



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

## **Stormwater Technical Resource Center**

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# **Stormwater Technical Resource Center**

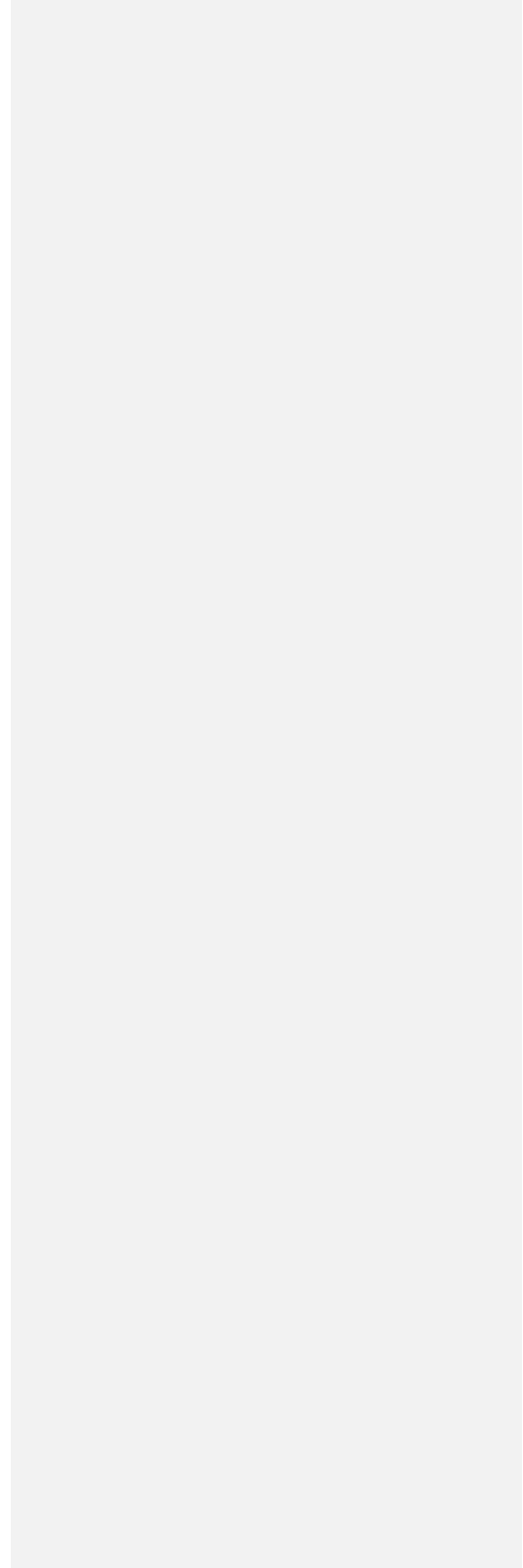
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*Report to the Legislature*

*by*  
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## Executive Summary

Preparations are underway for a Stormwater Technical Resource Center [operated by WSU and UW and](#) located at the WSU Research and Extension Center in Puyallup that can provide vital tools needed to support stormwater managers in Washington State.

The need for strong and consistent stormwater management is evident in our waterways and imperative to the future of this great Pacific Northwest. Stormwater runoff in urban and rural areas is the primary transporter of toxic, nutrient, and pathogen pollutants to surface and groundwater resources.

In many cases, federally mandated stormwater permits require those in the regulated community to change the way they do business to better protect our water resources. Particularly in the industrial and business sectors, this often means turning to consultants to meet permit requirements.

The unanimous passage of House Bill 2222 set in motion the creation of the Stormwater Technical Resource Center (Center) in the 2009 legislative session. The Bill, codified in RCW 90.48.545, directs Ecology “as funding becomes available... to create a stormwater technical resource center in partnership with a university, nonprofit organization, or other public or private entity to provide tools for stormwater management.” The legislature envisioned a center that would focus resources on protecting Washington’s waters through improvements in regional stormwater management.

To begin the process, Ecology solicited grant proposals for a center that would benefit stormwater management programs across a region of Washington or statewide and support NPDES stormwater permit programs. In late 2009, Ecology awarded funding to the City of Puyallup and its two primary associates: Washington State University and the University of Washington to develop the overall management and administrative strategy for a stormwater technical resource center.

In coordination with Ecology, the Grantees convened an Advisory Committee and began the framework for the Center. To date we have a viable non-profit organization with a 5-Year Business Plan, attached in Appendix X, and the beginnings of many to-come deployable services.

[Since its formation in July 2010, the Center has met or exceeded the requirements in RCW 90.48.545, including:](#)

- [Establishing an Advisory Committee comprised of a broad range of stakeholder groups](#)
- [Creating a web-based resource of stormwater information for Washington permittees](#)
- [Improving and reinvigorating the TAPE technology certification program](#)
- [Developing a strategy to develop training and outreach programs, including producing initial education videos focused on industrial stormwater permit holders.](#)

**Commented [JB1]:** I suggest being more explicit here about what we have accomplished to date. My suggested text here—take it or leave it.

Others???

Managing stormwater and complying with permits is a significant expense for businesses and local jurisdictions. The Center is an efficient way to assist these groups, reducing costs and speeding improved stormwater solutions. Many of these services once provided by Ecology are still required, and if properly resourced the Center can fill this important role.

Long-term funding mechanisms for the Center include base support though cost reimbursement strategies for technical reviews, trainings, monitoring and other technical resource services. In addition, donations, endowments, bonds, conferences, membership dues, grants and support from in-kind services and dedicated accounts are all evaluated in the Business Plan as possible revenue sources.

In addition to its important role in providing assistance to the regulated community, the Center is developing a significant role in economic development. The Center is engaged with national businesses that design and fabricate stormwater control technologies and is working with state and regional economic development agencies to position Washington State as the national leader in innovative stormwater solutions. Jobs have been created and the development of new technologies reinvigorated in this endeavor to leverage resources to protect water quality. In addition, public and private sector support for the Center is broad-based and growing. Thanks to the creation of the Center, the future of stormwater management will be a little less murky in the Pacific Northwest.

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Commented [MAP2]: Were we going to include the support letters as an appendix to the report?



## History and Background

Industrial, construction and municipal stormwater permittees are in need of technical support to meet their permit requirements. The federally mandated National Pollutant Discharge Elimination System (NPDES) stormwater permits are complex, broad-reaching and can be overwhelming for permittees to implement. In addition, each time the permits are reissued, additional requirements often come into play, raising the bar of already stringent requirements.

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**Commented [MAP3]:** CW-Ratcheting down could be misinterpreted as lessening the degree of difficulty

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House Bill 2222, sponsored by a bi-partisan mix of legislators, was passed into law during the 2009 legislative session, in part, to provide permittees and other entities tools for stormwater management which will assist their efforts to control stormwater and better protect water quality. RCW 90.48.545 directs Ecology to create a center to research and develop innovative, cost-effective technical solutions to stormwater discharges, conduct pilot projects to test technical solutions and serve as a clearinghouse and outreach center for stormwater technology. The center will also coordinate with federal, state, local agencies and private organizations in administering programs related to stormwater control measures and collaborate with existing stormwater outreach programs.

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Seed money needed for the legislative directive was made available through a municipal stormwater grant solicitation. Once the grant was awarded, Ecology, the Grantee and its partners began to research and develop a long-term plan for a center that would serve as a valuable resource for stormwater managers as envisioned by the dictates of RCW 90.48.545. Thus far, the partnerships and various teams that have been assembled to implement this work have been on-task and on-schedule. Partnership organizations and an organizational chart are provided in the Business Plan.

## Status of activities listed in RCW 90.48.545

To date, staff members to the Center have been hired and an advisory committee convened whose charge and membership was also established in RCW 90.48.545. Representatives include state agencies, local governments, the business community, the environmental community, tribes and the building and development industry. Advisory committee meetings have been held monthly since May 2010. One of the first tasks of the Advisory Committee was to focus the work of the Center and articulate a mission. The mission of the Center is:

[To continuously improve stormwater management in Washington state.](#)

- [Supporting Vision Statements:](#)
  - [Provide direct and effective assistance to NPDES industrial, construction and municipal permittees.](#)
  - [Coordinate, promote and evaluate emerging stormwater technologies](#)
  - [Guide stormwater management towards demonstrated effective strategies](#)
  - [Serve as the central clearinghouse for stormwater data, management and technologies](#)

**Commented [MAP4]:** While this mission statement was thrown out for consideration, I don't believe we ever resolved it completely. I'm inclined to have a rather broad, short mission statement with several supporting vision statements.

**Deleted:** *To protect Washington's waters through improvements in stormwater management, serving as the central resource in Washington for integrated NPDES permit assistance, water quality monitoring, coordination and stormwater management research, development, and evaluation*

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**Commented [MAP5]:** I'm still not completely clear on this, maybe John Stark can clarify. The Center won't be 501(c)(3), but donations and grants can be routed through the Washington State Foundation to the Center. The Foundation is a 501(c)(3). Grants or donations that don't need the 501(c)(3) status can give directly to the Center.

The Center, the Advisory Committee and Ecology have developed the overall management and administrative strategy for a Stormwater Technical Resource Center. The Center has received

501(c)(3) non-profit status to expand its capacity to apply for grants and accept donations. In addition, clear priorities for the Center have been developed and a course charted for establishing the Center through discussions with the Advisory Committee, a survey of other stormwater centers, and needs-assessment surveys, forums and communications with stormwater managers, permittees, and businesses.

**Commented [MAP6]:** We dropped the forums since we thought we were getting better input from AC constituencies.

## Review and evaluate emerging stormwater technologies

In addition to awarding a grant to create the framework for the Center, Ecology awarded the City of Puyallup and its partners, the University of Washington and Washington State University, funding to establish a program to review and approve emerging stormwater treatment technologies through the Technology Assessment Protocol – Ecology (TAPE). Ecology’s TAPE program reviews and evaluates new and innovative technologies for stormwater treatment and control. The program benefits industrial, construction and municipal stormwater managers alike. Due to budget constraints, Ecology put the program on hold in 2008, with the exception of ten technologies already at various stages of the approval process.

Under the auspices of the Center, TAPE is being revised and re-opened for new BMP applications and evaluations. In coordination with Ecology (formalized in a MOU) the Center will serve as an information repository and point of communication for ongoing developments with the TAPE process. Short and midterm plans include the Center administering the TAPE process. The necessary framework and staffing have been identified in the organizational chart and financial report. Tasks completed include:

- Assembly of a Stakeholders Advisory Group (SAG)
- Development of a sustainable business plan and administrative framework for TAPE reviews,
- Selection of a Board of External Reviewers (BER).
- Publication of a new TAPE application form and overview document for applicants.

Current efforts are underway to update the technical protocol guidance manual used for evaluation of emerging stormwater treatment technologies. Proponents currently in the TAPE program may choose to follow either the existing protocol (January 2008 revision) or the new protocol planned for finalization in early 2011. Proponents submitting a technology to the TAPE program for the first time can choose between the January 2008 revision and the new protocol until December 31, 2011. New technologies that apply after the reopening of the program will be billed a fee to cover the cost of the review. Funds received from proponents are reserved for use within the TAPE program only.

Importantly, the Center also can also provide planned sites for field-testing emerging technologies.

**Commented [MAP7]:** Do we want to mention possibly shortening the approval process by potentially evaluating the technologies in the pilot stages using synthetic storms at the Center.

## Research and develop

The Center will research and develop innovative, cost-effective technical solutions to remove pollutants from runoff and to reduce or eliminate stormwater discharges. The WSU Research and

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Extension Center in Puyallup WA provides an opportunistic location for the Center, in part, because research is already underway to retrofit the campus to significantly reduce stormwater runoff. The retrofit project includes a significant research and monitoring component to measure the effectiveness of various low impact development (LID) practices.

The [existing](#) WSU LID Center, [incorporated into the Center](#), serves as the host to a collection of innovative LID stormwater structures including porous pavements, rain gardens, and rain water harvesting systems. To compliment this host of structures is a series of collection and monitoring stations and ports that allow on-site scientists to monitoring the effectiveness of the combined series of LID structures. [The LID Center is unique in the United States in that it is a full scale, replicated test site.](#)

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Commented [MAP8]: Curtis, correct me if I misstate.

## Conduct pilot projects to test technical solutions

Importantly, the Center provides planned sites for field-testing emerging technologies. Currently, Washington State University is conducting research on permeable pavement, and rain gardens (two LID techniques) at their campus in Puyallup. The Center’s website will post the results from this research. The Center is seeking additional opportunities and grant funding for research on LID and other stormwater issues.

The on-site retrofits are used as a public demonstration and education facility on “green” development techniques and materials. These LID techniques include structures that significantly reduce stormwater runoff and also create a basis for research that will be the focus of future LID effectiveness studies as well as a national demonstration. The project to install the LID retrofit included the installation of permeable paving surfaces and stormwater bio-retention facilities

Staff and funding from outside the Center is also used for LID research. The Center will be the conduit for training in LID techniques. The Center is developing classes on LID techniques and design criteria [which broadens the audience base of the existing technical design workshop series conducted at the LID center](#). Staff is available to answer questions called in to the Center or posted on the website.

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## Serve as a clearinghouse and outreach center

Resources of the developing Stormwater Center are beginning work on pilot projects focused on stormwater permittees and landowners. The web-based information clearinghouse service that the Center provides continues to grow through the stand-alone website with a user-friendly interface and powerful search engine - answering the primary declared need of industrial, [construction](#) and municipal permittees. In the next few months sub-committees will be compiling and producing materials to use as training and assistance guides for permittee reference - all to be reviewed, vetted and approved with Ecology.

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To focus the many to-come deployable services, the Center organized Resource Centers targeted toward four distinct stormwater-concerned groups: [Municipalities, Industry & Business, Construction, and Rural Non-point-source areas](#). The Resource Centers provide information related to:

- General [storm water](#) management tools - including BMPs, case studies, and literature

Commented [MAP10]: While we are addressing these areas, these are not the 4 “Resource Centers” we currently have in the organizational chart. We have LID, TAPE, Municipal and Business centers. Construction is unique in that it spans both muni’s and business. Probably need to reword.

Commented [JLR11]: One, or two words? Used both ways within document

- Permit assistance tools - including document templates, permit implementation guides, BMPs, and literature
- Training, classes, and workshops - including step-by-step guides, web-based training videos, links to local training providers, and course information
- Funding resources, including links and information on stormwater funding sources and best ways to manage stormwater funds

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Based on the needs-assessment survey results (Appendix D) from permittees under Ecology’s general stormwater NPDES permits, services to industrial stormwater permittees will be given priority in 2011. The Center has already begun to provide assistance to industrial stormwater permittees through training modules, workshops, short on-line videos, the development of resource materials, training guides and the reopening of an approval process for new, innovative technologies for stormwater management and control.

## Assist

The Center will assist in the development of stormwater control methods to better protect water quality. This includes source control, product substitution, pollution prevention, and storm water treatment. Currently the Center’s website lists local and regional stormwater-related events, workshops, and training sessions. Further, as discussed in the Business Plan, the development of stormwater control methods to protect water quality is one of the many to-come services to be provided by the Center. The Center will tailor assistance on source control, product substitution, pollution prevention, and storm water treatment toward the four distinct stormwater-concerned groups: Municipalities, Industry & Business, Construction, and Rural Non-point-source areas.

## Coordinate

Coordinating with federal, state, and local agencies and private organization in administering programs related to stormwater control measures, the Center provides a location where agencies can exchange information on ordinances, guidance manuals, and techniques. In addition, the Advisory Committee members represent key agencies and private organizations that administer programs related to storm water control measures. Monthly meetings and weekly teleconferences assure coordination and communication among all of the participants. Each member represents a distinct constituency that they are tasked to keep informed and coordinated with the activities of the Center.

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## Collaborate

Resources at the Center are working to establish national standards for testing emerging technologies. In addition, the Center is coordinating with Ecology and other organizations within Washington State on classes targeting the four distinct stormwater-concerned groups.

## Fund

During the past year, Ecology has met with staff from the Center and the Advisory Committee to identify a funding strategy. While many funding mechanisms for the Center include base support though cost reimbursement strategies for technical reviews, trainings, monitoring and other

technical resource services, donations, endowments, bonds, conferences, membership dues, grants and support from in-kind services and dedicated accounts are all evaluated in the Business Plan.

## Appendices

### **Appendix A: RCW 90.48.545**

### **Appendix B: Stormwater Technical Resource Center Grant Scope of Services**

Appendix A is the blah, blah, blah, that does blah, blah, blah for blah, blah, blah.

### **Appendix B: TAP-E Grant Scope of Services**

Appendix B is the blah, blah, blah, that does blah, blah, blah for blah, blah, blah.

### **Appendix C: Herrera Memo on information from other similar organization**

Appendix C is the blah, blah, blah, that does blah, blah, blah for blah, blah, blah.

### **Appendix D: Herrera memo summarizing results of survey of constituents**

Appendix D is the blah, blah, blah, that does blah, blah, blah for blah, blah, blah.

### **Appendix E: Stormwater Technical Resource Center Scope of Services**

Appendix E is the blah, blah, blah, that does blah, blah, blah for blah, blah, blah.

## **Appendix F: Business Plan with 5-year budget**

Appendix F is the blah, blah, blah, that does blah, blah, blah for blah, blah, blah.