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No.	NPDES II Stormwater Runoff Control Policy Issues	Consultant Initial Recommendations
General Requirements		
1	Will the City/County regulate these policies using a separate Erosion/Sediment Control Permit or Stormwater Facility Permit?	No. Incorporate stormwater design requirements into the overall development approval process.
2	If applicable, how much will the Permit application filing fee cost?	Incorporate stormwater review costs into overall development review fees. May need to increase development fees accordingly. -or- +C20
3	What size of site should be regulated for erosion and sediment control?	The Cities and County must regulate all new development and redevelopment sites that discharge to the MS4 and that disturb one acre or more or are less than one acre and are a part of a common plan of development or sale. However, given the development patterns in the area, the Cities/County should regulate smaller development sites for construction control, but do so using a simpler submittal and review process.
4	What size of development should be regulated for Post-Construction Stormwater Management?	All new development and redevelopment sites that discharge to the MS4 and that disturb one acre or more, or are less than one acre and are a part of a common plan of development or sale.

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5	Which activities will be exempt from this ordinance?	<ul style="list-style-type: none"> -Forest practices regulated under Title 22 WAC. -Commercial agriculture (though not construction of impervious surfaces), -Oil and gas field activities or operations. -Select road and parking area maintenance, and -"Any emergency activity that is immediately necessary for the protection of life, property, or natural resources." Partially Exempt: <ul style="list-style-type: none"> -Underground utility projects, -Select road and parking area maintenance, and -Safety improvement projects that do not enhance traffic capacity.
6	Which stormwater design manual will developers be required to follow?	
7	Which requirements will construction operators be required to adhere to in order to comply with this ordinance?	Construction operators must adhere to, at a minimum, the requirements of Appendix 1, Core Element #2 of the Phase II Permit.

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8	Will the City/County require a bond or construction guarantee prior to the start of construction?	Yes. However the any bond required should be related to the overall development application, not specific to stormwater issues.
Stormwater Pollution Prevention Plans		
9	As part of the City/County's site plan review process, when will developers be required to submit their Stormwater Pollution Prevention Plan (SWPPP)?	During submittal of a Construction Site Erosion and Sediment Control Permit, Building Permit, Grading Permit, or Site Plan Approval application (if applicable).
10	Will the City/County require all SWPPPs to be prepared by a licensed professional engineer, landscape architect, or professional in erosion and sediment control?	All SWPPPs for sites meeting the NPDES II regulatory thresholds must be prepared by a professional engineer. The Cities/County should consider allowing CESCL trained contractors prepare a reduced SWPPP for sites below the regulatory thresholds as long as engineering calculations are not needed.

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11	What should a SWPPP contain?	At a minimum the SWPPP for any site meeting the NPDES II regulatory thresholds must include the elements outlined by Ecology in the Washington State Construction Stormwater General Permit or in the <i>Stormwater Management Manual for Eastern Washington</i> . The requirements for smaller sites is at the discretion of the Cities and County.
12	Who will be in charge of reviewing all submitted SWPPPs?	A qualified employee of the City/County or a hired engineer (consultant) working under the direction of the City/County.
13	Will the City/County allow developers to apply for an Erosivity Waiver?	Yes, the erosivity waiver should be allowed. However it's use should still come with expectations and the ability for the Cities/County to take enforcement and require a permit if problems arise on a site. The timing of the erosivity waiver should also be looked at and adjusted if needed.
14	Will the City/County require phasing of construction sites?	Phasing should be encouraged (but not required) for large projects where the practice can reduce the erosion potential.
Stormwater Site Plans		
15	As part of the City/County's site plan review process, when will developers be required to submit their Stormwater Site Plan (SSP)?	During submittal of a Construction Site Erosion and Sediment Control Permit, Building, or Grading Permit application.

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16	Will the City/County require all SSPs to be prepared by a licensed professional engineer, landscape architect, or professional in erosion and sediment control?	Yes - by a professional engineer.
17	What should a SSP contain?	All elements outlined by in Chapter 3 of the <i>Stormwater Management Manual for Eastern Washington</i> . The City/County has the discretion to require additional information in complex circumstances.
18	Will the City/County require submittal of a Concept SSP and a Final SSP?	Not for all projects. A Concept SSP could be required for large, multiphased projects at the discretion of the City/County.
19	Who will be in charge of reviewing all submitted SSPs?	A qualified employee of the City/County or a hired engineer (consultant).
Conveyance Systems		
20	What conveyance standard (design flow) should be required for open channels, culverts, and pipe systems?	Open Channels/Ditches: 10-year flow with 0.5 ft freeboard; Culverts: 25-year flow; Pipe systems/gutters/drainage inlets: 10-year flow or 50-year flow in sag conditions.

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21	Are there other conveyance design requirements or restrictions that should be included in the ordinance?	To be provided by each the City/County. -or- Reference the WSDOT Hydraulics Manual for conveyance system design requirements.
Drywells		
22	What design standards or reference document should be used for the design and installation of drywells and other Underground Injection Control (UIC) facilities?	<i>Guidance for UIC Wells that Manage Stormwater</i> published by DOE and most recently revised in Dec 2006. Also require that all new UICs be registered with DOE. In addition, infiltration trenches have specific design requirements in addition to the document above.
Inspections		
23	Who will be in charge of inspecting each construction site to ensure compliance with this ordinance?	An employee of the City/County (or hired consultant under city/county direction) who is a Certified Erosion and Sediment Control Lead (CESCL), or a Certified Professional in Erosion and Sediment Control (CPESC).
24	How much will the inspection fee(s) cost the developer?	Incorporate the inspection fee into the overall permit fee. -or- Require developers to directly reimburse for inspections performed by a hired consulting engineer.

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25	How often will inspections be required during construction?	At least one inspection during construction to ensure proper installation and maintenance of erosion/sediment control facilities and one inspection at final construction to check installation of structural BMPs. Consider also requiring a pre-construction site inspection to review the erosion/sediment control plan with the contractor.
26	Will the City/County conduct at least one unannounced site inspection during the course of construction?	Possibly, at the discretion of the City/County.
27	How many construction sites will be inspected?	All construction sites should be inspected according to this ordinance, but at a minimum, 95% of all regulated construction sites will need to be inspected.
28	How often will inspections be required for structural BMPs after project completion?	Every two years to ensure proper condition and ongoing O&M is being done.
Operations and Maintenance		
29	Will the City/County require an Operation and Maintenance Plan for each development?	Yes.
30	Will the City/County require an O&M agreement showing the financial plan for long term O&M funding for each development?	Yes.

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31	Would the City/County be willing to accept dedication of existing or future stormwater BMP to include City/County responsibility for maintenance and repair?	Yes/No - no official recommendation.
32	How will the City/County verify that maintenance is being performed on privately owned facilities?	The City/County should set up a maintenance verification program that requires owners to submit annual inspection records conducted by a third party.
33	For those parties responsible for the operation and maintenance of stormwater BMPs, how long shall they retain records of the installation and of all maintenance and repairs?	Ensure consistency with other records retention requirements for engineered systems, considering the need to access records for NPDES II permit requirements.
Enforcement		
34	If a construction violation is found during site inspection, how much time does the developer have to take corrective action?	Upon receipt of violation(s) notice, developer should immediately commence corrective action and complete the corrective action within 24 hours.
35	If a person or entity fails to maintain a BMP, what actions should the City/County take to maintain the facility in proper working order and protect water quality?	In non-emergency situations, the City/County should notify the responsible party in writing. The responsible person shall then have thirty (30) days to perform necessary maintenance and repairs. If the work is not completed or the problem becomes a danger to public safety or public health, the City/County should conduct the necessary repairs and assess the owner(s) for the cost of repair work and any penalties.

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36	What enforcement action, or code, will be followed when a violation of the ordinance occurs?	Specific to the City/County.
37	How will appeals be handled?	Specific to the City/County.

Rationale Why?
<p>City/County should incorporate provisions of erosion/sediment control and stormwater design requirements into the overall development approval process. The City/County should not issue a building permit, grading permit, or site plan approval until the provisions of the stormwater runoff control ordinance have been</p>
<p>The fee should cover City/County cost to review the plans and stormwater report, plus any time to inspect the property and installed facilities before, during, and after construction. If City/County expects to hire a outside engineer to perform these tasks, then requiring developers to reimburse for the consulting fees ensures full cost recovery. Development review fees should also recover the cost to provide /acquire NPDES II required training for plan reviewers and site inspectors.</p>
<p>The one acre threshold is consistent with the Phase II Permit. However, the jurisdictions should choose a lower threshold to apply construction erosion and sediment controls since these smaller developments have a history of causing water quality concerns. The particular threshold size, plan preparation, and review process needs to be developed more during future ordinance development work.</p>
<p>The one acre threshold is consistent with the Phase II Permit. However, each jurisdiction can choose a lower threshold if they feel smaller developments pose a threat to water quality. Pullman, for example, is looking at requiring runoff control for projects that add 5,000 or more square feet of impervious surface (consistent with the Western Washington Phase II Permit).</p>

Rationale Why?

Exempt activities are from Appendix 1 of the Phase II Permit and are consistent with the *Stormwater Management Manual for Eastern Washington* and *Construction Stormwater General Permit*.

The permit does not explicitly list emergency activities as exempt, though those activities are listed as exempt in EPA's model.

"Permittees who choose to use the BMP selection, design, installation, operation and maintenance standards in the *Stormwater Management Manual for Eastern Washington* (2004), or another technical stormwater manual approved by Ecology, may cite this reference as the sole documentation that the ordinance or regulatory mechanism is protecting water quality, reducing the discharge of pollutants to the MEP, and satisfying state AKART requirements" (Phase II Permit). At this time, the only manual approved by Ecology is the *Spokane Regional SW Manual*. Other manuals are in development (i.e. Yakima area). However these manual may contain region specific requirements that would create problems for direct adoption and application in the Asotin County area. Note the need to include Appendix 1 of the NPDES II permit, and UIC guidance not in the E. WA Manual.

The requirements in Appendix 1, Core Element #2 of the Phase II Permit are the same as those in the State Construction Stormwater General Permit issued by Ecology and the *Stormwater Management Manual for Eastern Washington*.

Rationale Why?

The City/County should have, at minimum, a maintenance bond that provides funding to stabilize the site in the event the contractor does not install or maintain proper erosion control practices after clearing the site. Maintenance bonds are typically 10-15% of the estimated site work cost.

A performance bond is used for infrastructure work that the contractor intends to do after the final plat has been recorded. For example, a builder may elect to postpone sidewalk construction until after housing lots have been constructed. The City/County could require a performance bond of 100-120% of the estimated cost of the sidewalk construction. This gives the City/County the money to do the work if the contractor does not come back and finish.

In either case, bonding requirements should be part of the City/County development code and not necessarily addressed in the stormwater ordinance.

It will be necessary to review all submitted SWPPPs before issuance of a building or grading permit. Construction should not be allowed to begin until the SWPPP is approved by the City/County. A simplified SWPPP might be prepared for sites disturbing less than an acre.

"State law requires that engineering work be performed by or under the direction of a professional engineer licensed to practice in Washington State. Plans involving construction of treatment facilities or flow control facilities (detention ponds or infiltration basins), structural source control BMPs, or drainage conveyance systems generally involve engineering principles and shall be prepared by or under the direction of a licensed engineer. Construction Stormwater Pollution Prevention Plans (SWPPPs) that involve engineering calculations must also be prepared by or under the direction of a licensed engineer" (*Stormwater Management Manual for Eastern Washington*). For smaller sites (less than 1 acre for instance) the City and County should define simplified submittal requirements where a non-engineer can complete the submittal - these might be limited to selecting and applying TESC BMPs where calculations are not needed.

Rationale Why?

The the City/County should include any additional information they desire in the SWPPP submittal requirements, though the state guidelines are consistent with accepted practice.

Each jurisdiction should designate a staff engineer to be the lead in reviewing Stormwater Site Plans (SSPs), including the SWPPP elements. If the City/County does not have a qualified engineer on staff, then hiring an on-call consultant engineer to conduct development reviews is a common and recommended practice. It may be appropriate for one of the local governments to provide plan review and inspection services on behalf of the others. However this should be done under an inter local agreement (ILA) that makes sure NPDES II requirments are met and costs are covered.

Only if conditions listed in Appendix 1, Core Element # 2, of the Permit are met. The waiver allows smaller projects to avoid preparing a SWPPP if their site does not have high potential for erosion. Projects must be less than 5 acres, constructed in dry climates, in dry months, and with short durations of disturbed soil. Short duration projects in Asotin County may qualify.

Phasing construction can reduce erosion by exposing smaller areas of soil at a single time. However, phasing can cost developers more money and may also cost the City/County more money in reviewing phased plans and inspecting phased project sites. As such, phasing should be encouraged for large projects with high erosion potential. Smaller projects should be encouraged to maintain the shortest disturbed soil time possible.

It will be necessary to review all submitted SSPs before issuance of a building or grading permit. Construction should not be allowed to begin until their SSP is approved by the City/County.

Rationale Why?

"State law requires that engineering work be performed by or under the direction of a professional engineer licensed to practice in Washington State. Plans involving construction of treatment facilities or flow control facilities (detention ponds or infiltration basins), structural source control BMPs, or drainage conveyance systems generally involve engineering principles and shall be prepared by or under the direction of a licensed engineer" (*Stormwater Management Manual for Eastern Washington*).

Adopting the *Stormwater Management Manual for Eastern Washington* except where superceded by Appendix 1 of the NPDES II Permit or current UIC guidance will satisfy the Phase II Permit requirement to "document how the requirements of the ordinance... protect water quality, reduce the discharge of pollutants to the MEP, and satisfy the state AKART requirements." (Phase II Permit)

A Concept SSP should be required with the planning application of complex projects to show that the developer has taken the stormwater requirements into consideration and that the general plan has the ability to adequately mitigate for stormwater impacts. A final site plan (required for all projects that meet the threshold criteria) will the detailed design and calculations for the proposed BMPs.

Each jurisdiction should designate a staff engineer to be the lead in reviewing SSPs. If the City/County does not have a qualified engineer on staff, then hiring an on-call consultant engineer to conduct development reviews is a common and recommended practice. It may be appropriate for one of the local governments to provide plan review and inspection services on behalf of the others. However this should be done under an inter local agreement (ILA) that makes sure NPDES II requirements are met and costs are covered.

Conveyance system design is not included in the Phase II Permit or the *Stormwater Management Manual for Eastern Washington*. Design flows listed here are based on the WSDOT Hydraulics Manual. Recommend referencing the WSDOT Hydraulics Manual for additional conveyance system design criteria.

Rationale Why?

Elements to consider:

- Restrictions on discharge to irrigation canals;
- Required calculations for pipe systems, gutter flows and drainage inlets;
- Allowable pipe materials;
- Minimum pipe slopes or maximum channel velocities;
- Maximum inlet or junction spacing in pipe networks.

Drywell design is not addressed in the Phase II Permit. UICs are regulated by the RCW 90.48 and Chapter 173-200 WAC - Water Quality Standard for Groundwaters of the State of Washington. The newer technical guidance documents published by Ecology replaces the UIC information in the *Stormwater Management Manual for Eastern Washington*.

Some developers hire their own equally accredited site inspectors, but this is a requirement for contractors. However, the City/County should have their own staff or their own consultant perform inspections. It is especially important for the [Jurisdiction] to maintain control of inspections for facilities that will become public property after construction. It may be appropriate for one of the local governments to provide plan review and inspection services on behalf of the others. However this should be done under an inter local agreement (ILA) that makes sure NPDES II requirements are met and costs are covered.

See issue No. 2 above.

Rationale Why?

"All new construction sites that disturb one acre or more, or are part of a common plan of development or sale shall be inspected at least once by qualified personnel." (Phase II Permit)

"Structural BMPs shall be inspected at least once during installation by qualified personnel." (Phase II Permit). Inspection requirements for smaller sites may be reduced depending on City/County preference.

Unannounced site inspections may be a good idea to ensure compliance with this ordinance. Contractors may be good about installing erosion/sediment controls but may not be maintaining them as they should. The ordinance should not explicitly require an unannounced inspection, as some projects are too small to need this additional inspection.

"Compliance with the NPDES Phase II inspection requirement will be determined by the Permittee having and maintaining records of an inspection program that is designed to inspect all sites, and by the Permittee achieving an inspection rate of at least 95% of the sites" (Phase II Permit).

The Post-construction section of the Phase II Permit calls for inspections at least once every five years. However, the Operations and Maintenance section states, "A minimum of 95% of all known stormwater treatment and flow control facilities...shall be inspected at least twice: once no later than three years from the effective date of this permit and again before the expiration date...." (Phase II Permit)

Where structural BMPs are required, property owners shall operate and maintain the facilities in accordance with an Operation and Maintenance (O&M) plan that is prepared in accordance with the provisions in Chapters 5 and 6 of the *Stormwater Management Manual for Eastern Washington* (Phase II Permit).

Unless the City/County assumes responsibility for maintenance and repair of BMPs, such an agreement will be needed to ensure that the BMPs will continue to function properly after installation and protect water quality.

Rationale Why?

Other municipalities go either way on this issue. Some will not accept public ownership of privately constructed facilities because they do not want to take on the maintenance responsibility. Others require all stormwater facilities to be transferred to public ownership because they want to control the facility and ensure that maintenance is actually performed.

With limited public resources, it may be best to discourage (but not prohibit) transfer to public ownership. See next question.

Two methods are common:

1. City/County obtains right of entry and performs annual inspections of private stormwater facilities. Notice of required maintenance are sent to owners following inspections.
2. City/County requires owners to submit records of annual inspections conducted by a third party. This method cuts inspection costs for the City/County and is consistent with the language in the Phase II Permit.

"The duration of any records retention requirement should be determined by a City/County to parallel any such requirements for street, gutter or sewer infrastructure; a duration of twenty-five (25) years is not uncommon" (Iowa Model). This issue is not clear in the Phase II Permit, as the permit term only runs through February 2012.

Erosion and sediment control violations require immediate action. Non-compliance should result in a stop work order until the proper controls are in place.

This method focuses on keeping property owners responsible for maintenance and repairs. Most owners will comply with the ordinance and perform proper maintenance once educated about the requirements. The few that do not comply will need a monetary incentive to do so. The method of collecting payment should be consistent with other areas of the City/County code - perhaps placing a lien on the property if payment is not made within an agreed upon or legislated time frame.

Rationale Why?

Enforcement steps should be consistent with other code enforcement activities within the City/County. Continued non-compliance should result in civil penalties and fines.
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Appeals of violations to the stormwater code should be handled in the same way as all other code violation appeals within the City/County. This avoids confusion or uneven responses and maintains consistency within the City/County.
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