (Application Quantity under S4-33097)
 - Plus 2,684 acre-feet (largest anticipated reasonable groundwater withdrawal under G4-33098)
 - Less 401 ac-ft, which accounts for partial double-counting of the former canal riparian quantity for each separate application, since the division of those acres has not yet been determined. 401 ac-ft is derived by taking the 106.5 acres at 4 ac-ft/acre plus the 10% pipe loss, or 469 acres, less the 68 ac-ft already deducted because Application No. S4-33097 is less than the supply need for this alternative (e.g. 3,377 less 3,309 ac-ft = 68 ac-ft).
- 12.7 cfs (based on application Quantity under S4-33097) plus 6,016 gpm (largest anticipated reasonable groundwater withdrawal under G4-33098).
- These quantities are subject to the collective trust water right quantities totaling 2,995.9 acre-feet of consumptive use.

Availability

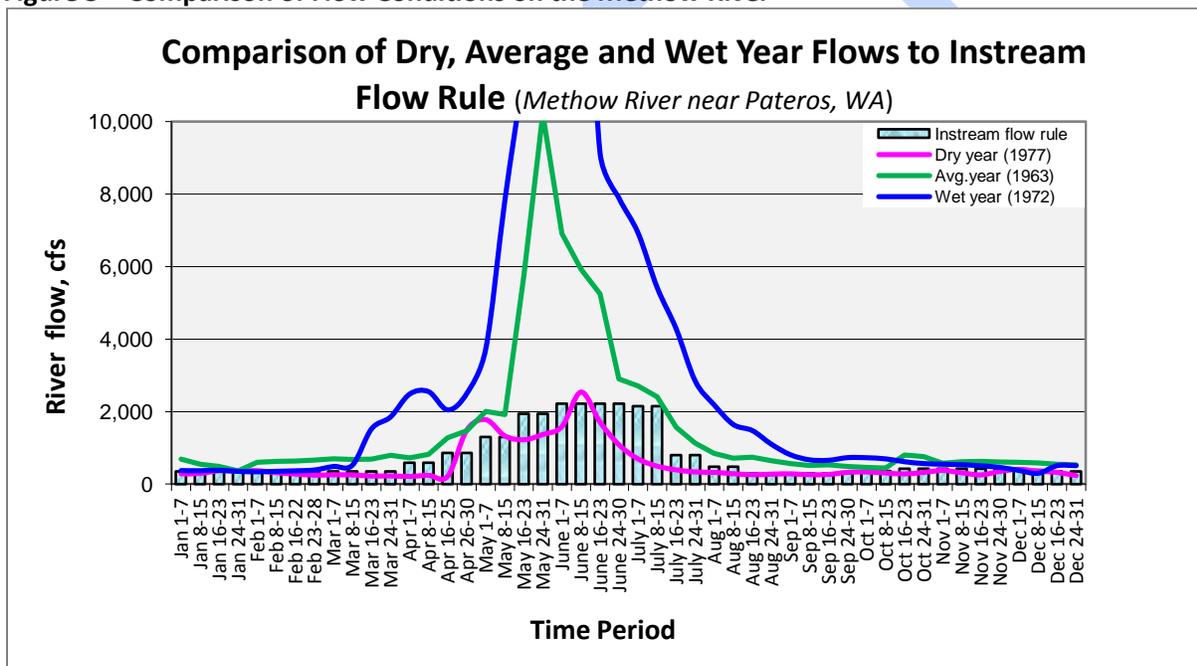
Water must be physically and legally available in order to issue permits for S4-33097 and G4-33098. This section will describe the physical availability of the Methow River and its adjacent groundwater aquifers, and the legal availability of water rights emanating from the MVID Water Bank.

Physical Availability

This Investigator's Report considers whether water is physically available for appropriation from the Methow River and from adjacent groundwater aquifers. Application No. S4-33097 requests 12.7 cfs and 3,309 acre-feet from the Methow River in the vicinity of the Town of Twisp. Application No. G4-33098 requests 10,009 gpm and 4,716 acre-feet from groundwater supplies in continuity with the Methow River.

The USGS maintains a stream gage downstream of this location. Annual, wet, and dry year stream flows for this gage are shown on Figure 5 along with the adopted instream flow levels in WAC 173-548.

Figure 5 – Comparison of Flow Conditions on the Methow River



Surface water is physically available in the quantities requested in the Methow River.

Ecology Hydrogeologist Ron Dixon completed a Technical Memorandum evaluating physical availability of groundwater for G4-33098. A copy of this Memo is provided in the file G4-33098 and excerpts are incorporated into this Investigator's Report.

The MVID project area contains an unconsolidated sediment aquifer comprised of glaciofluvial and minor alluvial sediments. This aquifer has been studied extensively by the USGS (Konrad, et al, 2003), by Ecology when it issued 115 change authorizations in the late 1990s as part of a previous MVID rehabilitation project, and by Anchor QEA (2013) as part of the feasibility for this project. The water storage capacity of the Methow Valley unconsolidated sedimentary aquifer is considerably greater than the annual withdraw proposed under the subject application. Basin-wide drawdown from the proposed

permitting action is expected to be less than 4.4 feet, and will be fully offset in the Methow River by trust water quantities managed in the MVID Water Bank. Groundwater is physically available in the quantities requested from the aquifer within the project area.

Legal Availability

When evaluating the legal availability of water for Application Nos. S4-33097 and G4-33098, Ecology considered the administrative framework of the basin and the mitigation proposed by the applicant.

The Methow River is governed by WAC 173-548, which established minimum instream flows and governs the regulation of junior water users whose diversions and withdrawals are interruptible to those flows. The Methow River and associated groundwater under WAC 173-548-060 is open for new appropriations. Ecology has, over the last 3 decades, issued several hundred water rights that are interruptible when the minimum instream flows are not met because uses during those times would conflict with the instream flows. If a proposed diversion would not conflict with adopted instream flows, then they are not subject to those flows under WAC 173-548-020(5). Under the same section of the rule, Ecology may issue a new appropriation that is in conflict with the instream flows if overriding consideration of the public interest (OCPI) would be served.

In this project, MVID and joint funders are proposing a project that is water budget neutral as to annual consumptive use, but is slightly out-of-time and out-of-place because, at certain times, water use under the permits will reduce instream flows at times they are not met. However, notwithstanding such flow reductions, the project will provide significant out-of-kind benefits, including benefits to habitat, fish passage, water quality, and summer time instream flows.

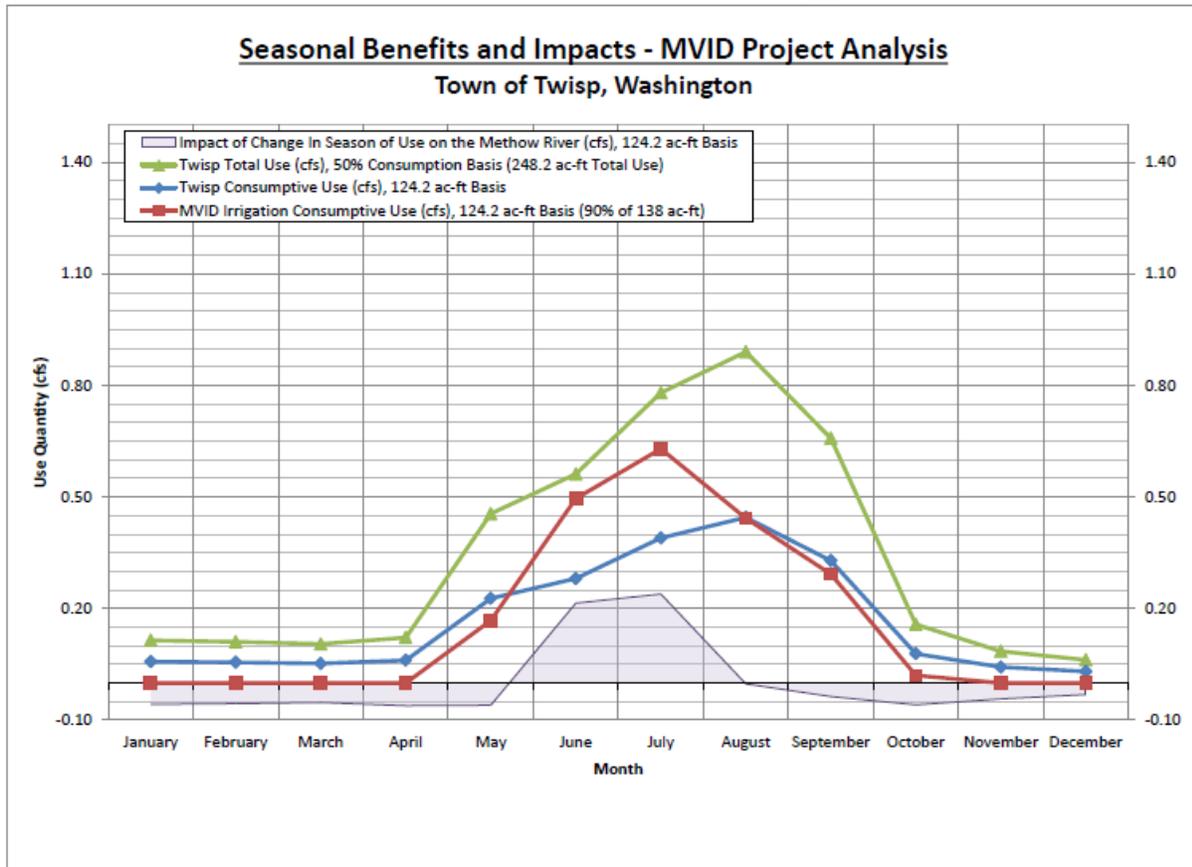
The mitigation proposed is in-kind (water-for-water), largely in-time (day-for-day), and largely in-space (location unchanged). However, the proposed demand does not exactly match the proposed supply from the MVID Water Bank. This offset was described in Ecology and the County's SEPA MDNS and is summarized here.

- A significant portion of the project is associated with a surface to groundwater transfer. At the end of the irrigation season when wells are turned off, there will be carry-over impacts beyond the irrigation season on the Methow River. For example, Ecology modeled different well location / transmissivity pairings and concluded that 90% recovery for some wells is likely to occur in October to November, while others might occur in February of the following year. 100% recovery would take longer. These impacts would be offset by similar benefits during the irrigation season. In short, the irrigation demand on the river becomes attenuated and shifts later in the year, which is out-of-time relative to the mitigation provided.
- Approximately 295 acre-feet of water associated with canal riparian vegetation on the West Canal will be available for new uses. If additional irrigated land from this quantity occurs on the west side, then there will be no out-of-space impacts. Rather there will be a benefit from the former Twisp River diversion downstream to where the groundwater impacts occur on the Methow River. However, if MVID allocates this water to East Canal users, there will be a benefit of approximately 4 miles from the former Twisp diversion to the confluence with the Methow River, then an upstream impact on the Methow River of approximately 4 miles back to the East Canal diversion. This would be an out-of-space impact relative to the mitigation provided. This impact would be reduced for every acre that is converted to wells on the east side. For example, the 295 acre-feet available corresponds to approximately 106.5 acres. If 50 acres is transferred to the east side, and 50 acres of former canal-service is converted to wells, then no

impact in the Methow River between the East Canal diversion and the confluence with the Twisp River would occur.

- Finally, 248.4 acre-feet of G4-33098 is requested for year-round municipal use to meet demand in the Town of Twisp. However, the mitigation provided in the MVID Water Bank is from seasonal irrigation rights. Although the total and consumptive quantities will remain the same, there will be out-of-time impacts. Figure 6 below depicts a flow benefit from the end of May through the middle of August of up to 0.2 cfs, with an impact in the remaining months of the year of up to 0.05 cfs.

Figure 6 – Seasonal Benefits and Impacts of Municipal use associated with G4-33098



Another aspect of legal availability is certainty that the mitigation will occur and be available to offset new uses. MVID currently has insufficient water rights to meet the irrigation needs of all of its assessed lands. With the rehabilitation of the system, the West Canal will be decommissioned and replaced in part by a piped system. This decommissioning will eliminate canal evaporation, and associated evapotranspiration from vegetation adjacent to the canal. In some cases, foliage will be directly removed as part of the infrastructure project, and in other cases it would die from the elimination of canal seepage.

Anchor QEA evaluated extensive vegetation surveys, GIS evaluations, and site reconnaissance as part of the effort to produce the 3 trust water ROE's related to the MVID Water Bank, and concluded that 295 acre-feet of water is consumed as a result of direct evaporation and evapotranspiration from vegetation along the canals. Some portions of this water budget are relatively certain, such as diminished

evaporation from canal abandonment and reduced evapotranspiration from cottonwoods that are physically cut down. Others are less so, such as the extent to which foliage will die adjacent to the canal from reduced canal seepage. Ecology must have sufficient certainty to permit new uses to ensure mitigation offsets are legally available.

In summary, Ecology has the authority to:

1. Condition new uses based on the minimum instream flows under WAC 173-548.
2. Provision these water rights to require an acre-foot for acre-foot offset of impacts in the Methow River above the Twisp River confluence. For every acre-foot that is converted to groundwater on the east side or saved through pipe efficiency, an equal number of acre-feet can be transferred from the west side to the east side.
3. Provision these water rights to require performance monitoring to ensure that projected mitigation is actually available and implemented.
4. Under WAC 173-548-020(5) make an OCPI finding and determine that the permit applications can be approved even though there would be conflicts with instream flows at certain times.
5. Administer the MVID water bank under RCW 90.42.100, provided it does not impair existing water rights.
6. Define the priority date of a water right originating from the MVID Water Bank as the priority date of the underlying water right under RCW 90.42.120(2).

Potential for Impairment

Under RCW 90.03.290, a water right permit cannot be approved if it would cause impairment of other existing water rights. In considering impact to existing water right holders and the instream flows established under the Methow Basin Instream Flow Rule, one must consider actual river operations, particularly in drought years when water availability issues are most acute. One must also consider well interference for existing and proposed water rights associated with wells in the project area. In the context of this Investigator's Report, there are several classes of water users that must be considered:

- Water right holders with priority dates senior to those seeding the MVID Water Bank, which include dates ranging from 1908 to 1919;
- Uninterruptible water rights with priority dates junior to the MVID Water Bank;
- The instream flow water rights established through adoption of the State's December 28, 1976 Methow River Basin Instream Flow Rule; and
- Interruptible water rights with priority dates junior to the State's December 28, 1976 Instream Flow Rule.

In principle, allocation of new uses associated with Application Nos. S4-33097 and G4-33098 from the MVID Water Bank based on consumptive use equivalents should not cause impairment to any of these classes of water users. If consumptive use is not diminished for water users, then their appropriation will be unaffected.

Water rights senior to the subject water rights will not be impaired by this trust decision, because water availability will increase or remain neutral to those users. These senior users can also call against these rights in times of shortage. Water rights junior to these subject rights, but senior to the instream flow rule will also not be impaired, because their availability will not decrease. The State Instream Flow will benefit from increased water availability under this decision at certain times, because more water will remain instream; however, that benefit will be between control stations so no change in river regulation

will occur. Junior water users will not bear any risk of increased curtailment, because the MVID Water Bank will run on consumptive use equivalents and their availability will not decrease.

If the MVID Water Bank were to perfectly match supply and demand, then all of the above statements on impairment would hold. However, as described in the water availability section, because of changes in source location and season, there is potential for impairment if the MVID Water Bank does not have appropriate management controls to prevent it, or if the new permits are not appropriately conditioned to avoid it. Each of these risks are considered below.

MVID seeks to expand acreage and water duty as a part of this project. Both are permissible under the water code and can be done without impairing other uses if consumptive use does not increase. Some of the elements necessary to ensure no increase in consumptive use include:

1. Proper protocols for transparent accounting of consumptive use in the Trust Water Right Agreement (TWRA) and in these permit authorizations.
2. Proper demonstration that project construction and new MVID Member irrigation choices are proceeding as predicted.
3. Long-term tracking of consumptive use to ensure that, over time, water bank integrity does not become unbalanced, with demand exceeding supply.

MVID seeks to alter sources and uses in a way that will shift some water demand outside of the irrigation season. This will create new impacts in the winter and spring each year that have the potential to impair both interruptible users and adopted instream flows. Ecology considered the following relative to this potential impact:

1. Instream flows are most regularly not met in the irrigation season.
2. Out-of-stream demand for water from the Methow River is highest in the summer and fall.
3. Consumptive use will not increase as a result of the project.
4. A shift of water demand from summer to winter is generally a move from a period of lower availability to higher availability.
5. Ecology curtails interruptible water right users during the irrigation season. To-date, Ecology has not needed to curtail such users during the winter and spring.
6. The impacts are small relative to Methow River flows. Impacts are expected to be on the order of 2 cfs immediately after the end of the irrigation season and then diminish quickly to tenths of a cfs over the next weeks to months.
7. Ecology cannot allow impacts to private water right users, but can accept limited impacts to instream flows when it is demonstrated that OCPI will be served.
8. No private, existing water right holder will see their use diminish in a way that prevents them from exercising their water right.

While the uses above are expected to shift impacts later in the season, the irrigation efficiency portion of the project is expected to move impacts earlier in the season. Currently, water diverted from the Methow River for East Canal users creates an immediate impact that is then diminished by return flow from canal seepage that return to the river weeks to months later. However, by piping all or a portion of the East Canal, that water will stay in the river immediately. This will create greater spring and summer benefits, to the detriment of late summer and fall returns. These impacts are expected to generally occur within the irrigation season. Again, no private user will see their use diminish in a way that prevents the full exercise of their water right. Further, no third party can require MVID to maintain an inefficient system even if they have benefited from transitory return flows in the past that have

resulted from inefficient water use by MVID. They can benefit from them while they exist, but retaining them instream and not diverting them in the first place cannot constitute impairment.

As discussed in the water availability section, MVID proposes the ability to transfer some water savings from its West Canal diversion on the Twisp River upstream to its East Canal diversion on the Methow River. This could diminish flows in the reach above the Twisp River / Methow River confluence. No private user would see their use diminish as a result of this transfer, but the instream flow would be impacted. Ecology could condition this decision to prevent this potential impairment.

Ecology also considered groundwater impacts associated with the transfer of former surface diversions to wells. Ron Dixon evaluated regional aquifer impacts and well interference potential in a Technical Report. A copy of this report is available in Ecology's files. In summary, Mr. Dixon found the following:

1. The extent of the Methow River Valley aquifer is larger than the modeled aquifer and basin-wide drawdown from the proposed permitting action is expected to be less than 4.4 feet.
2. Drawdown modeling, based on actual pump tests, indicate that water level declines associated with any single withdrawal are expected to be less than 6 feet at a distance of 10 feet from the pumping well and less than 3 feet at a distance of 250 feet from the pumping well.

Ecology can condition these water right authorizations to reduce the likelihood of well interference by requiring well setbacks. In order to assert impairment under WAC 173-150-030, wells must reasonably develop the aquifer and be considered qualifying works. Ecology understands that a portion of the MVID design includes a contingency for wells that are inadvertently located too close, so that they can be relocated to avoid interference.

Overriding Consideration of Public Interest (OCPI)

RCW 90.03.290 requires that a water right permit application cannot be approved if it would cause detriment to the public interest. In evaluating the public interest test, Ecology typically looks to project benefits and project impacts, legislative policy preferences adopted in statute, local government policy preferences adopted in watershed plans, public comment, and applicant intent.

An overriding consideration of the public interest (OCPI) determination under RCW 90.54.020(3)(a) must be made to permit a water right that would otherwise be subject to curtailment when adopted minimum instream flows are not met. An OCPI determination is a higher standard than whether a project would cause detriment to the public interest. The Courts have clarified that OCPI determinations should be made only in those extreme cases where the public interest is compellingly served.

The following environmental impacts were disclosed in the SEPA checklist and threshold determination. They are the result of somewhat imperfect matching of supply and demand under the MVID Water Bank. These environmental impacts include:

- A bypass reach of approximately 4 miles resulting from a shift in demand from the historic Twisp River diversion to the Methow River East Canal.
- A reduction in flow of the Methow River in the weeks following the end of the irrigation season from switching about half the irrigation district service from surface water to groundwater.

- Approximately 0.05 cfs and 21 ac-ft reduction in flow of the Methow River during the non-irrigation season due to the withdrawal of 124.2 acre-feet of annual consumptive use to meet Twisp public water supply demand.

Ecology considered the instream flow impacts associated with the potential demand shift from the Twisp River diversion that will no longer be used to the Methow River East Canal, which would create a new bypass reach of 4 miles from the mouth of the Twisp River upstream on the Methow River to the East Canal headworks. However this impact is avoided by limiting diversion amounts to no more than is in the East Canal waste order. Therefore, the amount of water savings on a per acre-foot basis originating from Trust Water ROE CS4-MVID156 (Twisp River) may only be allocated to S4-33097 (Methow River) if they are offset by an equivalent per acre-foot savings from efficiency improvements to the East Canal or by the transfer of former East Canal uses to groundwater under G4-33098. Otherwise, the acreage is limited to what the Qi (12.28 cfs) from the Trust Water ROE CS4-MVID156 can reasonably support.

Ecology considered the impacts to the Methow River following the end of the irrigation season caused by replacing the existing Twisp River source of supply with up to 100 wells. The lag time impact felt by the Methow River, and to a much lesser extent the Twisp River, is discussed in more detail in the impairment section. For example, currently, water diverted from the Methow River for East Canal users creates an immediate impact that is then diminished by return flow from canal seepage that return to the river weeks to months later. However, by piping all or a portion of the East Canal, that water would not be diverted and would not seep into the ground to emerge at a later time in the Methow River. This would create relatively greater spring and summer flow in the Methow River, and somewhat less contribution to the late summer and fall Methow River Flows. Similarly, the reduced surface diversions on the Twisp and Methow Rivers in August and September provide an immediate improvement to the Twisp River and Methow River flows.

WAC 173-548-020(5) states, "Future appropriations of water which would conflict with base flows shall be authorized, by the director, only in those situations when it is clear that overriding considerations of the public interest will be served." As the administrator of WAC 173-548, Ecology has some judgment on whether a future appropriation conflicts with this rule. Some of the factors Ecology considers in this judgment include the type of project and whether the functions and values of the instream flow are advanced and legislative direction.

- RCW 90.42 and IEGP program, encouraging which the state funds conservation projects that create these same types of return flow impacts. For example an irrigation efficiency project will typically reduce late season return flow in exchange for increase instream flow in the spring and summer.
- Legislature appropriates money annually, as do federal funding sources, for acquiring water rights and fallowing land in fish critical areas. Fallowing former irrigation land also creates acceptable reduction to instream flows in exchange for increase instream flows at different time periods.
- DOH, WDFW, and Ecology all have historically encouraged surface to ground water right transfers to meet surface water treatment rule requirements, reduce fish mortality associated with fish screening requirements, and attenuating stream flow impacts associated with surface diversions. These surface to groundwater right transfers attenuate river impacts within the irrigation season but are water budget neutral annually, and have out-of-kind benefits that meet function and value goals for instream flows.

Given these factors, Ecology does not believe this surface to groundwater source exchange portion of this project is in conflict with the instream flow in WAC 173-548.

Ecology considered the impact of Twisp's year-round water use on the Methow River and found it conflicts with the adopted instream flows. In the following section Ecology describes in detail the public process it pursued and the stakeholders it consulted to determine whether the public benefits overwhelmingly offset the consumptive use impacts to instream flows during the non-irrigation season for the year-round municipal use.

Ecology and the County circulated a SEPA checklist that included a comprehensive accounting of project benefits and impacts. The SEPA checklist summarized the following potential impacts and benefits associated with the MVID Water Bank:

- Approved trust water rights and new permits from the MVID Water Bank will result in an increase in flow in the Twisp River of approximately 11 cfs from the historic point of diversion downstream. The wells supplying the new north end system for the west canal may decrease this water savings near the confluence of the Twisp and Methow Rivers.
- Approved trust water rights and new permits from the MVID Water Bank will result in an increase in flow in Alder Creek of 2 cfs. MVID will eliminate diversions on Alder Creek.
- Approved trust water rights and new permits from the MVID Water Bank may result in an increase in flow from the confluence of the Twisp and Methow Rivers to the end of the MVID canal system spill locations on the east and west sides, due to irrigation efficiency benefits. The Methow River flow benefit to the environment is a function of the final design, MVID and individual member choices about what land will be returned to irrigation, how to deal with Barkley inflow, and other factors.
- Approved trust water rights and new permits from the MVID Water Bank may increase or decrease flows in the roughly 4 miles of the Methow River above the confluence with the Twisp River to the East Canal diversion location. Flow may decrease because some East Canal users will be converted to wells and there will be irrigation efficiency improvements. Flows may decrease, because some consumptive use savings from the west canal may be transferred to MVID members on the east side. Until design and full coordination is realized, a final water balance is only estimated.
- Approved trust water rights and new permits from the MVID Water Bank will allow removal of diversions on Twisp and Alder Creek, which will eliminate the annual in-river push-up dam construction that occurs through the irrigation season, and cessation of end-of-year fish trapping on the west side. Note, currently WDFW helps MVID move out any fish that are in the area of the diversion/fish bypass before the fish screen, so they don't get dewatered.
- Approved trust water rights and new permits from the MVID Water Bank may shift the season of impacts of irrigation diversions on the Methow Rivers. Historically, surface diversions from the East and West Canal created instantaneous impacts on surface water. By shifting some of this demand to groundwater, there will be a lag of impacts for weeks or longer depending on well construction, well proximity to the river, and subsurface conditions. For example, Ecology has preliminarily estimated that for some of the wells proposed to be constructed, 90% of pumping impacts on the Methow River will have been eliminated approximately 3 weeks after the end of the irrigation season. Some wells may recover faster or take longer depending on the factors described above (Ecology, Dixon, 2014). An equal or greater amount (based on irrigation efficiency) will benefit the river during the spring and summer due to the pumping lag.

- Approved trust water right and new permits from the MVID Water Bank will increase groundwater withdrawals and could create local well interference. Drawdown modeling by Ecology (Ecology, Dixon, 2014), based on actual pump tests, indicate that the water level declines associated with any single withdrawal are expected to be less than 6 feet at a distance of 10 feet from the pumping well and less than 3 feet at a distance of 250 feet from the pumping well. Cited pump tests results indicate that aquifer drawdown at distances of 250 feet or greater from a pumping well will likely be less than 0.5 feet. Basin-wide drawdown of a conservatively modeled aquifer as a result of the proposed project was estimated to be 4.4 feet. However, it is expected, based on the actual physical parameters of the aquifer, that the drawdown within the project area would likely be less. Based on the analysis presented above, any groundwater drawdown that might occur as a result of the permitting action is not expected to interfere with the ability of nearby well owners to fully utilize their well(s).
- Approved trust water rights and new permits from the MVID Water Bank will reduce groundwater recharge of the Methow River from previous canal seepage. There will be no net decrease in seepage. Rather the water won't be diverted and will instead remain instream. The USGS Report (Konrad, 2005) "Hydrogeology of the Unconsolidated Sediments, Water Quality, and Ground-Water/Surface-Water Exchanges in the Methow River Basin, Okanogan County, Washington," examined the flow of water between rivers and aquifers in the Methow River Basin. The report identified groundwater discharges to the Methow and Twisp Rivers and aquifer recharge by the Methow and Twisp Rivers. The report evaluated seepage from unlined irrigation canals and found them to be a source of recharge to the unconsolidated aquifer during the late spring and summer. Seepage from 13 unlined irrigation canals in the study, including MVID's canals, "would represent about 9 percent of annual non-fluvial ground-water recharge in the basin as simulated by the model for water years 1992-2001." Converting a portion of the MVID West and East Canals to wells and piped conveyances will reduce groundwater contributions by a small amount.
- Ecology's waste order allows 11 cfs and 2,716 acre-feet to be diverted from the Twisp River, with an overall canal efficiency of 56% (e.g. 56 out of every 100 gallons reaches the farm). Therefore, the total groundwater contribution from seepage on the West Canal is 44% of 2,716 acre-feet, or approximately 1,195 acre-feet. For a 183 day irrigation season, this represents an average groundwater contribution of 3.3 cfs (1,481 gpm). Some groundwater seepage will continue under the new piping system on the west side (e.g. Department of Health acceptable leakage standards for municipal systems is 10% or less).
- The decrease in groundwater seepage from improvements on the East Canal will depend upon the total well conversions. The East Canal also receives contributions from Barkley Canal spill, and serves Barkley lands. MVID is aware of a potential improvement project for the Barkley Canal that could improve that system, which could in turn affect the quantity of spill and service currently supplies by the East Canal, but no project has been formally acted on by the Barkley Canal directors or has been funded to date. Based on these uncertainties, the total decrease in groundwater seepage cannot be directly estimated. Ecology's waste order limits a combined MVID and Barkley East Canal service of 4,909 acre-feet for 838 acres (combined). At 4 acre-feet/acre on-farm duty, the on-farm total is 3,352 acre-feet, with 1,557 acre-feet remaining for canal losses. This quantity could represent the total diminishment of groundwater seepage from the canals if the entire east canal were converted to wells. If a portion remains piped and in existing canal, per Alternative 5, this quantity would be less. All groundwater seepage losses are offset at

the Twisp and Methow Rivers by a commensurate increase in instream flow that would not be diverted.

- Approximately 124 acre-feet of consumptive use from MVID irrigation supplies designated for use within the Town of Twisp by 2001 Change Application No. CS4-WRC003935 will be converted to year-round municipal use. This shift creates benefit to instream flows in the Methow River (from withdrawals from Town of Twisp wells) in the summer of approximately 0.20 cfs (mid-May to mid-August), and a decrease in instream flows in the Methow River in the winter of approximately 0.05 cfs (January to mid-May and mid-August to December). Anchor QEA evaluated the overall project benefits compared to conversion of up to 138 acre-feet of consumptive seasonal irrigation to year-round municipal use (Anchor QEA, 2014). Using an IFIM method and a point-based model, they concluded that even when considering streamflow impacts associated with winter diversions associated with season of use change, and groundwater attenuation from previous surface diversions, the project has overwhelming instream flow and habitat benefits for critical life stages of fish.
- The proposed permit assigned by MVID to Twisp would include requirements to not increase consumptive use beyond the approximately 124 acre-feet of consumptive use purchased by Twisp. This would include a requirement that any wastewater returned to the Methow River from Twisp's municipal wastewater treatment plant under this permit not be diverted or reclaimed for a new use. A new permit issued to Twisp would include provisions to track and enforce the consumptive use limit to ensure that water that is expected to remain or return to the river in perpetuity can be verified.

Ecology considered its Mitigation Policy 2035 in evaluating the appropriateness of OCPI. The policy reinforces that mitigation should first be in-kind, in-time, and in-place. If that is not possible, then out-of-kind mitigation can be considered. In rare circumstances, OCPI can be applied to address unavoidable instream flow impacts. In this project, MVID and joint funders are proposing a project that is water budget neutral as to annual consumptive use, but is slightly out-of-time. However, the project will result in significant out-of-kind benefits, including benefits to habitat, fish passage, water quality, and summer time instream flows.

The Town of Twisp's water use will be public in nature and will provide public benefits. The Town is a public municipality and MVID is a quasi-municipal irrigation district. Under RCW 90.54.020(8), Ecology has a mandate to encourage water supply systems that provide water to the public in regional areas. Twisp is the sole municipal water supply in the area, and the additional year-round supply of water provided is in the public interest. Twisp has been under periodic moratoria due to inadequate water rights since the 1997 Supreme Court ruling in OWL v. Twisp. The inadequacy of regional public water supplies leads to proliferation of exempt wells, which are not in the public interest. This project will ensure reliable water supply for approximately 20 years in the area.

Additionally, since the reduction in Twisp's water rights in the Owl v. Twisp case, Twisp has enacted a number of supply and demand conservation strategies to meet its obligations to provide water to its retail service area. These strategies have included leak detection, conservation-based water rates, and evaluating and implementing some water reuse strategies. Twisp's lost and unaccounted for water has generally been on a downward trajectory towards the DOH conservation goal of 10%. Twisp lost water percentage has dropped from nearly 30% in 2009 to 19% in 2012. In 2011, Twisp found a large leak that spiked their lost water for that year, but Twisp promptly addressed the issue. Moving forward, Twisp is

preparing to develop an update to its water system plan and plans to continue tracking and improving its water system to meet the 10% lost water goal.

An OCPI analysis can consider economic benefits, but they should not be the sole basis for finding that OCPI would be served. New growth for the Town of Twisp will create economic benefits to Okanogan County. Based on the Office of Financial Management (OFM) Input – Output calculator, a new 248.4 acre-foot water right for Twisp will:

- Create approximately \$33 million dollars in tax base benefit.
- Create 192 short-run jobs.

Under RCW 90.82.130(4), Ecology shall rely on adopted watershed plans as a primary consideration in determining the public interest related to water right decisions. The Okanogan County Commissioners adopted the Methow Watershed Plan in June 2005. Plan recommendations included:

- Increase water supplies to provide for future out-of-stream uses while satisfying minimum instream flows for fish.
- Added clarity and information to support an amendment to the existing instream flow rule.
- Aquifer storage projects.
- Protection for ground water recharge from unlined irrigation ditches.
- Mechanisms to reduce relinquishment of water rights.

This project addresses many plan priorities, including improving summer instream flows, improving public water supply, and adopting a water bank that reduces relinquishment risk. The project does diminish groundwater recharge to accomplish some of these goals, which was fully disclosed by Okanogan County as part of its SEPA determination.

This project is a publicly funded project, having been reviewed by key state, local, and tribal fisheries co-managers. Projects qualifying for public funding are an expression of the public interest. Funding agencies include the Department of Ecology Office of Columbia River, the Priest Rapids Coordinating Committee, and the Salmon Recovery Funding Board. The project is managed and sponsored by Trout Unlimited, which advocates for fisheries restoration projects.

Climate change is a factor that should be considered when evaluating the public interest. Climate change predictions are not expected to significantly alter the amount of water in the Methow Basin, but are expected to move the supply hydrograph to the left (i.e. higher spring flows, lower late summer flows). This project moves a small amount of the impact of water use and some direct use by Twisp out of the summer to the winter months. The effect of this project will be more supply available in the summer.

The project meets numerous statutory and policy criteria that are expressions of the public interest. In addition those discussed above, these include:

- RCW 90.90.005: development of water supplies that meet both instream and out-of-stream needs.
- RCW 90.90.020: development of new municipal and irrigation supply.

- The “Statewide Strategy to Recover Salmon” (1999): It is the intent of the Legislature to begin activities required for the recovery of salmon stocks. In this case, there are overwhelming benefits to the Twisp River, which contains threatened and endangered salmonids.

When all the public interest benefits are compared to the potential harm to instream flows on the Methow River, it becomes evident that this is an extraordinary circumstance where withdrawing groundwater in continuity with the Methow River clearly serves the overriding consideration of the public interest. The net effect of slightly reducing the Methow River instream flows (approximately 0.05 cfs and 21 ac-ft) during the non-irrigation season months, coupled with the extensive positive Endangered Species Act (ESA) listed fish habitat and flow improvements and reducing fish mortality during the irrigation season puts this project in an overwhelming ecological beneficial category. Ecology determines it is in the public interest to override any minor detriment to the instream flows in the Methow River during the non-irrigation season. Therefore instream flows on the Methow River are waived, as prescribed in WAC 173-548, during the non-irrigation season for the municipal portion of the project on the subject groundwater application (G4-33098).

Consultation

Ecology sent correspondence dated July 8, 2014, with the Washington State Department of Health (DOH) regarding MVID’s proposal and its benefits to the Town of Twisp. DOH verbally concurred that they support the project on July 18, 2014.

On March 3, 2014, Ecology met with the Washington State Department of Fish and Wildlife (WDFW) regarding the subject proposal by MVID. WDFW communicated its concurrence of the project on July 11, 2014.

Ecology met with the National Marine Fisheries Service regarding the subject proposal by MVID on multiple occasions over the past several years. NMFS supports the project and issued a letter of support on July 11, 2014.

Ecology and the City met with the Yakima Nation regarding the subject proposal by MVID during the week of July 14, 2014. The Yakima Nation indicated they did not object to the proposal.

On June 27, 2014, Ecology and the City met with the Confederated Tribes of the Colville Reservation regarding the subject proposal by MVID.

Ecology sent correspondence dated June 24, 2014, to United States Bureau of Reclamation, requesting a release of waters for wells in the vicinity of the Methow River, tributary to the Columbia River, and upstream of Priest Rapids Dam where Reclamation has established a reserve of water for use in the Yakima Basin. Ecology informed Reclamation that the project would not create any additional diversionary authority by virtue of consumptive use offsets through the MVID Water Bank. Reclamation informed Ecology on June, 27, 2014, that they did not have concerns with the project.

Ecology and Okanogan County issued an MDNS on May 21, 2014, for the project that fully disclosed the proposed project benefits and impacts, and the potential use of OCPI to cover imperfect supply and demand matching associated with the project. No adverse comments were received in response to the MDNS. Additionally, Ecology, MVID, TU, and Twisp have given numerous presentations on the proposed project to solicit public comment, including to the Columbia River Policy Advisory Group, Methow Watershed Council, and Methow Salmon Recovery Foundation.

Public Interest

The public interest test includes analyzing harm to fish and wildlife, effects on endangered or threatened species, impacts to wetlands, recreation, water quality, fish habitat and any other concerns expressed by third parties. Approval of these applications would not be detrimental to the public interest for the same reasons that OCPI is justified to override impairment of the instream flows.

Conclusions

The conclusions based on the above investigation are as follows:

1. The proposed appropriations for irrigation and municipal use are for beneficial uses of water;
2. The maximum combined Qj, 26.1 cfs (11,713.7 gpm) and Qa 5,592 ac-ft is available for appropriation;
3. The new appropriations will intermittently impair existing water rights in the form of instream flows during times of low flow, but approval of the year-round municipal use by Twisp will serve overriding consideration of the public interest;
4. The new appropriation will not be detrimental to the public interest.

RECOMMENDATIONS

Based on the information presented above, the authors recommend that the requests to appropriate the following for permit:

- G4-33098 up to 6,016 gpm and 2,684 ac-ft/yr be approved with the limitations and provisions provided for on pages 1-4 of G4-33098 report.
- S4-33097 up to 12.7 cfs and 3,309 ac-ft/yr be approved with the limitations and provisions provided for on pages 1-4 of S4-33097 report.
- The consumptive use between G4-33098 and S4-33097 is limited to the maximum amount available in the water bank of 2,995.9 ac-ft.
- The maximum number of acres to be irrigated between G4-33098 and S4-33097 is 1036.7 acres.

Report by:

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Date

Report by:

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Date

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Figure 1 – MVID Instream Flow Improvement Project Map

