POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

PUGET SOUNDKEEPER ALLIANCE; PEOPLE FOR PUGET SOUND; COALITION OF GOVERNMENTAL ENTITIES Appellants, v. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Respondent, STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION, Intervenor.	PCHB NOS. 07-022, 07-023 FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER (PHASE II MUNICIPAL STORMWATER PERMIT)

These consolidated appeals involve the regulation of stormwater discharges from municipal storm sewer systems under a National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit. In these appeals multiple parties challenge the validity of the Department of Ecology's (Ecology) 2007 Phase II Municipal Stormwater General Permit (Phase II Permit),[1] which was issued pursuant to the Federal Water Pollution Control Act, commonly known as the "Clean Water Act," 33 U.S.C. § 1251 *et seq.* and the state Water Pollution Control Act, Chapter 90.48 RCW.

[1] The Phase I Permit was appealed in a separate, consolidated case, PCHB Nos. 07-021, 07-026, 07-027, 07-028, 07-029, 07-030, and 07-037.

The Pollution Control Hearings Board (Board) held a multiple day hearing between October 23, 2008, and October 31, 2008, addressing issues pertaining to the Western Washington Phase II Permit. Attorneys John R. Nelson and Lori Terry Gregory represented the Coalition of Governmental Entities (Coalition).[2] Attorneys Jan Hasselman and Janette K. Brimmer represented Puget Soundkeeper Alliance and People for Puget Sound (PSA). Ronald L. Lavigne, Senior Counsel, and Thomas J. Young, Assistant Attorney General, represented Ecology. Stephen R. Klasinski, Assistant Attorney General, represented Intervenor Washington State Department of Transportation (WSDOT).

Board members William H. Lynch, presiding,[3] Kathleen D. Mix, Chair, and Andrea McNamara Doyle, comprised the Board. Randi Hamilton and Kim L. Otis of Gene Barker and Associates of Olympia, Washington provided court reporting services.

PROCEDURAL BACKGROUND

On January 17, 2007, Ecology issued three NPDES and State Waste Discharge General Permits. The first permit regulates discharges from Large and Medium Municipal Separate Storm Sewer Systems (Phase I Permit). The second permit regulates discharges from Small Municipal Separate Storm Sewer Systems in Western Washington (Western Phase II Permit). The third permit regulates discharges from Small Municipal Separate Storm Sewer Systems in Eastern Washington (Eastern Phase II Permit). Puget Soundkeeper Alliance and People for

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[2] The Coalition includes the following cities: Anacortes, Auburn, Bellevue, Bothell, Bremerton, Buckley, Burien, Burlington, Camas, Des Moines, Ellensburg, Everett, Federal Way, Fircrest, Kennewick, Kent, Longview, Marysville, Mount Vernon, Normandy Park, Port Angeles, Pullman, Puyallup, Renton, Richland, Sammamish, SeaTac, Sumner, University Place, and Vancouver. The Coalition also includes Kitsap County.

[3] Administrative Appeals Judge Kay M. Brown presided over the Condition S4 hearing, and the Phase I appeal. Board Member William H. Lynch presided over the remaining issues in the Phase II appeal.

Puget Sound (PSA) filed an appeal of the Western Phase II Permit, but not the Eastern Phase II Permit. The Phase II Coalition of Governmental Entities (Coalition) filed appeals of both the Eastern and Western Phase II Permits. All appeals on the Eastern and Western Phase II Permits were consolidated into one case, for purposes of hearing only.[4]

The Board previously conducted a hearing on Special Condition S4, which is an identical condition in the Phase I Permit and both the Eastern and Western Phase II Permits. The Board issued its Order on Dispositive Motions: Condition S4 on April 2, 2008. *PSA v. Ecology,* PCHB Nos. 07-021, 07-026, 07-027, 07-028, 07-029, 07-030, 07-037, 07-022, 07-023 (Order on Dispositive Motions: Condition S.4, April 2, 2008) [hereinafter *Order on Dispositive Motions: Condition S4*]. It issued its Findings of Fact, Conclusions of Law, and Order, Condition S4 on August 7, 2008. *PSA v. Ecology,* PCHB Nos. 07-021, 07-026, 07-027, 07-028, 07-029, 07-030, 07-037, 07-022, 07-023 (2008) [hereinafter *Condition S4 Merits Decision*]. These decisions resolved the issues related to Special Condition S4 for both the Phase I and Phase II Permits.

The Board issued an Order on Summary Judgment regarding the Phase II Permit on September 29, 2008, resolving a number of the parties' issues, and the parties also withdrew several issues. *PSA v. Ecology,* PCHB Nos. 07-022, 07-023 (Order on Summary Judgment, Sept. 29, 2008) [hereinafter *Phase II Summary Judgment Order*]. This Phase II Permit decision pertains only to the Western Phase II Permit and includes the following legal issues:

[4]The Board previously issued an Order on Clarification of Issues on January 4, 2008, because PSA had only appealed the Western Phase II Permit and was not taking a position on the Eastern Phase II Permit. *PSA v. Ecology,* PCHB Nos. 07-022, 07-023 (Order on Clarification of Issues, Jan. 4, 2008).

1. Low Impact Development (Issue 12):
    a. Does the permit fail to require maximum onsite dispersion and infiltration of stormwater, through the use of "low impact development" techniques, basin planning, and other appropriate technologies, and if so, does that failure unlawfully cause or contribute to violations of water quality standards?
    b. Does the permit fail to require maximum onsite dispersion and infiltration of stormwater, through the use of "low impact development" techniques, basin planning, and other appropriate technologies, and if so, does that failure unlawfully allow permittees to discharge pollutants that have not been treated with all known available and reasonable methods of treatment ("AKART"), and/or fail to reduce the discharge of pollutants to the maximum extent practicable ("MEP")?

2. One Acre Threshold (Issue 13):
    a. Does the exemption from the requirement to regulate stormwater runoff from development and redevelopment that disturbs less than one acre unlawfully cause or contribute to violations of water quality standards?
    b. Does the exemption from the requirement to regulate discharges from development and redevelopment that disturbs less than one acre allow permittees unlawfully to discharge pollutants that have not been treated, reduced or prevented with AKART, and/or fail to reduce the discharge of pollutants to the MEP?
3. Existing Development (Issue 14):
    a. Does the lack of controls for reducing stormwater discharges from existing development unlawfully cause or contribute to violations of water quality standards?
    b. Does the lack of controls for reducing stormwater discharges from existing development unlawfully allow permittees to discharge pollutants that have not been treated with AKART, and/or fail to reduce the discharge of pollutants to MEP?
4. Monitoring (Issue 15): Does the permit unlawfully or unreasonably fail to require monitoring of stormwater discharges, effectiveness of control techniques, and/or receiving water quality?
5. Coverage Area (Issue 19): Is the coverage area of the permit, which is restricted to cities above a specific size and the urban areas of counties, unlawfully or unreasonably limited?
6. Compliance With Water Quality Standards (Issue 16a): Does the Phase II permit fail to ensure that discharges will not cause or contribute to violations of water quality standards?

Based on its review of the record and foregoing pleadings, and being fully advised, the Board enters the following ruling.

SUMMARY OF THE DECISION

In this order, the Board concludes that there are sufficient distinctions between Phase I and Phase II permittees in terms of available resources and experience in administering a municipal stormwater management program to justify different requirements and different schedules for various requirements between the two Permits. The Board concludes Ecology properly defined a one-acre threshold for triggering regulation of development activity under the Permit, in part because municipalities who regulate to lower thresholds must continue to regulate at that level. The Board also concludes that the Permit adequately addresses stormwater discharges from existing development, and that the monitoring required under the Permit is sufficient. The Board concludes that Ecology correctly defined the coverage area of the Permit. With respect to the use of Low Impact Development, the Board concludes that the current language of the Phase II permit, which requires adoption of ordinances or other enforceable mechanisms to allow for LID, is permissible, but requires Ecology to define in the Permit further steps to advance LID by the Phase II jurisdictions The Board concludes that Ecology must modify the permit to require permittees to identify barriers to implementation of LID and identify actions taken to remove those barriers, to establish goals regarding the future use of LID, and to require other specific actions on reasonable and flexible time frames, both during this permit cycle and in anticipation of future permits.

FINDINGS OF FACT

Overview of the Western Phase II Permit[5]

[1]

Stormwater is recognized as the leading contributor to water quality pollution in urban waterways. *Ex. MUNI-0127, Fact Sheet, p. 8.* In December 1999, the federal Environmental Protection Agency (EPA) issued new rules regarding the regulation of municipal stormwater. *Ex. COA-0028, Moore Testimony.* EPA finalized the Phase II rules in 2000 (EPA Phase II Rules), which applied the NPDES permit program to certain small municipal separate stormwater sewer systems (called MS4s). *Ex. MUNI-0127, Fact Sheet, p. 3. Emmett Testimony.*

[2]

The EPA Phase II Rules provide that the permits must require regulated MS4s to "develop, implement, and enforce a stormwater management program (SWMP) designed to reduce the discharge of pollutants … to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act." 40 C.F.R. §122.34(a). The rules also require that permittee's SWMPs include the following six minimum control measures:

1) Public education and outreach
2) Public involvement and participation
3) Illicit discharge detection and elimination
4) Construction site stormwater runoff control
5) Post-construction stormwater management in new and redevelopment
6) Pollution prevention and good housekeeping practices for municipal operations. 40 C.F.R. §122.34(b).

[5] Unless the context indicates otherwise, all references to the Phase II Permit in this opinion refer to the Western Washington Phase II Permit.

In addition to these minimum control measures, permits must also include two additional measures: any more stringent effluent limitations based on an approved total maximum daily load (TMDL) or equivalent analysis; and evaluations of program compliance, the appropriateness of identified BMPs, and progress toward identified measurable goals. 40 C.F.R. §122.34(d)(1).

[3]

While Ecology was updating the 2001 Stormwater Management Manual, which had been originally written for Puget Sound, it concluded that circumstances in Eastern Washington were sufficiently different to warrant the preparation of a separate Eastern Washington Manual. Ecology held numerous public workshops and public hearings, and substantial public comments and legislative interest was generated during this timeframe. Ecology formed a Westside Stormwater Group and an Eastern Washington Stormwater Management Steering Committee to assist Ecology in developing a separate stormwater manual for Eastern and Western Washington. In January 2004, Ecology completed a report to the Legislature regarding regulating municipal stormwater through the NPDES permit program. *Ex. ECY-09, Moore Testimony.*

[4]

After the issuance of the report to the Legislature, Ecology's internal efforts at drafting the permits became more coordinated, and Ecology tried to reach consensus on issues raised during the comment period. *Moore Testimony.* Kathleen Emmett served as the Permit writer for the Phase II Permit. She relied upon the technical expertise of others within the agency. *Emmett*

Testimony. Bill Moore was the management lead and project lead for all the Municipal Stormwater Permits. *Moore Testimony*.

[5]

In 2005, Ecology issued the most recent edition of the Stormwater Management Manual for Western Washington (2005 Stormwater Manual). The 2005 Stormwater Manual represents the latest version of guidance by Ecology for measures to take to control the quantity and quality of stormwater runoff from new development and redevelopment projects. *Ex. MUNI-0127, Fact Sheet, p. 39*. Both the Phase I and Phase II Permits were issued on January 17, 2007, with an expiration date of February 15, 2012, and both utilize a great deal of information from the 2005 Stormwater Manual. For example, Appendix 1 of both the Phase I and Phase II Permits incorporate large portions of the 2005 Stormwater Manual for new development, redevelopment, and construction sites. *Moore Testimony*.

[6]

The Phase II Permit is an area-wide permit that covers a large geographic area and a multitude of discharge points. Like the Phase I Permit, it is a "programmatic permit" that requires the permittees to implement area-wide stormwater management programs (SWMP) rather than establishing benchmarks or numeric effluent limitations for specific outfalls or discharges. The Phase II Permit regulates local governments, which in turn, regulate others. Stormwater discharges that do not come into the municipal stormwater system are not regulated by this permit. Ecology views these SWMP requirements, in the aggregate, to represent MEP

and to satisfy the state-law requirement to incorporate all known, available, and reasonable methods of treatment (AKART). *Moore Testimony.*

[7]

The Phase II permittees are a group of 85 municipalities that present a range of financial capabilities and experience in stormwater management. This diversity among the Phase II permittees, as well as the number of jurisdictions involved, distinguishes them from the Phase I jurisdictions, which include only six large cities or counties and several "secondary" permittees. For example, a smaller Phase II city such as Aberdeen has limited resources to address stormwater management, while Bellevue and Vancouver have much greater resources. The numbers and diversity of the Phase II permittees also made it difficult for Ecology to define a single and appropriate level of effort and for these cities, yet the agency ultimately chose to regulate the Phase II permittees as a group, and to the same standards.

[8]

In order to begin effectively regulating the Phase II jurisdictions, Ecology set up the Phase II Permit to "lag behind" the Phase I Permit, so that the Phase II permittees could take advantage of the efforts of the Phase I jurisdictions, which would be breaking ground in aspects of stormwater management, establishing ordinances, and modeling how to manage the municipal stormwater problem. The Phase II Permit itself will also allow the level of effort among the Phase II permittees to vary, but at the same time will require every jurisdiction to take action to advance stormwater management and control within their jurisdiction (*e.g.*, the least

sophisticated jurisdictions will need to develop funding mechanisms, while more advanced jurisdictions will be expected to improve stormwater programs more directly). *Moore Testimony.*

[9]

In developing the Phase II Permit requirements, Ecology considered a variety of comments, as well as their own technical knowledge of the status of stormwater management programs among the smaller cities. Despite dispute among interested parties as to whether Phase II jurisdictions should be expected to comply with only the six minimum measures of the federal rules or something greater, Ecology drafted the Phase II Permit in a way that selectively went beyond the federal requirements. Ecology recognized that although some jurisdictions had adopted the 2005 Stormwater Manual, they may not have adopted the acreage thresholds as a basis for regulating development. Ecology also recognized that municipal storm sewer systems are complicated and require time to map, and that some Phase II jurisdictions would need to develop a funding mechanism for their stormwater program. Grants provided by the Legislature (through Ecology or the Puget Sound Action Team) have allowed some Phase II jurisdictions to develop codes that set up a utility to fund stormwater programs and take other actions necessary to lay the groundwork for effective stormwater management, but not all jurisdictions received such grants. *Moore Testimony, Emmett Testimony.*

Current Efforts of Selected Phase II Permittees

[10]

The Coalition asserts that the Phase II Permit is one of the most stringent municipal stormwater permits in the country, and that Phase II permittees are working hard to comply with

the permit requirements within their limited resources. The Coalition notes that in these difficult economic times, and with declining revenues, Phase II permittees do not have the extra resources needed to comply with the additional Permit requirements advocated by PSA. The Coalition provided testimony from the cities of Camas, Port Angeles, and Port Orchard, as well as Kitsap County in support of their position.

[11]

Some smaller Phase II jurisdictions are just beginning to map outfalls (Camas), or create stormwater management plans in the first instance (Port Orchard). Phase II cities are also in various stages of having a stormwater utility to raise money for stormwater overflow problems or permit compliance, or both. Port Angeles created such a utility 5 years ago, while Port Orchard has only recently adopted such an ordinance. The numbers and experience of staff dedicated to stormwater-related issues varies widely among these Phase II cities. A small city such as Camas has 2.9 full-time equivalent employees working in the area of stormwater, while Kitsap County has had as many as 26.5 employees addressing stormwater. However, Kitsap County expects continued lay-offs within its workforce, and has trouble attracting people with necessary skills. Given the diversity of size and other factors within these Phase II cities, monies allocated to stormwater management also varies widely. Port Angeles spends approximately $600,000 a year to comply with the Phase II Permit out of a $720,000 stormwater budget. In Kitsap County the stormwater fee raised about $6.2 million in 2007. At the other end of the spectrum, Port Orchard will have no budget until 2009 and has received a $75,000 grant which was used to hire a consultant to map the stormwater system. In addition to budget reductions, some jurisdictions

have obligations to address other related problems, such as an Agreed Order which requires Port Angeles to address sewer overflows in an amount of $35-40 million. The Kitsap County sewage system needs about $70 million in improvements as well. *Tucker, Brachmann, Dorsey, Sperr, Cutler Testimony.*

[12]

In contrast to the larger Phase I jurisdictions, the Phase II permittees also present a wider range of capabilities and experience with respect to use and understanding of Low Impact Development (LID) as a stormwater managment tool. Kitsap County has experience with LID use on development projects and has made modifications to both its Stormwater Manual and County code to incorporate aspects of the Puget Sound Action Team (PSAT) LID Manual. *Tucker Testimony.* It took the County about 40 hours to write the code changes over a six to eight week period. Public hearings began in July 2006 and went until February 2007. Kitsap County recognizes the need for a LID "performance standard" in order for their staff to have a basis to make technical judgments on the suitability of a project or site for use of LID, and considers that such a standard is lacking at this time. *Cutler Testimony.* Both Kitsap County and Port Angeles recognize LID as an appropriate stormwater management tool, but are faced with challenges in modifying ordinances to reflect LID requirements, in training staff to understand LID techniques, and in defining circumstances in which LID is preferred or required by the jurisdiction. *Sperr, Cutler Testimony.* Camas, as a smaller Phase II jurisdiction, recognizes that their limited staff will have to become familiar with LID concepts, but that it will be difficult to

send staff to the necessary training and to spend the time revising the city code to incorporate LID as a tool, and to ensure the LID projects do not fail. *Brachmann Testimony.*

Issue 12. Low Impact Development

[13]

As part of the mandatory elements within a SWMP, the Phase II Permit requires permittees to adopt an ordinance or other enforceable mechanism that contains provisions to "allow" non-structural preventive actions and source reduction approaches such as LID, measures to minimize the creation of impervious surfaces, and measures to minimize the disturbance of native soils and vegetation. Condition S5.C.4.a.iv. This language largely parallels Condition S5.C.5.b.iii of the Phase I Permit, which was modified by the Board's Phase I decision on the merits (the Phase I programs must "require" LID, "where feasible"). *PSA v. Ecology*, PCHB Nos. 07-021, 026, 027, 028, 029, 030, 037 (2008) [hereinafter *Phase I Merits Decision*]. In addition, this subsection of the Phase II Permit states that the ordinance should take into account site conditions, access, and long-term maintenance. Ecology did not require greater use of LID in either the Phase I or Phase II Permits because of concerns about intruding too far into local government land use planning efforts under the Growth Management Act and because they could not define a "performance standard" for LID. *O'Brien Testimony.*

[14]

In deciding the Phase I Permit appeal, the Board concluded that LID methods at the site, parcel, and subdivision level are known and available methods to control municipal stormwater

discharges, and that LID methods are technologically and economically reasonable to control discharges entering into MS4s. The Board also determined that in order to meet MEP and to apply AKART, permittees needed to aggressively employ LID practices *in combination* with conventional stormwater management methods. With respect to GMA concerns expressed by Ecology, the Board concluded that the GMA and water pollution control statutes must be, and could be, harmonized, concluding that the GMA is not a barrier to greater use of LID for the Phase I jurisdictions. The Board also found that there were both existing design criteria for many LID techniques, and various performance standards related to the use of LID methods. The Board did not, however, mandate development of a specific performance standard, and left further action in that regard to the discretion of Ecology. The Board remanded the Phase I Permit back to Ecology to require the application of LID techniques by Phase I jurisdictions where feasible. *Phase I Merits Decision* at FF 37-66 and COL 11-27.

[15]

In the Phase II case, both PSA and the Coalition moved for summary judgment on Issue 12, which pertains to LID. The Board found that there were material facts in dispute with regard to the economic ability of Phase II permittees to incorporate and utilize LID techniques within their stormwater management programs as readily as the Phase I permittees. Therefore, the Board determined there were questions as to whether LID methods must be employed to the same extent by Phase II jurisdictions in order to meet the AKART and MEP standards. The Board denied both parties' motions for partial summary judgment on Issue 12, and held it over for the hearing on the merits. *Phase II Summary Judgment Order* at pp. 28-29.

[16]

After the Board's Phase I Merits Decision, PSA filed a Motion in Limine to limit the LID-related evidence in the Phase II proceeding to address any differences between the Phase I and Phase II jurisdictions that would dictate a different result in this case. In granting PSA's Motion in Limine, the Board noted that during the Phase I hearing, it heard extensive testimony from witnesses and reviewed voluminous studies regarding the use of LID. The Board concluded that it would be duplicative for the Board to take additional evidence regarding the use of LID as a stormwater technique during the Phase II hearing. The Board allowed the Coalition and Ecology to present a case as to whether requiring LID of the Phase II permittees is "reasonable" under the state law AKART standard or "practicable" under the federal MEP standard, specifically from an economic perspective, and present evidence on other differences between Phase I and Phase II permittees. *PSA v. Ecology,* PCHB Nos. 07-022, 07-023 (Order Granting Motion in Limine, October 22, 2008).

[17]

Ecology is currently developing guidance and implementing the LID aspects of the Phase I decision of this Board, which was not appealed to Superior Court by any party. Ecology may place language in the Phase I Permit to define more detailed LID requirements and may include some form of a performance standard. The agency is also considering convening a stakeholder group of engineering consultants, environmentalists, developers, Phase I permittees, and possibly Phase II permittees, and others. Such a workgroup would attempt to reach consensus on aspects of LID, including identifying LID techniques that are technically feasible, and developing a

performance standard against which LID projects could be designed by developers and evaluated by local governments. Ecology may also approve aspects of LID in an incremental fashion, as there is a wide range of engineering and site development practices that are or could be ready for implementation within varying time frames. Ecology's effort to make the ordered changes in the Phase I Permit, and assist the Phase I jurisdictions in implementing such requirements will likely take 12 to 24 months, and approach the end of both the current Phase I and Phase II Permit cycle (the permits expire in February, 2012). *O'Brien, Moore Testimony.*

[18]

EPA has recommended amending the Phase II Permit to do more than "allow" LID techniques to be used. Specifically, EPA recommends that the Permit better "promote" LID and require permittees to (1) identify current and potential non-structural actions to prevent storm water impacts, and (2) establish goals and metrics to promote and measure LID use with the intent that LID and non-structural actions be implemented widely throughout Western Washington. *Exs. PSA-067, ECY-10.*

[19]

The National Marine Fisheries Service recently issued a final biological opinion in connection with a Section 7 consultation under the federal Endangered Species Act regarding the implementation of the National Flood Insurance Program within the State of Washington. *Exs. PSA-152, COA-0124, and COA-0125.* As part of the minimum criteria listed to maintain streams and floodplains in their natural states to the maximum extent practicable, the opinion states "LID methods are required to treat and infiltrate runoff as described in PSAT 2002."

(referring to the Puget Sound Action Team's Technical Guidance Manual on LID) *Ex. PSA-152, Appendix 4, p. 223.* Additionally, the National Academy of Sciences recently issued a long report that is considered a comprehensive independent evaluation of stormwater, concluding that LID is the best strategy available to effectively manage water quality problems related to stormwater runoff. *Horner Testimony.*

[20]

An essential aspect of beginning the process to utilize LID where feasible (as ordered in the Phase I case) is to amend city and county codes to make use of LID a legal requirement enforceable by local government. Such changes implicate other aspects of local codes as well, such as sections addressing public safety, road designs, or utility location. As noted, Phase II permittees are already required by the current version of the Phase II Permit to develop an ordinance or other enforceable mechanism "to allow for non-structural preventive actions and source reduction approaches such as Low Impact Development Techniques (LID)...." Many Phase II permittees are also expected to revise their codes to comply with the Phase II Permit because it requires that the 2005 Stormwater Manual be adopted by August 2009. Permittees will have the opportunity to begin addressing LID requirements as they implement these existing permit conditions. Some jurisdictions, such as Olympia, have finished their code revisions. Others could take much longer due to staffing limitations, controversy over code changes, and cost considerations. *Moore, O'Brien Testimony.*

[21]

There are some resources available to Phase II permittees to begin implementing various aspects of LID at different levels within their jurisdictions. Chapter 3 of the PSAT Technical Guidance Manual offers site planning guidance. The PSAT Manual, which is scheduled for an update, also explains how to model and maintain LID. PSAT is also helping some local jurisdictions with grants to assist with code revisions and is doing some LID training. Jurisdictions in Southwest Washington, however, do not have access to these resources as they are outside the Puget Sound basin, and there are no current plans to make them available. Ecology's Fact Sheet recognizes that some LID practices should be relatively easy to implement now, stating "Best management practices, such as directing runoff to vegetated areas where it can infiltrate, are easy to implement in order to reduce the environmental impact of these discharges." *Ex. MUNI-0127, Fact Sheet, p. 36.* Even with such guidance and the ease of implementing simple LID practices, local jurisdictions need guidance to ensure LID measures are properly evaluated so as to be consistently and effectively applied by developers and local government. *O'Brien Testimony.*

[22]

All experts before the Board, as well as Ecology permit writers and managers, agree that to most effectively advance LID as a stormwater management tool and to implement the Phase I decision of this Board, Ecology should develop technical guidance and one or more performance standards for the Phase I and II jurisdictions. *Fendt, Booth Testimony.* This was the case in testimony during the Phase I case as well. *O'Brien Testimony.* Although there is wide

disagreement among the parties as to what the proper performance standard(s) should be, there appears to be general agreement that a performance standard is an overall goal that could be engineered on a site or subdivision level, in a manner similar to how the Stormwater Manual's current flow-control standard is, as opposed to a standard that is BMP-specific.[6] The PSAT manual does not contain such a minimum performance standard. However, even in the absence of such a performance standard(s), the weight of testimony before the Board was that aspects of LID could be implemented as further technical guidance and standards are developed, and indeed, that many jurisdictions are doing so. *Booth, Horner, Holz Testimony.*

[23]

The Coalition asserts that Phase II communities do not have enough resources to make the necessary scientific and professional evaluations of LID proposals if those evaluations were mandated for each development proposal. The Coalition erroneously interprets the Board's Phase I Merits Decision regarding LID to require a site-specific AKART study for every development project subject to the permit.[7] Such an approach, they assert, would overtax the resources of the Phase II permittees. *Tucker, Fendt Testimony.* The Coalition argues that LID techniques are multi-disciplinary, requiring an understanding of land use requirements and other development regulations involving numerous code provisions. Even where LID techniques are proposed on a voluntary basis, they assert that the smaller jurisdictions frequently struggle with the time and resources needed to make the complex evaluations, and need guidance from

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[6] *See also* Phase I Merits Decision, at Findings of Fact 58-59.

[7] Nothing in the Phase I Merits Decision requires a site-specific AKART analysis on every regulated development project.

Ecology. The Coalition argues that LID is complex, with a need to understand soils, infiltration, hydrology, plant biology, and hydrogeology as the local jurisdiction evaluates an LID proposal, and that this goes beyond the expertise of the typical in-house staff of Phase II jurisdictions. The Coalition asserts additional cost analysis is necessary before requiring Phase II jurisdictions to implement LID practices.

[24]

The Coalition also argues that Ecology has also failed to perform a technical feasibility analysis for LID techniques. Ecology has a technology assessment protocol, TAPE, which is contained within its guidance. The TAPE guidance establishes a testing protocol to evaluate and report on the performance and appropriate uses of emerging stormwater technologies. The Coalition suggests this protocol could be used for LID BMPs and results made available to local jurisdictions. *Fendt Testimony.*

[25]

PSA's experts assert that more aggressive use of LID is appropriate, and dispute the Coalition's position that it is harder for a smaller jurisdiction than a larger one to implement LID. *Horner, Holz Testimony.* PSA experts opine that from an engineering perspective, LID is no more challenging to review than conventional stormwater controls. Like some LID techniques, some conventional treatment methods such as detention ponds are also susceptible to engineering failing, and can be difficult to maintain. Despite these challenges, many elements or aspects of LID are ready to be put in place immediately. *Booth, Holz Testimony.*

[26]

One of PSA's experts maintains that Ecology should be able to develop LID technical guidance and a performance standard(s) within one or two years. *Booth Testimony.* PSA's experts acknowledge that rewriting of local codes will be needed, can be extensive and that such administrative components are part of an assessment as to the feasibility of implementing LID in Phase II jurisdictions. *Booth Testimony.* Local government code revisions could take over two years to fully accomplish, from the writing through the public comment and final adoption stages, although the time needed to rewrite code can be abbreviated by using model LID ordinances or stand-alone LID chapters as an overlay to existing code. *Horner, Booth Testimony.* Phase II jurisdictions with adequate financial resources could contract with third parties to make code amendments necessary to allow for LID, but whether there are sufficient numbers of viable contractors to assist 85 jurisdictions who would wish to contract out this service is not clear. *Booth Testimony.* The Puget Sound Partnership is already helping jurisdictions to amend their codes, although only Puget Sound Basin communities are eligible for this assistance. *Booth Testimony.* PSAT has given grants to 18 jurisdictions to hire a consultant to assist with amending their ordinances. *O'Brien Testimony.*

[27]

Different jurisdictions in Washington, and around the country, have focused their LID efforts on widely varying facets of the issue, and various regulatory efforts have focused on advancing particular aspects of LID. *Holz, Horner Testimony.* Some counties in California act as copermittees and cooperate in meeting permit requirements. Santa Monica, a Phase II city,

has seven projects based upon LID. Santa Barbara is a Phase II city that developed a well-done manual on LID. *Horner Testimony.* San Diego focuses on development planning that requires, for regulated projects, "LID BMPs where feasible." *Ex. PSA-070.* Ventura County's Draft Municipal Stormwater Permit directs that LID strategies must be the highest priority for BMP selection and mandates all new regulated projects to integrate LID principles into project design. *Ex. PSA-69.* The draft San Francisco Bay Regional municipal stormwater permit divides new and redevelopment projects into two tiers; for one group it "encourages the inclusion of adequate [LID] site design measures" and for the other group, it directs that permittees "shall require [the regulated projects] to implement Low Impact Development (LID) management techniques…" and "to integrate LID principles into project design" through a variety of avenues. *Ex. PSA-071, Condition C.3.a and C.3.b.* A section of the San Diego permit recognizes the need to update the standard urban storm water mitigation plans (SUSMPs) to remove obsolete or ineffective BMPs and to implement LID where applicable and feasible. *Ex. PSA-070, Condition D.1.d. (4).* Copermittees were directed to develop and submit an updated Model SUSMP that defines minimum LID in order to maximize the use of LID practices and principles in local stormwater programs as a means of reducing stormwater runoff. The Model SUSMP must establish criteria to aid in determining conditions where implementation of each LID BMP is applicable and feasible. *Ex. PSA-070, Condition D.1.d. (7) & (8).*

[28]

Ecology considers LID critical to protecting the environment, regardless of jurisdiction size. As a stormwater management tool, the Board has previously found that LID specific

engineering techniques are not more or less costly to developers. *See* Finding of Fact 61-62, Phase I Merits Decision; *Horner Testimony*. However, as we stated in the Phase I Merits decision, "[A] major cost consideration in utilizing LID techniques at the site level is not the engineering or construction associated with the LID techniques, but rather the costs associated with navigating a system of regulation and development that was not created with LID in mind." Finding of Fact 62. We find that the Phase II jurisdiction are less able financially to manage the costs associated with the review and modification of existing zoning and building regulations that are an obstacle to implementation of LID on a broader scale. Phase II jurisdictions should be able to take advantage of the work of the larger jurisdiction as they move forward with LID, as the requirements and deadlines in the Phase II Permit anticipates. While Ecology did not complete a cost analysis as part of any AKART assessment for the mandatory use of LID in either the Phase I or Phase II jurisdictions, we do not find that such an analysis was necessary. *Fendt Testimony.*

[29]

The Board finds, as it did in the Phase I Permit decision, that LID methods are known and available method to address stormwater runoff at the site, parcel and subdivision level in Phase II jurisdictions. The wide range of financial capabilities and experiences with stormwater management within the Phase II permittees compels us, however, to find that these methods are technologically and economically feasible at the site, parcel and subdivision level in the Phase II jurisdictions to a more limited extent than in the Phase I jurisdictions. Unlike our conclusion in the Phase I Permit decision, the Phase II Permit need not "require" use of LID "where feasible"

at this time. Ecology may, consistent with its obligation to impose increasingly stringent requirements on Phase I and II jurisdictions under the NPDES permit system, lag the Phase II jurisdictions behind the Phase I jurisdictions and provide some flexibility to those jurisdictions in developing LID techniques. While it is appropriately within Ecology's technical expertise to determine the right timing for use of this stormwater management tool in Phase II jurisdictions, as set forth below, Ecology must take additional steps in the Phase II Permit to ensure that Phase II jurisdiction undertake actions to implement, or ready themselves to implement LID.

[30]

Consistent with the above Finding, the Board further finds that Ecology's approach to addressing LID in the Phase II Permit does not go far enough and does not set a course for Phase II jurisdictions that is consistent with the AKART and MEP standards. Ecology stated in its Report to the Legislature that "The most cost effective way to control stormwater discharges is to design and build in stormwater treatment and flow control BMPs *at the time a development is built.*" *Ex. ECY-9, p.28.* The Board finds that there are steps Ecology could require of the Phase II jurisdictions during this version of the Phase II Permit that would make it easier for them to incorporate LID practices, both during this Permit term and in future versions of the Permit. The Board finds that in order to meet AKART and reduce pollutants to the maximum extent practicable, that the Phase II Permit should require more and additional specific steps and goals for the implementation of LID over a reasonable time frame. Specifically, consistent with what EPA has recommended to Ecology, we find it is reasonable and practicable for Phase II permittees to identify barriers to the use of LID and how those will be addressed, to identify

potential non-structural actions or LID techniques to prevent continuing stormwater impacts, and to establish goals and metrics for promoting and measuring LID use, with the intent that LID and other non-structural actions will be widely implemented in Phase II jurisdictions on an appropriate time-line and in future permits.

Issue 13. One Acre Threshold

[31]

EPA Phase II Rules require permittees to regulate projects which disturb one acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale (hereinafter referred to as "one-acre threshold"). This one-acre threshold is the only numeric requirement EPA included within the Phase II Rules. EPA's rationale was that the one-acre threshold would capture about ninety percent of the discharge activity. *Moore Testimony.*

[32]

The permit applies the one-acre threshold to Phase II permittees by requiring them to develop, implement, and enforce a program to reduce pollutants in stormwater runoff to a regulated MS4 from new development, redevelopment, and construction activities. Condition S5.C.4. When the threshold is triggered, technical thresholds and the requirements of Appendix 1 of the Permit apply to the development or re-development. Condition S.5.C.4. This permit condition also requires permittees to retain any existing local requirements that currently apply stormwater controls at smaller sites or at thresholds lower than the one-acre threshold. Condition S5.C.4.a, *Moore Testimony.*

[33]

Ecology's 2005 Stormwater Manual directs stormwater controls and use of best management practices for stormwater runoff at levels lower than the one acre threshold (down to 10,000 and 5,000 square feet). The Phase II Permit does not incorporate the lower thresholds set forth in the Manual or required in the Phase I Permit. The one-acre threshold is consistent with other regulatory permits issued by Ecology, including the Construction Stormwater General Permit. *Emmert, Moore, O'Brien Testimony.*

[34]

PSA's experts assert that discharges from development occurring at sites smaller than one acre will cause significant and measureable negative impacts to stream health that may prove irreversible. *Holz, Booth Testimony.* Because the 2005 Stormwater Manual uses lower thresholds for stormwater control, PSA argues that the lower thresholds represents the known, available and reasonable method of treatment (AKART) for stormwater, and MEP under the federal standard, and must be applied in the Phase II Permit to protect water quality. A 1997 research paper showed that about one quarter of the new development in King County fell below a one-half acre regulatory threshold that was in place at that time. *Ex. PSA-114.* According to PSA, that percentage would be larger under a one-acre threshold, which means that a significant amount of development would occur which would not be subject to any regulation, including the Permit's core flow control standard. *Booth Testimony.* PSA contends that it would be more appropriate to reallocate staff workload, or to hire more staff and charge developers for the extra costs rather than put the resources at risk. *Holz Testimony.*

[35]

Ecology considered lowering the threshold to match the threshold established in the Phase I Permit and the 2005 Stormwater Manual for Western Washington, and there was considerable internal debate within the agency as to the proper threshold for regulation. *Exs. PSA-115, PSA-116, PSA-120, PSA-125*; *Emmert, O'Brien, Moore Testimony*. Permit developers considered whether the one-acre threshold satisfied AKART and MEP given that the 2005 Stormwater Manual establishes a lower development threshold, and that the Phase I Permit incorporated the Manual thresholds for larger jurisdictions. There was recognition that thresholds lower than one acre would better protect water quality. *Exs. PSA-116, PSA-120, PSA-125*. Ecology was also aware of a study conducted by scientists in western Washington, which stated that failure to regulate small sites does not protect beneficial uses and negates much of the effect of regulating larger sites. *Exs. PSA-116, PSA-114*. Permit manager, Bill Moore informed Ecology Director, Jay Manning, that use of the lower, Manual thresholds "would probably be the single biggest improvement for the Phase II permits." *Ex. PSA-125*.

[36]

Ecology Director Jay Manning asked for further investigation regarding the potential impact of not regulating development below the one-acre threshold. Upon review, Ecology staff concluded that many (up to 80 percent) of the Phase II permittees were regulating to thresholds below the one-acre minimum through adopted technical manuals. Permit manager Bill Moore concluded that although it would be highly variable, up to 97 percent of land disturbances would be covered by the proposed permit term. Ecology also considered limited information from one

county (Kitsap) that showed the number of new single-family home permits that would not be covered by a one-acre-or-greater permit term to be relatively small, in the five to seven percent range. Ecology also considered the work load that would be placed on local government for the additional inspections triggered by a threshold lower than one acre. *Ex. PSA-115; Emmett, Moore Testimony.* Ecology was aware that its decision regarding the one-acre threshold was likely to be challenged regardless of the standard it placed in the final Phase II Permit. *Moore Testimony, Ex. PSA-116.*

[37]

Ecology had also indicated in the 2004 Report to the Legislature that it would use the one-acre threshold for regulation purposes. *Ex. ECY-9.* Ecology did not want to surprise permittees with a lower threshold or contradict its reported direction when it issued the Permit. *Emmett Testimony.* Ecology concluded that the one-acre threshold was a practical starting point for local jurisdictions that were starting their SWMPs from scratch. *Ex. MUNI-0127, Fact Sheet, p. 38.* Ecology was concerned that employing a lower threshold in the permit would be a disincentive for local jurisdictions to expand the coverage of their programs. Ecology was also concerned about the equity of regulating to one acre under other permits issued by Ecology, such as the Construction Stormwater General Permit, but requiring local jurisdictions to regulate to a more stringent standard. *Moore Testimony.* Ultimately, after a long evolution of position and consideration of many factors, Ecology placed a "hybrid" term in the permit, including EPA's one-acre threshold, but requiring those jurisdictions that already regulated to a lower threshold to not backslide, and to maintain that lower regulatory requirement. *Moore Testimony.*

Issue 14. Existing Development

[38]

Unlike the Phase I Permit, the Phase II Permit does not mandate as part of the SWMP elements a structural stormwater control (retrofit) program or stormwater source control specifically targeting existing development. PSA contends that the lack of similar provisions in the Phase II Permit fails to meet the MEP and AKART standards and will unlawfully cause or contribute to violations of water quality standards. Other than noting the distinctions between the Phase I and Phase II Permits, PSA does not attempt to show how the Phase II Permit fails to meet the MEP and AKART standard or how it causes or contributes to water quality violations.

[39]

The Phase I Permit requires permittees to address stormwater runoff from existing development by implementing structural stormwater control and source control measures. Both of these provisions are required elements of the SWMP, and the Phase I Permit includes minimum requirements for each that were based on EPA's stormwater rules applicable to Phase I jurisdictions. *Phase I Merits Decision* at FF 67-70.[8]

[40]

As we noted in our summary judgment ruling in this appeal, PSA does not dispute that, with limited exceptions, the EPA Phase II Rules do not require permittees to address existing

[8]The Board found that the structural stormwater control program in the Phase I Permit constituted impermissible self-regulation because of the lack of oversight by Ecology, but upheld the source control program. *Phase I Merits Decision* at COL 28-30. The Board also directed Ecology to modify the Phase I Permit to require that permittees prioritize the projects they selected in accordance with federal rules to ensure that AKART and MEP were met. *Phase I Merits Decision* at p. 72.

development as part of the six minimum measures. *Phase II Summary Judgment Order* at p. 31. The exceptions to the EPA rules include circumstances where discharges from existing development must be addressed as part of a municipality's illicit discharge detection and elimination program, its operation and maintenance programs, and TMDLs, all of which are included within the Phase II Permit requirements. Conditions S5.C.3, S5.C.5, and S7. Ecology also included within the permit's public education and outreach requirement provisions aimed at reducing adverse stormwater impacts from existing development. Condition S5.C.1. For example, a permittee's education and outreach efforts must be prioritized to address source control and other BMPs with target audiences for common stormwater pollutants and practices associated with existing development and widespread but harmful activities. Outreach programs must be designed to achieve measurable improvements in the target audience's understanding of the problem and what they can do to help solve it. S5.C.1.a. Ecology considered these measures significant and decided not to include more stringent requirements targeting existing development, such as the structural retrofit and source control elements contained in the Phase I Permit, due to the more limited capacity and resources of the Phase I jurisdictions. *Moore Testimony.*

[41]

The Board finds that the Phase II Permit requires permittees to take meaningful actions which will help reduce discharges from existing development, and that these requirements are reasonable given the limited resources and experience of Phase II permittees.

Issue 15. Monitoring

[42]

The Phase II Permit differs markedly from the Phase I Permit with respect to monitoring, in that it does not require Phase II permittees to conduct water sampling or other testing during the Permit term, except under limited circumstances such as in connection with total maximum daily load (TMDL) or illicit discharge requirements. Condition S8.A.[9] Instead, the Phase II Permit approaches monitoring in two ways: first, in a broader sense than what is customarily considered environmental or end-of-pipe monitoring, by requiring tracking, evaluation, and feedback of several different SWMP elements; and second, by requiring permittees to do the preparatory work necessary to develop and participate in implementing an effective environmental monitoring program at some point in the future.

[43]

EPA recommends against requiring small MS4s to conduct monitoring during this first permit cycle, but recognizes that the need for, and extent of, monitoring can change from permit cycle to permit cycle. "For purposes of today's rule, EPA recommends that, in general, NPDES permits for small MS4s should not require the conduct of any additional monitoring beyond monitoring that the small MS4 may be already performing. In the second and subsequent permit terms, EPA expects that some limited ambient monitoring might be appropriately required for

[9] If monitoring is conducted by or on behalf of a permittee, the Phase II Permit requires including a brief description of the type of information received from the monitoring within the annual report for the time period the information was received. Condition S8.B.

perhaps half of the regulated small SM4s." Fed. Register, Vol. 64, No. 235, December 8, 1999, p. 68769.

[44]

Ecology determined that traditional end-of-pipe and BMP effectiveness monitoring does not make sense for Phase II jurisdictions at this juncture because most of them are just beginning their stormwater programs, and while many Phase II jurisdictions have some limited experience with monitoring, such a requirement would be beyond the capability of nearly all Phase II permittees. Many jurisdictions still lack basic mapping information about their systems, many elements of their stormwater programs have not been worked out yet, and many of the required BMPs have not yet been implemented. *Moore Testimony.* Ecology's primary objective for the monitoring program during this permit cycle and beyond is to provide a feedback loop for the permittees' SWMPs and Ecology's municipal stormwater permitting program.

[45]

To that end, the permit requires SWMPs to include an on-going program for gathering, tracking, maintaining, and using monitoring information to evaluate their SWMP development, implementation, and permit compliance, and to set priorities. Condition S5.A.3. Permittees must track a range of compliance data, such as numbers of inspections, official enforcement actions, and types of public education activities, and include that information in their annual reports. Condition S5.A.3.b. *Ex. MUNI 0127, Fact Sheet, p. 48.* These requirements will provide a means to evaluate compliance with permit conditions and the effectiveness of program elements in changing behavior, without conducting water quality sampling. *Moore Testimony.*

[46]

Ecology envisioned Phase I jurisdictions beginning their environmental monitoring while Ecology worked on developing a monitoring consortium that would likely involve a watershed approach and include both Phase I and Phase II jurisdictions. The Phase II permittees would then be able to get assistance from the monitoring consortium, and the information that Phase I permittees develop regarding the effectiveness of BMPs would also be applicable to Phase II BMPs. *Moore Testimony*. All experts agreed that a consortium based, watershed approach to stormwater monitoring is the most desirable methodology, and that 85 individual monitoring programs would be the least effective approach both in terms of cost and results.

[47]

Ecology offers additional reasons why it believes environmental monitoring by Phase II permittees is unnecessary and inappropriate at this time. Ecology has its own ambient water quality program that can be used in determining baseline conditions of receiving water. Ecology also determined it was not realistic to expect 85 permittees with little or no monitoring experience to reach consensus on a collaborative approach to monitoring for this permit cycle without the assistance of a consortium or direction from Ecology in the form of specific permit requirements. *Moore Testimony*.

[48]

Ecology intends to determine what, if any, environmental monitoring will be required in the next five-year permit cycle. *Ex.MUNI-0127, Fact Sheet, p. 49*. During this permit cycle, the Phase II Permit directs permittees to provide Ecology some of the information necessary to make

that decision. The Phase II Permit directs cities, towns, and counties to prepare for implementation of a comprehensive long-term monitoring program consisting of stormwater monitoring and targeted SWMP effectiveness monitoring. Conditions S8.C. The purpose of the stormwater monitoring Phase II permittees are required to plan for, is to characterize stormwater runoff quantity and quality at a limited number of locations in order to analyze loadings and changes in conditions over time and for generalization across jurisdictions. The purpose of the targeted SWMP effectiveness monitoring is to improve stormwater management efforts by evaluating issues that significantly affect the success of, or confidence in, stormwater controls, and to establish a feedback loop concerning all or a subset of the SWMP. *Ex. MUNI- 0127, Fact Sheet, p. 50.* The results of the monitoring will be used to support the adaptive management process and refine the SWMP. Condition S8.C.1.

[49]

To achieve its intended purpose, the Permit's stormwater monitoring component requires permittees to identify specific locations suitable for long-term monitoring by December 31, 2010, based on jurisdiction size and specified criteria. The permittees must document how the sites were selected and justify the basin size, based on comparison of the times of concentration with rainfall durations for typical seasonal storms. Sites must represent different discernible types of land use, so long as they are not a single industrial or commercial complex. Smaller cities and counties must identify two outfalls or conveyances suitable for monitoring, representing commercial and either low-density (for counties) or high-density (for cities) land uses. Larger counties must identify three outfalls or conveyances representing commercial, low-

density residential, and medium-to-high density residential land uses; and larger cities must identify three outfalls or conveyances representing commercial, high-density residential, and industrial land uses. Condition S8.C.1.a.

[50]

To achieve the intended purposes of targeted stormwater effectiveness monitoring, the permit requires all permittees to prepare for monitoring of stormwater-related problems directly addressed by actions within their SWMPs by identifying potential sites and formulating research questions. This aspect of the monitoring program must be designed to answer questions such as the effectiveness of a targeted action or narrow suite of actions, and whether the SWMP is achieving a targeted environmental outcome. No later than December 31, 2010, each municipality must identify at least two suitable questions and select sites where water quality monitoring will be conducted. The monitoring must include plans for stormwater, sediment or receiving water monitoring of physical, chemical and/or biological characteristics. For each research question, permittees must develop a statement of the question, an explanation of how and why the question is significant to the permittee, and a discussion of whether and how the monitoring results may be significant to other MS4s. In addition, permittees must develop a specific hypothesis about the issue or management action that will be tested, specific parameters or attributes to be measured, and expected modifications to management actions depending on the outcome of hypothesis testing. Condition S8.C.1.b.

[51]

PSA's experts concede that adequate water quality characterization data is currently being gathered, and that a broad collaborative consortium is the most desirable approach for achieving other monitoring purposes; however, they maintain that without additional monitoring requirements in the Phase II Permit, the Permit will be ineffective in achieving the Clean Water Act's goals of protecting and restoring streams and their beneficial uses. *Booth, Horner Testimony.* Specifically, they would like the Permit to require additional water quality monitoring designed to assess whether permit conditions are being complied with, whether a permittee is removing pollutants to the maximum extent practicable with effective use of BMPs, and whether water quality standards are being degraded. *Horner Testimony.* PSA's experts opine that additional monitoring in this permit cycle is necessary for effective adaptive management, and for building the base of knowledge necessary to guide the next iteration of the permit and reflect technological advances. They also assert that such monitoring will allow limited resources to be directed to the most effective approaches and highest priority problems. *Booth, Horner Testimony.*

[52]

PSA proposes that water quality monitoring can be conducted in an effective and economical manner if multiple jurisdictions jointly participate in a single, region-wide monitoring program. In the context of this Permit, they suggest the 85 Phase II permittees could be directed to work together to develop, fund, and implement a collaborative monitoring

program or, alternatively, be given credit for participating in a consortium developed through other means. *Horner, Booth Testimony.*

[53]

The Coalition's expert, Dr. Wisdom, agrees that while a collaborative approach is both feasible and desirable, until a well-developed consortium is underway, additional stormwater monitoring for Phase II jurisdictions during this first permit cycle is neither reasonable nor practicable. He based his opinion in part on the fact that there is a growing body of data in the state regarding the quality of urban runoff. In addition to Ecology's existing data, which is regularly being added to by the United States Geological Service, the Washington Department of Transportation, and TMDL monitoring efforts, the Phase I monitoring results will also add to the knowledge base. Additional monitoring by the Phase II jurisdictions might increase the number of data points, but it would divert resources without adding to the scientific community's understanding of municipal stormwater in a meaningful way. The kind of BMP effectiveness monitoring advocated by PSA and being considered by the consortium is very expensive because of the complexity and highly variable nature of stormwater. It is necessary to have a large sample size to reach the scientifically acceptable level for certainty and avoid erroneously concluding a BMP is effective when it is not. The burden on local jurisdictions would be extraordinary if they each had to do this type of monitoring. For example, the permit requires selection of sites suitable for permanent installation and operation of flow-weighted composite sampling equipment, which cost approximately $10,000 each. It is unlikely there are enough

available consultants to assist Phase II permittees, and there are not enough qualifying storms remaining within the duration of the permit to achieve meaningful results. *Wisdom Testimony.*

[54]

The Board finds that Ecology properly limited the monitoring requirements contained in this first version of the Phase II Permit. This is especially true since all parties recognize that some type of monitoring consortium would be the preferable entity to conduct monitoring on behalf of the permittees, but that it will take some time to develop this monitoring program.

Issue 19: Coverage Area

[55]

The Phase II Permit requires approximately 85 local governments that operate small MS4s to apply for coverage under the Phase II Permit or to submit an individual application. These include the Counties of Cowlitz, Kitsap, Thurston, Skagit, and Whatcom, and approximately 80 cities ranging in size from as few as 3,000 people up to more than 100,000.[10] Condition S1.D.2., *Ex. COA 126.*

[10]The Cities covered under the Phase II Permit include the following: Aberdeen, Algona, Anacortes, Arlington, Auburn, Bainbridge Island, Battle Ground, Bellevue, Bellingham, Black Diamond, Bonney Lake, Bothell, Bremerton, Brier, Buckley, Burien, Burlington, Camas, Centralia, Clyde Hill, Covington, Des Moines, DuPont, Duvall, Edgewood, Edmonds, Enumclaw, Everett, Federal Way, Ferndale, Fife, Fircrest, Gig Harbor, Granite Falls, Issaquah, Kelso, Kenmore, Kent, Kirkland, Lacey, Lake Forest Park, Lake Stevens, Lakewood, Longview, Lynwood, Maple Valley, Marysville, Medina, Mercer Island, Mill Creek, Milton, Monroe, Mountlake Terrace, Mount Vernon, Mukilteo, Newcastle, Normandy Park, Oak Harbor, Olympia, Orting, Pacific, Port Orchard, Port Angeles, Poulsbo, Puyallup, Redmond, Renton, Sammamish, SeaTac, Sedro-Woolley, Shoreline, Snohomish, Steilacoom, Sumner, Tukwila, Tumwater, University Place, Vancouver, Washougal, Woodinville, and Yarrow Point. Condition S1.D.2.a.i.

[56]

In selecting the coverage area for the Phase II Permit, Ecology started by including all of the census-defined urbanized areas identified through the EPA Phase II Rule.[11] More than one-quarter of the cities covered under the Permit have total populations less than 10,000, and are included because they are within a census-defined urbanized area. Ecology then made the decision to exceed the Phase II Rule's minimum urbanized area coverage requirements in two ways: first, the permit requires *all* of a city or a county located partially within an urbanized area to be covered, where the federal rule requires coverage of just that portion located in the urbanized area. 40 C.F.R. § 122.32(a)(1); and second, it requires that designated urban growth areas (UGAs) contiguous to the urbanized areas be covered under the permit. Conditions S1.A.1 and A.2. Ecology did this because it determined it was important to capture areas where growth is being directed by growth management policies and is expected to occur. *Moore Testimony, Ex. PSA-120.*

[57]

Ecology also developed criteria to evaluate whether additional MS4s should be covered under the permit. The agency applied this criteria to the group of cities identified by EPA in the Phase II Rules as being outside of urbanized areas and serving jurisdictions with a population of at least 10,000 and a population density of 1,000 people per square mile (referred to as the

[11]Under the Phase II Rules, jurisdictions that are within "urbanized areas" must be included in the Permit. 40 C.F.R. § 122.32 (a)(1). Urbanized areas are population centers with more than 50,000 people and densities of at least 1,000 people per square mile, with surrounding areas that have densities of at least 500 people per square mile. In Washington, urbanized areas do not line up with the city and county boundaries and UGAs established under the GMA. Ex. MUNI-0127, p.22.

"bubble cities"). These areas were selected by EPA based on the likelihood of adverse impacts at these populations and density levels and included Aberdeen, Anacortes, Centralia, Oak Harbor, Port Angeles in Western Washington. Federal Register, Vol. 64, No. 235, p. 68745 and p. 68837. In developing the criteria and making its evaluation, Ecology considered discharges to sensitive waters, high population density, high growth or growth potential, contiguity to an urbanized area, significant contribution of pollutants to waters of the United States, or ineffective protection of water quality by other programs. Ecology also considered the presence of endangered species. *Ex. MUNI-0127, Fact Sheet, p. 24.* As a result of its evaluation, Ecology included all of these jurisdictions within the permit. The UGAs of these five cities were also included for coverage under the permit. *Moore Testimony, Ex. PSA-120.*

[58]

Ecology may use this designation criteria at any point in the future to bring additional small MS4s under the Phase II Permit, including cities below 10,000 in population and 1,000 in density, but it elected not to delay issuance of the permit in order to review additional cities first. Such reviews are costly and time consuming, on the order of tens to hundreds of thousands of dollars, because Ecology must substantiate, articulate, and defend the circumstances justifying permit coverage. When commenting on the final draft of the Phase II Permit, EPA commended Ecology for developing permits that in many respects it considers the best in the nation. In its comments regarding the permit's coverage area, EPA recommended additional areas within the Puget Sound region that should be covered but recognized that it may take a couple of years after permit issuance to review and include them. EPA raised no objections suggesting Ecology was

legally obligated under the Phase II Rules to review or designate additional small MS4s prior to issuing the permit. *Moore Testimony, Ex. ECY-10.*

[59]

Ecology also developed and included in the permit a process to allow any person or organization to petition Ecology to require that additional MS4s obtain coverage under the permit. Condition S1.B.5. Ecology intends to utilize the same or similar criteria as it used for evaluating the bubble cities, and will act on petitions within 180 days after receiving a complete petition that addresses each of the factors Ecology has identified as relevant. Since the permit was issued, no petitions have been received. *Moore Testimony.*

[60]

Ecology estimates that 85 percent of Western Washington's population resides in areas covered by either the Phase I or Phase II Permits. More than 90 percent of the Phase II cities are located in counties regulated under the Phase I Permit. These permittees share basins, have interconnected conveyance systems, and discharge into many of the same water bodies. Approximately 61 percent of the State's population is covered by this Phase II Permit, and approximately 19 percent of the State's population is covered by the Phase I Permit. *Ex. MUNI-0127, Fact Sheet, p. 20.* Areas that are not covered under the Permits include federal and tribal lands, which the state has no authority to regulate. EPA regulates discharges from federal and tribal lands, although to date it has not issued any municipal stormwater permits in Washington State. *Moore Testimony.*

[61]

During the permit development process, Ecology received requests to both limit and expand the geographic coverage of the Phase II Permit relative to the minimum coverage area required by EPA's Phase II Rules. *Ex. MUNI-0127, Fact Sheet, p. 36.* Advocates for expanding coverage asserted that many jurisdictions below the 10,000 population threshold contribute to violations of water quality standards or otherwise significantly contribute to stormwater pollution. Ecology received comment letters regarding potential pollutant loading from unregulated jurisdictions, but it concluded there was not enough information included with the letters to bring additional jurisdictions under Permit coverage at that point in time. There was no demonstration of a MS4 in the first place, and no specific water quality problems were identified in connection with an unregulated MS4's discharge. *Ex. PSA-128 (Comment from Port Gamble S'Klallam Tribe regarding the inclusion of the City of Sequim), Moore Testimony.*

[62]

PSA is concerned that jurisdictions that are not covered by the Permit will compromise the efforts of nearby regulated jurisdictions that are physically interconnected or that otherwise share the same watersheds. *Horner Testimony.* Apart from these generalized concerns, however, PSA's experts were unable to identify any areas outside of permit coverage where there is evidence that streams are being impacted by unregulated MS4 discharges. One expert pointed to development-related impacts on Seabeck Creek in Kitsap County as a possible example, but he did not know whether an unregulated MS4 discharged into it. *Booth Testimony.* Another of PSA's experts pointed to the city of Carnation, but offered no evidence of a physical

interconnection with a regulated MS4, or that Carnation's MS4 system contributes substantial pollutant loading into any regulated MS4 system. *Horner Testimony.*

[63]

The Board finds that PSA's experts' opinions were based, in part, on mistaken understandings of the full scope of coverage under the Phase II Permit and the limitations on Ecology's regulatory authority. For example, Mr. Holz and Mr. Booth were under the mistaken impression that the Permit did not apply to cities or towns with populations less than 10,000, when in fact more than 20 of the covered municipalities have populations under 10,000. Additionally, prior to the hearing, Mr. Holz was unaware that Ecology has no jurisdiction to regulate federal or tribal lands adjacent to current Phase II permittees, nor did he know whether or not the Phase II Permit covered all UGAs associated with regulated municipalities, when in fact it does. Dr. Horner mistakenly believed Silverdale was not covered under the Permit when, in fact, it is an unincorporated city and is covered under Kitsap County's Permit. In essence, PSA's experts advocate the position that the Phase II Permit "should apply everywhere we want to save the watersheds," without regard to the geographic size or population served by the MS4 systems. *Holz Testimony.*

Issue 16a: Compliance With Water Quality Standards

[64]

As part of its Order on Dispositive Motions regarding Special Condition S4, the Board chose to defer consideration of S.4 Issue 6, stating it was really a challenge to whether the Phase I and Phase II Permit provisions will achieve compliance with water quality standards. *Order on*

Dispositive Motions: Condition S.4, at p. 34. The Board stated that it would consider this issue as part of Phase I, Issue F.4, and Phase II, Issue 16a. *Id.* In Issue 16a, PSA asserts that the failure to include a mandatory LID requirement, the failure to regulate existing development, and the use of the one-acre regulatory threshold makes the Phase II Permit unable to protect water quality.

[65]

We have found that the terms of the Phase II Permit that address coverage area, the one-acre threshold, existing development, and the use of LID, with the additions required by the Board, are all reasonable exercises of discretion by Ecology in its development of the Phase II Permit. The Board also notes that it concluded that the conditions added to the Phase I Permit, together with the amended provisions to Special Condition S4, adequately conditioned the permit to comply with water quality standards. *Phase I Merits Decision* at COL 30. The Board similarly finds that PSA has been unable to demonstrate that the Phase II Permit unlawfully fails to protect water quality.

[66]

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

CONCLUSIONS OF LAW

[1]

The Board has jurisdictions over the parties and the issues in this case pursuant to RCW 43.21B.110(1)(c). The Board reviews this matter *de novo.* WAC 371-08-485(1). The burden of

proof is on the appealing party as to each issue. WAC 371-08-485(3). In this portion of the appeal, PSA has the burden of proof because all of the issues remaining are legal issues raised by PSA. In reviewing the evidence, the Board gives deference to Ecology's expertise in administering water quality laws and on technical judgments, particularly 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). Pursuant to WAC 371-08-540(2), "In those cases where the board determines that the department issued a permit that is invalid in any respect, the board shall order the department to reissue the permit as directed by the board and consistent with all applicable statutes and guidelines of the state and federal governments."

[2]

The Board has previously ruled in this appeal the federal CWA requires that NPDES permits issued for discharges from MS4s must reduce pollution to the maximum extent practicable (the "MEP" standard). The Board also concluded the state WPCA contains a similar requirement, in that all wastewater discharge permits must incorporate permit conditions requiring all known, available, and reasonable methods of treatment to control the discharge of toxicants and protect water quality (the "AKART" standard). *Order on Dispositive Motions: Special Condition S4.*

[3]

EPA recognized the differences between Phase I and Phase II permittees and required less of Phase II permittees in its rules. PSA concedes that there is a range of resources and expertise within the Phase II jurisdictions, that the burdens on the Phase I and II permittess can

legitimately be different, and that Phase II permittees can follow behind the larger Phase I jurisdictions in reaching compliance with water quality standards. However, PSA urges that there should be targeted improvements in the Permit to bring Phase II jurisdictions closer to the goals of the Clean Water Act and state water pollution control laws. PSA asserts that local jurisdictions are underfunded as a matter of choice because they do not wish to charge the rates needed to operate a stormwater management system, and that Ecology's permit is based on what the municipalities are willing to do, not what is necessary to meet MEP and AKART. PSA itself did not present any witness who had expertise in local government funding, budgeting, or fee or rate structures.

[4]

The Board concludes that there are sufficient distinctions between Phase I and Phase II permittees in terms of available resources and experience in administering a municipal stormwater management program to justify different requirements between the two Permits and to allow the Phase II jurisdictions to address certain requirements on a different time schedule than Phase I jurisdictions. However, the Board also concludes that in some limited respects Ecology must modify and refine the Phase II Permit in order to satisfy AKART and the federal MEP standard. The Board now discusses each of the individual issues raised.

Issue 12. Low Impact Development

[5]

The Board concludes that the initial steps required of Phase II jurisdictions to "allow non-structural preventive actions and source reduction approaches such as Low Impact Development

Techniques (LID)," is an acceptable permit term, but in the absence of greater direction to Phase II jurisdictions to take additional steps, does not represent AKART under state law nor require actions consistent with the federal MEP standard. The Board concludes that in addition to adopting ordinances or other regulatory mechanisms to allow LID, as the Permit currently requires, the Permit must set forth additional requirements with respect to broader use of LID during this permit term, and in anticipation of the next. Such steps should include, at a minimum, requirements to identify barriers to use of LID and to address the same, requirements to identify currently available and understood LID practices that can reasonably be implemented within this permit term, requirements to identify potential or planned non-structural actions and LID techniques to prevent storm water impacts, requirements to establish goals and metrics to identify, promote, and measure LID use, including flexible schedules by which Phase II jurisdictions will begin to require and implement these non-structural and LID techniques on a broader scale in their jurisdictions in the future.

[6]

The Board recognizes that Ecology's development of technical guidance and eventual adoption of a performance standard is a critical step necessary for the fullest and most successful implementation of LID practices in both Phase I and Phase II jurisdictions. The Board has also found it is reasonable for Ecology to allow some lag in timing between Phase I and Phase II jurisdictions as LID requirements are implemented by Phase II municipalities, and that development of some types of technical guidance and adoption of a performance standard will

likely take longer than is reasonable or feasible to incorporate into this cycle of the Phase II Permit.

The Board concluded in the Phase I Permit decision, based on the great weight of testimony, reference documents, and technical manuals, that low impact development represents AKART and is necessary to reduce pollutants in our state's waters to the maximum extent practicable, the federal standard, and we have reiterated that in this decision. Having so concluded, we believe it is within Ecology's technical expertise to determine how to best implement the decision within this permit cycle, whether it be through permit modification and/or the development of technical guidance documents or an LID performance standard. For these reasons, the Board does not order inclusion of a performance standard within the Phase II Permit, and we give Ecology some amount of discretion to determine the timing for moving Phase II permittees forward to broader implementation of LID.

Issue 13. One Acre Threshold

[7]

The Board concludes that at this time the one-acre threshold, as set forth in the Phase II Permit, is a reasonable standard for permittees to regulate activity under the Permit. Ecology reasonably considered the percentage of development sites that would be captured by the Phase II Permit's one-acre threshold and reached a reasonable conclusion to require municipalities to regulate to that level, as well as maintain existing local requirements to apply stormwater controls at smaller sites or at lower thresholds. This decision is neither illegal nor arbitrary. We are persuaded that for the Phase II jurisdictions, such a requirement captures a large majority of

development sites, and considers the capacity of Phase II jurisdictions to carry out the permit terms. For these jurisdictions, the Phase II Permit language represents AKART and reduces pollutants in stormwater to the federal MEP standard. Although the 2005 Stormwater Manual sets a level of activity below the one-acre threshold as AKART, EPA recognized that for Phase II permittees, the one-acre threshold was both AKART and MEP. Ecology was also rightly concerned that the Construction Stormwater General Permit established one acre or more as the level for regulation, and there would be both inequity and difficulty in administration if Phase II permittees were required to address a different standard. The Phase II Permit requirement will also prevents any "backsliding" by jurisdictions that do regulate to a lower threshold by requiring that the same number of site reviews and inspections will still occur.

[8]

Ecology was also aware of the limited resources and lack of experience among many of the Phase II permittees, and that regulating below the one-acre threshold for this permit cycle would likely overwhelm the resources of the permittees. Ecology recognized that some Phase II jurisdictions would be starting their municipal stormwater management program from scratch, and the level of effort required by a more stringent standard would not be practicable for these municipalities. The Board concludes that PSA was unable to meet its burden to show that the one-acre threshold established in the Phase II Permit will unlawfully cause or contribute to violations of water quality standards, or fails to meet AKART or MEP. The Board finds in favor of Ecology on Issue 13.

Issue 14. Existing Development

[9]

PSA asserts that the Phase II Permit's lack of a structural retrofit program and stormwater source control measures, similar to those required in the Phase I Permit, will unlawfully cause or contribute to violations of water quality standards, and allow discharges of pollutants in violation of MEP and AKART. However, these provisions are not required by the Phase II Rules, and PSA fails to demonstrate how the lack of these provisions violates MEP or AKART for Phase II jurisdictions.

[10]

Ecology's decision not to include a structural stormwater control program or a source control program for Phase II permittees to address discharges from existing development, similar to that required of Phase I permittees, does not mean that the Phase II Permit is defective. As we noted in our summary judgment ruling on this issue, the real question raised by Issue 14 is whether, or to what extent, Phase II jurisdictions must undertake greater efforts during this initial permit cycle than the permit currently requires to reduce the discharge of pollutants from existing development. *Phase II Summary Judgment Order* at p. 31. The Phase II Permit addresses stormwater runoff from existing development through the implementation of the six minimum provisions. Ecology has demonstrated that the public education and outreach requirement contained in Condition S5.1 is significant and is aimed at existing development. Pollutants from existing development are also addressed through the illicit discharge detection and elimination

program (Condition S5.C.3), the operations and maintenance program (Condition S5.C.5) components of the SWMP, and the permit's TMDL requirements (Condition S7).

[11]

The Board concludes that Ecology properly considered the abilities and resources of the Phase II permittees when it chose not to go beyond federal requirements by including a structural retrofit program and stormwater source control source element in the Phase II Permit. The Board also concludes that the Phase II Permit does address the reduction of pollutants from existing development in a meaningful way through the implementation of the six minimum provisions. PSA has not met its burden in showing that this aspect of the Phase II Permit is unlawful. The Board finds in favor of Ecology on Issue 14.

Issue 15. Monitoring

[12]

PSA challenges the lack of environmental monitoring in the Phase II Permit as unlawful. As we recognized in our summary judgment ruling regarding this issue, however, EPA recommended against imposing monitoring requirements on Phase II jurisdictions during this first permit cycle, and PSA does not cite any legal requirement for Phase II jurisdictions to conduct environmental monitoring. Instead, PSA relies on a collection of general statutory provisions authorizing monitoring and Board decisions recognizing the importance of monitoring to challenge Ecology's judgment and to disagree with Ecology's discretionary decision to use a different approach to monitoring in this permit than PSA advocates.

[13]

We conclude that Ecology's approach to monitoring in the Phase II Permit is consistent with EPA's recommendation, is not unlawful, and is reasonable for the first cycle of this permit. Ecology did not include more extensive environmental monitoring for Phase II jurisdictions during this permit term for a variety of reasons related to the technical and economic feasibility of such requirements for Phase II permittees. Additionally, Ecology is also working toward the development of a monitoring consortium, which would allow for a more coordinated and effective monitoring program that could be employed on a watershed basis and reduce the economic burden on jurisdictions as well. While it is too soon to know whether or when such a consortium will come to pass, we conclude it is reasonable for Ecology to focus the Permit's monitoring requirements on steps that will feed into the development of such a consortium and, at the same time, begin preparing the Phase II jurisdictions to conduct their own monitoring programs in future permit cycles as may be necessary or appropriate. The Board rejects PSA's challenge to the permit's monitoring requirements as advanced in Issue 15.

Issue 19: Coverage Area

[14]

Under the Phase II Rules, small MS4s in Washington are regulated by the Phase II Permit program if they are located in a census-defined urbanized area, or they are designated by Ecology through one of three avenues: (1) because they meet Ecology's designation criteria; (2) because they contribute substantially to the pollutant loading of a physically interconnected MS4

regulated by the NPDES program; or (3) because of a petition establishing stormwater discharges that contribute to a water quality standards violation or are a significant contributor to pollution of waters of the United States. 40 C.F.R. § 122.32(a). There is no dispute that Ecology included the required census-defined urban areas, and no dispute that Ecology went beyond that by including the geographic portions of cities and counties outside the defined urbanized areas, and by including the UGAs for the regulated cities.

[15]

To determine which additional MS4s in Washington must obtain coverage under the Phase II Permit, the EPA Phase II Rules required Ecology to develop a process, as well as criteria, to designate MS4s outside the prescribed urbanized areas, and to apply that criteria, at a minimum, to small MS4s serving populations of at least 10,000 with a population density of at least 1,000 per square mile. 40 C.F.R. § 123.35(b). PSA does not dispute that Ecology complied with the requirement to develop criteria to be used in designating additional jurisdictions for coverage under the Phase II Permit. Nor does PSA contest the criteria Ecology developed and employed or challenge that Ecology properly applied its criteria to the small MS4s located outside of urbanized areas with populations of at least 10,000 and population densities of at least 1,000 per square mile to include all five of the bubble cities. Rather, PSA contends that Ecology should have applied its designation criteria to more small MS4s, below EPA's population thresholds, to determine whether they may be causing violations of water quality standards or whether there are physical interconnections with regulated MS4s that allow unregulated MS4s to contribute substantially to the pollutant loading of a regulated MS4. Finally, PSA raises no

specific objections to the permit's petition process, other than to indirectly challenge the burden of proof Ecology has established to support a petition. PSA does this by arguing Ecology has a duty to investigate any allegation of a potential MS4 problem rather than placing the burden on a person to support its allegations through the formal petition process.

[16]

We conclude Ecology was not required to apply its designation criteria to jurisdictions below EPA's identified population thresholds prior to issuing the permit. We further conclude that Ecology's methodology for evaluating and including additional jurisdictions under the scope of the Phase II Permit is both lawful and reasonable. Absent more information about site-specific water quality problems resulting from unregulated MS4 discharges, we cannot conclude Ecology must or should have further investigated or designated additional jurisdictions for coverage under the permit. We reject PSA's challenge to the permit's coverage area encompassed in Issue 19 and conclude the Phase II Permit's coverage requirements are lawful and reasonable.

Issue 16a: Compliance with Water Quality Standards

[17]

PSA argues that the Phase II Permit fails to prevent discharges that cause or contribute to violations of water quality standards. The Phase II Permit exceeds EPA's requirements under the Phase II Rules and, as a programmatic permit that sets standards for area-wide stormwater management, represents the reasonable exercise of Ecology's discretion to define the manner, method, and timing for requiring compliance with state water quality standards. After reviewing

the requirements of the Phase II Permit, we conclude that, as modified by the Board by this opinion and by our decision on Special Condition S4, the Phase II Permit is adequately conditioned to comply with water quality standards.

[18]

Any Findings of Fact deemed to be a Conclusion of Law is hereby adopted as such.

Having so found and concluded, the Board enters the following:

ORDER

Having concluded that a portion of the Phase II Permit is invalid, the Board REMANDS the Phase II Permit to Ecology pursuant to WAC 371-08-540, for modifications consistent with this opinion, including modifications to Permit Condition S5.C.4 to address additional requirements for Low Impact Development.

SO ORDERED this 2nd day of February, 2009.

POLLUTION CONTROL HEARINGS BOARD

KATHLEEN D. MIX, CHAIR

ANDREA MCNAMARA DOYLE, MEMBER