



## *2009 Stormwater Management Program*

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**King County**

Department of  
Natural Resources and Parks

**Water and Land Resources Division**

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## INTRODUCTION

This document, King County's 2009 Stormwater Management Program (SWMP) describes the actions and programs implemented by King County agencies that protect stormwater in unincorporated King County and on King County facilities located in other jurisdictions. It covers King County's municipal operations and facilities that have the potential to impact the quantity and quality of stormwater runoff that is eventually discharged to the lakes, rivers and streams of the Puget Sound basin. The permit defines a SWMP as "a set of actions comprising" the ten components outlined in section S5.C. of King County's municipal stormwater permit. King County is required to prepare written documentation of the SWMP that outlines the programs addressing the ten sections of S5.C. This documentation is required to be updated and submitted to Ecology annually. This document fulfills this requirement and describes King County's 2009 program.

The National Pollution Discharge Elimination System (NPDES) program is a federally mandated program established by Congress as part of the Clean Water Act with the intent to preserve the beneficial uses of the waters of the United States. The NPDES program regulates numerous types of water quality issues through a series of permits focused on different industries and other waste water and stormwater discharge sources. The Environmental Protection Agency (EPA) delegates NPDES permitting authority to individual states that meet specified requirements. The State of Washington meets those requirements and is authorized to implement the NPDES permit program through the Washington State Department of Ecology (Ecology).

The NPDES municipal stormwater program was implemented nationally in two phases. Under Phase I, only municipalities whose 1990 census populations exceeded 100,000 were covered under the municipal stormwater permit. In Washington, this included Clark, King, Pierce, and Snohomish counties, the cities of Seattle and Tacoma, and the Washington State Department of Transportation. Phase II was implemented in 2007 and extended municipal stormwater permit coverage to most municipalities in the Puget Sound Basin, 33 jurisdictions in King County and 113 jurisdictions state wide.

Certain stormwater discharges from facilities in unincorporated King County and at specific sites are covered by other NPDES permits, including individual permits for its wastewater discharges and the Cedar Hills Regional Landfill, the industrial Sand and Gravel permit for road maintenance shops in old gravel pits, and the construction stormwater permit for construction sites of one acre and larger in size. The NPDES municipal stormwater permit covers discharges from the municipal separate storm sewer system (MS4) that King County owns and operates. The NPDES municipal program requires permittees to use stormwater best management practices (BMPs) to reduce the discharge of pollutants to the maximum extent practicable.

A Phase I Municipal Stormwater Permit has covered unincorporated King County municipal stormwater discharges since 1995. The current permit, which was revised significantly since the 1995 permit, became effective on February 16, 2007. King County's Phase I Municipal Stormwater Permit (2007 Permit) requires the implementation of a SWMP.

The 2007 Permit required the County to significantly increase its level of effort and funding for stormwater management programs and actions, and includes a compliance timetable that

began in 2007. This SWMP primarily focuses on the County's proposed 2009 compliance actions.

The Permit impacts the County in a number of its roles.

1. As the local land use authority for the unincorporated area, the County must have appropriate codes, regulations, enforcement, and education capacity to reduce water-polluting practices and to increase or promote practices that protect water quality.
2. As a landowner and property manager, the County must ensure that its own practices meet regulatory standards.
3. As a local government, the County must implement a monitoring program that measures stormwater pollutants and the effectiveness of commonly used BMPs. The County must also assess the appropriateness of the BMPs for the SWMP components to determine their effectiveness, and identify necessary changes.
4. As a regional government, the County must work in coordination with other municipalities, and ensure the coordination and cooperation between the various departments within the County to achieve compliance with permit requirements.

Ecology's 2007 Permit contains ten required program components. The County is already in compliance with program component 1, and continues its ongoing compliance efforts in components two through ten. For convenience, and to comply with S5.A.1, the County's SWMP is organized by these ten permit components. Each is described below with reference to the 2007 Permit conditions

1. Legal Authority. Codes and regulations must be in place giving the County the power to control discharges to its storm drain system. (This requirement is essentially identical to the comparable requirement of the 1995 Permit.)
2. Mapping. The previous permit allowed ongoing mapping with no well-defined deadlines. Under the 2007 Permit, the County must meet specific schedules for completing various components of its separate storm sewer mapping.
3. Intra-governmental Coordination. The previous permit required—but did not define—coordination. The County must now have a written intra-governmental coordination agreement in addition to intergovernmental coordination mechanisms with other permitted agencies and jurisdictions.
4. Public Involvement. Under the previous permit, the SWMP covered the entire permit term and public involvement was required only during the initial development process. Now, each year, the County's SWMP is updated, and the public has an opportunity for involvement in the SWMP's development and implementation.
5. Control of runoff from new development, redevelopment and construction sites. The County must use drainage design and source control rules equivalent to those in Ecology's 2005 Stormwater Management Manual for Western Washington (2005 manual) and must meet newly established standards for staff training and inspections. Under the 2007 Permit, all County development projects (including those located in other

jurisdictions) must comply with the County's equivalent manual if it is more stringent than that of the jurisdiction in which the development is occurring.

6. Structural Stormwater Controls. The County must provide more detail about the goals of capital projects aimed at reducing the quantity and quality impacts of stormwater from past, present and future land development, and the estimated benefits of those projects must be quantified.
7. Source Control Program for Existing Development. County source control BMPs must be equivalent to those in Ecology's 2005 manual, and standards for staff training must be set. The 2007 Permit also requires a source control inspection program for identifying and inspecting pollution-generating sites that discharge to the municipal separate storm sewer systems (MS4s).
8. Illicit Connections and Illicit Discharges Detection and Elimination (IC/IDDE). The County must have more stringent King County water quality codes, set staff training standards, and a more aggressive program (including enforcement timelines). This program also includes the implementation of an illicit discharge program which includes a spill response program; inspection of County outfalls for illicit discharges; and, a program to identify and rectify illicit connections.
9. Operation and Maintenance Program. County maintenance standards must be equal to those in the 2005 Ecology manual, and standards must be developed for practices that are not covered. Rigorous maintenance schedules and cleaning standards are required, and stormwater pollution prevention plans (SWPPPs) are now required for sites that did not previously need them.
10. Education and Outreach Program. Target audiences and topics are specified, along with a requirement to measure program effectiveness and work regionally. The previous permit required only the existence of a program.

The 2007 Permit also requires a monitoring program to identify pollutants in stormwater, assess the effectiveness of commonly used control facilities, and provide ideas for improving stormwater management. The 2007 Permit's annual reporting document is more standardized and the reporting requirements are more specific than the previous permit's requirements.

Various agencies within the County government have been identified as having significant roles in implementing different sections of the 2009 SWMP. Their specific roles and responsibilities are described in the compliance tracking forms (CTFs) which are included in the SWMP as Appendix 6.

- The Department of Natural Resources and Parks (DNRP), through the Water and Land Resources Division (WLRD), is charged with coordinating the SWMP and annual reporting. WLRD also manages the coordination, public involvement, manual equivalency, structural stormwater control, and public education portions of the SWMP. WLRD also has a significant role in the County's source control, IDDE, and operations and maintenance programs. WLRD will be designing and conducting much of the training that is required, including training for the department's staff.

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- Many King County Divisions manage and develop properties and facilities that are not covered under other NPDES permits. These divisions include Solid Waste Division (Solid Waste), Wastewater Treatment Division (Wastewater), Road Services Division, Roads Maintenance Section (Roads), Metro Transit Division (Transit), Airport Division (Airport), Parks and Recreation Division (Parks), Department of Executive Services (DES), WLRD, Stormwater Services Section (SWS) and Rivers and Floodplain Management Unit (Rivers). Drainage facilities on any lands owned by these King County Divisions must be mapped, designed, and maintained in a manner consistent with permit requirements, and King County's source control BMPs for pollutant-generating activities must be used. Some staff training requirements also apply. SWPPPs must be prepared for applicable facilities. Roads co-leads the coordination of the County mapping program and partners with WLRD on developing and administering required training.
- The Department of Development and Environmental Services (DDES) is responsible for ensuring the equivalent manual requirements are applied to new development and re-development sites through inspections and permitting. For the County, this action includes not just the Surface Water Design and Stormwater Pollution Prevention manuals but also related codes, which are applied to new development and re-development sites within the confines of state vesting law.
- The Department of Public Health – Seattle & King County's (PHSKC) wastewater program has oversight of onsite sewage systems throughout King County. Corrective actions are taken where there is evidence indicating failing onsite systems are introducing contaminants into stormwater systems. In addition, PHSKC regulates and inspects a variety of businesses located throughout the County and can identify potential illicit discharges or connections to the stormwater system.

Many of the necessary permit compliance activities are conducted by WLRD and financed through the County's Surface Water Management (SWM) Fee [\[http://www.kingcounty.gov/environment/wlr/surface-water-mgt-fee.aspx\]](http://www.kingcounty.gov/environment/wlr/surface-water-mgt-fee.aspx). The mandated programs and program modifications needed in 2009 for permit compliance have been budgeted and are proceeding as described herein.

Future increases in required effort have not yet been budgeted and will be particularly challenging as the County's SWM fee revenues decline as a result of planned annexations of urban areas. Although the need for the County to provide permit-required services in these areas will be eliminated as they are assumed by the annexing city, the loss in service costs is typically less than the loss in revenue collected. This is because only a portion of the service costs is for direct services to specific areas. Many costs (such as those for SWMP tracking, updating, and reporting; coordination; public involvement; updating regulations; monitoring, etc.) apply to the municipality as a whole, regardless of size.

Even after annexations occur, the County's remaining unincorporated area will continue to have some higher-density areas (more than one dwelling unit/acre) that require suburban levels of service. Consequently, the County will continue to need to fund the more traditional stormwater management services required by the Permit.

In addition, as single-lot and lower-density subdivision development continues in the rural area, there will be an overall increase in nontraditional stormwater controls. These include forest

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retention and other low-impact development techniques such as flow dispersion and reduced impervious surface. These new features will require regular inspections by the County to ensure new types of controls are maintained. This will add to the challenges of future budgets for Permit compliance.

WLRD plans to revise its business plan in 2009 to address these future challenges in funding Permit compliance and other stormwater management needs.

## S5. STORMWATER MANAGEMENT PROGRAM

### **Preface**

The County has provided effective programs to manage stormwater runoff caused by land development for more than 20 years. The goal of these programs is to protect people and natural resources from damage caused by uncontrolled runoff and pollutants in stormwater. Where such damage has already occurred, the County's goal is to repair that damage.

When land is cleared, compacted, or covered with hard (impervious) surfaces as it is developed, rainfall and melting snow flow across the land surface instead of seeping into the surface soils and ultimately entering the groundwater. As this surface water runoff, or stormwater, flows across the landscape, it typically picks up various pollutants, including pesticides, fertilizers, pet wastes, oils and metals from vehicles, and many other chemicals. These pollutants enter surface waters, disrupt ecosystem processes, and, in some cases, also threaten public health. Runoff can also cause erosion, create higher peak flows and velocities in streams and rivers in winter and, because of reduced infiltration, result in lower, often slower flows in summer.

Stormwater does not recognize jurisdictional boundaries. As a result, the problems created by stormwater are larger than any one jurisdiction or agency within a jurisdiction. To this end, the County has had, and continues to have, a strong commitment to inter- and intra-governmental coordination. Stormwater has been identified as one of the leading contributors to the decline of Puget Sound. To address this issue, the County and the other jurisdictions that share the Puget Sound basin must coordinate their stormwater management activities.

The SWMP that follows describes the actions the County is taking in 2009 to avoid, reduce, and repair damages caused by the quantity and quality of stormwater runoff. In addition to the primary actions the County takes to achieve the goals of its stormwater management program, the SWMP includes descriptions of other management actions that the County implements for other purposes but that also help solve or prevent stormwater problems. These programs relate to land use and include: forestry programs, protection of critical areas, enforcement of clearing and grading regulations, purchase of open space, and restoration of Chinook habitat to prevent, reduce or repair stormwater damage. Many of these programs also provide other public benefits.

The SWMP has been prepared according to sections S5.A., B., and C. of the NPDES and State Waste Discharge General Permit for Discharges from Large and Medium Municipal Separate Storm Sewer Systems, Permit Number WAR04-4501.

Section S5.C. contains the ten required program components. Each component has several required goals that are indicated with a lower-case "a" (e.g., S5.C.1.a.). Each goal's compliance performance measures are indicated with a lower-case "b", (e.g., S5.C.1.b.). For the most part, the passages describing the County's compliance program are found only in the "b," or performance measure portions. For reference and convenience, the NPDES permit language is shown in italic text, followed by the County's proposed compliance shown in regular text.

**S5.A.**

*Each permittee listed in S1.B. shall implement a Stormwater Management Program (SWMP) during the term of this permit. For the purpose of this permit a stormwater management program is a set of actions comprising the components listed in S5.C. and additional actions and activities, where necessary, to meet the requirements of S7 Compliance with Total Maximum Daily Load Requirements.*

**S5.A.1.**

*In accordance with the requirements in S9 Reporting Requirements, each Permittee shall prepare written documentation of their SWMP and submit it to Ecology in written and electronic formats with the first year annual report. The documentation of the SWMP shall be organized according to the program components in S5.C., and shall be updated annually. The SWMP documentation shall include a description of each of the program components included in S5.C., and any additional actions necessary to meet the requirements of applicable TMDLs.*

**S5.B.**

*The SWMP shall be designed to reduce the discharge of pollutants from MS4s to the maximum extent practicable, meet state AKART requirements, and protect water quality.*

*Permittees are to continue implementation of existing stormwater management programs until they begin implementation of the updated stormwater management program in accordance with the terms of this permit, including implementation schedules.*

**S5.C.**

*The SWMP shall include the components listed below. The requirements of the stormwater management program shall apply to municipal separate storm sewers, and areas served by municipal separate storm sewers owned or operated by the Permittee. To the extent allowable under state and federal law, all SWMP components are mandatory.*

**S5.C.1. Legal Authority**

**S5.C.1.a.**

*No later than the effective date of this permit, each Permittee shall be able to demonstrate that they can operate pursuant to legal authority which authorizes or enables the Permittee to control discharges to and from municipal separate storm sewers owned or operated by the Permittee.*

**S5.C.1.b.**

*This legal authority, which may be a combination of statute, ordinance, permit, contracts, orders, interagency agreements, or similar means, shall authorize or enable the Permittee, at a minimum, to:*

**S5.C.1.b.i.**

*Control through ordinance, order, or similar means, the contribution of pollutants to municipal separate storm sewers owned or operated by the Permittee from stormwater discharges associated with industrial activity, and control the quality of stormwater discharged from sites of industrial activity;*

See the response to S5.C.1.b.iii.

**S5.C.1.b.ii.**

*Prohibit through ordinance, order, or similar means, illicit discharges to the municipal separate storm sewer owned or operated by the Permittee;*

See the response to S5.C.1.b.iii.

**S5.C.1.b.iii.**

*Control through ordinance, order, or similar means, the discharge of spills and the dumping or disposal of materials other than stormwater into the municipal separate storm sewers owned or operated by the Permittee;*

King County Code (KCC) 9.12 is the code used for the County's water quality compliance program since 1992 and addresses S5.C.1.b.i through iii by prohibiting the discharge of any contaminants into surface and stormwater. The purpose of this code is to protect the County's surface and ground water quality by providing minimum requirements for reducing and controlling the discharge of contaminants. This code prohibits the discharge of contaminants into surface and storm water and ground water, and outlines preventive measures to restrict contaminants from entering such waters. These measures include the implementation of BMPs by the residents of King County. The intent of this code is the minimization or elimination of water quality degradation; preservation and enhancement of the suitability of waters for recreation, fishing, and other beneficial uses; and preservation and enhancement of the aesthetic quality and biotic integrity of the water. The current code is found at the following URL:

<http://www.kingcounty.gov/council/legislation/~//media/Council/documents/Clerk/CodeFiles/12 Title 9.ashx>

**S5.C.1.b.iv.**

*Control through interagency agreements among co-applicants, the contribution of pollutants from one portion of the municipal separate storm sewer system to another portion of the municipal separate storm sewer system;*

The County is a co-permittee with the City of Seattle (Seattle) for the Densmore Basin. The County's obligations to the City in that basin are summarized in a Memorandum of Agreement dated September 25, 1995. The County and Seattle are discussing an update of the agreement in light of the new Permit.

**S5.C.1.b.v.**

*Require compliance with conditions in ordinances, permits, contracts, or orders; and,*

King County Code 9.12.045 - 9.12.080 authorizes implementation and enforcement of Chapter 9.12. King County Code Title 23 provides supplementary authority for the implementation and enforcement of code. Title 9 and Title 23 are found at the following URLs:

<http://www.kingcounty.gov/council/legislation/~//media/Council/documents/Clerk/CodeFiles/12 Title 9.ashx>

<http://www.kingcounty.gov/council/legislation/~//media/Council/documents/Clerk/CodeFiles/32 Title 23.ashx>

**S5.C.1.b.vi.**

*Within the limitations of state law, carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition on illicit discharges to the municipal separate storm sewer and compliance with local ordinances.*

Custodial agencies of King County are agencies that are owners, operators or managers of King County properties. These agencies are Solid Waste, Wastewater, Roads, Transit, Airport, Parks, DES, WLRD, SWS and Rivers. These agencies perform regularly scheduled inspections of their respective properties and facilities to inspect requisite BMPs and to determine the presence of illicit discharges to the MS4. These discharges include spills, illegal dumping, illicit connections, and other illegal activities. These programs are detailed in sections S5.C.5, S5.C.7 and S5.C.8 and in the attached CTFs. DDES performs the inspections and enforcement related to County-issued Permit conditions. DNRP, through SWS of WLRD, performs the inspections and enforcement related to the prohibition of illicit discharges per King County Code 9.12. PHSKC conducts enforcement of illegal dumping and illicit dischargers using Board of Health Code. Title 9 and Board of Health Codes are found at the following URLs:

<http://www.kingcounty.gov/council/legislation/~//media/Council/documents/Clerk/CodeFiles/12 Title 9.ashx>

<http://www.kingcounty.gov/healthservices/health/BOH/code.aspx>

## **S5.C.2. Municipal Separate Storm Sewer System Mapping and Documentation**

### **S5.C.2.a.**

*The SWMP shall include an ongoing program for mapping and documenting the MS4.*

### **S5.C.2.b.**

*Minimum performance measures. The information and its form of retention shall include:*

#### **S5.C.2.b.i.**

*No later than 2 years from the effective date of this permit each Permittee shall map all known municipal separate storm sewer outfalls and receiving waters, and structural stormwater treatment and flow control BMPs owned, operated, or maintained by the Permittee. Mapping of outfalls and structural BMPs shall continue on an on-going basis as additional outfalls are found, and as new BMPs are constructed or installed. No later than 2 years from the effective date of this permit each permittee shall initiate a program to map connection points between municipal separate storm sewers owned or operated by the Permittee and other municipalities or other public entities.*

To comply with the 1995 NPDES Permit, the County initiated a program to map its MS4. This mapping includes facilities, conveyance systems and outfalls; and connections between the County's system and those of other public entities. This mapping included properties owned and operated by King County that are located in other jurisdictions.

As of February 2009, King County has mapped and compiled all known MS3 outfalls, receiving waters, and structural treatment and flow control BMPs that it owns, operates or maintains. A committee of King County department representatives transitioned old data to a geo-database that allows the inclusion of any of the County's drainage system information. The committee has compiled the required mapping data while establishing internal practices for the ongoing compilation and assimilation of new mapping data into a central geo-database using King County's Geographic Information System (GIS) layers.

King County will use the database to identify areas of the County that need further mapping and refinement and continue the current field mapping program. Current collection methods include Geographic Positioning System (GPS) surveys on foot, aggregation of data from as-built plans, and data collection from mobile mapping vans. Presently, one or two crews are deployed for mapping throughout the year as conditions permit.

Additional outfalls, conveyance systems, and facilities that comprise part of the King County owned and operated MS4, will be surveyed and added to the database as they are found. The County has enacted a program to capture additions to the system after they receive final construction approval. As the new facilities and conveyance systems are approved and installed, they will be included in the master drainage map. Receiving waters have already been mapped and are available on separate GIS layers.

King County has been coordinating an effort to map connection points with other MS3s. The primary forum currently used is the mapping committee of NPDES Regional Operations and Maintenance Program (ROAD MAP). Some of the work products being developed

include interlocal agreements to coordinate mapping connection efforts and protocols for mapping connected systems.

**S5.C.2.b.ii.**

*No later than 4 years from the effective date of this permit each Permittee shall map the attributes listed below for all storm sewer outfalls with a 24" inches nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. For Counties, the mapping shall be done within urban/higher density rural sub-basins. For Cities, the mapping shall be done throughout the City. Attributes mapped shall include: Land use, Tributary conveyances (indicate type, material, and size where known); and associated drainage areas.*

King County will complete the appropriate GIS layers to meet this permit requirement by 2011. Much of the requisite data exist and additional information will be collected, including pipe size and type, using the mapping program described in Section S5.C.2.b.i. The urban/higher density rural sub-basins have already been identified and King County's mapping efforts have focused on the higher-density rural drainage basins. A map of these basins has been included as Appendix 5. This general approach has been used because the higher-density rural drainage basins have significant infrastructure and related maintenance activities and are not likely candidates for annexation.

**S5.C.2.b.iii.**

*Each Permittee shall initiate a program to develop and maintain a map of all connections to the municipal separate storm sewer authorized or allowed by the Permittee after the effective date of this permit.*

King County has a program that identifies new connections to the MS4 through building permit records. The submittal of electronic maps of newly constructed drainage systems that will be owned by the County are required as part of permit review. Private connections allowed under new permits will be manually added to the GIS map of the County's MS4. Various custodial agencies within the County will be responsible for updating the geo-database with the relevant information about the new facilities.

**S5.C.2.b.iv.**

*Each Permittee shall map existing, known connections over 8" to municipal separate storm sewers tributary to all storm sewer outfalls with a 24" inches nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems, according to the following schedule:*

- *City of Seattle and City of Tacoma: 2 years after the effective date of this permit.*
- *Clark, King Pierce and Snohomish Counties: one half the area of the County within urban/higher density rural sub-basins 4 years after the effective date of this permit.*

All known connections over 8" to municipal separate storm sewers tributary to all storm sewer outfalls with a 24" inches nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems are being mapped under an existing program. The County plans to complete mapping of half the area of the County within urban/higher density rural sub-basins by 2011 using the mapping program described in Section S5.C.2.b.i

**S5.C.2.b.v.**

*No later than 4 years from the effective date of this permit each Permittee shall map geographic areas served by the Permittee's MS4 that do not discharge stormwater to surface water.*

The location of King County's known flow control and treatment facilities, conveyance system, and outfalls has been mapped as described in Section S5.C.2.b.i. The County will use this geo-database to identify those geographic areas that do not discharge to surface water. (No catchments are allowed to discharge to sanitary sewer systems.) After the stormwater systems that do not discharge to surface water are identified, the tributary areas will be determined and mapped. This will not include systems that discharge to groundwater through Underground Injection Control (UIC) structures. Those systems are mapped and regulated under Chapter 173-218 WAC. This work will be completed by 2011.

**S5.C.2.b.vi.**

*To the extent consistent with national security laws and directives, each Permittee shall make available to Ecology, upon request, available maps depicting the information required in S5.C.2.b.i. through v., above. The preferred format of submission will be an electronic format with fully described mapping standards. An example description is available on Ecology's website. Notification of updated GIS data layers shall be included in annual reports.*

See the response to S5.C.2.b.vii.

**S5.C.2.b.vii.**

*Upon request, and to the extent appropriate, Permittees shall provide mapping information to Co-Permittees and Secondary Permittees. This permit does not preclude Permittees from recovering reasonable costs associated with fulfilling mapping information requests by Co-Permittees and Secondary Permittees.*

The County is prepared to respond appropriately to the mapping requests of Ecology and any Co-Permittees and Secondary Permittees. Requests should be addressed to Curt Crawford, Storm Water Services Section Manager, Water and Land Resources Division, 201 S. Jackson Street, Suite 600, Seattle, WA 98104-3855, or by e-mail at [Curt.Crawford@kingcounty.gov](mailto:Curt.Crawford@kingcounty.gov).

### **S5.C.3. Coordination**

#### **S5.C.3.a.**

*The SWMP shall include coordination mechanisms among departments within each jurisdiction to eliminate barriers to compliance with the terms of this permit. The SWMP shall also include coordination mechanisms among entities covered under a municipal stormwater NPDES permit to encourage coordinated stormwater-related policies, programs and projects within a watershed.*

#### **S5.C.3.b.**

*Minimum performance measures:*

##### **S5.C.3.b.i.**

*No later than 1 year after the effective date of this permit, establish, in writing, and begin implementation of, intra-governmental (internal) coordination agreement(s) or Executive Directive(s) to facilitate compliance with the terms of this permit.*

An order, signed by the County Executive, establishes the mechanism by which the various entities of County government will participate in permit compliance. The order was effective November 20, 2007 and may be read at the following website:

<http://www.kingcounty.gov/operations/policies/executive/utilitiesaeo/put819aeo.aspx> )

##### **S5.C.3.b.ii.**

*No later than 2 years after the effective date of this permit, or within 2 years following the addition of a new Secondary Permittee, establish:*

- *Coordination mechanisms clarifying roles and responsibilities for the control of pollutants between physically interconnected MS3s of the Permittee and any other Permittee covered by a municipal stormwater permit.*
- *Coordinating stormwater management activities for shared waterbodies, among Permittees and Secondary Permittees, to avoid conflicting plans, policies and regulations.*

*Permittees shall document their efforts to establish the required coordination mechanisms. Failure to effectively coordinate is not a permit violation provided other entities, whose actions the Permittee has no or limited control over, refuse to cooperate.*

King County is instrumental in convening, supporting, and participating in numerous regional forums with other municipalities to develop and implement collaborative stormwater management programs. These forums include the following:

- Stormwater Outreach for Regional Municipalities (STORM) is a regional coordination organization comprised of Phase I and Phase II Municipal NPDES permit holders whose purpose is to coordinate public education and outreach efforts related to stormwater pollution prevention. This group was awarded a stormwater grant by Ecology to assemble and launch a public education campaign on stormwater. STORM has an ongoing relationship with the Puget Sound Partnership (PSP) that focuses on coordinating shared outreach messages and complimentary outreach activities.

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- ROAD MAP is a regional coordination organization comprised of Phase I and Phase II Municipal NPDES permit holders whose purpose is to develop coordinated programs and tools to address operations and maintenance requirements within the municipal stormwater permits. ROAD MAP has formed committees that address IC/IDDE, regional stormwater mapping, permit tracking tools, coordination of training programs, and development of regional maintenance standards.
- The Regional Permit Coordinators' Forum is a regional coordination organization comprised of Phase I and Phase II Municipal NPDES permit holders whose purpose is to provide a forum to discuss permit and stormwater related issues concerning permit holders, share current information, and identify solutions and future issues.
- The Phase I Permit Coordinators Group is a regional coordination organization comprised of Phase I Municipal NPDES permit holders that has been meeting since the issuance of the 1995 permit. The purpose of this group is to provide a forum to discuss permit and stormwater related issues concerning Phase I permit holders, share current information, and identify solutions and future issues.
- The Stormwater Managers Committee of the Washington State Chapter of the American Public Works Association (APWA) is a regional committee of stormwater professionals from both the public and private sector. This group has been an important partner in the region in addressing stormwater issues, developing local consensus on issues, and reporting out to regional agencies and governments. The APWA also provides a forum for the presentation of studies and new products.
- The Water Quality Partnership is a standing policy advisory committee on the State's water quality management functions. This committee is sponsored by Ecology and provides water quality professionals from both the public and private sector to review information on Ecology programs presented by senior staff of Ecology. Subject matter includes budget, permits, regulations, state studies, and reports from other programs within Ecology. This group is often drawn upon to provide staffing for stakeholder groups.
- The Regional Monitoring Consortium has been funded by Ecology to provide a forum to develop regional approaches to environmental monitoring. This group has a Governance committee that recommended a Puget Sound-wide framework for monitoring to Ecology, the Puget Sound Partnership, and the Washington State Legislature in December 2008. It has funded several pilot studies and has formed the Stormwater Work Group (SWG) which is currently developing a regional monitoring program for presentation to Ecology and the Puget Sound Partnership by August 2010. This regional program will be considered for the next (2012) permit.

King County has contributed and will continue to contribute significant staff time and resources to the PSP. King County staff are serving on multiple committees and groups within the PSP. The County also is instrumental in the operations of the local Water Resource Inventory Areas (WRIA) Boards in WRIs 7, 8, 9, and 10. In addition, King County is active in the collaborative planning and stormwater-related improvements for the Salmon, Miller, Walker, Des Moines, and Juanita Creek Basins. The participation in, and relationships established in these groups form the basis for the timely coordination mechanisms and coordinated activities required above.

#### **S5.C.4. Public Involvement and Participation**

##### **S5.C.4.a.**

*The SWMP shall provide ongoing opportunities for public involvement in the Permittee's stormwater management program and implementation priorities.*

##### **S5.C.4.b.**

*Minimum performance measures:*

##### **S5.C.4.b.i.**

*No later than 6 months after the effective date of this permit, develop and begin implementing a process to create opportunities for the public to participate in processes involving the development, implementation and update of the Permittee's SWMP. Each Permittee shall develop and implement a process for consideration of public comments on their SWMP.*

For the 2008 SWMP public involvement process, the County offered an open house, an online survey, and an email address set up to accept public comment after the draft was published. The public involvement process for the updated 2009 SWMP has been shaped by our experience with, and comments on, the 2008 process.

In 2009, King County will undertake expanded public involvement opportunities. The County will be hosting three public comment meetings held at locations geographically distributed around the County. These meetings will focus specifically on accepting public input about the SWMP. Prior to these meetings, a draft of the SWMP document will be posted on the County's website along with a series of frequently asked questions and a feedback survey. An emailing of almost 3,000 addresses will announce the posting of the SWMP, and public meetings and notices will be sent to local news outlets. Additionally, an email account has been created to accept public comments on the SWMP. Comments received will be compiled and posted on the SWS website. Issues raised by the comments will be addressed.

##### **S5.C.4.b.ii.**

*Each Permittee shall make their SWMP, the SWMP documentation required under S5.A.1. and all submittals required by this permit, including annual reports, available to the public, starting with the first annual report, on the Permittee's website or submitted in electronic format to Ecology for posting on Ecology's website.*

The SWMP, the SWMP documentation required under S5.A.1 and all submittals required by this permit, including annual reports, shall be made available to the public, starting with the first annual report, via the King County website at the following address:

<http://www.kingcounty.gov/environment/wlr/stormwaterprogram.aspx>

## **S5.C.5. Controlling Runoff from New Development, Redevelopment and Construction Sites**

### **S5.C.5.a.**

The SWMP shall include a program to prevent and control the impacts of runoff from new development, redevelopment, and construction activities. The program shall apply to private and public development, including roads.

### **S5.C.5.b.**

Minimum performance measures:

#### **S5.C.5.b.i.**

The Minimum Requirements, thresholds, and definitions in Appendix 1, or Minimum Requirements, thresholds, and definitions determined by Ecology to be equivalent to Appendix 1, for new development, redevelopment, and construction sites shall be included in ordinances or other enforceable documents adopted by the local government. Adjustment and variance criteria equivalent to those in Appendix 1 shall be included. More stringent requirements may be used, and/or certain requirements may be tailored to local circumstances through the use of basin plans or other similar water quality and quantity planning efforts. Such local requirements and thresholds shall provide equal or similar protection of receiving waters and equal or similar levels of pollutant control as compared to Appendix 1.

The County has met this performance requirement. Minor amendments, requested by Ecology, were made in 2008 to our regulations for new development, redevelopment, and construction sites. The relevant codes and rules are set forth in the following list:

KCC 9.04 Surface Water Runoff Policy

[http://www.kingcounty.gov/council/legislation/~media/Council/documents/Clerk/CodeFiles/12\\_Title\\_9.ashx](http://www.kingcounty.gov/council/legislation/~media/Council/documents/Clerk/CodeFiles/12_Title_9.ashx)

KCC 9.08 Water Quality

[http://www.kingcounty.gov/council/legislation/~media/Council/documents/Clerk/CodeFiles/12\\_Title\\_9.ashx](http://www.kingcounty.gov/council/legislation/~media/Council/documents/Clerk/CodeFiles/12_Title_9.ashx)

KCC 16.82 Clearing and Grading

[http://www.kingcounty.gov/council/legislation/~media/Council/documents/Clerk/CodeFiles/19\\_Title\\_16.ashx](http://www.kingcounty.gov/council/legislation/~media/Council/documents/Clerk/CodeFiles/19_Title_16.ashx)

KCC 21A.24 Critical Areas

[http://www.kingcounty.gov/council/legislation/~media/Council/documents/Clerk/CodeFiles/29\\_Title\\_21A24\\_21A26.ashx](http://www.kingcounty.gov/council/legislation/~media/Council/documents/Clerk/CodeFiles/29_Title_21A24_21A26.ashx)

the Surface Water Design Manual (SWDM)

<http://www.kingcounty.gov/environment/waterandland/stormwater/documents/surface-water-design-manual/2009-swdm.aspx>,

and the Stormwater Pollution Prevention Manual (SPPM)

<http://www.kingcounty.gov/environment/waterandland/stormwater/documents/pollution-prevention-manual.aspx>.

**S5.C.5.b.ii.**

*The local requirements shall include a site planning process and BMP selection and design criteria that, when used to implement the minimum requirements in Appendix 1, will protect water quality, reduce the discharge of pollutants to the maximum extent practicable, and satisfy the state requirement under chapter 90.48 RCW to apply all known, available, and reasonable methods of prevention, control and treatment (AKART) prior to discharge. Permittees shall document how the criteria and requirements will protect water quality, reduce the discharge of pollutants to the maximum extent practicable, and satisfy the state AKART requirements.*

*Permittees who choose to use the site planning process, and BMP selection and design criteria in the 2005 Stormwater Management Manual for Western Washington [SMMWW], or an equivalent manual approved by Ecology, may cite this choice as their sole documentation to meet this requirement.*

The County chose to adopt an equivalent manual approved by Ecology and hereby cites this choice as the sole documentation of compliance with this requirement. After approval and adoption of enabling code by the King County Council in 2008, the current SWDM was adopted by public rule and became effective on January 9, 2009. It is posted at the following URL:

<http://www.kingcounty.gov/environment/waterandland/stormwater/documents/surface-water-design-manual/2009-swdm.aspx>

Due to the appeal of the 2007 Phase I Municipal NPDES Permit to the Pollution Control Hearing Board (PCHB), the approval process for equivalency was ruled to require a public review process. Formal approval of the County's manual will take place through a modification of the Municipal Permit by Ecology. Notice of the modification of the 2007 Permit is expected to be published in the Washington State Register in February 2009.

**S5.C.5.b.iii.**

*The program must allow non-structural preventive actions and source reduction approaches such as Low Impact Development Techniques (LID), to minimize the creation of impervious surfaces, and measures to minimize the disturbance of soils and vegetation.*

County codes allow, encourage, and require the use of Low Impact Development (LID) BMPs where feasible, including specific measures used to minimize the disturbance of soils and vegetation. The SWDM requires the use of a minimum amount of LID BMPs on most projects and allows LID BMPs to be used as the sole means of managing stormwater. The LID BMPs allowed include preserving native vegetation and limiting impervious surface. The grading code requires that where soil is disturbed, a minimum of 8 inches of soil having an organic content of 8-13% must be provided. The grading code also limits the amount of clearing that may be done on rural residential-zoned properties. The zoning code prohibits clearing in stream and wetland buffers and limits clearing on steep slopes.

The County meets this performance requirement as follows:

- KCC 9.04 and the SWDM require the application of LID BMP techniques, called flow control BMPs, on nearly all new development and redevelopment projects that are subject to drainage review. These required flow control BMPs include both non-structural BMPs (e.g., native vegetation retention and reduced footprint, etc.) and structural BMPs (e.g., infiltration trenches, dispersion trenches, rain gardens, etc.).

- [KCC 16.82.050](#) imposes clearing restrictions on rural residential developments and requires preservation of the remaining native vegetation.
- [KCC 16.82.100](#) requires that clearing and grading activities minimize removal of the duff layer and native top soil and that disturbed soils be amended with compost or other organic matter to mitigate loss of soil moisture-holding capacity.

Additionally, [King County's Critical Areas Ordinance](#) allows modification of standard aquatic, wetland and wildlife habitat conservation area buffers and clearing limits on properties zoned Rural Area residential (RA) when landowners submit an approved Rural Stewardship Plan that includes LID strategies. Rural Stewardship Plans promote minimal disturbance of native soils and vegetation. They decrease hydrologic changes by reducing development footprints and carefully siting developed areas, and by using on-site infiltration and dispersion techniques.

**S5.C.5.b.iv.**

*No later than 18 months from the effective date of this permit, each Permittee shall adopt a local program that meets the requirements in S5.C.5.b.i through iii., above. Ecology review and approval of the local manual and ordinances is required. Permittees shall provide detailed, written justification of any of the requirements that differ from those contained in Appendix 1 of this permit.*

*The Permittee shall submit draft enforceable requirements, technical standards and manual to Ecology no later than 12 months after the effective date of this permit. Ecology will review and provide written response to the Permittee. If Ecology takes longer than 60 days to provide a written response, the required deadline for adoption will be automatically extended by the number of calendar days that Ecology exceeds a 60 day period for written response.*

*In the case of circumstances beyond the Permittee's control, such as litigation or administrative appeals that may result in noncompliance with the requirements of this section, the Permittee shall promptly notify Ecology and submit a written request for an extension.*

The County submitted its draft of enforceable requirements, technical standards, and manual to Ecology in 2008. The County has updated its requirements, technical standards, and manual and resubmitted them to Ecology in response to feedback from Ecology staff to achieve equivalency of these regulations with the Ecology manual. The County made minor amendments to the following regulations:

Surface Water Design Manual

<http://www.kingcounty.gov/environment/waterandland/stormwater/documents/surface-water-design-manual/2009-swdm.aspx>),

Stormwater Pollution Prevention Manual

<http://www.kingcounty.gov/environment/waterandland/stormwater/documents/pollution-prevention-manual.aspx>),

[KCC 9.04 Surface Water Runoff Policy](#), [KCC 9.12 Water Quality](#), and

[KCC 16.82 Clearing and Grading](#).

These were submitted to King County Council in 2008 and approved for adoption. They were posted to King County's website in January of 2009.

Due to the appeal of the 2007 Phase I Municipal NPDES Permit to the PCHB, the approval process for equivalency was ruled to require a public review process. Formal approval of the County's manual will take place through a modification of the Municipal Permit by Ecology. Notice of the modification of the 2007 Permit is expected to be published in the Washington State Register in February 2009.

**S5.C.5.b.v.**

*No later than 18 months after the effective date of this permit, the program shall establish legal authority to inspect private stormwater facilities and enforce maintenance standards for all new development and redevelopment approved under the provisions of this section.*

The County currently meets this performance requirement through its adopted surface water code, as listed below:

- [KCC 9.04.120 Drainage facilities not accepted by King County for maintenance](#): A declaration of covenant granting King County authority to inspect private drainage facilities must be recorded at the time of development.
- [KCC 9.04.140 Administration](#): Authorizes the County to make inspections and take actions required to enforce the provisions of KCC 9.04 and the Surface Water Design Manual. It also provides for right of entry and ingress/egress as needed to monitor and enforce the requirements of KCC 9.04 and the Surface Water Design Manual.
- [KCC 9.04.180 Enforcement](#): Authorizes the County to enforce the provisions of KCC 9.04 and the Surface Water Design Manual.
- [KCC Title 23 Code Compliance](#): Sets forth procedures for enforcing code compliance.

**S5.C.5.b.vi.**

*No later than 18 months after the effective date of this permit, the program shall include a process of permits, plan review, inspections, and enforcement capability to meet the following standards for both private and public projects, using qualified personnel:*

- *Review all stormwater site plans submitted to the Permittee for proposed development involving land disturbing activity that meet the thresholds in S5.C.5.b.i., above.*
- *Inspect prior to clearing and construction, all permitted development sites that meet the thresholds in S5.C.5.b.i., and that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7.*
- *Inspect all permitted development sites involving land disturbing activity that meet the thresholds in S5.C.5.b.i. above, during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce as necessary based on the inspection.*

## *2009 Stormwater Management Program*

- *Inspect all development sites that meet the thresholds in S5.C.5.b.i., upon completion of construction and prior to final approval/occupancy to verify proper installation of permanent erosion controls and stormwater facilities/BMPs. Enforce as necessary based on the inspection. A maintenance plan shall be developed for permanent stormwater facilities/BMPs and responsibility for maintenance shall be assigned.*
- *Compliance with the above inspection requirements shall be determined by the presence of an established inspection program designed to inspect all sites involving land disturbing activity that meet the thresholds in S5.C.5.b.i., and achieve inspection of 95% of sites. The inspections in may be combined with other inspections provided they are performed using qualified personnel.*
- *The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.*
- *The program shall include an enforcement strategy to respond to issues of non-compliance.*

King County has in place a process of permits, plan review, inspections, and enforcement capability to meet the above standards for both private and public projects. Except for Right of Way (ROW) Construction Permits, which are administered by the Real Estate Services Section of the Department of Executive Services, DDES is the permitting agency for unincorporated King County. DDES receives applications for development permits and reviews all stormwater site plans submitted. This review process includes assessing the sensitivity of a site for elements such as erosion hazard critical areas, proximity to steep slopes, creeks or wetlands, as well as the proposed temporary erosion and sediment control (TESC) elements of the project.

Following issuance of a permit, DDES inspects all development sites. Pre-clearing and construction inspections are performed for all designated highly sensitive sites, which capture those sites with a high potential for sediment transport. These sites are also inspected during construction for the required erosion and sediment controls outlined and reviewed in the permit application. All sites with stormwater facilities are inspected to ensure they are properly installed. Because DDES frequently combines erosion and sediment control inspections with other inspections, all the inspectors and plan reviewers are required to have Certified Erosion and Sediment Control Lead (CESCL) certification.

Larger projects are required to post financial guarantees to ensure that sites not properly constructed can be corrected. Violations of erosion and sediment control requirements are enforced. Larger projects are required to put up financial guarantees, the first \$7,500 of which is cash. If a violation or stop work order is issued due to TESC problems, DDES can order out its own contractors to fix the TESC problem using the cash portion of the restoration bond. Flow charts of some typical DDES permit processes are available in Appendix 1 to demonstrate how inspections are integrated into the process.

Inspections are tracked with different methods by various DDES sections using a time tracking/billing system to record site visits and inspections; completion of paper log sheets in the field; electronic records in a software program called Permits Plus; and, through their

time reporting system. Records of all inspections and enforcements are maintained in a central database and most are available through the DDES website.

**S5.C.5.b.vii.**

*No later than the effective date of this permit, the Permittee shall make available the “Notice of Intent for Construction Activity” and/or copies of the “Notice of Intent for Industrial Activity” to representatives of proposed new development and redevelopment. Permittees will continue to enforce local ordinances controlling runoff from sites that are covered by other stormwater permits issued by Ecology.*

Copies of “Notice of Intent for Construction Activity” and the “Notice of Intent for Industrial Activity” are available at the DDES’s Permit Counter.

**S5.C.5.b.viii.**

*No later than 18 months after the effective date of this permit, each permittee shall ensure that all staff whose primary job duties are implementing the program to Control Stormwater Runoff from New Development, Redevelopment, and Construction Sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. As determined necessary by the Permittee, follow-up training shall be provided to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.*

King County has a training program series on the SWDM and coordinates with all departments to ensure that the requisite staff receive this training. In addition, existing DDES staff are required to maintain Certified Erosion Control Lead certification. The County continues to review King County agencies’ programs and updates the list of staff requiring SWDM and CESCL training as needed under this section. The County will address the training requirements as new staff and positions are identified, whether they are current employees or new hires. Ecology tracks CESCL certifications on its website at the following URL: (<http://www.ecy.wa.gov/programs/wq/stormwater/cescl.htm>) King County has received approval from Ecology for a CESCL training program staffed by King County trainers. This will enable the County to train staff identified as needing CESCL training in a timely manner.

## **S5.C.6. Structural Stormwater Controls**

### **S5.C.6.a.**

*The SWMP shall include a program to construct structural stormwater controls to prevent or reduce impacts to waters of the state caused by discharges from the MS4. Impacts that shall be addressed include disturbances to watershed hydrology and stormwater pollutant discharges. The program shall consider impacts caused by stormwater discharges from areas of existing development, including runoff from highways, streets and roads owned or operated by the Permittee, and areas of new development, where impacts are anticipated as development proceeds. The program shall address impacts that are not adequately controlled by the other required actions of the SWMP, and shall provide proposed projects and an implementation schedule.*

*The program shall consider the construction of projects such as: regional flow control facilities; water quality treatment facilities; facilities to trap and collect contaminated particulates; retrofitting of existing stormwater facilities; and rights-of-way, or other property acquisition to provide additional water quality and flow control benefits. Permittees should also consider other means to address impacts, such as reduction or prevention of hydrologic changes through the use of on-site (infiltration and dispersion) stormwater management BMPs and site design techniques, riparian habitat acquisition, or restoration of forest cover and riparian buffers, for compliance with this requirement. Permittees may not use in-stream culvert replacement or channel restoration projects for compliance with this requirement.*

### **S5.C.6.b.**

*Minimum Performance Measures:*

#### **S5.C.6.b.i.**

*No later than 1 year after the effective date of this permit, each Permittee shall develop a Structural Stormwater Control program designed to control stormwater impacts that are not adequately controlled by other required actions of the SWMP. Implementation of the program shall begin no later than 18 months after the effective date of this permit. Permittees shall provide a list of planned individual projects that are scheduled for implementation during the term of this permit. Updates and revisions to the list will be provided in the annual report.*

*The Structural Stormwater Control program may also include a program designed to implement small scale projects that are not planned in advance.*

The County's structural stormwater control program is a two-tiered program of capital projects operated primarily out of King County WLRD that also includes projects implemented by other County agencies that meet the intent of the program. The first tier consists of projects whose primary purpose is controlling stormwater runoff from developed land to address its quantity and quality impacts to waters of the state that are not adequately addressed by other required actions in the SWMP. Included are projects specifically aimed at (1) reducing stormwater quantity and/or quality impacts caused by existing developed land, and/or (2) preventing such impacts anticipated to be caused by future land development that are not otherwise addressed by development regulations. The second tier consists of projects whose primary purpose is not controlling stormwater runoff to reduce or prevent stormwater impacts to waters of the state, but nonetheless result in a stormwater impact reduction/prevention benefit to these waters. Details of King County's structural stormwater control program are located in Appendix 2.

**S5.C.6.b.ii.**

Each Permittee shall include a description of the Structural Stormwater Control Program in the written documentation of their SWMP. The description of the Structural Stormwater Control Program shall include the following:

- The goals that the Structural Stormwater Control Program are intended to achieve.
- The planning process used to develop the Structural Stormwater Control Program, including: the geographic scale of the planning process, the issues and regulations addressed, the steps in the planning process, the types of characterization information considered, the amount budgeted for implementation, and the public involvement process.

Goals of the Structural Stormwater Control Program

The overall goal of the County's structural stormwater control program as directed by this permit requirement is to (1) reduce stormwater quantity and quality impacts to waters of the state caused by existing developed land, and (2) prevent such impacts anticipated to be caused by future land development that are not adequately addressed through regulations or other required programmatic actions of this SWMP. Such impacts include, but are not limited to: increased runoff peaks, durations, and volumes; loss of groundwater recharge; increased pollutants in discharges; increased erosion and sedimentation; physical, chemical, and biological damage to aquatic habitat and biota; increased flooding and property damage; and increased risks to human health and safety. The overall goal is intended to be achieved incrementally over time through implementation of the program's capital projects each year. See Appendix 2 for a description of the projects planned through the end of this permit term.

Planning Process for the Structural Stormwater Controls Program

Currently, several planning processes are used to identify structural stormwater control projects. These include, but are not limited to: basin plans; basin reconnaissance reports; stormwater compliance plans; salmon conservation plans; lake management plans; TMDL implementation plans; basin retrofit analyses; land use analyses; GIS analyses; engineering studies; feasibility studies; and six-year CIP plans. Over the years, these planning processes are one way that projects are identified and prioritized. The other way is through opportunities and emergency situations that arise following severe storms. Opportunities may include the availability of external funding for a specific project or project type (e.g., federal or state grant funding), or the availability of a specific piece of land for acquisition. Urgent situations, often posed by flooding or erosion, typically involve a significant risk of property damage or threat to public safety, or may involve a legal obligation.

As described in Appendix 2, other types of structural stormwater control projects are not planned but instead are identified and implemented on a year-by-year demand-driven basis.

The County has and will continue to participate in basin and sub-basin scale planning to identify stormwater control projects to mitigate the stormwater impacts of

past, present, and future development. The County is currently involved in several basin planning efforts, including the Des Moines Creek Basin Plan (implementation phase), the Miller and Walker Creek Basin Plan, the Salmon Creek Basin Plan, the Bear Creek Reconnaissance Plan, and the Juanita Creek Basin Retrofit Analysis Project.

In 2009, the County will begin a program to proactively identify, assess feasibility, and prioritize capital projects to address erosive outfall problems pursuant to Ecology's direction stated in their letter to King County dated July 22, 2008 (see Appendix 2). The program will consider different approaches to address these problems such as use of tightlines (pipes down steep slopes), upper basin flow control facilities, and/or low impact development retrofits that more closely mimic the predeveloped hydrologic condition.

**S5.C.6.b.iii.**

*For planned individual projects, and programs of small projects, provide the following information:*

- *The estimated pollutant load reduction that will result from each project designed to provide stormwater treatment.*
- *The expected outcome of each project designed to provide flow control.*
- *Any other expected environmental benefits.*
- *If planned, monitoring or evaluation of the project and monitoring/evaluation results.*

The current list of projects planned for this permit term and their expected outcomes is provided in Appendix 2.

**S5.C.6.b.iv.**

*Information about the Structural Stormwater Control Program shall be updated with each annual report.*

Information about King County's Structural Stormwater Control Program has been updated and is available in the County's Annual Report for 2008.

## **S5.C.7. Source Control Program for Existing Development**

### **S5.C.7.a.**

*The SWMP shall include a program to reduce pollutants in runoff from areas that discharge to municipal separate storm sewers owned or operated by the Permittee. The program shall include the following:*

#### **S5.C.7.a.i.**

*Application of operational and structural source control BMPs, and, if necessary, treatment BMPs to pollution generating sources associated with existing land uses and activities.*

#### **S5.C.7.a.ii.**

*Inspections of pollutant generating sources at commercial, industrial and multifamily properties to enforce implementation of required BMPs to control pollution discharging into municipal separate storm sewers owned or operated by the Permittee.*

#### **S5.C.7.a.iii.**

*Application and enforcement of local ordinances at applicable sites, including sites that are covered by other stormwater permits issued by Ecology. Permittees that are in compliance with the terms of this permit will not be held liable by Ecology for water quality standard violations or receiving water impacts caused by industries and other Permittees covered, or which should be covered under an NPDES permit issued by Ecology.*

#### **S5.C.7.a.iv.**

*Reduction of pollutants associated with the application of pesticides, herbicides, and fertilizer discharging into municipal separate storm sewers owned or operated by the Permittee.*

### **S5.C.7.b.**

*Minimum Performance Measures for Source Control Program:*

#### **S5.C.7.b.i.**

*No later than 18 months after the effective date of this permit, adopt and begin enforcement of an ordinance, or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (See Appendix 8 to identify pollutant generating sources).*

*The requirements of this subsection are met by using the source control BMPs in Volume IV of the 2005 Stormwater Management Manual for Western Washington, or a functionally equivalent manual approved by Ecology.*

*Ecology review and approval of the ordinance, or other enforceable documents, and source control program is required. Each Permittee shall submit the proposed source control program and all necessary documentation to Ecology for review, no later than 12 months after the effective date of this permit. If Ecology does not request changes within 60 days, the proposed source control BMPs are considered approved.*

*Operational source control BMPs shall be required for all pollutant generating sources. Structural source control BMPs shall be required for pollutant generating sources if operational*

*source control BMPs do not prevent illicit discharges or violations of surface water, ground water, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical assistance programs, provided that formal enforcement authority is available to the Permittee and is used as determined necessary by the Permittee, in accordance with S5.C.7.b.iv., below.*

The County adopted the SPPM in 1995 and updated it in 2005 and 2009. The SPPM identifies potentially polluting activities at commercial sites and the operational, structural, and/or treatment BMPs required to prevent pollutants from entering surface, storm, and groundwater. The County submitted its draft enforceable requirements, technical standards, and manual to Ecology in 2008 and subsequently made revisions in response to feedback from Ecology staff regarding equivalency of these regulations with the Ecology manual. The SPPM along with the SWDM were adopted by public rule after adoption of enabling code by the King County Council and became effective on January 9, 2009. The SPPM is posted at the following URL:

<http://www.kingcounty.gov/environment/waterandland/stormwater/documents/pollution-prevention-manual/old-pollution-prevention-manual.aspx>.

Due to the appeal of the 2007 Phase I Municipal NPDES Permit to the PCHB, the approval process for equivalency was ruled to require a public review process. Formal approval of the County's SPPM will take place through a modification of the Municipal Permit by Ecology. Notice of the modification of the 2007 Permit is expected to be published in the Washington State Register in February 2009.

KCC 9.12 and Title 23 provide enforcement capability, though the County's usual policy is to visit commercial sites, and provide follow-up correction letters identifying both any source control requirements adequately met and any additional BMPs that are needed. Additionally, commercial sites are denied a discount on the annual Surface Water Management Fee if source control BMPs are not implemented and if the onsite stormwater system is not maintained.

**S5.C.7.b.ii.**

*No later than 18 months after the effective date of this permit, establish a program to identify sites which are potentially pollution generating. The program shall include:*

- *Inventory or listing of the land uses/businesses using the categories of land uses and businesses in Appendix 8. The Permittee shall periodically update the inventory as new businesses are identified and business ownership/management and responsibilities change.*

King County Stormwater Services has developed an inventory of the land uses/businesses using the categories of land uses and businesses in Appendix 7 for use in 2009. In cooperation with other Phase I jurisdictions, King County has developed an approach which will combine databases, screen business lists, and conduct verifications to improve the current inventory list to meet this permit requirement. This process is detailed in Appendix 7.

To test the program cited in Appendix 7, the County will implement a pilot project in 2009 to determine which combination of database scrubbing and field surveys would be most effective for compiling or updating the business/site inventory.

The inventory will be also updated as new sites are developed and approved through DDES and forwarded to SWS. Updates will also occur during the annual maintenance inspection process or bi-annual self-certification process. If a new business ownership or type of business is noted or reported, the inventory will be updated to reflect the change.

Properties owned by the County that have the potential to produce pollutants will be added to this existing inventory. Custodial agencies are reviewing the current list of properties contained within the current business inventory and comparing it to their property lists within unincorporated King County to ensure King County properties that have potential pollution generating activities are included in the inventory. This same process will be conducted for King County properties that are located outside of unincorporated King County.

The Airport occupies a unique position in that it is a property manager with businesses that are tenants. To aid the inventory process, the Airport provided a list of the tenant or business activities at the Airport and the potential pollution generation associated with each. The Airport also provided the applicable operational and structural BMPs planned or implemented for both Airport and tenant activities. These items were provided to the King County permit coordinators and kept on file.

- *Complaint-based response to identify other pollutant generating sources, such as mobile or home-based businesses.*

SWS inspection staff currently respond to all water quality complaints from citizens and all County agencies as well as those referred to SWS by outside agencies. If the complaint involves a mobile or home-based business that works in unincorporated King County, the business will be added to the County's Water Quality Compliance database. As part of the complaint resolution, a water quality audit discussing appropriate source control BMPs will take place and a follow up letter will be prepared to facilitate compliance.

**S5.C.7.b.iii**

*Starting no later than 24 months after the effective date of this permit, implement an audit/inspection program for sites identified pursuant to S5.C.7.b.ii. above.*

- *All identified sites with a business address shall be provided, by mail, telephone, or in person, information about activities that may generate pollutants and the source control requirements applicable to those activities. This information may be provided all at one time or spread out over the last three years of the permit term to allow for some tailoring and distribution of the information during site inspections. Businesses may self-certify compliance with the source control requirements at the discretion of the Permittee. The Permittee shall inspect 20% of these sites annually to assure BMP effectiveness and compliance with source control requirements. The Permittee may select which sites to inspect each year and is not required to inspect 100% of sites over a 5-year period. Sites may be prioritized for inspection based on their land use category, potential for pollution generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin.*

SWS's source control program has been in place since 1995. The program generally has been a complaint-based program. A well-defined inventory of potentially pollutant-generating businesses/sites has been developed (see S5.C.7.b.ii) and the County has defined what constitutes 20% of the inventory. Additional staff resources have been

allocated to reach the required 20% site inspection rate in 2009. Sites will be prioritized by business type and the potential for business activities to generate and discharge hazardous, dangerous, and toxic substances to surface and stormwater.

The County's source control program is based on the activities and BMPs cited in the SPPM. Granting of equivalency status to the SPPM has been delayed due to the appeal of the 2007 Phase I Municipal NPDES Permit to the PCHB. The approval process for equivalency was ruled to require a public review process. Formal approval of the County's SPPM will take place through a modification of the Municipal Permit by Ecology. Notice of the modification of the 2007 Permit is expected to be published in the Washington State Register in February 2009 and will require a series of public hearings for approval. It will be after this process that the SPPM will be granted equivalency.

Annexations are planned within King County, in the urban growth areas, over the next few years. This creates uncertainty about the number of businesses that will remain in unincorporated King County. The number of sites under this program will be in constant flux, requiring the 20% inspection goal be updated annually as cited in Appendix 7.

SWS is working with the Airport to conduct site inspections for each tenant that has been identified as meeting applicable source control requirements and will ensure the implementation status of source control BMPs.

- *Each Permittee shall inspect 100% of sites identified through legitimate complaints*

King County currently investigates all water quality complaints received in SWS. Once investigated, these complaints are either closed with resolution or no problem identified; referred to another agency; undergo a Water Quality Review for further research and investigation; receive an on-site source control audit visit; or, directed into the enforcement program.

**S5.C.7.b.iv.**

*No later than 24 months after the effective date of this permit, each Permittee shall implement a progressive enforcement policy to require sites to come into compliance with stormwater requirements within a reasonable time period as specified below:*

- *If the Permittee determines, through inspections or otherwise, that a site has failed to adequately implement required BMPs, the Permittee shall take appropriate follow-up action(s) which may include: phone calls, reminder letters or follow-up inspections.*
- *When a Permittee determines that a facility has failed to adequately implement BMPs after a follow-up inspection, the Permittee shall take further enforcement action as established through authority in its municipal code and ordinances, or through the judicial system.*
- *Each Permittee shall maintain records, including documentation of each site visit, inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating an effort to bring facilities into compliance. Each Permittee shall also maintain records of sites that are not inspected because the property owner denies entry.*

## 2009 Stormwater Management Program

- *A Permittee shall contact Ecology immediately upon discovering a source control violation that presents a severe threat to human health or the environment. A Permittee may refer non-emergency violations of local ordinances to Ecology, provided, the Permittee also makes a documented effort of progressive enforcement. At a minimum, a Permittee's enforcement effort shall include documentation of inspections and warning letters or notices of violation.*

SWS has had an enforcement program in place since 1995. The County uses both King County Code 9.12 - Water Quality Code and Title 23 - Enforcement:

### Title 9

<http://www.kingcounty.gov/council/legislation/~media/Council/documents/Clerk/CodeFiles/12 Title 9.ashx>

### Title 23

<http://www.kingcounty.gov/council/legislation/~media/Council/documents/Clerk/CodeFiles/32 Title 23.ashx>

Both have legally defined processes and procedures as adopted by the King County Council. All actions are documented in the Water Quality Compliance database. The enforcement program is currently being revised to incorporate changes made in Title 23 to simplify the code enforcement process.

### **S5.C.7.b.v.**

*No later than 24 months after the effective date of this permit, each Permittee shall ensure that all staff whose primary job duties are implementing the source control program are trained to conduct these activities. The training shall cover the legal authority for source control (adopted codes, ordinances, rules, etc.), source control BMPs and their proper application, inspection protocols, and enforcement procedures. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.*

King County has an ongoing training program for employees conducting source control work. WLRD is the primary agency implementing the source control program. WLRD is working with custodial agencies within King County and identifying agencies that want to conduct self audits. WLRD coordinates with these agencies to ensure that the required staff receives this training. King County continues to update its list of staff requiring training under this section and will address their training as they are identified whether current employees or new hires.

## **S5.C.8. Illicit Connections and Illicit Discharges Detection and Elimination**

### **S5.C.8.a.**

*The SWMP shall include an ongoing program to detect, remove and prevent illicit connections and illicit discharges, including spills, into the municipal separate storm sewers owned or operated by the Permittee.*

### **S5.C.8.b.**

*Minimum Performance Measures:*

#### **S5.C.8.b.i.**

*No later than the effective date of this permit, each Permittee shall continue implementing an on-going program to prevent, identify and respond to illicit connections and illicit discharges. The program shall include procedures for reporting and correcting or removing illicit connections, spills and other illicit discharges when they are suspected or identified. No later than 24 months after the effective date of this permit, each permittee shall develop procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4.*

*Illicit connections and illicit discharges shall be identified through field screening, inspections, complaints/reports, construction inspections, maintenance inspections, source control inspections, and/or monitoring information, as appropriate.*

The County has a number of programs in place to address illicit connections and discharges. These programs were created to address issues that occur on King County properties and to address regional issues.

Reports are received in a number of ways, including citizen action requests obtained through the Roads 24-hour hotline (206-296-8100 or 800-KCROADS); citizen calls to the SWS Water Quality hotline (206-296-1900) or to the Illegal Dumping Task Force (IDTF) hotline (206-296-SITE or 866-431-7483) or website (<http://your.kingcounty.gov/solidwaste/cleanup/report-dumping.asp>); from other regional jurisdictions, state agencies; or discoveries by County staff. When the County receives reports of dumped or spilled materials outside of its jurisdiction, the appropriate agency is notified of the situation.

Custodial agencies respond in several ways to illegally dumped materials or spilled materials on their properties such as the road ROW, parks, pumps stations, or park and rides. Illegally dumped solid waste is usually remedied by the custodial agency responding and removing the material, preventing potential illicit discharges. Dumped material suspected of being hazardous waste (e.g., methamphetamine laboratory waste), large-scale spills, unidentifiable dumped materials, or potentially dangerous conditions require responses either from a spill response contractor, Ecology's Northwest Regional Office (NWRO) Spill Response Unit, or from other appropriate parties.

Any illicit connections, discharges, or spills discovered during maintenance or as a result of investigations or inspections of the stormwater system are reported to SWS, and an investigation request is completed with the relevant information entered into the SWS Complaint Tracker database. The investigation request is assigned to a Water Quality

Engineer, who traces the source to ensure that the connection is removed or plugged or BMPs implemented to eliminate the discharge.

Spills or illicit discharges to receiving waters are reported to SWS for investigation and are either reported to the State or resolved by the County. Spills or discharges of a material or size requiring a response beyond the County's capacity to respond are addressed by a spill response contractor, Ecology's NWRO Spill Response Unit, or by other appropriate parties.

PHSKC inspects a variety of business and commercial properties and residential properties served by onsite sewage systems. PHSKC staff also investigate onsite stormwater systems for illegal discharges. A program is being developed which will ensure these reports are forwarded to the appropriate agencies and the PHSKC staff are trained to recognize existing or potential illicit connections or illicit discharges. When the discharge is under the direct regulatory oversight of PHSKC, staff will take appropriate measures to assure the correction of the connection or discharge. When the connection or discharge is not under the direct regulatory oversight of PHSKC, the connection or discharge will be reported to the appropriate authority.

In 2009, King County will continue to work with its neighboring jurisdictions on coordinating management of illicit connections and spills entering or leaving the County's MS4. An IC/IDDE committee of the ROAD MAP group has been convened to expand and formalize shared jurisdiction illicit connection and spill response policies and procedures.

**S5.C.8.b.ii.**

*No later than 18 months after the effective date of this permit, each Permittee shall evaluate, and if necessary update, existing ordinances or other regulatory mechanisms to effectively prohibit non-stormwater, illegal discharges, and/or dumping into the Permittee's municipal separate storm sewer system.*

1. *The ordinance or other regulatory mechanism, does not need to prohibit the following categories of non-stormwater discharges:*
  - *Diverted stream flows;*
  - *Rising ground waters;*
  - *Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));*
  - *Uncontaminated pumped ground water;*
  - *Foundation drains;*
  - *Air conditioning condensation;*
  - *Irrigation water from agricultural sources that is commingled with urban stormwater;*
  - *Springs;*
  - *Water from crawl space pumps;*

- Footing drains; and
  - Flows from riparian habitats and wetlands.
2. The ordinance or other regulatory mechanism, shall prohibit the following categories of non-stormwater discharges unless the stated conditions are met:
    - Discharges from potable water sources, including water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4.
    - Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities (see S5.C.10) and water conservation efforts.
    - Dechlorinated swimming pool discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.
    - Street and sidewalk wash water, water used to control dust, and routine external building washdown that does not use detergents. The Permittee shall reduce these discharges through, at a minimum, public education activities (see S5.C.10.) and/or water conservation efforts. To avoid washing pollutants into the MS4, Permittees shall minimize the amount of street wash and dust control water used. At active construction sites, street sweeping shall be performed prior to washing the street.
    - Other non-stormwater discharges. Other non-stormwater discharges shall be in compliance with the requirements of a stormwater pollution prevention plan reviewed by the Permittee which addresses such discharges.
  3. The Permittee's SWMP shall, at a minimum, address each category in (2) above in accordance with the conditions stated therein.
  4. The SWMP shall further address any category of discharges in (1) or (2) above if the discharges are identified as significant sources of pollutants to waters of the State.
  5. Non-stormwater discharges covered by another NPDES permit and discharges from emergency fire fighting activities are allowed in the MS4 in accordance with S2 Authorized Discharges.

Existing King County Code 9.12 (Water Quality) prohibits non-stormwater discharges including hyperchlorinated line flushing unless dechlorinated, swimming pool discharges, and street and sidewalk wash water. Discharges from irrigation or lawn watering are addressed as part of the Natural Yard Care educational program. PHSKC regulates public swimming pools and complies with adopted storm water standards for dechlorination, pH adjusting, and velocity controls.

**S5.C.8.b.iii.**

*No later than 18 months after the effective date of this permit, each Permittee shall ensure that all municipal field staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, improper disposal and illicit connections, are trained to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.*

All King County field staff that are responsible for responding to illicit discharges and illicit connections are trained upon employment. Roads has created a formalized hazardous waste training for staff responding to illegally dumped or spilled materials. The training includes topics such as identifying, containing, handling, transporting, and disposing of hazardous waste materials dumped or spilled. The County will continue to review programs and identify additional staff requiring this training and assess the necessity of follow-up training as regulations, procedures, or staff composition changes. Tracking of training records will continue. Starting in 2009, an additional training unit on identification of and response to illicit connections will be formalized and added to the program

**S5.C.8.b.iv.**

*No later than 24 months after the effective date of this permit, develop and implement an ongoing training program for all municipal field staff, which, as part of their normal job responsibilities might come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system, shall be trained on the identification of an illicit discharge or connection and on the proper procedures for reporting and responding to the illicit discharge or connection. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.*

All King County field staff who fall under this requirement are trained, by the custodial agency in coordination with SWS, in identification of an illicit discharge or connection and on the proper procedures for reporting and responding to the illicit discharge or connection upon employment. The County will continue to review programs and identify staff requiring this training and assess the necessity of follow-up training as regulations, procedures or staff composition changes.

**S5.C.8.b.v.**

*Each Permittee shall provide a publicly-listed, water quality citizen complaints/reports telephone number. Except for Clark County, which shall meet this requirement no later than 6 months from the effective date of this permit, this citizen compliant/reports telephone number shall be in place no later than the effective date of this permit. Complaints shall be responded to in accordance with S5.C.8.b.vii. and viii., below.*

Citizen reports are received by the County in a number of ways. These include the Roads 24-hour hotline (206-296-8100 or 800-KCROADS); the SWS Water Quality hotline (206-296-1900); and the Illegal Dumping Task Force (IDTF) hotline (206-296-SITE or 866-431-7483) or website (<http://your.kingcounty.gov/solidwaste/cleanup/report-dumping.asp>).

**S5.C.8.b.vi.**

*Each Permittee shall conduct on-going screening to detect illicit connections. The program shall include field screening and source tracing; and may also include source control inspections and*

*complaint response. To comply with the requirement the Permittee may use the methods identified in Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004; or field screening methods approved by Ecology in a Stormwater Management Program under a prior Phase I municipal stormwater NPDES permit, provided the approved methods include field screening and source tracing.*

King County has an ongoing program to screen for illicit connections to its MS4. This program is implemented by the custodial agencies and SWS in unincorporated King County. Any illicit connections found by the custodial agencies during maintenance programs or in response to specific complaints from citizens or County staff are forwarded to the SWS section. SWS staff also report to the complaint program any illicit connections found during investigations of citizen complaints; annual inspections of drainage systems and other fieldwork. This program is comparable to sections of the Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004. But this manual also address programs found elsewhere in the SWMP, including the Outfall Reconnaissance Inventory (ORI) found in S5.C.8.b.vi; citizen complaint response found in S5.C.8.b.v; and, the Source Control Program addressed in S5.C.7.

*Each County covered under this permit shall prioritize outfalls and conveyances in urban/higher density rural sub-basins for screening and shall complete field screening for at least half of the conveyance systems in these areas no later than 4 years from the effective date of this permit. In addition, Counties shall complete field screening in at least 1 rural sub-basin no later than 4 years from the effective date of this permit.*

King County is currently developing an ORI program that is planned to go into effect in the summer of 2009 and be completed within the 2007 Permit term. King County is developing the program to prioritize outfalls and conveyances in urban/higher density rural sub-basins and complete required field screening within the 2007 Permit term.

A map has been developed that identifies urban/higher density rural sub-basins to be used for screening and is available for review as Appendix 5 of the SWMP.

**S5.C.8.b.vii.**

*Response to Illicit Connections*

- *Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source and nature of the connection, and the responsible party for the connection.*
- *Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall use their enforcement authority in a documented effort to eliminate the illicit connection within 6 months. All illicit connections to the MS4 shall be eliminated.*
- *Permittees shall contact Ecology immediately upon discovering an illicit connection that presents a severe threat to human health or the environment. Permittees may refer illicit connection violations to Ecology provided that the Permittee also makes a good faith effort of progressive enforcement. At a minimum, a Permittee's enforcement effort shall include documentation of inspections and warning letters and/or notices of violation.*

[KCC 9.12](#) requires that once an illicit connection is discovered and confirmed, SWS staff notify the responsible party of the requirement to eliminate the connection. If the connection is not removed, a formal notice and order, with penalties, is issued. If there is still no resolution, the County can remove the illicit connection and charge the property owner.

SWS inspection staff conduct initial investigations of suspected illicit connections within seven days of receipt per SWS complaint investigation protocols. Once confirmed, the SWS Water Quality Compliance Program administers enforcement for removal of the illicit connection. Illicit connections will be prioritized within the Water Quality Compliance Manual as a first-tier priority. This should ensure that an illicit connection will be eliminated within six months of discovery.

PHSKC may be called upon to investigate reported or suspected illicit connections or discharges from facilities that it permits or inspects. Within the resources available, staff will investigate within 21 days and if confirmed, take appropriate enforcement actions to eliminate the connection or discharge.

**S5.C.8.b.viii.**

*No later than 6 months after the effective date of this permit, each Permittee shall either participate in a regional emergency response program, or develop and implement procedures to investigate and respond to spills and improper disposal into municipal separate storm sewers owned or operated by the Permittee. Permittees shall have a program to prioritize and investigate complaints/reports or monitoring information that indicates potential illicit discharges, including a spill or illegal dumping. Permittees shall immediately respond to problems/violations judged by the Permittee to be urgent, severe, or an emergency. Spills of oil or hazardous materials shall be reported to appropriate authorities.*

King County's custodial agencies have had spill response programs in place for several years. These agencies have spill response programs for their properties and the associated MS3s. Currently, the County is coordinating these programs and developing a central standard procedure for all County agencies. These programs prioritize and investigate complaints, reports, or monitoring information that indicate potential illicit discharges, including spills or illegal dumping. These agencies immediately send investigators to respond to ongoing problems or violations and emergency complaints. These programs include training in identification, reporting, containment, cleanup and disposal of spills. An example program has been included in Appendix 3 (SWS Emergency Response Policy). The County works closely with Ecology's NWRO Spill Response Unit and with other local jurisdictions in reporting and responding to spills and improper disposal into the MS4. The County conducts cleanup and disposal of most spills that occur on the County's properties and have on-call contractors for more complex spills.

**S5.C.8.b.ix.**

*Each Permittee shall track and maintain records of the illicit discharge detection and elimination program, including documentation of inspections, complaint/spill response and other enforcement records.*

King County has four programs that track and maintain records of the IDDE program, including documentation of inspections, complaint/spill response, and other enforcement records. These programs are outlined below:

*2009 Stormwater Management Program*

- 1) SWS maintains tracking programs, including a complaint tracker and water quality compliance tracker which track response, documents findings, and enforcement actions.
- 2) Roads tracks and maintains electronic and paper copies of IDDE records through the Roads Citizen Action Request system and various internal tracking forms maintained by the Emergency Response Unit. Roads is developing an internal spill response database that will assist in organizing this data in the future.
- 3) The IDTF hotline tracks and records the citizen complaints that are reported through that system.
- 4) Transit maintains a hardcopy log of fleet and facility related IDDE incidents at its Environmental Compliance Office.

Staff time and resources spent implementing these programs are tracked electronically through the County's Account Resource Management System. The County is analyzing the needs and advantages of tracking this program through a centralized tracking program, and will determine the best approach. As appropriate, spills and other select instances are reported to Ecology's Environmental Response Tracking System (ERTS) database.

## **S5.C.9. Operation and Maintenance Program**

### **S5.C.9.a.**

*The SWMP shall include a program to regulate maintenance activities and to conduct maintenance activities by the Permittee that prevent or reduce stormwater impacts. The program shall include:*

#### **S5.C.9.a.i.**

*Maintenance standards and programs for proper and timely maintenance of public and private stormwater facilities.*

#### **S5.C.9.a.ii.**

*Practices for operating and maintaining Permittee's streets, roads, and highways to reduce stormwater impacts.*

#### **S5.C.9.a.iii.**

*Policies and procedures to reduce pollutants associated with the application of pesticides, herbicides, and fertilizer by the Permittee's agencies or departments.*

#### **S5.C.9.a.iv.**

*Practices for reducing stormwater impacts from heavy equipment maintenance or storage yards, and from material storage facilities owned or operated by the Permittee.*

#### **S5.C.9.a.v.**

*A training component.*

### **S5.C.9.b.**

*Minimum Performance Measures:*

#### **S5.C.9.b.i.**

*Maintenance Standards. No later than 18 months after the effective date of this permit, each Permittee shall establish maintenance standards that are as protective or more protective of facility function than those specified in Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington. For existing facilities which do not have maintenance standards, the Permittee shall develop a maintenance standard.*

The SWDM establishes and codifies maintenance standards for stormwater facilities in King County per King County Code 9.04. These standards were developed in the 1980s, and have been revised and updated in the SWDM as new facility features are developed, or standards change. King County custodial agencies maintain their stormwater treatment and flow control facilities per the SWDM.

In rural areas, where nontraditional LID style flow and water quality control facilities are used, forest, farm, and critical areas plans are developed by individual property owners, with support from WLRD or the King Conservation District (KCD), to establish, among other things, the customized maintenance standards for those facilities. Examples of the LID facilities used in rural areas include, but are not limited to, forest retention, fencing livestock out of streams, stream buffers, manure lagoons, and native plantings in stream buffers.

After approval and adoption of enabling code by the King County Council in 2008, the current SWDM was adopted by public rule and became effective on January 9, 2009. It is posted at the following URL:

<http://www.kingcounty.gov/environment/waterandland/stormwater/documents/surface-water-design-manual/2009-swdm.aspx>

Equivalency for the SWDM with the Stormwater Management Manual for Western Washington is required to comply with this permit requirement. Due to the appeal of the 2007 Phase I Municipal NPDES Permit to the PCHB, the approval process for equivalency was ruled to require a public review process. Formal approval of the County's manual will take place through a modification of the Municipal Permit by Ecology. Notice of the modification of the 2007 Permit is expected to be published in the Washington State Register in February 2009.

1. *The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.*
2. *Unless there are circumstances beyond the Permittee's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:*
  - *Within 1 year for wet pool facilities and retention/detention ponds.*
  - *Within 6 months for typical maintenance.*
  - *Within 9 months for maintenance requiring re-vegetation, and*
  - *Within 2 years for maintenance that requires capital construction of less than \$25,000.*

*Circumstances beyond the Permittee's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedance of the required timeframe, the Permittee shall document the circumstances and how they were beyond the Permittee's control.*

King County SWS inspects all County-owned and maintained flow control and water quality treatment facilities within unincorporated King County. There are over 1,200 such facilities county-wide and some 1,162 of these are operated and maintained by SWS. SWS works in conjunction with the Roads Special Operations Unit to complete identified facility maintenance on facilities within established timeframes.

Work authorizations are initially classified as "emergency," "high priority," "complaint," or "normal" maintenance to help set priorities and meet completion deadlines. Crew coordination meetings are held to facilitate timely completion of outstanding work authorizations. Work programs and staffing adjustments are made to meet established permit requirements for completing work.

Currently, SWS has about 75 facilities that are in need of more extensive maintenance/construction work to restore lost function or address a problem with the original design. These facilities are listed as in need of a "facility retrofit" which typically involves capital construction of up to and sometimes exceeding \$25,000. To meet the above required two-year turnaround time for maintenance that requires less than \$25,000 of capital construction, all 75 facility retrofits will need to be implemented by the end of 2010. This will require a capital investment of about \$500,000 to \$900,000 per year for the next two years depending on how complex the final projects are. In 2009, WLRD plans to implement approximately \$700,000 worth of facility retrofit projects.

Facilities that are owned and operated by other custodial agencies are inspected by SWS. SWS sends follow-up maintenance letters to the respective agencies to conduct required maintenance. A self-certification program has been in place for these facilities and has been proven to be effective.

A program to address inspection and maintenance schedules for County-owned facilities located outside of unincorporated King County is currently being developed. These facilities have been maintained by the custodial agencies; however, new efficiencies will be seen with a new central coordinated inspection, maintenance and tracking system for these facilities.

**S5.C.9.b.ii.**

*Maintenance of stormwater facilities regulated by the Permittee*

1. *No later than 18 months after the effective date of this permit, each Permittee shall evaluate and, if necessary, update existing ordinances or other enforceable documents requiring maintenance of all permanent stormwater treatment and flow control facilities regulated by the Permittee (including catch basins), in accordance with maintenance standards established under S5.C.9.b.i., above.*

[KCC 9.04 and 9.12](#) adequately address this requirement for maintenance and inspection access.

2. *No later than 18 months after the effective date of this permit, each Permittee shall develop and implement an initial inspection schedule for all known, permanent stormwater treatment and flow control facilities (other than catch basins) regulated by the Permittee to inspect each facility at least once during the term of this permit to enforce compliance with adopted maintenance standards as needed based on the inspection. The inspection program is limited to facilities to which the Permittee can legally gain access, provided the Permittee shall seek access to the types of stormwater treatment and flow control facilities listed in the 2005 Stormwater Management Manual for Western Washington.*

[KCC 9.04](#) provides the County with the authority to inspect and require maintenance of privately owned and maintained flow control and water quality treatment facilities. The SWDM also establishes minimum maintenance standards, including the private facility inspection program implemented in the 1980s. Under this program, as a requirement for development, an applicant must record easements and covenants providing the County with right of entry and inspection of private drainage and stormwater control systems. Currently, the County alternates between County inspections and property owner self-certified

inspections on a two-year cycle. The County performs random spot checks to verify self-certified maintenance.

In rural areas, the County increasingly relies on LID style flow control and treatment BMPs. King County has inventoried LID BMPs located on commercial and residential properties and will be conducting an inspection program on these BMPs in 2009. Other BMPs are implemented when triggered by inspections prompted by citizen complaints or water quality violations.

3. *No later than 4 years after the effective date of this permit, each Permittee shall develop an on-going inspection schedule to annually inspect all stormwater treatment and flow control facilities (other than catch basins) regulated by the Permittee. The annual inspection requirement may be reduced based on maintenance records.*

*Reducing the inspection frequency to less frequently than annually shall be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 Certification and Signature.*

SWS has already developed and implemented a combination of County inspections and property owner self-certified inspections to ensure facilities are monitored annually. Additionally, the County can use historical inspection data and maintenance records dating back to 1980 to adjust inspection scheduling. The County inspects these facilities every other year and requires self-certified inspection by the owner during alternate years.

4. *No later than 2 years after the effective date of this permit each Permittee shall manage maintenance activities to inspect all new permanent stormwater treatment and flow control facilities, including catch basins, in new residential developments every 6 months during the period of heaviest construction to identify maintenance needs and enforce compliance with maintenance standards as needed.*

In 1992, SWS implemented a maintenance/defect (M/D) inspection program to ensure that developers maintain public improvements during a two-year post public facility construction period historically found to require more frequent maintenance. It is presumed that this is the period where most development occurs, particularly within subdivision developments. The M/D inspection program is conducted so that the facilities are in good working order when their ownership transfers to the County. The King County Department of Transportation administers a similar program to not only ensure developer maintenance during the two-year period but to also ensure performance and workmanship of public improvements covered by the M/D bond. During the two-year M/D period the drainage improvements are inspected quarterly while road improvements are inspected annually. Both Departments perform a final inspection prior to bond release and maintenance acceptance.

5. *Compliance with the inspection requirements of S5.C.9.b.ii.(2), (3), and (4), above, shall be determined by the presence of an established inspection program designed to inspect all sites, and achieving inspection of 95% of all sites.*

The programs described S5.C.9.b.ii.(2), (3), and (4), above currently meet this requirement.

6. *The Permittee shall require cleaning of catch basins regulated by the Permittee if they are found to be out of compliance with established maintenance standards in the course of inspections conducted at facilities under the requirements of S5.C.7. (Source Control Program), and S5.C.8. (Illicit Connections and Illicit Discharges Detection and Elimination), or if the catch basins are part of the treatment or flow control systems inspected under the requirements of S5.C.9.*

King County requires the cleaning of catch basins regulated by the County when they are found to be out of compliance with the maintenance standards in Appendix A of the SWDM. This applies to all catch basins found in the course of inspections conducted at facilities under the requirements of S5.C.7 (Source Control Program), and S5.C.8 (IC/IDDE), or if the catch basins are part of the treatment or flow control systems inspected under the requirements of S5.C.9.

**S5.C.9.b.iii.**

*Maintenance of stormwater facilities owned or operated by the Permittee*

1. *No later than 24 months after the effective date of this permit each Permittee shall begin implementing a program to annually inspect all permanent stormwater treatment and flow control facilities (other than catch basins) owned or operated by the Permittee, and implement appropriate maintenance action in accordance with adopted maintenance standards. The annual inspection requirement may be reduced based on inspection records.*

*Changing the inspection frequency to less frequently than annually shall be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 Certification and Signature.*

In the 1980s, the County implemented inspection and maintenance programs for publicly owned and maintained flow control and water quality treatment facilities. The SWS Section currently manages the inspection program for flow control and water quality facilities throughout unincorporated King County. SWS also inspect facilities owned and operated by other custodial agencies. With this permit, the requirements for maintenance became applicable to all King County-owned and operated facilities located outside of unincorporated King County. A program to address the inspection and maintenance needs for these facilities is currently being developed in cooperation with the custodial agencies and the relevant jurisdictions. These facilities have been maintained by the custodial agencies but there has been no central coordinated inspection, maintenance, and tracking system for these facilities.

The County currently uses a “phased” inspection program for its facilities with a maximum inspection frequency of three years. Phased inspections were developed in the mid 1990s to maximize the frequency between inspections using historical data to determine when facilities need inspections. Phasing was implemented in response to the need to reduce costs so that other services could be funded. Since developing the inspection program in

the early 1980s, the County has kept records of the maintenance needs and tendencies of over 1,000 flow control and water quality treatment facilities in the inventory. The data show that for a facility that was not maintenance prone, the time between inspections could be lengthened to a maximum of three years with no loss of function.

The County also looked at what types of maintenance the facilities required to see if less frequent inspections were appropriate. It determined that non-function-critical work (such as ladder repairs, sign replacement, grout work, etc.) did not warrant annual inspections because the likelihood of a reoccurrence was minimal and would not affect the performance of the facility. However, if a facility was found to have sediment deposition, erosion, blockages, or other function-critical failures, the facility would be inspected again the following year (after maintenance or repair had occurred) to see if the condition was reoccurring. Likewise, once the County responds to an emergency callout to a facility and corrects the problem, the facility is inspected the next year to see if the condition reappeared.

- 2. No later than 24 months after the effective date of this program each Permittee shall begin implementing a program to conduct spot checks of potentially damaged permanent treatment and flow control facilities (other than catch basins) after major storm events (24 hour storm event with a 10 year recurrence interval). If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established under S5.C.9.b.i., above, based on the results of the inspections.*

SWS inspects and maintains facilities serving residential subdivisions, certain regional facilities, and all other stormwater control and treatment facilities owned or operated by the County. SWS has a program that spot checks 40 - 60 facilities after major storm events. Local storms tend to vary in intensity around the County. The samples are typically weighted to areas that have been more heavily affected by storms based on rain gage data and consider historic data for areas or facilities that have experienced problems in the past. SWS reviews past storm events and identifies areas of consolidated complaints or facilities with emergency call-outs to better ensure that it is checking facilities that need closer attention. Other custodial agencies conduct spot checks of potentially damaged stormwater treatment and flow control facilities on their respective properties after major storm events.

- 3. Compliance with the inspection requirements of S5.C.9.b.iii.(1), and (2) above, shall be determined by the presence of an established inspection program designed to inspect all sites, and achieving inspection of 95% of all sites.*

The SWS program currently meets the inspection requirements of S5.C.9.b.iii.(1), and (2).

**S5.C.9.b.iv.**

*Maintenance of Catch Basins Owned or Operated by the Permittee*

- 1. No later than 24 months after the effective date of this permit each Permittee shall begin implementing a program to annually inspect catch basins and inlets owned or operated by the Permittee.*

*2009 Stormwater Management Program*

- *Inspections may be conducted on a “circuit basis” whereby a sampling of catch basins and inlets within each circuit is inspected to identify maintenance needs. Include in the sampling an inspection of the catch basin immediately upstream of any system outfall. Clean all catch basins within a given circuit at one time if the inspection sampling indicates cleaning is needed to comply with maintenance standards established under S5.C.9.b.i., above.*
- *As an alternative to inspecting catch basins on a “circuit basis,” the Permittee may inspect all catch basins, and clean only catch basins where cleaning is needed to comply with maintenance standards.*

Each custodial agency within King County is responsible for the inspection and maintenance of their respective properties. The King County SWDM establishes the maintenance standard for catch basins. Most of the custodial agencies have a facility inventory of a small number of catch basin (less than 500). These agencies will be inspecting 100 percent of their catch basin inventory and provide maintenance for those that exceed the maintenance standard. These agencies include Solid Waste, Wastewater, Transit, Airport, Parks, DES, and Rivers.

SWS and Roads carry the largest catch basin inventory of the custodial agencies and will be conducting a catch basin and inlet inspection program. Since developing the inspection program in the early 1980s, SWS has kept records of the maintenance needs of the catch basins in its inventory. The data shows that for a catch basin that was not maintenance prone, the time between inspections could be lengthened with no loss of function. SWS will continue developing this program in 2009.

Roads is developing a circuit system for catch basins and inlets in the road right-of-way. The circuit system is based on the inspection of a subset of catch basins to determine where to focus maintenance activities. This process is based on the current knowledge of the maintenance crews, the needs of the system, and the 2007 Permit. The program will include an inspection checklist, and a field data collection system. Roads is updating its current inspection and maintenance program to include a software program to generate work orders that dispatch Roads crews to perform the needed repairs or cleaning. A tracking system is also being developed to document inspections and subsequent repairs or cleaning.

2. *The annual catch basin inspection schedule may be changed as appropriate to meet the maintenance standards based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records for catch basins, the Permittee may substitute written statements to document a specific, less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 Certification and Signature.*
3. *The disposal of decant water shall be in accordance with the requirements in Appendix 6 – Street Waste Disposal.*

Roads operates five decant stations located throughout the County for temporary collection of liquid and solid waste generated from cleaning storm drainage systems. Two of the stations are open to both private companies and government agencies. Both stations have discharge permits from Wastewater authorizing the discharge of decant water to the sanitary

sewer sewer. The solids are transferred to the County's soil remediation program, where the solid waste fraction is screened out and disposed and the soil fraction is tested and reused.

Three of the stations are for municipal use only and collect decant water in lined ponds. The water is pumped into a tanker and transported to one of the stations connected to sanitary sewer for disposal. The solids are transferred to the County's soil remediation program.

Transit operates one decant facility for use by its in-house fleet of vector trucks. Wastewater generated by this process is treated and disposed of to the sanitary sewer as required by industrial wastewater regulations. Collected solid material is dried prior to disposal at a local cement company.

**S5.C.9.b.v.**

*Records of inspections and maintenance or repair activities conducted by the Permittee shall be maintained. Records of maintenance or repair requiring capital construction of \$25,000 or more shall be maintained and provided in the annual report.*

The County implemented its inspection and maintenance programs in the 1980s, at which time an in-house custom inspection database was developed. The updated version of this program maintains records of inspections, work authorizations, and completion dates. Reports using this database can be developed for unlimited applications. Additionally, inspection files for all facilities contain hard copy records of all pertinent work information.

Roads is responsible for the maintenance and repair of much of King County's stormwater collection, conveyance, and treatment system in addition to preservation of the County's ROW. Roads uses several systems to track these activities and maintains both electronic and hardcopy records regarding these maintenance and repair activities.

Electronic record keeping is done using the County's Maintenance Management and Account Resource Management systems. These are updated as maintenance and repair activities are conducted. Hard copy tracking systems include Roads Maintenance Reports and Citizen Action Request forms. Information tracked by these systems includes, but is not limited to, the type of maintenance or repair activity, date and location of the work, labor hours, and equipment. This program is currently under review.

Maintenance and repair costs are tracked throughout the year using the record keeping systems described above. Repair or maintenance projects requiring \$25,000 or more will be identified and records will be provided in the County's annual report to Ecology.

Other custodial agencies maintain separate records of inspections and maintenance or repair activities. Records of repair or maintenance requiring capital construction of \$25,000 or more will be provided in the County's annual report to Ecology.

**S5.C.9.b.vi.**

*Within 12 months of the effective date of this permit, establish practices to reduce stormwater impacts associated with runoff from parking lots, streets, roads, and highways owned or operated by the Permittee; and road maintenance activities conducted by the Permittee.*

*Implementation of practices shall begin no later than 18 months after the effective date of this permit, and continue on an ongoing basis throughout the term of the permit. The following activities shall be addressed:*

- 1. Pipe cleaning*
- 2. Cleaning of culverts that convey stormwater in ditch systems*
- 3. Ditch maintenance*
- 4. Street cleaning*
- 5. Road repair and resurfacing, including pavement grinding*
- 6. Snow and ice control*
- 7. Utility installation*
- 8. Maintaining roadside areas, including vegetation management.*
- 9. Dust control*
- 10. Pavement striping maintenance*

The County has several programs that establish practices to reduce stormwater impacts associated with runoff from parking lots, streets, roads, and highways owned or operated by the County and road maintenance activities conducted by the County.

Roads carries the majority of the inventory for parking lots, streets and roads and has established road maintenance standards that incorporate practices to reduce stormwater impacts associated with runoff from these structures. Each road maintenance activity includes a description of when maintenance is needed and the proper BMPs to follow while performing the activity. Criteria from the King County SWDM, the Regional Road Maintenance Endangered Species Act (ESA) Program Guidelines, and/or the 2005 Stormwater Management Manual for Western Washington are used to determine maintenance triggers and the BMPs to be used during maintenance activities. Other custodial agencies use Roads to maintain their properties, and those that do their own maintenance use these standards or comparable standards to maintain their respective properties.

The road maintenance standards are reviewed and approved by the County's Director of Transportation. Roads superintendents and supervisors implement the standards using training programs for the maintenance crews. The maintenance standards provide the crews the work method and outline the resources required to carry out the maintenance and repair activities. The program is reviewed on a regular basis to ensure that new activities and structures have appropriate maintenance standards. The County is also working with ROAD MAP to produce common maintenance standards that can be used by the region's permit holders.

The County's Stormwater Pollution Prevention Manual and the Regional Roads Maintenance ESA Program Guidelines have BMPs for all 10 activities listed in this permit section. These BMPs as well as BMPs from the 2005 Stormwater Management Manual for Western Washington and the King County SWDM are used by the County's custodial agencies to reduce runoff impacts from the listed activities.

**S5.C.9.b.vii.**

*No later than 18 months after the effective date of this permit, each Permittee shall establish and implement policies and procedures to reduce pollutants in discharges from lands owned or maintained by the Permittee subject to this permit. Lands owned or maintained by the Permittee include but are not limited to: parks, open space, road right-of-ways, maintenance yards, and stormwater treatment and flow control facilities.*

*The policies and procedures shall address, but are not limited to:*

- 1. Application of fertilizer, pesticides, and herbicides, including the development of Nutrient management and Integrated Pest Management Plans;*
- 2. Sediment and erosion control;*
- 3. Landscape maintenance and vegetation disposal;*
- 4. Trash management; and*
- 5. Building exterior cleaning and maintenance.*

King County has established policies and procedures to reduce pollutants in discharges from lands owned or maintained by the Permittee subject to this permit. These policies and procedures have been implemented by the various custodial agencies and drawn from a series of programs and documents. This program has been difficult to track and to ensure that minimum standards are implemented to ensure protective measures are in place for the elements listed above. The County owns or maintains numerous properties including: road ROW; active and inactive sand and gravel mining pits; maintenance facilities; stormwater facilities; office buildings; park and rides; solid waste transfer stations; equipment storage facilities; pump stations; wastewater treatment plants; parks; trails; animal shelters; and various other classes of developed and undeveloped properties.

In 2009, King County will produce a document that will draw from the following programs and manuals: the Regional Road Maintenance ESA Program Guidelines — Regional Guidelines, the Washington State 2005 Stormwater Management Manual for Western Washington, the SWDM, the SPPM, and, the King County Integrated Pest Management Program. The Site Management Plan (SiMPla) will be issued to all King County custodial agencies to be used as the minimum standard for maintenance of lands owned or maintained by King County agencies. Several agencies have internal manuals and programs that are equal to or exceed the SiMPla baseline requirements and will be used by those agencies as equivalent programs. Select King County properties have been issued discharge permits under other NPDES programs and have SWPPPs. These SWPPPs will be used instead of the SiMPla.

**S5.C.9.b.viii.**

*No later than 24 months after the effective date of this permit, develop and implement an ongoing training program for employees of the Permittee who have primary construction, operations or maintenance job functions that could impact stormwater quality. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.*

King County maintains a number of training programs within various agencies. These programs provide training to staff in positions that have construction, operations or maintenance job functions that could impact stormwater quality. Many of the operations and maintenance functions are conducted by Roads. Roads staff has been participating in ongoing training programs for its construction operations and maintenance employees. Roads field crews and support staff receive training required under the Regional Road Maintenance ESA Program Guidelines. The Regional Road Maintenance ESA training (Track 1, 2, & 3) focuses on BMP practices and uses, maintenance guidelines, design criteria, habitat requirements, and how to use BMPs to meet ESA requirements whose primary focus is to reduce the impacts of these operations on water quality.

King County has a training program series on the SWDM and coordinates with all departments to ensure that the requisite staff receive this training. King County continues to review its agency programs and will update the list of staff requiring training under this section. The County will address the training requirements as new staff and positions are identified, whether they are current employees or new hires.

Other positions are required to maintain CESCL credentials. King County continues to review its agency programs and update the list of staff requiring CESCL training, as needed under this section. The County will address the training requirements as new staff and positions are identified, whether they are current employees or new hires. County has received approval for a CESCL training program staffed by King County trainers. This will enable the County to train King County staff identified as needing CESCL training in a timely manner, typically twice a year. However, final frequency will be based on the need.

SWS is currently reviewing County programs to identify activities and staff whose operations or maintenance job functions could impact stormwater quality. These efforts are intended to coordinate and centralize the training program tracking and ensure that the requirements of this section of the 2007 Permit are met.

**S5.C.9.b.ix.**

*Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this permit, that are not covered under by another Ecology issued stormwater discharge permit. The Permittee shall identify facilities subject to this requirement. The SWPPPs shall be developed within 24 months of the effective date of this permit. Implementation of non-structural BMPs shall begin immediately after the pollution prevention plan is developed. A schedule for implementation of structural BMPs shall be included in the SWPPP. Generic SWPPPs that can be applied at multiple sites may be used to comply with this requirement. The SWPPP shall include periodic visual observation of discharges from the facility to evaluate the effectiveness of BMPs.*

*2009 Stormwater Management Program*

King County has reviewed an inventory of all currently known County-owned properties and identified properties that met this permit condition. SWPPPs are developed and are being implemented for these properties. The King County property inventory will continue to be updated with input from custodial agencies, and the properties reviewed for applicability to the 2007 Permit requirement. As properties that meet this requirement are developed, the custodial agencies will be required to develop and implement SWPPPs for those properties.

## **S5.C.10. Education and Outreach Program**

### **S5.C.10.a.**

*The SWMP shall include an education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the Permittee. The goal of the education program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. An education program may be developed locally or regionally.*

The County's diverse educational and outreach programs are almost all regional in nature, and many have existed and proven their value over the past ten years. The County has led the region in the use of social marketing in its education and outreach programs. Social marketing is distinguished from other management approaches by six basic principles: (1) the marketing conceptual framework is used to design behavior change interventions; (2) there is recognition of competition; (3) there is a consumer orientation; (4) formative research is used to understand consumers' desires and needs; (5) there is a segmentation of populations and careful selection of target audiences; and (6) continuous monitoring and revision of program tactics help to achieve desired outcomes.

### **S5.C.10.b.**

*Minimum Performance Measures:*

#### **S5.C.10.b.i.**

*No later than 12 months after the effective date of this permit, each Permittee shall implement or participate in an education and outreach program that uses a variety of methods to target the audiences and topics listed below. The outreach program shall be designed to achieve measurable improvements in each target audience's understanding of the problem and what they can do to solve it.*

King County, through programs in several departments and divisions, and through partnerships with Local Hazardous Waste Management, regional salmon recovery (WRIA based) groups, KCD, and Washington State University Extension (WSU), implements numerous public outreach and education programs, many of which are targeted to more than one of the audiences specified in this permit requirement and address many of the specified topics. Some of these programs are primarily focused on topics that are related to stormwater, but include other critical factors, e.g. stewardship, soil conservation, wastewater, habitat restoration or protection, etc. Other programs provide significant relevance to stormwater impacts and behavior changes that alter those impacts (yard care, animal waste, car washing, LID practices, etc). Because of the wide diversity of King County's programs, they have been listed, and the 2007 Permit topics they address, in matrix form in Appendix 4. These programs reflect 2009 offerings. In subsequent years, the number and types of programs will change in keeping with changes in the service area, financial resources, and evaluation of the program's effectiveness.

In those programs most directly related to stormwater, there are ten distinct and sometimes overlapping areas of emphasis and/or delivery mechanisms. The emphasis areas are not designed as conventional education programs with the goal of conveying information and awareness, but rather as behavior change programs with the goal of motivating target audiences to implement specific BMPs. The 10 areas of emphasis/delivery mechanisms and the related tools are found in Appendix 4.

As a direct response to Ecology's 2007 municipal permits, King County facilitated the formation of a regional outreach consortium: STORM, which focuses entirely on meeting permit requirements. With the public education and outreach requirements virtually identical in both the Phase I and Phase II permits, municipalities quickly saw the advantage of combining their resources to create a strategy and campaign for outreach that would transcend jurisdictional boundaries. King County funds and administers a SharePoint Server for the benefit of STORM members and serves on the Steering, Campaign, and Measurement Committees. STORM will coordinate its efforts with the Salmon Conservation Plan implementation occurring at the WRIA level and with the Puget Sound Partnership.

STORM was a successful applicant for one of Ecology's competitive stormwater grants and will be using the grant money to create and implement a four-year regional outreach and messaging campaign to enhance, integrate, measure, and draw attention to diverse targeted regional outreach programs existing or to be developed within participating jurisdictions. King County staff will manage the grant on behalf of the forum. The grant program will use 5 main strategies:

- Creating an overall integrated implementation plan;
- Codifying a menu matrix that will feature all existing program models as templates for use by any and all partners;
- Applying social marketing approaches to several key topic areas to enhance and build capability of existing or new programs;
- Creating and implementing an electronic media campaign to inculcate key messages across a regional target area; and
- Developing and implementing a broad and integrated measurement strategy including an efficient system for all participating municipalities to report results.

#### Target Audiences and Relevant Topics

##### *1. General Public*

- *General impacts of stormwater flows into surface waters.*
- *Impacts from impervious surfaces.*
- *Source control BMPs and environmental stewardship, actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping and buffers.*

The matrix in Appendix 4 details all existing programs targeting general public audiences and topic relevance.

##### *2. General public and businesses, including home based and mobile businesses*

- *BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials.*

- *Impacts of illicit discharges and how to report them.*

The Water Quality Compliance Program of SWS audits businesses and, as part of the audit, provides technical assistance and information about relevant BMPs required in the SPPM to owners or managers.

The Airport will provide annual training to the Airport's tenants on the Airport's policies related to spill response and the requirements of their stormwater permits.

The matrix in Appendix 4 details all educational programs targeting the general public and select business audiences and their topic relevance.

3. *Homeowners, landscapers and property managers*

- *Yard care techniques protective of water quality.*
- *BMPs for use and storage of pesticides and fertilizers.*
- *BMPs for carpet cleaning and auto repair and maintenance.*
- *Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees.*
- *Stormwater treatment and flow control BMPs.*

A wide array of programs that address homeowner and general public awareness and behaviors, related to all or many permit topics, is described in Appendix 4.

4. *Engineers, contractors, developers, review staff and land use planners*

- *Technical standards for stormwater site and erosion control plans.*
- *Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees.*
- *Stormwater treatment and flow control BMPs.*

SWS offers classes on the SWDM for development professionals. These include instruction on LID/ flow control BMPs, water quality facility design, and hydraulic and hydrologic modeling. SWS staff also provides presentations for interested groups on these and related topics.

**S5.C.10.b.ii.**

*Each Permittee shall implement or participate in an effort to measure understanding and adoption of the targeted behaviors by the targeted audiences. The resulting measurements shall be used to direct education and outreach resources most effectively as well as to evaluate changes in adoption of the targeted behaviors.*S5.C.10.b.iii.

All stormwater-related outreach efforts already have or will have a measurement strategy for targeted audiences. Some of these strategies will be developed by STORM under the Ecology grant, or by DNRP program coordinators. The grant team and consultants studied ways of measuring diverse outreach programs during the second and third quarters of 2008 for application in the quarters thereafter through 2011. The exception is the Natural Yard Care Neighborhoods program which has already developed its measurement approach.

Measurement will include both implementation monitoring and effectiveness monitoring. Implementation monitoring is typical of conventional education programs and includes counts of participants, materials, etc. Effectiveness monitoring is based on outcome measures (i.e. behavior changes) and will constitute the core of the program evaluation strategy.

The existing Regional Environmental Behavior Index instituted by King County in 2005 to measure key environmental behaviors of the general public in our region will be used to measure behavior change biennially. The index is based on surveys which will continue through the 2007 Permit period. Additional surveys will be supported by the grant, and will be a source of feedback to relevant programs.

***S5.C.10.b.iii.***

*Each Permittee shall track and maintain records of public education activities.*

A tracking system will be developed and implemented both internally and as part of the STORM measurement strategy together with an efficient system for all participating municipalities to report results.

## DICTIONARY OF ACRONYMS

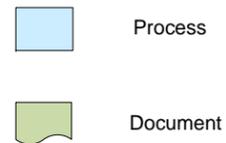
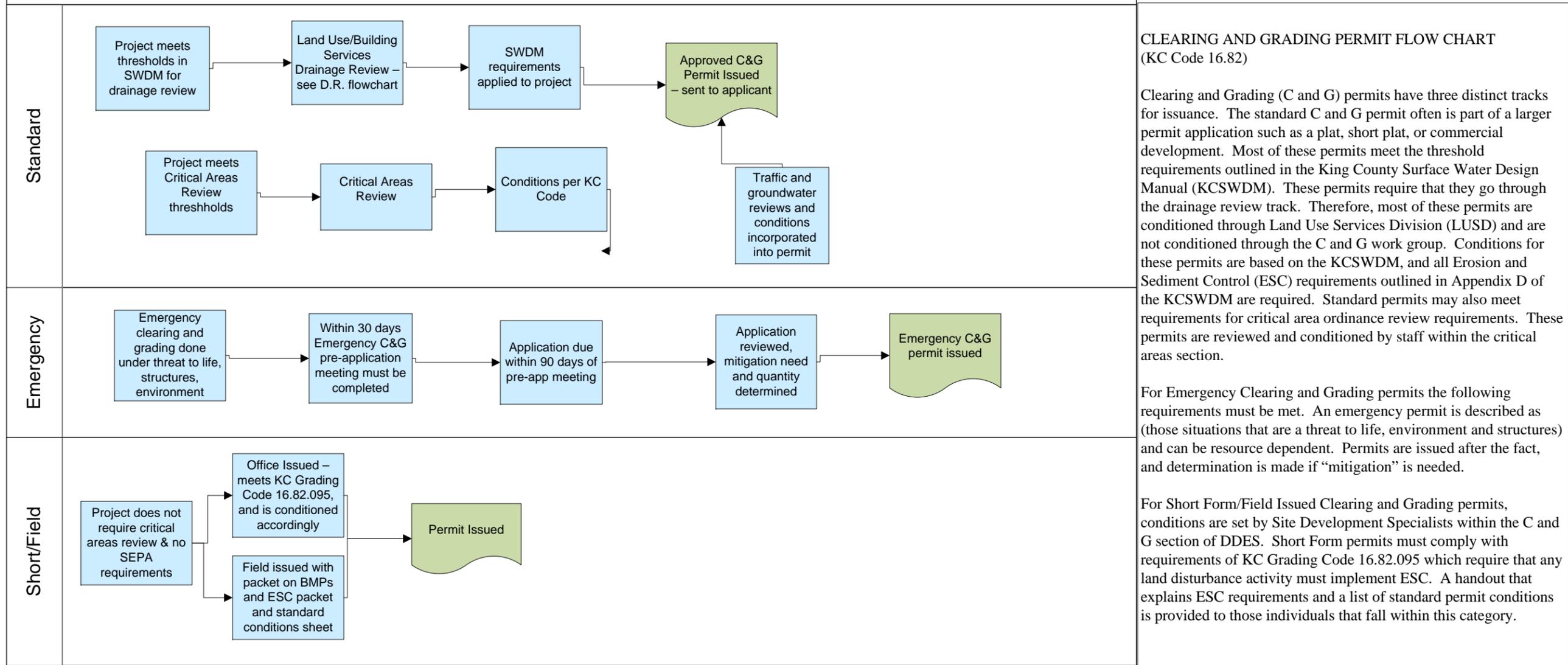
**ADAP** - Agricultural Drainage Assistance Program (KC, DNRP, WLRD)  
**AKART** - All known, available, and reasonable methods of prevention, control and treatment  
**APWA** - American Public Works Association  
**BMP** - Best Management Practice  
**CAD** - Computer Aided Design  
**CESCL** - Certified Erosion and Sediment Control Lead  
**CFR** - Code of Federal Regulations  
**CIP** - Capitol Improvement Project  
**CTF** - Compliance Tracking Form  
**DDES** - Department of Development and Environmental Services (King County)  
**DES** - Department of Executive Services (King County)  
**DNRP** - Department of Natural Resources and Parks (King County)  
**DOT** - Department of Transportation  
**ERTS** - Environmental Response Tracking System  
**EPA** - Environmental Protection Agency  
**ESA** - Endangered Species Act  
**GIS** - Geographic Information System  
**GPS** - Geographic Positioning System  
**IC & IDDE** - Illicit Connections and Illicit Discharges Detection and Elimination  
**IDTF** - Illegal Dumping Task Force  
**IPM** - Integrated Pest Management  
**KC** - King County  
**KCC** - King County Code  
**KCD** - King Conservation District  
**KCIA** - King County International Airport  
**KCPR** - King County Parks and Recreation (DNRP)  
**LID** - Low Impact Development  
**LUIS** - Land Use Inspection Services Division of DDES  
**M/D** - Maintenance/defect  
**MS4** - Municipal Separate Storm Sewer System  
**MS3** - Municipal Separate Storm Sewer  
**NPDES** - National Pollution Discharge Elimination System  
**NWRO** - Northwest Regional Office, DOE  
**ORI** - Outfall Reconnaissance Inventory  
**PCHB** - Pollution Control Hearing Board  
**PHSKC** - Public Health – Seattle & King County  
**ROAD MAP** – Regional Operations and Maintenance Program, a regional forum for consistent O &M, mapping, and other standards  
**ROW** - Right of Way  
**RSD** - Roads Services Division (KC, DOT)  
**SMMWW** – Ecology’s Stormwater Management Manual for Western Washington  
**SPCC** - Spill Prevention, Control & Countermeasure Plans  
**SPPM** - Stormwater Pollution Prevention Manual  
**STORM** – Stormwater Outreach for Regional Municipalities, a regional public outreach forum  
**SWDM** – King County’s Surface Water Design Manual  
**SWG** - Stormwater Working Group, a committee of the Regional Stormwater Monitoring Group  
**SWM** - Surface Water Management  
**SWMP** - Stormwater Management Program  
**SWPPP** - Stormwater Pollution Prevention Plan  
**SWS** - Stormwater Services (KC, DNRP, WLRD)  
**TESC** - Temporary Erosion and Sediment Control  
**TMDL** - Total Maximum Daily Load  
**WLRD** - Water and Land Resources Division (King County)  
**WRIA** - Water Resource Inventory Area

*2009 Stormwater Management Program*

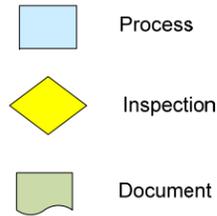
# APPENDICES

## ***Appendix 1—DDES Flowcharts***

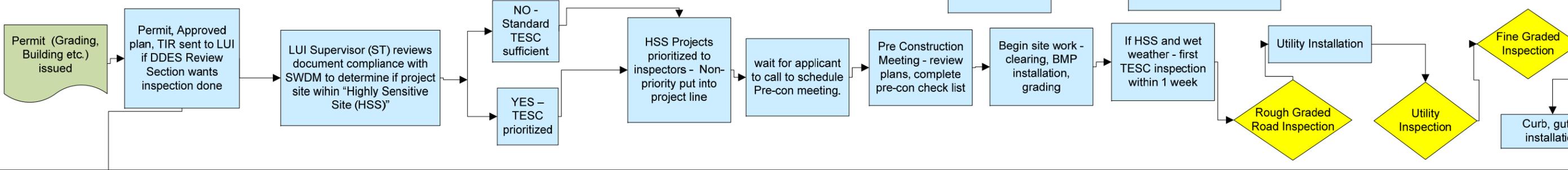
# Clearing and Grading Permit Process (KC Code 16.82)



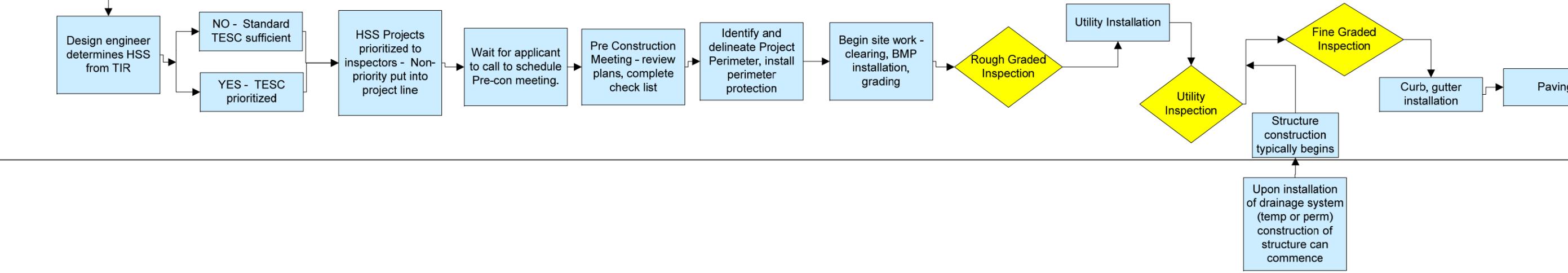
# Land Use Inspections

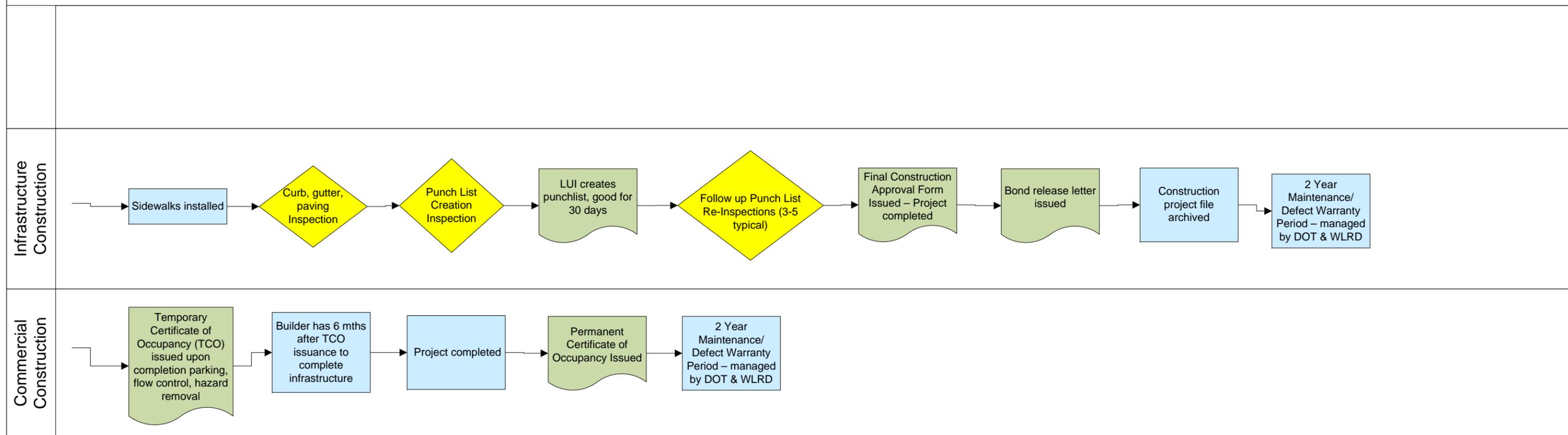


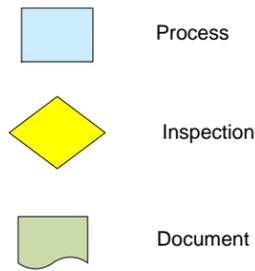
Infrastructure Construction



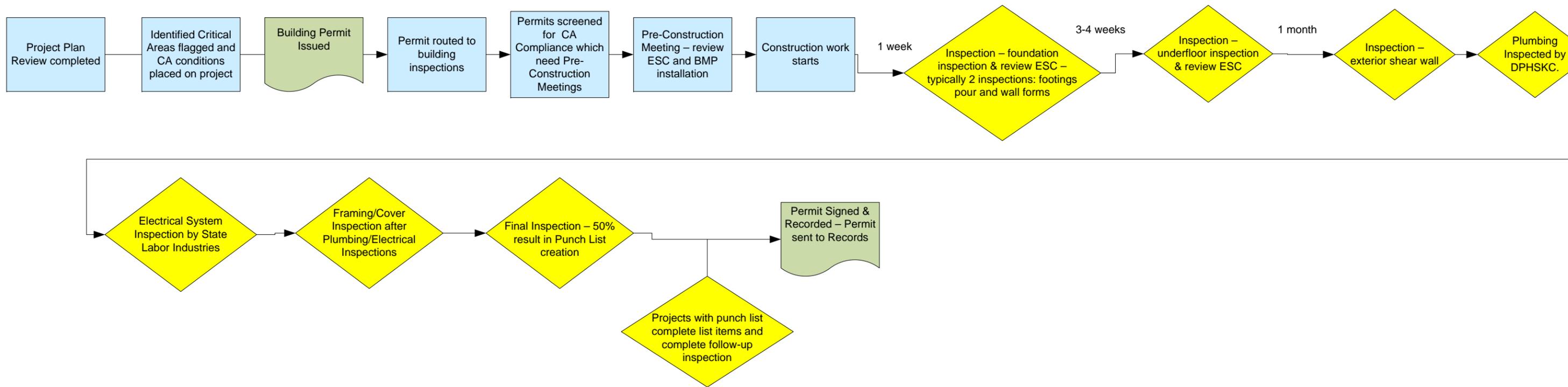
Commercial Construction







## Residential Inspection Process Flowchart



**Appendix 2 -  
Structural Stormwater Control Program**

## **Appendix 2—Structural Stormwater Control Program - Project Information**

The County's structural stormwater control program is a two-tiered program of capital projects operated primarily out of King County WLRD but also includes projects implemented by other County agencies that meet the intent of the program. The first tier consists of projects whose primary purpose is controlling stormwater runoff from developed land to address its quantity and quality impacts to waters of the state that are not otherwise addressed by the actions of this SWMP. Included are projects specifically aimed at (1) reducing stormwater quantity and/or quality impacts caused by existing developed land, and/or (2) preventing such impacts anticipated to be caused by future land development that are not otherwise addressed by development regulations. The second tier consists of projects whose primary purpose is not controlling stormwater runoff to reduce or prevent stormwater impacts to waters of the state, but nonetheless result in a stormwater impact reduction/prevention benefit to these waters.

The following tables list and describe the structural stormwater control projects currently planned to be started this permit term beginning with calendar year 2008 and including calendar years 2009, 2010, and 2011. These tables will be updated each year to reflect changes in projects and project status.

In compiling the tables, the following nomenclature was used to categorize and denote how each project is consistent with the various project types mentioned in Condition S5C6 of the permit for inclusion in the structural stormwater controls program.

Nomenclature for Stormwater Control Project Types:

- Flow Control – means the project constructs or modifies a flow control facility or BMP to reduce existing stormwater runoff peaks, volumes, durations, and/or flashiness.
- Treatment – means the project constructs or modifies a stormwater treatment facility or implements other measures to achieve a specific pollutant removal goal.
- WQ Improvement – means the project implements measures aimed at incrementally improving water quality by increasing pollutant removal and/or reducing temperature.
- Erosion Control – means the project implements measures aimed at preventing or reducing erosion that is causing turbidity and/or sedimentation problems.
- Riparian Buffer Restoration – means the project includes plantings aimed at restoring, among other things, the pollutant removal/temperature reduction functions of riparian vegetation.
- Riparian Improvement – means the project includes measures that improve riparian hydrology and water quality functions such as removal of structures/impervious surfaces, setting back levies, planting vegetation, and converting from rock stabilization to biostabilization of stream banks.
- Wetland Improvement – means the project includes measures that improve the hydrology and water quality functions of a natural wetland and/or its buffers.
- Habitat Acquisition – means the project is a purchase of land for the purpose of protecting and/or enhancing aquatic habitat.
- Acquisition – means the project is a purchase of land for the purpose of precluding development, preserving hydrology, and protecting water quality.

<b>Tier 1 Structural Stormwater Control Projects</b>						
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2008	Mill Creek Trib 045	Flow Control	Assist City of Auburn with feasibility analysis and implementation of regional detention and other improvements to reduce flows contributing to downstream erosion, sedimentation, and drainage problems.	\$400K	Reduce flows causing erosion that contributes to turbidity and sedimentation in Mullen Slough and Mill Creek.	Feasibility report completed
2008	White Center Stormwater Wetland WQ Improvement	Treatment	Construct stormwater wetland to treat runoff from 100 acres of commercial and residential area.	\$751K	Target 40% TSS removal from stormwater discharged to Mallard Lake.	Design started
2008	White Center Regional Stormwater Pond Retrofit	Flow Control and WQ Improvement	Retrofit Cell 1 of pond by removing non-native plants, excavating non-native fill, modifying the outlet structure, and replanting with native species to reduce downstream flooding, provide additional pollutant removal, and increase stormwater wetland habitat and aesthetic value.	\$341K	Reduce flows and improve water quality of stormwater discharged to Lake Hicks and Salmon Creek.	Design started
2008	White Center Heights Pond/Wetland Restoration	Flow Control and WQ Improvement	Acquire adjacent property for public ownership, remove invasive plants, replant with native species, and retrofit outlet structure to dampen the water surface level fluctuation of the pond/wetland.	\$598K	Reduce water level fluctuations in wetland and improve water quality of stormwater discharged to Lake Hicks and Salmon Creek	Design started
2008	Lake Hicks Inlet Repairs/Modifications	WQ Improvement	Modify the inlets to Lake Hicks to enhance pollutant removal by repairing an existing grass-lined channel and vault.	\$78K	Improves water quality of stormwater discharged to Lake Hicks	Design started
2008, 2009, 2010, and 2011	Neighborhood Drainage Assistance Program (NDAP)	Flow Control and Erosion Control	Program of projects to assist private property owners with addressing stormwater conveyance problems that occur on their property as a result of upstream development.	Varies from year to year (\$345K in 2009)	Solutions to some problems result in a reduction of flows or erosion that in turn reduces turbidity in waters of the state.	12 -15 projects planned in 2009
2008, 2009, 2010, and 2011	Agricultural Drainage Assistance Program (ADAP)	Riparian Buffer Restoration	Program of projects to assist farmers with cleaning of fish-bearing drainage ditches. All projects include some restoration of riparian vegetation to increase shade on ditches.	Varies from year to year (\$260K in 2009)	Riparian plantings required on all projects serve to reduce temperature of stormwater flows.	3 new projects planned for 2009

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2009	May Valley Ravine Stabilization Projects	Erosion Control	Scope, identify, and implement projects to address erosion problems in May Creek ravine reach downstream of 148 <sup>th</sup> Ave SE.	\$275K	Reduce erosion that contributes to turbidity and sedimentation in May Creek	Scoping of problem started
2009	Billy Creek Ravine Stabilization	Erosion Control	Stabilize 200 feet of ravine downstream of County outfall to check erosion and protect public and private property.	\$100K	Reduce erosion that contributes to downstream turbidity and sedimentation in Bill Creek and Juanita Creek	Design started
2010	Hamm Creek WQ Pond	Treatment	Construct wetpond to remove pollutants from stormwater discharges coming from commercial area and MS4.	\$240K	Reduction of TSS in stormwater discharged to Hamm Creek TBD based on available space.	Not started yet
2010	Lake Hicks Alum Treatment	Treatment	Apply alum treatment to Lake Hicks to reduce bacteria to levels safe for swimming.	\$50K	Amount of bacteria reduction TBD based on sampling.	Need to request funding
2011	Bear Creek WQ Improvement (Targeted Stormwater Retrofits)	Treatment	Construct single or multiple treatment facilities to clean up stormwater discharges from worst polluting older developed areas that drain to highest resource value creek reaches.	TBD based on available grant funding	Reduction of TSS in stormwater discharged to Bear Creek TBD based on available space.	Recon to start in 2009 to identify project sites
2011	Juanita Creek Flow Control Improvement (Targeted Stormwater Retrofits)	Flow Control	Construct single or multiple flow control facilities to address quantity impacts from older developed areas as recommended by Juanita Creek Basin Retrofitting Analysis Project.	TBD based on available grant funding	Yet to be determined through analysis work now under way.	Analysis work started
2011	Juanita Creek WQ Improvement (Targeted Stormwater Retrofits)	Treatment	Construct single or multiple treatment facilities to clean up stormwater discharges from older developed areas as recommended by Juanita Creek Basin Retrofitting Analysis Project.	TBD based on available grant funding	Yet to be determined through analysis work now under way.	Analysis work started

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2004	Big Spring/ Newaukum Creek Confluence	Habitat Acquisition	Acquire multiple parcels for preservation purposes.	\$2M	Preserves riparian habitat on Big Spring Creek and Newaukum Creek north of Enumclaw.	Acquisitions ongoing
2007	Mount Peak Addition	Acquisition	Acquire multiple parcels of land, on the largely unprotected southern side of Mount Peak, adjacent to Mount Peak Park, near SE Mud Mountain Road, southeast of Enumclaw.	\$2.3M	Preserves hydrologic processes and water quality.	Completed
2007	Paradise Valley Acq II	Acquisition	This acquisition project adds 30 contiguous acres (3 parcels) to the Paradise Valley Natural Area in the Judd Creek watershed on Vashon Island. This acquisition is part of an ongoing effort to preserve the Paradise Valley reach of Judd Creek, which encompasses nearly 165 consecutive acres of undeveloped forested land and riparian habitat and includes over 2 miles of the stream's mainstem.	\$175K	Preserves riparian habitat, hydrologic processes, and water quality.	Completed
2007	Auburn Narrows Phase 2	Riparian Improvement	Create side channel/off-channel habitat and enhance riparian areas.	\$479K	Improves riparian hydrology and water quality functions.	Monitoring/maintenance of plants
2007	Cold Creek Williams Mitigation	Wetland Improvement	Enhance topography, hydrology and riparian/wetland vegetation	\$747K	Enhance wetland hydrology, connectivity and riparian function	Monitoring/maintenance of plants
2007	Ellis Creek Marsh	Wetland Improvement	Remove barrier between wetland and marine shoreline, enhance wetland/shoreline vegetation	\$246K	Enhance shoreline and wetland habitat and water quality	Monitoring/maintenance of plants
2008	Gilead/ MacDonald Floodplain Reconnection	Riparian Improvement	Snoqualmie. Left Bank Off Channel Habitat Reconnect @ RM 23.3	\$477K	Improves riparian hydrology and water quality functions.	Monitoring/maintenance of plants
2008	Paradise Valley - Judd Creek (Vashon)	Habitat Acquisition	Acquire riparian and meadow land on Judd Creek, located on 11th Avenue SE, on Vashon Island. Acquisition is part of a larger multi-year, multiple parcel effort to preserve the Paradise Valley reach on Judd Creek.	\$625K	Preserves riparian habitat.	Closing Spring 2009

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2008	Chinook Bend Levee Removal	Riparian Improvement	Remove left bank levee along the length of the Chinook Bend Natural Area.	\$1.3M	Improves riparian hydrology and water quality functions.	Design/permitting
2008	Lower Tolt Restoration	Riparian Improvement	Partner with Seattle to restore natural river processes in lower half mile of Tolt River near Carnation. Remove some or all of the existing right-bank levee and replace with a set-back levee to maintain flood protection. Other habitat enhancements include placement of LWD, invasive weed control, and reestablishment of native riparian vegetation.	\$3.2M	Improves riparian hydrology and water quality functions.	Construction
2008	Duwamish Site 1 (North Winds Weir Restoration)	Riparian Improvement	Create 2 acres of off-channel habitat in transition zone at RM 6.3; re-vegetate.	\$740K	Improves riparian hydrology and water quality functions.	Construction
2008, 2009, 2010, and 2011	Bear & Issaquah & Cedar Riparian Restoration Program	Riparian Improvement and Erosion Control and WQ Improvement	Program of small-scale habitat restoration projects in stream corridors within the Bear Creek, Cedar River, and Issaquah Creek basins. Projects include planting native vegetation, stabilizing eroding stream banks, restoring fish access to upstream habitat, installing livestock fences, controlling invasive weeds, and providing technical assistance to landowners.	Variable /TBD	Riparian plantings reduce temperature of stream flows and enhance water quality. Bank stabilization reduces erosion and associated turbidity. Livestock fences reduce in-stream pollution.	Variable
2009	Fenster-Pautzke Levee Removal Ph 2	Riparian Improvement	Remove levee, lower terrace, revegetate, and add large woody debris at RM 32	\$1.4M	Improves riparian hydrology and water quality functions.	Design
2009	Bear: Cottage/Cold Creek Acquisition	Acquisition	Acquire and protect 35 acres (Nichols farm property) on Cottage Lake Creek.	\$1.4M	Preserves hydrologic processes and water quality in Cottage Lake Creek and Bear Creek.	Title work completed; begin appraisal late 2009
2010	Big Springs Creek	Riparian Improvement	Relocate creek section from ditched system to meandered channel.	\$643K	Improves riparian hydrology and water quality functions.	Design/Permitting
2010	Cottage Lake Creek	Habitat Acquisition	Acquire riparian habitat along approximately 1/2 mile of Cottage Lake Creek, near Avondale Road.	\$1.5M	Preserves riparian habitat along Cottage Lake Creek.	Work to begin 2010

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2010	Grand Ridge Additions	Acquisition	Acquire forest land on Grand Ridge and Mitchell Hill in the I-90 corridor east of Issaquah. The first priority parcels contain high quality mature second growth forest.	\$2.4M	Preserves hydrologic processes and water quality.	Work to begin 2010
	Carlin Levee Removal Project	Riparian Improvement	Enhance riparian vegetation and remove invasive species	\$44K	Improves riparian hydrology and water quality functions.	Monitoring/maintenance of plants
	Des Moines Creek Habitat Enhancement	Riparian Improvement	Increase channel complexity and enhance riparian vegetation	\$76K	Improves riparian hydrology and water quality functions.	Monitoring/maintenance of plants
2008	Lower Newaukum Creek Habitat Restoration	Riparian Improvement	Increase channel complexity and enhance riparian vegetation	\$682K	Improves riparian hydrology and water quality functions.	Monitoring/maintenance of plants
2008	Mullen Slough Habitat Enhancement	Riparian Improvement	Enhance riparian vegetation and remove invasive species	\$100K	Improves riparian hydrology and water quality functions.	Monitoring/maintenance of plants
2008	Miller River Home Buyout	Riparian Improvement	This project will remove homes from a hazard area where the Old Cascade Highway crosses the Miller River near its confluence with the South Fork Skykomish River. The County will acquire property and remove housing and other structures from the flood hazard area. Includes riparian plantings.	\$865K	Removal of structures allows restoration of floodplain habitat and will improve riparian hydrology and water quality functions.	Delayed. Landowner not currently interested in selling; rescheduled for 2011
2008	South Fork Levee System Improvements	Erosion Control and Riparian Improvement	This project will rebuild and strengthen selected portions of the existing levee system along both banks of the South Fork Snoqualmie River through North Bend and the surrounding unincorporated areas in a manner that maintains current preferential protection of the more heavily developed parts of the City of North Bend.	\$6.7M	Completed project will reduce erosion and scour of riverbank. Includes riparian plantings.	Preliminary study underway

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2008	Aldair Buyout	Riparian Improvement	This project will greatly reduce the public safety risk associated with potential failure of the Aldair levee. Increased seepage through the levee during recent floods is an indication of increased risk for sudden, catastrophic failure. The County will purchase and remove the existing homes from low-lying ground immediately behind the deteriorating Aldair levee.	\$2.7M	Removal of residential structures allows restoration of floodplain habitat. Riparian plantings will be included to improve hydrology and water quality functions.	Property purchase in 2008 and demolition in 2009.
2008	Lower Snoqualmie River Flood Damage Repairs	Riparian Improvement and Erosion Control	This project includes repair of several King County-managed flood control facilities damaged in the November 2006 flood event. Actual repair priorities are set based on urgency, risk, and budget availability. Possible project sites include the Camp Gilead, MacDonald Park, and Welcome revetments and other damaged facilities.	\$1.7M	Completed project will reduce erosion and scour of riverbank. Riparian plantings will also be included in facility rehabilitation to improve hydrology and water quality functions.	Complete
2008	Neal Road Relocation	Riparian Improvement	Relocate Neal Road, which runs parallel to the Fall City-Carnation Road (State Route 203), outside of erosion hazard area created by the Snoqualmie River. Abandon existing road and allow natural river processes to occur.	\$1.7M	Removal of structures allows restoration of floodplain habitat and associated improvement of riparian hydrology and WQ functions. Includes plantings.	Delayed.
2008	Alpine Manor Mobile Home Park Neighborhood Buyout	Riparian Improvement	Nine of the approximately 35 homes in the mobile home park are in the severe or moderate channel migration zone, and five homes in the neighborhood are within the normal channel migration zone. This project will acquire and remove most, if not all, of the homes in the neighborhood at risk from flooding and channel migration.	\$7.9M	Removal of structures allows restoration of floodplain habitat and associated improvement of riparian hydrology and WQ functions. Includes plantings.	Ongoing, discussion, purchases and demolition in 2009.

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2008	Willowmoor Floodplain Restoration	Riparian Improvement	This project will reconfigure the transition zone in order to increase channel complexity, establish a native plant community and riparian buffer, and maintain adequate flow conveyance to meet flood control obligations in a sustainable manner. This will involve widening the total cross-sectional area available for flood flows so that plants can be allowed to grow within the banks and not be an obstruction to that flow. In-stream complexity will be improved by both structural changes that are engineered in the design, as well as natural geomorphic changes that occur over time in response to the structural modifications.	\$3.5M	Project will restore floodplain connectivity, restoration of a tributary, and includes extensive riparian plantings to improve hydrology and water quality functions.	Delayed until 2010; contingent upon completion of updated FEMA floodplain maps.
2008	Issaquah Creek Streambank Stabilization	Riparian Improvement and Erosion Control	This project will repair flood damage using biotechnical bank stabilization techniques at up to three locations on Issaquah Creek. The damaged banks threaten residential homes and a road and bridge at risk from channel migration and erosion.	\$354K	Completed project will reduce erosion and scour of streambank. Riparian plantings will be used to biostabilize targeted sections of streambank.	Implementation on 2009-2010
2008	Cedar Grove Mobile Home Park Acquisition	Riparian Improvement	This project will eliminate all future flood damage and safety risks for these mobile home park residents by acquiring the entire flood-prone property (at fair market value); assist in relocating park residents; remove the homes and all associated structures; and decommission and remove supporting infrastructure, such as the road, utilities, septic systems, and water supply wells.	\$5.1M	Removal of structures allows restoration of floodplain habitat and associated improvement of riparian hydrology and WQ functions. Includes plantings.	Complete

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	Cedar Rapids Levee Setback	Riparian Improvement	Provide local match for \$1.5 M levee set back project designed to improve flood conveyance and capacity.	\$862K	Project sets back existing levees to reconnect about 35 acres of floodplain area, including riparian plantings.	Complete
2008	Cedar River Flood Damage Repairs	Erosion Control and Riparian Improvement	This project will repair damages from the 2006 flood at four sites on the Cedar River. These projects provide critical protection to SR-169, the Cedar River Trail, and two residential areas. All project repairs will be done using biotechnical bank stabilization techniques to provide long term stability and improve riparian conditions.	\$1.2M	Completed project will reduce erosion and scour of streambank. Riparian plantings will be used to biostabilize targeted sections of streambank.	Complete
2008	Cedar River Repetitive Loss Mitigation	Riparian Improvement	This project will mitigate potential flood damage to a group of nine residential homes that have repeatedly experienced damage from flood events by either elevating the structures or acquiring and demolishing them.	\$3.1M	Removal of structures allows restoration of floodplain habitat and associated improvement of riparian hydrology and WQ functions. Includes plantings.	Some acquisitions and demolitions complete in 2008. Ongoing in 2009.
2008	Elliott Bridge Levee Setback and Acquisition	Riparian Improvement	Homes on the left bank of the Cedar River above and below the Elliott Bridge are subject to high velocity flows and channel migration hazards. This project will purchase properties at risk for flooding and channel migration hazards and setback the levee to improve conveyance capacity on the Cedar River in this reach.	\$2.3M	Removal of residential structures allows levee setback and restoration of floodplain habitat and associated improvement of riparian hydrology and WQ functions. Includes plantings.	Some acquisitions complete in 2008. Ongoing in 2009.
2008	Rainbow Bend Levee Setback & Floodplain Reconnect	Riparian Improvement	This project will set back or remove the levee to provide greater accommodation of flood conveyance that would lower flood waters and decrease flood velocities through the reach, thereby reducing or even eliminating future maintenance costs.	\$2.1M	Levee removal enables floodplain reconnection/restoration and associated improvement of riparian hydrology and WQ functions. Includes plantings.	Levee removal will occur following relocation of mobile home park residents and acquisition of one remaining single-family home.

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2008	Nursing Home Levee	Riparian Improvement	This project will rebuild the levee in a structurally stable manner and increase local flood conveyance capacity within this reach. This project will include reconstruction of the levee toe, installation of large woody debris structures, excavation of a mid-slope bench and toe buttress revegetated with live willow layers and native riparian trees and shrubs, and stabilization of the upper bank.	\$3M	Levee rehabilitation includes riparian plantings.	Ongoing, construction to begin in 2009, design done in 2008.
2008	Segale Levee #1	Riparian improvement	Rehabilitate levees to reduce the risk of flooding in the Lower Green River.	\$190K	Levee rehabilitation includes riparian plantings.	Complete
2008	Kent Shops-Narita	Riparian improvement	This project will repair the Kent Shops and Narita segments of the lower Green River levee system by setting back the levee while acquiring sufficient easement area for reconstruction of the riverward levee slopes at a minimum angle of 2.5H:1V. This project will also reconstruct the levee toe, install of pieces of large wood, excavate a mid-slope bench, and revegetate the toe buttress.	\$5.2M	Levee rehabilitation includes riparian plantings.	Complete
2008	Myer's Golf Levee	Riparian improvement	This project will setback the Myer's Golf Levee segment of the lower Green River levee system while acquiring sufficient easement area for reconstruction of the riverward levee slopes at a minimum angle of 2.5H:1V. This project will also reconstruct the levee toe, install of pieces of large wood, excavate a mid-slope bench, and revegetate the toe buttress.	\$989K	Levee rehabilitation includes riparian plantings.	Complete

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2008	County line to A-Street Flood Conveyance	Riparian improvement	This project will acquire the remaining private property via fee simple or flood easement purchase to implement this levee modification. The project includes reconnecting the active channel to its left overbank floodplain by breaching the Union Pacific levee, allowing for improved flood flow conveyance into the existing floodplain area and for the restoration of river channel processes through the reach. The project will also replace an existing concrete culvert with a shallow box culvert for flow reentry into the river channel within Pierce County.	\$2.6M	Levee setback reconnects floodplain habitat; project includes riparian plantings.	30% design; construction begins in 2010.
2008	White-Greenwater Acquisition	Riparian Improvement	This project will acquire the property on the right bank of the White River at its confluence with the Greenwater River and remove at-risk residential structures and concrete flood wall and restore the riverbank to a natural floodplain condition.	\$1M	Removal of structures allows levee setback and restoration of floodplain habitat and associated improvement of riparian hydrology and WQ functions. Includes plantings.	Delayed due to landowner willingness.
2009	Miller River Road Protection	Erosion Control	This project will supplement and extend the existing log crib that helps to direct flow toward the Miller River bridge, in order to reduce the risk of damage to the road from the river channel migrating across the alluvial fan.	\$111K	Reduces turbidity in Miller River.	Starting work in 2009
2009	Timber Lane Village Home Erosion Buyouts	Riparian Improvement	This project will purchase and remove the homes in this neighborhood which is subject to extreme erosion.	\$5.3M	Removal of residential structures allows riparian habitat in channel migration area.	Ongoing, purchases in 2009.
2009	City of Snoqualmie Natural Area Acquisitions	Riparian Improvement	This project purchases a flood prone property and removes the structures to eliminate this repetitive loss property from the floodplain.	\$237K	Removal of residential structures allows restoration of floodplain habitat; includes riparian plantings.	Starting work in 2009.

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2009	Middle Fork Levee System Capacity Improvements	Riparian improvement	This project will shorten or realign the downstream ends of the existing levee segments to improve the flow capacity along the river channel, in order to reduce the frequency and severity of flows leaving the Middle Fork Snoqualmie River channel and damaging homes and businesses.	\$3.7M	Project will increase floodplain connectivity and includes riparian plantings.	Starting work in 2009.
2009	Lower Tolt River Acquisition	Acquisition	This project involves acquisition of floodplain acreage on the right bank of the Tolt River in the City of Carnation in order to prevent future development in and adjacent to the Tolt River's floodplain and channel migration hazard area.	\$893K	Preserves existing hydrology and water quality. Project acquires parcel that enables future levee setback.	Delayed due to landowner willingness. Schedule for 2010.
2009	San Souci Neighborhood Buyout	Riparian Improvement	The project will remove all homes and a privately-assembled rubble levee at upstream end of the community access road.	\$2.7M	Removal of structures allows for habitat restoration in floodplain. Includes riparian plantings and site restoration.	Starting work in 2009.
2009	Tolt River Mouth to SR 203 Floodplain Reconnection	Riparian improvement	This project will setback the existing levee within the Tolt River - John MacDonald Park to increase flood storage and conveyance.	\$701K	Project sets back levee and restores confluence area of the Tolt and Snoqualmie Rivers. Includes riparian plantings.	Beginning in 2009.
2009	Herzman Levee Setback & Floodplain Reconnection	Riparian improvement	The project will remove approximately 350 linear feet of the levee and set back another 190 linear feet in a manner that will reduce risk of flood damage to the levee on the opposite side of the river, as well as reconnect the river with its floodplain without increasing flood risks to the existing homes or Jones Road.	\$1.3M	Improves riparian hydrology and water quality functions. Includes riparian plantings.	Landowner negotiations 2009; construction 2010.

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2009	Jan Road-Rutledge Johnson Levee Setbacks	Riparian improvement	This Project will either setback or remove the Jan Road and Rutledge-Johnson Levees in order to reduce potential damage to the downstream Cedar River Trail Levee, which protects portions of both the Cedar River Trail and the Maple Valley Highway. The project will be designed so as to ensure an equivalent level of flood protection remains for the houses behind the levees.	\$1.2M	Improves riparian hydrology and water quality functions. Includes riparian plantings.	Design work to begin in 2009.
2009	Briscoe Levee #1-#3, #5-#8	Riparian Improvement	This project will setback the Briscoe levee segments 1-3 and 5-8 as part of a larger reach-length setback of the lower Green River levee system. The project will acquire sufficient easement area to reconstruct the riverward levee slopes at a minimum angle of 2.5H:1V. This project will also reconstruct the levee toe, install of pieces of large wood, excavate a mid-slope bench, and revegetate the toe buttress.	\$19M	Project will increase floodplain connectivity and includes riparian plantings.	Permits and right of way in 2009, setback levee in 2010.
2009	Desimone Levee #1	Riparian Improvement	This project will reconstruct the Desimone Levee segment #1 by setting it back as part of a multi-segment setback of the lower Green River levee system. The project will acquire sufficient easement area to reconstruct the riverward levee slopes at a minimum angle of 2.5H:1V. This project will also reconstruct the levee toe, install of pieces of large wood, excavate a mid-slope bench, and revegetate the toe buttress.	\$1.1M	Project will increase floodplain connectivity and includes riparian plantings.	Permits and right of way in 2009, setback levee in 2010.

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2009	Desimone Levee #2	Riparian Improvement	This project will repair the Desimone Levee segment #2 by setting it back as part of a reach-length setback of the lower Green River levee system. The project will acquire sufficient easement area to reconstruct the riverward levee slopes at a minimum angle of 2.5H:1V. This project will also reconstruct the levee toe, install of pieces of large wood, excavate a mid-slope bench, and revegetate the toe buttress.	\$1.4M	Project will increase floodplain connectivity and associated improvement in riparian hydrology and water quality. Includes riparian plantings.	Permits and right of way in 2009, setback levee in 2010.
2009	Desimone Levee #3	Riparian Improvement	This project will repair the Desimone Levee segment #3 by setting it back as part of a reach-length setback of the lower Green River levee system. The project will acquire sufficient easement area to reconstruct the riverward levee slopes at a minimum angle of 2.5H:1V. This project will also reconstruct the levee toe, install of pieces of large wood, excavate a mid-slope bench, and revegetate the toe buttress.	\$837K	Project will increase floodplain connectivity and associated improvement in riparian hydrology and water quality. Includes riparian plantings.	Permits and right of way in 2009, setback levee in 2010.
2009	Desimone Levee #4	Riparian Improvement	This project will repair the Desimone Levee segment #4 by setting it back as part of a reach-length setback of the lower Green River levee system. The project will acquire sufficient easement area to reconstruct the riverward levee slopes at a minimum angle of 2.5H:1V. This project will also reconstruct the levee toe, install of pieces of large wood, and excavate and revegetate a mid-slope bench/buttress.	\$4.5M	Project will increase floodplain connectivity and associated improvement in riparian hydrology and water quality. Includes riparian plantings.	Permits and right of way in 2009, setback levee in 2010.

Tier 2 Structural Stormwater Control Projects						
Planned Start Year	Individual Project or Program of Projects	Stormwater Control Project Type	Description	Cost/Budget	Impact Reduction/Prevention Benefit to Waters of the State	Status
2009	Riverside Estates/Reddington	Riparian Improvement	This project will remove and reconstruct the Reddington Levee in a setback location adjacent to the Riverside Estates mobile home park, along the landward edge of the old side channel area. It will reconnect the old side-channel habitat to the mainstem, reduce the flooding of mobile homes due to the existing malfunctioning flapgate/culvert system, and install a new, robust flood closure system with a backup closure device. Finally, the project will stabilize the channel edge and restore aquatic habitat complexity with large woody debris installations, and revegetate both the new levee slopes and the former levee footprint area with native riparian trees and shrubs.	\$3.1M	Project will increase floodplain connectivity and associated improvement in riparian hydrology and water quality. Includes riparian plantings.	Willing landowner, permits and surveys in 2009, construction in 2010.
2009	Segale Levee #2 & #3	Riparian Improvement	This project will stabilize the Segale Levee segment #2 and #3, setting it back as part of a larger reach-length levee setback of the lower Green River levee system. The project would acquire a sufficient easement for reconstructing the levee slopes at a minimum angle of 2.5H:1V. The project would also construct a levee toe buttress using structures of large wood, excavate and stabilize a mid-slope bench/buttress, and stabilize the upper levee slopes.	\$6.2M	Project will increase floodplain connectivity and associated improvement in riparian hydrology and water quality. Includes riparian plantings.	Permits and right of way in 2009, setback levee in 2010.

Tier 2 Structural Stormwater Control Projects						
Planned Start Year	Individual Project or Program of Projects	Stormwater Control Project Type	Description	Cost/Budget	Impact Reduction/Prevention Benefit to Waters of the State	Status
2009	Segale Levee #4	Riparian Improvement	This project will stabilize the Segale Levee segment #4, setting it back as part of a larger reach-length levee setback of the lower Green River levee system. The project would acquire a sufficient easement for reconstructing the levee slopes at a minimum angle of 2.5H:1V. The project would also construct a levee toe buttress using structures of large wood, excavate and stabilize a mid-slope bench/buttress, and stabilize the upper levee slopes.	\$2.5M	Project will increase floodplain connectivity and associated improvement in riparian hydrology and water quality. Includes riparian plantings.	Permits and right of way in 2009, setback levee in 2010.
2009	South Park Duwamish Backwater Trenton Storm Drain	WQ Improvement	The project will construct a pump station to alleviate flooding in Seattle's Duwamish industrial area that occurs during high tides when stormwater runoff is unable to drain to the Duwamish River.	\$4.5M	Pump station will provide for drainage of runoff during high tide events, reducing pollution associated with flooding in industrial area.	Construction begins 2009.
2009	Red Creek Acquisitions	Riparian Improvement	This project will purchase and remove approximately five at-risk residential homes two miles downstream of the Mud Mountain Dam, at the confluence of Red Creek and the White River.	\$911K	Removal of residential structures allows riparian habitat in channel migration area.	Delayed due to landowner willingness.
2010	Timber Lane Village Home Flood Buyouts	Riparian Improvement	This project will purchase the property and remove the homes in this neighborhood which is subject to extreme erosion.	\$1.1M	Removal of residential structures allows riparian habitat.	Planned start in 2010, planning ongoing.
2010	McElhoe/Pers on Levee	Riparian Improvement	This project will remove or set back part of the levee and reconnect the floodplain with the river channel.	\$1.4M	Set back of levee will reconnect river to floodplain; includes riparian plantings.	Complete
2010	Abandoned Bridge Abutment and Waring Revetment	Erosion Control and Riparian Improvement	This project will remove the channel constriction at the old bridge site and improve conveyance capacity.	\$121K	Reduces erosion and scour of streambank. Reconnects river to floodplain, allowing for improved riparian hydrology and WQ functions.	Delayed until 2011

<b>Tier 2 Structural Stormwater Control Projects</b>						
<b>Planned Start Year</b>	<b>Individual Project or Program of Projects</b>	<b>Stormwater Control Project Type</b>	<b>Description</b>	<b>Cost/Budget</b>	<b>Impact Reduction/Prevention Benefit to Waters of the State</b>	<b>Status</b>
2010	Cedar River Gravel Removal	Riparian improvement	This project will periodically remove gravel from the lower Cedar River to maintain 100-year flood protection.	\$6M	Mitigation includes riparian plantings.	Permits begin in 2010, construction in 2012 or 2013.
2011	Tolt River Natural Area Floodplain Acquisition	Riparian Improvement	This project will purchase two homes that are at risk from flood damages and reconfigure the downstream end of the Edenholm levee to improve flood conveyance.	\$7.1M	Removal of residential structures allows reconnection of floodplain and restoration of riparian hydrology and WQ functions.	Planned start in 2011, planning ongoing.
2011	Lower Lions Club	Riparian Improvement	This project will purchase and remove multiple flood-prone homes, including two properties classified as "repetitive loss."	\$1.5M	Removal of residential structures allows riparian habitat restoration and associated improvement in riparian hydrology and WQ functions.	Planned start in 2011, planning ongoing.

***Appendix 3—King County Storm Water Services Emergency  
Response Staff Protocols***

**Water and Land Resources Division**  
**Stormwater Emergency Response Protocols**  
**Policies, Procedures, and Responsibilities**

November 25, 2008



In addition to the above general responsibilities, the SER Director has the following more specific responsibilities during times of emergency response unless otherwise assigned to a Lead or covered by the WQ Manager:

- Act as WLRD's event manager during stormwater emergencies.
- Review incoming emergency reports and complaints and assign WLRD staff volunteers as needed to respond.
- Coordinate stormwater emergency response as applicable with Roads, SWSS, and CIP staff, the flood warning center, the King County Office of Emergency Management, and any other agency involved in an emergency event.
- Respond to questions from staff conducting emergency response activities.
- Make decisions on how to address problems encountered by WLRD staff conducting emergency response activities in the field.
- Make decisions on emergency capital improvements of up to \$5,000 for any one problem and up to a total of \$15,000 for multiple problems. For emergency capital improvements anticipated to exceed these limits, refer to the Emergency Capital Improvements Manager for response.
- Make decisions on emergency maintenance actions up to \$15,000 for any one facility and up to a total of \$45,000 for multiple facilities. For maintenance actions anticipated to exceed these limits, obtain approval from the SWSS Manager.
- Maintain a log of stormwater emergency problems/situations being investigated by WLRD staff volunteers.
- Monitor deployment of staff volunteers and account for all deployed staff when ceasing or handing off the above

responsibilities during times of emergency response.

***Stormwater Emergency Response Lead (Lead)***

– The Lead role is currently assigned by the SER Director to qualified staff volunteer Engineers on a monthly rotation. Each volunteer serves as Lead for a specific month beginning on the Monday of the first full week of that month. Leads are not on-call but the first person listed on the Lead schedule should be aware that if a storm event is anticipated, they will be the first to be called. The role of the Lead is to act on behalf of the SER Director during times of emergency response that occur after normal business hours or when the SER Director is not on emergency response duty during normal business hours.

***Stormwater Emergency Water Quality Manager (SEWQ Manager)***

– This role is currently assigned to the SWSS Water Quality Compliance Program manager. See Appendix A for a current list of key staff. This assignment carries with it the following responsibilities:

- Act as WLRD's point of contact for water quality emergencies that the SER Director or active Lead has determined would be best addressed by staff with water quality expertise.
- Coordinate water quality emergency response as applicable with Roads, SWSS, and CIP staff, the flood warning center, the Office of Emergency Management, and any other agency involved in the emergency.
- Investigate or assign staff to investigate referred water quality emergencies.
- Make recommendations to the SER Director, active Lead, and/or SWSS Manager on how to address emergency water quality problems.
- Coordinate with SER Director on providing needed training to field staff

***Emergency Capital Improvements Manager (ECI Manager)***

– The ECI Manager role is currently assigned to the

## **STORMWATER EMERGENCY RESPONSE PROTOCOLS** **Policies, Procedures, and Responsibilities**

This document describes the policies, procedures, roles, and responsibilities for the Water and Land Resources Division (WLRD) response to non-river related stormwater emergencies in unincorporated King County. Its purpose is to help senior staff allocate support staff and other resources to address stormwater and water quality problems/situations in the field, and identify which problems/situations should be referred to other agencies, and, if so, which agencies should be notified.

*Stormwater emergencies* are defined as urgent situations/problems in which flooding, erosion, or pollution in or along the stormwater drainage system is a hazard to public safety or aquatic life or is causing or imminently threatens to cause property or habitat damage. The stormwater drainage system includes both natural and manmade features that convey, store, infiltrate, or otherwise manage stormwater runoff prior to discharge to the County's major rivers (i.e., Snoqualmie River, Skykomish River, Cedar River, Green River, White River, Sammamish River, Tolt River, Raging River) and to the County's major receiving waters (i.e., Lake Washington, Lake Sammamish, and Puget Sound).

In response to stormwater emergencies, WLRD's Stormwater Services Section (SWSS) provides the following services:

- Rapid assessment of reported problems,
- Rapid referral of reported problems to appropriate agencies,
- Technical assistance/advice to citizens, property owners, and other agencies,
- Rapid inspection/maintenance of County stormwater facilities,
- Rapid enforcement actions to stop violating activities and correct violations, and
- Implementation of emergency actions or measures to contain, remediate, or reduce severe flooding, erosion, or pollution.

### **Role Assignments**

The following assignments are made for the purposes of stormwater emergency response:

#### ***Stormwater Emergency Response***

**Director (SER Director)** – The SER Director role is currently assigned to the SWSS Drainage Investigation and Facility Maintenance Unit (DIFM) supervisor. See Appendix A for a current list of key staff. The assignment carries with it the following general responsibilities:

- Oversee WLRD's stormwater emergency response function.

- Coordinate the stormwater emergency response function with other County emergency response functions.
- Recruit and organize volunteers for stormwater emergency response.
- Identify and facilitate appropriate training of volunteers.
- Recruit volunteer Stormwater Emergency Response Leads (Leads) to act on behalf of the SER Director during times of emergency response that occur after normal business hours or when the SER Director is not on emergency response duty.

Capital Improvements Unit (CIU) manager. See Appendix A for a current list of key staff. This assignment carries with it the following responsibilities during stormwater emergencies:

- Assign CIU staff volunteers as needed to perform rapid assessments.
- Oversee rapid assessment of reported problems determined by the SER Director or active Lead to likely involve emergency capital improvements beyond what their limits of authorized expenditure allow.
- Coordinate as applicable with Roads and SWSS staff, the flood warning center, the King County Office of Emergency Management, and any other agency involved with or affected by the problem.
- Make decisions on emergency capital improvements anticipated to be less than \$50,000 for any one problem and less than the total available budget for large capital emergency projects. For emergency capital improvements anticipated to exceed these limits, obtain approval from the SWSS and CIU Manager.

### Volunteer Call Out Schedule

The SER Director will prepare and distribute a call out schedule titled the **WLRD After Hours Stormwater Emergency Contact**, which assigns a volunteer SWSS or CIU staff engineer as the primary Lead for each calendar month and lists other volunteer engineer's as backups. This Lead will be the first point of contact for WLRD during stormwater emergencies after normal business hours and during normal business hours when the SER Director is not on duty. Usually, the first contact will come from the Road Services Division 24-hour phone operator, who is typically the first to hear about a problem. If the primary Lead person is unavailable, the next person on the list of volunteer engineer's will be called

until an available person is reached. That person will then be the Lead for the emergency event or problem until relieved by the SER Director or another Lead.

If the problem is a water quality emergency, the SER Director or active Lead may ask the WQ Manager to respond. Until such time as WQ Manager or his/her assigned representative accepts responsibility for response to the water quality emergency, the SER Director or active Lead will retain this responsibility.

The SER Director will ensure that the Road Services Division has the latest **WLRD After Hours Stormwater Emergency Contact** list so they will always know who to contact in a stormwater emergency.

The SER Director will also prepare and distribute the **WLRD Stormwater Emergency Response Volunteer Callout List**, which is a monthly assignment of other SWSS and CIU staff persons who have volunteered to:

- Staff the drainage information/complaint line (296-1900) during emergency events or after hours;
- Investigate reported flooding/erosion problems during emergency events or after hours (Drainage Complaint Response);
- Investigate reported stormwater facility problems during emergency events or after hours (Facility Complaint Response); and
- Investigate reported WQ problems during emergency events or after hours (WQ Complaint Response).

### Event Scenarios

Typically, stormwater emergency response occurs in one of two scenarios:

- 1) A **single event** causing or threatening to cause a flooding/erosion problem (incident) or a water quality emergency. This could be a plugged pipe causing a flooding/erosion problem during a typical

rainy day or an unidentified substance in a ditch posing a possible WQ problem.

- 2) An **extreme weather event** causing wide spread flooding and/or erosion problems (multiple incidents).

Flowcharts of these scenarios are provided in Appendix B and C.

#### Staff Shifts

In a **single event**, the SER Director, Lead, WQ Manager, or ECI Manager, as applicable, will likely be on duty for the duration of the event since it will normally last only a few hours. If the event begins during normal working hours but is not resolved by the end of the day, the event Lead will remain on duty until the event is over or he/she is relieved by another Lead.

During an **extreme event**, which can last for several days and have multiple incidents, the shift hours are flexible and will be adjusted to meet both the emergency response needs of WLRD and the personal needs of volunteer response staff.

Typically, a shift will last no longer than 12 hours. However, if an event starts late in the day on a work day or coincides with a river flooding event that draws in some of the same volunteer staff, shifts can end up being much longer. Therefore, the SER Director, on-duty Lead, WQ Manager, and/or the ECI Manager, as applicable, must track and coordinate the use of volunteer staff with staff supervisors and the WLRD Flood Warning Center to ensure that individual staff shifts do not exceed 24 hours on the first call out after which there must be a minimum of 8 hours off before the next shift. Subsequent shifts must not exceed 16 hours and there must be a minimum of 8 hours off after any subsequent shift that is 8 to 16 hours long. For subsequent shifts less than 8 hours long, no more than 16 hours shall be worked within any 24-hour period. The above cycle of shift limits starts over for any staff person that has been off at least 48 hours.

When it is anticipated that multiple shifts will be required, the SER Director, on-duty Lead, WQ Manager, and/or ECI Manager, as applicable, will arrange for relief personnel but may delegate, to other available staff, the arranging of relief so he/she can continue to respond to emergencies. During the week, the day shift personnel will take over at their normal start time. Staff may be asked to stay on if there is a need for extra personnel but should be released after 12 hours whenever possible and must not work more than allowed by the above shift limits. On weekends, alternates will be called in to relieve on-duty staff. The Lead will normally be relieved by the following month's assigned Lead. Typically, these two will rotate the Lead responsibility for a particular event but another lead may be called in to cover if one is unavailable. The WQ Manager and ECI Manager will similarly rotate with their assigned back-ups.

If volunteer resources become stretched so thin that shift limits are in danger of being exceeded, the SWSS or CIU Manager will ask other trained staff within their sections to relieve volunteer staff or otherwise support the ongoing emergency. During an emergency, overtime may be mandated.

## Lead Duties and Authorities

The Lead should expect to be called during a single event scenario that occurs after business hours. The Lead can either directly respond to the problem or call out appropriate emergency response staff volunteers. Very often, Roads Maintenance staff will have already been called out and will contact the Lead if they determine support is needed from WLRD. The Lead may call in support from the **Stormwater Services Emergency Response Volunteer Callout List** if needed. If SWSS or CIU staff members are the first to respond, Roads Maintenance staff members are available to be called out if needed to implement emergency measures.

If an event begins during normal working hours, the Lead will take over emergency response supervision when it has been determined that a long duration, large event is occurring. If a large storm occurs on a weekend, the Lead will check the complaint line (206 296-1900, see Appendix D - *Complaint Line Message Retrieval Instructions*) and contact the Road Services Division 24-hour line (206 296-8100) to determine if a significant number of stormwater and flooding complaints are being received. If it appears the complaint line should be staffed and field staff is needed to investigate problems, the Lead will contact staff on the **Stormwater Services Emergency Response Volunteer Callout List** and notify them to report.

Based on the type of stormwater emergency response scenario occurring (single event and extreme weather event), the Lead will use the appropriate flowchart in Appendix B or C to determine agency responsibility for a given situation occurring in each scenario. While all potential problems or emergency situations cannot be anticipated, the flowcharts help to provide direction in how to determine a response. The Lead is expected to use his/her best judgment in how to respond to each specific situation as it occurs.

For a situation or problem that poses severe and imminent harm to private property or aquatic habitat but is not the County's responsibility to address, the Lead may authorize expenditure of up to \$5,000 to implement emergency measures to alleviate the harm from the one problem and up to a total of \$15,000 for multiple problems. If emergency measures are expected to cost more than this, the Lead will contact the ECI Manager or assigned representative. The CIP Rapid Response Opportunity and Emergency (RROE) program will then address the problem. For situations or problems that pose harm to or are caused by WLRD facilities, the Lead may authorize the expenditure of maintenance funds to implement emergency repairs or measures. This applies only to non-river situations or problems.

## Information Line Staff Duties

Staff assigned to answer the drainage information/complaint line (206-296-1900) during stormwater emergencies will receive information from the public and other agencies, refer problems to the stormwater complaint response staff, the facility complaint response staff or other agencies, and respond to inquiries. They will assist with complaint log-in, research, and data entry. Staff volunteers will be given as much notification as possible when an event is expected. The information line staff will be in the SWSS office when on duty.

## Stormwater Emergency Complaint Response Staff Duties

Staff assigned to investigate reported flooding/erosion problems will be likely be investigating problems such as off road right-of-way flooding, road flooding caused by off road right-of-way problems, landslides, slope instabilities, erosion, and other storm related problems. Drainage complaint response staff will investigate these situations in the field during their shift. They will report their findings to the Lead and help make decisions on how to respond to the problems.

### **Facility Emergency Complaint Response Staff Duties**

Staff assigned to investigate reported problems with WLRD flow control or WQ treatment facilities will visit the facility and determine what can be done to address the problem. The staff will likely work directly with Roads Maintenance staff to correct or mitigate the problem as authorized by the Lead. Often temporary solutions will have to be applied. The facility emergency response staff will contact the Lead and keep him/her updated on problems being dealt with. The Lead will provide advice and approval for corrective actions when needed and may authorize expenditure of up to \$15,000 in maintenance funds to implement such actions at any one facility and up to a total of \$45,000 for multiple facilities. Staff assigned to this activity may be on-site alone or with Roads Maintenance support staff.

### **Water Quality Emergency Response**

During normal business hours, the WQ Manager or other WQ Compliance Program staff will oversee and coordinate response to water quality problems. WQ Emergency response staff will investigate and report findings to the WQ Manager. The WQ Manager will make decisions on the appropriate level of response.

After hours, the Lead handles the responsibility of WQ emergency response. The critical issue is staff and public safety, and environmental protection. The Washington Department of Ecology spill response team should be contacted at 425-649-7000 for spills of unknown contaminants or significant spills of pollutants such as petroleum-based products. Waste Water Treatment Division or the Health Department (see Appendix E.) should be notified for sewage spills. Small spills of known contaminants such as paint, sediment, or soap, the Lead will either directly respond to the problem by identifying the contaminant, and its' source; then initiate containment and cleanup. The other method would be to call out spill response through Roads Maintenance or call in a spill response contractor. If the pollutant is a hazardous material, call 911. Decisions will be made by the WQ Emergency Response staff and the Lead as to the extent of containment needs. Identifying the source and stopping the discharge may be all that is needed. All methods available should be employed including installation of booms, pads or other spill clean up methods. If a source of the pollutant discharge is found, documentation, such as photographs, names and addresses of the responsible party(s) is required for possible enforcement follow up and cost recovery. If cleanup is required, KC Roads may be able to assist. If the pollutant is sediment and is from a construction site, document the discharge and follow up with DDES.

If sampling is needed, field staff will take samples following all protocols for preserving samples (such as icing) and deliver them to the KC Environmental Lab for analysis within 24 hours. Ben Budka, Trouble Call Coordinator can also be contacted for assistance at 206-684-2328 or 206-993-1353 (pager).

### **Safety Instructions For Field Emergency Response Staff**

Field emergency response staff are expected to maintain frequent contact with the SER for safety. Staff will attempt to notify the SER or Lead, through the 1900 number, of their current location, expected time at the location and where they expect to go upon leaving their current location.

Field complaint response staff safety is as much a priority as is dealing with flooding problems. The SER will be dealing with multiple issues so it is important that the field staff take it upon themselves to report their location information. Staff are also expected to operate in a safe manner and not put themselves and/or others at risk.

## **Dam Safety**

SWSS is responsible for the maintenance and operation of seven dams meeting Department of Ecology's dam safety requirements. Appendix F contains a list of the Dams. Three of these dams have emergency action plans with evacuation measures for at risk homes and businesses downstream. In an extreme weather event, these three dams must be monitored to ascertain their condition and implement dam break procedures if necessary. The Regional Storm Facility Maintenance Manager and the WLRD Department Emergency Response Representative keep copies of the emergency action plans.

The SER Director maintains the current inventory of SWSS dams.

Note: during extreme rain events, dams are more susceptible to failure because there is the possibility of saturated soil and high water behind the dam.

***Appendix 4—Public Outreach and Education Matrix***

**King County Stormwater Management Program 2009  
Appendix 4 - Public Outreach and Education Matrix**

10. Education and Outreach Program			Topics/Reference														Measurements		
		<b>Note: Programs designated with an "A" indicate topics already addressed within the program Programs Designated with an "M" means the program will be modified to include the topic or measurement/report in future efforts.</b>	General Impacts	Environmental Stewardship	Impervious Surface Impacts	Yard Care	Landscaping/Landscaper Outreach	Buffers	Forest Retention, Trees	LID Design, Pervious Pavement	Animal Waste	Chem/Pest/Fert. & Hazard. Use/Storage	Vehicle Maint, Repair	Business BMP's	Carpet Cleaning BMP's	Stmwr Treatment & Flow Controls	Technical Standards	Measure behavior change and adapt accordingly	Track program measures and report
Program Name	Program Lead/contact	Program Overview (short)	b.i.1	b.i.1	b.i.1	b.i.3	b.i.1	b.i.1	b.i.3	b.i.3	b.i.1	b.i.2	b.i.2	b.i.2	b.i.3	b.i.4	b.i.4	b.ii	b.iii
Natural Yard Care	Doug Rice	Regional/partnership program with up to 10 cities, & 13 neighborhoods, provides social marketing devised trainings in lawn care; pesticide use, alternatives, and storage; LID solutions; habitat 7 buffer opportunities; pet waste impacts; car washing, water conservation, and retention; soil building value; irrigation; environmental stewardship; Over 1000 participants annually.	A	A	A	A	A	A	A	A	A	A	A					A	M
Native Plant Guide	Website Only	Online resource to offer plans, guidance, resources for the preservation, retention, restoration, lawn reduction, and to promote salvages.		A		A		A	A									M	M
WSU Extension		WSU Extension provides a variety of educational programs that promote environmentally sensitive BMPs. <a href="http://ext.nrs.wsu.edu/">http://ext.nrs.wsu.edu/</a>																	
Grant Exchange	Ken Pritchard	A percentage of grants in this program have stormwater nexus.	M	A			M	A	A	M								M	M
Pesticide Reduction	Larry Holyoke / Lisa Niehause	<p>1) Natural Landscaping and Integrated Pest Management (IPM); policy development, BMP, training, technical assistance in / for:</p> <ul style="list-style-type: none"> <li>- Public &amp; Private Schools in King County</li> <li>- Landscaping companies, property developers, etc.</li> <li>- Property owners and management organizations</li> <li>- Governmental agencies, utility districts and housing authorities.</li> </ul> <p>2) Review of USGS stream data and produce a dependable and replicable system for pesticide monitoring - allowing for ongoing measurement of high risk pesticides found in local streams and sediments.</p> <p>3) Work with Manufacturers, policy analyst, local &amp; state legislators to stop the sales of high risk pesticides to consumers.</p>	A	A		A	A				A			A				M	M

**King County Stormwater Management Program 2009  
Appendix 4 - Public Outreach and Education Matrix**

ESL (English as a Second Language) Outreach and Workshops	Emmanuel Rivera / Larry Holyoke	Outreach and workshops to the ESL community on the following topics: 1) Landscaping - Hazardous Waste BMP and IPM training and technical assistance 2) Janitorial - Hazardous Waste BMP and alternative / less toxic cleaning products	A	A		A	A											M	M
Low Income Housing	Dave Hickok / Larry Holyoke	Identify three local governmental housing authorities in King County. Provide staff, service providers and residents training and technical assistance to promote purchase of safer alternatives and identifying recycling and disposal opportunities for unwanted chemical, products, and hazardous wastes, including mercury products. Once an assessment is completed, staff can develop a workplan to implement IPM Guidelines.	A	A		A	A											M	M
EnviroStars Landscape Industry Program	Laurel Tomchick	Certification program to reduce pesticide use and exposure within landscape-related businesses, and on properties where they work . Technical assistance, trainings, presentations on request. Includes in-field consultation, 25 pg worksheet to assist in documenting compliance, BMPs, additional stewardship activities, and to ID goals to increase enviro-sustainable actions. Renewal system creates on-going verification of practices and reinforcement of messaging.	A	A		A	A											M	M
King County Livestock Program	Rick Reinlasoder	Provides technical assistance to landowners to minimize the adverse environmental impacts of livestock, with particular focus on manure management and impacts on water quality. Implements the Livestock Management Ordinance (21A.30.030-21A.30.070).	A	A					A								A	M	M
Public Benefit Rating System and Timberland current use taxation programs	Ted Sullivan	Encourages landowners to exceed code requirements for retaining open space and managing it for environmental benefit. Program also provides a significant avenue for attracting new participants to Rural Stewardship and Farm or Forest Management planning.	A	A	A			A	A	A								M	M
Lake Stewardship Program	Sally Abella	Educates the public and landowners about actions to prevent contamination of lake waters and engages volunteers in water quality monitoring and the revegetation of lake shoreline buffers. In 2008 will focus on Cottage Lake.	A	A				A	A									M	M
Forestry Program	Kathy Creahan	Outreach and on-site technical assistance prepares owners of forested properties to address degeneration of forest health and wildfire risk. Promotes new Forest Stewardship planning among landowners to implement plans that have already been completed.	A	A				A	A	A	A							M	M

***Appendix 5—King County Urban and Higher-Density Rural Subbasins***



**Appendix 6 -  
Compliance Tracking Forms**

# King County NPDES Muni Stormwater Permit

## Permit Compliance Tracking Form

Work Group: Facilities Management Division  
 Dept: Executive Services  
 Permit Lead: Joe Hicker  
 Email: [joe.hicker@kingcounty.gov](mailto:joe.hicker@kingcounty.gov)  
 Phone: 206-296-0977

Year: 2009

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	S5C.2	<input type="radio"/> Yes <input checked="" type="radio"/> No Mapping and Documentation <b>Milestones:</b>	12/15/09	
		<input checked="" type="radio"/> Yes <input type="radio"/> No Provide list and addresses of FMD maintained facilities to DNPR and Roads for County database.	12/1/08	12/1/08
		<input type="radio"/> Yes <input type="radio"/> No Provide sites plans in PDF Format to DNRP and Roads for County database	12/15/09	
		<input type="radio"/> Yes <input checked="" type="radio"/> No Provide ongoing mapping information as site surveys are completed.	12/31/09	
		<input type="radio"/> Yes <input checked="" type="radio"/> No (Empty row)		
		<input type="radio"/> Yes <input checked="" type="radio"/> No (Empty row)		
S5C	S5C.3	<input type="radio"/> Yes <input checked="" type="radio"/> No Coordination. <b>Milestones:</b>	12/15/09	8/1/08
		<input type="radio"/> Yes <input checked="" type="radio"/> No Determine and implement necessary coordination with FMD Building Services and Client Agencies/Departments as needed to develop compliance plans.	2/15/09	Date
		<input type="radio"/> Yes <input type="radio"/> No (Empty row)		
		<input type="radio"/> Yes <input checked="" type="radio"/> No (Empty row)		
		<input type="radio"/> Yes <input checked="" type="radio"/> No (Empty row)		
		<input type="radio"/> Yes <input checked="" type="radio"/> No (Empty row)		

## King County NPDES Muni Stormwater Permit

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	S5C.5	<input type="radio"/> Yes <input checked="" type="radio"/> No Controlling Runoff on FMD Construction Sites Milestones:		Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Develop and implement training program on NPDES Construction Permit Requirements for FMD Capital Project Managers in General Government CIP, Parks Parks CIP, and Major Projects Groups.	6/30/09	Date
		<input type="radio"/> Yes <input type="radio"/> No Contract documents to incorporate compliance with NPDES Construction permit requirements.	12/31/09	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No		Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No		Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No		Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No		Date

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	S5C.6	<input type="radio"/> Yes <input checked="" type="radio"/> No Structural Stormwater Controls Milestones:		Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Develop an inventory of structural stormwater control needs at FMD maintained facilities and new capital projects.	6/30/09	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Prioritize needs, obtain funding, and identify projects for 2010.	12/31/09	Date
		<input type="radio"/> Yes <input type="radio"/> No		Date
		<input type="radio"/> Yes <input type="radio"/> No		Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No		Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No		Date

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	S5C.8	<input type="radio"/> Yes <input checked="" type="radio"/> No Illicit Connection and Discharge Detection and Elimination Milestones:		Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Develop SWMP section and program to detect, remove, and prevent illicit connections and discharges, including spills,	6/30/09	Date

### King County NPDES Muni Stormwater Permit

<input type="radio"/> Yes <input type="radio"/> No	Implement and continue implementing ongoing program to prevent, identify, and respond to illicit connections and discharges in accordance with S5C8b(i) through S5C8b(ix) as applicable.	12/31/09	Date
<input type="radio"/> Yes <input checked="" type="radio"/> No		Date	Date
<input type="radio"/> Yes <input checked="" type="radio"/> No		Date	Date
<input type="radio"/> Yes <input checked="" type="radio"/> No		Date	Date

### Permit Compliance Tracking Form

Permit Condition		Done: Yes/No	Compliance Action
S5C	S5C.9	<input type="radio"/> Yes <input checked="" type="radio"/> No	Operation and Maintenance Program <b>Milestones:</b>
		<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop SWMP section and program to regulate and conduct maintenance activities at FMD managed sites that prevent or reduce stormwater impacts in accordance with S5C9a(i) through S5C9a(v) as applicable.
		<input type="radio"/> Yes <input type="radio"/> No	Evaluate, develop, review, and/or implement maintenance for FMD maintained sites in accordance with S5C9b(i) through S5C9b(xi) as applicable.
		<input checked="" type="radio"/> Yes <input type="radio"/> No	
		<input type="radio"/> Yes <input checked="" type="radio"/> No	
		<input type="radio"/> Yes <input checked="" type="radio"/> No	

Target Date	Date Completed
Date	Date
6/30/09	Date
12/31/09	Date
Date	Date
Date	Date
Date	Date

# King County NPDES Muni Stormwater Permit

## Permit Compliance Tracking Form

Work Group: Waste Water Treatment Division  
 Dept: Natural Resources & Parks  
 Permit Lead: Betsy Cooper  
 Email: [betsy.cooper@kingcounty.gov](mailto:betsy.cooper@kingcounty.gov)  
 Phone: 206-296-3728

Year: 2009

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	<input type="radio"/> Yes <input checked="" type="radio"/> No	Revisit interagency agreements between co-permittees and implement current agreement	12/15/09	Date
		<b>Milestones:</b>		
		Complete evaluation of 2008 data and inspection and prepare annual report to SPU	1/31/09	Date
		Reevaluate the MOA with SPU and begin discussions to revise it	3/31/09	Date
		Complete 2009 Inspections as per agreement with SPU	12/15/09	Date
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here	Date	Date

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	<input type="radio"/> Yes <input checked="" type="radio"/> No	Map facilities and Catch Basins and input of that data into the WTD GIS and KC databases	12/15/09	
		<b>Milestones:</b>		
		Provide data on location and type of all facilities and Catch Basins to KC database managers	2/15/09	
		database available on WTD stormwater facilities on all plants and offsite facilities owned and operated by WTD	12/15/09	
		Text Here	Date	Date
		Text Here	Date	Date
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here	Date	Date

# King County NPDES Muni Stormwater Permit

## Permit Compliance Tracking Form

Permit Condition		Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	S5C.5.b.ii	<input type="radio"/> Yes <input checked="" type="radio"/> No	specification address permit requirements and are being used in all project development	12/15/09	8/1/08
			<b>Milestones:</b>		
		<input type="radio"/> Yes <input checked="" type="radio"/> No	Complete internal review of revised specs underway;	2/15/09	Date
		<input type="radio"/> Yes <input type="radio"/> No	Determine best ways to implement the use of these specs	2/15/09	
		<input type="radio"/> Yes <input checked="" type="radio"/> No	Also creation of a set of specification for small projects also a goal for 2009	6/15/09	
		<input type="radio"/> Yes <input checked="" type="radio"/> No	Review compliance with KC SWDM and implement specifications for small projects	6/15/09	
		<input type="radio"/> Yes <input checked="" type="radio"/> No			

Permit Condition		Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	S5C.7.b.v	<input type="radio"/> Yes <input checked="" type="radio"/> No	Identify requirements for training	12/15/09	Date
			<b>Milestones:</b>		
		<input type="radio"/> Yes <input checked="" type="radio"/> No	Meet with WLRD and identify whether any training is needed for WTD offsite or plant staff to be compliance with practices designated in the KCSWPPM	3/15/09	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop a plan with plant managers/supervisors to initiate appropriate training procedures	12/15/09	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here	Date	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here	Date	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here	Date	Date

Permit Condition		Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	S5C.9.a.1	<input type="radio"/> Yes <input checked="" type="radio"/> No	Work with WLR to determine what KC BMP standards are applicable to WTD facilities	12/15/09	

# King County NPDES Muni Stormwater Permit

Milestones:		Date
<input type="radio"/> Yes <input checked="" type="radio"/> No	Stormwater management practices at the K6 treatment plants will be reviewed	6/15/09
<input type="radio"/> Yes <input checked="" type="radio"/> No	Stormwater management practices at the offsite facilities will be reviewed	6/15/09
<input type="radio"/> Yes <input checked="" type="radio"/> No	Additional training will be identified and planned if any is determined needed to address Phase 1 stormwater compliance	12/15/2009
<input type="radio"/> Yes <input type="radio"/> No		

## Permit Compliance Tracking Form

# King County NPDES Muni Stormwater Permit

## Permit Compliance Tracking Form

Work Group: Transit Division  
 Dept: Transportation  
 Permit Lead: Talon Swanson  
 Email: [talon.swanson@kingcounty.gov](mailto:talon.swanson@kingcounty.gov)  
 Phone: (206) 684-2261

**Year**  
 2009

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C 2	<input type="radio"/> Yes <input checked="" type="radio"/> No	MS4 Mapping and Documentation		
	Milestones:			
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Transmit As-builts (water, sewer, power, drainage) that were scanned to mapping database	Date	Date
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Transmit site verified CAD maps with numbered CBs for park and rides, and ISGP sites to mapping database	Date	Date
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Annual updating of drainage maps to reflect inspection results, capital improvements and property additions	9/30/09	N/A
S5C 5	<input type="radio"/> Yes <input checked="" type="radio"/> No	Controlling Runoff During Capital Projects		
	Milestones:			
	<input type="radio"/> Yes <input checked="" type="radio"/> No	No activities scheduled in 2009.		
S5C 6	<input checked="" type="radio"/> Yes <input type="radio"/> No	Structural Stormwater Controls	2/16/08	
	Milestones:			
	<input checked="" type="radio"/> Yes <input type="radio"/> No	No such program exists for Transit's park-and-ride lots and other non-industrial properties.		
S5C 7	<input type="radio"/> Yes <input checked="" type="radio"/> No	Source Control for Existing Sites	2/16/09	Date
	Milestones:			
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Train all applicable source control inspectors (joint program with other KC depts.)	2/16/09	In Progress
S5C 8	<input type="radio"/> Yes <input checked="" type="radio"/> No	Illicit Connections and Discharges Detection & Elimination	Date	Date
		Milestones:		

### King County NPDES Muni Stormwater Permit

<input type="radio"/> Yes <input checked="" type="radio"/> No	Annual refresher training of field personnel on proper ICDDE; document said training in employee records	3/31/09	20% Complete
<input type="radio"/> Yes <input checked="" type="radio"/> No	Update spill response and communication plan (current revision is from 2000; 2008 carryover project)	5/31/09	In Progress
<input type="radio"/> Yes <input checked="" type="radio"/> No	Document illicit connections and discharges	9/30/09	In Progress

### Permit Compliance Tracking Form

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	9b (iii)	<input type="radio"/> Yes <input checked="" type="radio"/> No Establish "spot check" program for permanent treatment and flow control facilities following major storm events Milestones:	2/16/09	
		<input checked="" type="radio"/> Yes <input type="radio"/> No Compile list of permanent treatment and flow control facilities not covered by industrial permits	1/26/09	1/27/09
		<input type="radio"/> Yes <input checked="" type="radio"/> No Establish protocol to "spot check" treatment and flow control facilities after major storm events	2/16/09	
		<input type="radio"/> Yes <input checked="" type="radio"/> No Select personnel to conduct spot checks and provide training as needed to identify damage to facilities	2/16/09	

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	9b (v)	<input type="radio"/> Yes <input checked="" type="radio"/> No Tracking of capital expenditures on stormwater Milestones:	12/1/09	
		<input type="radio"/> Yes <input checked="" type="radio"/> No Compile and submit information on stormwater maintenance & repair >\$25K for inclusion in the annual report	12/1/09	

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	9b (vi) and (vii)	<input type="radio"/> Yes <input checked="" type="radio"/> No O&M Best Management Practices Milestones:	8/16/08	
		<input type="radio"/> Yes <input checked="" type="radio"/> No Compare the list of County-adopted BMPs contained in the SPPM and SiMPla to the list of Transit activities that impact stormwater to verify complete coverage	2/28/09	
		<input type="radio"/> Yes <input checked="" type="radio"/> No Address any non-covered activities through the writing and implementation of BMP policies and procedures	4/30/09	
		<input type="radio"/> Yes <input checked="" type="radio"/> No Document task items, which BMPs are mandated and specific policies calling for these BMPs	4/30/09	
		<input type="radio"/> Yes <input checked="" type="radio"/> No Train employees on BMPs as necessary	9/30/09	
		<input checked="" type="radio"/> Yes <input type="radio"/> No	Date	Date

# King County NPDES Muni Stormwater Permit

## Permit Compliance Tracking Form

**Work Group** Water & Land Resources Division  
**Dept:** Natural Resources & Parks  
**Permit Lead:** Name Here Steve Foley  
**Email:** [Email Here](#) [steve.foley@kingcounty.gov](mailto:steve.foley@kingcounty.gov)  
**Phone:** Phone # 206-296-1973

**Year**  
 \_\_\_\_\_ 2009

Permit Condition	Done: Yes/No	Compliance Action
S5C	S5.C.5.b.iv	<input type="radio"/> Yes <input checked="" type="radio"/> No Permit Modification to approve manual equivalency <b>Milestones:</b>
		<input checked="" type="radio"/> Yes <input type="radio"/> No New draft regulations sent to DOE for review
		<input checked="" type="radio"/> Yes <input type="radio"/> No DOE comments incorporated, ordinance and public rule adoption completed 2008
		<input type="radio"/> Yes <input checked="" type="radio"/> No Participate in Permit Modification with DOE
		<input type="radio"/> Yes <input checked="" type="radio"/> No Text Here
		<input type="radio"/> Yes <input checked="" type="radio"/> No Text Here

Target Date	Date Completed
9/1/09	Date
2/28/08	Date
12/31/08	Date
6/1/09	Date
Date	Date
Date	Date

Permit Condition	Done: Yes/No	Compliance Action
S5C	S5.C.5.b.vi	<input type="radio"/> Yes <input checked="" type="radio"/> No Verify Compliance after Permit Mod. Completed <b>Milestones:</b>
		<input type="radio"/> Yes <input checked="" type="radio"/> No Meet with DDES to review Permit Modification
		<input type="radio"/> Yes <input checked="" type="radio"/> No Identify any needed development review process changes
		<input type="radio"/> Yes <input checked="" type="radio"/> No Implement any needed changes to development review process
		<input type="radio"/> Yes <input checked="" type="radio"/> No Text Here
		<input type="radio"/> Yes <input checked="" type="radio"/> No Text Here

Target Date	Date Completed
12/31/09	Date
10/1/09	Date
11/1/09	Date
12/31/09	Date
Date	Date
Date	Date

# King County NPDES Muni Stormwater Permit

## Permit Compliance Tracking Form

Permit Condition		Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	S5.C.5.viii	<input type="radio"/> Yes <input checked="" type="radio"/> No	Verify that training is documented	12/31/09	Date
			Milestones:		
			<input type="radio"/> Yes <input checked="" type="radio"/> No	6/1/09	Date
			Meet with DDES to review training tracking		
			<input type="radio"/> Yes <input checked="" type="radio"/> No	6/1/09	Date
			Set up SWS training tracker		
			<input type="radio"/> Yes <input checked="" type="radio"/> No	10/1/09	Date
			Final coordination meeting with SWS and DDES		
			<input type="radio"/> Yes <input checked="" type="radio"/> No	Date	Date
			Text Here		
			<input type="radio"/> Yes <input checked="" type="radio"/> No	Date	Date
			Text Here		

Permit Condition		Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	S5.C.8.b.v and vi	<input type="radio"/> Yes <input checked="" type="radio"/> No	Track training for IDDE	12/31/09	Date
			Milestones:		
			<input type="radio"/> Yes <input checked="" type="radio"/> No	4/1/09	Date
			Meet with Doug Navetski to scope tracking need		
			<input type="radio"/> Yes <input type="radio"/> No	6/1/09	Date
			Set up tracker		
			<input type="radio"/> Yes <input checked="" type="radio"/> No	9/1/09	Date
			Final meeting to verify functionality		
			<input type="radio"/> Yes <input checked="" type="radio"/> No	Date	Date
			Text Here		
			<input type="radio"/> Yes <input checked="" type="radio"/> No	Date	Date
			Text Here		

# King County NPDES Muni Stormwater Permit

## Permit Compliance Tracking Form

**Work Group** Parks & Recreation Division  
**Dept:** Natural Resources & Parks  
**Permit Lead:** David Sizemore  
**Email:** [david.sizemore@kingcounty.gov](mailto:david.sizemore@kingcounty.gov)  
**Phone:** 206-205-7549

**Year**  
 \_\_\_\_\_ 2009

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here	Date	Date
		<b>Milestones:</b>		
S5C2bi	<input checked="" type="radio"/> Yes <input type="radio"/> No	Submit all known maps of outfalls and structural stormwater treatment and flow control devices to WLR	10/31/08	10/31/08
		Submit maps of outfalls and structural stormwater treatment and flow control device of new facilities (from past year)	10/31/09	
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Parks begun mapping culverts along 175 miles of trails and ROW	2/16/09	
Put S5C2bii	<input type="radio"/> Yes <input checked="" type="radio"/> No	Work with WLR to map all associated drainages for stormwater outfalls (>24")	2/16/11	
S5C2bv	<input type="radio"/> Yes <input checked="" type="radio"/> No	Work with WLR to map all geographic areas that do not discharge to storm surface	2/16/11	
S5C8bii	<input type="radio"/> Yes <input checked="" type="radio"/> No	Evaluate non-stormwater discharges, identify appropriate BMPs	2/16/09	
S5C9biii	<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop and start implementation of program to inspect all permanent stormwater treatment and flow control devices	2/16/09	
		Start site inspections (100% circuit)	5/1/09	
		Complete site inspections (100% circuit)	9/1/09	
		Complete maintaince repairs, identify capital repair projects	11/1/09	
S5C9biv	<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop and start implementation of program to inspect all catch basins and inlets	2/16/09	
		Start site inspections (100% circuit)	5/1/09	
		Complete site inspections (100% circuit)	9/1/09	
		Complete maintaince repairs, identify capital repair projects	11/1/09	
S5C9bvi	<input type="radio"/> Yes <input type="radio"/> No	Establish practices to reduce stormwater runoff impacts from streets, roads, and parking lots	2/17/07	2/17/07
S5C9bvii	<input checked="" type="radio"/> Yes <input type="radio"/> No	Establish practices to reduce stormwater runoff impacts from lands owned by permittee	2/17/07	2/17/07
S5C9bviii	<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop stormwater training program	2/16/09	
		Start site crew training sessions	4/1/09	
		Complete site crew training sessions	8/1/09	

### King County NPDES Muni Stormwater Permit

		Review and revise training material	12/15/09	
S5C9bxi	<input type="radio"/> Yes <input type="radio"/> No	Develop Stormwater Pollution Prevention Plans for all heavy equipment or maintenance yards	2/16/09	
		Implement best management practices	6/1/09	
		Identify capital improvements	9/1/09	

### Permit Compliance Tracking Form

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S9A	<input type="radio"/> Yes <input checked="" type="radio"/> No	Submit Annual Reports to WLR		
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Milestones:	2/1/09	
	<input type="radio"/> Yes <input type="radio"/> No	Submit 2008 Annual Reports to WLR	2/1/10	
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Submit 2009 Annual Reports to WLR	2/1/11	
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Submit 2010 Annual Reports to WLR	2/1/12	

**King County NPDES Muni Stormwater Permit**

**Permit Compliance Tracking Form**

Work Group: Road Services Division  
 Dept: Transportation  
 Permit Lead: Jennifer Rilling  
 Email: [jennifer.rilling@kingcounty.gov](mailto:jennifer.rilling@kingcounty.gov)  
 Phone: (206) 205-3703

Year: 2009

Permit Condition	Done: Yes/	Compliance Action
S5C .2.b.i	<input type="radio"/> Yes <input checked="" type="radio"/> No	Map all known outfalls & treatment/flow control structures owned or operated by KC Roads; map connection pts btwn adjacent permittees; implement program to map new structures
	<b>Milestones:</b>	
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Map outfalls & receiving water bodies w/in KC Road ROW
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Map treatment/flow control structures w/in KC Road ROW
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Map interties w/in KC Road ROW
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Begin mapping new structures & outfalls as they are constructed w/in KC Road ROW

Target Date	Date Completed
2/16/09	Date
2/16/09	10/31/08
2/16/09	Date
2/16/09	Date
2/16/09	2004

Permit Condition	Done: Yes/	Compliance Action
S5C .2.b.ii	<input type="radio"/> Yes <input checked="" type="radio"/> No	Map outfall attributes in urban/higher density rural sub-basins
	<b>Milestones:</b>	
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Identify qualifying outfalls
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Map attributes including land use, type/material/size of tributary conveyances, associated drainage areas

Target Date	Date Completed
2/16/11	Date
2/16/10	Date
2/16/11	Date

**King County NPDES Muni Stormwater Permit**

**Permit Compliance Tracking Form**

Work Group: Road Services Division  
 Dept: Transportation  
 Permit Lead: Jennifer Rilling  
 Email: [jennifer.rilling@kingcounty.gov](mailto:jennifer.rilling@kingcounty.gov)  
 Phone: (206) 205-3703

Year: 2009

Permit Condition	Done: Yes/	Compliance Action
S5C .2.b.iv	<input checked="" type="radio"/> Yes <input type="radio"/> No	Map existing, known connections over 8" to MS3 w/in KC Road ROW tributary to outfalls 24" or larger --> map 1/2 area of the county w/in urban/higher density rural subbasins (catchments)
	<b>Milestones:</b>	
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Identify qualifying catchments
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Map connections

Target Date	Date Completed
2/16/11	?
2/16/09	?
Date	Date

Permit Condition	Done: Yes/	Compliance Action
S5C .7.b.v	<input checked="" type="radio"/> Yes <input type="radio"/> No	Provide training on source control BMPs and their proper application
	<b>Milestones:</b>	
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Send crews to UW Track training
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop/implement in-house BMP refresher course
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Send crews to pollution prevention training

Target Date	Date Completed
2/16/09	on-going
2/16/09	2002
spring 2009	
2/16/09	years ago

Permit Condition	Done: Yes/	Compliance Action
S5C .3.b.ii & .8.b.i	<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop procedures for addressing pollutants from adjacent permittees' MS4s
	<b>Milestones:</b>	
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Have discussions w/ adjacent municipalities about preferred approach
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop agreement btwn permittees

Target Date	Date Completed
2/16/09	Date
Date	Date
2/16/09	Date

**King County NPDES Muni Stormwater Permit**

**Permit Compliance Tracking Form**

Work Group: Road Services Division  
 Dept: Transportation  
 Permit Lead: Jennifer Rilling  
 Email: [jennifer.rilling@kingcounty.gov](mailto:jennifer.rilling@kingcounty.gov)  
 Phone: (206) 205-3703

Year: 2009

Permit Condition	Done: Yes/	Compliance Action	Target Date	Date Completed
S5C .8.b.i	<input checked="" type="radio"/> Yes <input type="radio"/> No	Continue implementing IDDE program	2/16/07	years ago
	Milestones:			
	<input checked="" type="radio"/> Yes <input type="radio"/> No	On-going training on spill response & IDDE	2/16/07	years ago
	<input checked="" type="radio"/> Yes <input type="radio"/> No	24-hr hotline	2/16/07	years ago
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Spill/orphan waste response	2/16/07	years ago

Permit Condition	Done: Yes/	Compliance Action	Target Date	Date Completed
S5C .8.b.iii	<input checked="" type="radio"/> Yes <input type="radio"/> No	Provide IDDE training to "responsible" staff	8/16/08	years ago
	Milestones:			
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Train new hires	8/16/08	years ago
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Provide refresher training	8/16/08	years ago
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Maintain records (sign-in sheets)	8/16/08	years ago

Permit Condition	Done: Yes/	Compliance Action	Target Date	Date Completed
S5C .8.b.iv	<input type="radio"/> Yes <input checked="" type="radio"/> No	Provide training to staff who "might come into contact with" IC/IDDE	2/16/09	Date
	Milestones:			
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Train new hires & provide refresher training on IDDE, maintain records	2/16/09	years ago
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Get training module for illicit connection identification, notification	2/16/09	Date
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Add IC module to existing training	2/16/09	Date

**King County NPDES Muni Stormwater Permit**

**Permit Compliance Tracking Form**

Work Group: Road Services Division  
 Dept: Transportation  
 Permit Lead: Jennifer Rilling  
 Email: [jennifer.rilling@kingcounty.gov](mailto:jennifer.rilling@kingcounty.gov)  
 Phone: (206) 205-3703

Year: 2009

Permit Condition	Done: Yes/	Compliance Action
S5C .8.b.vi.2	<input type="radio"/> Yes <input checked="" type="radio"/> No	Screen outfalls & conveyances in 1/2 of urban/higher density rural subbasins for illicit connections; screen outfalls in 1 rural subbain
	<b>Milestones:</b>	
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Identify & prioritize qualifying outfalls & conveyances
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop screening & source tracing program, including training, tracking, and field component
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Implement program
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here
<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here	

Target Date	Date Completed
2/16/11	Date
8/16/09	Date
12/31/09	Date
2/16/10	Date
Date	Date
Date	Date

Permit Condition	Done: Yes/	Compliance Action
S5C .9.a.ii	<input checked="" type="radio"/> Yes <input type="radio"/> No	Establish practices to reduce stormwater impacts from parking lots, roads, & road maintenance activities
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Continue implementation of ESA Guidelines for RMS operations

Target Date	Date Completed
2/16/08	2/16/08
2/16/08	2/16/08

**King County NPDES Muni Stormwater Permit**

**Permit Compliance Tracking Form**

Work Group: Road Services Division  
 Dept: Transportation  
 Permit Lead: Jennifer Rilling  
 Email: [jennifer.rilling@kingcounty.gov](mailto:jennifer.rilling@kingcounty.gov)  
 Phone: (206) 205-3703

Year: 2009

Permit Condition	Done: Yes/	Compliance Action
S5C .9.b.iv	<input type="radio"/> Yes <input checked="" type="radio"/> No	Inspect & maintain catch basins & inlets
	<b>Milestones:</b>	
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop vector program; get mgmt approval
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop inspection program; get mgmt approval
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop tracking program; get mgmt approval
<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop training program; begin training crews	

Target Date	Date Completed
2/16/09	Date
12/31/08	Date
1/15/09	Date
1/31/09	Date
2/16/09	Date

Permit Condition	Done: Yes/	Compliance Action
S5C .9.b.vii	<input checked="" type="radio"/> Yes <input type="radio"/> No	Establish policies to reduce pollutant loads in discharges from County-owned/operated properties (P&Rs, ROW, parks, maint. yards, SW facilities)
	<b>Milestones:</b>	
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Continue implementation of ESA Guidelines, Integrated Roadside Veg Mgmt, S&G SWPPPs for RMS operations
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Identify Roads'-owned properties not addressed through programs above
<input type="radio"/> Yes <input checked="" type="radio"/> No	Develop/implement parcel inspection program for Roads'-owned properties not already inspected	

Target Date	Date Completed
8/16/08	8/16/08
8/16/08	8/16/08
6/13/08	6/13/08
8/13/08	Date

**King County NPDES Muni Stormwater Permit**

**Permit Compliance Tracking Form**

Work Group: Road Services Division  
 Dept: Transportation  
 Permit Lead: Jennifer Rilling  
 Email: [jennifer.rilling@kingcounty.gov](mailto:jennifer.rilling@kingcounty.gov)  
 Phone: (206) 205-3703

Year: 2009

Permit Condition	Done: Yes/ No	Compliance Action	Target Date	Date Completed
S5C .9.b.viii	<input checked="" type="radio"/> Yes <input type="radio"/> No	Training employees who have primary construction or O&M job functions	2/16/09	years ago
	<b>Milestones:</b>			
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Provide initial training to RMS new hires	2/16/09	years ago
	<input checked="" type="radio"/> Yes <input type="radio"/> No	CESCL/HAZWOPER training program for Eng. Svcs. EU	2/16/09	12/31/08
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Provide refresher training for existing staff	2/16/09	years ago
	<input checked="" type="radio"/> Yes <input type="radio"/> No	Training admin: develop/revamp training annually; schedules classes, track participants, etc	2/16/09	years ago
	<input type="radio"/> Yes <input type="radio"/> No			

Work Group: Airport Division  
 Dept: Department of Transportation  
 Permit Lead: Peter Dumaliang  
 Email: [peter.dumaliang@kingcounty.gov](mailto:peter.dumaliang@kingcounty.gov)  
 Phone: (206) 296-7597

Year  
 2009

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S3B	1	<input type="radio"/> Yes <input checked="" type="radio"/> No Inventory of Airport and Tenant Industrial NPDES Permits Milestones:	11/30/09	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Review 2009 Tenant Assessments/Inspections	8/31/09	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Collect, Update, Review, and File Tenant SWPPPs	10/30/09	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Airport NPDES Industrial Permit Inventory Report	11/30/09	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Text Here	Text Here	Date

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	2	<input type="radio"/> Yes <input checked="" type="radio"/> No Airport Stormwater Drainage System Mapping Milestones:	9/30/09	9/30/08
		<input type="radio"/> Yes <input checked="" type="radio"/> No Update & Maintain Airport Stormwater Drainage Map	9/15/09	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Stormwater Field Verification of Offsite Stormwater Inputs	8/31/09	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Collect/update tenant stormwater system drawings	On-going	Date
		<input type="radio"/> Yes <input checked="" type="radio"/> No Re-survey of Airport Stormwater System (option)	10/31/09	Date
	<input type="radio"/> Yes <input checked="" type="radio"/> No Text Here	Date	Date	

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
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Work Group: Airport Division  
 Dept: Department of Transportation  
 Permit Lead: Peter Dumaliang  
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 Phone: (206) 296-7597

Year  
 2009

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	7	<input type="radio"/> Yes <input checked="" type="radio"/> No Annual Assessment/Inspection of Airport and Tenant Activities, Potential Pollutant Sources, and Best Management Practices Milestones: <input type="radio"/> Yes <input checked="" type="radio"/> No Conduct annual tenant assessment/inspections <input type="radio"/> Yes <input checked="" type="radio"/> No Analyze and summarize tenant activities, potential pollutant sources, existing BMPs, and required BMPs <input type="radio"/> Yes <input checked="" type="radio"/> No Send out tenant letters to summarize inspections and to address potenti pollutant sources <input type="radio"/> Yes <input checked="" type="radio"/> No Tenant compliance inspections, as needed <input type="radio"/> Yes <input type="radio"/> No Conduct Airport Common Areas Inspections and annual status <input type="radio"/> Yes <input checked="" type="radio"/> No Tenant status report <input type="radio"/> Yes <input checked="" type="radio"/> No Update tenant assessment records <input type="radio"/> Yes <input checked="" type="radio"/> No Source control inspection training <input type="radio"/> Yes <input checked="" type="radio"/> No Review and update Airport Water Quality BMPs <input type="radio"/> Yes <input checked="" type="radio"/> No Permit coordination meetings <input type="radio"/> Yes <input checked="" type="radio"/> No Text Here <input type="radio"/> Yes <input checked="" type="radio"/> No Text Here	9/30/09	Date
			7/31/09	Date
			8/31/09	Date
			8/31/09	Date
			As needed	Date
			7/31/09	Date
			9/30/09	Date
			On-going	Date
			3/31/09	Date
			2/28/09	Date
			2/28/09	Date
			Date	Date
			Date	Date

Work Group: Airport Division  
 Dept: Department of Transportation  
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 Phone: (206) 296-7597

Year  
 2009

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	8	<input type="radio"/> Yes <input checked="" type="radio"/> No Airport Activities conducted to Detect, Remove and Prevent Illicit Connections and Discharges. Milestones: <input type="radio"/> Yes <input checked="" type="radio"/> No Conduct annual dry season Illicit Discharge, Detection and Elimination (IDDE) inspections/reconnaissance <input type="radio"/> Yes <input checked="" type="radio"/> No Evaluate and remove illicit connections as needed <input type="radio"/> Yes <input checked="" type="radio"/> No Collect spills and improper dumping data <input type="radio"/> Yes <input checked="" type="radio"/> No Submit 2009 IDDE Annual Report <input type="radio"/> Yes <input checked="" type="radio"/> No <b>Submit 2008 IDDE Annual Report (carryover)</b> <input type="radio"/> Yes <input checked="" type="radio"/> No Text Here	1/31/10	Date
			7/30/09	Date
			As needed	Date
			12/31/09	Date
			1/15/10	Date
			2/15/09	Date
			Date	Date

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	9	<input type="radio"/> Yes <input checked="" type="radio"/> No Airport Maintenance Activities and Training Milestones: <input type="radio"/> Yes <input checked="" type="radio"/> No Collect/Update Airport Maintenance schedules and programs <input type="radio"/> Yes <input checked="" type="radio"/> No Prepare status report on Airport Maintenance activities and programs <input type="radio"/> Yes <input checked="" type="radio"/> No Maintenance inspection training <input type="radio"/> Yes <input checked="" type="radio"/> No Maintenance inspections of stormwater system and facilities	12/31/09	Date
			11/30/09	Date
			12/31/09	Date
			3/31/09	Date
			7/31/09	Date

Work Group: Airport Division  
 Dept: Department of Transportation  
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 Phone: (206) 296-7597

Year  
 2009

<input type="radio"/> Yes <input checked="" type="radio"/> No	Permit coordination meetings
<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here

2/28/09	Date
Date	Date

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S5C	<input type="radio"/> Yes <input checked="" type="radio"/> No	Response, De-icing and Washing, and Stormwater Permit Requirements	9/30/09	Date
		<b>Milestones:</b>		
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Annual Tenant Training/Outreach on Airport Spill Response	8/31/09	Date
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Annual Tenant Training/Outreach on Airport De-icing and washing procedures	9/30/09	Date
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Annual Tenant Outreach on Airport Water Quality BMPs	9/30/09	Date
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Spill, De-icing/Washing, and BMP Policy updates	9/30/09	Date
	<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here	Date	Date

Permit Condition	Done: Yes/No	Compliance Action	Target Date	Date Completed
S8B	<input type="radio"/> Yes <input checked="" type="radio"/> No	Airport Update Report on Stormwater Monitoring Studies and Status of Best Management Practices Implementation	1/31/10	Date
		<b>Milestones:</b>		
	<input type="radio"/> Yes <input checked="" type="radio"/> No	2009 Report Stormwater Studies and Monitoring & BMP Implementation	2/25/10	Date

Work Group: Airport Division  
 Dept: Department of Transportation  
 Permit Lead: Peter Dumaliang  
 Email: [peter.dumaliang@kingcounty.gov](mailto:peter.dumaliang@kingcounty.gov)  
 Phone: (206) 296-7597

Year  
 2009

<input type="radio"/> Yes <input checked="" type="radio"/> No	2008 Report Stormwater Studies and Monitoring & BMP Implementation. (carryover)
<input type="radio"/> Yes <input checked="" type="radio"/> No	Submit 2010 Airport Compliance Tracking Form
<input type="radio"/> Yes <input checked="" type="radio"/> No	Submit 2009 Airport Compliance Tracking Form (carryover)
<input type="radio"/> Yes <input checked="" type="radio"/> No	Text Here

2/25/09	Date
1/31/10	Date
1/31/09	Date
Date	Date

Total

**Appendix 7 -  
Source Control Inspection List Development**

## **NPDES Source Control Inspection Program - Site List Development and Modification**

### **Introduction**

This document has been developed in collaboration with other Phase I jurisdictions and describes the program by which King County will prepare, and annually modify, a list of potentially pollution generating sites that meets the requirements of NPDES Phase 1 municipal stormwater permit section S5C7. Permittees must inspect 20% of the sites on the list in any given calendar year, but are not required to inspect 100% of sites over a 5 year period. Consequently, the list must contain a well-defined set of guidelines to identify appropriate sites and processes to include or remove these sites from a central database

### **Business License and Parcels**

Depending on the permittee (City or County), the basic elements in compiling the initial list is either the business license (for Cities) or the legal land parcel (for Counties). The difference is due to the fact that most Cities have local business licenses, whereas Counties do not. However, due to the complexities and limitations of each method, the initial list may contain elements generated by both office records and field surveys. Through time, the list will be refined to maximize the number of elements that should be regulated as “sites” in the context of the source control program of the NPDES permit.

### **Official date of list**

Permittees must inspect 20% of the sites on the list in any given calendar year. To determine compliance with this requirement, the number of sites must be fixed for that year. The permit does not define a date upon which the official list for the year will be fixed. For the purposes of establishing the official number of sites by which to determine compliance metrics for any given calendar year, an “official” list will be established in December of the preceding year, with the understanding that as businesses are identified through field survey or other methods cited in this paper, they will be added (or dropped) from the list, as appropriate. Although the total number of businesses will remain constant, it is anticipated that the specific named businesses will shift as businesses relocate or additional businesses missed in records are found in the field. Thus the final list of inspected businesses at the end of the year may include some businesses not originally on the “official” list.

### **Initial site list development**

King County developed its’ list for the 2009 program using the current list of developed parcels located in the current stormwater audit program inventory. King County will modify the inventory for use in 2010 by the following methods.

#### **Step 1 – assemble list of sites based on office records**

**Developed parcels with commercial or industrial zoning:** King County has used the current commercial or similar stormwater fee classification in the drainage utility

database for commercial and industrial zoned parcels. This list will be supplemented using the current municipal business licenses and any other sets of municipal records.

**Developed parcels with multifamily zoning (includes both apartments and condominiums):** King County has defined properties with 3 or more residential units and current multifamily or similar stormwater fee classification for inclusion in the drainage utility database based on potential impact.

### **Step 2 – Add any sites identified by field or database surveys**

King County obtained databases that list businesses with NAICS codes of interest (e.g., those related to vehicle repair such as 811111 – General Automotive Repair). These databases are both internal to the County and external from other agencies. The databases include the following:

1. The existing database of business/commercial sites that have approved flow control and/or water quality treatment facilities (1,458 as of 2/1/09), which is maintained SWS;
2. The existing database of business/commercial sites with simple drainage conveyance systems (418 as of 2/1/09), which is maintained by SWS;
3. The existing database of all business/commercial designated parcels in unincorporated King County (1,556), which is maintained by the King County Department of Assessments (no R/D);
4. The existing database of all properties owned/operated by King County (2,500), which is maintained by King County Real Estate Services and the Department of Executive Services Facility Management section; and
5. The existing Business License database for unincorporated King County (25,000 licenses), which is maintained by the Washington State Department of Revenue.

The databases will be used to modify the current list of addresses, with relevant NAICS codes, and winnow out those already listed via commercial, industrial, or multifamily zoning. These datasets will be verified by a combination of telephone, database and field verifications of the businesses existence, and relevance for inclusion in this program.

An additional step in the program will be to identify businesses by conducting field surveys of targeted roads or geographic areas with potential high density of businesses of interest. The program will select target roads or geographic areas and conduct “windshield surveys” to field identify business sites based on visible evidence of commercial activity such as advertising signs or commercial-scale or type of material storage or activities. These businesses will be verified by comparing them to the current database.

### **Modification of initial site list**

King County will modify the initial list by the following methods:

- Modifying multiple legal parcels that should be dealt with as one site.
- Modifying single parcels with multiple businesses (e.g. shopping malls) that should be dealt with as multiple sites.
- Correcting database as occupant records change.
- Adding developed sites shown as undeveloped in office records.
- Identifying the presence of pollutant generating activities using citizen reports, field investigations, or other methods.

### **Exclusions from the List:**

Due to overlapping authority in stormwater compliance, Phase I Permittees propose the following exclusions from the Appendix 8 List:

- NPDES permitted sites within other permittee's jurisdiction;
- Port of Seattle and Tacoma properties;
- Sites which fall under the jurisdiction of, are owned, or managed by Secondary Permittees; and,
- Those categories, which through an audit of existing inspection reports or field surveys representative of the category, are found to be non-pollutant generating.

### **Counting Inspections**

For the purpose of complying with the permit conditions to inspect 20% of the sites on the permittee's "official" list of pollution-generating businesses, the following shall be counted:

1. Inspections performed by staff of the permittee;
2. Inspections performed by contractors representing the permittee and for which the permittee performs any needed follow-up enforcement activity;
3. Inspections performed by staff from other jurisdictions under an MOA or MOU with the permittee (e.g. inspections performed by King County in the Densmore basin under an MOA);
4. Inspection performed by Source Control Specialists funded by Ecology as part of the Local Source Control Program or the Urban Waters Initiative;
5. Sites certifying the use of all appropriate BMPs specified for the business activities being performed at the site. For the first year the permittee operates such a self-certification program, the number of certified sites shall be counted at 50% (i.e. 60 self-certified sites shall count as 30 inspections) for the purpose of meeting the established target set for the year. Upon completion of a randomly selected sample of self-certified sites for a specific business types (for example, grocery stores might be a business type) and if the compliance rate for the sample businesses is 80% or greater, self-certified sites shall, in the following year, count the same as inspected sites for meeting the established annual permit target.