WASHINGTON STATE COURT OF APPEALS
DIVISION II

No. 47543-0-II

CENTER FOR ENVIRONMENTAL LAW & POLICY, AMERICAN WHITEWATER, and NORTH CASCADES CONSERVATION COUNCIL,

Appellants,

vs.

WASHINGTON DEPARTMENT OF ECOLOGY, PUBLIC UTILITY DISTRICT NO. 1 OF OKANOGAN COUNTY, WASHINGTON, and WASHINGTON STATE POLLUTION CONTROL HEARINGS BOARD,

Respondents

APPELLANTS' OPENING BRIEF

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I. Introduction

The Center for Environmental Law & Policy, American Whitewater and North Cascades Conservation Council (collectively "Appellants") hereby submit their opening brief in their appeal of the following decision of the Thurston County Superior Court: *Center for Environmental Law & Policy, et al. v. Ecology et al.*, No. 14-2-01438- (Order Affirming Decision) (April 3, 2015) (Clerk's Papers ("CP") at 139-41).

This case presents a fundamental question of statutory interpretation regarding the Washington Department of Ecology's ("Ecology's") obligation to answer affirmatively four questions *prior* to granting an entity the right to use Washington water. Washington courts have reiterated time and again the importance of Ecology's mandatory duty to "look before you leap" when determining whether to grant an appropriation of the precious water resources that belong to the public. In this case, the Pollution Control Hearings Board ("PCHB") erroneously upheld Ecology's decision to approve a permanent water right in spite of the undisputed fact that a study, that is legally required but has not been done, is needed to determine whether issuance of the water right will be detrimental to the public interest. For the reasons set forth herein, Appellants respectfully request that the Court set aside the Board's

decision and remand for further proceedings in compliance with all applicable law.

II. Assignments of Error

The trial court erred in affirming the PCHB's affirmance of Ecology's decision issuing a Report of Examination ("ROE") authorizing Public Utility District No. 1 of Okanogan County ("the District") the right to use an additional 600 cubic feet per second ("cfs") of water to generate hydroelectric power at Enloe Dam on the Similkameen River.

III. Issues Pertaining To Assignments of Error

A. Whether the PCHB erred in affirming Ecology's issuance of the Report of Examination ("ROE") when it was without information as to how the Project will affect the public interest.

B. Whether the PCHB erroneously interpreted the Water Code as giving Ecology the discretion to approve a permanent water right in lieu of a preliminary permit when additional information needs to be gathered regarding the Project's impact on the public interest.

C. Whether the PCHB erred by concluding that the ROE did not need to be conditioned on compliance with the Similkameen River instream flow rule.

IV. Statement of the Case

A. The Similkameen River & the Enloe Hydroelectric Project

The Similkameen River runs about 122 miles from its headwaters in British Columbia to the Okanogan River, near Oroville, Washington. CP at 53. In 1904, the 315 foot-long, 54-foot high concrete Enloe Dam was constructed on the Similkameen River at river mile 8.8, three and half miles east of Oroville. *Id.* The PUD has owned Enloe Dam since 1945, but ceased generating power from it in 1958. *Id.* at 54.

Just 350 feet downriver from Enloe Dam are natural waterfalls known as Similkameen Falls. *Id.* Since 1958, the Similkameen River has flowed naturally over both Enloe Dam and Similkameen Falls producing "an aesthetically pleasing waterfall effect." *Id.* at 21. Natural flows over Enloe Dam and Similkameen Falls typically range from about 500 to 7,000 cfs. *Id.* at 54. Typical dry season (July-October) median flows range from 514 cfs in August to 764 cfs in September. *Id.*

Pursuant to the Water Resources Act of 1971, RCW 90.54, and the Minimum Water Flows and Levels Act of 1967, RCW 90.22, Ecology adopted a minimum flow rule for the Similkameen River in 1976. WAC 173-549-020(2); CP at 54. The minimum flow varies seasonally and ranges between 400 cfs in September and January-February, and 3400 cfs in May and June. *Id.*

The PUD currently seeks to generate hydroelectric power from Enloe Dam by installing a new powerhouse adjacent to the river, and diverting up to 1,600 cfs from the Similkameen River at the Dam (the "Project"). CP at 54. Water would be discharged back to the river below Similkameen Falls. *Id.* The Project will thus create a de-watered "bypass reach," that would dewater Similkameen Falls, the extent to which will depend upon how much flow is required to pass through the bypass reach. *Id.*

B. The 401 Certification & PCHB Decision

As required by section 401 of the federal Clean Water Act ("CWA"), the PUD applied to Ecology for certification that its Project would comply with state water quality standards, commonly called a "401 Certification." 33 U.S.C. § 1341(a)(1). Ecology's 401 Certification, issued in 2012, set forth a "minimum flow regime in the bypass reach of 10 cfs year round and 30 cfs for mid-July to mid-September[,] otherwise known as the 10/30 flows . . . ." *Ctr. for Envtl. Law & Policy et al. v. Ecology, et al.*, PCHB No. 12-082 (Findings of Fact, Conclusions of Law & Final Order (as amended upon reconsideration)) (Aug. 30, 2013) (hereinafter "401 Certification Decision") at 9:16-17. The 10/30 instream flow requirement constitutes approximately a 90-99% reduction in the current flows over Enloe Dam and Similkameen Falls. In a separate

proceeding, Appellants challenged the 401 Certification on the grounds that the 10/30 instream flow requirement did not comply with Washington's water quality standards that protect aesthetic and recreational values of rivers. 401 Certification Decision at 1.

After a hearing on the merits, the Board found that the 10/30 cfs minimum flow requirement was deficient for lack of adequate analysis, as required by Washington's water quality laws. *Id.* at 32:13-15. Specifically:

> The Board finds the Appellants met their burden that the aesthetic flow analysis was not sufficiently completed to make a final determination of the flows that will be protective of the aesthetic values.[1] The evidence is not sufficient to make a finding as to the flows that would protect aesthetic values without impairing the quality of the water for the fishery resource, which the Board finds would occur if the Project caused shallow flows over the bedrock shelves. Therefore, the § 401 Certification is deficient in this regard without further conditions.

401 Certification Decision at 32:11-16. After considering the evidence presented at the hearing, the Board concluded:

> [T]here is not sufficient evidence to make a finding that the 10/30 flows meet the water quality standards for aesthetic values even when balancing these with the protecting of the fisheries. The professional judgment

[1] The Board found that the water flowing over the dam and the Falls provides aesthetic values, which the Board directed Ecology to consider in determining whether there is reasonable assurance that the Project operations will meet water quality standards for protected designated and beneficial uses of the River, as required by state and federal water quality laws. *Id.* at 26:1-5.

> on aesthetic flows should be based on evidence depicting flow levels, either actual or simulated.

Id. at 31:16-19.

To ascertain what flows would comply with state and federal water quality laws, the Board added a condition to the 401 Certification directing Ecology to develop an aesthetic flow monitoring program that "shall provide for management and control of alternative flows in the bypass reach that will provide opportunities for review, monitoring and analysis of either actual minimum flows or development and review of simulated flows." *Id.* at 34:5-7. Therefore, minimum flows in the bypass reach that comply with state and federal water quality standards will not be known for up to three years after Project operations begin, or until a simulated study is undertaken. *Id.* at 34:15 ("The program shall be for a period of time that provides Ecology with sufficient data and information to review actual flow levels or simulated flows."). It is undisputed that neither the PUD nor Ecology has undertaken the required aesthetic flow analysis, using simulated or actual flows, or determined what modified flows would meet all applicable water quality standards and the requirements of the 401 Certification Decision. CP at 56.

C. The Water Right & PCHB Decision on Appeal.

On August 6, 2013, Ecology issued Report of Examination ("ROE")[2] No. S4-35342 granting the PUD the right to use an additional 600 cfs to produce hydropower at Enloe Dam.[3] CP at 56. The ROE, which has a 2010 priority date, acknowledged that the water right is consumptive within the bypass reach. *Id.* The original ROE was conditioned on the very same 10/30 cfs instream flow requirement that the Board found to be unsupported in its 401 Certification decision and directed the PUD to "comply with Ecology's 401 Water Quality Certification [for the Enloe Project] and any subsequent updates." CP at 56-57.

The ROE states that the "bypass flows under the 401 Water Quality Certification are designed to protect the aesthetic values of water lowing over the falls." *Id.* As part of its "public welfare analysis," Ecology cited unnamed studies and documents submitted by the PUD during the FERC license application process. *Id.* In the 401 Certification Decision, however, the Board found that these studies "did not address the aesthetics of the flow of the River over the Dam or the Falls." 401 Certification Decision at 14:5-6; *see also Id.* at 13:4-5 (finding that the

[2] Ecology's approval is set forth in a Report of Examination or ROE, which describes the factual findings for the subsequently issued water right permit.
[3] The PUD also owns two pre-existing water rights for the hydroelectric project that are not subject to this appeal. CP at 56.

"PUD did not conduct an aesthetic flow study that analyzes actual flows because flows cannot be manipulated under existing conditions"); *Id.* at 11:17-19 (finding that the PUD conducted recreational studies "but did not study the aesthetics of the water flowing over the Dam or Falls and the impact of the operation of the Project with no flows over the Dam and Falls for most of the year.").

Despite the lack of actual data on how the final Project would affect aesthetic flows, or of any independent analysis of the purported social and economic benefits of the Project, Ecology found that issuing a permanent water right for the Project was not detrimental to the public welfare, stating:

> Given that this project will produce valuable electrical energy and will do so in a sustainable manner, that the impacts on the bypass reach are reduced from those under previous project scenarios, that minimum instream flows necessary to protect the aesthetic and instream resources in the bypass reach will be a required condition of project operation, and that any negative impacts are further mitigated by the downstream discharge channel, there is no basis on which to determine that this project will be detrimental to the public welfare.

CP at 57-58. Because it is currently unknown how much flow the PUD will be required to put into the bypass reach and not run through the turbines, it is unknown how much "valuable electrical energy" will be generated by this Project.

On September 6, 2013, Appellants filed a notice of appeal asking the Board to find the ROE invalid and in violation of the law. CP at 58. The parties filed cross-motions for summary judgment on all issues. *Id.* On June 24, 2014, the Board issued its decision granting summary judgment for the PUD and Ecology on all issues, modifying the ROE to include the same language in the water right as it required for the 401 Certification, requiring future study of aesthetic flows, but upholding the ROE in all other respects. CP at 19-43.

D. Thurston County Superior Court Decision

On July 24, 2014, Appellants filed a Petition for Review of the PCHB's decision in Thurston County Superior Court. CP at 5-14. On April 3, 2015, after briefing and oral argument, Thurston County Superior Court Judge Gary R. Tabor issued a ruling from the bench upholding the PCHB's decision on the grounds that the decision was not arbitrary and capricious. CP at 154. The court concluded:

> The issue that they were to rule on is whether or not this was in the public interest. Their finding that by definition the study that would be accomplished as ordered in 401 would be in the public interest, and I see no reason to disagree with that. I don't know what the outcome is going to be as to particular aspects of that decision, but it is clear that that decision is already binding from the standpoint of the 401 ruling authorized it, and so as to that particular study, the outcome is for the purpose of making the right decisions about competing interests.

Id. The court also found Ecology's decision to deviate from the minimum instream flows was acceptable:

> I guess I'll just say that I agree that subsection five of that [WAC 173-549-020] seems to say that flows can be tailored for a specific project, and I believe that's part of the process that's going to be ongoing here, and I believe that's legally appropriate.

Id. at 156. The court did not rule on the issue of whether Ecology was required to issue a preliminary or temporary permit for the Project in light of the fact that additional information is needed to ascertain legally compliant instream flows in the bypass reach. Specifically on that issue the court stated:

> I don't believe in so ruling that I need to go back and go into detail about whether or not a preliminary permit would have been appropriate. I'll just indicate that there could have been a preliminary permit. That's allowed by law. But I'm not putting myself in anybody's place to say it had to be or it can't be, but I'm not faced with that particular thing here today so I'm not ruling on that.

Id. at 157. The court entered an order affirming the PCHB's decision for the reasons set forth in his ruling from the bench. CP at 145-147.

V. STANDARD OF REVIEW

This court has jurisdiction over this matter pursuant to the Washington Administrative Procedures Act ("APA"), RCW 34.05.526 and Washington Rule of Appellate Procedure ("RAP") 2.2(a)(1). This court reviews legal issues and the trial court's conclusions of law *de novo*, based

on the record before the PCHB. *Sunnyside Valley Irrigation Dist. v. Dickie*, 149 Wn.2d 873, 879-80, 73 P.3d 369 (2003); *City of Union Gap v. Dep't of Ecology*, 148 Wn. App. 519, 525, 195 P.3d 580 (2008). The APA authorizes relief if the agency's order is outside the statutory authority or jurisdiction of the agency, if the agency erroneously interprets or applies the law, or if the order is arbitrary and capricious. RCW 34.05.570(3). Appellants bear the burden of proving that an agency order is invalid. RCW 34.05.570(1)(a).

In reviewing Ecology's ROE, the PCHB was required to interpret and apply the statute governing issuance of new water rights, RCW 90.03.290, as well as RCW 90.54, RCW 90.22, and WAC 173-549-020, the statutes and regulation authorizing the instream flow rule that establishes a senior instream water right for the Similkameen River. Under the "error of law" standard, this Court may substitute its judgment for that of the agency. *R.D. Merrill v. Pollution Control Hrgs. Bd.*, 137 Wn.2d 118, 142-43, 969 P.2d 458 (1999). When the inquiry demands construction of a statute, review is *de novo*. *Port of Seattle v. Pollution Control Hrgs. Bd.*, 151 Wn.2d 568, 587, 90 P.3d 659 (2004); *Motley-Motley v. Ecology*, 127 Wn. App. 62, 71-71, 110 P.3d 812 (2005). Absent ambiguity, the Court does not defer to an agency's interpretation of a statute. *Friends of Columbia Gorge, Inc. v. WA Forest Practices Appeals*

Bd., 129 Wn. App. 35, 47-48, 118 P.3d 354 (2005). An "agency's interpretation [of its own regulations] does not bind [the court], and 'deference to an agency is inappropriate where the agency's interpretation conflicts with a statutory mandate.'" *Puget Soundkeeper Alliance et al. v. WA Pollution Control Hearings Bd.*, ___ Wn. App. ___, ___ P.3d ___, 2015 WL 4540664 (WA Ct. App. July 28, 2015) (quoting *Dep't of Labor & Indus. v. Granger*, 159 Wn.2d 752, 764, 153 P.3d 839, (2007)). Administrative action is arbitrary and capricious if it is willful, unreasoned, and taken without regard to the attending facts and circumstances. *Dept. of Ecology v. Theodoratus*, 135 Wn.2d 582, 598, 957 P.2d 1241, (1998); *Skokomish Indian Tribe v. Fitzsimmons*, 97 Wn. App. 84, 92-94, 982 P.2d 1179 (1999).

Because the decision appealed is a summary judgment order, there are no findings of fact. The court must therefore overlay the APA standard of review with the summary judgment standard. This court evaluates facts in the record *de novo* and the law in light of the error of law standard, also *de novo*. *Skagit County v. Skagit Hill Recycling, Inc.*, 162 Wn. App. 308, 317-18, 253 P.3d 1135 (2011) (citing *Verizon Northwest, Inc. v. Wash. Emp't Sec. Dept.*, 164 Wn.2d 909, 916, 194 P.3d 255 (2008)).

VI. Argument

A. The PCHB Erred In Assuming The ROE Was Not Detrimental To The Public Interest.

The PCHB erred in finding that the PUD's water right complied with the public interest and public welfare requirements that comprise part of the "four tests" for which affirmative findings are required before a water right may issue. RCW 90.03.290. In a classic example of putting the cart before the horse, Ecology issued the ROE before having the information before it to make the determination that there would be no detriment to the public interest. The PCHB erroneously interpreted and applied the law by affirming issuance of the PUD's water right, and in concluding that Ecology has the discretion to assume that there will be no detriment to the public interest in the face of incomplete information.

It is black letter law that, when processing a water right application, Ecology must make four affirmative findings *before* it may authorize a right to use water. Ecology must find that (1) water is (physically) available; (2) the use is beneficial; (3) senior water rights will not be impaired;[4] and (4)

[4] As discussed in Section VI.E, *infra*, the requirement to prevent impairment of existing water rights includes preventing impairment of legally protected instream flow rights. RCW 90.03.247.

the new use will not be detrimental to the public welfare.[5] RCW 90.03.290. *Lummi Nation v. State of Washington*, 170 Wn.2d 247, 252-53, 241 P.3d 1220 (2011); *Postema v. Pollution Control Hearings Bd.*, 142 Wn.2d 68, 79, 11 P.3d 726 (2000); *Theodoratus*, 135 Wn.2d at 590-91; *Hillis v. Dept. of Ecology*, 131 Wn.2d 373, 384, 932 P.2d 139 (1997); *Stempel v. Dept. of Water Resources*, 82 Wn.2d 109, 115, 508 P.2d 166 (1973); *Hubbard v. Dept. of Ecology*, 86 Wn. App. 119, 124, 936 P.2d 27 (1997). When issuing a water right for power purposes, as here, Ecology must "hav[e] in mind the highest feasible use of the waters belonging to the public" when determining "whether the proposed development is likely to prove detrimental to the public interest." RCW 90.03.290(1) and (3).

In affirming Ecology's approval of a water right,[6] the Board recognized, as it had to, that affirmative findings on the four tests are required before a water right permit is issued. CP at 32 (*citing Postema*, 142 Wn.2d at 79). The PCHB agreed with Appellants that aesthetic values of the Similkameen River are to be protected under the water code through the public interest tests. CP at 33 (*citing* RCW 90.54.020(3)(a)) ("the

[5] As discussed in Section VI.D, *infra*, although Ecology is not statutorily authorized to grant a water permit when one or more of the four tests are not satisfied, the agency does have discretion to issue a preliminary permit, in lieu of a denial, under those circumstances. RCW 90.03.290(2)(a).

[6] Ecology's approval is set forth in a Report of Examination or ROE, which describes the factual findings for the subsequently issued water right permit. See CP at 56-57. The ROE is the final agency action appealed in this matter.

legislature declared that the preservation of aesthetic values is a declared beneficial use of water and as a matter of public policy must be considered in the allocation and management of the waters of the state."). The Board also acknowledged that the ROE contained insufficient information to support affirmative findings on the public interest tests for the Enloe water right. CP at 34 ("Ecology still needs additional information to make a public interest determination in relation to the PUD water right.").

Notwithstanding these critical and undisputed facts, the Board erroneously interpreted and applied the law in holding that Ecology's discretion to issue a water right, in the face of incomplete information, is essentially without limit. Specifically, the Board stated:

> this is not a case in which available information shows that the applicant cannot meet some aspect of the four-part test for a water right. Rather, the Board concluded [in the 401 Certification decision] that some additional assessment is needed to finalize the appropriate level of aesthetically protective flows on the Similkameen River in the area of the project. However, in approving and conditioning the §401 Certification, the Board also provided Ecology a basis upon which to conclude that there was no "detriment to public welfare" as required by the four-part test of RCW 90.03.290.

CP at 37-38. Appellants submit that the PCHB's assumption that there will be no detriment to the public interest, based on a yet-to-be-completed aesthetic flow study, is not a sufficient basis justifying issuance of a

permanent right to use water. Because Ecology must make an affirmative finding that the proposed withdrawal will not (as opposed to "may not") be detrimental to the public interest, the agency's decision cannot be based upon a study that has not been done.

The Board's ruling is based on the erroneous and unsupported assumption that the 401 Certification process will result in a final instream flow that will not be detrimental to the public interest. CP at 37-38. At this point, it is unknown whether there is a flow that simultaneously satisfies the aesthetic, recreation and fisheries flow requirements that must be protected under state water quality laws. *See, e.g.*, CP at 38 ("Higher flows for aesthetic purposes may conflict with flows necessary to protect the fishery resource in the Similkameen River."). It is possible that the aesthetic flow study could result in a flow that is so high it renders the project uneconomic and thus unacceptable to the PUD. In fact, the mandated flows need not be much greater than 10/30 cfs to make that happen. In the 401 Certification Decision the PCHB found that "aesthetic flows above 100 cfs were not considered because they would 'economically challenge the project.'" 401 Certification Decision at 14:20-21. As another alternative, the study could result in an aesthetic flow that is so low that it would be deemed detrimental to the public interest because it would significantly degrade the aesthetic and recreational values of Similkameen Falls. The PCHB ignored these

potential outcomes and their practical consequences, and instead arbitrarily assumed only one side of the equation, i.e., that the aesthetic flow study may affirm the 10/30 flows and that "higher flows for aesthetic purposes may conflict with flows necessary to protect the fishery resource in the Similkameen River."). CP at 38. But it is equally plausible that the study will show that the 10/30 flows do not protect aesthetic and recreational values and that greater flows in the bypass reach are required. Thus it is contrary to law for the Board to assume as a matter of law that that there will be no detriment to the public interest in this case when it is undisputed that additional information is needed to make the public interest determination.

B. Ecology Does Not Have Discretion To Approve A Water Right On The Basis Of Incomplete Information

The Board erred in ruling that Ecology has discretion to approve a water right when information on one of the four factors is incomplete. The statutory language is clear that affirmatively answering the four questions in the statute are *non-discretionary* prerequisites for a water right in Washington:

> The department *shall* make and file as part of the record in the matter, written findings of fact concerning all things investigated, and if it *shall find* that there is water available for appropriation for a beneficial use, and the appropriation thereof as proposed in the application will not impair existing rights or be detrimental to the public welfare, it *shall* issue a permit . . . ."

RCW 90.03.290(3) (emphasis added); *see also Black Star Ranch v. Ecology*, PCHB No. 87-19[7] (Final Findings of Fact, Conclusions of Law & Order) (Feb. 19, 1988) (emphasis added) at 11 ("RCW 90.03.290 requires the issuance of a permit *only if* DOE can answer affirmatively concerning all the statutory criteria."); *see also Wash. State Coal. for the Homeless v. DSHS*, 133 Wn.2d 894, 907-08, 949 P.2d 1291 (1997) ("the word 'shall' . . . imposes a mandatory duty . . . .") (citations omitted). There are good reasons for the four mandatory findings, embedded in the history and principles of the prior appropriation doctrine. As the Board recognizes, it is important to prevent problems in advance when dealing with the appropriation of a finite water resource.[8]

The Board's legal conclusion that Ecology has "discretion" to issue the water right in this case misapplies the law and erroneously gives discretion to Ecology when the legislature declined to do so. The cases cited by the Board stand for the unremarkable principle that Ecology has discretion to deny permits (for failure to meet the four tests) or limit

[7] Copies of the PCHB decisions cited herein are attached to this Brief as Appendix A.
[8] CP at 35 (citing *Black Star Ranch Neighborhood Assn v. Ecology*, PCHB No. 87-19 (Final Findings of Fact, Conclusions of Law & Order) (Feb. 19, 1988) ("The water codes are designed to prevent new appropriators from buying into this kind of trouble. Otherwise the permit system would have no function. All uses could simply be regulated on the basis of priority. Where there wasn't enough water to go around, those who guessed wrong would just have to suffer the consequences. The permit system is intended, to the extent possible, to head off such problems before they occur. In large measure, the state water agency's function is prevention, not enforcement.").

previously issued permits. In *Ecology v. Theodoratus*, the court acknowledged Ecology's discretion to amend and add conditions to an existing permit in order to conform that permit to new legal requirements. 135 Wn.2d at 597. However, *Theodoratus* also clarified the limits of Ecology's discretionary authority, i.e., that it is must be exercised to "comply with all relevant statutes." *Id.* at 597. It goes without saying that the mandatory four-part test set forth in RCW 90.03.290(3) is a "relevant statute" that demands compliance. Nothing in *Theodoratus* supports the notion that Ecology may waive or defer the four-part findings, or that Ecology has the discretion to issue a water right when it is without information to make the mandatory public interest finding.

Similarly, *Schuh v. Ecology*, cited in *Theodoratus* and by the Board, involved Ecology's discretion to deny the transfer of an existing right when the denial conformed to the statute governing transfers of groundwater permits. 100 Wn.2d 180, 185-86, 667 P.2d 64 (1983). In *Schuh*, Ecology concluded that approval of the transfer would not meet all statutory requirements, concluding *inter alia* that it would be detrimental to the public interest. *Id.* at 186. Again, the court stated that the approval of an amendment to a water right permit is a discretionary act, but acknowledged the bounds of Ecology's discretion, i.e., Ecology's discretion cannot be "exercised in a manner which was manifestly unreasonable or exercised on

untenable grounds or for untenable reasons." *Id.* Failing to follow the mandatory language of RCW 90.03.290 clearly fits that bill.

In this case, the PCHB erroneously extends Ecology's discretionary authority above and beyond what the law allows. The Board discussed two of its own decisions, *Black Star Ranch Neighborhood Assn. v. Ecology*,[9] and *Squaxin Island Tribe v. Ecology*,[10] to support its conclusion that Ecology has discretion to base its public interest finding on a yet-to-be complete study. However, the Board erroneously interpreted and applied both of these cases in violation of the law. *See Pierce Cty. Sheriff v. Civil Service Comm'n of Pierce Cty.*, 98 Wn.2d 690, 694, 658 P.2d 648 (1983) ("An agency's violation of the rules which govern its exercise of discretion is certainly contrary to law and, just as the right to be free from arbitrary and capricious action, the right to have the agency abide by the rules to which it is subject is also fundamental.").

In *Black Star*, the PCHB affirmed Ecology's decision to deny a water right permit for failure to meet each element of the four-part test. In that case, Ecology was engaged in a "focused study of the groundwater aquifers underlying the Black Rock area," and "began deferring permit decisions in the study area, awaiting the results of the study." PCHB No.

[9] PCHB No. 87-19 (Final Findings of Fact, Conclusions of Law & Order) (Feb. 19, 1988).
[10] PCHB No. 05-137 (Modified Findings of Fact, Conclusions of Law & Order) (Nov. 20, 2006),

87-19 at 5. The study was not complete by the time of the hearing, so "DOE was not able to conclude that water was available for appropriation in most of the study area."[11] *Id.* at 7.

Contrary to the Board's interpretation, *Black Star* does not support Ecology's discretion to assume a finding on the four-part test when information is incomplete. CP at 35. Rather, *Black Star* stands for the principle that when Ecology is faced with a situation in which "incomplete information prevents answering" the statutory questions, "the appropriate response is to deny the permit, and hold that in these circumstances the proposed use 'threatens to prove detrimental to the public interest.'" *Black Star*, PCHB No. 87-19 at 11, 13 ("Again, the lack of information brings into play the public interest criterion as grounds for denial."). Similarly here, the lack of information on how instream flows in the bypass reach will affect aesthetic and recreational values and the fishery resource demands denial of the permit.[12]

The Board's reliance on the *Squaxin Island Tribe* case for the proposition that it "is consistent with the determination that this is a

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[11] The only reason DOE processed the application was because in a prior appeal "the judge requested DOE to process the application and the agency agreed. Were it not for this agreement, DOE would have continued to hold the application in a pending status until the study provided the answers needed to act on it knowledgeably." *Id.* at 9. There is no assertion in this case of any similar agreement requiring action on the water rights permit.

[12] Alternatively, Ecology could have issued a preliminary permit. See Section D, *infra*.

discretionary decision for Ecology" is baffling. CP at 35. In *Squaxin Island Tribe*, as in *Black Star*, the PCHB vacated a water right because it failed to meet each element of the four-part test. *Squaxin Island Tribe v. Ecology*, PCHB No. 05-137 (Modified Findings of Fact, Conclusions of Law & Order) (Nov. 20, 2006). Specifically, the Board found "that the proposed withdrawals violate the public interest portion of the four-part test contained in RCW 90.03.290" because the reduction in stream flow by the proposed appropriation would negatively affect fish. *Id.* at 49.

Nothing in the *Squaxin Island Tribe* decision supports the Board's conclusion "that this is a discretionary decision for Ecology." CP at 35. In fact, the word "discretion" does not even appear in the *Squaxin Island* opinion. *Squaxin Island Tribe* actually contradicts the Board's ruling and supports Appellants' argument that Ecology cannot make a valid, affirmative public interest finding without understanding how the Project will affect instream flows in the bypass reach. In *Squaxin Island Tribe*, the Board acknowledged that information was lacking as to how the proposed groundwater withdrawals would affect adjacent surface waters. *Squaxin Island Tribe*, PCHB No. 05-137 at 54. Specifically, the Board noted that "[w]ithout this information, it is difficult to see how Ecology can meet its obligations to protect fish and other environmental values under RCW 90.54.020(3)." *Id.* Furthermore, the Board recognized that "it is preferable

to have questions regarding potential impacts answered before a project is allowed to proceed rather than to try and address issues that emerge after the fact."[13] *Id.* at 57. Similarly here, the PCHB has held that an aesthetic flow study is required; and that study is needed in order to make a determination on whether the water right will be detrimental to the public interest.

In sum, none of the cases cited by the Board support the proposition that Ecology has discretion to *issue* a water right when it does not have all of the information it needs to make an affirmative finding on one of the elements of the four-part test. Indeed, Ecology has a statutory *duty to reject* a proposed withdrawal if any of the criteria set forth in the four-part test cannot be answered in the affirmative. RCW 90.03.290(3); *Postema*, 142 Wn.2d at 95 (emphasis added) ("where a proposed withdrawal would reduce the flow in surface waters closed to further appropriations, *denial is required* because water is unavailable and withdrawal would be detrimental to the public welfare."). Therefore, while cases have held that Ecology has the discretion to approve water right permits as a general principle, *Schuh*, 100 Wn.2d at 186, the case law is clear that there are bounds to Ecology's exercise of discretion in this context. Ecology can only issue a permit *after* it obtains all information necessary to make the four affirmative findings

[13] In its Summary Judgment Order, the Board erroneously states that it deleted this quotation emphasizing the need to find answers to questions before allowing water withdrawals in its modified decision issued on November 20, 2006. CP at 35. However, this quotation appears in both the October 16 and November 20 decisions.

required by law. RCW 90.03.290; *Lummi Indian Nation*, 170 Wn.2d at 252-53; *Squaxin Island Tribe*, PCHB No. 05-137 at 42 (emphasis added) ("Each of the four parts is a separate determination that *must be met before* a new water right can issue."). Similarly, Ecology is obligated to reject an application if it cannot make any of the four mandatory determinations. *Stempel*, 82 Wn.2d at 115 (discussing the duty to reject an application if Ecology finds the appropriation to "be to the detriment of the public welfare . . . ."); *Hubbard*, 86 Wn. App. at 124 (emphasis added ("Ecology *must reject* an application and refuse to issue a permit if . . . withdrawal will detrimentally affect public welfare.").

C. Adaptive Management Cannot Be Used As A Substitute For The Four Mandatory Findings

The Board may not substitute the 401 Certification's adaptive management process for explicit, affirmative findings on the four tests. The requirement to protect aesthetic flows found in RCW 90.54.020(3)(a) applies to both water rights and water quality permits. *Stempel*, 82 Wn.2d at 117-119 (finding that RCW 90.54 applies in the water right context and that "the department is obligated . . . to consider the total environmental and ecological factors to the fullest in deciding major matters."). However, water rights and §401 Certifications are distinct permits, with different purposes, and are issued pursuant to different statutory authority and

standards. These distinctions highlight the flaws in the Board's decision to base its public interest findings on the outcome of the 401 Certification adaptive management process.

A 401 Certification is authorized under the federal Clean Water Act, 33 U.S.C. § 1341, and state Water Pollution Control Act, RCW 90.48.260, and is issued pursuant to the legal standard that there be "reasonable assurance that the activity will be conducted in a manner that will not violate applicable water quality standards." 40 C.F.R. § 121.2(a)(3); *Port of Seattle*, 151 Wn.2d at 571. Water rights, on the other hand, are issued under the Water Code. RCW 90.03.290(1) requires Ecology to "investigate, determine, and find whether the proposed development is likely to prove detrimental to the public interest, having in mind the highest feasible use of the waters belonging to the public."

A 401 Certification necessarily expires with the project or the associated federal permit. In this case, the federal license for the Enloe project will expire in fifty years. CP at 69. A water right, on the other hand, is a real property-based usufruct that exists in perpetuity and potentially can be transferred to other users. *Theodoratus*, 135 Wn.2d at 593 ("A vested water right is perpetual, operating to the exclusion of subsequent claimants."). Therefore, this case presents the very real risk of having a permanent water right conditioned on instream flows contained in a 401

Certification that not only are currently unknown and will go away, but may not have been designed to protect the "highest feasible use of the waters belonging to the public." RCW 90.03.290(1).

The Board's legal error in hitching the water right to the 401 Certification wagon is made more apparent when comparing the different legal standards applicable to each permit. The "reasonable assurance" legal standard presents a lower bar than the more onerous standards for issuance of a water right. Reasonable assurance means "[s]omething more than a probability; mere speculation is not sufficient." *Port of Seattle*, 151 Wn.2d at 571. Therefore, it makes sense that "reasonable assurance" can be achieved using an adaptive management process that leaves compliance to future actions, because compliance only requires that "something is reasonably certain to occur." *See, e.g., id.* at 676.

Not so with water rights. The Board correctly analyzed the role of adaptive management in the water right process when it reviewed its prior decisions involving saltwater intrusion into groundwater.[14] CP at 34. There, adaptive management conditions were added to water right permits to address potential problems that may occur in the future, not as a means to

[14] *See Citizens for a Sensible Development v. Ecology*, PCHB No. 90-134 (Final Findings of Fact, Conclusions of Law, and Order, May 22, 1991); *Bucklin Hill Neighborhood Assn v. Ecology*, PCHB No. 88-177 (Final Findings of Fact, Conclusions of Law, and Order, June 26, 1989); *Wilbert v. Ecology*, PCHB No. 82-193 (Final Findings of Fact, Conclusions of Law, and Order, August 4, 1983).

avoid or defer making any of the four required affirmative findings. As the Board noted, adaptive management may not substitute for the mandatory four-part affirmative findings, and did not do so in the salt water intrusion cases. CP at 34.

Yet that is exactly what the Board ordered here. The Board erred in approving the permit's reliance on a future study to answer questions that the statute requires be answered *before* the permit may issue. How flows in the bypass reach will affect the public interest is currently unknown. What *is* known is that a legally-required study has yet to be completed to ascertain what quantity (if any) of flow will ensure protection of aesthetic, recreational and fishery values of the Similkameen River, and thereby avoid detriment to the public interest. Given these undisputed facts, Ecology does not have the discretion to issue a permanent and perpetual water right relying upon the use of adaptive management contained in the 401 Certification. Rather, as discussed in Section VI.D below, Ecology only has the discretion to deny the application or to issue a preliminary water permit to preserve the PUD's interest in its application while the necessary investigations go forward. Because the Board erroneously concluded that Ecology has the discretion to issue a permanent new water right "when information is incomplete on an aspect of the four-part test," the Board's order is outside of statutory authority. CP at 37; RCW 34.05.570(3)(b).

D. When Faced With Incomplete Information, Ecology's Discretion Is Limited To Denying The Permit Or Issuing A Preliminary Permit.

The Water Code explicitly provides an alternative solution, which the PCHB disregarded, for the Enloe Project scenario. The general rule, discussed above, is that if Ecology is unable to make an affirmative finding on any element of the four-part test, Ecology is required to deny the permit application. *Postema*, 142 Wn.2d at 95. However, when a water right application does not provide sufficient information, but that information is capable of being gathered, Ecology "may issue a preliminary permit, for a period of not to exceed three years, requiring the applicant to make such surveys, investigations, studies, and progress reports, as in the opinion of the department may be necessary." RCW 90.03.290(2)(a); *Postema*, 142 Wn.2d at 110-122 (discussing use of preliminary permits when information was insufficient to determine impacts of proposed water rights on instream flows); *Squaxin Island Tribe v. Ecology*, PCHB No. 05-137 at 2-3 ("The Board's conclusion that [two of the four tests are not met] does not preclude Ecology from issuing a preliminary permit to allow Miller to further assess the actual affect [sic] of groundwater withdrawals on the Woodland Creek basin.").

As discussed above, Ecology was without information to determine whether the withdrawal would be detrimental to the public interest, because

it is unknown what instream flows will be required to flow over the waterfalls in the bypass reach to preserve aesthetic values. CP at 34 ("In the §401 appeal, the Board found that additional monitoring and analysis of actual minimum flows or review of simulated flows is necessary to assess the proper protection of aesthetic values, as balanced against the quality of the water for the fishery resource."). As such, Ecology's discretion was limited by statute and precedent to either deny the permit because it could not make the affirmative four findings (RCW 90.03.290) or issue a preliminary permit (RCW 90.03.290(2)(a)). The Board's fundamental legal error in this case was its conclusion that, in the face of uncertainty about whether a water right application meets the four tests, Ecology may go ahead and issue a water right. CP at 37 ("[t]he decision whether to issue a preliminary permit in lieu of a permanent new water right, when information is incomplete on an aspect of a four-part test, is still a choice that remains within Ecology's discretion.").

Appellants do not contend that Ecology is required to use its preliminary permit authority. The choice to issue a preliminary permit is, by the terms of the statute, discretionary.[15] However, when the information to make an affirmative finding on one of the four tests is lacking, a preliminary

[15] *State ex rel. Beck v. Carter*, 2 Wn. App. 974, 977, 471 P.2d 127 (1970) ("The general rule of statutory construction has long been that the word 'may' when used in a statute or ordinance is permissive and operates to confer discretion.").

permit is the only mechanism for the permit application to move forward. *Postema*, 142 Wn.2d at 115. The legislature anticipated the type of scenario presented in this case, and adopted a reasonable solution that the Board is without legal authority to disregard.

E. The ROE Violates The Similkameen River Minimum Instream Flow Rule.

The Board erred in finding that the ROE did not violate the Similkameen River minimum flow requirements in WAC 173-549-020, as authorized by RCW 90.54. The ROE, which authorizes a diversion of 600 cfs out of the river, has a priority date of June 8, 2010, thirty-four years junior to the 1976 priority date of the instream flow rule. CP at 70. The Similkameen River instream flow is a water right that may not be impaired by later issued water rights.[16] RCW 90.03.247; *Swinomish Indian Tribal Cmty v. Dept. of Ecology*, 178 Wn.2d 571, 593, 311 P.3d 6 (2013) ("[A] minimum flow or level cannot impair existing water rights and a later application for a water permit cannot be approved if the water right sought would impair the minimum flow or level."). The Similkameen River rule specifically requires that the minimum flows will apply to later-issued

[16] *See Hubbard*, 86 Wash. App. at 125 ("the minimum instream flow established in 1976 for the Okanogan River, WAC 173-549-020(2), has priority over subsequent water rights appropriators . . . ."); *Id.* ("[A]ny permit for beneficial use of surface waters must be conditioned to protect the minimum levels established by code for each river basin.").

consumptive water rights.[17] WAC 173-549-020(4), -027(2). Yet, the ROE does not condition the PUD's water right on the Similkameen River instream flows as required by law; but rather invokes (improperly) the exception within the rule for hydropower projects.

The Board authorized divergence from the instream flows on the theory that the PUD's water right qualified under an exemption to the automatic application of the rule's instream flows:

> (5) Projects that would reduce the flow in a portion of a stream's length (e.g. hydroelectric projects that bypass a portion of a stream) will be considered consumptive only with respect to the affected portion of the stream. Such projects will be subject to instream flows as specified by the department. These flows may be those established in WAC 173-549-020 or, when appropriate, may be flows specifically tailored to that particular project and stream reach. When studies are required to determine such reach- and project-specific flow requirements, the department may require the project proponent to conduct such studies.

WAC 173-549-020(5); CP at 39-42.

Ecology contended, and the Board agreed, that the 10/30 cfs instream flow condition set forth in the ROE (subject to revision by the aesthetic flow

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[17] The "legislative intent" of Washington's instream flow program is described in *Swinomish*, where the Court recognized that "the Water Resources Act of 1971, discussed below, explicitly contemplates the value of instream resources for future populations: 'Adequate water supplies are essential to meet the needs of the state's growing population and economy. At the same time *instream resources and values must be preserved and protected so that future generations can continue to enjoy them.*'" 178 Wn.2d at 587 (citing RCW 90.54.010(1)(a)).

study) was "specifically tailored" to the particular project and stream reach impacted by Enloe Dam. *Id.* The Board found that "Ecology acted consistent with its authority and discretion under WAC 173-549-020 to apply the 10/30 flows as site-specific flows to the Enloe Dam Project . . . ." CP at 39. However, the Board's ruling on this point is consistent neither with its prior 401 Certification decision, nor with governing law, for two reasons.

1. The Exception In WAC 173-549-020(5) Must Be Narrowly Construed.

First, the exception in subsection (5) should have been, but was not, narrowly construed. As a general rule, "exceptions to statutory provisions are narrowly construed in order to give effect to legislative intent underlying the general provisions." *R.D. Merrill Co.*, 137 Wn.2d at 140; *see also Swinomish Indian Tribal Comty,* 178 Wn.2d at 582-85. In *R.D. Merrill,* the Court applied the "narrow construction" standard to interpret exceptions to the general "use it or lose it" rule for Washington water rights. In *Swinomish*, the Court similarly utilized this standard to evaluate the Skagit River instream flow rule, finding that a statutory exemption to instream flows (known as the "overriding considerations of the public interest" or OCPI exception), must be narrowly construed when used as a basis for creating out-of-stream reserves. 178 Wn.2d at 588.

Here, the applicable general rule is that instream flows adopted by rule have priority over later issued water rights. RCW 90.03.247 (emphasis added) ("[w]henever an application for a permit to make beneficial use of public waters is approved relating to a stream or other water body for which minimum flows or levels have been adopted and are in effect at the time of approval, the permit *shall* be conditioned to protect the levels or flows."). This general rule reflects the legislature's mandate that "[t]he quality of the natural environment *shall be protected* and, where possible, enhanced as follows: (a) Perennial rivers and streams of the state *shall be retained* with base flows necessary to provide for preservation of wildlife, fish, scenic, aesthetic and other environmental values, and navigational values." RCW 90.54.020(3)(a) (emphasis added). The general rule is also reflected in two separate subsections of the Similkameen instream flow rule. *See* WAC 173.549.020(4) ("Future consumptive water right permits hereafter issued for diversion of surface water from the . . . Similkameen River shall be expressly subject to minimum instream flows established in WAC 173-549-020 (1) through (3) . . . .") and WAC 173.549.027(2) ("All future permits to appropriate water from . . . the Similkameen River . . . shall be subject to the required flows at all downstream control stations as established in WAC 173-549-020.").

The only statutory exception to the general rule is as follows: "Withdrawals of water which would conflict therewith shall be authorized only in those situations where it is clear that overriding considerations of the public interest will be served."[18] RCW 90.54.020(3)(a). In the Similkameen Instream Flow Rule, however, Ecology created another administrative exception to the general rule. WAC 173.549.020(5). As an exception to the state and local instream flow program, subsection (5) necessarily derives from, and is constrained by, the OCPI exception. As such, it must be narrowly construed because it operates to alter the priority-protected rule-based instream flows for projects such as Enloe Dam. *Swinomish Indian Tribal Comty*, 178 Wn.2d at 588. This exemption from fulfilling the public and state interest in the instream values of the Similkameen River provides an extraordinary benefit for water users such as the PUD, and the terms of the exception must be strictly followed.

The Board did not consider or even acknowledge the "narrow construction" standard. Rather, the Board misconstrued Appellants' arguments regarding *Swinomish,* finding that case applied only to rule amendments explicitly adopted under the OCPI exception. CP at 41-42. In so ruling, the Board committed legal error in neglecting to narrowly

[18] The Washington Supreme Court has stressed that this "OCPI" exception is to be narrowly construed, and that economic benefits alone do not provide sufficient reason to invoke the exception. See *Swinomish Indian Tribal Community v. Ecology*, 178 Wn.2d at 600.

construe the subsection (5) exemption and by failing to acknowledge that Ecology may not administratively expand the narrow applicability of the statutory OCPI exception in RCW 90.54.020(3)(a). By ruling that Ecology had unfettered discretion to rely on a future site-specific study to deviate from the rule's mandatory minimum flow regime, the PCHB erroneously interpreted and applied the law. CP at 42.

2. Ecology Has Not "Specifically Tailored" Flows To Satisfy The Instream Flow Exemption.

Second, the yet-to-be-completed aesthetic flow study ordered by the Board does not satisfy the plain language of the exception that requires "specifically tailored" flows to substitute for the rule-based instream flows. Ecology's authority to create a site-specific flow as an alternative to a rule-based flow is not unlimited. The rule calls for Ecology to "specifically tailor" an alternative flow, which implies that there must be some basis to justify the alternative flow.[19]

Moreover, the exception cannot be read in isolation. It is a basic tenet of statutory construction that courts do not read a statute, or defer to an agency's reading of a statute, in a way that renders other provisions meaningless or superfluous. *Stone v. Chelan Cty. Sheriff's Dep't*, 110

[19] Webster's Third New International Dictionary (1986) defines the verb "tailor" to mean "to make or adapt to suit a special need or purpose." *See WA State Coal. for the Homeless*, 133 Wn.2d at 905 ("In the absence of a specific statutory definition, words used in a statute are given their ordinary meaning.").

Wn.2d 806, 810, 756 P.2d 736 (1988). Reducing the rule-based instream flow from the natural annual range of between 400 and 3400 cfs, to 10 or 30 cfs, *i.e.*, a 90-99% reduction in instream flows, is a potentially radical reduction in the regulatory instream flow regime—to the point of virtually de-watering this stretch of the river.

The purpose of the Similkameen River instream flow regime is to retain "base flows necessary to provide for preservation of wildlife, fish, scenic, aesthetic and other environmental values, and navigational values." WAC 173-549-015 (quoting RCW 90.54.020(3)(a)). By enacting the instream flow rule, Ecology has already found that the flows required by the rule are the base flows needed to protect instream values. The rule contemplates accommodation of both instream and out-of-stream uses. *Id.* But Ecology's exclusive reliance on flows that have been deemed in need of further study by the Board was not a "specific tailoring" to the project and stream reach. The rule explicitly contemplates a situation in which "studies are required to determine such reach- and project-specific flow requirements." WAC 173-549-020(5). Ecology does not have the discretion to ignore this language in light of the Board's prior ruling that a study *is* required in order "to determine such reach- and project-specific flow requirements." *Id.*; *see also* RCW 90.54.020(3)(a) ("Withdrawals of water which would conflict [with necessary base flows] shall be authorized

only in those situations where it is clear that overriding considerations of the public interest will be served.").

By deviating from the minimum instream flows set by rule without the scientific study the Board held was legally required, Ecology has effectively prioritized hydroelectric development over instream flows, a result that is impermissible. In *Swinomish Indian Tribal Community*, the Washington Supreme Court stressed that the legislature has "continued to recognize that retention of waters instream is as much a core principle of state water use as the other goals, including economic well-being." 178 Wn.2d at 594. For these reasons, the PCHB erred in holding that the PUD's water right qualified under the subsection (5) exception to the instream flow regulation, let alone the statutory OCPI exception.

VII. REQUEST FOR RELIEF & CONCLUSION

The Appellants are entitled to relief in this matter pursuant to RCW 34.05.570(3) because the PCHB's Order on Summary Judgment erroneously interpreted and applied the law and is arbitrary, capricious and otherwise contrary to law. Appellants respectfully request that the Court reverse the Superior Court's Order, vacate and set aside the PCHB's Order on Motions for Summary Judgment and remand the matter for further proceedings consistent with all applicable law. In addition, Appellants respectfully request that the Court grant such other relief as this Court

deems appropriate. RCW 34.05.574. Finally, Appellants request that fees and costs be awarded pursuant to RCW 4.84.350 and other applicable law.

Respectfully submitted this 11th day of September, 2015.

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DECLARATION OF SERVICE

I, Dan Von Seggern, hereby declare that on this day I caused this Opening Brief to be served on the Appellees via electronic mail in accordance with the parties' electronic service agreement.

Stated under oath this 11th day of September, 2015, in Seattle Washington.

s/ Dan Von Seggern
Dan Von Seggern
Attorney for Appellants

APPENDIX A

Black Star Ranch v. Ecology, PCHB No. 87-19 (1988)

Bucklin Hill Neighborhood Ass'n v. Ecology,
PCHB No. 88-177 (1989)

Center for Environmental Law & Policy, et al. v. Ecology et al., PCHB No. 12-082 (2013)

Citizens for a Sensible Development v. Ecology,
PCHB No. 90-134 (1991)

Squaxin Island Tribe v. Ecology,
PCHB No. 05-137 (2006)

Wilbert v. Ecology, PCHB No. 82-193 (1983)

Filed

BEFORE THE POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

BLACK STAR RANCH and WILLIAM ECKERICH, Appellant, v. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Respondent.	PCHB NO. 87-19 FINAL FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

THIS MATTER, an appeal of the denial of an Application to Withdraw Groundwater by the State of Washington, Department of Ecology, came for formal hearing before the Pollution Control Hearings Board, Lawrence J. Faulk (Presiding), Wick Dufford and Judith A. Bendor, convened at Lacey, Washington, on February 4 and 5, 1988.

Appellants appeared by attorney Ted Roy of Roy & Pell. Respondent Department of Ecology appeared by V. Lee Okarma Rees, Assistant Attorney General. Reporter Julia Moysich, of Robert H. Lewis & Associates recorded the proceedings.

Witnesses were sworn and testified. Exhibits were examined.

Briefs were received and reviewed. From testimony heard, exhibits examined, and argument the Board makes these

FINDINGS OF FACT

I

Respondent State of Washington, Department of Ecology ("DOE") is a state agency charged with the allocation and regulation of surface and groundwater usage within the state.

II

Appellant William Eckerich has an undivided half-interest in Groundwater Application No. G4-28483.

III

This matter concerns the denial of a permit to appellant's subsequent purchaser in interest, Mr. Gene Gamache/Black Star Ranch, also an appellant. Prior to the transfer of interest, appellant Eckerich had had a permit to withdraw groundwater on this same property. That permit was formally cancelled, after several extensions, for failure to complete construction and place the water to beneficial use.

IV

Appellant Eckerich claims that (1) DOE has improperly denied appellant Black Star a water rights permit, and that (2) DOE is equitably estopped from denying appellant's right to have the permit.

V

The land in question is located in Section 29 T12N R21E W.M., in the Moxee/Black Rock Valley in Yakima County, Washington. This parcel of land contains approximately 120 acres which are suitable for the development of orchards. The property is located on the north flank of Rattlesnake Ridge. It slopes generally north and east with a south property line which roughly follows the 1700 Mean Sea Level (MSL). The valley is arid, with average precipitation of 7-10 inches annual rainfall.

VI

On September 15, 1977, William Eckerich applied to the state for a permit to appropriate approximately 840 gallons per minute (gpm) of public groundwater limited to 321 acre-feet per year for irrigation of approximately 84 acres of orchard.

VII

Construction of the well for this project was begun and completed before the permit was issued. The well was drilled to a depth of 850 feet with a diameter of 10 inches. It was cased to a depth of 466 feet. The static water level in the well here was 399 feet below land surface on February 13, 1978, the date of completion.

On August 8, 1978, Permit No. G4-25503 was granted. Neither the permit nor the Report of Examination concerning the well specified a casing requirement. The permit specified October 1, 1979 as a

completion date for construction of the project, involving installation of pumping equipment, mainline and sprinkler system in addition to well construction. Water was to be put to full beneficial use by October 1, 1980.

VIII

On November 20, 1979, DOE granted appellant a one-year extension for completion of the project to October 1, 1980. On October 9, 1980, DOE granted appellant another one-year extension to October 1, 1981. Sometime in 1981, appellant decided that he would not develop the property but rather would try to sell it. On October 7, 1981, after receiving another request for extension, DOE sent a certified request for a firm commitment to complete construction of the authorized project by October 1, 1982. On October 12, 1981, Mr. Eckerich confirmed a telephone conversation with DOE that he understood unless progress was evidenced during that year, no further extensions would be granted. On October 21, 1981, DOE granted appellant what was clearly identified as a final one-year extension, to complete construction by October 1, 1982.

IX

Toward the end of this last extension period, Eckerich asked for yet another extension, asserting tht he had a buyer for the property who would çomplete the project. On October 11, 1982, DOE advised Eckerich that he had 30 days to provide an executed earnest money

agreement and assignment. Failing to receive same, DOE, by letter dated December 21, 1982, gave Eckerich a final deadline of January 17, 1983. Eckerich made no effort to show cause why the permit should not be cancelled, and on March 25, 1983, an order of cancellation was entered. Eckerich did not appeal this action.

X

Development of the groundwater resource in the Black Rock area accelerated in the late 60's through the mid-70's, leading to concerns at DOE that real and proposed demands on the system were approaching the safe yield level. With the filing of large applications in 1979, DOE increased its investigative effort about the resource, and thereafter, approved new withdrawals, only with great caution.

Between 1981 and 1983, DOE's regional geologist compared measurements on 91 wells, most in the Black Rock area. On February 22, 1983, in a memorandum directed to management, the DOE geologist stated his findings of a trend showing groundwater decline in the area, citing five specific wells. That memorandum triggered the beginning of a focused study of the groundwater aquifers underlying the Black Rock area.

DOE then began deferring permit decisions in the study area, awaiting the results of the study. The decision to hold applications (except those in specific locales where sufficient information was available) occurred after the decision had been made to cancel

Eckerich's permit, but before it had been formally entered. Eckerich was not specifically contacted by DOE and advised of the new policy of holding most permit applications.

XI

The study area is bounded on the north by Yakima Ridge and on the south by Rattlesnake Ridge. The area is approximately 17 miles from east to west and encompasses approximately 140 square miles. The dominant topographic features are the east-west trending anticlines and the eastward extension of the Moxee Valley lying between the two ridges. The Hog Ranch anticline was identified as the easterly boundary. The western boundary has been placed approximately three miles west of the Roza Canal.

The study area boundaries have functioned as a bright line withi which DOE exercised extreme caution in reviewing water rights applications. One aspect of the study was to better locate the suspected geologic boundaries, and to understand the effect of these boundaries on the groundwater flow system.

XII

The aquifer system underlying the Black Rock area is a complex one. In general, the geologic sequence is as follows. Beginning at land surface is the Ellensburg formation. Next is a series of basalt flows and minor sedimentary interbeds known as the Saddle Mountains. The third major unit is the Wanapum Basalt series. The oldest and

deepest series is the Grande Ronde group. From data available, it appears that these aquifiers are at least partially separated hydrologically from each other. However, the inter-relationships of aquifiers from place to place is not yet fully understood.

XIII

DOE's study involves the collection of water level and water use data within the area of interest. DOE has, since 1983, taken regular spring-fall water level measurements throughout the area and has attempted to quantify annual water use and estimate aquifer recharge. They have worked to identify geologic features forming hydrologic boundaries, conducting pump tests and temperature logging.

XIV

By the time of the hearing in this case, DOE study was still not complete. The agency was able to identify groundwater flow directions, secure further evidence of a trend of groundwater decline and determine the approximate hydrologic boundaries. DOE was not able to conclude that water was available for appropriation in most of the study area.

XV

On approximately May 1, 1984, Mr. Eckerich sold his property to Gene Gamache, Black Star Ranch, as irrigated property.

On June 25, 1984, Gamache applied (Groundwater Application No. G4-28483) to DOE for a permit to withdraw 650 gpm of groundwater from

the existing well. Gamache had previously contacted DOE and found that no permit existed for his acreage.

DOE discussed with Mr. Gamache the general status of groundwater availability in the study area and the adminstrative constraints affecting permit processing because of a lack of data. On August 8, 1984, Mr. Gamache caused a pumped test to be conducted. The results did not allow DOE to conclude that the well was outside the study area. Current hydrogeologic data confirms that the well penetrates an aquifer within the Black Rock area.

XVI

Since the hold has been in existence, three permits have been issued by DOE even though the projects were inside the study area. These permits were granted because of their location in the southwest area, based on site-specific considerations. There were no demonstrated ground water level declines in that immediate area. DOE also determined that the Roza Canal provided rescharge to the three wells which were drilled only into the upper sedimentary layer (Ellensburg).

The Eckerich/Gamache well lies close to the lineament, which constitutes the southwest boundary of the area with the largest observed water declines. There does not appear to be recharge from a surface water body such as the Roza Canal.

XVII

Prior to the appeal to this Board, Mr. Eckerich brought a mandamus action in Superior Court of Yakima County to compel DOE to act on the Black Star application. Although that Writ of Mandamus was dismissed, the judge requested DOE to process the application and the agency agreed. Were it not for this agreement, DOE would have continued to hold the application in a pending status until the study provided the answers needed to act on it knowledgeably.

XVIII

On December 30, 1986, DOE issued a Report of Examination calling for denial of Groundwater Application No. G4-28483. At that time there were 14 applications for permits to withdraw groundwater within the Black Rock area. The Gamache/Eckerich application was 8th in priority on this list.

The Report of Examination, after extensive discussion of the ongoing study, set forth explicitly the following conclusions:

a. Water is not available for appropriation.

b. The proposed withdrawal is potentially detrimental to existing rights.

c. Issuing a permit would be detrimental to the public interest.

d. The proposed irrigation project would be a beneficial use of water if a permit could be authorized.

DOE has made no determination of whether the proposed withdrawal of public groundwater would be beyond the capacity of the underground formation to yield the water applied for within a reasonable or feasible pumping lift.

XIX

Any Finding of Fact which is deemed a Conclusion of Law is hereby adopted as such.

From these Findings the Board comes to these

CONCLUSIONS OF LAW

I

The Board has jurisdiction over this appeal.

II

Subject to existing rights, all waters within the state belong t the public. RCW 90.03.010. This principle was extended to groundwater through RCW 90.44.020. Applications for permits for appropriation of underground water are subject to the same evaluation criteria as apply to surface water appropriations.

III

Chapter 90.44 RCW deals with the regulation of public groundwaters. RCW 90.44.020. The application procedure for the appropriation of public groundwater is defined in RCW 90.44.060. We conclude that appellants have followed the proper application procedure.

IV

RCW 90.03.290, made applicable by RCW 90.44.060, requires DOE to investigate applications and file written findings concerning its investigations. A permit shall be issued:

> . . . if it shall find that there is water available for appropriation for a beneficial use, and the appropriation thereof as proposed in the application will not impair existing rights or be detrimental to the public welfare . . .
>
> But where there is no unappropriated water in the proposed source of supply, or where the proposed use conflicts with existing rights, or threatens to prove detrimental to the public interest . . . it shall be the duty of the department to reject such application and refuse to issue the permit asked for.

V

RCW 90.03.290 requires the issuance of a permit only if DOE can answer affirmatively concerning all the statutory criteria. The duty to reject an application appears to arise upon answering about any of these same criteria in the negative. The problem of this case is what to do when incomplete information prevents answering the water availability and impairment of existing rights questions either way.

We conclude that, under the facts here, the appropriate response is to deny the permit, and hold that in these circumstances the proposed use "threatens to prove detrimental to the public interest."

VI

Detriment to the public interest is threatened because in tl current state of knowledge in the Black Rock area the risks appea high that development of the proposed project will cause hardship to other water users and to the permittee - to others because in a situation of declining water levels their rights may be interfered with; to the permittee because the solution to an interference prol is to shut him off, thus threatening the loss of his investment.

The water codes are designed to prevent new appropriators from buying into this kind of trouble. Otherwise the permit system would have no function. All uses could simply be regulated on the basis o priority. Where there wasn't enough water to go around, those no guessed wrong would just have to suffer the consequences. The permit system is intended, to the extent possible, to head off such problems before they occur. In large measure, the state water agency's function is prevention, not enforcement.

DOE's task invariably involves a degree of prediction using data that is not totally complete. It is a delicate task to determine whe there is enough information to allow decisions which minimize perceived risks. The choice essentially is a matter of discretion. We see nothing inappropriate in the agency's exercise of discretion here. See, Schuh v. Department of Ecology, 100 Wn.2d 180, 667 P.2d 6 (1983).

VII

RCW 90.44.070 prohibits DOE from issuing a groundwater permit for

> the development or withdrawal of public groundwater beyond the capacity of the underground bed or formation in the given basin, district or locality to yield such water within a reasonable or feasible pumping lift. . . . The department shall have the power to determine whether granting any such permit will injure or damage any vested or existing rights or rights under prior permits. . . .

This formulation is the statutory explanation of what impairment of existing rights means in the groundwater context. The rights of senior appropriators include a right to a well depth no deeper than is reasonable. If a junior appropriation forces a senior right holder to significantly deepen his well, the senior right may have suffered impairment. See WAC 173-150-000, 050, 060.

Exceeding the reasonable or feasible pump lift provides an additional reason for denying the permit. However, when this lift distance has not been determined by the department, the result is not that the permit must be granted. Again, the lack of information brings into play the public interest criterion as grounds for denial. Reasonable and feasible pump lifts for the specific aquifers in the Black Rock area are among the things the study data will permit the Department to establish.

VIII

Appellant argues that DOE's use of an "administrative hold", absent rule making under RCW 90.54.050, is illegal.

That section provides in part:

> In connection with the programs provided for in RCW 90.54.040(1), whenever it appears necessary to the director in carrying out the policy of this chapter the department may rule adopted pursuant to chapter 34.04 RCW:
> . . .
>
> (2) When sufficient information and data are lacking to allow for the making of sound decisions, withdraw various waters of the state from additional appropriations until such data and information are available. (Emphasis added).

This provision is by its terms discretionary. Moreover, such withdrawals may be appropriate only in connection with formal broad-based water resource planning under RCW 90.54.040(1).

IX

Appellant argues that DOE should be estopped to deny the permit at issue because Eckerich would not have allowed his prior permit to be cancelled if DOE had told him about the policy of holding future permit applications.

Appellant apparently conceeds that no speaking agent of the agency misled Eckerich by an affirmative statement. Rather he asserts that the estoppel arises from the agency's silence when it had a duty to speak.

X

There are three prerequisites to the creation of an equitable estoppel:

1. An admission, statement or act inconsistent with the claim afterwards asserted;

2. Action by the other party on the faith of such admission, statement or act; and

3. Injury to such other party resulting from allowing the first party to contradict or repudiate such admission, statement or act. Leibergesell v. Evans, 93 Wn.2nd 881, 888, 889, 613 P.2d 1170 (1980).

XI

The doctrine of equitable estoppel must be strictly applied, and should not be enforced unless each element is substantiated. Stouffer-Bowman, Inc. v. Webber, 18 Wn.2d 416, 428, 139 P.2d 717 (1943). In addition, use of equitable estoppel against the state acting in its governmental capacity is not favored and requires every element to be proved by clear cogent and convincing evidence. Pioneer National Insurance Co. v. State, 39 Wn. App. 758, 760-761, 696 P.2d 996 (1985).

XII

In order to establish even the first element of equitable estoppel, appellant must prove that DOE made some type of admission, statement, or act inconsistent with later denial of a permit to Black Star Ranch, Inc.

An estoppel will not lie, based on silence, in the absence of a duty to disclose that which is claimed as the bases for the estoppel. Pacific National Bank v. Richmond, 12 Wn. App. 592, 597, 530 P.2d 718 (1975).

We have no authority for the proposition that DOE had a duty to speak in this situation other than appellant's assertion that this is so. We decline to find such a duty under these facts.

Eckerich was in contact with DOE during the period preceeding the cancellation of his permit. He knew, or should have known, that the cancellation decision could be appealed. He declined to do so because he thought he could simply get another permit. The evidence does not disclose that he had a reasonable basis for assuming the latter proposition. Accordingly, DOE had no duty to disabuse him of the notion.

Therefore, we conclude that the first prong of the test requiring an admission, statement or act was not met, and that estoppel should not be applied.

XIII

Moreover, estoppel will not be applied against a government where application of that doctrine would interfere with the proper discharge of its duties, or curtail the exercise of its police powers in another similar situation. Ford v. Bellingham-Whatcom County District Board of Health, 16 Wn. App. 709, 716, n.1, 558 P.2d 821 (1977); citing

Finch v. Matthews, 74 Wn.2d 161, 169, 443 P.2d 833 (1968). Estoppel cannot serve as the "means of successfully avoiding the requirements of legislation enacted for the protections of a public interest." Scott Paper Co. v. Marcalus Manufacturing Co., Inc., 326 U.S. 249, 257, 66 S.Ct. 101, 105, 90 L.Ed. 47, 52 (1945).

In the instant case, the waters of the state belong to the public. Rights must be acquired only by appropriation, by permit, and not otherwise. Mr. Eckerich cannot invoke an estoppel argument as a means of avoiding ~~the~~ application of the normal permit process. To grant estoppel would harm the public for whose protection the water resources statutes were enacted.

XIV

Any Conclusion of Law which should be a Finding of Fact is hereby adopted as such.

From these Conclusions, the Board enters this

ORDER

The denial of Water Rights Application No. G4-28483 is hereby AFFIRMED.

SO ORDERED.

DONE this 19th day of February, 1988.

POLLUTION CONTROL HEARINGS BOARD

2/19/88

LAWRENCE J. FAULK, Presiding

WICK DUFFORD, Chairman

JUDITH A. BENDOR, Member

BEFORE THE POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

BUCKLIN HILL NEIGHBORHOOD ASSOCIATION, Appellant, v. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, and ISLAND UTILITY COMPANY, Respondents.	PCHB No. 88-177 FINAL FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

This matter, the appeal of a decision by the Washington State Department of Ecology to approve a permit for the appropriation of public groundwater on south Bainbridge Island for community domestic supply, came on for hearing at Winslow, Washington, on March 29, 1989, and Seattle, Washington, on March 30, 1989, before the Pollution Control Hearings Board, Wick Dufford, Presiding, Judith A. Bendor and Harold S. Zimmerman.

Appellant Bucklin Hill Neighborhood Association appeared by Andy Stahl, association representative, and Corrie J. Yackulic, attorney at law. The Department of Ecology was represented by Peter R. Anderson, Assistant Attorney General. Thomas A. Goeltz, attorney at law, appeared for Island Utility Company. The proceedings were reported by Marlene Falk of Likkel and Associates, Everett.

Witnesses were sworn and testified. Exhibits were admitted and examined. Argument was heard. From the testimony, evidence and contentions of the parties the Board makes these

FINDINGS OF FACT

I

This case concerns the approval of an application to withdraw water from two deep wells at an aggregate maximum rate of 300 gallons per minute, limited to 336 acre feet per year, for community domestic supply within the service area of the Island Utility Company on Bainbridge Island, Kitsap County, Washington.

II

Island Utility is a limited partnership formed in 1987 to serve an 1100 to 1200 acre area, comprising uplands surrounding Blakely Harbor in the southeast part of Bainbridge Island. The great majority of the land in the service area (about 1000 acres) is owned by Port Blakely Tree Farm Limited Partnership. Island Utility and PBTF are affiliated limited partnerships. The same person is the president of both.

III

PBTF is the successor to the Port Blakely Mill Company, a pioneer entity which opened a lumber mill on the island in the 1870's. The PBTF holdings are what remains of a much larger acreage which the mill company owned and used as its source for wood. The primary use of the PBTF property in the past has been for the raising and cutting of trees. Now the present management has determined that modern conditions making devoting the property to tree farming impractical. Thus, PBTF is exploring development possibilities. The formation of Island Utility and application for a permit to appropriate ground water are steps in this process.

IV

Bucklin Hill Neighborhood Association is a citizen's group concerned with the future development of south Bainbridge Island, consisting of residents and property owners in the area.

V

In the past, the entire south end of Bainbridge Island has been in short supply for water. Sources used have been from shallow dug wells, small ponds, and cisterns catching water off roofs. In many instances these sources have proven inadequate or unreliable.

At the time of hearing, seventeen homes along Seaborn Road on the north shore of Port Blakely Harbor within the Island Utility service all were being served by an antiquated system which diverted water

from a pond behind an earthen dam. Monitoring of water in this system in recent years revealed high coliform counts and giardia is thought to be present. This led to its inclusion on the county's Trouble Water List - a listing of systems where building site applications are disapproved owing to water supply problems. After January 1987, residents on this system were either boiling their drinking water or purchasing bottled water.[1/]

Another small water system with at least ten connections to homes south of Port Blakely Harbor draws its water from a spring which produces only two to three gallons per minute - enough to reliably meet requirements of three homes. Bacteriological analysis for this system over the past ten years reveals numerous violations of maximum contaminant levels established by health authorities. Several additional platted lots in this area cannot be built upon until water supply difficulties are resolved.

VI

The extreme south end of Bainbridge Island is characterized geologically by high bedrock, an unpromising area for the development of significant groundwater production. To the north of Port Blakely

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1/ Following the hearing herein, the facilities were completed for service of these seventeen residences by the Island Utility system. There being no dispute on the matter, the Board entered an Order on Interim Service on April 28, 1989, allowing Island Utility to commence service to these homes limited to their reasonable needs.

Harbor, however, conditions are more favorable, and several deep wells have been successfully developed, notably at the Wyckoff plant site on Eagle Harbor and the Fletcher Bay well on the west side of the island.

Prior to the formation of Island Utility, PBTF attempted without success to find a source of water for their property from an off-site source. In the fall of 1987, drilling was initiated within the Island Utility service area at a site north of the high bedrock zone on Old Mill Road, roughly in between the Wyckoff and Fletcher Bay wells.

VII

Two wells were constructed at the Old Mill Road site, referred to as OMR well #1 (deep) and OMR well #2 (shallow). OMR #1 was ultimately drilled to a depth of 1100 feet and cased down to 958 feet below land surface. A water bearing zone was encountered at depths between 873 and 935 feet and the casing was slotted in this interval to allow water to enter the well. The water was under pressure and rose up the bore hole to a static level 106 feet below the top of the well. Land surface at the site is estimated to be about 130 feet above sea level.

OMR #2, was drilled about 50 feet away from OMR #1 to a depth of 160 feet, encountering a water zone at about 125 feet. Initial test pumping of OMR #2 produced a measurable drawdown in a neighboring shallow well.

VIII

On May 5, 1988, Island Utility filed the application which is the subject of the instant appeal. The application sought approval for the appropriation of 400 gallons per minute from two deep wells to be used continuously for community domestic supply within the Island Utility service area.

One of the wells identified is OMR #1. The other has yet to be drilled, the application contemplating that it would be constructed at some later time to accommodate system expansion.

Island Utility decided to not pursue use of the shallow well OMR #2, and an application for appropriation from that source was ultimately cancelled.

IX

At the request of the Department of Ecology, Island Utility provided information estimating population growth in its service area over a 25 year period. Extrapolating from projections made by government sources, Island Utility, derived an estimate of 60-75 new houses per year on average. Over 25 years this would equal 1500 to 1875 new residential services.

X

Ecology received numerous written protests of Island Utility's application and held two public meetings on Bainbridge Island concerning it. The application was supported by the Kitsap County Health Department.

Ecology's investigation of the matter included charting and analyzing existing water well logs within one and one-half miles of OMR #1 (115 wells), reviewing of available technical literature on Bainbridge Island groundwater, analyzing logs and pump test reports prepared for OMR #1 and OMR #2, and searching and reviewing water right files and Department of Social and Health Services files on water use in the general area.

XI

On October 31. 1988, Ecology issued its Report of Examination on the application, together with an Order approving the issuance of a permit for the appropriation of public groundwater at a maximum rate of 300 gallons per minute instantaneously, limited to an annual quantity of 336 acre feet for community domestic supply.

This approval was appealed to this Board by appellant Bucklin Hill Neighborhood Association on November 29, 1988.

XII

Ecology's approval called for the imposition of permit conditions, including the following:

[1] Instantaneous withdrawal from OMR well #1 shall not exceed 150 gpm. After the second deep well is completed, total instantaneous withdrawal from both wells will not exceed 300 gpm, subject to reduction following proof examination.

[2] Annual quantities withdrawn from both wells shall not exceed 336 acre-feet subject to further reduction following proof examination.

[3] The second deep well when drilled will require an aquifer test prior to productive use. The aquifer test shall be under the supervision of a competent ground water consultant and procedures shall conform with WRIS Information Bulletin No. 30 (copy attached).

[4] All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells).

[5] Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to the access port.

[6] An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through WAC 508-64-040 (Installation, operation and maintenance requirements attached hereto).

[7] Permittee or its successor(s) shall submit in writing to the Department of Ecology, Northwest Regional Office, Redmond, Washington, during the months of April and August each year, the chloride concentration of the water pumped and static water level (pump off) of the well authorized by this permit. Depending on the results of this data collection, the withdrawal of ground water under this permit may be limited, or other appropriate action may be required, by Department of Ecology order, to prevent seawater intrusion into the subject aquifer.

[8] Monitoring of static water level, pumping water level, instantaneous discharge (gpm) and total quantities pumped shall be done on OMR well #1 (deep) on a monthly basis. This same monitoring shall be accomplished on the second deep well when drilled. This date shall be sent to the Department of Ecology within 30 days of collection.

[9] OMR well #2 in the shallower aquifer, shall not be used as a production point of withdrawal, but it shall be maintained as a monitoring well. Permittee shall monitor SWL in this well on a monthly basis and data shall be sent to the Department of Ecology within 30 days of collection.

[10] Nothing in the permit, when issued, shall be construed as excusing the permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including those administered by state and local agencies under Chapter 248-54 WAC, Public Water Supplies and Chapter 248-56 WAC, Public Water System Coordination Act.

[11] A certificate of water right will not be issued until a final investigation is made.

XIII

Ecology's quantity limitations were made on the assumption that a total instantaneous yield of 300 gallons per minute might be achieved from two deep wells at the site. Of course, it is not anticipated that this instantaneous rate would be used continuously. The 336 acre feet annual limit would be reached by a continuous aggregate pumping rate of only 208 gallons per minute. Thus, the annual quantity acts as an additional limitation on withdrawals.

Ecology's quantitative allocation based on average consumption in the area is 0.5 acre feet per service. Therefore, the system approved would only have the potential for serving 600 to 700 services.

XIV

A 24-hour pump test was conducted at OMR #1 in April 1988, at 150 gallons per minute. During this period equilibrium was not reached, but the drawdown curve supported a prediction that full stabilization would be reached after 10 days of pumping continuously at that rate. Recovery of the well after pumping was complete.

A subsequent 168-hour pump test was conducted in May, 1989. This test demonstrated that the well could be pumped continuously for 7 days at 112 gallons per minute and have a resulting drawdown of no more than 94 feet. The results indicated either that at 112 gpm equilibrium had been reached at the 94 foot drawdown, or, at worst, that pumping for about two centuries at that rate would produce a further drawdown of about 31 additional feet.[2/]

We are convinced that recharge was occuring during the pumping of OMR #1.

We note that water has been withdrawn from the deep Fletcher Bay well for over 10 years and from the Wyckoff site for at least 50 years without declines in water levels.

We find that water is available at the Island Utility site and that the aquifer utilized can yield water within a reasonable pumping lift. It was not demonstrated that water is not available in quantities approved by Ecology.

XV

The producing wells within a mile and one-half of OMR #1 withdraw from a relatively shallow aquifer zone. This zone is separated from the deep zone from which Island Utility seeks to withdraw by a

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2/ We include in our record both the report by Island Utility's expert geohydrologist on this post-hearing test and the response, thereto, by appellant's expert geohydrologist. We have considered both submissions.

relatively impermeable layer of silt and clay. No evidence has shown any effect from pumping OMR #1 (deep) on OMR #2 (shallow) although the two are only 50 feet apart. We are not persuaded that pumping wells in the deep zone will, more probably than not, relieve pressure and cause downward leakage from the upper zone.

We find that the pumping of deep wells at the site in question is unlikely to adversely affect water rights in wells in the shallow aquifer.

Furthermore, given the distance from the Wyckoff (1.6 miles) and Fletcher Bay (2.5 miles) wells, we find that pumping from deep wells at the site in question is unlikely to adversely affect existing deep zone users. Indeed, although quite possible, it has not been demonstrated that all these deep wells tap a single interconnected aquifer.

XVI

Presently available data does not indicate a problem with seawater intrusion on Bainbridge Island. We are not persuaded that any data developed to date demonstrate a likelihood that the Island Utility groundwater development, as approved, will induce sea water intrusion.

XVII

Ecology in its decision-making process made no determination of nonsignificance and prepared no environmental impact statement (EIS)

in relation to Island Utility's application. Ecology's position was and is that this application is exempt from such State Environmental Policy Act (SEPA) procedures, by virtue of WAC 197-11-800(4). That subsection lists as a categorical exemption:

> (4) Water rights. The following appropriations of water shall be exempt, the exemption covering not only the permit to appropriate water, but also any hydraulics permit, shoreline permit or building permit required for a normal diversion or intake structure, well and pumphouse reasonably necessary to accomplish the exempted appropriation, and including any activities relating to construction of a distribution system solely for any exempted appropriation:
>
> (a) Appropriations of fifty cubic feet per second or less of surface water for irrigation purposes, when done without a government subsidy.
>
> (b) Appropriations of one cubic foot per second or less of surface water, or of 2,250 gallons per minute or less of ground water, for any purpose. (Emphasis added.)

XVIII

At the time of application for a ground water appropriation permit, Island Utility and PBTF clearly had an idea of converting the PBTF land holdings from forest to some sort of residential development. However, beyond this generalized motion there were no details.

The numbers on population growth submitted to Ecology represented a mere calculation based on governmental statistical projections. The figures were not part of any plan of action.

We find that when the application was filed, Island Utility and PBTF had made no firm plans about what to do with the water it might be able by diligence to appropriate, other than to serve the existing homes and platted lots in the two small and inadequate water systems north and south of Port Blakely Harbor - a total of perhaps 32 services.

XIX

Prior to Ecology's Report of Examination and Order in this case, PBTF and Island Utility had still made no decisions on the undeveloped PBTF lands as to what kinds of densities of residential development to pursue, where and how large open spaces should be, where commercial property might be located, where housing might be built, where roads might go, what sorts of additional infrastructure might be required.

A consultant prepared a drawing containing a configuration of his own invention, created essentially on his own initiative. The drawing did not represent even a concept plan upon which PBTF or Island Utility had agreed or decided to advance as a proposal.

A number of marina ideas had been advanced but none had gotten passed the discussion stage.

XX

After Ecology's decision, PBTF received a preliminary report on the suitability of 160 acres of land for on-site wastewater disposal. Not even this limited level of soils analysis had been performed for

the more than 800 remaining acres in PBTF's ownership. Not even tentative decisions had been made before Ecology's decision on the type of sewage treatment to be selected or where any community treatment facilities might be located

XXI

In the month before the hearing before this Board, Kitsap County commenced a Bainbridge Island Subarea Plan update, as a part of its ongoing land use planning effort. In response PBTF began to evaluate development alternatives in order to be effectively involved in the County's planning process. Nonetheless, at the time of hearing no concrete plans had either been developed or presented to the County by PBTF.

XXII

We find that the decision of Ecology appealed from was made before the environmental effects of any action beyond the appropriation itself could be meaningfully evaluated.

XXIII

It was not proven that the appropriation is a segment of a proposal involving related actions, some exempt and some not, or all exempt but together having a probable significant adverse environmental impact.

Moreover, we are persuaded that the approval of the appropriation under the circumstances was not action which limited the range of

reasonable alternatives for use of PBTF's land.

XXIV

Any Conclusion of Law which is deemed a Finding of Fact is hereby adopted as such.

From these Findings of Fact, the Board comes to these

CONCLUSIONS OF LAW

I

The Board has jurisdiction over these persons and these matters.

II

We conclude that the action of Ecology, approving this groundwater appropriation with conditions, was categorically exempt from the threshold determination and EIS requirements of SEPA, by virtue of the water rights exemption of WAC 197-11-800(4), quoted above.

Categorical exemptions are subject to limitations contained in WAC 197-11-305. Under the facts, however, we conclude that those limitations do not apply in this case to remove the exemption.

III

We note particularly that, before an action can fit within the limitations on exemptions, the series of actions to which it is related must be sufficiently in focus to constitute a "proposal". WAC 197-11-305.

By virtue of WAC 197-11-055 a threshold determination and environmental impact statement, if required, are to be prepared at the

point "when the principal features of a proposal and its environmental impacts can be reasonably identified".

The definition of "proposal" in WAC 197-11-784 states:

> A proposal exists at that stage in the development of an action when an agency is presented with an application or has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing the goal and the environmental effects can be meaningfully evaluated.

In the instant case, beyond the appropriation itself, there was no "proposal" when Ecology ruled.

IV

We are, however, pleased that Island Utility stipulated that it would participate with the lead agency in the preparation of an EIS as soon as its land use plans became sufficiently concrete to permit meaningful environmental review.

Under WAC 197-11-305, the exempt aspects of proposals may proceed prior to environmental review if there is no adverse environmental effect or limitation on the choice of reasonable alternatives. See WAC 197-11-070. But, we are strongly persuaded that as soon as the larger plans of PBTF reach the "proposal" stage, an EIS ought to be written. The conversion of the tree farm to new uses will, we believe, present the reasonable probability of a more than moderate effect on the quality of the environment. See Norway Hill Preservation and Protection ASsociation v. King County Council, 87 Wn.2d 267, 552 P.2d 1674 (1976).

V

We have reviewed the additional SEPA issues raised by appellant and conclude they are without merit.

VI

With the addition of one condition, we conclude that the action of Ecology, approving the groundwater appropriations with conditions, meets the requirements of the applicable water codes, specifically, RCW 90.03.290 as made applicable to groundwater applications by RCW 90.44.060. As stated in Stemple v. Department of Water Resources, 82 Wn.2d 109, 115, 508 P.2d 166 (1973):

> The statute requires the department to make essentially four determinations prior to the issuance of a water use permit: (1) what water, if any, is available; (2) to what beneficial uses the water is to be applied; (3) will the appropriation impair existing rights; and (4) will the appropriation detrimentally affect the public welfare.

VII

The water availability criterion is given additional content in the groundwater context by RCW 90.44.070 which prohibits the granting of a permit for "withdrawal of public groundwaters beyond the capacity of the underground bed or formation . . . to yield such water within a reasonable or feasible pumping lift. . . ."

The drawdown characteristics of the well tested do not present a likelihood that this standard will be exceeded by the excessive mining of water (i.e., removal without recharge).

However, we conclude that the recent pump testing of the well, dictates the addition of a proviso to the first condition set forth in the Report of Examination. That condition should be amended to read:

> Instantaneous withdrawal from OMR Well #1 shall not exceed 150 gpm, provided that the average withdrawal rate shall not exceed 112 gpm. After the second deep well is completed, total instantaneous withdrawal from both wells will not exceed 300 gpm, subject to reduction following proof examination.

VIII

Appellant has asserted that the beneficial use criterion cannot be met until PBTF/Island Utility commits to develop its forest land for residential use - in other words, that the water code cannot be satisfied until the planning here is more precise. We disagree.

An appropriation permit is the state's permission to use public waters for a purpose deemed "beneficial". Under RCW 90.54.020(1) domestic use is explicitly identified as "beneficial". Thus, when a permit is issued, Island Utility will have approval to make an appropriation for an approved purpose. The water code requires that the project be diligently pursued and a time schedule will be set forth in the permit. RCW 90.03.320. But there is no requirement that the project be engineered, layed out or planned before permission to appropriate is granted.

Should Island Utility at some point desire to apply the water to a different use, its permit as issued will provide no authority to do so. Should it fail to appropriate water in the amount permitted, its

perfected appropriation will be for the lesser amount. However, these possibilities do not take the initially permitted domestic use objective out of the definition of "beneficial".

IX

No impairment of existing rights can occur so long as the shallow aquifer is unaffected and other existing deep wells are not interfered with. The use of OMR #2 as a monitoring well should serve as an early warning mechanism of affects on the shallow aquifer and permit timely corrective action to protect senior appropriators.

X

The public welfare criterion does not open up water law to the unintended task of wholesale replacement of land use management regulations. The focus remains on the water resource impacts of an appropriation decision.

Nonetheless, Stemple, supra makes clear that this criterion was given additional specificity by the Water Resources Act of 1971 (Chapter 90.54 RCW). Thus, environmental effects, such as resultant water pollution must be considered in granting appropriation permits. See RCW 90.54.020(3)(b).

Sea water intrusion, were it to occur, would violate the public welfare standard. Our findings do not support the likelihood of this effect. But, again the monitoring conditions of the permit provide a mechanism for detection and correction.

XI

RCW 90.03.290 also imposes upon Ecology a duty to investigate the application in a manner sufficient to answer the four statutory criteria. We conclude that the investigation conducted in this case was unusually thorough and fully met the standard of the law.

XII

Any Finding of Fact which is deemed a Conclusion of Law is hereby adopted as such.

From these Conclusions, the Board enters this

ORDER

The Report of Examination and Order issued by the Department of Ecology to Island Utility Company on October 31, 1988, is affirmed, as modified in Conclusion of Law VII, above.

DONE this 16th day of November, 1989.

POLLUTION CONTROL HEARINGS BOARD

WICK DUFFORD, Chairman

JUDITH A. BENDOR, Member

HAROLD S. ZIMMERMAN, Member

Washington Enviromental Board Decisions

2013.

PCHB 12-082. CENTER FOR ENVIRONMENTAL LAW AND POLICY; AMERICAN WHITEWATER; COLUMBIA RIVER BIOREGIONAL EDUCATION PROJECT; NORTH CASCADES CONSERVATION COUNSEL; SIERRA CLUB v. WASHINGTON STATE DEPARTMENT OF ECOLOGY; PUBLIC UTILITY DISTRICT NO. 1 OF OKANOGAN COUNTY, WA,

POLLUTION CONTROL HEARINGS BOARD

STATE OF WASHINGTON

CENTER FOR ENVIRONMENTAL LAW AND POLICY: AMERICAN WHITEWATER: COLUMBIA RIVER BIOREGIONAL EDUCATION PROJECT: NORTH CASCADES CONSERVATION COUNSEL: SIERRA CLUB. Appellants.

v.

WASHINGTON STATE DEPARTMENT OF ECOLOGY: PUBLIC UTILITY DISTRICT NO. 1 OF OKANOGAN COUNTY, WA. Respondents.

PCHB No. 12-082

FINDINGS OF FACT. CONCLUSIONS OF LAW AND FINAL ORDER (AS AMENDED UPON RECONSIDERATION)

Appellants Center For Environmental Law and Policy; American Whitewater; Columbia River Bioregional Education Project; North Cascades Conservation Counsel; and Sierra Club (collectively "CELP)" filed an appeal with the Pollution Control Hearings Board (Board) on August 10. 2012. challenging the Department of Ecology's (Ecology) Section 401 Water Quality Certification issued to the Public Utility District No. 1 of Okanogan County (PUD). Order No. 9007 (§401 Certification) for the licensing of the Enloe Dam Hydroelectric Project on theSimilkameen River. FERC No. 12569 (Project).

Six issues were identified in the Prehearing Order. The Appellants withdrew three of theissues. and in a Second Amended Prehearing Order the Board identified the following remaining issues in the appeal:

1. Whether the 401 Certification fails to provide reasonable assurance that the Project will comply with § 401 of the Clean Water Act. applicable state water quality standards and any other appropriate requirements of state law set forth in the 401 Certification. such that in issuing the 401 Certification Ecology acted unlawfully; specifically:

a. Does the 10/30 cfs in-stream flow regime required in the 401 Certification provide reasonable assurance of compliance with Clean Water Act section 401. state water quality standards. and other appropriate requirements of state law set forth in the 401 Certification. regarding temperature. aesthetics, recreation and salmonid spawning. rearing and migration?

b. Does the 10/30 cfs in-stream flow regime required in the 401 Certification provide reasonable assurance of protecting the beneficial uses of the Similkameen River. regarding aesthetic. primary contact recreation and salmonid spawning. rearing and migration?

c. Does the 10/30 cfs in-stream flow regime required in the 401 Certification provide reasonable assurance of compliance with the anti-degradation requirement that the existing beneficial uses regarding aesthetics. primary contact recreation. and salmonid spawning. rearing and migration be maintained and protected?

2. What authority does Ecology have. if any. to impose aesthetic requirements in a Section 401 Certification beyond prohibiting the impairment of aesthetic values by the presence of materials or their effects. excluding those of natural origin. which offend the sense of sight. smell. touch. or taste?(fn1)

On April 30. 2013. the Board issued an Order on Motions for Summary Judgment that partially dismissed several of the remaining issues. The Board made the following findings. which are pertinent to the findings and conclusions in this final Order:

1. Aesthetic values are a designated and beneficial use under State water quality laws. and may be protected by requiring minimum stream flows in the bypass reach. A Section 401 Certification is not limited to only prohibiting the impairment of aesthetic values by the presence of materials or their effects. excluding those of natural origin. which offend the sense of sight. smell. touch, or taste. Based on this finding. IssueNo. 2 was dismissed.

2. While Enloe Dam is not a natural feature. it has created an aesthetic feature on the Similkameen River for many decades. and minimum flows over Enloe Dam as well as Similkameen Falls should be considered in determining whether the §401 Certification properly provides reasonable assurance that operation of the Project will not violate the state water quality standards regarding aesthetics. The non-contact water recreational activities such as hiking.

camping and other activities are relevant to the issue of aesthetics.

3. The §401 Certification provides reasonable assurance that the Project will comply with §401 of the Clean Water Act and state water quality standards in regard to temperature, recreation and salmonid spawning, rearing and migration. Based on this finding, issue 1 was dismissed with the exception of aesthetics.

Therefore, the remaining issue for hearing was whether the 401 Certification fails to provide reasonable assurance that the Project will comply with § 401 of the Clean Water Act, applicable state water quality standards, and any other appropriate requirements of state law set forth in the 401 Certification such that in issuing the 401 Certification Ecology acted unlawfully.

The Board held the hearing over 6 days, April 16, 17, 18, and 19 and May 15 and 16.The Board members were Tom McDonald, presiding, Kathleen Mix, Board Chair, and William H. Lynch, member.(fn2) Upon consideration of the testimony of the witnesses, documents admitted into evidence, and argument of counsel, the Board makes the following Findings of Fact, Conclusions of Law, and Final Order.

FINDINGS OF FACT

Enloe Dam and the Similkameen River Flow Conditions

1.

Enloe Dam is on the Similkameen River near the town of Oroville in Okanogan County. It was built in 1920. It is 315 feet long and 54 feet high, and it backs up the Similkameen River for 1.5 miles to form a 77 acre reservoir. The Dam had been used from 1922 to 1958 to divert up to 1,000 cubic feet per second (cfs) of the River to produce power from a 3.2 mega-watt (MW) power house that discharged the water back into Similkameen Creek over 800 feet downstream from the Dam. *Id*

2.

Approximately 350 feet downstream from the Dam there is a 20 foot natural falls known as the "Similkameen Falls" (Falls). *Exs. R-2; R-92*; Caldwell Testimony. Since 1958 the entire flow of the Similkameen River has flowed over the Dam and the Falls. *Id.* Natural flows in the Similkameen over the Dam have a monthly median range from 500 to 7,000 cfs. Typical median flows in the Spring (May-June) are in excess of 6,000 cfs. Typical median flows in the dry season (July through October) range from 514 cfs in September to 764 cfs in August. *Ex. R-2* at E.2-1. On September 14, 2006 a low flow was estimated at 236 cfs in the by-pass reach. *Id;*Reub Testimony; *Ex. R-43.*

3.

The Similkameen River has a minimum flow established by rule. WAC 173-549-020(2). These flows were established in 1976 and vary through the year, with a minimum of 400 cfs in the fall and winter, to 3,400 cfs in May and June. From July 15 through September 15, the minimum flows decrease from 1,900 cfs to 400 cfs. While hydroelectric facilities are considered to be consuming water in a bypass reach, the rule provides that the hydro projects will be subject to only those minimum flows specified by Ecology. "These flows may be those established in WAC 173-549-020 or, when appropriate, may be flows specifically tailored to that particular project and stream reach. When studies are required to determine such reach- and project- specific flow requirements, the department may require the project proponent to conduct such studies." WAC 173-549-020(5).

4.

Steelhead use the Similkameen River as a thermal refuge. Reub Testimony. The summer chinook salmon also swim into the area by the Falls for thermal refuge. The sockeye salmon will come up into the Similkameen River to use that as a thermal refuge until the Okanogan River cools down to a level that allows the salmon to swim above Lake Osoyoos to lay their eggs. *Id. Ex. R-2* at E.2-1.

5.

Temperature is probably the most critical limiting factor for fisheries in Similkameen River basin. Total Dissolved Gas (TDG) is also a concern and occurs when water goes over the Falls, plunges into a pool, and the gasses become entrained in the water. Dissolved oxygen (DO) may also be a concern. As temperatures increase, the ability of the water to hold oxygen goes down. With less oxygen in the water it is more difficult for fish to breathe, causing stress on the fish. *Id.*

6.

The water quality numeric criteria for temperature for salmonid spawning, rearing and migration is a highest 7-DADMax of 17.5 Celsius. WAC 173-201A-200(1)(c). If the Similkameen River exceeds that temperature due to natural conditions, a project cannot cause the 7-DADMax temperature to increase more than 0.3 Celsius. WAC 173-201A-200(1)(c)(i).

7.

A water temperature monitoring study was conducted during the late spring through early fall of 2006. *Ex. R-171.*

Temperature recorders were deployed in eight locations beginning in May and ending in October. *Id.* at 6. The monitoring showed that temperatures in the Similkameen River exceeded the water quality criterion 17.5°C both upstream and downstream of the Project. *Id* at 24. However, water temperatures did not increase through the Project area by more than 0.3°C at any time during the monitoring. The 7-DADMax(fn3) temperatures decrease through the Project area after August 4, at times by more than 1.6°C. *Id.*; Good Testimony. The data from 2006 to 2010 shows that the mean water temperature from June to September ranged from 16.0C in 2010 to 17.7C in 2006. Reub Testimony: *Ex. R-41, Table 1.*

8.

DO profile measurements were conducted on September 14 and 15. Under natural flow conditions, the DO concentrations in the vicinity of the Dam were above the 8.0 mg/L water quality standard for salmonid spawning, rearing, and migration. These measurements were conducted when average daily river flows above the Dam, at Nighthawk gauge, were 236 and 255 cfs. *Id.* at 40

9.

TDG concentrations were measured between May 26 and 30, 2006. TDG remained within water quality criterion of a 110 saturation level in the reservoir and over the Dam to the Falls. Water flows over the Falls has caused the TDG to substantially increase, exceeding a 110 saturation level. *Id.* at 40-41. Based on historical evidence, the TDG saturation level was likely above the 110 saturation level in natural flow conditions even before the Dam was built. *Id.*

10.

Between the Dam and the Falls, the fish habitat is poor because of the bedrock substrate and the high velocity of flows. The river bed between the Dam and the Falls is not uniform, primarily consisting of a large pool with bedrock substrate some cobbles and boulders. The water flows from the Dam and over the Falls through incised channels including one man made channel resulting from operation of a past hydro facility. However, fish are present in this area likely as a result of being swept over the top of the Dam. Caldwell Testimony; Reub Testimony.

The 2008 Section 401 Application and Development of the 10/30 Minimum Flow Regime

11.

On August 22, 2008, the PUD filed with the Federal Energy Regulatory Commission (FERC) an application for a license for the purpose of operating a hydroelectric project at the existing Enloe Dam. The application is referenced as FERC No. 12569 (2008Application). *Ex.R-2.*

12.

The PUD's 2008 Application for the Project proposed a facility that would be of greater benefit to the fish resources as compared to the operation of the old facility. The primary difference in facilities is the length and impact of the bypass reach. The Project will construct a power house and tail race that would discharge the water back into the River at the base of the Falls, which is 460 feet upstream from the old power house and tail race discharge point. *Ex. R-2.*

13.

The 2008 Application proposed to not provide any flow of water in the bypass reach when natural flows did not exceed the quantity of water diverted into the facility, up to 1,600 cfs. *Ex. R-2.* This lack of flow was also expected to be a benefit to the fishery resource downstream of the Project because during the critical warm summer months the temperature of the water flowing over the face of the Dam and to the Falls increases, whereas the flows diverted through the turbines and discharged at the base of the Falls would not increase in temperature. Based on the current high temperature conditions of the River, any increase in temperature will increase the risk of fish mortality. Further, with no water flows through the bypass reach, there will be a reduction in the TDG normally caused by the water plunging over the Falls. Reub Testimony; Good Testimony.

14.

In 2008 Ecology raised the issue of minimum flows in the bypass reach. In 2010, after many discussions internally within Ecology and with the PUD and the Department of Fish and Wildlife (DF&W), Ecology determined that the bypass reach must have a minimum flow of water. Caldwell Testimony.

15.

Ecology considered minimum bypass flows of 10, 30 and 100 cfs. Caldwell Testimony. Flows above 100 cfs were not considered. *Id.* In 2009, Ecology recommended to DF&W a minimum flow of 30 cfs. DF&W rejected this option, and based on a desk top analysis, recommended a minimum flow of 465 cfs. *Id.; Exs. R-18* and *R-57.* DF&W thereafter visited the Project site with Ecology, analyzed the features of the river bed, and snorkeled the bypass reach. Based on this additional review, DF&W and Ecology agreed that, subject to continuing monitoring, a minimum flow regime in the bypass reach of 10 cfs year round and 30 cfs for mid-July to mid-September otherwise known as the 10/30 flows would be acceptable for protection of the fishery

resource. Caldwell Testimony.

16.

DF&W approved the flows of at least the 30 cfs July to September and 10 cfs during the remaining year "if water quality standards (especially temperature and dissolved oxygen) are protected." *Ex. R-96.* A monitoring program was recommended for the period of the license, with a five year adaptive approach to increase flows above 10/30 for seasons when water quality standards are violated and to "lock in" the flows at the level water quality standards are met. *Id.*

17.

The 10/30 flow regime was based on the determination that this would allow the Project to be operated and not violate the water quality standards for the fishery resource. Caldwell Testimony. Because modeling showed that the operation of the Project with 10/30 bypass flows would meet water quality standards, Ecology determined it did not need to review alternative flows. *Id.* Ecology desired to have the flows in the bypass reach to be a small fraction of the flows diverted through the turbines, because any heating of the bypass flows would be cooled by the water discharged through the tailrace at the bottom of the Falls. *Id.* The PUD also modeled bypass flows from 90 to over 200 cfs, but provided only the modeling results for the 10/30 flows to Ecology as requested. Pippin Testimony.

Consideration of Aesthetic Impacts

18.

Ecology's authority to address aesthetic flows in a §401 Certification has been rarely exercised. Ihrle Testimony; *Ex. R-12;* Gangemi Testimony. Aesthetic flow studies have been generally isolated to higher population areas and where the proposed project affected large water falls that attract a significant number of people. *Id.* By way of example, Ecology has required aesthetic flows for projects in popular sites such as the Spokane River in Spokane and the Snoqualmie River at Snoqualmie Falls near Seattle. *Id.* However, aesthetics may also be analyzed when an interest group raises aesthetics as a use of the water that requires protection, regardless of the location and number of visitors. Whittaker Testimony. Aesthetic flows have also been considered to address project impacts on river segments within private lands not generally accessible to the public. Gangemi Testimony.

19.

The waterfall over Enloe Dam can be considered an aesthetic feature. Whittaker Testimony. *See* Orders on Motions for Summary Judgment. Ecology would have liked to provide greater aesthetic flows over the Dam as well as the Falls if it would not have impaired the water quality the fishery resources. Caldwell Testimony.

20.

A primary source for evaluating aesthetics is the 2005 publication *Flows and Recreation A Guide to Studies for River Professionals*, written by and relied upon by two of the experts in this case, Dr. Whittaker for Appellants and Mr. Gangemi for the PUD. *Ex. R-53;* Gangemi Testimony. This publication followed the 1993 NPS pamphlet titled *Instream Flows and Recreation: A Handbook on Concepts and Research Methods (Whittaker Handbook). Ex. R-33.*

21.

In 2006 the PUD conducted recreational studies, but did not study the aesthetics of the water flowing over the Dam or Falls and the impact of the operation of the Project with no flows over the Dam and Falls for most of the year. Boettger Testimony. Aesthetics of the flows over the Dam and Falls was not raised as a concern at that time.

22.

Beginning in 2008, the issue of aesthetic flows over the Dam and Falls was raised with the PUD. Boettger Testimony, *Exs. R-9* to *R-16* Several entities and people expressed concern about aesthetic flows over the Dam and Falls in either or both the FERC process and the current §401 Certification process. These entities and parties included Ecology, the U.S. Department of Interior on behalf of the National Park Service (NPS), Washington Department of Natural Resources (DNR), the U.S. Bureau of Land Management (BLM), American Rivers, the Appellants, and witness Mr. Joe Enzensperger from Oroville Washington. *Exs. A-30, A-52, A-62, A-66, A-111* to *113, R-63;* Enzensperger Testimony.

23.

Thereafter, the PUD did conduct an analysis regarding the aesthetics of the flows. On behalf of the PUD, Mr. Jeremy Bunn used an estimated physical cross section of the river at the Falls to model the distribution of aesthetic flows at 20, 40, and 80 (Bunn Memo). *Ex. R-30.* This is the type of modeling described in the Whittaker Handbook. Gangemi Testimony. The height and the width of the river channel at the Falls were modeled to determine what sections of the River would fill up with different volumes of flow. *Id.* Flows at 20 cfs, 40 cfs, and 80 cfs were modeled for dry, normal, and wet water years. At all three flows, the model indicated that there would be white water conditions at the top of the Falls, although the 20 and 40 cfs flows would span roughly only 1/3 the width of the existing conditions of low-flow falls. *Id.* The accuracy of the cross section is in

doubt because actual measurements of the channel were not taken, and therefore the Bunn memo is more an analysis based on Bunn's interpretation of the flows and cannot be considered an aesthetic study. Whittaker Testimony; Gangemi Testimony.

24.

The PUD did not conduct an aesthetic flow study that analyzes actual flows because flows cannot be manipulated under existing conditions. Gangemi Testimony. The alternative is conducting a photomontage to simulate flow alternatives. Photo simulations can be used if the channel in the bypass reach can be modeled; however collecting good data and taking accurate measurements in the bypass reach for the purpose of analyzing different flow regimes over the Falls would be dangerous based on the velocity of the flows. Caldwell Testimony; Reub Testimony. Because of the gradient and current velocity of the flows, it is not possible to measure any transects across the bypass channel for the purpose of determining with sufficient certainty the physical features and geomorphology of the Falls and therefore adequately predict how flows will appear through the channel. Caldwell Testimony; Reub Testimony; Gangemi Testimony. If studies are done, the aesthetics flow levels can be evaluated using a scenic index that rates flows developed by use of focus groups. Whittaker Testimony. Studies show that at lower flows the aesthetics are less pleasing, while at some higher level aesthetics are optimal, but thereafter drop off with the very high flows. *Id.*, *Exs. R-102; R-33, p. 73, Figure 55.* Simulated flows should be at 100 cfs or greater to see any aesthetic differences of flow amounts. Gangemi Testimony.

25.

The PUD also conducted an aesthetic resource study comprising 7 key observation points of the Project area and proposed infrastructure. Gangemi Testimony. The PUD used BLM's method called Visual Resource Management and the results were incorporated into an Aesthetic Management Plan. *Id.; Ex. R-28*. However, the Aesthetic Management Plan did not address the aesthetics of the flow of the River over the Dam or the Falls. The Aesthetic Management Plan focused on the aesthetics of the Project facilities. The stated two goals are: identify specific visually compatible colors and building material textures to be used to harmonize the facilities with the existing landscape, and identify the areas where buildings will be removed and related sites revegetated. The visual representations of the facilities depicted the current natural flows over the Dam and the Falls. *Exs. R-28* and *R-29*.

26.

At the request of FERC, the PUD also provided photo simulations of the views of theFalls from the newly developed trail that will allow access to the Similkameen River forrecreational viewing of the bypass reach and the Falls. Gangemi Testimony. The photosimulation provided to FERC showed the natural flow of the River over the Dam and the Falls,and does not simulate the 10/30 flow regime. Gangemi Testimony; *Ex. R-31, Figure 1.*

27.

In July 2009, Ecology considered potential flow levels for aesthetic purposes at levels of 20, 40, and 100 cfs. *Ex. R-16.* The aesthetic flows above 100 cfs were not considered becausethey would "economically challenge the project." *Id.* at 2. Ecology determined that no flows over the Dam and the 10/30 flow regime over the Falls provided reasonable assurance that water quality standards for aesthetic values are met. Caldwell Testimony; *Ex. R-133.* Using the 10/30 flow regime, Ecology's analytical approach was consistent with the protocol described in *Flows and Recreation: A Guide to Studies for River Professionals. Ex. R-53.* Ecology conducted a Level 1 and Level 2 analysis that is developed for recreational uses. Level 1 is the desktop report that includes review of literature and data, findings and suggested flows for flow dependent recreational opportunities, and thereafter an assessment as to whether the project operations will likely have an impact on those opportunities. *Id.* at 13. Level 2 requires visiting the site, observing the flows, and trying collect data such as flow depth and transects. *Id.* at 14;Gangemi Testimony.

28.

Mr. Caldwell conducted several site visits and, while looking at the flows during these visits, attempted to visualize where the 30 cfs would flow over the Falls. He did not have a copy of the Bunn Memo at that time, but testified the Memo affirmed his opinion that the 30 cfs would flow through the main incised channel or chute. However, Mr. Caldwell opined that it is unknown if the 30 cfs would also wet the right side channel as the Bunn Memo states, and whether the level of the flow would drop as estimated by the Bunn Memo. While visiting the site at flows of 335 cfs, Mr. Caldwell incorporated a measurement method by using his small "pinkie" finger and determined that a person would not see a difference between 30 cfs and 335 cfs. *Id.* Although Ecology may have implemented a proper protocol in reviewing the recreational aspects of the flows, there is no credible evidence how the 10/30 flow regime will appear aesthetically through the bypass reach.

29.

The viewing area from public trails is limited. While more visitors are predicted to use the trails in this area in the future, it is likely few people would come specifically to

visit the Falls or will see the aesthetic features of water flowing over the Dam and the Falls when visiting the area. Gangemi Testimony, Caldwell Testimony.

Considerations in Providing Aesthetic Flows above the 10/30 Flow Regime

30.

To provide additional flows in the bypass, consideration must be given to how changes of the river hydraulics such as velocity, depth, width, wetted perimeter, and turbulence will affect channel features, riparian vegetation, and the physical and chemical quality of the water. Whittaker Testimony; Caldwell Testimony; Gangemi Testimony. *Ex. R-33,* p. 5. A conceptual understanding of how the different flows affect all of the various river resources is required. Many of these uses may be competing and have different optimum flows. *Id.* As with all designated uses, the preferred flows for aesthetics become part of the trade-offs and negotiations to determine flow regime that maximizes the beneficial uses of the water and provides the most opportunities for the use of the water, including power production. While there is this balancing of beneficial uses of water, flows for aesthetics are not necessarily a priority of use when competing with flows for other beneficial uses, most importantly water quality for the protection of the fisheries resource. *Id.*

31.

The volumetric flow rate as well as surface area of flow (wetted area) affects water temperature. Higher flows will have lower levels of heating. At 30 cfs the water in the River is flowing at a greater velocity than at 10 cfs and is functionally related to the warming of the water. The higher the velocity, the less transition time in the bypass, which should result in less time for the water to warm. *Id* However, if higher flows cause the water to flow out and onto the bedrock shelves in the bypass reach, there will be a greater surface area of water exposed to solar radiation and the temperature of the water would increase. Reub Testimony; Pippin Testimony. Intermittent flows would also cause greater increase in temperature of the water, by convection heating from hot rocks. Pippin Testimony.

32.

At the 10/30 flow regime, water is expected to flow through the middle channel and possibly through the other natural channel which is the River right channel, but this has not been modeled. Flows in excess of 30 cfs in the bypass are expected to increase in temperature: however it is not known what flow of water would spill out of the incised channels and become heated on the bedrock substrate. Based on the available photographs, water is out of the channels and covering the flatbed rock shelves at flows between 250 to 300 cfs. Reub Testimony. The lowest observed flow in the bypass reach was in September 2006 when it was determined to be 236 cfs. At this level, water was flowing through the channels and outside of the channels over the rocks. *Ex. A-54.* At 339 cfs, the mean wetted width of the flow was estimated to be 100 feet. *Ex. R-98.* It is not known whether 100 cfs would flow out of the channels and be available as an aesthetic flow. Reub Testimony.

33.

Under the 10/30 flow regime, the net effect of the temperature increases in the bypass reach during operation of the Project are expected to be lower water temperatures than current natural conditions because the water discharged into and flowing through the bypass reach willbe mixed directly below the Falls with cooler water discharged from the powerhouse tailrace.Using a worst case scenario of 30 cfs from the bypass reach and 100 cfs discharged from thetailrace during low flow periods, the water temperature at the base of the Falls will haveincreased less than 0.1 degrees Celsius. *Ex. R-96* at 11. Under this operation, to increase watertemperature downstream by 0.3 degrees Celsius, the temperature of the 30 cfs in the bypassreach would have to increase 4.6 to 7.0 degrees Celsius (low to high river years), and the 10 cfswould have to increase 13.6 to 19 degrees Celsius. *Id.*

34.

Modeling shows that the flow of water over the entire face of the Dam would warm the water by 0.5 degree Celsius at 30 cfs and 1.0 degrees Celsius at 10 cfs. However, if a gate limited the surface water flow over the Dam to a 10 foot width of flow, the temperature of the water as it flows over the Dam would not increase at either 10 cfs and at 30 cfs. Pippin Testimony; *Exs. R-96, 134.* In a worst case scenario of hot clear mid-summer afternoons (99.2 degrees Fahrenheit, full sun, no shade and light wind), 30 cfs over a 10 foot width flow over the Dam would not increase in temperature. The water temperature would increase by 0.1 to 0.2 degrees Celsius between the Dam and the Falls for flow scenarios of 50 foot width and 75 foot width flows, respectively. *Id.*

35.

The Project proposes two piers on the crest of the Dam that would divide the gates into three separately controlled sections, allowing for the possibility to use one section to regulate instream flow releases instead of allowing flows over the entire face of the Dam. *Ex R-96* at 19.The control of the gates would, however, be susceptible to blockage from ice and floating debris, which would require close

monitoring and adjustments. *Id.* at 20.

Final §401 Application and Approval

36.

In January 2012. the PUD withdrew its application and reapplied as a result of the efforts and discussions since the initial application filing in 2008. *Ex. R-92.* On July 13, 2012. Ecology granted the §401 Certification for the Project. Ecology issued the §401 Certification under the authority of the federal Clean Water Act (CWA). 33 U.S.C. §§ 1313. 1341. Ecology made findings that there is "reasonable assurance that the operation of Enloe Project pursuant to the proposed license will comply with state and federal water quality standards and other appropriate requirements of state law. . . ." provided certain conditions are met. *Id.* at 9, ¶ 5.0.

37.

The Project as authorized in the §401 Certification will raise the Dam crest 5 feet by installing new crest gates. increasing the reservoir to 88.3 acres. A new 9 MW power house and a new intake structure and tailrace would be installed. The Project is authorized to divert from the reservoir up to 1600 cfs as a "run of the river" operation. with water flowing around the Dam. through the powerhouse and released directly below the Similkameen Falls. *Ex. R-92.* The bypass reach will be approximately 340 feet between the Dam and the area directly beneath Similkameen Falls. The §401 Certification requires that the Project divert water from the reservoir. pipe it around the Dam and release it near the base of the Dam at a rate of 30 cfs from mid-July to mid-September and 10 cfs the remainder of the year for fish species other than anadromous species listed under the ESA. and for aesthetics. *Id.* at 13. ¶¶ 5.2 (8) (9); at 19. ¶ 5.8.respectively. There are no required minimum flows over the Dam.

38.

A Fish Management Plan (FMP) will be implemented for the purpose of complying with the requirements and conditions of the §401 Certification. *Ex. R-154*. The FMP provides measures intended to prevent or mitigate impacts to aquatic life from the Project. §401 Certification. section 4.1 (2). p. 5. The §401 Certification contains some of the conditions that are in the FMP. *Id.*, section 4.1 (3). p. 6. The FMP lists several Management Goals and Objectives that are meant to prevent or mitigate the impacts to aquatic life in regard to water quality. stream flow. sediment and large woody debris transport downstream. and loss of fish habitat and fish mortality.

39.

As one of the Goals and Objectives of the FMP. mitigation is to be provided downstream of Enloe Dam to address impacts from the Project. *Id.* at section 3.4. p. 29. Gravel augmentation will be provided "related to the potential for the Enloe reservoir to capture sediment that would that would normally be transported downstream." *Id.* Also "cool water refuge and fish habitat in a side channel" will be provided for steelhead and resident fish rearing to address "any loss of fish habitat in the bypass and the loss of fish through turbine mortality." *Id.* These mitigation efforts are expected to have a net benefit to fish by providing the enhancement channel with cool refuge water. Reub Testimony: Caldwell Testimony.

40.

If the goals and objectives of the Fish Plan are not being achieved. the management measures may be modified through an adaptive management approach as outlined in the Certification. *Id,*. section 4.1(3). pp. 6-7.

CONCLUSIONS OF LAW

1.

The Board has jurisdiction over the subject matter and the parties pursuant to RCW 43.21B.110 (1)(d). The burden of proof is on the appealing party as to the legal issues in the case. WAC 371-08-485(3). The Board considers the matter *de novo*. giving deference to Ecology's expertise in administering water quality laws on technical judgments. especially where they involve complex scientific issues. *Port of Seattle v. Pollution Control Hearings Board*. 151 Wn.2d 568. 593-94. 90 P.3d 659 (2004).

2.

Section 401 of the CWA provides that an applicant for a federal license to permit anactivity that may result in a discharge into navigable waters must obtain a certification from the state that the activity will comply with all applicable state and federal water quality standards. 33 U.S.C. §1341(a)(1) and (d). As the designated agency for Washington State to issue the certification. Ecology must find there is "reasonable assurance that the activity will be conducted in a manner that will not violate applicable water quality standards." 40 C.F.R. §121.2(a)(3). In granting certification pursuant to §401(d). Ecology must "set forth any . . . limitations . . . necessary to assure that [the applicant] will comply with any . . . limitations under [§ 303] . . . and with any other appropriate requirement of State law." *PUD No. 1 of Jefferson County v. Ecology*. 511 U.S. 700. 715 (1994) (*Elkhorn)*.

3.

Ecology is to impose as conditions in a §401certification

any additional site-specific requirements necessary to protect designated uses:

(3) **Procedures for applying water quality criteria.** In applying the appropriate water quality criteria for a water body, the department will use the following procedure:

(a) The department will establish water quality requirements for water bodies, in addition to those specifically listed in this chapter, on a case-specific basis where determined necessary to provide full support for designated and existing uses. WAC 173-201A-260(3).

Aesthetics is a designated use under the water quality regulations that is to be protected under WAC 173-201A-600:

(1) All surface waters of the state not named in Table 602 are to be protected for the designated uses of: Salmonid spawning, rearing, and migration; primary contact recreation; domestic, industrial, and agricultural water supply; stock watering; wildlife habitat; harvesting; commerce and navigation; boating; and aesthetic values. (emphasis added).

Aesthetics is also considered a "miscellaneous" designated use under RCW 173-201A-200(4):

(4) **Miscellaneous uses.** The miscellaneous fresh water uses are wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics. (emphasis added).

The State's anti-degradation policy also authorizes the State to protect aesthetics as a designated and beneficial use of water:

Existing and designated uses must be maintained and protected. No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses, except as provided for in this chapter. WAC 173-201A-310(1).

The anti-degradation policy is guided by the State's Water Pollution Control Act, chapter 90.48 RCW, and the Water Resources Act of 1971, chapter 90.54 RCW. Under both these statutes, aesthetics is recognized as a designated and beneficial use of the waters of the state and are to be maintained and protected. The protections in RCW 90.54.020(1) and (3)(a)(fn4) for aesthetics is recognized as an "other appropriate requirement of state law" under the CWA §401. *Ecology v. PUD No. 1 of Jefferson County*, 121 Wn.2d 179, 189-192, 849 P.2d 646 (1993). *aff'd on other grounds, Elkhorn, supra*, 511 U.S. at 713-716.

4.

Under WAC 173-201A-260 and other applicable laws, a §401 water quality certification may be conditioned with instream flows to assure compliance with the aesthetic values of state water quality standards. In *Elkhorn, supra*, 511 U.S. at 713-716, the U.S. Supreme Court affirmed the state's authority to look beyond water quality criteria and protect designated uses by requiring minimum instream flows as a condition of a §401 Certification. The finding of reasonable assurance is not limited to application of water quality criteria, and may include other requirements that protect the designated uses including minimum instream flows. *Id.* at 715-719. The Court also recognized the relationship of water quality and water quantity, and that lowering of the water quantity in a water body could destroy the designated uses of water. *Id.* at 719. Minimum instream flows to protect aesthetics will comply with the anti-degradation policy. *Id.*; *PUD No. 1 of Pend Oreille County v. Ecology*, 146 Wn.2d. 778, 811-817 (2002).

5.

The Board performs an independent review, determining for itself whether there is reasonable assurance that water quality standards will be met. *Port of Seattle, supra*, 151 Wn.2d at 599. The Board first determines whether the §401 Certification is adequate. *Id.* at 592. The Board is to add conditions to a §401 certification only if the appellant has shown, by a preponderance of the evidence, that the §401 certification is inadequate in a particular respect, and additional conditions are needed to reach reasonable assurance. *Id.* Ecology's interpretations of water quality statutes and regulations are entitled to great weight, so long as they do not conflict with the statute's plain language. *Id.* at 593.

6.

Ecology has historically implemented the aesthetic standard under its published guidance manual, *Water Quality Certifications for Existing Hydropower Dams* (Guidance). *Ex. R-78.* The Guidance properly requires consideration of the impact on aesthetics from a project diverting water through turbines and lowering the level of the water source. Aesthetics can be impaired by diverting river flows through turbines. Aesthetic enjoyment can be through sight, smell, touch, and taste and is also a form of recreation. *Id.*

7.

To find reasonable assurance that the Project will be operated in a manner that does not violate water quality standards for any designated use, the level of protection for the uses must be balanced. The Guidance properly recognizes that flows for aesthetics must be integrated with needs for fish and other values, and "accommodation among uses will likely be necessary because it is unlikely that any flow can simultaneously optimize the needs of all

uses." *Id.* at 54. In balancing the instream flow requirements, the flows protective of aesthetic values must be balanced with the requirement to assure the Project does not operate in violation of the numeric water quality standards for the aquatic life use categories of salmonid spawning, rearing, and migration.

8.

The existing conditions of the Similkameen River must be considered because the Dam already exists and there is no evidence of the natural conditions that would generally determine the impact of the Project on the designated uses. *Ex. R-171* at 5. Based on the existing conditions of the River, Ecology must consider aesthetic flows over the Dam as well as the Falls when determining whether there is reasonable assurance that the Project operations will meet water quality standards for protected designated and beneficial uses of the River. *See* Order on Motions for Summary Judgment. The water flowing over the Dam and the Falls provide aesthetic values. *Id;* Whittaker Testimony: Caldwell Testimony.

9.

Because aesthetic values of the flows over the Dam and Falls was not raised until late in the FERC and §401 application process, the evidence shows that the 10/30 cfs flows over the Falls with no flow over the Dam was initially selected as a minimum flow without first completing an analysis of whether the flows met the water quality standards for the aquatic and aesthetics designated uses. Ecology was simply pleased to have an instream flow in the bypass reach when the initial proposal was no flows. Caldwell Testimony. The 10/30 flow regime was thereafter modeled for temperature, DO, and TDG which showed that it is expected to meet water quality standards for the aquatic resources. *See* §401 Certification, p. 13, ¶ 5.2(9): p. 9, ¶ 4.5: p. 19, ¶ 5.8, *Ex. R-92.* As a result, any analysis of minimum flows for aesthetics was already defined and limited by the 10/30 cfs flow regime established for aquatic resources and failed to consider Project impacts on aesthetics of the river flows based on existing conditions.(fn5) Further, the evidence shows that Ecology considered the economics of the Project and concluded that at an instream flow of 100 cfs or more the Project would be economically challenged. *Exs. R-16, R-86.*

10.

Ecology correctly concluded that increasing the flows up to an unknown level above 30 cfs will cause an increase in the temperature of the water in the by-pass, and maintaining a 30 cfs flow over the Dam would also cause increase in water temperature thereby impairing the salmonid fish habitat. *Ex. R-134* at 4. However, this analysis is from a baseline of the 10/30 flow regime over the Falls only, and the evidence shows it limited the opportunity to review alternative flows and Project impacts based the diversion of water under existing conditions. Selection of a minimum flow in this manner results in Ecology considering the impact of the aesthetic flows on the operation of the Project, rather than considering the Project's impact on the aesthetic values of the flows. This is not the proper standard. The aesthetic flows must be determined independently of the operation of the Project, and thereafter integrated, as Ecology's Guidance provides, with needs for fish and other values.

11.

While the Board recognizes the difficulty for the PUD to address aesthetics when it believed it had finished its application process, the Board cannot recognize minimum flow impacts on the Project's hydropower use of water for the purposes of a §401 Certification. Hydroelectric power is not a designated or beneficial use protected by Washington's antidegradation policy. *Snoqualmie Indian Tribe v. FERC,* 545 F.3rd 1207 (9th Cir. 2008).

12.

The flows necessary to meet the water quality standards for the aquatic resources are often acceptable as protective of the aesthetic values without further analysis. However, with the manner in which Ecology selected the 10/30 flows, and the lack of evidence regarding how the 10/30 flow would appear aesthetically, the Board finds that in this case there is not a presumption the minimum flow for the fishery resources is also the protective flow for aesthetic purposes. There is little, if any, evidence of flows above the 10/30 flow regime that, as Ecology's Guideline provides, will optimize both designated uses.

13.

The several fishery projects in the Fish Plan, including the discharge of cool water in atributary downstream of the Project, are laudable efforts. As described in the FMP, these arerequired as mitigation for Project impacts to the fisheries that are not addressed by the 10/30flow regime. There is no equivalent mitigation for Project impacts to aesthetics.

14.

The record does not provide sufficient evidence to determine an instream flow level below existing conditions when water in the by-pass reach would increase beyond the 0.3C water quality standard. Under existing conditions, the monitoring has shown that water temperature over the Dam does not increase beyond 0.3C. The current flow through the entire Project site does not increase beyond 0.3C, and in fact water temperatures begin to decrease in early August in

the reservoir. *Ex. R-171.* Under existing conditions, the median flows exceed 500 cfs, ranging from 514 cfs in September to 764 cfs in August. The record also does not provide evidence of the level of flows above 30 cfs when the temperature will increase through the by-pass reach above 0.3C. The evidence only shows that under Project operation sincreasing flows in the by-pass reach in the critical months from July to October will result in a smaller amount of the cooler water diverted into the turbines and discharged at the bottom of the Falls, thereby causing a net increase in temperature downstream from the Falls.

15.

The aesthetic studies that were completed on behalf of the PUD were not focused on the aesthetic values of flows over the Dam and the Falls, but rather on the views of the Project infrastructure. Nor were these studies the basis for the 10/30 flow regime. The law does not require any specific aesthetic study to be completed. Under the current flow conditions of the River, it is not possible to have focus groups review actual pictures of flows below the lowest flow photographed of 236 cfs, and there is currently no means to control the flow over the Dam to consider other flows. To model flows and know the width and height of the flows, the geometry of the by-pass channel must be determined by obtaining measurements and conducting transects of the channel. This information is not known or available because the velocity of the River does not allow a person to take proper transects and measurements to have sufficient data to develop the model. Gangemi Testimony. Mr. Caldwell stated that he would actually like to see the flows at 30 cfs to know the wetted area. Caldwell Testimony.

16.

Expert opinions were not determinative on whether the 10/30 flow regime, which included no flows over the Dam, was aesthetic. Dr. Whittaker opined that the flows over the Dam would likely have aesthetic value, and the 10/30 flow regime would most likely not be considered adequate as an aesthetic flow if a separate and independent aesthetic study or analysis was completed. Dr. Whittaker explained the types of studies that can be completed regarding aesthetic flows. Whittaker Testimony. Mr. Gangemi testified that the remoteness and size of the Falls as compared to the Spokane Falls and Snoqualmie Falls are factors to consider. Notwithstanding the remoteness of the Dam and Falls, he opined that in considering the entire year of flows, including the occasional high flows between July and October, the flows during Project operations would be aesthetic. Further, he opined that Ecology followed proper protocols, conducted site visits, and collaborated across agencies, disciplines and expertise, and made a professional judgment regarding the adequacy of the 10/30 flows for aesthetics. Gangemi Testimony; *Ex. R-53.* Mr. Caldwell, who was Ecology's witness opined that based on his professional judgment, the 10/30 flows would be aesthetically pleasing, but there is very limited evidence to support this opinion. Caldwell Testimony.

17.

The aesthetic flows may be determined based upon professional judgment. *See, Water Quality Certifications for Existing Hydropower Dams, Exs. R-33, 53, 78.* However, professional judgment has limitations, and must be based on some knowledge, training, or research in the relevant area. In this case conclusions regarding aesthetic flows must be based on high quality researchers in aesthetic flows, and the elements of the review must be explicit and documented. *Ex. R-33* at 35, 73. Finally, the professional judgment of an expert should be based on evidence of flows being considered - whether by viewing actual flows at site visits or simulated flows. *Id;Ex. R-103.* With all due respect for Mr. Caldwell's expertise in instream flow analysis, his experience with determining aesthetic flows under the facts of this case were limited. Mr. Caldwell testified that based on several site visits when flows were at over 300 cfs, he could visualize the flows at 30 and 10 cfs, and based on use of his small finger he could visualize no aesthetic difference between a 30 cfs flow and flows above 300 cfs . If the complexity of the by-pass reach does not allow one to create a simulation of the flows below 100 cfs, this same complexity would compromise Ecology's professional judgment. The factors in this case that limit simulations must also limit any "visualization" by one individual, notwithstanding one's respective expertise of instream flows. Deference to Ecology's technical determination would have been appropriate if Ecology's finding were based on evidence depicting the different possible flow regimes. In this case there simply was not the adequate evidence presented to make a finding. As Mr. Caldwell testified, he would like to see where the 30 cfs actually flowed through the channels. Further, the recreation and aesthetic flow experts. Dr. Whittaker and Mr. Gangemi, could not state with certainty how the 10/30 flows would appear, except that they would likely be limited to the middle incised channel. Based on this record the Board finds that there is not sufficient evidence to make a finding that the 10/30 flows meet the water quality standards for aesthetic values even when balancing these with the protecting of the fisheries. The professional judgment on aesthetic flows should be based on evidence depicting flow levels, either actual or simulated.

18.

The Board finds that the number of people visiting the site is a factor and an element to consider in determining the level of flows for aesthetic values. There is sufficient evidence that there are and will be people who observe the

flows over the Dam and Falls, albeit the number of people is small. FERC's request that aesthetics be addressed regarding the infrastructure of the Project is also evidence that there is a critical population that would visit the site and will be potentially affected by the aesthetic views at the Project site. The designated and non-designated trails in the area have provided access to the Dam and Falls, and the expansion of the trails isexpected to increase its use.

19.

The Board finds the Appellants met their burden that the aesthetic flow analysis was not sufficiently completed to make a final determination of the flows that will be protective of the aesthetic values. The evidence is not sufficient to make a finding as to the flows that would protect aesthetic values without impairing the quality of the water for the fishery resource, which the Board finds would occur if the Project caused shallow flows over the bedrock shelves. Therefore, the §401 Certification is deficient in this regard without further conditions.

20.

The uncertainty of the aesthetic flows is no less uncertain than the flow regime will be protective of fish. To address the uncertainty of the flows for the fishery resources, the §401 Certification is now conditioned to require monitoring and provides for an adaptive management approach to assure the 10/30 flow regime is in compliance with the fishery resources specifically set forth in the Fish Management Plan. A Fish Workgroup is established to address, in an advisory capacity to Ecology, issues that arise with the Fish Management Plan. Ecology should develop a similar monitoring program of the visual effect of the different flow levels, which can be implemented as the Project commences operation and becomes capable of controlling flows over the Dam and the Falls. An aesthetic flow plan should include an analysis of the flows overthe Dam within the proposed 10 foot width release area. The 10/30 flows may, after such monitoring, be the level of flow that is protective of both the fishery resource and aesthetic values. However, with the ability to view actual and simulated flows, including 10 cfs and 30 cfs flows, Ecology can analyze the flows and make appropriate findings, based on either professional judgment or, if Ecology determines appropriate, the advice of a group.

21.

The Board has the authority to add conditions in order to bring a §401 certification into the realm of reasonable assurance. *Port of Seattle, supra,* 151 Wn.2d at 601. These conditions can require monitoring and adaptive management as fundamental elements of reasonable assurance. *Id.* at 606. "Monitoring and adaptive management provide a mechanism through which Ecology can mitigate that inherent uncertainty." *Id.*

ORDER

Based on the foregoing analysis, the Board finds and orders:

The §401 Certification is affirmed, subject to the additional condition that 10/30 cfs minimum instream flows over the Dam and Falls for the aesthetic values shall be further monitored and evaluated by Ecology during initial operation of the Project (within three years). After Ecology obtains additional data and analysis of alternative flows over the Dam and the Falls, the 10/30 cfs flow shall either be confirmed or revised as a condition of project operation and the §401 Certification. Ecology shall develop an aesthetic flow monitoring program under the following guidelines:

1. The program shall provide for management and control of alternative flows in the bypass reach that will provide opportunities for review, monitoring and analysis of either actual minimum flows or development and review of simulated flows.

2. Flows for aesthetic purposes as a condition of the §401 Certification shall not cause an increase in water temperature above the conditions that currently exist prior to operation of the Project that would violate water quality standards at any location in the Project area. A shallow flow across the bedrock shelves that would cause increases in the temperature should be avoided, and under no circumstance should the flows cause a violation of the water quality standards for salmonid spawning, rearing, and migration.

3. Ecology and the PUD may utilize a focus group and shall consult with the Fish Advisory Work Group to assist and provide advice regarding the proper balance between aesthetic flows and protection of water quality of the river for the fishery resource.

4. The program shall be for a period of time that provides Ecology with sufficient data and information to review actual flow levels or simulated flows. However, the program must be completed within three years from the commencement of the operation of the Project.

As a result of the monitoring program, Ecology shall make a finding of the aesthetic flows that meet the water quality standards for aesthetic purposes and is consistent with this Order. At the completion of the monitoring program, the Project shall operate subject to those flows and the §401 Certification shall be conditioned to reflect such flows, either confirming the current flow regime or revising it based on Ecology's findings.

SO ORDERED this 30th day of August, 2013.

August 30, 2013

POLLUTION CONTROL HEARINGS BOARD

TOM MCDONALD, Chair

KATHLEEN D. MIX, Member

Footnotes:

1. The Respondent PUD raised this issue and had the burden of proof regarding the issue.

2. William Lynch is no longer a member of the Board as of May 27, 2013, and is therefore not participating in this Order.

3. The 7-DADMax is the seven-day average of the daily maximum temperature measurements. It is the arithmetic mean of seven consecutive measurements of the daily maximum temperatures. For each day, the 7-DADMax was determined by the average of the daily maximum temperature for that day and the three days before and after the date. *Ex. R-171* at 24, n. 1.

4. "Perennial rivers and streams of the state shall be retained with base flows necessary to provide for preservation of wildlife, fish, scenic, aesthetic, and other environmental values, and navigational values . . . . Withdrawals of water which would conflict therewith shall be authorized only in those situations where it is clear that overriding considerations of the public interest will be served." RCW 90.54.020 (3)(a) (emphasis added).

5. The existing conditions are, as Ecology states, the decades of natural flows over the Dam. As this Board found in its Order on Motions for Summary Judgment, the river has been flowing naturally over the Dam at the current rate since 1958, creating an aesthetic feature on the River for many decades while there was no diversion and power generation, and the aesthetic values of these flows should be considered as a designated and beneficial use under the §401 Certification. To the extent the impacts from the pre-1958 operations are relevant, the Project will at a minimum have a new impact of an additional 600 cfs diversion and loss of water through the bypass reach when natural flows exceed 1,000 cfs.

BEFORE THE POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

CITIZENS FOR SENSIBLE DEVELOPMENT, Appellant, v. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY and JAMES & TERRY LEHMAN, Respondents.	PCHB No. 90-134 FINAL FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

This matter came on for hearing before the Pollution Control Hearings Board, William A. Harrison, Administrative Appeals Judge, presiding.

This matter is the appeal of a permit to appropriate public groundwater issued by Department of Ecology to James and Terry Lehman.

Appearances were as follows:

1. Appellant, Citizens for Sensible Development, by Michael L. Abbott, Board Member.

2. Respondent, Department of Ecology, by P. Thomas McDonald, Assistant Attorney General.

3. Respondent, James and Terry Lehman, by Edward E. Level, Attorney at Law.

The hearing was conducted in Seattle, Washington on January 8, 1991.

Gene Barker and Associates provided court reporting services. Witnesses were sworn and testified. Exhibits were examined. From testimony heard and exhibits examined, the Pollution Control Hearings Board makes these

FINDINGS OF FACT

I

This matter arises on Whidbey Island about midway between Langley and Useless Bay. It concerns the application made by James and Terry Lehman to the State Department of Ecology for permission to withdraw public groundwater. The application seeks withdrawal at a maximum rate of 52 gallons per minute, limited to 50 acre-feet per year, for community domestic supply and commercial/light industry. The property on which the water is to be used is an irregular shaped area with the well site at its approximate center. The area is approximately equal to one square mile.

II

James Lehman is a well driller. He is successor in interest to an existing groundwater right and existing well, both obtained from Donna J. Schiltz. The existing well was developed by Ms. Schiltz in 1979 for domestic service to one residence. The purpose of the Lehmans' application is to obtain more water from that well and to use it for community water service.

III

Ecology received protests of the application from Mr. and Mrs. William Beck and Sue Ellen White-Hansen. The protesters' wells are located more than 1/2 mile from the well in question.

IV

Ecology received letters supporting the application from the State Department of Social and Health Services and the Island County Health Department. Both health agencies noted consistency with the Water System Coordination Act. The State DSHS letter noted low risk of salt water intrusion.

V

In processing this application Ecology reviewed available technical literature, searched water right files, prepared a computer model for operation of the proposed withdrawal, and pump tested the well in question.

VI

Ecology made no threshold determination under the State Environmental Policy Act (SEPA), chapter 43.21C RCW. Ecology's position is that this application is exempt from SEPA procedures under WAC 197-11-800(4). That subsection lists as a categorical exemption:

> *(4) Water Rights. The following appropriations of water shall be exempt, the exemption covering not only the permit to appropriate water, but also any hydraulics permit, shoreline permit or building permit required for a normal diversion or intake structure, well and pump-house reasonably necessary to accomplish the exempted appropriation, and including any*

activities relating to construction of a distribution system solely for any exempted appropriation:

(a) Appropriations of fifty cubic feet per second or less of surface water for irrigation purposes, when done without a government subsidy.

(b) Appropriations of one cubic foot per second or less of surface water, or of 2,250 gallons per minute or less of ground water, for any purpose. (Emphasis added.)

VII

On June 15, 1990, Ecology granted the Lehmans' application by issuance of a groundwater withdrawal permit. Appellant, Citizens' for Sensible Development, appealed that permit to this Board on July 16, 1990.

VIII

Ecology's approval and permit contain these conditions:

1) A certificate of water right will not be issued until a final investigation is made.

2) The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water within the specified limit that is beneficially used and required.

3) Permittee or its successor(s) shall submit in writing to the Department of Ecology, Northwest Regional Office, Redmond, WAshington, during the months of April and August each year, the chloride concentration of the water pumped and static water level (pump off) of the well authorized by this permit. Depending on the results of this data collection, the withdrawal of ground water under this permit may be limited, or other approporiate action may be required, by Department of Ecology order, to prevent seawater intrusion into the subject qualifier.

4) An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360,

WAC 508-64-020 through WAC 508-64-040. Meter readings shall be recorded monthly and this data shall be maintained and made available to the Department of Ecology upon request.

IX

The well in question is 372 feet deep. It is cased to 363 feet, with a screen set between 363 and 372 feet. Water is withdrawn through the screened interval.

X

The static water level in the well is at 282 feet below ground.

XI

The Lehmans originally sought withdrawal at 90 gallons per minute. Ecology pump tests on the well established a pumping water level of 354 feet below ground at that rate of withdrawal. This came too close to the 363 foot level where screening and water intake begins. The Lehmans then amended their application to 52 gallons per minute which is the amount in the permit at issue.

XII

Ecology pump tested the well at 52 gallons per minute. At this reduced rate of withdrawal, the pumping water level is 297 feet below ground. That level was reached after 1/2 hour of pumping and remained for the ensuing 17 1/2 hours of the pump test. The water returned to static level within 1/2 hour after pumping ceased.

We find that water is available at the site and that the aquifer

utilized can yield water within a reasonable pumping lift. It was not shown that water is not available in quantities approved by Ecology.

XIII

The withdrawal in question would not affect water levels in wells more than 1/2 mile away. There would be a maximum lowering of only 2 feet in the water level of wells within 1/4 mile. There are no wells within 1/2 mile of the well in question.

XIV

The withdrawal at issue taps a water bearing zone that dips below: a) the well of an unknown owner located a little over 1/2 mile away and b) the well at Lake View Terrace, a subdivision, located yet farther away.

We find that the proposed withdrawal of groundwater is unlikely to affect adversely any water rights in existing wells.

XV

A single water service uses between .32 and .50 acre feet annually. Thus, the maximum of 50 acre feet per year provided in the permit would serve from 99 to 155 users. Ecology set the maximum services in the permit at 155. The State DSHS has specified 99 services for the proposed community water system.

XVI

The Lehmans intend to serve several existing water users including the Whidbey Airpark which is in need of fire flow for 8

existing, light commercial buildings. They would also serve existing homes in and near the community of Bayview. About half of the proposed water withdrawal would go to existing users.

XVII

The other half of the proposed water withdrawal would go to future development. The nature and location of this development is uncertain. There has been no identification, on this record, of specific development which the water right would serve beyond existing uses. The impacts of that development as well as the development itself remains speculative at this time.

We find that the groundwater appropriation approval was made before the environmental effects of any development beyond the appropriation itself could be meaningfully evaluated.

XVIII

It was not proven that the appropriation is a segment of a proposal involving related actions, some exempt and some not, or all exempt but together having a probable significant adverse environmental effect.

Moreover, we are persuaded that the approval of the appropriation under the circumstances was not action which limited the range of reasonable alternatives for land use in the area.

XIX

A water sample from the subject well was tested for salt content

by Ecology in the process of investigating for seawater intrusion. The sample contained only 11 milligrams per liter of chlorides. This is a background level well below that associated with seawater intrusion.

XX

The mean sea level is approximately 300 feet below ground at he well site. The pumping level, 297 feet below ground (see Finding of Fact XII, above), is therefore above sea level. This counters the concern introduced by the appellant for pumping levels below sea level (see Exhibit A-4).

In the future, should a coastal well be approved with its pumping level below sea level, we would require that Ecology go forward with evidence that it has studied the aquifer or basin and that the cumulative effect of such a proposed well together with existing wells will leave a clear margin of safety against sea water intrusion within the basin.

In this case, we are not persuaded that any data developed to date demonstrates a likelihood that this withdrawal, as approved, will induce seawater intrusion.

XXI

Any Conclusion of Law deemed to be a Finding of Fact is hereby adopted as such. From these Findings of Fact, the Board makes these

CONCLUSIONS OF LAW

I

The Board has jurisdiction over these persons and these matters.

II

We conclude that the action of Ecology, approving this groundwater appropriation with conditions, was categorically exempt from the threshold determination and EIS requirements of SEPA, by virtue of the water rights exemption of WAC 197-11-800(4), quoted above.

Categorical exemptions are subject to limitations contained in WAC 197-11-305. Under the facts, however, we conclude that those limitations do not apply in this case to remove the exemption.

III

We note particularly that, before an action can fit within the limitations on exemptions, the series of actions to which it is related must be sufficiently in focus to constitute a "proposal." WAC 197-11-305.

By virtue of WAC 197-11-055 a threshold determination and environmental impact statement, if required, are to be prepared at the point "when the principal features of a proposal and its environmental impacts can be reasonably identified."

The definition of "proposal" in WAC 197-11-784 states:

> *A proposal exists at that stage in the development of an action when an agency is presented with an*

application or has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing the goal and the environmental effects can be meaningfully evaluated.

In the instant case, beyond the appropriation itself, there was no "proposal" when Ecology ruled.

IV

Under WAC 197-11-305, the exempt aspects of proposals may proceed prior to environmental review if there is no adverse environmental effect or limitation on the choice of reasonable alternatives. See WAC 197-11-070. We conclude that such is the case here.

When, however, development proposals come into being for uses which would absorb the half of this appropriation not devoted to existing development, those proposals should receive scrutiny under SEPA. It is probable that the County is the appropriate government to provide that scrutiny.

V

The issuance of the groundwater permit at issue has not been shown to be inconsistent with SEPA. See Bucklin Hill Neighborhood Association v. Department of Ecology and Island Utility Company, PCHB No. 88-177 (1989).

VI

We conclude that the action of Ecology, approving the groundwater appropriations with conditions, meets the requirements of the applicable water codes, specifically, RCW 90.03.290 as made applicable

Future ground water withdrawal proposals will not be affected by this chapter unless it is verified that such withdrawal would clearly have an adverse impact upon the surface water system contrary to the intent and objectives of this chapter.

[4]

The proposed Pleasant Glade development site is approximately 171 acres. The original Pleasant Glade project proposal was for 101 residential lots clustered on approximately one-half of the 171 acres, with the remaining acres set aside for open space. Ex. 14, 15. Miller filed Groundwater Application No. G2-29951 on October 25, 2000, requesting authority to withdraw 172 gallons per minute (gpm) and 45.2 acre-feet per year (afy) for multiple domestic supply for the Pleasant Glade project. The request for two wells, each at approximately 160 feet deep, anticipated drawing water from either the Qc or TQu aquifers.[1] Ex. 3, 7.

[5]

Miller hired Eric Weber, a licensed hydrogeologist with Landau and Associates, to prepare a hydrogeologic assessment of the proposed Pleasant Glade project. The assessment was prepared in July 2003 and was based upon the original 101 residential units planned for this project. Mr. Weber used a numerical groundwater flow model developed by the United States Geological Survey (USGS) for Thurston County in preparing the assessment. Ex. 1. He determined that pumping the Pleasant Glade well at its proposed annual appropriation would reduce the baseflow in Woodland Creek by about 0.4 gpm if screened in the TQu aquifer and 0.8 gpm if screened in the Qc aquifer. He concluded that the Carpenter Ridge well would produce similar results. Ex. 9. The assessment concluded that this level of pumping would not have a significant impact on existing groundwater uses and only a minor impact upon surface water

[1] The various layers of stratigraphy for this area are discussed later in the opinion.

flows in Woodland Creek. The assessment also concluded that the potential surface water impacts from the development were likely to be negligible and could be offset by mitigation. Ex. 5.

[6]

The proposed Carpenter Ridge site is approximately 40 acres. The Carpenter Ridge project proposes to develop 27 residential lots clustered on approximately one-half of the 40 acres, the remaining acres set aside for open space. Miller filed Groundwater Application No. G2-30137 on August 1, 2003, requesting authority to withdraw 63 gpm and 13 afy for multiple domestic supply for Carpenter Ridge. The depth of the well was listed as approximately 200 feet deep, which anticipated drawing water from the TQu aquifer. The application included a summary of the results of the hydrogeologic assessment performed by Mr. Weber. Ex. 6, 8.

[7]

Ecology issued Reports of Examination (ROEs) on August 10, 2004 that denied both of Miller's water right applications. Ecology noted in the ROEs that both proposed well locations for the Pleasant Glade proposal were within one-third mile of Woodland Creek, but no specific well location was proposed for the Carpenter Ridge proposal. Ecology concluded in each ROE that pumping water from the wells would capture water that would otherwise contribute to the flows in Woodland Creek and its associated wetlands. Ecology noted that maintaining flows in Woodland Creek is "necessary to provide protection for wildlife, fish, water quality, and aesthetic values." Ex. 7, 8.

[8]

Miller appealed the denials contained in these two ROEs to the Board on September 9, 2004. Ecology and Miller reached a settlement agreement and the Board dismissed the appeal on September 6, 2005. Ex. 15, 16. The Squaxin Tribe was not a party to this initial appeal.

[9]

Changes in Thurston County land use regulations subsequently reduced the size of the Pleasant Glade project from 101 to approximately 34 residential units. The nearby Carpenter Ridge preliminary plat contains 27 residential units. Miller contends the impact of water supply pumping for the two proposed projects combined (61 units) will be even less than what was predicted by Mr. Weber for the Pleasant Glade project as originally proposed (101 units). Testimony of Katherine Laird and Eric Weber, Ex. 54, 55.

[10]

Ecology conducted field investigations of the sites at different times during review of the Miller applications. Tammy Hall, a licensed hydrogeologist for Ecology's Southwest Regional Office, conducted a field investigation on May 26, 2004. Ms. Hall met with Miller representatives Eric Weber and Katherine Laird, and Washington Department of Fish and Wildlife (WDFW) representatives Hal Beecher, Steve Boessow, and Al Wald, to inspect Woodland Creek and Fox Creek on February 2, 2005. Brad Caldwell, a fisheries biologist for Ecology, conducted other field investigations on April 19, 2005. Ecology also reviewed recorded water rights and registered claims, well reports, other information submitted by Miller, and Miller's modified proposal. Ex. 15, 16.

[11]

Miller's modified proposal included a stream augmentation plan and other conservation measures. The stream augmentation plan proposed by Miller would utilize a single well to provide the mitigation for both the Pleasant Glade development and the Carpenter Ridge development. Groundwater would be pumped by the well at a rate of 16 gpm and discharged into a ponded area of Fox Creek. This pond is considered to be the likely upper limit of anadromous fish use on the creek. The water will then be directed over rocks for the purpose of oxygenation prior to entering the creek. The augmentation site will be landscaped as necessary to provide shade for the area. Augmentation will occur during the low flow period of June 1 to November 30. The stream augmentation plan proposes that a mitigation ratio of 10 to 1 will be utilized (10 gallons per minute of augmentation will be provided for every gallon of estimated baseflow impact). Ex. 13.

[12]

Both the Squaxin Tribe and WDFW raised concerns about the proposed mitigation plan prior to the issuance of the amended ROEs. John Konovsky, a biologist for the Squaxin Tribe, wrote Ecology that the withdrawals from the Carpenter Ridge well would impact Fox Creek. He asserted that Fox Creek and its associated wetlands are very important to coho salmon productivity and survival. WDFW biologists have identified coho salmon in the wetland. A 2003 Agua Tierra Environmental Consulting report also identified 1250 feet of excellent salmon rearing habitat. This same report states that the wetlands are maintained by a series of springs and seeps emanating from the toe of the valley slope. Any diminishment to these seeps and springs would be detrimental to fish populations. Mr. Konovsky was also concerned that the

withdrawals from Pleasant Glade would negatively impact Woodland Creek. In addition, Mr. Konovsky raised concerns about the potential for saltwater intrusion if the water was drawn from deeper wells. Ex. 14, Ex. A. The Tribe continues to have the same concerns with the proposed withdrawals.

[13]

Steve Boessow, with the WDFW Habitat Program, raised a number of concerns about the proposed mitigation plan in separate letters to Ecology. Both letters were dated February 3, 2005, but Mr. Boessow believes the second letter was written on or about March 7, 2005. In the letter that was sent on March 7th, he states, "Department of Fish & Wildlife (WDFW) recommendation is to deny the water rights permits for Pleasant Glade and Carpenter Ridge developments." Ex. 14, Ex. C.

[14]

Mr. Boessow's letters raised concerns about the lack of a backup mitigation plan if the proposed mitigation failed to work. He thought a backup source of water supply should be identified prior to the initiation of any domestic use, and if the wells failed to produce sufficient water for stream augmentation, a corresponding reduction in domestic service would be required. He also suggested that a minimum instream flow should be established that would trigger augmentation year-round as needed. Mr. Boessow recommended adding the augmentation water at Fox Creek at or above the upstream limit of anadromous fish access, and providing augmentation water until such time that the proposed developments no longer draw water from the on-site wells.

He also believed that the assumptions of gpm used for the Pleasant Glade and Carpenter Ridge sites seemed too low, and that the entire amount pumped needed to be mitigated. In addition, Mr. Boessow thought more permanent wetland and riparian protections should be established, particularly within the Pleasant Glade development, that open space should be set aside through formal conservation easement or other measures, and that significant buffers should remain in place in perpetuity. Ex. 14, Ex. B and C.

[15]

Mr. Boessow commented to Ecology that there was no assessment of how the tributary and wetlands would be impacted by these developments. His letter notes that "[t]he smaller systems ... have less ability to remain healthy and viable when subjected to small changes. We need to know how the wells are going to affect the nearby surface waters." Ex. 14. Ex. B.

[16]

WDFW has a small streams policy (Policy 5204) that directs the agency to recommend a denial if there is an impact on a small stream. A small stream is defined as a stream with a mean annual flow of less than 5 cfs. Fox Creek, at 2 cfs, would come under this definition. Testimony of Boessow; Ex. 70.

Contents of the Amended ROEs

[17]

On September 15, 2005, Ecology issued amended ROEs detailing the terms of the settlement of Miller's earlier appeal of the water rights denial and approving Miller's modified proposal and mitigation plan for Pleasant Glade (G2-29951) and for Carpenter Ridge (G2-3017).

The ROEs incorporate terms of the mitigation plan, including necessary stream augmentation levels, which are based on the Weber groundwater modeling results. Some of the suggestions made by Mr. Boessow were incorporated into the ROEs, including the requirement that stream augmentation continue in perpetuity or until water is no longer withdrawn from the on-site wells, and that the flow augmentation occur upstream above the upper limit of anadromous fish usage. Ex. 14, 15.

[18]

The amended ROE for Pleasant Glade authorized either one water supply well and one augmentation well, or one well to serve dual purposes. The amount of water authorized for withdrawal for Pleasant Glade is 80 gpm and 14.8 afy for domestic supply, and 16 gpm and 12.6 afy for stream augmentation. The amended ROE for Pleasant Glade states that the augmentation well will be completed in the Qc aquifer at a depth of approximately 120 feet below grade. In an effort to achieve a mitigation ration of 10:1, the quantity of water authorized for stream augmentation was set at a level to provide approximately ten times more water than the estimated impact to surface water. Ecology recognized that the number of residential units for the Pleasant Glade development was reduced from 101 equivalent residential units to 37 equivalent residential units. Ex. 14.

[19]

The amended ROE for Carpenter Ridge authorizes one well for residential water supply and one pumping well for stream augmentation. The Carpenter Ridge stream augmentation well is the same well that will be used for stream augmentation for the Pleasant Glade development. The amount of water authorized for withdrawal for Carpenter Ridge is 63 gpm and 10.8 afy for

domestic supply, and 16 gpm and 12.6 afy for stream augmentation. This ROE states that the Carpenter Ridge well for residential water supply will also be screened in the Qc aquifer at a depth of approximately 120 feet. Ex. 15.

[20]

The amended ROEs issued by Ecology were granted based on a mitigation ratio for Woodland Creek of ten to one (10:1), as proposed by Miller in the augmentation plan offered after the initial denial of the water rights (i.e. for every one gpm of estimated Woodland Creek baseflow impact, ten gpm would be augmented to increase stream flow). This ten to one mitigation ratio was based on the assumptions of the Weber model, which originally identified a "worse case scenario" of 1.6 gpm negative flow increase in Woodland Creek. This resulted in a proposed mitigation/augmentation to Woodland Creek of 16 gpm. See, Ex. 9, 14, 15. The proposed water right for Pleasant Glade (and Carpenter Ridge) was thought to be sufficient to supply both the domestic water use, at 80 gpm and the stream augmentation at 16gpm.

[21]

Both amended ROEs conclude that the groundwater withdrawals are not expected to have a clear adverse impact on surface water. They also state that "[a]lthough affects will be year-round, during non-mitigated months pumping will not have a clear adverse impact since non-mitigated months correspond to peak flows." Ecology concludes that although groundwater withdrawals will capture groundwater that would otherwise contribute to the baseflow of Woodland Creek, the augmentation plan proposed by Miller will result in "zero impact to surface water." Ex. 14, 15. The initial ROEs cited to a cross section provided in the 1998 Drost study, which stated that various layers of stratigraphy may not be continuous in the project area, or if

they are present, they may not be very thick. The amended ROEs do not refer to this part of the Drost study. Compare Exs.7, 8 with Ex. 14, 15.

[22]

Augmentation system monitoring and reporting are required under the terms of the amended ROEs. The monitoring consists of visually inspecting the well and discharge system, and measuring the depth to water in the well. Flow volumes, as measured by the totalizing flow meter, must be monitored and recorded during each monitoring event and adjusted to maintain the required pumping rate. The flow meter reading will be used to estimate an average discharge rate.

Monthly monitoring is required during the mitigation period (June 1 to November 1) during the first two years of operation, and bimonthly monitoring is required during the mitigation period in subsequent years. Annual reports must be submitted to Ecology by January 31 of each year. The annual report must include a summary of the recorded inspections that document significant findings, a spreadsheet of flow meter readings and water levels, a graph of flow meter readings and water levels, and an estimate of the mean augmentation discharge for each month. Ex. 14, 15.

[23]

The amended ROEs do not specify what group is required to perform the specific tasks once the developments are built. Homeowner associations usually undertake responsibilities for land use conditions. Testimony of Katherine Laird. The amended ROEs do not require any type of financial assurance, in the form of a bond or otherwise, to ensure that there is money available in the future to implement the streamflow augmentation in perpetuity.

[24]

The amended ROEs require that a deed restriction be put in place for the Pleasant Glade property requiring the operation and maintenance of the flow augmentation system. The stream augmentation for the Pleasant Glade and Carpenter Ridge developments must continue in perpetuity until there are no longer any withdrawals for the developments from the on-site wells. If municipal water becomes available for either development, the water rights for that development are voluntarily relinquished. Ex. 14, 15.

[25]

The amended ROEs also require the two proposed developments to operate under a conservation plan that will minimize the amount of outdoor water usage, such as use of drought resistant plants for landscaping and minimal disruption to native vegetation. Ex. 14, 15.

[26]

Low impact design techniques to control stormwater runoff have been incorporated into the preliminary plat for Carpenter Ridge. Ecology requires Miller to implement these provisions in the amended ROE, and also directs Miller to propose these same measures for the Pleasant Glade development. These techniques, as set forth in the amended ROEs are: clustered lots, minimization of impervious surface and overall site disturbance, narrow rural roadway sections, directing sheet flow to swales and treatment bioswales along the roadways, infiltration of roof drain runoff into dry wells, local treatment of stormwater runoff prior to conveying the water to an onsite infiltration pond, an infiltration pond to infiltrate stormwater and recharge the shallow aquifer, and the preservation of a portion of the site as a resource use parcel under Thurston

County development regulations in order to intercept, evaporate, and store precipitation. Ex. 14, 15.

[27]

In addition, the ROEs require a pumping test be performed on each well following installation. The pumping test is for the purpose of verifying the assumptions made regarding the impact of pumping on the surface water system. The pumping test must be conducted in accordance with procedures developed by the Department of Health. The pumping test consists of a step-drawdown followed by a 24-hour pumping period and monitoring of the recovery period for an additional 24 hours. The applicant must provide a report to Ecology after the aquifer testing is completed. The report must also provide site specific information on the aquifer characteristics, including transmissivity and storage co-efficient. Ex. 14, 15.

[28]

Ms. Hall conceded in her testimony that the Department of Health procedures that must be followed as part of the pumping tests are for establishing the ability of the source to meet the system design pumping rate and system configuration. She also acknowledged that there are no requirements to use shallow wells as observation wells during the pumping tests. In addition, Ms. Hall did not require any collection of baseline data on stream flows or surface water conditions to enable Ecology to assess whether adverse impacts have occurred as a result of the pumping. Testimony of Hall. Although the monitoring provisions in the ROEs require measuring the depth to water in the two wells, and recording the flow volumes of each well, there is no requirement to monitor stream flows or other environmental conditions. Testimony of Weber.

[29]

Both amended ROEs recognize that Woodland and Fox Creeks support population of Chinook, chum, coho, and sockeye salmon, and winter steelhead, and that all of these fish are listed under the Endangered Species Act. Ecology responded to the concerns raised by the Squaxin Tribe and the WDFW by asserting that the streamflow augmentation will benefit fish during the low flow months when adequate flows are needed for spawning, and that there are a number of wells in the area within the Qc aquifer that produce substantial volumes of water. Ecology also believed a number of the mitigation measures suggested by WDFW involved land use controls that were within the authority of the county rather than Ecology to impose or enforce. Ex. 14, 15; Testimony of Hall.

[30]

The Squaxin Tribe is a signatory to the Medicine Creek Treaty. Henderson Inlet and the Woodland Creek basin are within the Tribe's usual and accustomed fishing area, giving the Tribe a Treaty-protected interest in fish in the watershed. See *United States v. Washington*, 384 F.Supp. 312, 378 (W.D. Wash. 1974), *aff'd*, 520 F.2d 675 (9th Cir. 1975).

[31]

The Squaxin Tribe filed its appeal challenging Ecology's issuance of these two groundwater permits to Miller with the Board on October 12, 2005.

Development and Use of Groundwater Models

[32]

The Squaxin Tribe criticizes the model used by Mr. Weber because it believes the model dramatically underestimates the impact of the well pumping on surface water flows. The Tribe believes that the geology of the Woodland Creek area differs considerably from the surrounding area and that this is not reflected in the Weber model. The Squaxin Tribe offers an alternative groundwater model developed by Dr. Joel Massmann, and argues that the Massmann model provides a more detailed, and accurate, assessment of the hydrogeology of the area.

[33]

Mr. Weber is a licensed hydrogeologist in Washington and a registered geologist in Oregon. He has a Bachelor's degree and a Masters degree in geology. He is a principal at Landau Associates, an environmental consulting firm, and has been employed there for 19 years. He has been doing groundwater modeling since the late 1980s. He has also presented reports at numerous symposiums. Mr. Weber has no previous experience in using groundwater modeling in connection with a water right or with a stream augmentation plan. Testimony of Weber; Ex. 48.

[34]

Mr. Weber utilized the Thurston County numerical groundwater model developed in 1999 by USGS. Ex. 1. He believes the USGS model , though a regional model, was appropriate for looking at impacts to the Woodland Creek area because the USGS model report contains a detailed stratigraphy (layering that occurs in the subsurface) in the Woodland Creek area

presented as a cross-section. This cross-section shows the Qvt layer as having pinched out and the Qva layer pinching out. The USGS model represents these stratigraphy conditions by showing the Qvt and Qva layers missing in some of the cells of the USGS model. Mr. Weber stated that USGS was "basically representing a leaky system in their model." Testimony of Weber.

[35]

Joel Massmann is a licensed engineer in Washington, Oregon, and Michigan. He has a Bachelor's degree and a Master's degree in civil engineering, and a Ph.D in groundwater hydrology. Prior to opening his engineering consulting practice, he was a tenured associate professor at the University of Washington in the Civil Engineering Department where he taught classes in groundwater hydrology, hydraulic engineering, and groundwater modeling. He has authored 17 published articles on groundwater hydrology in peer-reviewed journals and co-authored five chapters in books. In addition, he has taught continuing education courses and given guest lectures on groundwater modeling. Finally, he has done extensive consulting involving groundwater modeling, including groundwater modeling as part of water resource development. Testimony of Massmann; Ex. 18, 19.

[36]

Dr. Massmann developed an alternative site-specific groundwater model for the Woodland Creek watershed using a telescopic mesh refinement of the USGS regional model. The Massmann model represents about 4.3 square miles and results in a much higher grid resolution of the Woodland Creek area than the regional model. Where each model cell in the

USGS regional model is about 200 acres; each cell in the Massmann model is ¼ acre. Ex. 16.; Testimony of Massmann.

[37]

The stratigraphy for the Woodland Creek area, in general terms as used in the USGS model, consists of eight general layers. The lowest layer is the Tertiary Quaternary undifferentiated (TQu), which is not very well defined. The TQu is divided into three layers (TQu6, TQu7, TQu8) consisting of some gravel, silt and clay. The Quaternary course (Qc) layer overlies the TQu. The Qc is older glacial deposits generally consisting of sand and gravel. The Quaternary fine (Qf) layer overlies the Qc and consists of fine grain interglacial deposits. The Qf layer is typically considered an aquitard. The Vashon Advance outwash layer (Qva) is on top of the Qf and is the deposit that was laid down in front of the glaciers. The deposit laid over the top of the Qva by the glaciers is the Vashon till (Qvt) deposit. The Qvt is very dense like cement and is often referred to as hardpan. The Qvt layer is generally considered to be a low permeability aquitard. On top of the Qvt is a layer was left as a deposit as the glaciers receded (Qvr). The Qvr is a sand and gravel outwash deposit. Testimony of Weber; Ex. 5, 64.

[38]

The USGS regional model was developed to run with the Visual MODFLOW computer program that contains a number of numerical groundwater flow models, including MODFLOW. This model divides the groundwater flow system into a series of vertical and horizontal blocks called cells to represent the relationships between the layers of stratigraphy. Ex. 5 at 2-6. Physical characteristics are assigned to the cells and boundary conditions are specified. The USGS model uses grid cells that are approximately 200 acres in size. Ex. 16 at 6; Testimony of

Massmann. The large cell size and uniform grid spacing were selected for use in the USGS model in order to show a regional perspective. Ex. 1 at 55. The software only allows a single surface elevation and only a single thickness for each layer within a single cell. The USGS model was calibrated to match water levels on a regional basis. Testimony of Massmann; Testimony of Weber.

[39]

Mr. Weber's assessment involved use of a program called "Zone Budget", which is a USGS program, to estimate the impact of wells pumping on Woodland Creek. Under this process, he created a ten-cell budget zone area in order to segment the creek out of the rest of Thurston County. He placed the pumping well into the Qc aquifer, and then calculated a "zone budget analysis" by measuring the change in total flow into the zone budget during pumping and without pumping. Under his method, the total flow into the zone budget also equaled the total flow out. Pumping of the well was simulated using an average rate of pumping (28 gpm) in order to be representative of the annual impacts that would occur on the creek. Mr. Weber calculated the inflow without pumping at 27.8021 cubic feet per second (cfs), and the inflow under pumping conditions at 27.7998 cfs. These results suggest that the decrease flow due to pumping is 0.0002 cfs or 1.039 gpm. Testimony of Weber; Ex. 5, Table 3.

[40]

During the course of the hearing, Mr. Weber testified that he made a mistake in how he initially ran the model. He agreed that it was more consistent with modeling protocols to use the approach used by Dr. Massmann, which is to measure the change in outflow to river and drain

cells in the area by adding up the effects on the drains and the effects on the river leakage within the zone budget. Testimony of Weber. When Dr. Massmann used Mr. Weber's approach his analysis showed an impact to drains by 1.0389 gpm, and an impact on river leakage of 2.0778 gpm. The net effect on the drains and river leakage within the zone budget calculated by Dr. Massmann by the well pumping was 3.12 cfs. When the zone budget was expanded by Dr. Massmann to include the whole model domain, the net effect on drains and river leakage is 27.99 gpm. In other words, the Weber model shows much greater impact over the region than it does in the Woodland Creek vicinity. Ex. 17, Testimony of Weber.

[41]

Dr. Massmann explains the large impacts demonstrated over the entire region by the model used by Weber are primarily attributable to the coarse grid cells used in the USGS model. He believes the model is not helpful in pinpointing the exact location of surface waters affected by the wells. He also stated that these results are also attributable in part to the high water levels contained in the USGS model. Testimony of Massmann.

[42]

Tammy Hall, is a licensed hydrogeologist with Ecology and wrote the amended ROEs that are the subject of this appeal. She has a Bachelor's degree and a Master's degree in geology. She has been employed with Ecology since May 1989.

Ms. Hall agreed that the USGS model shows impacts across the entire Thurston County. She stated that this does not make sense, but it is an inherent error in the model. She also stated that she did not check Mr. Weber's work in quantifying the impact on the stream after mitigation. Testimony of Hall.

[43]

The USGS regional model "was constructed to act as a tool to increase the understanding of the regional-scale ground-water-flow system." Ex. 1, at 89. The USGS model also states that the model "can be a useful tool for water-resources managers to *qualitatively* assess the regional effects of changes in stresses on the ground-water system." Id. at 104 (emphasis added).

[44]

Ms. Hall acknowledged that the USGS model provides more of a qualitative look rather than a quantitative look. Although the model allows some analysis of localized sorts of areas, it will only provide a general idea. Despite this limitation, Ms. Hall did not believe that a telescopic mesh refinement model was necessary because "it's up to ... [applicants] how they determine impacts and the level of effort is directly correlative to the size of the development." Testimony of Hall. When questioned earlier about why she initially denied the permit applications for these developments, however, Ms. Hall stated that even a very small impact on the creeks was sufficient to deny the initial applications. Testimony of Hall.

[45]

Ms. Hall accepted the findings from the Weber model largely because she believes that the proximity of the creeks to marine water and the groundwater flow patterns in the area indicate a very strong horizontal flow towards marine water. If there is a strong horizontal flow, then pumping produces less of an impact to surface water bodies.

The permeability of the soils beneath the surface was another important aspect of Ms. Hall's analysis. She testified that the presence of wetlands in the area indicates that there is fine-

grain material that has the tendency to hold water, which indicates there is very low vertical hydraulic conductivity in that particular area. Testimony of Hall.

Ms. Hall believed that issuing the water right permit was appropriate because of the mitigation being provided "based on a *crude estimate* of the significance of the impacts to a surface water body ..." (emphasis added). Testimony of Hall.

[46]

The USGS model may also underestimate the impact of additional pumping because there may have been more exempt wells added within the domain of Woodland Creek since the model was prepared in 1999. Since the basin was closed in 1980, 98 new exempt wells were added within the Woodland Creek domain. Additional development may also reduce the amount of recharge that is available within the basin. Ex. 16 at 17; Massmann testimony.

[47]

The amended ROEs require stream augmentation from June through November at the combined rate of 32 gpm once both projects are developed. Mr. Weber did not include this water being pumped for mitigation as part of his impact assessment. Testimony of Weber. Ms. Hall does not believe the water used for augmentation needed to be mitigated because she does not believe it affects the system. Testimony of Hall.

[48]

Mr. Weber's model runs were based upon an annual average pumping rate. Mr. Weber did not model the transient effect of increased summertime pumping rates, although he acknowledged that the effect of withdrawals during the summertime is something we would want to know. Mr. Weber and Dr. Massmann both agree that the effects from peak summer

pumping rates could materialize as decreased stream flows within a few weeks or a couple of months. Testimony of Weber; Testimony of Massmann.

[49]

Dr. Massmann estimated a summertime flow rate by assuming 800 gallons per household per day and then multiplied that number by the number of homes that had been proposed under the ROEs. The assumption for household use of 800 gallons per day is derived from the Department of Health guidelines. If an exempt well is authorized to use 5000 gallons per day, and six households can be supported on that amount, then the households can use roughly up to 800 gallons per day each. Al Wald, a hydrogeologist with WDFW, also recommends that the impact on a stream should be calculated based upon the highest instantaneous rate authorized rather than the average annual rate.

[50]

Dr. Massmann's use of the maximum instantaneous pumping rate for purposes of calculating stream impacts was criticized by Ms. Hall. Ecology places a high number on the instantaneous rate for things like fire suppression needs. She also thinks the effects from increased summer pumping are short-lived and tend to even out over time. Testimony of Hall.

[51]

The biggest difference between Massmann model and the USGS model is the increased grid resolution. The higher resolution of the Massmann model allows better representation of the surface topography, more accurate definition of the stream channel, and better representations of water level gradients. Each model cell in the USGS regional model is about 200 acres; each cell in the Massmann model is ¼ acre. Many of the other variables used in the USGS regional model

were used in the Massmann model, including number of layers, average layer thickness, hydraulic conductivity values assigned to the layers, water levels, recharge rates, and pumping stresses. Ex. 16.; Testimony of Massmann.

[52]

The average elevations used by the USGS model in the area are incorrect. They are higher than the surface elevations from the USGS digital elevation model. In some cases the location in the USGS model was 50, 60, 70 feet higher than what the USGS digital elevation model suggested. In order to start with correct elevations, Dr. Massmann compressed the layers of stratigraphy. The model changes the layers proportionately, but because the top layers in the USGS model were very thin, the top layers in the Massmann model are made even thinner. Testimony of Massmann.

[53]

After adjusting the layers to account for actual elevations, Dr. Massmann determined that the layers over the Qc aquifer are very thin or nonexistent. In fact, he finds that the Qc aquifer is only 20 feet below sea level in the area of proposed withdrawals. The experts all agree that the confining layers are "leaky". The leakier the confining layers, the greater the likelihood that the effects will be more localized because the cone of depression created by the well pumping is able to pull nearby water. Furthermore, the bed of Woodland Creek is only 40 feet above sea level, and only a few feet above sea level at its mouth – about one mile north of the project. Testimony of Romero; Testimony of Massmann.

[54]

The Massmann model has less water coming in around the edges than the USGS model. Dr. Massmann calculated the total flow that came into his model along the boundaries and compared it with the amount the USGS model says should be coming into the model domain. Dr. Massmann tried to match the water levels to bring them down to the actual observed values. The USGS model was calibrated to match water levels on a regional basis and substantially over predicts water levels in the Woodland Creek watershed. Testimony of Massmann.

Dr. Massmann made adjustments of boundary conductance and vertical conductivity values during model calibration. The vertical conductivity was increased five times, which would tend to show a greater impact upon a stream. Testimony of Massmann.

[55]

The Massmann model predicts 80% of the water coming from the wells would come from Woodland and Fox Creeks, if finished in the Qc aquifer (sea level aquifer). If finished in the TQu aquifer, it would capture 60% of the water going into these creeks. This is consistent with predictions by USGS for similar systems in the Puget Sound area. Testimony of Massmann, Ex. 16.

[56]

Mr. Weber criticizes how the adjustments were made to boundary conductance and vertical conductivity values during the model calibration process. He also criticizes Dr. Massmann for not completing a particle tracking analysis. Mr. Weber's own tracking analysis shows some water particles under Dr. Massmann's model not behaving as expected. Because a higher boundary conductance and lower vertical hydraulic conductivity are used, particle

tracking analysis shows water moving in an unnatural upward direction due to artificially high water levels in the Qva and Qc layers. Testimony of Weber.

[57]

Dr. Massmann responds to Mr. Weber's criticism by stating that the amount of water going into the stream in his calibrated model is the same amount going into the stream under both the USGS model and field observations. Mr. Weber concedes that the water levels in Dr. Massmann's model are close to the USGS field observations. Dr. Massmann explained that his approach for calculating the boundaries was to use the heads straight from the USGS model, which is approximately 1500 feet from the boundary of Dr. Massmann's model. Inflow was then calculated by subtracting that head from the head inside the model. Mr. Weber estimated the head along his boundary outside the USGS model, and then subtracted the head inside the model from the estimated head. Either approach is supportable by scientific literature, but they lead to different conductivity values. Testimony of Massmann; Ex. 83 at 10. When Dr. Massmann reran the model and did a particle analysis, it shows the surface water percolating down into deeper layers and then flowing laterally towards a discharge point in Woodland Creek. Ex. 83 at 14. Dr. Massmann also testified that if lower vertical hydraulic conductivity is used, together with higher inflows of water across the boundaries as Mr. Weber suggests, the result from any wells drilled into the aquifer would be flowing artesian wells. Testimony of Massmann.

[58]

Ms. Hall also criticizes the Massmann model's use of generalized head boundaries. She believes that he should have calculated the head boundaries by using a known elevation, such as sea level, because it provides a known water level to be used for the other calculations. This

helps to reduce the possibility for error in the calculations. His model domain came right up to the bottom of Henderson Inlet but does not include it.

[59]

Dr. Massmann responds to Ms. Hall's criticism of not using natural head boundaries like Puget Sound because it would require using a much larger mesh, which would result in losing the smaller resolution in terms of the cell size. The use of generalized head boundaries is also supported in the scientific literature. Testimony of Massmann; Ex. 72 at 102-103; Ex. 83 at 9.

Well Logs

[60]

Nadine Romero is a licensed hydrogeologist and a licensed geologist and is employed by the Squaxin Tribe as a full-time hydrologist. She has a Bachelor's degree and a Master's degree in geology. Ms. Romero manages a seven-basin stream gauging program and conducts hydrogeologic evaluations for the Tribe. Testimony of Romero; Ex. 20.

[61]

Ms. Romero reviewed a lidar projection of the surface topography of the Woodland Creek area as part of her investigation. Ex. 23. A lidar projection allows a person to look through vegetation to see the geomorphology of the area. The lower part of the Woodland Creek area does not have certain ridge features present in the northern part of the model area because they are eroded out. It is a lower elevation system within a higher prairie area. This suggests that Woodland Creek differs from the surrounding area and that well logs and other information must be considered carefully. Ms. Romero assembled a cross-section after reviewing well logs

both inside and outside the model domain. Her review suggests that the Qc aquifer is very thin in the area, and the distance between the Qc aquifer and Woodland Creek gets smaller as you move towards the mouth of the creek. Her review of well logs also suggests that the TQu aquifer in this area is thin and may not be capable of supporting the sustained pumping of a well. Testimony of Romero.

Evaluation of Models and Model Results

[62]

While both Dr. Massmann and Mr. Weber are qualified to run groundwater models, analyze ground water modeling results, and critique the data and assumptions underlying groundwater models, the Board finds the Tribe's expert, Dr. Massmann, to be appreciably more experienced in the field of groundwater modeling and the only one of the two with specific expertise constructing groundwater models with respect to water rights and water resource development. Ex. 18, 19, 48. Testimony of Weber, Testimony of Massmann.

[63]

The Board finds that the USGS regional model is less useful for providing quantitative assessments of the localized effects of changes in stresses on the ground water system than it is for providing a generalized assessment on a local level or a qualitative assessment on a regional level. Ex. 1. Testimony of Massmann, Testimony of Weber, Testimony of Hall.

[64]

The USGS regional model is likely to underestimate any quantitative impacts to the Woodland Creek area. This underestimation would occur irrespective of the assumptions used in any given application of the model, because it is a function of the model's basic construction. It

also over-predicts the water levels in the Woodland Creek domain because it fails to account for recent exempt well developments in the area that have reduced the amount of aquifer recharge available within the basin. The USGS model also spreads out any estimated local impacts over a broad geographic area (outside of the Woodland Creek domain), due to limitations of the model's course grid size which can represent no less than 200 acres in any one cell. Ex. 1, 16. Testimony of Massmann.

[65]

In addition to the inherent problems associated with using the USGS regional model to assess quantitative impacts in the Woodland Creek basin, Mr. Weber's application of the model resulted in additional underestimations of the possible surface water impacts in the watershed. The initial estimate of a 0.0002 cfs or 1.039 gpm reduction in surface flow resulting from the proposed development that Miller provided to Ecology was in error, and Mr. Weber now acknowledges he made a mistake in his calculations. Ex. 5, p.3. Testimony of Weber.

Instead of a worst case scenario of a 1.6 gpm negative impact on Woodland Creek, the correct figure should have been at least 4.0 gpm, under the Weber model. The resulting augmentation of Woodland Creek should have been set at 40 gpm, not 16 gpm in order to maintain the safety valve of the mitigation ratio. Although the 10:1 ratio was chosen to account for uncertainty in the model results, a three-fold error in the projection is incompatible with the expected level of mitigation or stream augmentation necessary to address the uncertainty of groundwater in the area. Testimony of Hall. The Board finds this renders the terms of the ROE erroneous.

[66]

The Board also finds that the assumptions Mr. Weber made about the pumping rates from the proposed wells were not reasonable to adequately assess the potential impacts during the summer months and low flow periods. Mr. Weber used an annualized average pumping rate of 28 gpm in an attempt to be representative of the annual impacts. This estimate did not account for the typically higher water usage that occurs during the summer months, nor did it include the additional 32 gpm of groundwater that would be pumped from June through November under the mitigation plan. The effects of peak summer pumping rates can materialize as decreased stream flows within a few weeks to a couple of months, yet Mr. Weber's analysis did not model the transient effect of increased summer pumping rates. Testimony of Massmann, Testimony of Weber.

[67]

The Board is persuaded that the best available scientific information to ascertain and evaluate the impacts of ground water withdrawals on the surface waters of Woodland and Fox Creeks by the proposed development comes from the Massmann model. The site-specific modeling approach employed by the Tribe's expert provides a finer resolution of the Woodland Creek area than the regional approach. This finer resolution, created using a telescopic mesh refinement of the USGS model that reduces the cell size to approximately ¼ acre, allows better representation of the surface topography, more accurate definition of the stream channel, and better representation of the water level gradients than those available under the USGS regional model. Ex. 1. Testimony of Massmann.

[68]

The Massmann model relies on many of the variables used in the USGS regional model (including the number of stratigraphy layers, average layer thickness, hydraulic conductivity values assigned to the layers, water levels, recharge rates, and pumping stresses) but was calibrated to reflect actual observed values for water levels and elevations in the Woodland Creek area. This was necessary because the USGS model was calibrated to match water levels on a regional basis, and the software only allows a single surface elevation and a single thickness for each layer within a single 200 acre cell. Ex. 5, Testimony of Massmann.

[69]

The average elevations used by the USGS model in the area are incorrect. They are higher than the surface elevations from the USGS digital elevation model by as much as 50 to 70 feet in some locations. In order to use the correct elevation data, it was also necessary for Dr. Massmann to refine the stratigraphy layers of the USGS model. Dr. Massmann's model compressed the thickness of the stratigraphy layers proportionately, the result of which shows that the Qc aquifer is approximately 20 feet below sea level in the area of the proposed withdrawals and that the confining layers over the Qc aquifer are very thin or nonexistent. Testimony of Massmann; Ex. 83. The placement and thickness of the stratigraphy layers used in Dr. Massmann's model are consistent with the geomorphology of the area that is observable in a lidar projection of the surface topography and with well log data from the area. Testimony of Romero.

[70]

As part of the calibration process, Dr. Massmann also adjusted the boundary conductance and vertical conductivity values, the result of which would tend to show a greater impact on surface streams than the USGS model would. Dr. Massmann's methodology is an acceptable approach under scientific literature. The Board finds that the adjustments made to vertical conductivity values were necessary to match the adjustments made to actual observed water levels, and that the water levels in the Massmann model are close to USGS field observations. Testimony of Massmann, Testimony of Weber.

[71]

The confining layers in the Woodland Creek area are "leaky," which means that water tends to flow vertically through them fairly easily. As a general hydrologic principle, the more leaky a confining layer is, the greater the likelihood that pumping effects will be localized. This is because the cone of depression created by the well pumping is able to pull nearby water more easily. Testimony of Massmann, Testimony of Weber, Testimony of Romero.

[72]

The Board finds that Dr. Massmann's assumptions about pumping rates, which were based on the highest instantaneous rate authorized for the development rather than the average annual rate used by Weber, may tend to overestimate the *average* impact of the proposed wells, but provide a better assessment of the maximum potential impact during the summer and fall when important fish rearing habitat may be most affected.

[73]

The Massmann model predicts that 80 percent of the water that would come from the wells would be diverted from Woodland and Fox Creeks if finished in the Qc (sea level) aquifer. If finished in the TQu aquifer, 60 percent of the water from the wells would be coming from water that would otherwise flow into these creeks. These projections are consistent with predictions made by the USGS for similar systems in the Puget Sound area. Ex. 16. Testimony of Massmann. The Board is persuaded that these predictions made by the Massmann model are reasonable for analyzing the impacts of the proposed wells upon surface water in this area of Woodland Creek. Additional information obtained from a pumping test pursuant to a preliminary permit could provide further analysis of the impacts of withdrawals from the proposed wells.

Carpenter Ridge well

[74]

Just prior to the hearing, the well for Carpenter Ridge was drilled at a depth of 337 feet. Over 60 samples of the well boring were taken, and a geologist or geotechnical engineer was present to log in each sample. Miller brought in numerous soil samples that were reviewed by the Board and the parties. Mr. Weber believes the well is screened in the Qc aquifer based upon other wells in the area, such as the Kelleher well and the Woodland Green well. He believes that the boring has indicated the presence of a thick aquitard that will reduce the amount of leakage predicted in the USGS model.

[75]

Ms. Romero put the new Carpenter Ridge well on a revised cross-section and assigned the stratigraphy. Ex. 74. Ms. Romero believes the Carpenter Ridge well is screened in the lower level of the TQu system, largely based upon her review of well logs in the general area. Dr. Massmann cautioned against revising an analysis of the area's stratigraphy based upon a single well, especially since the USGS used a lot of data to develop their cross-section of the stratigraphy in the Woodland Creek area. Testimony of Romero; Testimony of Massmann

Ms. Hall testified that the well seems as though it's drilled at the same depth as where the TQu aquifer is based upon interpreting the USGS report. She also indicated that it is difficult to determine in what layer a well is drilled because drilling doesn't produce a continuous core sample that enables you to see the contact point between units. Testimony of Hall.

[76]

The Board finds that Mr. Weber's assessment that the well is screened in the Qc aquifer in inconsistent with the weight of scientific evidence regarding the stratigraphy in the area.

Woodland and Fox Creeks as Fish Habitat

[77]

Jeff Dickison is the Assistant Director for Natural Resources for the Squaxin Tribe. His responsibilities include overseeing activities conducted by the Department of Natural Resources pertaining to fisheries, shellfish, and habitat issues related to the Tribe's usual and accustomed fishing places. He started with the Tribe as a fish biologist and eventually built the Tribe's habitat programs. He has a Bachelor's degree in biology and a Master's degree in fisheries

biology. In his work he has reviewed a number of reports relating to flow and habitat conditions for anadromous fish, particularly in relation to stream channel geometry and structure in streams. Testimony of Dickison; Ex. 21.

[78]

Mr. Dickison is familiar with Woodland Creek and Fox Creek. Because Woodland Creek drains into an estuary, and many salmonid species depend for part of their life history on estuaries, it is important to salmon production in the watershed how Woodland Creek drains. Spawning gravels are located in a number of locations in Woodland and Fox Creeks. The streams also serve as migration corridors for adult fish to reach the spawning areas and for juvenile fish to move around the system. Woodland Creek and Fox Creek, as a lowland watershed, is highly critical for the rearing of juvenile fish. Testimony of Dickison.

[79]

Coho and chum salmon are the most prevalent anadromous fish in the watershed. There are also cutthroat trout, steelhead, Chinook, sockeye, and pink salmon. The only salmonid species not present in this system is bull trout. Coho salmon, steelhead, and cutthroat trout are most affected by changes in flow and water quality because they are present in the fresh water environment for at least a year, so they experience the full seasonal fluctuations. Low flows during any time of the year could impact their ability to move throughout the system, and low flows contribute to warmer temperatures that can be harmful to fish. Wetlands with a significant inflow of groundwater have cooler temperatures that are preferred by fish. Mr. Dickison believes there is some potential for stranding in the lower end of Woodland Creek because there

is more natural channel formation there that can produce side channel areas. Mr. Dickison acknowledged, however, he has not walked this area of the creek Testimony of Dickison.

[80]

The number of coho returning has dropped sharply from three to four hundred fish in Woodland Creek in the late 1980's to numbers which often don't reach one hundred. Mr. Dickison believes that the most likely cause for declines in coho returns is degraded rearing habitat. Adult coho salmon return to Woodland Creek in October and November. They are more likely to spawn in November and December, and sometimes into January.

To the extent adult steelhead return to Woodland Creek, it is a winter run. There are fewer steelhead than coho returning. The returning steelhead adults enter the system in December, January, and maybe into February. The steelhead spawn in February, March, and April. Testimony of Dickison.

[81]

James Peters is the Squaxin Tribal Chairman. In addition to various positions he has held on the tribal council, he has been appointed to the Salmon Recovery Funding Board and currently serves on the Washington State Conservation Commission. Salmon fishing is very important culturally for Squaxin Tribal members. It is a part of the Tribe's religious ceremonies and spirituality. Commercial fishing also plays an important role economically with the Tribe. In recent years, anywhere from 70 to 100 tribal members make all or part of their living from fishing. That number has gone as high as almost 200 at times. Testimony of Peters.

[82]

The Tribe regulates fishing among its members. The Tribe has closed Henderson Inlet, Woodland Creek, and other areas to commercial fishing of coho to allow the wild stock to get into the inlets. They have also imposed timing restrictions and gear restrictions. The reduced fishery has resulted in the tribal members now only supplementing their income with fishing instead of making their living from fishing. Testimony of Peters.

[83]

Brad Caldwell is employed as an instream flow biologist by the Department of Ecology. He has a Bachelor's degree in biology and a Master's degree in fishery biology. His work involves the establishment of minimum instream flows to protect fish habitat. Testimony of Caldwell; Ex. 43.

[84]

Mr. Caldwell is familiar with Woodland Creek and took part in the site visit on April 19, 2005, with Eric Weber. Upstream of Fox Creek the creek becomes a large pond and then a wetland. Anadromous spawning ends at a culvert because the county put a screen across the culvert to keep beavers from making dams. Downstream from this area is a nice gravel area used for spawning. Juvenile fish were observed jumping in the wetland. The mitigation water would be introduced into Fox Creek above the pond. In April there was about 2 cfs flowing in Fox Creek and 13 cfs in Woodland Creek. Testimony of Caldwell.

[85]

Based upon Mr. Caldwell's experience with a parallel creek, Woodard Creek, coho, chum, and cutthroat use these low gradient streams as do a few steelhead. Generally Chinook do

not use these streams because they are a river fish. It is his experience that doubling the flow during the low flow time of year in small streams, will double the fish population. Woodland Creek, in Mr. Caldwell's opinion, is in excellent shape for fish, which could likewise benefit by an increase in flow during the low flow months. Testimony of Caldwell.

[86]

Mr. Caldwell is familiar with records from a USGS gauge that used to be downstream of where Fox Creek entered Woodland Creek. The lowest flow during the summer (during the 1949 – 1990 time period when records were kept) was about 8.3 or 8.5 cfs. The lowest winter time flow was probably around 10 or 11 cfs at this spot. If 32 gpm, which equals .07 cfs, is added to the worst wintertime flow of 10 cfs, it represents a minute amount of water compared to the rest of the flow. Compared to the more normal wintertime flow of about 35 cfs, the mitigation water is really insignificant in the winter months. There appears to be plenty of water for spawning purposes, but the rearing time in the summer months is more critical. Mr. Caldwell does not believe stranding would be a problem in this creek system during the winter months because there are not large fluctuations in flow, and there is a fair amount of gradient. These factors make it less likely that there would be long side channel areas that could become disconnected. Testimony of Caldwell. A hydrograph prepared from data collected from August 2002 to June 2003, however, does show the flows lower in December than in August or September. Ex. 38.

[87]

Steve Boessow is a water rights biologist with the WDFW. In this position, he reviews water right applications for the WDFW. He has been a biologist for 16 years and has reviewed

many hundreds of water right applications over the years. His work is statewide, so he relies upon local biologists and experts. This includes Al Wald, who is the hydrogeologist for WDFW.

[88]

Mr. Boessow believes it is important when mitigating for impacts, to also consider the loss of stream and wetland function that can occur due to the changes in land use. He suggested setting an instream flow by either a toe-width study or the incremental method and taking measurements to help determine positive conditions for fish. He did not have any recommended flow level that would trigger an augmentation requirement. Boessow suggested a trigger for augmentation in recognition that there have been some recent drought years. Testimony of Boessow.

Water Quality

[89]

Mr. Wald raises water quality concerns that a well in the TQu aquifer could run into problems with chlorides because that layer is full of old sea floor sediments that are full of problem materials, including chlorides. The source of chlorides can be from saltwater that entered a formation during a previous geologic condition and didn't leave (connate), or relic seawater associated with glaciation. Mr. Wald is concerned that if chlorides are present in the TQu aquifer in this location, then the water is not suitable quality for stream augmentation. He has seen examples of high chlorides in wells. His concern is based more upon the depth of the well rather than the particular location of the well. Testimony of Wald.

[90]

Ms. Hall did not share the same concerns about potential chloride levels in the proposed wells. This is because the particular well Mr. Wald voiced concern about was located about one and one-half mile away from the Pleasant Glade site, but it was drilled into the Qva aquifer and not the TQu aquifer. Chloride levels of wells drilled in the vicinity of the proposed projects range from 2.4 to 9.6 milligrams per liter. Water quality in the nearby Woodland Green well is considered good. The standard for chlorides in drinking water is 250 milligrams per liter. Ms. Hall's conclusion was also based on her understanding that the USGS did not identify salt water intrusion as an issue for the area. The Board agrees with Ms. Hall's determination that the proposed wells do not pose any discernable water quality problems.

[91]

Any Conclusion of Law deemed a Finding of Fact is hereby adopted as such.

CONCLUSIONS OF LAW

[92]

The Board has jurisdiction over the subject matter and the parties. RCW 43.21B.110. The Board reviews the issues raised de novo. WAC 371-08-485. The Appellants have the burden of proof in this proceeding because they are appealing the approval of two water right applications. *Id.*

[93]

The legal issues in this case, as contained in the Pre-Hearing Order are:

1. Whether Ecology's decisions in Reports of Examination Nos. G2-29951 and G2-30137 are in compliance with the standard in WAC 173-513-050.
2. Whether the appropriation authorized by Ecology in Report of Examination No. G2-29951 will impair existing rights.
3. Whether the appropriation authorized by Ecology in Report of Examination No. G2-30137 will impair existing rights.
4. Notwithstanding the provisions of WAC 173-513-050, is water available within the meaning of chapters 90.03 and 90.44 RCW for the appropriations authorized by Ecology in Reports of Examination Nos. G2-29951 and G2-30137.
5. Whether Ecology properly evaluated and determined whether the permits would have no clear adverse impacts on surface water and senior water rights.
6. Whether the appropriation authorized by Ecology in Report of Examination No. G2-29951 will be detrimental to the public welfare.
7. Whether the appropriation authorized by Ecology in Report of Examination No. G2-30137 will be detrimental to the public welfare.
8. Whether Ecology has the authority under chapter 90.03 or chapter 90.44 RCW to grant a permit for ground water consumption based on a mitigation proposal if it would otherwise be denied because of its adverse impact on surface water.
9. Whether mitigation, based on appropriating ground water in continuity with surface water closed to further consumptive appropriation, violates the surface water source limitations of existing law, including WAC 173-513-040.
10. Whether the mitigation plan included in the Reports of Examination in the form of flow augmentation, based on appropriating ground water in continuity with surface water closed to further consumptive appropriation, is itself a further consumptive appropriation.
11. Whether the permits should be denied because of cumulative effects of additional withdrawals, including exempt wells.
12. Whether the conditions in the permits are adequate to monitor or enforce compliance.

Issues 2, 3, and 5 were previously withdrawn. Summary judgment was granted on Issue 8 in favor of the Respondents pursuant to the Board's Order on Motions (May 19, 2006). At the

same time, the Board denied Appellant's request to shift the burden of proof on Issue 1 to Ecology. The Board also clarified in the Order on Motions the standard contained in WAC 173-513-050 at the request of the Squaxin Tribe. The Squaxin Tribe now asks the Board to revisit its guidance on the interplay between the language in WAC 173-513-050 (clear adverse impact) and RCW 90.03.290 (any effect).

[94]

RCW 90.03.290(3) sets forth a four-part test for Ecology to follow in determining whether to approve a permit to appropriate surface water. The test, as described in *Postema v. Pollution Control Hearings Board*, 142 Wn.2d 68, 79 (2000), requires Ecology to affirmatively find: (1) water is available, (2) it will be appropriated for a beneficial use, (3) the appropriation will not impair existing water rights, and (4) there will be no detriment to the public welfare.[2] RCW 90.44.060 makes these criteria applicable to applications for groundwater. Each of the four parts is a separate determination that must be met before a new water right can issue. *Hillis v. Department of Ecology*, 131 Wn.2d 373, 384, 932 P.2d 139 (1997); *Simmons v. Ecology*, PCHB Nos. 99-099, 99-196, 99-202, 00-002, 00-110, and 00-175 (2001) (Order on Summary Judgment at 10).

[95]

Ecology's Reports of Examination are considered prima facie correct and the burden of proving them wrong is on the party attacking them. An Appellant must show by a

[2] There is no dispute regarding whether the water would be put to beneficial use. Issues 2, 3, and 5 pertaining to impairment of existing water rights were withdrawn by the Tribe earlier.

preponderance of the evidence that Ecology erred in making its determination. *Hubbard and Hubbard v. Ecology*, PCHB 93-73, 93-103 (1995).

Issue 1. Whether Ecology's decisions in Reports of Examination Nos. G2-29951 and G2-30137 are in compliance with the standard in WAC 173-513-050.

[96]

WAC 173-513-050 states:

> Future ground water withdrawal proposals will not be affected by this chapter unless it is verified that such withdrawal would clearly have an adverse impact upon the surface water system contrary to the intent and objectives of this chapter.

Standard under WAC 173-513-050

[97]

The Board first addresses the Squaxin Tribe's request for the Board to reconsider its interpretation of the standard contained in WAC 173-513-050 as set forth in the Board's Order on Motions (May 19, 2006). In the Order on Motions, the Board responded to the Tribe's request to provide its interpretation of the standard contained in WAC 173-513-050. The Board analyzed the language in this regulation (*clear adverse impact upon the surface water system*) in relation to the Supreme Court's interpretation in the *Postema* decision of the availability prong of the four-part test contained in RCW 90.03.290 (*any effect* on the flow or level of the surface water).

[98]

The Board concluded that it was possible to reconcile the two as follows:

> [G]roundwater withdrawals in the Deschutes Basin constitute a clear adverse impact and are subject to that WAC chapter's provisions, if the withdrawals produce *any effects which adversely impact the values identified in WAC 173-513-020.* If the Squaxin Tribe is able to demonstrate such an impact, then the water is not available within the meaning of RCW 90.03.290 and the groundwater permits at issue must be set aside. Consistent with the finding in *Postema*, the terms "verified" and "clearly" as used in this rule mean ascertainable through best available science.

Order on Motions at 16. (Emphasis added)

[99]

The Tribe, in its Post-Hearing Brief, argues that it should only be required to show that the withdrawal of groundwater will have "any adverse impact on stream flows, as long as such adverse impact is clearly ascertainable using the best available science." Squaxin Island Tribe's Post-Hearing Brief at 12.

[100]

We reject the Tribe's interpretation of WAC 173-513-050 and maintain that the Board correctly interpreted the standard in its Order on Motions. A reduction in stream flow does not necessarily equate to harm in the quality of the natural environment. If a reduction in stream flow occurs only during the winter months when there is ample flow in a particular stream, for example, it is difficult to see how the water is not "available" for appropriation or how it is adversely impacting the base flows "necessary to provide protection for wildlife, fish, scenic, aesthetic, environmental values, recreation, navigation, and water quality" as required by WAC 173-513-020.

[101]

In *Hubbard v. Department of Ecology*, 86 Wn. App. 119, 125, 936 P. 2d 27 (1997), the Court of Appeals stated that "any effect" to the river from proposed groundwater withdrawals would be prohibited under the four-part test in RCW 90.03.290. It is important to recognize, however, the Court specified that when evaluating the proposed withdrawals, it was necessary to look at "[a]ny effect on the river *during the period it is below the minimum instream flow level* . . . ." *Id.* (emphasis added). The *Hubbard* decision supports the Board's interpretation of the standard in WAC 173-513-050 by requiring more than just an effect or impact on the stream. The Court in *Hubbard* found the prohibition is triggered when the withdrawal produces an effect on the river during the time when minimum flows are not maintained.

[102]

Finally, by analogy, the Supreme Court, in a case where minimum flows were unmet for a substantial part of the year, has rejected the argument that impairment could be established by the mere demonstration of hydraulic continuity between the appropriation and the stream. The Court indicated that the impact on the surface water source needs to be shown, as well as "all other pertinent facts." *Postema* at 93.

[103]

The Board declines the Tribe's request to reconsider its interpretation of the standard in WAC 173-513-050.

Application of Standard under WAC 173-513-050 and Availability Prong

[104]

The Board has determined that the Massmann model is more persuasive than the Weber model relied upon by Ecology in approving the water right applications. The Massman model predicts that 80 percent of the water that would come from the wells would be diverted from Woodland and Fox Creeks if finished in the Qc (sea level) aquifer. If finished in the TQu aquifer, 60 percent of the water from the wells would be coming from water that would otherwise flow into these creeks. These projections are consistent with predictions made by the USGS for similar systems in the Puget Sound area. Ex. 16. Testimony of Massmann. The Carpenter Ridge well appears to be drilled into the TQu aquifer based upon interpretations of well logs and the USGS report. Testimony of Romero.

[105]

There was substantial evidence presented regarding the stratigraphy in the Woodland Creek area and how the confining layers are "leaky," which means that water tends to flow vertically through them fairly easily. As a general hydrologic principle, the more leaky a confining layer is, the greater the likelihood that pumping effects will be localized. This is because the cone of depression created by the well pumping is able to pull nearby water more easily. Testimony of Massmann, Testimony of Weber, Testimony of Romero.

[106]

Based largely upon the evidence regarding the stratigraphy of the Woodland Creek area, the underestimation of the impacts inherent in Weber's model, as well as the range of potentially significant impacts to surface waters flows projected by the Massmann model, the Board

concludes that the ROEs were erroneous in their evaluations of the proposed wells. The groundwater withdrawals authorized under the ROEs will draw more than an insignificant amount of groundwater that would otherwise flow to surface waters in Woodland and Fox Creeks. Because the Squaxin Tribe has met its burden under *Hubbard and Hubbard* to show that Ecology's conclusions about the potential impact of the withdrawals are in error, we conclude that the ROEs fail to satisfy the availability prong of RCW 90.03.290 and fail to comply with the standard contained in WAC 173-513-050.

Issue 4. Notwithstanding the provisions of WAC 173-513-050, is water available within the meaning of chapters 90.03 and 90.44 RCW for the appropriations authorized by Ecology in Reports of Examination Nos. G2-29951 and G2-30137.

[107]

The Board has already determined that Ecology's conclusions regarding the potential impact of the proposed wells were shown to be erroneous by a preponderance of the evidence, and therefore water has not been shown to be available under the standard contained in WAC 173-513-050 and the criteria set forth in the four-part test contained in RCW 90.03.290. The Board does not draw a distinction, as suggested by the wording of Issue 4, between the test under the statute and the test under the rule.

[108]

In *Postema*, the Supreme Court did not look at RCW 90.03.290 in isolation. It also reviewed RCW 90.54.020 to help to provide context to the four-part test. After stating that "where a proposed withdrawal would reduce the flow in surface waters closed to further appropriations, denial is required because water is unavailable and withdrawal would be

detrimental to the public welfare," the Court quoted Ecology's duty to protect base flows in order to protect environmental values under RCW 90.54.020(3)(a). *Postema* at 94 - 95. The values set out in that statute include the enhancement and retention of the base flows of perennial rivers and streams for the "preservation of wildlife, fish, scenic, aesthetic and other environmental values..." and that "[W]ithdrawals of water which would conflict therewith shall be authorized only in those situations where it is clear that overriding considerations of the public interest will be served."

[109]

In an earlier case, the Supreme Court expressly required Ecology to evaluate the protections required under RCW 90.54.020(3) when considering the public interest test prong of the four-part test in RCW 90.03.290. *Stempel v. Department of Water Resources*, 82 Wn.2d 109, 119, 508 P.2d 166 (1973). The Board finds that the protections provided in RCW 90.54.020(3) must also be considered under the "availability" prong of this same four-part test, and therefore water is not "available" either under RCW 90.03.290 or WAC 173-153-040.

[110]

The Board has previously relied on the language in RCW 90.54.020(3)(a) that requires retention of "base flows necessary to provide for preservation of wildlife, fish, scenic, aesthetic and other environmental values," to find that water was not available for a proposed appropriation in a creek because it would lower the flow needed to adequately support fish. In both cases, no minimum or base flow had been established. *Mead v. Ecology, et al.*, PCHB No. 03-055 (2004); *Coon v. Ecology*, PCHB No. 79-74 (1980).

Issue 6. Whether the appropriation authorized by Ecology in Report of Examination No. G2-29951 will be detrimental to the public welfare.

Issue 7. Whether the appropriation authorized by Ecology in Report of Examination No. G2-30137 will be detrimental to the public welfare.

[111]

Testimony from the Tribe indicates that Woodland and Fox Creeks are important to anadromous fish for spawning habitat, as migration corridors, and are highly critical for the rearing of juvenile fish. Coho salmon, steelhead, and cutthroat trout are most affected by changes in flow and water quality because they are present in the system for over one year and are more susceptible to warmer temperatures caused by low flows. The number of returning coho salmon has dropped sharply in the last twenty years, and less tribal members are able to make their living from fishing. Testimony of Dickison; Testimony of Peters.

[112]

The Board finds that the proposed additional withdrawals of groundwater will likely lower the stream flow of Woodland and Fox Creeks during the summer months despite the attempt to augment these streams during this time. This will negatively impact salmon, steelhead, and cutthroat trout and make their survival more difficult. The lower number of surviving fish, in turn, negatively impacts the number of fish available for Tribal members. Therefore, the Board finds that the proposed withdrawals violate the public interest portion of the four-part test contained in RCW 90.03.290.

[113]

The Board also concludes, however, that neither diminishment in flows during the winter months nor the lack of stream augmentation during this time period will adversely impact fish. The hydrographs appear to show strong volumes of flow during the winter months. Ex. 38. Although there is some evidence that there are periods of low flow during winter months, these appear to be relatively infrequent and during times of drought, where the mitigation water would make no real difference to the system. Stranding during the winter months is also unlikely because of the afore-mentioned reasons, as well as the general lack of braiding in the creeks in this area due to the steepness of the terrain.

[114]

The Board has previously considered WDFW's Policy 5204, which discourages diversions from very small streams, in determining whether water is available for appropriation. *Mead v. Ecology, supra.* Because the stream in question in that case failed to meet the minimum flow needed for coho salmon, as demonstrated by the toe width study performed pursuant to Policy 5204, the Board found that water was unavailable for further appropriation and the proposed diversion was not in the public interest. *Mead, id.* In this case, the Board again has a diversion or withdrawal on a very small stream containing anadromous fish, which does not comply with the standards of WDFW Policy 5204. This evidences that the diversion or withdrawal is not in the public interest.

[115]

The Tribe has also attempted to raise water quality issues, which are considered under the public interest prong of the four-part test. *Stempel* at 119. Water quality is also one of the

values listed for protection in WAC 173- 513-020. The Tribe contends that there is a real potential for drilling the well into a water source that exceeds the standards for chloride. Water with high levels of chloride would not be suitable for use as stream augmentation. The evidence, however, shows that there is one well in the general vicinity with chloride problems and that well is drilled into a different aquifer. Numerous wells throughout the basin show no indication of elevated levels of chloride. The Board finds that the Tribe has not met its burden to demonstrate that there will be water quality problems related to the proposed withdrawals, other than the potential for higher stream temperatures due to lower flows.

Issue 11. Should the permits be denied because of cumulative effects of additional withdrawals, including exempt wells.

[116]

The Tribe contends that these two water right applications were improperly granted because Ecology failed to consider how the proposed withdrawals will produce cumulative effects in the form of habitat loss to fish. The Tribe points to the number of exempt wells already drilled in the general area after the basin was closed from further surface water appropriation.

[117]

This Board has previously held that measuring cumulative effects is a means of measuring whether permit applications are consistent with the public interest. The Board has stated:

> In considering whether there is a detriment to the public interest, Ecology looks to the potential cumulative harm to that interest. In the case of an application for ground water which is in hydraulic continuity with a stream subject to minimum flows, Ecology

> may look forward to the cumulative effect of similar future applications to determine the extent of the harm to the environmental value at stake. The fact that the application will cause an insignificant harm to fish habitat, for example, is not decisive; rather the issue is whether the cumulative effects of the application and similar future proposals will cause significant harm to said fish habitat.

In the Matter of Appeals from Water Right Decisions of the Department of Ecology, PCHB Nos. 96-8, et seq., (Order on Motions for Summary Judgment at 20) (1996).

[118]

In a more recent water rights case, the Board also stated that "[i]f a native fish stock is threatened or endangered, and there is a nexus between the condition and the flows of a river, then Ecology should arguably consider the cumulative impacts of any future withdrawals on the threatened or endangered status of that species." *Confederated Tribes and Bands of the Yakama Nation, et al. v Department of Ecology, et al.*, PCHB No. 03-030 through 03-036, (Order Granting and Denying Summary Judgment and Remand at 20) (2003).

[119]

In the case at hand, the Tribe has failed to demonstrate how approval of the two water right applications will lead to future water withdrawals that will impact the streams in question. There is nothing in the record to suggest that Ecology will allow future withdrawals in this basin without mitigation. Although the Board disagrees with Ecology regarding the adequacy of the mitigation in this case, it is clear that Ecology intended to provide mitigation that enhanced the stream flow. If other water right permit applications are submitted to Ecology for proposed projects in this basin, the adequacy of the accompanying mitigation for those projects must be evaluated on its own merits. The Board finds that the Tribe has not met its burden in

establishing that adverse cumulative effects will result from the proposed withdrawals under appeal.

Issue 9. Whether mitigation, based on appropriating ground water in continuity with surface water closed to further consumptive appropriation, violates the surface water source limitations of existing law, including WAC 173-513-040.

Issue 10. Whether the mitigation plan included in the Reports of Examination in the form of flow augmentation, based on appropriating ground water in continuity with surface water closed to further consumptive appropriation, is itself a further consumptive appropriation.

[120]

Issues 9 and 10 are essentially the same. As discussed earlier, the Board finds that the water provided for stream flow augmentation was not properly accounted for in the Weber model. More importantly, the streams are extremely leaky in the Woodland Creek basin due to the area's stratigraphy. The pumping of ground water for stream flow augmentation therefore becomes a consumptive use itself because a significant portion of the groundwater captured by the pumping would have flowed into the surface water of Woodland Creek. Therefore, although the proposed stream flow augmentation attempts to provide mitigation for the residential use identified in the ROEs, the mitigation pumping itself diminishes the levels of Woodland Creek in violation of the provisions of WAC 173-153-040.

Issue 12. Are conditions in the permits adequate to monitor or enforce compliance.

[121]

In granting summary judgment in favor of the Respondents on Issue 8, the Board found that the statutory four-part test used by Ecology in deciding whether to grant a new water right, together with the mitigation approval authority provided in RCW 90.03.255 and RCW

90.44.055, provide sufficient standards to guide Ecology's review of water mitigation plans. The Board used these provisions, with particular emphasis on the four-part test set forth in RCW 90.03.290, in evaluating the adequacy of the terms and conditions of the ROEs.

The Tribe asserts that the conditions contained in the ROEs are inadequate to ensure that the impacts from the proposed withdrawals will be fully mitigated. The Tribe's has raised specific concerns with lack of baseline conditions, the adequacy of the monitoring requirements, conditions for the pumping test, and with enforcement of the permit's mitigation plan conditions.[3]

[122]

The Board agrees with the recommendation made by the WDFW that baseline conditions of the streams should be assessed in order to determine how the streams and associated wetlands will be impacted by these developments. As Mr. Boessow states, "[t]he smaller systems ... have less ability to remain healthy and viable when subjected to small changes. We need to know how the wells are going to affect the nearby surface waters." Ex. 14. Ex. B. Without this information, it is difficult to see how Ecology can meet its obligations to protect fish and other environmental values under RCW 90.54.020(3). The Board disagrees, however, that an instream flow should be set prior to granting a water right permit for withdrawals impacting Woodland Creek. The Board finds the ROEs are deficient because they do not include a requirement to establish baseline conditions of Woodland and Fox Creeks.

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[3] The ROEs also require the implementation of low impact development techniques, stream augmentation into perpetuity, a deed restriction on the properties to be built that requires continues operation and maintenance of the flow augmentation system, and a voluntary relinquishment provision if municipal water supply becomes available. The ROEs also require the submittal of monitoring reports on streamflow augmentation. Ex. 14,15.

[123]

The ROEs require a pumping test be performed on each well following its installation. The pumping test is for the purpose of verifying the assumptions made regarding the impact of pumping on the surface water system. The pumping test must be conducted in accordance with procedures developed by the Department of Health. The pumping test consists of a step-drawdown followed by a 24-hour pumping period and monitoring of the recovery period for an additional 24 hours. Ex. 14,15.

[124]

The Board also finds the pumping test required under the ROEs is insufficient to determine how pumping under the permits will affect the surface water system of Woodland and Fox Creeks. The pumping tests required in the ROEs only ensure that the wells will be able to draw sufficient water to meet their demands. There is always some uncertainty associated with groundwater, but the widely divergent results produced by the experts' models in this case illustrate just how much uncertainty exists over the hydraulic conductivity in this basin. The Board finds that there was substantial evidence submitted to find that water is not available for appropriation and that the ROEs rely on erroneous information to reach the conclusion that water is available. However, the Board's conclusion does not preclude Ecology from issuing a preliminary permit under RCW 90.03.290(2)(a) and allowing Miller to resubmit a water rights application at a later time supported by sufficient study or investigation, including a pumping test, that assesses the actual affect groundwater withdrawals will have on the surface waters of the Woodland Creek basin. Ecology could then evaluate the information available after such

study or investigation and, if merited, use such information to re-evaluate the "availability" and "public interest" prongs of the four-part test.

[125]

RCW 90.03.290(2)(a) provides, in part:

> If the application does not contain, and the applicant does not promptly furnish sufficient information on which to base such findings, the department may issue a preliminary permit, for a period not to exceed three years, requiring the applicant to make such surveys, investigations, studies, and progress reports, as in the opinion of the department may be necessary.

[126]

With respect to monitoring the effects of the augmentation plan, the Tribe asserts that the wrong thing is being monitored. The Tribe suggests that it is necessary to monitor stream levels in order to determine the effectiveness of the stream augmentation. The Board agrees with the Tribe on this point. The major issue surrounding this appeal is whether the withdrawals will pull surface water from the streams to the detriment of fish. The Board finds that the ROEs are deficient because they fail to include provisions requiring ongoing monitoring of the levels of Fox and Woodland Creeks during the periods when stream augmentation is being provided. The ongoing monitoring of the stream levels would allow measures to be taken in case the stream augmentation did not work as anticipated, and would help ensure that water is truly available for the development.

[127]

Because the Board has determined that the water right permits should not issue due to the effects of proposed withdrawals upon the surface water, it is unnecessary for the Board to also conclude the identification of a back-up water source as recommended by WDFW is required.

The ROEs were not in error in failing to do so, as it is preferable to have questions regarding potential impacts answered before a project is allowed to proceed rather than to try and address issues that emerge after the fact.

[128]

The Tribe also raises concerns about enforcement of the permit over time. In particular, they wonder if there will be a financially solvent responsible party to provide the streamflow augmentation in perpetuity. The Board agrees with the Tribe, especially since the approval of the proposed withdrawals depends largely on adequate streamflow augmentation being provided in perpetuity. Under these unusual circumstances, the Board finds that the ROEs should have included financial assurances in an appropriate amount and form to ensure that streamflow augmentation will occur as directed in the future.

ORDER

IT IS ORDERED that:

1. The Board finds in favor of the Appellant on Issues Nos. 1, 4, 6, 7, 9, 10, and 12.
2. The Board finds in favor of the Respondents on Issue No. 11.
3. Reports of Examination Nos. G2-29951 and G2-30137 are VACATED.

Done this 20th day of November 2006.

POLLUTION CONTROL HEARINGS BOARD

William H. Lynch, Presiding

Kathleen D. Mix, Member

Andrea McNamara Doyle, Member

BEFORE THE
POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

IN THE MATTER OF A PERMIT TO APPROPRIATE PUBLIC GROUND WATER GRANTED BY THE DEPARTMENT OF ECOLOGY TO PRAIRIE MANAGEMENT, INC.,	
HARRY E. WILBERT, COL. (Ret)., Appellant,	PCHB No. 82-193
v.	FINAL FINDINGS OF FACT CONCLUSIONS OF LAW AND ORDER
STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, and PRAIRIE MANAGEMENT, INC., Respondents.	

This matter, the appeal of a permit to appropriate public ground water granted by Department of Ecology to Prairie Management, Inc., came on for hearing before the Pollution Control Hearings Board, convened at Lacey, Washington, on April 15, 1983. William A. Harrison, Administrative Law Judge, presided. Respondent elected a formal hearing pursuant to RCW 43.21B.230.

Appellant Harry E. Wilbert appeared and represented himself. Respondent Department of Ecology was represented by Patricia Hickey O'Brien, Assistant Attorney General. Respondent Prairie Management, Inc., was represented by its attorney R. Mark Asmundson. Reporter Duane W. Lodell recorded the proceedings.

Witnesses were sworn and testified. Exhibits were examined.

A proposed Findings of Fact, Conclusions of Law and Order of the hearings examiner was mailed to the parties on May 27, 1983.

The Board received exceptions to the proposed decision from respondent Department of Ecology, and replies thereto from appellant. The Board, having personally considered the whole record or portions thereof cited by the parties, having considered the exceptions and replies, and having granted the exceptions in part and denied them in part, now makes these

FINDINGS OF FACT

I

This matter arises on Whidbey Island in Island County. Increased ground water withdrawals associated with the population increase in Island County have caused concern about ground water availablity and potential sea water intrusion. Most large producing wells in the county have pumping water levels near or below sea level, so that if pumping continued for a long enough time, sea water intrusion would result. About 90 percent of ground water withdrawals in Island County are from a single, sea-level aquifer. There is no evidence that significant saltwater intrusion within this aquifer could be counteracted once it occurs.

II

In a preliminary survey, the U. S. Geological Survey has found that, for selected wells, water levels measured in April 1980 were generally within one or two feet of water levels measured in the early 1960's.

III

While opinions differ, the evidence most favorable to the Department of Ecology (DOE) is that static water levels in wells within the area of Whidbey Island in question range from below sea level up to 3 to 5 feet above sea level (excepting one well with static level 13 feet above sea level). Pumping levels are lower than static levels.

IV

In areas where aquifers are intruded by sea water, sodium and chloride ions predominate. High concentrations of dissolved chloride can be detected by taste. Sea water surrounding Whidbey Island contains approximately 16,000 milligrams per liter (mg/L) of chloride. However, the Water Quality Criteria, 1972 (National Academy of Sciences/National Academy of Engineering, 1974, p.61) recommends that sources exceeding 250 mg/L should not be used for public drinking water if sources of lower levels are available. There is no evidence that any large scale source of drinking water is available for Whidbey Island other than the single, sea-level aquifer in question.

V

In a preliminary survey, the U. S. Geological survey has found

five wells on Whidbey Island with chloride concentrations greater than 250 mg/L and three other wells with concentrations at or above 190 mg/L. These are located close to the shore at various points along the island.

VI

Pumping wells in Island County can induce sea water intrusion by lateral movement and by vertical movement. Thus, pumping in one well can cause sea water intrusion in others.

VII

On December 7, 1982, DOE granted a permit to appropriate public ground water to Prairie Management, Inc., (PMI) for group domestic supply of 16 residences. The point of withdrawal and place of use is within the Freeland-Double Bluff Peninsula of Whidbey Island. The point of withdrawal is 0.8 mile from Useless Bay, 1.4 miles from Mutiny Bay, and 1.6 miles from Holmes Harbor, each of which is a saltwater component of the greater salt water surrounding Whidbey Island.

VIII

In fact, the well authorized by the December 7, 1982, permit was constructed prior to June 2, 1982. On that June date, DOE's investigation determined that the depth of the well was approximately 200 feet. The static water level is 7.2 feet above mean sea level. The pump intake is 17 feet below mean sea level. The pumping water level would be about 1.2 feet above mean sea level at the requested withdrawal rate (35 gallons per minute).

IX

The chloride concentration in PMI's well was determined to be 19 mg/L on February 28, 1983. Recent data from ten wells within a radius of approximately one mile from the PMI well show chloride concentration ranging from 13 to 28 mg/L. One well, approximately two miles from the PMI well and close to the shore of Mutiny Bay, shows chloride concentration of 210 mg/L.

X

PMI's permit to appropriate public ground water contains the following condition relative to sea water intrusion:

> When the chloride concentration exceeds 250 mg/L, the withdrawal rate shall be reduced or the pump setting raised to reduce the chloride level to below 250 mg/L.

XI

Appellant Harry E. Wilbert has appealed the ground water permit granted to PMI and seeks its reversal. Mr. Wilbert asserts that the PMI permit is inconsistent with the "public welfare" requirement of RCW 90.03.290 as applied to ground water by RCW 90.44.060, and is also inconsistent with RCW 90.48.080 prohibiting water pollution, all with regard to the issue of saltwater intrusion.

XII

Any Conclusion of Law which should be deemed a Finding of Fact is hereby adopted as such.

From these Findings the Board comes to these

CONCLUSIONS OF LAW

I

The Department of Ecology (DOE) is constituted as a single state agency with authority to manage water resources and to carry out a coordinated program of water pollution control. RCW 43.21A.020. To this end it must investigate prior to granting any permit to appropriate public ground water. RCW 90.03.290 and 90.44.060. Subsequent to the issuance of such a ground water permit, DOE may issue regulatory orders to limit or prohibit withdrawals to ensure a safe sustaining yield from the ground water body, RCW 90.44.130. Similarly, DOE may limit or prohibit withdrawals which cause or tend to cause water pollution. RCW 90.48.080 and .-120. In the unusual context of ground water withdrawal from a saltwater island, as here, this authority must be used to prevent sea water intrusion, not to contend with it after the fact.

II

We conclude that, at the present time, the ground water withdrawal authorized by the contested PMI permit will not cause or tend to cause water pollution via sea water intrusion. The action of DOE approving the PMI permit was not in violation of RCW 90.48.080.

III

We conclude that the permit condition quoted in Findings of Fact X, above, which requires action when chloride concentrations reach 250 mg/L, is insufficient by itself to protect against detriment to the public welfare so far as sea water intrusion is concerned. Because there is a possibility that PMI's well development might result in saltwater contamination of a domestic aquifer, testing and

monitoring provisions clearly adequate to prevent such contamination must be imposed upon the permit. Hillcrest Water Association v. Department of Ecology and Harbor Vista Associates, PCHB No. 80-128 (1981). If water well levels decline significantly in the Freeland-Double Bluff Peninsula of Whidbey Island where this well is located, DOE should limit ground water withdrawals to prevent sea water intrusion in PMI's well or other wells. Such regulation should not await the attainment of high chloride concentrations such as the 250 mg/L cited in the present permit condition (see Finding of Fact X).

The following two conditions should be added to the contested permit to conform it with the public welfare requirement of RCW 90.03.290 as applied to ground water by RCW 90.44.060:

1. The permittee or its successor(s) shall report to Department of Ecology, in April or August of each year or at such times as the Department determines to be appropriate, the chloride concentration and static water level of the well(s) authorized by this permit.

2. The withdrawal of ground water under this permit may be limited, or other appropriate action may be required, by Department of Ecology order to prevent sea water intrusion notwithstanding whether chloride concentration exceeds 250 mg/L in the well(s) authorized by this permit.

IV

Any Finding of Fact which should be deemed a Conclusion of Law is hereby adopted as such.

From these Conclusions the Board enters this

ORDER

This matter is remanded to respondent Department of Ecology with instructions to issue a ground water appropriation permit in the same form as previously but with the addition of the two conditions set out in Conclusion of Law III above.

DONE at Lacey, Washington, this 4th day of August, 1983.

POLLUTION CONTROL HEARINGS BOARD

Gayle Rothrock

GAYLE ROTHROCK, Chairman

David Akana

DAVID AKANA, Lawyer Member

Lawrence J. Paulk

LAWRENCE J. PAULK, Member