



REPORT OF PHASE 1 ANALYSIS
Twin Lakes Aquifer Coalition
Water Right Application G4-34915
Cost Reimbursement Project

Prepared for: Department of Ecology, Central Regional Office

Project No. 040028-001-01 • March 28, 2005



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1 Introduction

This report presents the results of a Phase 1 evaluation and scoping of the Phase 2 effort for processing of the Twin Lakes Aquifer Coalition (TLAC) water right application (G4-34915) under the cost reimbursement program. The TLAC falls within the Methow River Basin, which is the state's Water Resource Inventory Area (WRIA) 48. Aspect Consulting, LLC was contracted by the Washington State Department of Ecology (Ecology) under Ecology's cost reimbursement program (Contract C0500006, Work Assignment Number ASP1). The objectives of this Phase 1 effort included:

- 1) Identifying the list of applications that must be processed in order that Ecology can render a decision on the TLAC application; and
- 2) Estimating the scope of work and budget necessary to process the applications in line ahead of the TLAC application as well as the TLAC application itself.

The Phase 1 included reviewing Ecology's files on pending water right applications in WRIA 48 having a senior priority date to the TLAC application, completing a site reconnaissance of the Methow River Basin, meeting with TLAC representatives to discuss their application, reviewing pertinent regulations and available water resources studies for the watershed, and meetings with Ecology's Central Regional Office (CRO) staff to develop appropriate selection and processing criteria for this cost reimbursement project.

Sections 2 and 3, respectively, summarize the pending water right applications within WRIA 48 which were considered and the rationale for identifying that subset of applications requiring processing. Section 4 presents the criteria and methodology to be applied in processing of the water right applications. Finally, Section 5 provides the scoping of the Phase 2 effort, including the scope of work, estimated cost, and schedule anticipated for processing.

2 Water Right Applications in WRIA 48

Ecology Central Regional Office (CRO) provided from their Water Rights Tracking System (WRTS) database a listing of all pending water right applications within WRIA 48. The WRTS included a total of 158 pending WRIA 48 applications with priority dates dating back to 1984. Table 1 lists the 158 applications, sorted by priority date, and includes pertinent information provided from WRTS. Note that some applications (control numbers) are listed more than once in WRTS corresponding to multiple proposed points of withdrawal (sources). Figure 1 (oversize plate) shows the proposed source locations for the 158 water right applications based on WRTS. Applications with multiple sources are shown on Figure 1 with blue hollow symbols corresponding to each source listed in the application.

Using GIS, each application was assigned into its respective stream management unit (SMU), as defined in Chapter 173-548 Washington Administrative Code (WAC), based on the location of the application's point of withdrawal (to the nearest quarter-quarter section). The SMU as determined by GIS is listed for each application in Table 1. For the purposes of selecting applications to be processed under this Project, each SMU is considered to encompass the respective hydrologic subbasin (including groundwater and tributary streams) delineated as part of the Phase 2 Level 1 Technical Assessment for WRIA 48 (Golder Associates, 2002). Note that 36 WRIA 48 applications have sources located outside any of the seven SMU subbasins. These applications have "Columbia River Tributary Subbasin" listed in the SMU column of Table 1.

In cases where an application's proposed source location (quarter-quarter section) was immediately adjacent to the boundary of an SMU subbasin, the water right application file was reviewed to determine the source location more accurately than the quarter-quarter section. Likewise, more detailed determination of source location was performed for applications with source locations near the boundary of the basin around a waterbody closed to further consumptive appropriation by Chapter 173-548-050 WAC. A total of 15 applications were reviewed for more detailed determination of source location.

3 Rationale for Selecting Applications to Process

This section presents the rationale for selecting the group of water right applications within WRIA 48 to be processed under the Project. The rationale is based on our review of Chapters 173-548 and -563 WAC, other pertinent reference documents pertaining to the Methow River and Columbia River watersheds, and discussions with staff at Ecology's Central Regional Office.

1. Chapter 173-548 WAC defines seven SMUs, each with established regulatory base flows (instream flow minimums) and a stream gaging control station at which those instream flows are measured and enforced. Each SMU also has water quantities reserved for future appropriation according to established priority of use (e.g., 2.0 cubic feet per second [cfs] for single-family domestic and stock watering). The effects of future allocation of these reserved water quantities on downstream SMUs were considered in setting regulatory base flows for each SMU in Chapter 173-548 WAC. As stated above, each SMU is considered to encompass the respective hydrologic subbasin (including groundwater and tributary streams) delineated as part of the Phase 2 Level 1 Technical Assessment for WRIA 48 (Golder Associates, 2002).
2. Processing of the TLAC application for a new water right under the cost reimbursement program must include processing of all applications which have a senior priority date to the TLAC application and which are requesting appropriation of the same source of water. The TLAC application proposes to withdraw groundwater from the valley floor alluvium which has been determined to be in hydraulic continuity with the mainstem Methow River, thus the mainstem Methow River is the source of water. The TLAC proposed

point of diversion occurs within the Upper Methow SMU, defined under Chapter 173-548 WAC. All senior water right applications with proposed point(s) of withdrawal or diversion located in the Upper Methow SMU require processing with the TLAC application. In addition, although Chapter 173-548 WAC divides the mainstem of the Methow River into four SMUs for regulating instream flows, the entire mainstem of the Methow River is also considered the same source of water based on physical continuity for the purposes of identifying the applications to be processed under this Project. Therefore, all senior applications proposing to withdraw water from the mainstem of the Methow River, including direct surface water diversion and groundwater withdrawal from the valley alluvium along the mainstem, also require processing with the TLAC application. For the purposes of selecting applications to be processed under this Project, the extent of valley alluvium is as defined by Washington State Department of Natural Resources (DNR) 1:100,000 geologic map.

4 Processing Criteria and Methodology

Pending WRIA 48 water right applications with priority dates senior to the TLAC application, and which represent the same body of water as the TLAC application, will be processed in Phase 2 of this Project. Water right applications for appropriation must meet four criteria:

1. The application represents a beneficial use of water;
2. Water is available for appropriation;
3. The application would not impair senior water rights including instream flows (base flows defined in Chapter 173-548 WAC), and
4. The application is not detrimental to the public interest.

Specific to WRIA 48, Chapter 173-548 WAC, promulgated in 1976, defines seven SMUs. Each SMU has defined instream flow minimums (base flows in WAC 173-548-020), and maximum quantities of surface water available for appropriation based on use priority (WAC 173-548-030). These maximum quantities available for appropriation also apply to groundwater in hydraulic connection with surface water per WAC 173-548-060.

Figure 2 presents the decision flow chart to be generally followed in processing water right applications under this Project. The decision flowchart incorporates the appropriation criteria as well provisions of Chapter 173-548 WAC. A general description of the processing decision flow chart is as follows:

1. Determine whether the application represents a beneficial use of water. This will generally entail documenting that the water is needed--that is, that demand can be demonstrated--and that the use is a beneficial use as defined

by the Water Code. This determination will be based on reviewing the applicant's stated demand for water relative to their existing water rights and use of water. For example, applications requesting appropriations for irrigation will consider the proposed acreage and appropriate crop water duty for the area; whereas for municipal supply appropriation, the analysis will include review of the DOH approved water system plan. If the application is determined to represent a beneficial use, processing will continue as outlined below and shown on the decision flow chart. If not, the application is denied as a non-beneficial use of water.

2. Evaluate the three-fold question:
 - a. Does the application represent a non-consumptive use of water? or
 - b. Does the application include a plan that successfully mitigates for consumptive use of water? or
 - c. Is the application source a well drawing water solely from bedrock (i.e., is the well drilled into competent bedrock and sealed off from the overlying alluvium?). Such bedrock wells are determined to not be hydraulically connected with surface waters per WAC 173-548-050 (4).

If the answer to any of these three questions is yes, water is determined to be available for appropriation and processing proceeds to address the remaining two questions regarding potential impairment and public interest as shown on the decision flow chart. If the answer to all of these three questions is no (consumptive use of water drawn from source other than bedrock), the application is assigned into its SMU and processing continues to determine whether water is available for appropriation in that SMU as outlined below and shown on the decision flow chart.

3. Determine whether the application proposes to draw additional water from a basin closed to further consumptive appropriation in WAC 173-548-050. If yes, the application is denied since water is not available for appropriation. If no, proceed with processing as outlined below and shown on the decision flow chart.
4. Determine whether the proposed purpose of use includes single family domestic supply and/or stock watering. These are defined as Priority 1 uses in WAC 173-548-030, which defines a 2.0 cfs reserve of water available for appropriation for these uses (since promulgation of Chapter 173-548 WAC in 1976). Permitted Priority 1 uses are not subject to interruption based on regulatory base flows. If the application includes Priority 1 uses, the applied-for water is determined to be available for appropriation if it less than the Priority 1 reserve quantity remaining available for that SMU. In this case, processing proceeds to address the remaining two questions of impairment and public interest as shown on the decision flow chart. Note that this remaining Priority 1 reserve quantity for each SMU will be pre-calculated using information provided by Ecology (from WRTS) regarding water right permits issued since 1976. For the purposes of this calculation, groundwater withdrawal quantities from alluvium within the mainstem Methow River

valley is considered to be in hydraulic connection with surface water and will be treated as equivalent surface water diversion quantities. Also note that if an application proposes Priority 1 uses and other uses, water availability for the Priority 1 uses will be determined by this process, while water availability for other proposed uses will be determined using criteria outlined below. Consequently, it is possible that water may be determined to be available separately for different proposed uses in an individual application.

5. For applications with proposed purposes of use other than Priority 1 uses, determine whether water is available within the appropriation limits for that SMU specified in WAC 173-548-030(1)(c). These non-Priority 1 uses are termed here Priority 3 uses as they are lower priority than base flows (Priority 2). Priority 3 permitted uses are subject to interruption if base flows are not met. The remaining water quantity within each SMU's appropriation limits will be pre-calculated using information provided by Ecology (from WRTS) regarding water right permits issued since 1976. For the purposes of this calculation, groundwater withdrawal quantities from alluvium within the mainstem Methow River valley is considered to be in hydraulic connection with surface water and will be treated as equivalent surface water diversion quantities. If water is determined to be available, processing proceeds to address the remaining two questions of impairment and public interest as shown on the decision flow chart.
6. At this point, water availability has been addressed for any application. Determinations are then made of whether the proposed use would impair senior water rights or, for Priority 3 uses, base flows, and whether the application is in the public interest. The application is denied if it is demonstrated to impair a senior right or to be detrimental to the public interest. Because the Methow River is a tributary of the Columbia River, target flows for the Columbia River--as specified in NOAA Fishery's Biological Opinions--will be considered as part of the public interest determination in processing these WRIA 48 applications. Promulgation of a new Columbia River management program (rule making as part of the Columbia River Initiative) could include provisions that mitigate for potential impacts to the Columbia River from future appropriation of water in tributaries like the Methow River.

5 Phase 2 Scope of Work, Cost, and Schedule

The scope of work for Phase 2 processing of the selected WRIA 48 applications under this Project would generally include the following items:

Pre - Report of Examination (ROE)

1. Send to applicant a Notification Letter (notify status, process, and request any additional information or changes relative to existing application).
2. Telephone correspondence with applicant to confirm receipt of letter and address preliminary questions regarding the process.
3. For those applications that have not yet filed public notice, prepare public notice and send to applicants for publishing with instructions.
4. Mail applications to appropriate stakeholders as agreed to by Ecology.
5. Acknowledgement of receipt of any protests or letters of concern and process for responding to comments.

Investigation to Support Preparation of ROE

1. Calculate quantities of water appropriated from Priority 1 and Priority 3 reserves in each SMU since 1976, based on WRTS information provided by Ecology.
2. Conduct a site visit (if necessary) to meet with applicant and confirm proposed point of diversion and area of use, confirm existing rights held (if any), and existing water use and demand. Includes preparation of a map of proposed point of diversion if not in file.
3. Hold telephone follow-up with applicants as needed.
4. Map existing neighboring water rights to support impairment evaluation.
5. Evaluate existing water use (if applicable) and estimate need versus quantity requested on application (e.g., evaluate water system plan for municipal applicants, evaluate proposed irrigated acreage and applicable water duty for irrigation applications, etc.).
6. Document local hydrology for use in impairment evaluation.
7. Review and prepare responsiveness summary to agency and public comments received during comment period for application.
8. For applications not exempt from State Environmental Policy Act (SEPA), review SEPA determination of lead SEPA agency or, if Ecology is lead agency, prepare SEPA determination (DNS, DS, etc.).

Preparation of ROE

1. Draft sections of ROE per 4-part criteria (decision flow chart) and investigation.
2. Address agency and public comments/protests on application.
3. Develop list of provisions per Chapter 173-548 WAC.
4. Incorporate SEPA determination and requirements.
5. Prepare an Ecology Central Regional Office (CRO) review draft and plan to meet/telecon with CRO staff to review comments.
6. Incorporate Ecology comments and produce final ROE with provisions.

Post - ROE

1. Transmit ROE to applicant and respond to subsequent correspondence.

6 Estimated Cost

The estimated cost for Phase 2 processing is detailed in Table 2. The cost of processing is estimated to be approximately \$680,000. Note that this cost includes provision for a processing contingency, given the uncertainties associated with the large number of applications. The estimated cost however does not include a cost contingency associated with responding to potential appeals to water right decisions issued as a result of this effort.

7 Schedule

We estimate an 18-month duration to complete the Phase 2 processing, as outlined in the scope of work above.

8 References

Golder Associates, 2002, Phase 2 Level 1 Technical Assessment, WRIA 48. June 26, 2002.

State of Washington Department of Ecology, 1976, River Basin Program Series, No. 4, Water Resources Management Program, Methow River Basin (Water Resources Inventory Area No. 48).

Table 1 - Pending WRIA 48 Water Rights Applications

Control #	TRS	Person	Priority Date	SMU (by GIS)	Source	Purpose	Q/Uom	Application Comments	Include for Processing in Project?	Assumed effort level category	closed basin or bedrock well?
G4-28481	30.ON 23.OE 13	Talley	19840622		Columbia River Tributary Subbasin	IR DS	2250 GPM		no	L	
S4-28733	32.ON 22.OE 11	Blackledge	19850415	Lower Methow River	Lower Methow Tributary (Benson Creek Subbasin (Closed))	IR FS	0 CFS		no	D	closed
S4-28910	35.ON 21.OE 30	Heath	19860417	Upper Methow River	Upper Methow River Tributary	ST IR	7 CFS		YES	F	
G4-28975	36.ON 19.OE 25	Mazama Country Inn Management Corp Merriman	19860617	Headwaters	Methow River Headwaters Alluvium	DM	500 GPM		YES	J	
G4-29151	34.ON 21.OE 03	US Dept Fish & Wildlife	19861105	Upper Methow River	Upper Methow River Alluvium	FS	3250 GPM		YES	A	
G4-29152	34.ON 21.OE 03	US Dept Fish & Wildlife	19861105	Upper Methow River	Upper Methow River Alluvium	FS	1300 GPM		YES	A	
S4-29168	34.ON 21.OE 05	Hover	19861219	Upper Methow River	Upper Methow River Tributary	IR DS	0 CFS		YES	F	
S4-29169	34.ON 21.OE 04	Hover	19861219	Upper Methow River	Upper Methow River Tributary	ST	0 CFS		YES	E	
G4-29210	36.ON 19.OE 25	Mazama Village Inc	19870223	Headwaters	Methow River Headwaters Alluvium	DM	175 GPM	Draft ROE	YES	J	
G4-29238	33.ON 22.OE 16	Cascade Showers Inc Darling	19870325	Lower Methow River	Lower Methow River Alluvium	CI	125 GPM		YES	I	
G4-29242	36.ON 19.OE 26	Mountain View Villa Partnership Simmons	19870330	Early Winters Creek	Early Winters Alluvium (Exclude) or Headwaters Alluvium (Include)	DM	150 GPM	Draft ROE	YES	J	
S4-29576	35.ON 20.OE 16	Mazama Quarry Inc Ray	19880129	Upper Methow River	Upper Methow River Tributary	EN	1 CFS	Protested	YES	K	
G4-29628	35.ON 20.OE 14	Four Suns PUD Holzksnecht	19880224	Upper Methow River	Upper Methow River Alluvium	DM	8 GPM		YES	J	
S4-29629	33.ON 21.OE 10	Hansen	19880224	Twisp River	Twisp River / Tributary	IR	0 CFS		no	F	
S4-29650	33.ON 21.OE 10	Snyder	19880301	Twisp River	Twisp River / Tributary	IR	0 CFS		no	F	
S4-29668	33.ON 21.OE 10	White	19880308	Twisp River	Twisp River / Tributary	IR DM	0 CFS		no	J	
S4-29678	33.ON 21.OE 10	Johnson	19880315	Twisp River	Twisp River / Tributary	IR	0 CFS		no	F	
S4-29711	33.ON 21.OE 10	Johnson	19880404	Twisp River	Twisp River / Tributary	IR	0 CFS		no	F	

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Control #	TRS	Person	Priority Date	SMU (by GIS)	Source	Purpose	Q/Uom	Application Comments	Include for Processing in Project?	Assumed effort level category	closed basin or bedrock well?
S4-29726	33.0N 21.0E 10	Nickell	19880419	Twisp River	Twisp River / Tributary	IR	0 CFS		no	F	
G4-29732	35.0N 21.0E 20	Chapman	19880505	Upper Methow River	Upper Methow Subbasin Bedrock?	DS DM	3 GPM		YES	J	
G4-29733	35.0N 21.0E 20	Schloss	19880505	Upper Methow River	Upper Methow Subbasin Bedrock?	DS DM	3 GPM		YES	J	
G4-29793	35.0N 20.0E 10	Brown	19880615	Upper Methow River	Upper Methow River Alluvium	DM	25 GPM	Draft ROE	YES	J	
G4-29766	35.0N 21.0E 15	Anderson	19880624	Chewuch River	Chewuch River Alluvium	DM	27 GPM		no	J	
S4-29803	33.0N 23.0E 07	WA DFW McIrvine	19880912	Lower Methow River	Lower Methow Tributary (Beaver Creek (Closed))	WL ST	0 CFS		no	D	closed
S4-29804	33.0N 22.0E 01	WA DFW McIrvine	19880912	Lower Methow River	Lower Methow Tributary (Beaver Creek (Closed))	WL ST	0 CFS		no	D	closed
G4-29816	34.0N 21.0E 24	Dammann	19881003	Middle Methow River	Middle Methow River Alluvium	DM	27 GPM		YES	J	
G4-29898	36.0N 19.0E 25	Riverfront Partnership Merkeley	19881216	Headwaters	Methow River Headwaters Alluvium	FR DM	10 GPM	Draft ROE	YES	J	
S4-29878	30.0N 23.0E 25	W N Orchards Nickell	19881230		Columbia River Tributary	IR	0 CFS		no	L	
G4-29935	35.0N 21.0E 30	Childers	19890206	Upper Methow River	Upper Methow River Alluvium	DM	32 GPM		YES	J	
G4-29952	35.0N 21.0E 20	Lennartz	19890228	Upper Methow River	Upper Methow Subbasin Bedrock?	WL IR	15 GPM		YES	F	
G4-30027	36.0N 20.0E 31	Thorlakson	19890726	Headwaters	Methow River Headwaters Alluvium	DM	21 GPM	Other applications not included, Draft ROE	YES	J	
G4-30050	33.0N 23.0E 02	USFS Okanogan Schelhaas	19890817	Lower Methow River	Lower Methow Tributary (Beaver Creek Alluvium (Closed))	DM CI	30 GPM	Protested	no	D	closed
G4-30056	34.0N 22.0E 08	Quinn	19890821	Middle Methow River	Middle Methow Tributary (Bear Creek Alluvium (Closed)), Bedrock	IR DS	20 GPM		no	D	bedrock, closed
G4-30059	34.0N 22.0E 08	Walker	19890824	Middle Methow River	Middle Methow Tributary (Bear Creek Alluvium (Closed)), Bedrock	IR DS	20 GPM		no	D	closed

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Control #	TRS	Person	Priority Date	SMU (by GIS)	Source	Purpose	Q/Uom	Application Comments	Include for Processing in Project?	Assumed effort level category	closed basin or bedrock well?
G4-30108	34.ON 21.0E 36	Blethen	19891114	Middle Methow River	Middle Methow Tributary Subbasin (Bedrock)	ST_DS	12 GPM		no	E	bedrock
G4-30116	34.ON 21.0E 26	Blethen	19891114	Middle Methow River	Middle Methow Tributary Subbasin (Bedrock)	ST_DS	25 GPM		no	E	bedrock
S4-30118	35.ON 20.0E 10	Nelson	19891204	Upper Methow River	Upper Methow River Tributary	ST_IR	1 CFS		YES	F	
G4-30155	31.ON 22.0E 36	Nelson	19900131	Lower Methow River	Lower Methow River Alluvium	ST_IR	15 GPM		YES	F	
G4-30180	34.ON 21.0E 10	Haub Brothers Enterprises Trust	19900215	Upper Methow River	Upper Methow River Alluvium	IR	350 GPM		YES	F	
G4-30181	34.ON 21.0E 03	Haub Brothers Enterprises Trust	19900215	Upper Methow River	Upper Methow River Alluvium	IR	600 GPM	Protested	YES	F	
G4-30192	35.ON 21.0E 14	Buchanan	19900227	Chewuch River	Chewuch River Alluvium	ST_IR	75 GPM		no	F	
G4-30202	35.ON 21.0E 26	Tager	19900227	Chewuch River	Chewuch River Alluvium	DM	13 GPM	Draft ROE	no	J	
G4-30186	36.ON 19.0E 23	Durtschi Et Al	19900301	Headwaters	Methow River Headwaters Alluvium	ST_DM	36 GPM	Draft ROE	YES	J	
G4-30275	36.ON 20.0E 29	Knutzen	19900530	Upper Methow River	Upper Methow River Alluvium	DM	60 GPM		YES	J	
G4-30362	31.ON 22.0E 17	Harvill	19900727	Lower Methow River	Lower Methow Tributary (Gold Creek Alluvium (Closed))	DM	35 GPM		no	D	closed
G4-30365	36.ON 19.0E 09	Finer	19900801	Headwaters	Methow River Headwaters Alluvium	DS	15 GPM	Draft ROE	YES	E	
G4-30367	36.ON 19.0E 25	Okanogan Cnty Public Works Department Waller	19900817	Headwaters	Methow River Headwaters Alluvium	MU	1000 GPM		YES	G	
G4-30385	34.ON 21.0E 01	Sackett	19900822	Middle Methow River	Middle Methow Tributary Subbasin (Bedrock)	ST_IR	15 GPM		no	F	bedrock
G4-30401	30.ON 23.0E 19	Anders	19900830	Lower Methow River	Lower Methow River Alluvium	DM	300 GPM		YES	J	
G4-30437	35.ON 21.0E 23	Methow Valley Ranch Ltd Partnership Root	19901004	Chewuch River	Chewuch River Alluvium	DM	260 GPM	Draft ROE, Protested	no	J	
G4-30439	32.ON 21.0E 23	Snook	19901030	Lower Methow River	Lower Methow Tributary (Libby Creek Alluvium (Closed))	ST_IR	50 GPM	Protested	no	D	closed
G4-30440	29.ON 23.0E 03	Barth	19901105	Lower Methow River	Lower Methow Alluvium	IR	215 GPM		YES	F	

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Control #	TRS	Person	Priority Date	SMU (by GIS)	Source	Purpose	Qi	Uom	Application Comments	Include for Processing in Project?	Assumed effort level category	closed basin or bedrock well?
S4-30587	32.ON 22.0E 16	Candler	19910118	Lower Methow River	Lower Methow River (Include) or Tributary (Exclude)	ST IR		0 CFS		YES	F	
G4-30563	35.ON 21.0E 35	Graep	19910128	Chewuch River	Chewuch River Alluvium	DM		10 GPM	Draft ROE, Protested	no	J	
G4-30582	34.ON 21.0E 13	Bear Creek Ranch	19910131	Middle Methow River	Middle Methow River Alluvium	DM		21 GPM	Protested	YES	J	
G4-30571	34.ON 22.0E 18	Shuck Ranch System Sanford	19910204	Middle Methow River	Middle Methow Alluvium (Include) or Bear Creek Alluvium (Closed) (Exclude)	DM		10 GPM	Protested	no	J	
G4-30586	32.ON 22.0E 16	Candler	19910206	Lower Methow River	Lower Methow River Alluvium	IR DS		90 GPM	Other applications not included	YES	F	
G4-30690	35.ON 21.0E 35	Brownlee	19910403	Chewuch River	Chewuch River Alluvium	DS		20 GPM		no	E	
G4-30723	29.ON 23.0E 03	Barth	19910409	Lower Methow River	Lower Methow Alluvium	DM		155 GPM		YES	J	
G4-30746	35.ON 21.0E 30	Oliver	19910513	Upper Methow River	Upper Methow Alluvium	IR DS		35 GPM		YES	F	
S4-30870	32.ON 22.0E 28	Judd	19910712	Lower Methow River	Lower Methow Tributary (Cow Creek (Closed))	ST IR		0 CFS		no	D	closed
S4-30871	31.ON 22.0E 04	Judd	19910712	Lower Methow River	Lower Methow Tributary	IR FR		0 CFS		no	F	
S4-30872	31.ON 22.0E 03	Judd	19910712	Lower Methow River	Lower Methow Tributary	FR DM		0 CFS		no	J	
S4-30873	31.ON 22.0E 09	Judd	19910712	Lower Methow River	Lower Methow Tributary	FR DM		0 CFS		no	J	
S4-30874	32.ON 22.0E 21	Judd	19910712	Lower Methow River	Lower Methow Tributary	IR FR		0 CFS		no	F	
G4-30927	36.ON 20.0E 31	Heitman	19910822	Headwaters	Methow River Headwaters Alluvium	DM		35 GPM	Draft ROE	YES	J	
G4-30929	36.ON 20.0E 31	Betts Family NW LLC Betts	19910822	Headwaters	Methow River Headwaters Alluvium	DM		33 GPM		YES	J	
G4-30923	35.ON 21.0E 32	Pringle	19910827	Upper Methow River	Upper Methow River Alluvium	DM		29 GPM		YES	J	

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Control #	TRS	Person	Priority Date	SMU (by GIS)	Source	Purpose	Q/Uom	Application Comments	Include for Processing in Project?	Assumed effort level category	closed basin or bedrock well?
G4-31011	35.ON 21.0E 26	Swanton	19910827	Chewuch River	Chewuch River Alluvium	DM	10 GPM	Draft ROE	no	J	
G4-30912	33.ON 21.0E 11	Harper	19910828	Twisp River	Twisp River Alluvium / Bedrock	DM	10 GPM		no	J	
G4-30944	35.ON 21.0E 32	Asperwall	19910903	Upper Methow River	Upper Methow River Alluvium	IR DS	35 GPM		YES	F	
G4-30956	35.ON 21.0E 23	Bannick	19910918	Chewuch River	Chewuch River Alluvium	DM	29 GPM		no	J	
S4-30955	35.ON 21.0E 23	Bannick	19910918	Chewuch River	Chewuch River Alluvium	PO	0 CFS		no	K	
G4-30992	34.ON 21.0E 04	Orange	19911002	Upper Methow River	Upper Methow River Alluvium	IR DS	30 GPM		YES	F	
G4-30996	35.ON 21.0E 15	Stuckey	19911004	Chewuch River	Chewuch River Alluvium	DM	29 GPM		no	J	
G4-31058	33.ON 20.0E 16	Bailey	19911114	Twisp River	Twisp River Alluvium / Bedrock	IR DS	40 GPM		no	F	
G4-31052	35.ON 20.0E 16	Mazama Quarry Inc Tollefson	19911118	Upper Methow River	Upper Methow River Alluvium	DM	50 GPM	Draft ROE	YES	J	
S4-31074	33.ON 20.0E 16	Hunt	19911203	Twisp River	Twisp River subbasin	IR	0 CFS		no	F	
S4-31133	29.ON 23.0E 25	Douglas Crty PUD 1	19920109		Columbia River Tributary Subbasin	IR	0 CFS		no	L	
G4-31109	35.ON 20.0E 04	Rothwell	19920110	Upper Methow River	Upper Methow River Alluvium	ST DS	18 GPM	Draft ROE	YES	E	
G4-31180	36.ON 19.0E 06	Macro Inc	19920227	Headwaters	Methow River Headwaters Alluvium	IR DM	150 GPM		YES	J	
G4-31256	36.ON 21.0E 33	Edison	19920427	Chewuch River	Chewuch River Alluvium or Bedrock	DM	10 GPM	Draft ROE, Protected	no	J	
G4-31257	36.ON 21.0E 33	Pope	19920427	Chewuch River	Chewuch River Alluvium or Bedrock	ST IR	25 GPM	Draft ROE, Protected	no	F	
G4-31284	34.ON 21.0E 20	Burkholder	19920608	Upper Methow River	Isolated Basin or Thompson Creek (Closed)	IR DM	175 GPM	CRP, Protected	no	D	closed
S4-31365	29.ON 23.0E 01	Schlunegar Brothers Schlunegar	19920624		Columbia River Tributary	DM CO	54 CFS		no	L	

Table 1 - Pending WRIA 48 Water Rights Applications

Control #	TRS	Person	Priority Date	SMU (by GIS)	Source	Purpose	Q/Uom	Application Comments	Include for Processing in Project?	Assumed effort level category	closed basin or bedrock well?
G4-31426	36.0N 21.0E 34	Knott	19920819	Chewuch River	Chewuch River Alluvium	IR DS	10 GPM	Draft ROE	no	F	
G4-31528	35.0N 21.0E 26	Bonne	19921028	Chewuch River	Chewuch River Alluvium	IR DS	40 GPM		no	F	
G4-31575	36.0N 20.0E 32	Perron	19921120	Upper Methow River	Upper Methow River Alluvium	DM	250 GPM		YES	J	
S4-31572	37.0N 22.0E 20	Lieb	19921210	Chewuch River	Chewuch River / Tributary	IR DS	0 CFS		no	F	
S4-31598	34.0N 21.0E 02	Kennedy	19921214	Middle Methow River	Middle Methow River Tributary	IR	0 CFS		no	F	
G4-31604	34.0N 22.0E 18	L 9 Property Owners Association Buzzard	19930121	Middle Methow River	Middle Methow River Alluvium	DM	12 GPM		YES	J	
G4-31708	33.0N 22.0E 17	Twisp Town Dubrouillet	19930205	Lower Methow River	Lower Methow River Alluvium	MU	3590 GPM	Protested	YES	G	
G4-31754	35.0N 21.0E 04	Thorlakson	19930514	Chewuch River	Chewuch River Alluvium or Bedrock	IR DS	5 GPM		no	F	
G4-31800	30.0N 23.0E 23	Naumes Corporation Naumes	19930706		Columbia River Tributary Subbasin	DM	30 GPM		no	L	
S4-31810	33.0N 20.0E 16	Hendricks	19930726	Twisp River	Twisp River subbasin	DS	0 CFS		no	E	
G4-31832	30.0N 23.0E 36	Pateros City Parks	19930823		Columbia River Tributary Subbasin	MU	500 GPM		no	L	
S4-31853	34.0N 21.0E 09	Peer	19931008	Middle Methow River	Middle Methow Tributary	IR DS	0 CFS	Protested	no	F	
G4-31859	29.0N 23.0E 01	Miller	19931013		Columbia River Tributary Subbasin	ST IR	315 GPM		no	L	
G4-31866	35.0N 21.0E 34	McGowan	19931117	Chewuch River	Chewuch River Alluvium or Bedrock	ST IR	100 GPM		no	F	
G4-31877	34.0N 22.0E 07	Heath	19931208	Middle Methow River	Middle Methow Tributary Subbasin (Bear Creek, Perrygin Lake (Closed), Bedrock	DM	40 GPM		no	D	closed
G4-31898	34.0N 22.0E 30	Bannick	19940106	Middle Methow River	Middle Methow River Alluvium	FR DG	100 GPM		YES	J	
G4-31926	35.0N 21.0E 04	Thorlakson	19940214	Chewuch River	Chewuch River Alluvium or Bedrock	IR DS	15 GPM		no	F	

Table 1 - Pending WRIA 48 Water Rights Applications

Control #	TRS	Person	Priority Date	SMU (by GIS)	Source	Purpose	Ql Uom	Application Comments	Include for Processing in Project?	Assumed effort level category	closed basin or bedrock well?
G4-31927	35.0N 21.0E 04	Thorlakson	19940214	Chewuch River	Chewuch River Alluvium or Bedrock	IR DS	10 GPM		no	F	
G4-31928	35.0N 21.0E 04	Thorlakson	19940214	Chewuch River	Chewuch River Alluvium or Bedrock	IR DS	5 GPM		no	F	
G4-31992	34.0N 22.0E 06	Wilson	19940422	Middle Methow River	Middle Methow Tributary Subbasin (Bedrock)	IR DM	60 GPM		no	J	
G4-31993	34.0N 22.0E 29	Wilson	19940422	Middle Methow River	Middle Methow Tributary Subbasin (Bedrock or Davis Creek Alluvium)	ST IR	150 GPM		no	F	
G4-32020	31.0N 22.0E 36	Arkell	19940511	Lower Methow River	Lower Methow River Alluvium	IR DS	455 GPM		YES	F	
G4-32065	34.0N 21.0E 24	DeLisi	19940524	Middle Methow River	Middle Methow River Alluvium	IR DS	10 GPM		YES	F	
G4-32084	34.0N 21.0E 02	Winthrop Town	19940630	Upper Methow River	Upper Methow River Alluvium	MU	350 GPM		YES	G	
G4-32085	34.0N 21.0E 02	Winthrop Town	19940630	Middle Methow River	Middle Methow River Alluvium	MU	360 GPM		YES	G	
G4-32165	29.0N 24.0E 18	Miller	19940801		Columbia River Tributary Subbasin	IR DS	300 GPM		no	L	
G4-32166	29.0N 24.0E 18	Miller	19940801		Columbia River Tributary Subbasin	IR DS	25 GPM		no	L	
G4-32167	29.0N 24.0E 18	Miller	19940801		Columbia River Tributary Subbasin	IR DS	25 GPM		no	L	
G4-32168	29.0N 24.0E 18	Miller	19940801		Columbia River Tributary Subbasin	IR DS	25 GPM		no	L	
G4-32169	29.0N 24.0E 07	Miller	19940801		Columbia River Tributary Subbasin	IR DS	140 GPM		no	L	
G4-32170	29.0N 24.0E 07	Miller	19940801		Columbia River Tributary Subbasin	IR DS	25 GPM		no	L	
G4-32171	29.0N 24.0E 07	Miller	19940801		Columbia River Tributary Subbasin	IR DS	25 GPM		no	L	
G4-32172	29.0N 24.0E 07	Miller	19940801		Columbia River Tributary Subbasin	IR DS	25 GPM		no	L	
G4-32173	29.0N 24.0E 07	Miller	19940801		Columbia River Tributary Subbasin	IR DS	25 GPM		no	L	

Table 1 - Pending WRIA 48 Water Rights Applications

Control #	TRS	Person	Priority Date	SMU (by GIS)	Source	Purpose	Q/Uom	Application Comments	Include for Processing in Project?	Assumed effort level category	closed basin or bedrock well?
G4-32174	29.0N 24.0E 07	Miller	19940801		Columbia River Tributary Subbasin	IR DS	25 GPM		no	L	
G4-32175	29.0N 24.0E 07	Miller	19940801		Columbia River Tributary Subbasin	IR DS	140 GPM		no	L	
G4-32176	29.0N 24.0E 07	Miller	19940801		Columbia River Tributary Subbasin	IR DS	25 GPM		no	L	
G4-32177	29.0N 24.0E 19	Miller	19940801		Columbia River Tributary Subbasin	IR DS	65 GPM		no	L	
G4-32178	29.0N 24.0E 19	Miller	19940801		Columbia River Tributary Subbasin	IR DS	44 GPM		no	L	
G4-32179	29.0N 24.0E 19	Miller	19940801		Columbia River Tributary Subbasin	IR DS	25 GPM		no	L	
G4-32180	29.0N 24.0E 19	Miller	19940801		Columbia River Tributary Subbasin	IR DS	30 GPM		no	L	
G4-32181	29.0N 24.0E 18	Miller	19940801		Columbia River Tributary Subbasin	IR DS	27 GPM		no	L	
G4-32182	29.0N 24.0E 18	Miller	19940801		Columbia River Tributary Subbasin	IR DS	30 GPM		no	L	
G4-32183	29.0N 24.0E 18	Miller	19940801		Columbia River Tributary Subbasin	IR DS	39 GPM		no	L	
G4-32184	29.0N 24.0E 18	Miller	19940801		Columbia River Tributary Subbasin	IR DS	466 GPM		no	L	
G4-32188	29.0N 23.0E 13	Miller	19940906		Columbia River Tributary Subbasin	IR DM	2000 GPM		no	L	
G4-32189	29.0N 23.0E 11	Miller	19940906		Columbia River Tributary Subbasin	IR DM	100 GPM		no	L	
G4-32191	29.0N 24.0E 19	Miller	19940906		Columbia River Tributary Subbasin	IR DM	2000 GPM		no	L	
G4-32192	29.0N 23.0E 02	Miller	19940906		Lower Methow River Alluvium	IR DM	2000 GPM		YES	F	

Table 1 - Pending WRIA 48 Water Rights Applications

Control #	TRS	Person	Priority Date	SMU (by GIS)	Source	Purpose	Ql Uom	Application Comments	Include for Processing in Project?	Assumed effort level category	closed basin or bedrock well?
S4-32190	29.ON 23.0E 02	Miller	19940906		Lower Methow River Alluvium	IR	2 CFS		YES	F	
G4-32206	29.ON 23.0E 01	Miller	19940927		Columbia River Tributary Subbasin	FS	200 GPM		no	L	
G4-32280	31.ON 22.0E 36	Brown	19950208	Lower Methow River	Lower Methow River Alluvium	IR	300 GPM		YES	F	
G4-32306	35.ON 21.0E 02	Wenzler	19950329	Chewuch River	Chewuch River Alluvium or Bedrock	DS	10 GPM		no	E	
G4-32326	32.ON 22.0E 10	Goodnight	19950616	Lower Methow River	Lower Methow Tributary (Benson Creek (Closed)) Alluvium	IR DS	50 GPM		no	F	
S4-32459	33.ON 22.0E 04	McIntyre	19960712	Middle Methow River	Middle Methow Tributary	IR DS	0 CFS		no	F	
G4-32502	30.ON 23.0E 34	Jan Neff Orchards Inc	19970123	Lower Methow River	Upper Methow River Alluvium	IR FP	970 GPM		YES	F	
G4-32623	33.ON 21.0E 12	Gubser	19971016	Twisp River	Twisp River Alluvium / Bedrock	IR	80 GPM		no	F	
G4-32624	33.ON 21.0E 13	Gubser	19971016	Twisp River	Twisp River Alluvium / Bedrock	IR	100 GPM		no	F	
S4-32598	30.ON 24.0E 30	Nickell	19971023		Columbia River Tributary	IR	1 CFS		no	L	
S4-32641	35.ON 20.0E 10	Yakama Indian Nation Fisheries Dept	19980213	Upper Methow River	Upper Methow River / Tributary	FS	4 CFS	Other application not included	YES	A	
S4-32644	36.ON 19.0E 26	Yakama Indian Nation Fisheries Dept	19980213	Early Winters Creek	Early Winters Tributary Creek	FS	2 CFS		no	A	
G4-32751	30.ON 24.0E 29	Miller	19980701		Columbia River Tributary Subbasin	IR	130 GPM		no	L	
G4-32844	33.ON 22.0E 17	Twisp Town	19990205	Lower Methow River	Lower Methow River Alluvium	IR DM	200 GPM		YES	J	
S4-32855	34.ON 22.0E 25	USFS Okanogan Wolf Creek Reclamation District	19990315	Lower Methow River	Lower Methow Tributary (Beaver Creek (Closed))	ST	0 CFS		no	D	closed
R4-32905	34.ON 20.0E 02	Titcomb	20000127	Upper Methow River	Upper Methow River Tributary (Wolf Creek (Closed))	IR	0 CFS		YES	M	closed

Table 1 - Pending WRIA 48 Water Rights Applications

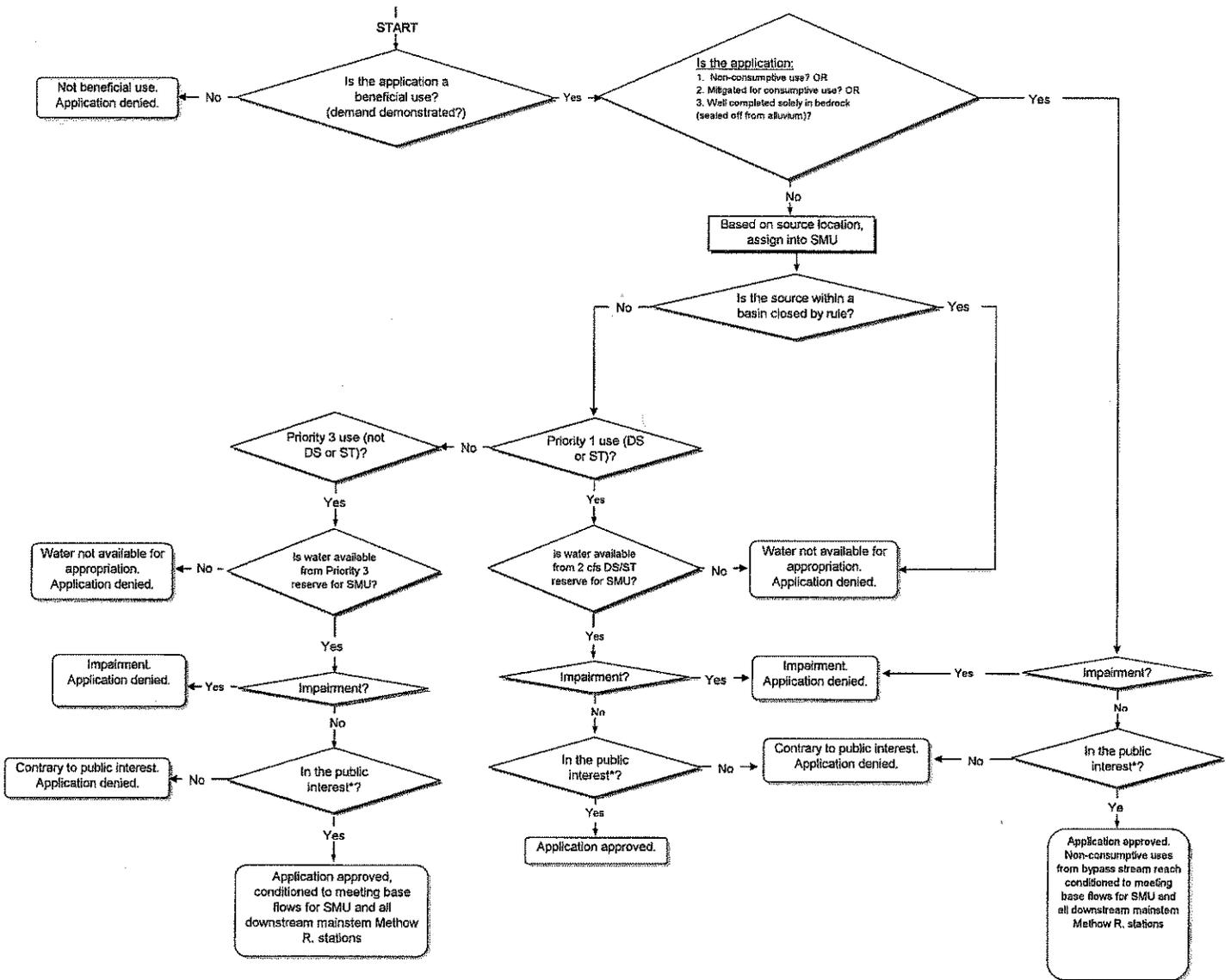
Control #	TRS	Person	Priority Date	SMU (by GIS)	Source	Purpose	Q/Uom	Application Comments	Include for Processing in Project?	Assumed effort level category	closed basin or bedrock well?
R4-34557	33.0N 22.0E 11	Thurtow	20010719	Lower Methow River	Lower Methow Tributary (Beaver Creek (Closed))	ST SR	0 CFS		no	M	closed
G4-34561	35.0N 21.0E 35	Fellstrom	20020628	Chewuch River	Chewuch River Alluvium	IR DS	13 GPM		no	F	
	34.0N 21.0E 20	Burkholder H	20030731	Upper Methow River	Isolated Basin or Thompson Creek (Closed)	ST IR	0 CFS		no	D	closed
	34.0N 21.0E 20	Burkholder H	20030731	Upper Methow River	Isolated Basin or Thompson Creek (Closed)	ST IR	250 GPM		no	D	closed
G4-34915	34.0N 21.0E 03	Twin Lake Aquifer Coalition	20031007	Upper Methow River	Upper Methow River Alluvium	RE	4500 GPM		YES	H	
	34.0N 21.0E 20	Burkholder H	20031023	Upper Methow River	Isolated Basin or Thompson Creek (Closed)	ST IR	425 GPM		no	D	closed
	34.0N 21.0E 20	Burkholder H	20040127	Upper Methow River	Isolated Basin or Thompson Creek (Closed)	SR	0 CFS		no	M	closed

Table 2 - Detail of Estimated Costs by Task
Phase 2 Processing of WRIA 48 Applications

Task	Estimated Unit Cost (per application) Hours							Number applic	Estimated Hours						Cost in Dollars						
	Principal	Assoc	Project	Staff	GIS/ Drafting	Proj. Assist.	Herrera Subcon.		Principal	Assoc	Project	Staff	GIS/ Drafting	Proj. Assist.	Labor Subtotal	Herrera Subcon.	Communic.	Mileage	Per diem	Task Subtotal	
1) Pre-ROE																					
* Notification letter (draft for Ecology review & final)	0.15		1			0.5		58	8.7	0	58	0	0	29	\$8,207	\$0	\$246	\$0	\$0	\$8,453	
* Telephone discussions with applicants to update on status/avail info	0.15	2						58	8.7	116	0	0	0	0	\$15,225	\$0	\$457	\$0	\$0	\$15,682	
* Prepare public notice advertisement for all applicants		0.2	1			0.25		40	0	8	40	0	0	10	\$5,140	\$0	\$154	\$0	\$0	\$5,294	
Subtotal															\$28,572	\$0	\$857	\$0	\$0	\$29,429	
2) Investigation for ROE																					
* Calculate permitted quantities of Priority 1 reservation by SMU			done once; thus not done per application							2	4	16				\$2,220	\$0	\$67	\$0	\$0	\$2,287
* Calculate remaining quantities up to appropriation limit set forth in WAC 173-548-030 (1)(c) by SMU			done once; thus not done per application							2	8	32				\$4,140	\$0	\$124	\$0	\$0	\$4,264
* Site visits to confer w/ applicant	0.5	1	4					58	29	58	232	0	0	0	\$32,190	\$0	\$966	\$900	\$5,800	\$39,856	
* Follow-up telephone discussions w/ applicant	0.5		2					30	15	0	60	0	0	0	\$7,650	\$0	\$230	\$0	\$0	\$7,880	
* Map neighboring water rights for impairment evaluation			2		2			58	0	0	116	0	116	0	\$18,560	\$0	\$557	\$0	\$0	\$19,117	
* Document local hydrology pertinent to application	0.5	2	4		1			58	29	116	232	0	58	0	\$43,210	\$0	\$1,296	\$0	\$0	\$44,506	
* Review/address comments rec'd in public comment	4	8	2			2		29	116	232	58	0	0	58	\$53,824	\$0	\$1,615	\$0	\$0	\$55,439	
* SEPA assessment & determination (Ecology lead agency)	8	24	8		2		\$10,000	4	32	96	32	0	8	0	\$19,760	\$0	\$593	\$0	\$0	\$20,353	
* Review & incorporate others' SEPA determination	4	12					\$2,500	2	8	24	0	0	0	0	\$4,080	\$0	\$122	\$0	\$0	\$4,202	
Subtotal															\$185,634	\$0	\$5,569	\$900	\$5,800	\$197,903	
3) Prepare ROE by Category of Application																					
A * Out-of-stream non-consumptive	8	16	40		6	2	\$6,000	3	24	48	120	0	18	6	\$21,768	\$18,000	\$653	\$0	\$0	\$40,421	
D * Consumptive use in closed basin	3	8	12		2	2		0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	
E * Consumptive Priority 1 use (DS or ST) only	4	8	16		2	2		3	12	24	48	0	6	6	\$9,768	\$0	\$293	\$0	\$0	\$10,061	
F * Includes Priority 3 use (irrigation)	8	8	16		2	2		19	152	152	304	0	38	38	\$73,264	\$0	\$2,198	\$0	\$0	\$75,462	
G * Includes Priority 3 use (municipal)	20	60	24		6	2		4	80	240	96	0	24	8	\$51,584	\$0	\$1,548	\$0	\$0	\$53,132	
H * Includes Priority 3 use (recreation)	24	60	40		6	2	\$6,000	1	24	60	40	0	6	2	\$14,936	\$6,000	\$448	\$0	\$0	\$21,384	
I * Includes Priority 3 use (commercial/industrial)	8	16	4		2	2		1	8	16	4	0	2	2	\$3,736	\$0	\$112	\$0	\$0	\$3,848	
J * Includes Priority 3 use (domestic multiple)	4	8	16		2	2		25	100	200	400	0	50	50	\$81,400	\$0	\$2,442	\$0	\$0	\$83,842	
K * Includes Priority 3 use not listed above	8	24	32		4	2		1	8	24	32	0	4	2	\$7,356	\$0	\$221	\$0	\$0	\$7,577	
M Storage	0	0	0		2	2		1	0	0	0	0	2	2	\$256	\$0	\$8	\$0	\$0	\$264	
* Mitigation plan for consumptive use (anticipated to occur during ROE)	8	32	40		6	2	\$5,000	6	48	192	240	0	36	12	\$55,056	\$30,000	\$1,652	\$0	\$0	\$86,708	
Subtotal															\$319,124	\$54,000	\$9,574	\$0	\$0	\$382,698	
4) Contingency for Processing																					
Subtotal									0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$50,000	
5) Contingency for Appeals																					
Subtotal									0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	TBD ¹	
6) Project Management for 18 months (incl. 6 meetings @ CRO)																					
Subtotal									120						\$18,000	\$0	\$540	\$864	\$0	\$19,404	
Subtotal hours									826.4	1618	2160	0	368	225	---	---	---	---	---	---	
Hourly Labor Rates									\$150	\$120	\$90	\$65	\$70	\$58	---	---	---	---	---	---	
Subtotal Costs									\$123,960	\$194,160	\$194,400	\$0	\$25,760	\$13,050	\$533,330	\$54,000	\$16,000	\$900	\$5,800	\$679,434	

Note
¹ Cost for appeals unable to be estimated in Phase 1; to be determined during Phase 2 effort.

Decision Flow Chart for Processing Water Right Applications
 Twin Lakes Aquifer Coalition Cost Reimbursement Project (WRIA 48)



Notes:
 SMU: Stream Management Unit as defined in Chapter 173-548 WAC.
 Priority uses as defined in Chapter 173-548 WAC.
 *The public interest determination would include consideration of Columbia River flows and instream resources.

APPENDIX A

Detailed Determination of Source Locations for Selected Applications

A.1 Detailed Source Determination Methodology

Several applications had proposed point of withdrawal locations (based on quarter-quarter section locations provided in Ecology's WRTS database) that raised uncertainty as to whether the application should be included in the Twin Lakes Aquifer Coalition Cost-Reimbursement Project (Project) according to the rationale outlined in Section 3 of this report. This appendix describes the process used to resolve those uncertainties based on detailed determination of source location.

As stated in Section 2, the application point of withdrawal or diversion location was mapped as the center point of the quarter-quarter section as listed in WRTS. Using GIS, the applications were categorized into respective stream management unit (SMU) subbasins based on that quarter-quarter section location. Most applications could be confirmed as being in an SMU and falling within or out of DNR-mapped valley alluvium by looking at a large scale map of WRIA 48 (approx. 1:75000). For 12 applications, this process still left uncertainties regarding the source location relative to SMU and alluvium and thus the source of water for the application, since the quarter-quarter section was on or immediately adjacent a subbasin boundary or the mapped boundary of valley alluvium. In these cases, the following steps were used to resolve location:

1. The source locations were mapped more precisely than the quarter-quarter section by examining maps in the application files;
2. The precise source locations for each application were then viewed at a much smaller scale in the GIS mapping; and
3. The application files were reviewed to gather additional information when necessary.

Description and resolution of each uncertain application are provided below.

G4-29242 Mountain View Villa. The quarter-quarter section mapping showed the point of withdrawal was located in alluvium in either the Early Winters Creek SMU or the Methow River Headwaters SMU. The source on maps included in the application show that it is clearly in the Methow River Alluvium of the Methow Headwaters SMU. Therefore it was included for processing in this Project.

G4-30440 and G4-30723 Donald Barth. The quarter-quarter section mapping showed the source was located either just inside or outside alluvium in the Lower Methow SMU. More precise mapping based on maps included in the application show that it is clearly in the mainstem Methow River alluvium. The file also revealed that Ecology seemed to determine that this application was for waters in a closed basin which is presumably the Alta Lake basin. We remain uncertain as to the basis for this determination. It also appears that an alternative source for this application was approved under S4-30722P. The application was included for processing in this Project to resolve these issues.

S4-30587 Dennis Chandler. The quarter-quarter section mapping showed the source was either in the Methow River or a Methow River tributary in the Middle Methow SMU. The application on file listed the source of surface water as the Methow River; therefore it was included for processing in this Project.

G4-30571 Shuck Ranch System. The quarter-quarter section mapping showed the source was either in the mainstem Methow River alluvium or Methow River tributary (Bear Creek) alluvium within the Middle Methow SMU. The maps included in the application file show that the source is in the Bear Creek subbasin. The GIS delineation of the Bear Creek Subbasin was consistent with this observation and more precise mapping and a smaller scale revealed that the source is located just outside the alluvium in the Bear Creek subbasin. Therefore, the application was excluded from processing under this Project.

S4-31958 Frank Kenney. The quarter-quarter section mapping showed the source was either from the Methow River or a Methow River tributary in the Middle Methow SMU. The application file lists 3 unnamed springs as the source of water. The source was originally listed as leaks from "Chewuch Ditch". The springs are located outside the mainstem Methow River alluvium, therefore, the application was excluded from processing in this Project.

G4-31604 L9 Properties. The quarter-quarter section mapping showed the source was either in the Methow River alluvium or Methow River tributary (Bear Creek) alluvium in the Middle Methow SMU. The maps included in the application file show that the source is outside the Bear Creek subbasin. The GIS delineation of the Bear Creek Subbasin was consistent with this observation and more precise mapping and a smaller scale revealed that the source is located just within the mainstem Methow River alluvium. The well log included in the file notes that it is completed in layers of "grey shale" and "decomposed shale". The approximate yield is listed at 20 GPM. The application was included for processing under this Project but it could be a well drawing solely from competent bedrock.

G4-31992 A. Stewart Wilson. The quarter-quarter section mapping showed the source was either in the Methow River alluvium or bedrock in the Middle Methow SMU. A small scale map revealed that the source is outside the mainstem alluvium. The source on maps included in the application file also show that it is likely that this well is in the Pearrygin Lake basin. This is consistent with the GIS delineation of the Bear Creek and Pearrygin Lake subbasins. Therefore, this application does not represent the same source of water as the mainstem Methow River and was not included for processing in this Project.

G4-31993 A. Stewart Wilson. The quarter-quarter section mapping of four proposed source locations showed the sources were either in the Methow River alluvium or bedrock in the Middle Methow SMU. A small scale map of more precisely mapped sources revealed that two of the source locations fall within the DNR-mapped alluvium of a tributary that connects Davis Lake to the Methow River. The other two sources fall in bedrock outside the alluvium. Therefore, this application does not represent the same source of water as the mainstem Methow River and was not included for processing in this Project.

G4-32326 Charles Goodnight. The quarter-quarter section mapping showed the source was either in the Methow River alluvium or Methow River tributary (Benson Creek) alluvium in the Lower Methow SMU. Maps included in the application file show that the source is in the alluvium of Benson Creek, not the Methow River. The well log included in the file notes that it is completed through alluvium to a depth of 186 feet and then drilled into granite from 186 to 220 feet. The well is cased to depth of 205 feet and open from 205 to 220 feet, with a reported yield of 3 gallons per minute (gpm), thus indicating withdrawal from bedrock. However, the well's surface seal extends only to 18 feet; the seal does not extend to bedrock. This application was excluded from processing in this Project.

S4-32644 Yakima Indian Nation Fisheries. The quarter-quarter section mapping showed the source was either from the Methow River or Early Winters Creek. The application listed the source of surface water as Early Winters Creek; therefore it is not included for processing in this Project.

G4-31289 Miller. The quarter-quarter section mapping showed the source was within alluvium of the Lower Methow River SMU or in Columbia River alluvium. The source on smaller scale maps and those included in the application file confirm that it is located outside the Lower Methow River SMU; therefore it is not included for processing in this Project.

A.1.1 Checking Locations of Excluded Applications

For quality assurance, the locations of all excluded applications listed in the WRTS database from Ecology were double checked against the locations listed in the application files. This process identified three applications (S4-29668, S4-29711 and G4-30746) with incorrect source location in WRTS. These application source locations were corrected in our working database, and the information was communicated to Ecology, but these changes did not change their inclusion status.

A1.2 Checking Included Applications for Well Logs

After the list of applications that will be included for processing was compiled, the files for groundwater applications for groundwater wells located within the boundary of the mainstem Methow River alluvium were searched for well logs. Of the 58 applications identified for inclusion in processing, 49 are groundwater applications. Of those 49 applications, 17 files included well logs. Of those 17 wells, 5 are completed in bedrock: G4-29628, G4-29816, G4-29952, G4-31604, and G4-32065. In Phase 2 processing, these five applications need to be verified that the wells indicated in the application are properly sealed into competent bedrock by Ecology's standards before they could be considered drawing from a separate body of water.