

Clark County Low Impact Development and Monitoring Preliminary Draft Permit Language Comments

Attachment

Phase I Permit Language

Phase I Permit Section	Phase I Permit Page	Suggested Change or Comment	Basis
S5.C.5.iii.(1)	3	The guidance manual cited as the standard for review process is not available for comment. This makes it difficult to make a meaningful response.	
S5.C.5.iii.(1)	3	Mandatory LID that includes land use and other code changes is not appropriate.	Requirements for LID go beyond stormwater code into areas not regulated under an NPDES permit such as roof designs, road widths and frontage improvements.
S5.C.5.iii.(2)	3	Drop the requirement for a report with the third year annual report.	The report submittal with the third-year annual report (March 2015) does not appear to accomplish anything because all of the code and process revisions will have been put in place by August 2014. This information would be a step in the code revisions process, not a product of it.
S5.C.5.iii.		The cost for code revisions will be very large. There is no example of the cost to a medium or large municipality that has implemented mandatory LID. The cost to implement mandatory LID is itself a feasibility question for the permittee. Ecology should focus on LID implementation where it is currently	

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		<p>feasible under current development code.</p> <p>A more practical approach would be to require a minor code revision to mandate the use of standard LID BMPs by application of the stormwater manuals. Once this is done, actual development projects during the permit term will identify actual barriers. This could lead to the ability to complete a detailed description of the code and process changes needed to more fully implement LID.</p>	
S5.C.5.b.iv.	4	24 months is too short of a time to adopt such a major development code revision.	Under the 2007 Phase I permit, permittees needed longer than this, in some cases years, to adopt and implement manual and code revisions. As written, the permit will require extensive community education in order to successfully implement LID requirements, underscoring Ecology’s responsibility to demonstrate AKART where applicants are largely unaware of LID principles.
S5.C.5.b.iv.	4	16 months is too short of a time to draft such a major development code revision.	Public involvement for revisions to numerous codes and procedures could take a great deal of time and run into unanticipated problems and competing needs.
S5.C.5.b.v.	4	Do not include specific requirements for inspection of non-engineered LID BMPs installed for small projects where only MR 1-5 apply.	Maintenance enforcement for small project MR 5 practices such as rain gardens will be a problem. Currently, there is no requirement to inspect BMPs not built under MR 6 and 7.

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			<p>There are at least two major concerns: Authority to inspect the on-site BMPs and the work effort to inspect and enforce at the individual home scale.</p> <p>Public education to maintain these practices could be a major permit activity.</p>
S5.C5.c.	6	Drop the required watershed planning.	<p>Land use planning should not be part of a municipal stormwater permit.</p> <p>This goes beyond the intent of the PCHB to a prescriptive approach similar to an EIS for a comprehensive plan change. The PCHB did not specify mandated basin planning or watershed plans.</p> <p>Water Quality plans a more properly completed under a TMDL that goes beyond stormwater to other pollutant sources. Measurable targets should be load allocations and waste load allocations in a TMDL.</p>
S5.C5.c.1.	6	The 80 acre threshold is too small.	A UGA expansion of 80 acres is relatively small.
	6	UGA expansions in Clark County are conducted by the county. This could lead to situations where there are multiple watershed scale assessments during a comprehensive plan update.	In a county with seven UGAs for cities or towns, the requirement could lead to performing multiple assessments during a permit term. For example the Vancouver UGA includes parts of at least five drainage basins with areas between 2 and 40 square miles.
S5.C.5.c.1.	6	If this approach is applied consider using conversion the primary zoning of rural to the primary zoning of urban.	Use of total impervious area is problematic. Often, accurate empirical measurements of impervious area are lacking. Secondly, estimating impervious area

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			<p>created by land use actions is likely to be done by projecting typical TIA values for the proposed new land use area. Thirdly, with the proposed LID requirement, much of the impervious area will be only non-effective or partially effective.</p> <p>Land use planning and zoning are complex, including rural centers outside the UGA and zoning overlays. The zoning complexities could make interpretation of land use actions ambiguous and difficult in the context of the permit language. Numerous small actions in several areas of one watershed could trigger significant planning requirements.</p>
S5.C.5.c.2.	6	<p>Ecology must provide detailed guidance on what is required for watershed-scale planning before including it in a permit. The guidance should be vetted through a process similar that used to create the SWMMWW.</p> <p>Do not include watershed-scale planning in the permit until a well-defined method is available. This method should be tested and its limitations and level of effort understood.</p>	Including complex technical and public involvement requirements lacking a precedent or clear guidance is not appropriate and may lead to failure, wasted effort, and non-compliance.
S5.C.5.c.2.	6	If the watershed scale planning is done, it should include a process that could more simply lead to the no impact or no significant impact finding without a full	

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		blown analysis. This could include a checklist of topical areas where stormwater impacts could be evaluated as significant, insignificant or none are expected based on existing land use regulations (e.g. GMA and SMP) and stormwater management under the permit.	
S5.C.5.c.2.	6	Remove the requirement to use computerized water quality models.	It is unlikely that there are models the have the accuracy and precision to simulate small changes in watershed hydrology or water quality (much less beneficial use impacts) due to urbanization of a small portion of the watershed. Ecology needs to demonstrate that models have been affordably used for an analysis as detailed as this.
S5.C.5.c.2.b.	7	Ecology should clarify if this requirement will be equivalent to a basin plan under section 7 if Appendix 1.	The watershed-scale planning could have an impact on basin planning actions.
S5.C.5.c.2.c.	7	Targets are verging on TMDL waste load allocations measured by a monitoring program.	Receiving water targets as examples provided in the explanation would be difficult to link to specific stormwater actions. Trends in targets would also be very difficult to measure.
S5.C.5.c.2.c.	7	Required actions should be defined if a permittee reports a target is not met.	
S8.	General	While promoting collaborative regional monitoring efforts is a worthwhile goal and one Clark County has embraced for some time, there still needs to be consideration of the needs of individual permittees. Receiving water monitoring for the primary	

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		purpose of characterizing regional conditions is of little use to a permittee if it does not happen to be in an area of interest for their stormwater management program.	
S8.A.3.a.	8	Revise the permit to have S8.D. monitoring conclude at the end of the 2012 water year.	Permittees may have incomplete water years the first year of sampling. This would avoid collecting an entire water year of samples to make up for one incomplete water year.
S8.A.3.e.	9	Have the permittees submit one report when work is completed for each monitoring project.	Annual reporting during projects is very time consuming. Simply reporting status as progress reports should be adequate for permit compliance.
S8.C.	9	Remove Clark County from the list of permittees who pay into the collective fund.	Clark County was not one of the Puget Sound Basin permittees represented on the SWG who made the recommendation, and does not agree with it.
		Phase I permittees should be allowed the option to participate in a regionally administered program or, considering the limited number of phase I permittees and their individual circumstances, establish their own programs consistent with regional goals. The significant permit-area and authority allows phase 1 permittees to contribute to regional goals without broad participation of phase 2 permittees.	<p>Phase I permittees have the capacity to perform receiving water monitoring and effectiveness monitoring.</p> <p>Permittees have substantial investment in stormwater monitoring infrastructure that should be leveraged to perform effectiveness experiments.</p> <p>Phase I permittees have developed data management and reporting systems to manage stormwater data.</p>
		Consider ramping-up a regionally administered monitoring program as an alternative to the current proposal.	Ecology worked with Puget Sound stakeholders for several years to develop the proposed program and identify an independent entity to manage the regional program.

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			Southwest Washington permittees have had little opportunity to begin to plan a regionally administered monitoring program. They are overwhelmed with meeting current permit requirements.
		Using Ecology as the administrative entity for Southwest Washington monitoring introduces an unneeded layer of overhead.	If monitoring projects are conducted by permittees under interlocal agreements, no separate administrative entity is needed to collect funds from permittees and manage monitoring contracts. The cost of this administrative layer will be a significant diversion of funds to actually manage stormwater.
		Consider a proposal from SW Washington permittees to allow them to pursue their own approach to meeting status and trends monitoring using a set of index sites inside permit areas.	Southwest Washington permittees generally agree that a locally administered monitoring approach is most appropriate for status and trends monitoring within the permit areas.
		Consider individual effectiveness monitoring proposals from Clark County and other permittees not part of the Puget Sound SWG.	Clark County has a significant investment in state of the art monitoring equipment, training, built-up institutional knowledge, data management systems and reporting tools that should be leveraged for permit effectiveness monitoring. It is good public policy to build on the successes of the current permit.
		Consider that permittees are conducting monitoring for purposes other than the NPDES permit that can be used for status and trends if data are comparable.	

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Phase I Permit Appendix 1 Language

Section	Page	Suggested Change or Comment	Basis
Sec. 2	3	<i>Effective Impervious</i> – Consider including dispersion through other vegetated surfaces besides native vegetation in allowing as non-effective.	Vegetation other than native vegetation is commonly found in rural areas of the Northern Willamette Valley Ecoregion (most of Clark County outside of the Cascade Mountains). Pasture-like fields are common, as are mixed vegetation other than native.
Sec. 2	3	<i>Hard Surfaces</i> – Adding yet another type of surface leads to confusion by the manual user.	
Sec. 3.1.	8	The first two sentences of the added paragraph are not clear. Figures 3.2 and 3.3 would apply to any development project, not just subdivisions. The second sentence includes the word “sale”. The sale of property does not create a triggering development project, it only transfers ownership. Clark County uses the term site plan review for non-subdivision development projects.	
Sec. 4.1.	13	Preserving native vegetation as a stormwater code requirement will be generally infeasible for rural area projects. For areas outside the UGA, vegetation retention should simply reference GMA regulated critical areas and Shorelines for rural residential and agricultural projects.	Rural lot sizes are large and are generally fields, brush, and sometimes forest. Enforcement in rural areas will be very difficult once plans are approved and the project is completed. The adoption of a native vegetation retention requirement will create powerful opposition to stormwater code revisions in general.
		Minimum requirements are very challenging to apply to individual residential projects in rural	

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		<p>areas. Manuals such as the WSU rain garden manual are best used by persons who are voluntarily building a rain garden. Providing such a manual when the rain garden is mandated will require the permittee to also provide case by case technical assistance at tremendous cost.</p>	
Sec. 4.1.	13	<p>The stormwater manual should include a separate site plan preparation section (in Chapter 3 of Volume I of the SWMMWW) for smaller projects that only trigger MR 1 - 5.</p>	<p>The language in the manual is for larger development projects that produce engineered designs.</p>
Sec. 4.2. MR 2-12.a.	19	<p>The requirement to protect and restore stormwater LID BMPs should extend to all stormwater infiltration facilities.</p>	<p>Infiltration facilities must be protected from sediment. Clark County requires “sacrificial” infiltration facilities on projects using class V injection wells.</p>
Sec. 4.2. MR 2-12.c.	19	<p>Protecting permeable pavement may require special measures to prevent sediment from being deposited on porous pavement during adjacent construction. Maybe it should be covered during construction?</p> <p>What is the recourse if sediment is allowed to cover porous pavement?</p>	<p>It is improbable that construction projects can prevent tracking or sediment transport onto porous pavement if it is used for access roads or in development projects with post-pavement construction and earthwork.</p>
4.5 MR 5	20	<p>Revise the “<i>Project Thresholds</i>” section to be easier to follow thresholds and requirements.</p>	<p>The manual lists required LID BMPs, not thresholds.</p>
		<p>Change the name of MR 5 to Low Impact Development BMPs.</p>	<p>The term On-Site Stormwater Management encompasses the entire SWMMWW because BMPs are not allowed offsite.</p>
4.5 MR 5	20	<p>Drop the requirement to use porous pavement</p>	<p>Many people already use pavers to build patios,</p>

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		for smaller projects.	<p>walks and driveways for a variety of reasons such as appearance and ease of installation.</p> <p>Porous pavement is not broadly available to individuals who build small projects and therefore should not be considered AKART.</p> <p>Municipalities may not even have requirements to use pavement on driveways. Would the permit add the requirement to pave with porous pavement instead of using gravel?</p>
4.5		Standard infiltration practices such as infiltration trenches and drywells should be included as optional LID practices for hard surfaces and landscaped areas. The project would still need to apply MR 6 as required by the permit.	The environmental outcome of runoff reduction is accomplished with equivalent or better effectiveness when traditional Class V systems are used. Depending on site conditions, cost for traditional buried infiltration facilities could be less than LID features.
4.5. MR 5	22	The performance standard is not appropriate for most projects outside the UGA that create/replace greater than 10,000 hard surfaces. These will, for the most part, be large-lot individual homes where the checklist approach (and simpler practices) is most appropriate.	It is very challenging to require engineered stormwater plans for rural home construction or agricultural building projects.
4.5.	22	Regarding city limits vs. UGA as the boundary for non-GMA counties. This might be better handled in the definitions where UGA can be defined and the alternative municipal boundary is specified if no UGA exists.	
4.5	22	Do not implement a performance standard that	This performance standard has not been tested in

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		<p>has not been used in any location.</p> <p>Perhaps a simpler standard would be a volume retention standard similar to those adopted in other parts of the country.</p>	<p>the real world. It is not AKART.</p>
4.5	23	<p>Clearly demonstrate the basis for the minimum bioretention facility areas for residential and commercial projects.</p>	
4.5.		<p>Ecology should use caution when adding stormwater functions to structural elements designed for other uses (roofs and roads). Consider that proven and effective stormwater management technologies can provide the same environmental outcome as LID alternatives.</p>	
4.5	23	<p>Green roofs should not be considered as AKART.</p>	<p>Green roofs are not widely available or used in the Pacific Northwest. Depending on many factors, green roofs may have limited value in meeting the permit objective to reduce runoff.</p>
4.7 Thresholds	28	<p>Consider dropping the 0.1 cfs (and new 0.15 cfs) increase thresholds.</p>	<p>Projects under 10,000 square feet hard surface may include permeable surfaces. All projects will use LID to the extent feasible. Any project over 10,000 square feet hard surfaces will use the WWHM.</p>
4.7	29	<p>The last item in the standard flow control requirement states that it is waived for sites that reliably infiltrate all stormwater. This should include only flows up to the 50-year pre-developed forest flows. Flows beyond the 50 year flow are not subject to the duration standard.</p>	

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4.9	31	Drop the last sentence about keeping a log of maintenance activity.	Sites are inspected annually for defects by the permittee. Any defects are already required to be repaired within specified time-frames.
8.I.A.	33	Consider planned underground utility interference for bioretention facilities.	Bioretention facilities concentrate runoff for infiltration that could interfere with planned utilities.
8.I.B.	35	Clarify whether areas subject to enhanced treatment would be infeasible for permeable pavement.	High pollutant loads to groundwater and soils might be a concern for these areas. These types of uses would also probably be poor sites for permeable pavement.
8.I.B.	35	Include consideration of life cycle costs in application of permeable pavement.	In its 2008 phase I ruling, the PCHB noted that AKART included technical and economic feasibility. Preliminary information from observations of existing installation suggests that permeable pavement has a much shorter life cycle than conventional pavement. Instead of maintenance and repair, failing permeable pavement must be replaced, greatly adding to life cycle costs.
8.I.B.	35	Consider interference with planned utility placement for feasibility.	
8.I.B.	35	See WSDOT publication: WSDOT STRATEGIES REGARDING PRESERVATION OF THE STATE ROAD NETWORK, A Report to the State Legislature in Response to SB 6381. This assessment suggests that permeable pavement should be limited to areas with little or no vehicle traffic until the time when it is	“Permeable pavements by design contain a significant volume of air voids in the pavement (holes in the pavement). The necessary air voids reduce the strength of the pavement and reduce the pavement’s ability to resist loading from high traffic volumes or from truck traffic. The infiltration of water into the soil below the pavement structure reduces the soil strength, again reducing the pavement’s ability to resist

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		verified that surfaces are durable.	loading from high traffic volumes or from truck traffic. For these reasons most applications of permeable pavement are on facilities with no vehicle traffic (bike lanes, pedestrian paths, sidewalks, areas of parked traffic (parking lots) or areas of very low speed, very low-volume traffic (residential streets).”
8.I.b.	35	Feasibility of native soil should be considered based on geotechnical constraints for supporting pavement.	
8.I.C.	36	Use some type of cost analysis for green roof feasibility as a stormwater BMP rather than its overall environmental benefit.	Stormwater management is only one benefit of green roofs, which for example reduce heat islands in urban areas and make buildings more energy efficient.
	36	Demonstrate that green roofs are suitable as a mandated stormwater practice in the Pacific NW, where most of the rain occurs outside of the growing season	As is the case with stormwater harvesting, green roofs may have relatively small value compared to cost in a region where most of the rainfall occurs outside of the growing season.
8.II.	36	Competing needs could include: <ul style="list-style-type: none"> • source control requirements under NPDES permits and other environmental regulations • state road standards • groundwater protection standards including state and local well head protection areas and federally designated sole source aquifer rules • financial concerns for building economical low-income housing 	

Monitoring Funding Agreement

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Background section	1	Change description of Stormwater Working Group to “a formal committee of Puget Sound area stakeholders.”	The program was entirely conducted in the Puget Sound Region and included only Puget Sound Region permittees.
Cost overruns	2	Delete the waiver for cost overruns.	If Ecology is overseeing the contracts, then Ecology should be responsible for cost overruns by contractors.
Contingency fund	2	If there are contingency funds, they should be released only after approval of permittees.	
Excess funds	2	Ecology’s timeline should be shorter than six months for return of excess funds.	Municipalities normally have 45 days to pay invoices.
	4	References to the SWG and the Regional Stormwater Monitoring Program should be referred to as the “Puget Sound Regional Stormwater Monitoring Program”.	
Ecology Tasks 2.	4	Requiring permittees to submit applications through a competitive process to win back funds contributed to Ecology under the permit is not appropriate.	Ecology should support ongoing monitoring programs established by permittees and minimize any diversion of resources away from permittees.
Ecology Tasks 2.	4	The administrative cost and tasks associated with Ecology oversight of contracting introduce significant delays in actual on-the-ground monitoring (e.g. 3 years are required for ramp-up tasks). Consider dropping the pay-in approach in favor of individual permittees performing monitoring.	The end goal of permit-related monitoring is to acquire timely, useful data on stormwater management questions. The pay-in option sacrifices timely monitoring implementation in favor of additional administrative tasks.
Contractor Tasks 1.a.ii	6	The suggested SW Washington probabilistic sampling approach makes establishing a strong	

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(SW Wash)		'connection between in-stream conditions and stormwater inputs' difficult. Index or targeted sampling should be encouraged for this purpose.	
Contractor Tasks 1.b (SW Wash)	6	While 30 sites may be needed for a probabilistic study, that number is not needed if a different design based on index sites is used. Reduction in the number of sites by use of index sites will provide needed data with fewer sites.	
Contractor Tasks 1.b (SW Wash)	6	The proposal does not provide data at a scale or in locations pertinent to local stormwater management. It does not provide a powerful means of detecting trends, and fails to leverage robust, existing long-term trend programs.	<p>The probabilistic approach provides status information, but only at the WRIA or regional scale, and only answers questions at a broad scale, e.g. what percent of 3rd order streams are impaired?. Trend detection will be slow and have limited power.</p> <p>Permittees require information at a local scale and at selected locations to inform stormwater management. Clark County's program has 10 years of data and provides the immediate opportunity for trend detection.</p>
Contractor Tasks 1.c (SW Wash)	6	<p>Clark County has data management systems in place sufficient to handle SW Washington status and trends data.</p> <p>Ecology's EIM database and the King County benthic macroinvertebrate database are reasonable locations for the permanent storage of RSMP data. No new data management systems should be created</p>	There are sufficient existing data management platforms available. Creation of any new systems specific to NPDES monitoring data is inefficient and redundant.

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		for SW Washington data.	
Task 1.d.	6	There is a limited need to evaluate sites in Clark County.	Clark County currently operates stream gauges at or near 7 of its 10 Index Sites.
Source Library	7	Ecology should be taking this action as a permitting agency for air and water pollution.	Ecology should have pollutant source and data information related to IDDE implementation and suggest product substitutions or bans.

Phase I Permit Explanation Document

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General		Ecology should provide a stronger basis for permittees to be confident new requirements in the permit are available, known, and reasonable. Reasonable includes technical and economically feasible. Available means the practice is readily available to the county and end users, such as project proponents required to use it. Known means that the practice is known to work.	
Watershed-scale SW Planning	12	Clearly explain how the permit requirement addresses the PCHB ruling and previous comments on the 2005 SWMMWW that note watershed-based approaches are needed.	Watershed scale land use planning is beyond the scope of an NPDES permit, which should not include EIS-like requirements triggered by a Growth Management Act-regulated activity. If land-use planning decisions trigger an EIS for stormwater impacts, that should be part of the GMA regulations at the state level.
MR 5	7	Ecology should explain why rural residential	It is not unusual for rural residential

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requirements		projects are required to meet the LID performance standard while urban projects are not.	projects to create more than 5,000 square feet of hard surfaces on lots that are several acres in size. The need for an engineered stormwater design meeting the LID performance standard seems excessive in these cases.

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