

**LOW IMPACT DEVELOPMENT STORMWATER
GRANT AGREEMENT
BETWEEN THE
STATE OF WASHINGTON DEPARTMENT OF ECOLOGY
AND
KING COUNTY**

THIS is a binding agreement between the state of Washington Department of Ecology [DEPARTMENT] and the King County Department of Transportation, Road Services Division [RECIPIENT]. The purpose of this agreement is to provide funds to the RECIPIENT to carry out the requirements described herein.

PART I. GENERAL INFORMATION

Project Title:	Military/272nd Intersection Improvement
Grant Number:	G0700264
RECIPIENT Name:	King County, Road Services Division
Mailing Address:	201 S. Jackson St. Seattle, WA 98104
RECIPIENT Contact:	Don Bleasdale, Project Manager
Telephone Number:	(206) 296-3736
Fax Number:	(206) 296-0567
E-Mail Address:	donald.bleasdale@metrokc.gov
RECIPIENT Billing Contact:	Susan Harris
Telephone Number:	206-296-8795
Fax Number:	206-296-3756
E-Mail Address:	susan-roads.harris@metrokc.gov
RECIPIENT Federal ID Number:	91-6001327
DEPARTMENT Project Manager:	Anne Dettelbach
Mailing Address:	Northwest Regional Office
Street Address:	3190 160th Avenue SE Bellevue, WA 98008-5452
Telephone Number:	(425) 649-7093
Fax Number:	425-649-7098
E-Mail Address:	adet461@ecy.wa.gov
DEPARTMENT Financial Manager:	Emily Morris

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Mailing Address:	Water Quality Program Washington State Department of Ecology P.O. Box 47600 Olympia, WA 98504-7600
Telephone Number:	(360) 407-6703
Fax Number:	(360) 407-7151
E-Mail Address:	emar461@ecy.wa.gov

DEPARTMENT Funding Source: **State Toxics Account**

Total Project Cost: **\$2,420,000**

Total Eligible Cost: **\$424,375**

DEPARTMENT Share: **\$424,375**

DEPARTMENT Maximum Percentage: **100 percent**

The effective date of this grant agreement is January 1, 2007, according to a prior authorization letter issued by the DEPARTMENT for this grant and which is incorporated by reference. Any work performed prior to the effective date of this agreement will be at the sole expense and risk of the RECIPIENT. Eligible costs incurred during the prior authorization period cannot exceed a total of \$47,000. Costs exceeding this amount will also be at the sole expense and risk of the RECIPIENT.

This agreement shall expire no later than June 30, 2010.

PART II. POST PROJECT ASSESSMENT

- A. The RECIPIENT agrees to submit a brief survey regarding the key project results or water quality project outcomes and the status of eventual environmental results or goals from the project.

The DEPARTMENT's Performance Measures Lead will e-mail the RECIPIENT the Post Project Assessment Survey approximately sixty (60) days prior to the Post Project Assessment Date. An example of the Post Project Assessment Survey is included as Attachment 1. This form is to be completed by the RECIPIENT and sent as an e-mail attachment to the DEPARTMENT's Project Manager and the DEPARTMENT's Water Quality Program Performance Measures Lead.

The DEPARTMENT may conduct on-site interviews and inspections, and may otherwise evaluate the Project. The DEPARTMENT will enter the information provided into its performance measures database to be provided to the Washington State Legislature,

United States Environmental Protection Agency, and other natural resource agencies. The Performance Measures Lead will be available as needed during negotiations, throughout the project, and in the post project assessment period as a resource.

Post Project Assessment Date: June 30, 2011.

B. Water Quality Goal(s): *(Water Quality Goals are tangible environmental changes for the better, to be achieved or directly addressed by the proposed project.)*

- **Retrofit projects** – the RECIPIENT will provide significant improvement to site hydrology and water quality at the Military/272nd Intersection.

C. Water Quality Project Outcomes: *(Water Quality Project Outcomes are quantitative results realistically anticipated from the project that will directly lead to the Water Quality Goals.)*

1. Porous concrete sidewalk and vegetated bioretention area will reduce peak surface water flows into the downstream conveyance system from the target surfaces (0.34 acres) by an average of 35%.
2. Water quality treatment will target an 80% reduction in total suspended solids as defined in the King County Surface Water Design Manual (2005) for Enhanced Basic Treatment.
3. Water quality treatment will target a 50% reduction in total zinc as defined in the King County Surface Water Design Manual (2005) for Enhanced Basic treatment.
4. Treat surface water runoff from 14,810 square feet of impervious surface.

PART III. PROJECT DESCRIPTION

This intersection improvement project will implement two Low Impact Development (LID) technologies: a bioretention area and porous concrete sidewalks at Military Road South and South 272nd Street. Intersections are considered to be higher pollution generating surfaces compared to adjacent roadway sections because of the greater amount of vehicle stopping and idling time, which contributes to heavy metals and hydrocarbons in stormwater runoff.

This project proposes to treat a portion of the roadway runoff from the intersection in a bioretention area and to infiltrate rainwater falling on the non-pollution generating sidewalk through porous cement concrete. This intersection improvement project includes clearing and grubbing; removing curb gutter and sidewalk; installing drainage improvements; constructing a bioretention area, segmental retaining walls, cement concrete curb and gutter, porous sidewalk, asphalt concrete pavement overlay; erosion control; landscaping; pavement markings, and other

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LID eligible work. The grant money will help fund the bioretention area and porous concrete sidewalks, as well as LID educational outreach programs, monitoring, and maintenance of the LID components.

PART IV. PROJECT BUDGET

Military/272 nd Intersection Improvement		
ELEMENTS	TOTAL PROJECT COST	TOTAL ELIGIBLE COST (TEC)
Task 1 - Project Management	\$ 13,758	\$ 13,758
Task 2 - Develop Monitoring Approach	\$ 23,000	\$ 23,000
Task 3 - Material Acquisition and Construction	\$ 241,017	\$ 241,017
Task 4 - Education/Outreach	\$ 32,000	\$ 32,000
Task 5 - Implement Monitoring Plan	\$ 114,600	\$ 114,600
Task 6 – Non LID elements	\$ 1,995,625	\$ 0
Total	\$ 2,420,000	\$ 424,375*

*The DEPARTMENT's Fiscal Office will track to the Total Eligible Cost.

Payment Request Submittals. RECIPIENT must submit payment request at least quarterly, but no more often than monthly, unless allowed by the DEPARTMENT's Financial Manager. The DEPARTMENT's Financial Manager may require the RECIPIENT to submit regular payment requests to ensure efficient and timely use of funds

Payment Schedule. Payments will be made on a cost-reimbursable basis.

PART V. SCOPE OF WORK

The RECIPIENT shall ensure that this project is completed according to the details of this agreement. The RECIPIENT may elect to use its own forces or it may contract for professional services necessary to perform and complete project related work. The RECIPIENT certifies by signing this agreement that all applicable requirements have been satisfied in the procurement of any professional services. Eligible and ineligible project costs are separate and identifiable for

billing purposes. The RECIPIENT shall submit a copy of the final negotiated agreement(s) to the DEPARTMENT's Financial Manager.

Task 1 - Project Administration/Management

- A. The RECIPIENT shall administer the project. Responsibilities shall include, but not be limited to: maintenance of project records; submittal of payment vouchers, fiscal forms, and progress reports; compliance with applicable procurement, contracting, and interlocal agreement requirements; attainment of all required permits, licenses, easements, or property rights necessary for the project; and submittal of required performance items.
- B. The RECIPIENT shall manage the project. Efforts shall include conducting, coordinating, and scheduling project activities and assuring quality control. Every effort will be made to maintain effective communication with the RECIPIENT's designees, the DEPARTMENT, all affected local, state, or federal jurisdictions, and/or any interested individuals or groups. The RECIPIENT shall carry out this project in accordance with any completion dates outlined in this agreement.
- C. The RECIPIENT shall submit all invoice voucher submittals and supportive documentation to the DEPARTMENT's Financial Manager. Invoice voucher submittals shall include a State of Washington Invoice Voucher Form A19-1A, Cash-Interlocal Form B2 (ECY 060-7, Form C2 (ECY 060-9), Form D (ECY 060-11), Form G (ECY 060-14), Form E (ECY 060-12), Form F (ECY 060-13), Form H (F-21), and Form I (ECY 060-15) must be completed where eligible costs have been incurred. Copies of all applicable forms shall be included with an original A19-1A, and shall be submitted to the DEPARTMENT. Blank forms are found in Administrative Requirements for Ecology Grants and Loans (*see Attachment 2 for applicable document reference*).
- D. The RECIPIENT shall submit to the DEPARTMENT's Project Manager the following documents and in the quantities identified:
- Draft project completion reports – 1 electronic and hard copy
 - Final project completion reports – 5 copies
 - Electronic copy of final project completion report

The RECIPIENT shall submit two copies of any document(s) which require DEPARTMENT approval. Once approval is given, one copy will be returned to the RECIPIENT. If the RECIPIENT needs more than one approved copy, the number of submittals should be adjusted accordingly.

- E. Required Performance:

- G. Progress Reports. The RECIPIENT shall prepare and submit progress reports to the DEPARTMENT's Financial Manager. Progress reports shall be submitted regardless of whether work is performed or not. Progress reports shall cover the periods January 1 through March 31, April 1 through June 30, July 1 through September 30, and October 1 through December 31. The DEPARTMENT will not process payment requests until the corresponding progress reports have been received.

At a minimum, progress reports must contain a comparison of actual accomplishments to the objectives established for the period, the reasons for the delay if established objectives were not met, analysis and explanation of any cost overruns, and any additional pertinent information specified in this agreement.

- H. Recipient Termination Right. When this agreement crosses the RECIPIENT's fiscal year, the obligation of the RECIPIENT to continue or complete the project described herein shall be contingent upon appropriation of funds by the RECIPIENT's governing body; provided that nothing contained herein shall preclude the DEPARTMENT from demanding repayment of funds paid to the RECIPIENT in accordance with Section O of the appended General Terms and Conditions.

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1. Effective administration and management of this grant project.
2. Maintenance of all project records.
3. Submittal of all required performance items, progress reports, financial vouchers, and maintenance of all project records.
4. Submittal of project completion reports.

Task 2 – Develop Monitoring Approach

- A. The RECIPIENT shall finalize a list of monitoring equipment to purchase and submit list to DEPARTMENT.
- B. Prior to initiating water quality monitoring activities, the RECIPIENT shall prepare a Quality Assurance Project Plan (QAPP) using the DEPARTMENT's Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies (*see Attachment 2 for applicable document reference*). The RECIPIENT may also reference Technical Guidance for Assessing the Quality of Aquatic Environments, February 1994 (Ecology Publication No. 91-78, available on the DEPARTMENT's Publications website at <http://www.ecy.wa.gov/biblio/9178.html>), in developing the QAPP. The RECIPIENT will also follow the Ecology "Guidance for Evaluating: Emerging Stormwater Treatment Technologies" Technology Assessment Protocol (TAPE) (PN 02-10-037) where possible.
- C. The QAPP shall include detailed information on the water quality monitoring approach and laboratory protocols, including types of data and samples to be collected, sample location, sampling frequency, sampling procedures, analytical methods, quality control procedures, data handling protocols, and data assessment procedures. Any discussion of the monitoring approach must also include an explanation of how the project will yield sufficient information to achieve the purpose and intent of monitoring. A discussion of data accuracy and statistical requirements will be included. The QAPP shall be submitted to the DEPARTMENT for review, comment, and approval PRIOR to commencing post-construction environmental monitoring activities.
- D. Required Performance:
 1. Submit QAPP to the DEPARTMENT for review and approval prior to monitoring.
 2. Submit equipment list for review.

Task 3 – Monitoring Equipment, Material Acquisition and Construction

- A. The project was designed and will be constructed in accordance with the King County Surface Water Design Manual (2005).

- B. The RECIPIENT shall purchase and install monitoring equipment for the bioretention area and porous sidewalks.
- C. The RECIPIENT shall acquire the materials required to construct the vegetated bioretention area and porous sidewalks. These materials include but are not limited to: porous cement concrete, sidewalk forms, underdrain system components, bioinfiltration soils, topsoil, seeds/plants, and mulching.
- C. The RECIPIENT shall construct the bioretention facility and porous sidewalk. This task includes labor and inspection associated with construction.
- D. The RECIPIENT shall document and monitor the construction activities during construction associated with the bioretention facility and porous sidewalks. This includes documenting the construction process as well as any changes that might be made to the original design during construction
- E. Required Performance:
 - 1. Purchase and install monitoring equipment.
 - 2. Install bioretention facility.
 - 3. Install approximately 10,080 square feet of porous sidewalks.
 - 4. Inspect construction of bioretention area and porous sidewalks during construction.
 - 5. Submit construction contract to the DEPARTMENT's Financial Manager.

Task 4 – Education/Outreach

- A. The RECIPIENT shall design, purchase, and install educational sign(s) on the project site within 1 year of construction. Signs will discuss benefits of LID; LID techniques used on-site, including vegetated bioretention/hybrid rain garden and its water quality and flow control functions, and porous sidewalk information; and where to get additional information on the project (e.g., project Web site). DEPARTMENT will be copied on proposed content of signs, pictures of signs, and notified after signs have been installed by RECIPIENT.
- B. The RECIPIENT shall incorporate information about the LID components of the project into a project website. Website will have information and links to information regarding the overall project design, LID aspects of the project, sources of information on LID in general, project schedule, contact information, and construction and annual monitoring data relating to water quality, flow control, infiltration, and related performance details of the bioretention area/hybrid rain garden and porous sidewalks. The RECIPIENT shall provide DEPARTMENT with project website link within 3 months of start of

construction. The RECIPIENT shall review webpage at least quarterly to update existing, or add new, information.

- C. The RECIPIENT shall write annually at least one article for submittal to local publications, such as the Puget Sound Action Team's Sound Waves newsletter or the Environmental Protections Agency's Water Talk newsletter annually. Provide the DEPARTMENT with a copy of each article.
- D. The RECIPIENT shall schedule at least one on-site tour during construction and one during the three-year monitoring period for local and state regulators, design engineers and environmental staff, and others interested in LID stormwater designs and the project.
- E. The RECIPIENT shall schedule at least one "brown bag" discussion of the LID aspects of the project during construction and one upon completion of construction for King County employees and others interested in learning more about LID designs and lessons learned from construction and operation of the LID aspects of the project.
- F. The RECIPIENT shall provide the DEPARTMENT with two copies of any tangible educational products developed under this grant, such as brochures, manuals, pamphlets, videos, audio tapes, CDs, curriculum, posters, media announcements, or gadgets, such as a refrigerator magnet with a message. The RECIPIENT shall also supply the DEPARTMENT with the names and contact information of local project leads, and a computer file copy of an education product either on floppy disks or CD-ROM. If this is impractical, as in the case of a sign, display, website, workshop, or educational program, the RECIPIENT shall provide a complete description including photographs or printouts. This includes technical assistance tools if they are disseminated to a group.
- G. Required Performance:
 - 1. Design, purchase, and install educational sign(s) on project site.
 - 2. Provide LID information on project website.
 - 3. Write three articles about project for local publications.
 - 4. Hold two project tours and two brown bag discussions.
 - 5. Provide the DEPARTMENT with copies of tangible educational products.

Task 5 – Implement Monitoring Plan

- A. The RECIPIENT shall implement the QAPP described under Task 2 to document the water quality and quantity performance of the LID components. This includes long-term maintenance activities, contingency measures, and reporting. Monitoring plant survival and replacing any plants within the bioretention area, and monitoring performance of the porous sidewalks shall be addressed in the QAPP.

- B. Water samples requiring lab testing shall be analyzed by an environmental laboratory accredited by the DEPARTMENT. A list of DEPARTMENT accredited laboratories and information on laboratory accreditation is provided on the Environmental Assessment Program Web site, currently available at:

http://www.ecy.wa.gov/programs/eap/labs/labs_main.html

- C. All monitoring data collected or acquired under this agreement shall be managed in order to be available to secondary users and meet a 10 year rule. The ten-year rule means that data documentation is sufficient to allow an individual not directly familiar with the specific monitoring effort to understand the purpose of the data set, methods used, results obtained, and quality assurance measures taken, ten years after the data are collected. To assist in this effort, the DEPARTMENT has created a database and data format for environmental data.

- D. The RECIPIENT shall submit all monitoring data to the DEPARTMENT consistent with the DEPARTMENT. The RECIPIENT shall submit all data which are EIM compatible via an Environmental Information Management System (EIM) import module. Contact the EIM Data Coordinator, at eim_data_coordinator@ecy.wa.gov, for assistance in identifying which data are EIM acceptable. Data shall be submitted by following instructions on the EIM website, currently available at:

<http://www.ecy.wa.gov/eim>

- E. The data submittal portion of the EIM website provides information and help on formats and requirements for submitting tabular data. Specific questions about data submittal can be directed to the EIM Data Coordinator, currently available at:

eim_data_coordinator@ecy.wa.gov

- F. Required Performance:

1. Implement QAPP for 3 years.
2. Analyze water samples at accredited laboratory.
3. Manage monitoring data to meet a 10-year rule and to be available to secondary users.
4. Submit monitoring data consistent with EIM format.

PART VI. SPECIAL TERMS AND CONDITIONS

