

NATIONAL
GREEN
INFRASTRUCTURE
CERTIFICATION
PROGRAM

ngicp

 Water Environment
Federation
the water quality people®

BODY OF KNOWLEDGE





Initiated under the leadership of DC Water and the Water Environment Federation, the National Green Infrastructure Certification Program (NGICP) sets national certification standards for green infrastructure (GI) construction, inspection and maintenance workers. Designed to meet international best-practice standards, the certification advances the establishment of sustainable communities by promoting GI as an environmentally and economically beneficial stormwater management option, supporting the development of proficient green workforces and establishing a career path for skilled GI workers.



INTRODUCTION

The Body of Knowledge (BoK) is a document that lists the resources that were identified, reviewed and selected as reference materials for the technical basis of the National Green Infrastructure Certification Program (NGICP). Tables 1 through 6 represent the recommended foundational reference list to be used during the development of the NGICP. Table 7 represents a comprehensive list of all resources that were identified and reviewed.

The intended purpose of this list is to act as a “library” of prescreened reference material that is specifically applicable as knowledge needed to conduct tasks related to the construction, inspection and maintenance of green infrastructure systems. This material will be helpful as foundational references for individuals who are writing and reviewing the NGICP curricula, training materials, exam items and for certification candidates who are preparing to take the exam.

BACKGROUND

The District of Columbia Water and Sewer Authority (DC Water) and the Water Environment Federation (WEF), along with a group of partner organizations from all over the United States, are leading the development of a National Green Infrastructure Certification Program (NGICP) for construction, inspection and maintenance workers. The goal of this certification program is to provide a nationally recognized credential for individuals who install, inspect and maintain green infrastructure (GI) systems. In addition, the program will help support community-based job creation in U.S. cities investing in green infrastructure and create a skilled work force that has the needed knowledge to properly install, inspect and maintain these systems to ensure long-term, reliable performance.

The national green infrastructure certification is intended as an entry-level credential that will verify that certified individuals possess a well-rounded foundational knowledge about what green infrastructure is, how it is intended to function and how to properly install, maintain and visually verify its proper operation. The national program must focus on common aspects of green infrastructure that will be true in any region of the United States, regardless of climate, soil types, specific local regulations, etc. Specific regional aspects of green infrastructure must be addressed separately.

For the purposes of the NGICP, green infrastructure is defined as an approach to stormwater management that combines a variety of different technologies and practices that use natural systems or engineered systems that mimic natural processes to filter and store stormwater to protect local surface water quality. The certification program will address GI practices such as bioretention (rain gardens, bioswales, tree/planter boxes, tree trenches), green and blue roofs, permeable pavements, dry wells, rainwater harvesting (rain barrels, cisterns, rainwater harvesting systems), stormwater wetlands, as well as others. These practices help to capture and filter stormwater, holding it until it can be infiltrated or evapotranspired or slowly released to gray infrastructure systems, managing the water locally in order to reduce flow to local stormwater or combined sewer systems and reducing the volume of water flowing directly to local waterways. Green infrastructure protects local surface water quality, reduces combined sewer overflows (CSOs), helps meet Municipal Separate Storm Sewer System (MS4) requirements, as well as provides additional triple-bottom-line (environmental, social and economic) benefits in the areas where they are correctly installed and properly maintained.

REVIEW OF MATERIALS

Materials reviewed include manuals, presentations (PPT), webcasts, related technical memorandums, books and outreach material such as on-line videos, brochures and factsheets. In addition, existing GI training materials from other utilities and related documents from other industry trade groups/organizations were also reviewed.

Although these materials were read through to ensure that they are applicable as foundational knowledge for GI construction, inspection and maintenance tasks, the technical accuracy of these materials has not been verified. The fact that they are included in this body of knowledge document in no way implies that these materials are endorsed, approved or verified in any way. The individual users must practice due diligence in the use and application of this information.

The materials are grouped by type – training material, jurisdiction, industry/trade group/organization, books, factsheets/brochures/forms/checklists and videos/webcasts. Several of the most applicable reference documents related to the core competencies identified as important to workers carrying out tasks in constructing, inspecting and maintaining green infrastructure are listed under each type.

1. REVIEW OF EXISTING GI TRAINING MATERIAL

The existing GI training materials reviewed included training materials produced by San Francisco Public Utilities Commission (SFPUC), Washington State Department of Ecology, Onondaga County, NY, Department of Energy and Environment (DOEE) District of Columbia and Alliance for the Chesapeake Bay. Also reviewed were PowerPoint slide presentations from workshops conducted by

Northeast Ohio Stormwater Training Council (NEOSWTC) in 2014 and 2015. **Table 1** (page 9) provides a summary of existing GI training materials that are considered as additional resources for the NGICP.

There are highlights from several references that are particularly useful as background documents for the NGICP:

The SFPUC has developed a GI Construction Training Guidebook and four training modules (PowerPoint slide presentations):

- **Course 1.1** – Introduction to GI Construction
- **Course 1.2** – GI Site Management
- **Course 2.1** – Bioretention Planter Construction
- **Course 2.2** – Permeable Pavement Construction

This material was developed in 2015 and is being used by SFPUC to train local contractors working on their GI construction projects. It also includes a PDF titled “Tailgate Talks” that briefly discusses the construction/installation and maintenance of bioretention planters and permeable pavements.

The Washington State Department of Ecology’s “Low Impact Development Operations and Training” PowerPoint slide presentation provides information about the following GI practices – bioretention, permeable pavement and green roofs. It includes diagrams and maintenance standards/procedures for each of the GI practices covered.

The “Green Infrastructure Maintenance Training” PowerPoint presentation by Onondaga County, NY, provides diagrams and maintenance information about the following GI practices – porous pavements, green roofs, rain gardens, green streets (vegetated curb extensions, sidewalk planters), cisterns/rain barrels, infiltration beds (dry well, infiltration bed, infiltration trench/tree trench). This material is presented as Appendix D of the Save the Rain Program’s Green Infrastructure Maintenance Manual.

The materials from the NEOSWTC workshop in 2014 and 2015 provides extensive information and a variety of photos of the maintenance aspects of the following GI practices, as presented by:

- Bill Hunt of North Carolina State University (NCSSU): swales, green roofs, cisterns and rainwater harvesting, bioretention, permeable pavement and parking lot best management practices (BMPs) (such as permeable pavement, sand filters and manufactured products)
- Brian Prunty, Stormwater Specialist, Summit Soil & Water Conservation District: Operations & Maintenance for Bioretention Stormwater Practices (Part 1 & 2)
- Roger Gettig, Director of Horticulture and Conservation: Plants for Rain Gardens and Bioretention

The Philadelphia Water Department developed a Green Infrastructure Maintenance Manual in 2014 that contains procedures for specific maintenance tasks. Each protocol provides information on required training, equipment/materials, health and safety issues and a detailed procedure for executing the tasks. Appendices provide supplementary reference materials including health and safety procedures, a comprehensive listing of typical maintenance personnel classifications and additional guidance on site access and permits. The GI practices addressed in this manual include stormwater tree trenches, rain gardens, stormwater planters, stormwater wetlands, bioswales, stormwater tree planters, rain barrels/cisterns, green roofs, pervious paving and blue roofs. They also have published a Plant Identification Manual in 2014 that provides concise information and photos for hundreds of plants and trees that are commonly used in GI practices.

2. JURISDICTIONAL STANDARDS/GUIDELINES (MANUALS, TECHNICAL BULLETINS, CONSTRUCTION AND DESIGN GUIDANCE DOCUMENTS)

Several jurisdictions within the United States and Canada provided information on low impact development (LID) practices, operation and maintenance (O&M) of various GI types, GI design standards, stormwater management manuals, technical bulletins, construction and design guidance documents, etc. These documents represent critical regional information but they include detailed information

that is too localized to be widely applicable in the National GI Certification Program. Therefore, they provide important local information but the majority of the information is not suitable to be used as specific references to support the NGICP. **Table 2** (page 10) provides a summary of all reference materials (by jurisdiction) that are considered as additional resources for the NGICP.

The following utilities’/governments’/jurisdictions’ standards and guidelines have been identified and collected in this Body of Knowledge:

- Bay Area Stormwater Management Agencies Association (BASMAA)
- Blue Water Baltimore
- Chesapeake Stormwater Network
- City of Atlanta, Watershed Department
- City of Columbus, OH
- City of New Orleans
- City of Omaha, NE
- City of Portland, OR
- City of Santa Barbara, CA
- City of Tucson, AZ
- Clean Water Services, OR
- Contra Costa Clean Water Program, CA
- Credit Valley Conservation, Canada
- DC Water
- Delta Institute, IL
- Department of Natural Resources and Environmental Control, DE
- District of Columbia’s Department of Energy and the Environment
- District of Columbia’s Department of Transportation
- Fairfax County Public Works and Environmental Services, VA
- Georgia Environmental Protection Division
- Louisiana Department of Environmental Quality
- Metropolitan Nashville—Davidson County, TN
- Metropolitan Sewer District of Louisville, KY
- Metropolitan St. Louis Sewer District, MO
Department of Natural Resources
- Michigan Department of Environmental Quality
- Minnesota Pollution Control Agency
- Montgomery County, Maryland Department
of Environmental Protection
- New York Department of Environmental Protection
- New York State

- North Carolina Department of Environment and Natural Resources
- Northeast Ohio Stormwater Training Council
- Northern Virginia Regional Commission
- Onondaga County, NY
- Pennsylvania Department of Environmental Protection
- Philadelphia Water Department
- Pima County, AZ
- Prince George's County, MD
- Seattle Public Utilities
- Southern California Stormwater Monitoring Coalition
- Tennessee Department of Environment and Conservation
- Urban Drainage and Flood Control District, CO
- U.S. Army Corps of Engineers
- U.S. Department of Transportation, Federal Highway Administration
- U.S. Environmental Protection Agency (USEPA)
- Virginia Department of Environmental Quality
- Washington State Department of Ecology
- West Virginia Department of Environmental Protection

3. INDUSTRY/TRADE GROUP/ORGANIZATION REVIEW

Table 3 (page 15) provides a summary of references from Industry/trade groups/organizations that were reviewed as potential additional resources for the NGICP. Several references with useful information on installation, inspection and maintenance aspects of GI are highlighted here.

The Interlocking Concrete Pavement Institute (ICPI) publishes a document titled, "Industry Guidelines for Permeable Interlocking Concrete Pavement in the United States and Canada". It is a PowerPoint presentation that can be downloaded. Also, at their website, www.icpi.org, they have a section dedicated to permeable pavers: there are resources useful for the NGICP that can be accessed by clicking on "Installation" and "Maintenance". On the permeable paver maintenance page, they have a downloadable document titled, "ICPI Inspector's Guide for PICP Installation and Maintenance".

The National Asphalt Pavement Association (NAPA) publishes a booklet labeled Information Series 131 that is titled, "Porous Asphalt Pavements for Stormwater Management: Design, Construction and Maintenance Guide". It was updated in 2008. This booklet can be purchased (\$30 nonmember price) and downloaded from NAPA's

website by following this link: <https://store.asphaltpavement.org>. Although approximately half of the 24-page guide booklet is dedicated to design aspects, this is still a valuable reference for porous pavement for the NGICP because it includes labeled cross sections of typical porous pavement, a step-by-step overview of the construction sequence and a brief discussion of post-construction and on-going maintenance considerations. There is also a materials discussion. It is focused on specifications for materials, which is more detailed than necessary for the NGICP.

The National Ready Mixed Concrete Association (NRMCA) has information regarding pervious concrete available at www.perviouspavement.org. This site has information pertinent to the NGICP that can be found by clicking on the "Benefits" button, the "Construction" button, the "Inspection and Maintenance" button and the "Materials" button at the top of the page.

In addition to the above, information on stormwater products was also collected from manufacturers of stormwater products used in various GI practices. They include:

- Chambers that replace the conventional stormwater retention/detention systems such as ponds, swales, pipe and stone trenches or beds, or concrete structures. These chambers may also be used as drywells
- An engineered biofiltration device with components similar to bioretention in pollutant removal and application but has been optimized for high volume/flow treatment in a compact system
- An engineered soil that meet typical specifications for road sub-base while allowing tree root growth (for use under porous pavements and with street trees)
- A prefabricated modular bioretention system made from high-quality precast concrete, that uses physical, chemical and biological processes to remove sediment, metals, nutrients, petroleum hydrocarbons, gross solids and trash from stormwater runoff
- A tree box filter that provides exceptional stormwater treatment capable of removing fine sediment and dissolved pollutants
- A modular stormwater detention system, which is an underground structural precast concrete system provides many solutions for detention, retention, infiltration, treatment and harvesting

- An all-inclusive stormwater runoff control system that manages water volume in addition to protecting water quality by providing integrated pretreatment, combined with the advantages and versatility of structural precast concrete modules (vaults) with the aesthetics and performance of permeable interlocking concrete pavers to provide a stand-alone, low maintenance, LID green solution for stormwater retention, detention, reuse, ground water recharge and flood management

4. FACTSHEETS/BROCHURES/FORMS/CHECKLISTS

A number of brief technical documents were reviewed that include factsheets, brochures forms and checklists on O&M of the specific GI types included in the NGICP. Any one or two page document that provided a description of the GI type including maintenance details was considered to be a factsheet. Brochures included more illustrations and were primarily targeted for outreach.

Table 4 (page 16) provides a summary of these brief two to ten page documents that are considered as additional resources for the NGICP.

The references from Montgomery County, MD, include factsheets that provide information on maintenance activities and the time frame during which they should be performed, including some very useful trouble shooting tips for the following GI practices – green roof, porous pavement, swales, rain gardens, rain barrels, dry wells and vegetated stormwater facilities, a brochure that describes the planting design for bioretention and rain gardens, and a guide for permeable pavements that provides information on the design, installation and maintenance aspects.

The factsheets from the City of Alexandria, VA, provided information on routine maintenance tasks and frequency for the following GI practices – bioretention, permeable pavement, rainwater harvesting, constructed wetlands, vegetated roofs and urban bioretention areas.

The City of Lancaster’s “Green Infrastructure Plan” includes an Appendix of factsheets on various GI technologies that provides a description, benefits, cost and maintenance information for the following GI practices – rain gardens, bioswales, tree boxes, bioretention planters, permeable pavements, green roofs and rain barrels.

Washington State Department of Ecology’s inspection forms for bioretention and permeable pavements provide helpful insight into items to be checked at each of these facility types.

The references from Rutgers University included factsheets on maintenance of rain gardens, tree boxes and permeable pavements. Specifically, there was good information on how to keep rain gardens free from mosquitoes.

Milwaukee Metropolitan Sewerage District’s (MMSD) factsheet provides useful information about equipment needs for maintenance of GI practices. This is in DRAFT form and has not been made final yet.

The factsheets from Minnehaha Creek Watershed District cover several different types of BMPs (such as filtration practices, infiltration basins and trenches, rain gardens, swales and permeable pavements) and maintenance information applicable to all of them.

The references from the University of New Hampshire Stormwater Center include inspection checklists and maintenance factsheets for pavements and bioretention systems/tree filters, to provide regular inspection and maintenance guidance. There are also several design guidelines that also have maintenance topics and recommended inspection information at the end of the document. These documents can be downloaded from the Center’s website at <http://www.unh.edu/unhsc/>.

The Interlocking Concrete Pavement Institute’s (ICPI) “Inspector’s Guide for PICP Installation & Maintenance” consists of a checklist intended to assist in identifying critical items that should be checked during construction, immediately after construction prior to acceptance and then during on-going maintenance inspections.

The Seattle Public Utilities has published a checklist titled “Natural Drainage Systems Landscape Maintenance Categories (LMC) and Characteristics” that provides a list of items to verify during maintenance activities for various GI practices.

The Metropolitan St. Louis Sewer District’s brochures provide useful information on inspection and maintenance of porous pavements, planter boxes and rain gardens. The checklists for pervious pavement and bioretention inspection, to be used during inspection, consists of a list of items that should be checked during routine maintenance inspection.

The factsheet on Bioretention Soil Mix, found as a resource on the Washington State University-sponsored www.12000raingardens.org website, was produced by Cedar Grove Landscape and Construction services and outlines bioretention soil mix specifications and recommendations for bioretention swales and rain gardens.

The factsheets from Fairfax County Public Works and Environmental Services, provides information on the maintenance of the following GI practices – bioretention practices, permeable pavement, rainwater harvesting, tree box filters, soil compost amendments, vegetated swales, vegetated roofs and wet and dry stormwater ponds. There is also a recommended plant list available for plantings in bioretention area in Fairfax County.

The factsheets from University of Delaware Co-operative Extension provides useful information related to design, installation and maintenance of rain gardens and green roofs.

The City of Omaha Stormwater Program has published inspection forms for rain gardens, bioretention system and permeable pavers and pervious pavement, which can be used as a tool in evaluating that specific GI facility and also serve as a document of maintenance.

Rain garden information on design, plant selection and maintenance topics included:

- “A Resident’s Reference Guide to Creating a Rain Garden” from Kansas City Water Services
- The “Rain Garden Care (Brochure)” from Milwaukee Metropolitan Sewerage District

The factsheets authored by M. Cahill found on the Oregon State University Stormwater Solution’s website provide detailed information on design, construction and maintenance of the following GI practices — stormwater planters, dry wells and swales.

The USEPA has published stormwater technology factsheets on bioretention, vegetated swales, constructed wetlands and porous pavements, that provide information regarding the cost, performance, design criteria, operation and maintenance for each of those GI practices.

The factsheets from BASMAA provide information on the feasibility, design checklist, maintenance considerations and typical materials including an example application, for the following GI practices – pervious pavements, rain gardens, and rain barrels and cisterns.

The “Stormwater Treatment BMP Inspection Data Collection Form” published by Santa Clara Valley Urban Runoff Pollution Prevention Program can be used for many GI practices ranging from biofiltration (vegetated swale, green roof, planter boxes, bioretention) to detention (constructed wetland) to structural GI practices such as porous pavements.

5. OTHERS (VIDEOS, WEBCASTS)

Several webcasts and videos were also identified as valuable resources to help identify common maintenance tasks for various GI practices and inspection considerations. **Table 5** (page 19) provides a summary of videos/webcasts that are considered as additional resources for NGICP.

The references from Chesapeake Stormwater include:

- Videos that are geared towards construction, inspection and maintenance of Low Impact Development (LID) stormwater practices for local governments and contractors
- A PowerPoint slide presentation (PDF) that provides information on “Analyzing the Bioretention Construction Sequence”
- A webcast on “Bioretention Design, Installation and Maintenance”

The videos by DDOE, as part of the RiverSmart Program, provide information on maintenance of green roofs and rain barrels.

The DVD titled “Getting Polluted Runoff under Control” by Stormwater PA and GreenTreks Network includes two videos – one targeting homeowners and the other one on GI (gives big picture – water cycle, how living roofs, rain gardens, etc. can transform cityscapes into oases of green and help with stormwater management). This DVD is available for purchase through Stormwater PA’s website.

The video by Metropolitan St. Louis Sewer District on rain gardens and planter boxes provides information on the installation and maintenance topics.

The video titled “Rainscapes Rain Garden” by Montgomery County, MD, describes the reasons for installing RainScape projects in general and rain gardens in particular. The video titled “How Green Streets Work” features the Department of Environmental Protection’s Green Street program and discusses some of the community based practices used to collect, treat and allow rainwater from hard surfaces to absorb into the ground.

The webcasts by USEPA include the following:

- Greening Your Backyard: Water Efficiency and Stormwater Solutions for Homeowners and Communities
- Green Infrastructure in Arid Communities
- Best Practices for Green Infrastructure Operation & Maintenance
- Getting More Green from your Stormwater Infrastructure

The slides and transcripts for the above webcasts are available on USEPA’s website for download.

REFERENCES

The following tables are categorized by type of reference (manuals, books, outreach and technical bulletins) and also by GI category (design, construction and maintenance). Notes on which sections of each document are most relevant, also are included.

TABLE 1

Provides a summary of existing GI training materials that are considered as additional resources for the NGICP.

TABLE 2

Provides a summary of all jurisdictional reference materials that are considered as additional resources for the NGICP. They include GI design standards, stormwater management manuals, technical bulletins, construction and design guidance documents, etc.

TABLE 3

Provides a summary of references from industry/trade groups/ organizations that were reviewed as potential additional resources for the NGICP.

TABLE 4

Provides a summary of factsheets, brochures, forms and checklists on O&M (of the specific GI types included in the NGICP) that are considered as additional resources for the NGICP.

TABLE 5

Provides a summary of videos/webcasts (related to inspection and maintenance of GI practices) that are considered as additional resources for the NGICP.

TABLE 6

Provides a list of books that were considered as additional resources.

TABLE 7

Represents a complete list of all the references/resources that were researched and reviewed for consideration as additional resources for the development of the NGICP. This table is categorized by author/publisher and GI type covered.

TABLE 1
GI TRAINING MATERIALS

CONSTRUCTION

Title	Author/ Publisher	Year	Notes
San Francisco Green Infrastructure Construction Training Guidebook	San Francisco Public Utilities Commission	2015	The guide has factsheets on bioretention planter construction, permeable pavement construction.
Course 1.1–Introduction to Green Infrastructure Construction		2015	PPT/Slides
Course 1.2–Green Infrastructure Site Management		2015	PPT/Slides
Course 2.1–Bioretention Planter Construction		2015	PPT/Slides
Course 2.2–Permeable Pavement Construction		2015	PPT/Slides
Tailgate Talks		2015	

MAINTENANCE

Title	Author/ Publisher	Year	Notes
Low Impact Development Operations and Maintenance Training	Washington State Department of Ecology		PPT/slides that talk about bioretention, permeable pavement, green roof (each section includes: diagram, how it works, maintenance standards & procedures by component (for each GI type)).
Save the Rain Program Green Infrastructure Maintenance Training	Onondaga County, NY	2012	This training material includes GI technology factsheets for porous pavement, rain garden, vegetated roof, tree trenches, cistern/rain barrel, in addition to maintenance procedures and a list of commonly used plants in bioretention.
Grassy Swales (& Bioswales) Maintenance	Bill Hunt of NCSU	2015	These are PPT/slides (by various authors) from Northeast Ohio Stormwater Training Council (NEOSWTC) workshops held in 2014 and 2015.
Green Roofs Maintenance		2015	
Cisterns & Rainwater Harvesting Maintenance		2015	
Bioretention Maintenance (Part 1 and 2)		2015	
Permeable Pavement Maintenance (Part 1 and 2)		2015	
Parking Lot BMPs (Part 1 and 2)		2014	
Operations & Maintenance for Bioretention Stormwater Practices (Part 1 & 2)	Brian Prunty, Stormwater Specialist, Summit Soil & Water Conservation District	2014	
Plants for Rain Gardens and Bioretention	Roger Gettig, Director of Horticulture and Conservation	2014	

TABLE 2
MATERIALS FROM VARIOUS JURISDICTIONS

Jurisdiction	Document	Year	Category	Comments/Notes
Bay Area Stormwater Management Agencies Association	Start at the Source: Design Guidance Manual for Stormwater Quality	1999		Permeable pavements (based on types of materials used), dry wells, rain barrels/cisterns, grass/vegetated swales (maintenance, grass selection).
Bay Area Stormwater Management Agencies Association (& WRA Consultants)	Regional Bioretention Soil Guidance & Model Specification	2010		This report provides model soil guidance and specification with a goal of providing a long-term infiltration rate of 5 to 10 inches per hour, providing stormwater treatment and supporting plant health.
Blue Water Baltimore	Routine Maintenance for Rain Gardens		Maintenance	This document provides detailed information on routine maintenance of rain gardens including plant care and infiltration maintenance.
City of Atlanta, Watershed Department	Green Infrastructure Stormwater Management Practices for Small Commercial Development	2014	Design	Chapter 7 addresses mostly design guidelines for bioretention, infiltration trenches, bioswales, permeable pavement, stormwater planters, subsurface infiltration, rainwater harvesting/cisterns, green roofs. Very little information on maintenance & inspection.
	Green Infrastructure for Single Family Residences	2012	Design, Construction & Maintenance	Information presented very concisely – design, construction & maintenance of cisterns, dry wells, vegetated filter strips, modified French drains, permeable pavers, rain gardens.
City of Columbus, OH	Stormwater Strategic Plan — Green Infrastructure Design & Implementation Guidelines	2015	Design, Inspection & Maintenance	The intent of this manual is to provide the user with considerations for the placement and design of GI in right-of-way (ROW) and retrofit of existing urban environments, including standard component designs within GI facilities such as inlets, area protection, plantings, underdrains, overflow structures and outlets. Includes information on construction, inspection & maintenance. The chapters on storage media and permeable surfaces provide good NGICP-related information.
City of Omaha, NE	Bioretention Gardens: A Manual for Contractors in the Omaha Region to Design and Install Bioretention Gardens	2016	Design, Construction, Maintenance	This manual provides important knowledge to help design, build and maintain a viable rain garden. Along with regional specific information there are also details about site assessment, garden design, drainage and soil management, effective selection and use of plants, and the relative costs associated with bioretention implementation.
City of Portland, OR	Stormwater Management Manual	2014		The most relevant sections in this manual are: Appendix F.3 – top soil specifications, F.4 – plant templates and plan lists, G.3 – green street design, maintenance indicators and corrective action for green roofs, swales, planters, dry wells and permeable pavement (Chapter 3).
City of Santa Barbara	Stormwater BMP Guidance Manual	2013	Construction, O&M	Chapter 5 – rain gardens, rain barrels, soil amendments; Chapter 6 – bioretention (advantages, limitations, design criteria, plant/filter media, O&M), vegetated swale filters, rain barrels, planter boxes, green roofs.
City of Tucson	Water Harvesting Guidance Manual	2006		Water harvesting techniques – microbasins, French drains, gabions, water tanks, etc. Pages 16-17 include an inspection & maintenance table.
Chesapeake Stormwater Network (serving the regional interstate watershed of Chesapeake Bay)	CSN Technical Bulletin No. 10 Bioretention Illustrated: A Visual Guide for Constructing, Inspecting, Maintaining, and Verifying the Bioretention Practice	2013	Design, Construction, O&M, Inspection	Focuses mainly on Bioretention (Design, Construction, Inspection & Maintenance), Appendix A – Visual Indicator Profile Sheets for Bioretention Inspections, Appendix B – Visual indicators for Grass Channels, Filter Strips/Sheet flow to Buffer, Permeable Pavement, Subsurface Infiltration.
	Maintenance Matters Now! The Changing World of BMP Inspection	2014	Maintenance	PPT/slides – a part of the Chesapeake Bay Stormwater Training Partnership and includes photos of GI practices (visual inspection – right and wrong pics), similar to the technical bulletin.
Clean Water Services	Low Impact Development Approaches (LIDA) Handbook	2009	Design, Maintenance	In this handbook, Chapter 4 provides information on application/limitations, design factors & maintenance of the following GI practices — porous pavement, green roof, rain garden, vegetated swale, constructed wetland. And detailed autocad drawing files are included in the Appendix.

TABLE 2
MATERIALS FROM VARIOUS JURISDICTIONS

Jurisdiction	Document	Year	Category	Comments/Notes
Contra Costa Clean Water Program	Stormwater C.3 Guidebook	2012	Design	Through the Contra Costa Clean Water Program, Contra Costa municipalities have prepared a Stormwater C.3 Guidebook to assist applicants through the process of submittals and reviews. Appendix B provides information on soils, plantings & irrigation for bioretention. Design sheets are also included for pervious pavements, bioretention, dry wells, cisterns and planter boxes.
Credit Valley Conservation	Low Impact Development Construction Guide – Version 1.0	2012	Construction, Maintenance	Bioretention soil specifications – page 54; Appendix B – LID Landscape Design Guide, concepts (siting, design, construction/installation, maintenance) related to general LID practices. Information on pervious pavers.
Delta Institute	Green Infrastructure Designs – Scalable Solutions to Local Challenges	2015	Design, Construction & Maintenance	This publication covers the following GI practices – bioswales, rain gardens, stormwater planters and permeable pavement. It provides nice diagrams including CAD files.
District Department of the Environment (DDOE)	Stormwater Management Guidebook for the DDOE (now called Department of Energy and Environment (DOEE))	2013	Design, Construction, Maintenance	Chapter 3 includes feasibility, detailed design calculations, plan views, information on pretreatment, conveyance, material specifications, sizing, construction sequencing and maintenance. Appendices include construction & maintenance checklists.
District of Columbia – Department of Transportation	Green Infrastructure Standards	2014	Design (drawings), Maintenance, Plant selection for bioretention	Supplement to Design & Engineering Manual. Includes GI Plant list and GI Maintenance schedules.
DC Water	Technical Memorandum #6 Green Infrastructure Technologies	2012	Construction, O&M	Contains construction, O&M, good schematics and photos.
	DC Water Green Infrastructure Utility Protection Guidelines	2013	Construction	This document provides guidance on the design and construction of GI adjacent or connected to DC Water utilities. Includes plan views of GI types.
	DC Clean Rivers (DCCR) GI Design Standards	2015	Design, Construction, O&M	DRAFT Version.
Delaware Department of Natural Resources and Environmental Control (DNREC)	Green Infrastructure Primer for Delaware	2016	Construction & Maintenance	This guide provides information on the benefits and types of GI. It has pertinent information on construction & maintenance of rain gardens, vegetated swales, tree boxes/tree trenches, rain barrels, cisterns, green roofs.
Fairfax County Public Works and Environmental Services	Public Facilities Manual	2011	Design, Construction & Maintenance	Chapter 6 is particularly useful since it covers the design, construction specification and maintenance of constructed wetlands, bioretention, vegetated swales, tree box filters, vegetated roofs, rainwater harvesting and permeable pavement.
	Fairfax County Maintenance Contractor Awareness Training	2015	Maintenance	Includes 5 training presentations that are available for download: http://www.fairfaxcounty.gov/dpwes/stormwater/maintenance-training.htm Part I: Overview; Part II: Above Ground Facilities; Part III: Above Ground Facilities; Part IV: Below Ground Facilities; Part V: Vegetative Practice.
Flexible Pavements of Ohio	Technical Bulletin: Porous Asphalt Pavement	2012	Design, Construction & Maintenance	This document provides information on design consideration, construction and maintenance of porous asphalt pavement.
Louisiana Department of Environmental Quality (DEQ)	Stormwater BMP Guidance Tool (A Stormwater Best Management Practices Guide for Orleans and Jefferson Parishes)	2010		Includes overview and diagram for planter boxes, green roofs, cisterns/rain barrels, biofiltration BMPs and permeable pavement. It is mostly focused on design aspects, very little on inspection/maintenance.
Metropolitan Nashville – Davidson County, TN	LID Manual	2016	Design, Construction & Maintenance	

TABLE 2
MATERIALS FROM VARIOUS JURISDICTIONS

Jurisdiction	Document	Year	Category	Comments/Notes
Metropolitan Sewer District of Louisville, KY	Green Infrastructure Design Manual	2015	Design, Operation & Maintenance	A new addition to the MSD Design Manual is Chapter 18, Green Management Practices (GMP) Manual. It provides information on site feasibility, design criteria, O&M, benefits & limitations, etc., for bioswales, rain gardens, constructed wetlands, green roofs, blue roofs, permeable pavers, porous concrete, porous asphalt, planters, tree boxes, rainwater harvesting, in the form of factsheets. Note: This manual is being updated and a revised version will be available in summer of 2016.
Metropolitan St. Louis Sewer District	Landscape Guide for Stormwater Best Management Practice Design	2012		In this guide, Section 3 provides information on native species, invasive species, site preparation, planting design, plant selection and installation and management. Section 4 presents more specific guidance on landscaping criteria and plant selection for the following BMP design types: wet ponds, wetlands, infiltration basins and dry swales, surface sand filters, bioretention and organic filters. Section 7 lists various plants specific for each BMP type outlined.
Michigan Department of Environmental Quality	Low Impact Development Manual for Michigan	2008	O&M	Structural BMPs – rain gardens, planter boxes, green roofs, vegetated swales, pervious pavement.
Mid-America Regional Council & American Public Works Association (Kansas City Metro Area)	Manual of Best Management Practices For Stormwater Quality	2012	Inspection & Maintenance	Good figures and tables. Describes maintenance and inspection for rain gardens, bioretention, permeable pavements and green roofs. Figures 4-23, 8-7, 8-28 are helpful. Tables covering typical maintenance activity and frequency are included.
Minnesota Pollution Control Agency	Minnesota Stormwater Manual	2008		This manual together with the electronic wiki webpage provides a well-rounded introduction to stormwater management.
Missouri Department of Natural Resources	Missouri Guide to Green Infrastructure	2012	Inspection & Maintenance	This guide addresses economic costs and benefits to developers and municipalities, as well as environmental benefits. This is not a technical manual. Chapter 6 addresses siting & safety consideration, maintenance, benefits & includes inspection & maintenance checklist.
Montgomery County, MD	Rainscapes Projects Manual		Design, Construction & Maintenance	This technical manual provides information on design, construction/installation and maintenance of the following types of GI practices - green roofs, rain barrels/cisterns, permeable pavers, rain gardens and dry wells.
	Raingardens for Rainscapes			This technical manual provides information on the design, construction/installation and maintenance of rain gardens.
NY Department of Environmental Protection	Guidelines for Design & Construction of Stormwater Management Systems	2012	Design, Construction, O&M	Chapter 4 includes rooftop systems (green & blue roofs) – siting considerations, design, construction, O&M (includes inspection & troubleshooting).
Northern Virginia Regional Commission	Maintaining Stormwater Systems – A Guidebook for Private Owners and Operators in Northern Virginia	2007	Inspection & Maintenance	This guidebook provides information on stormwater systems & their components including inspection/maintenance/troubleshooting guide for rain gardens, vegetated swale, green roof & permeable pavement.
North Carolina State University (published by NC Co-operative Extension)	Low Impact Development – A Guidebook for Private Owners	2009	Design & Maintenance	Bioretention, permeable pavement, cisterns & water harvesting, swales, green roofs.
Northeast Ohio Stormwater Training Council	Maintaining Stormwater Control Measures Guidance for Private Owners & Operators	2015	Inspection & Maintenance	Addresses inspection and maintenance of GI practices – permeable pavements, green roofs, bioretention area/rain gardens etc. Includes good illustrations.
Onondaga County, NY	Save the Rain Program Green Infrastructure Maintenance Manual	2013	O&M	Appendix A – Detailed Green Infrastructure Standard Maintenance Procedures, Appendix E – Factsheets.

TABLE 2
MATERIALS FROM VARIOUS JURISDICTIONS

Jurisdiction	Document	Year	Category	Comments/Notes
Oregon State University Stormwater Solutions	Field Guide: Maintaining Rain Gardens, Swales and Stormwater Planters	2013	Maintenance	This field guide provides information needed to properly maintain rain gardens, swales, stormwater planters, and other facilities. Topics covered include erosion, sedimentation, vegetation and weeds, structures, trash and debris, safety. The field manual covers the most common maintenance activities that workers will need to remedy and provides lots of photos as a guide.
Philadelphia Water Department	Green Infrastructure Maintenance Manual Development Process Plan	2012	Maintenance	Chapter 4 – National Inventory of Maintenance Practices and Procedures, Info on maintenance task/data sheet template (Appendix II and III), Inventory of Maintenance Practices and Procedures by GSI Practice (Appendix VI), page 3 – definitions of various GI practices.
	Stormwater Management Guidance Manual	2015	Construction, Inspection & Maintenance	Chapters 4, 5, 6 address the following topics – bioretention, porous pavement, green roofs, cisterns, blue roofs.
	Green Stormwater Infrastructure Maintenance Manual	2014	Maintenance	This document contains standard operating procedures for executing specific maintenance tasks. Each protocol provides information on required training, equipment/materials, health and safety issues, including a detailed procedure for executing tasks. Appendices provide supplementary reference materials including health and safety procedures, a comprehensive listing of typical maintenance personnel classifications, and additional guidance on site access and permits. The GI practices addressed in this manual include stormwater tree trenches, rain gardens, stormwater planters, stormwater wetlands, bioswales, stormwater tree planters, rain barrels/cisterns, green roofs, pervious paving, blue roofs.
	Plant Identification Manual	2014		This provides concise plant information along with a photo of each type.
Pima County & City of Tucson, AZ	Low Impact Development & Green Infrastructure Guidance Manual	2015	Design, Construction, O&M	Appendix G – plant list, design criteria, site selection, and construction. Includes a maintenance summary related to general GI practices.
Prince George's County, MD	Bioretention Manual	2007	Construction & Inspection	The manual provides information on bioretention types, applications, landscaping techniques & practices, construction & inspection including guidance on sizing, location & design.
	Prince George's County Stormwater Design Manual	2014	Design, Construction, O&M	Mostly design information presented. Chapter 14 includes inspection requirement during construction. Chapter 10 includes some O&M information for rainwater harvesting, rain gardens, swales, green roofs, permeable pavements, dry wells.
Seattle Public Utilities	Green Stormwater Infrastructure Manual Volume V: Operations & Maintenance	2015	Maintenance	Topics of interest for curriculum development include – equipment needs, materials required, maintenance during construction period. Appendices include planting guidance for Trees & vegetation (G), Maintenance checklists (E).
	City of Seattle Stormwater Manual – Volume 3: Project Stormwater Control	2015	Maintenance	Chapter 2 provides information on the various BMP categories. Chapter 5 includes information on description, performance mechanism, applicability, site considerations, design criteria, BMP sizing, construction requirements and O&M for dry wells, rain gardens, permeable pavement, rainwater harvesting and swales.
Southern California Stormwater Monitoring Coalition	LID for Southern California	2010	Design, O&M	Chapter 4 - bioretention, pervious pavement, green roofs, BMP factsheets, soil amendments, dry wells, infiltration basins, trenches, vegetated swales.
Tennessee Department of Environment & Conservation	Tennessee Permanent Stormwater Management and Design Guidance Manual	2014		Chapter 5 addresses the following topics – bioretention, green roofs, permeable pavement, rainwater harvesting, and bioswales in Appendices C, D, E and F.
University of Minnesota	An Introduction to Stormwater Practices Maintenance – Vegetated & Biological Stormwater Practices Maintenance		Maintenance	Excellent PPT targeted towards maintenance, with great visuals.

TABLE 2
MATERIALS FROM VARIOUS JURISDICTIONS

Jurisdiction	Document	Year	Category	Comments/Notes
U.S. Army Corps of Engineers	Army Low Impact Development Technical User Guide	2013	Design, Construction & Maintenance	The guide addresses the following GI practices – bioretention, vegetated swales, permeable pavements, rainwater harvesting, green roofs. Chapter 5 covers the description, types, components, design criteria, materials, construction considerations, maintenance of the GI practices.
U.S. Department of Transportation, Federal Highway Administration	Porous Asphalt Pavements with Stone Reservoirs (Technical Brief -FHWA-HIF-15-009)	2015	Design, Construction & Maintenance	This technical brief provides an overview of the benefits, limitations and applications of porous asphalt pavements with stone reservoirs. Design, construction and maintenance aspects are all discussed.
USEPA	Green Roofs for Stormwater Runoff Control	2009		This report evaluates green roofs as a stormwater management tool. The influence of media type, media depth and drought during plant establishment on plant growth and long-term management of media pH were investigated.
	Green Infrastructure Case Studies	2010		This case study report describes a dozen cities and counties that are using green infrastructure approaches to reduce imperviousness and preserve natural open space throughout a watershed and at the neighborhood scale, as well as adding green infrastructure practices at the site level.
Urban Drainage and Flood Control District, Denver, CO	Urban Storm Drainage Criteria Manual Volume 3	Updated 2010	Maintenance	BMP maintenance – bioretention, green roofs, permeable pavement, grass buffers and swales.
Virginia Department of Environmental Quality (DEQ)	Virginia Stormwater BMP Clearing House		Design, Inspection, Maintenance	This clearing house website provides design standards & specifications for all stormwater BMPs approved for use in Virginia.
Washington State Department of Ecology	Western Washington Low Impact Development (LID) Operation & Maintenance (O&M)	2013	O&M	Maintenance standards and procedures, equipment & materials, skills and staffing. Compost amended soils information on page 81.
Washington Department of Ecology & Washington State University Extension	Rain Garden Handbook for Western Washington	2013	Design, Installation & Maintenance	A guide for design, maintenance and installation.
Watershed Management Group – Funded by USEPA & Arizona DEA	Green Infrastructure for Southwestern Neighborhoods – Version 1.2 Revised October 2012	2012	Maintenance	Design, construction, maintenance (site selection, soils, O&M, plan view diagrams) – mainly in arid climate.

TABLE 3
INDUSTRY/TRADE GROUPS/ORGANIZATIONS MATERIALS

Organization	Source Document	Type	Category	Comments/Notes
Contech Engineered Solutions	Filterra Solutions Brochure	Brochure	Installation & Maintenance	These documents provide installation and maintenance information on an engineered biofiltration device. It can be used in different configurations in both new construction and urban retrofits as well as streetscapes, urban areas, parking lots, roof drains, etc.
	Filterra Operations & Maintenance Guide	Manual/Guide	Installation & Maintenance	
CULTEC, Inc.	CULTEC Plastic Chamber as Dry Well	Brochure		This brochure provides information on benefits and specifications for use in a dry well.
	CULTEC stormwater product booklet	Booklet	Installation & Maintenance	These documents provide information on product features, benefits, components, specifications, installation and drawings.
Interlocking Concrete Pavement Institute (ICPI)	Industry Guidelines for Permeable Interlocking Concrete Pavement in the United States and Canada	PPT/slides	Design, Construction & Maintenance	Includes good visuals.
Oldcastle Stormwater Solutions	BioMod Modular Bioretention Brochure	Brochure		This brochure describes the BioMod modular bioretention system and provides information on benefits, application, design and configurations.
	BioMod Modular Maintenance Manual	Booklet	Maintenance	This brochure provides information on general specifications for maintenance of BioMod modular bioretention system.
	TreePod Biofilter	Brochure		This brochure provides information on its application, capabilities and design.
	StormCapture Harvesting & Reuse Brochure	Brochure		This brochure provides information on StormCapture harvesting system.
	StormCapture Installation Manual	Booklet	Installation	This brochure provides information on the installation process.
	StormCapture Maintenance Manual	Booklet	Maintenance	This brochure provides information on maintenance.
	PermeCapture Brochure	Brochure		This brochure provides information on benefits, application & performance.
Urban Horticulture Institute, Cornell University (CU)	CU-Structural Soil – A Comprehensive Guide	Guide		Overview on using CU-Structural Soil® to support trees, turf and porous pavement.
	Using Porous Asphalt and CU-Structural Soil	Booklet		Booklet details how the combination of porous asphalt and CU-Structural Soil™ reduces runoff and improves water quality.

TABLE 4
FACTSHEETS/BROCHURES/CHECKLISTS/FORMS

Source Document	Organization	Type	Category	Comments/Notes
Pervious Pavement (Stormwater Control for Small Projects)	Bay Area Stormwater Management Agencies Associations	Factsheet	Design, Installation & Maintenance	This factsheet provides information on feasibility, maintenance considerations, typical materials & example applications and a design checklist.
Rain Gardens (Stormwater Control for Small Projects)		Factsheet	Design, Installation & Maintenance	This factsheet provides information on feasibility, maintenance considerations, how to plan & install and a design checklist.
Rain Barrels & Cisterns (Stormwater Control for Small Projects)		Factsheet	Design, Installation & Maintenance	This factsheet provides information on feasibility, operation & maintenance, components and a design checklist.
Bioretention Area Maintenance Schedule and Guidelines	City of Alexandria, VA	Factsheet	Maintenance	Routine maintenance task & frequency.
Permeable Pavement Maintenance Schedule and Guidelines		Factsheet	Maintenance	
Rainwater Harvesting Maintenance Schedule and Guidelines		Factsheet	Maintenance	
Urban Bioretention Area Maintenance Schedule and Guidelines		Factsheet	Maintenance	
Vegetated Roof Maintenance Schedule and Guidelines		Factsheet	Maintenance	
Constructed Wetlands Maintenance Schedule and Guidelines		Factsheet	Maintenance	
Bioretention System Annual Evaluation Form	City of Omaha Stormwater Program	Inspection Form	Inspection & Maintenance	This form can be used as a tool in evaluating bioretention system, as well as act as a document of maintenance.
Permeable Pavers & Pervious Pavement Annual Evaluation Form				This form can be used as a tool in evaluating permeable pavers and pervious pavement, as well as a document of maintenance.
Rain Garden Annual Evaluation Form				This form can be used as a tool in evaluating your rain garden, as well as a document of maintenance.
Bioretention Practices	Fairfax County Public Works and Environmental Services	Factsheet	Maintenance	
Permeable Pavement		Factsheet	Maintenance	
Rainwater Harvesting		Factsheet	Maintenance	
Tree Box Filters		Factsheet	Maintenance	
Soil Compost Amendments		Factsheet	Maintenance	
Vegetated Roofs		Factsheet	Maintenance	
Vegetated Swales		Factsheet	Maintenance	
Wet and Dry Stormwater Ponds		Factsheet	Maintenance	
Recommended Plant List for Bioretention Facilities	Plant List			
A Resident's Reference Guide to Creating a Rain Garden	Kansas City Water Services	Brochure	Design	Rain garden design & plant selection information.
City of Lancaster Green Infrastructure Plan: Appendix A – Green Infrastructure Technology Fact Sheets	City of Lancaster, PA	Brochure	Description, Maintenance, Benefits, Cost	Includes information on rain gardens, bioswales, tree boxes, bioretention planters, permeable pavements, green roofs, rain barrels.

TABLE 4
FACTSHEETS/BROCHURES/CHECKLISTS/FORMS

Source Document	Organization	Type	Category	Comments/Notes
Factsheet on Stormwater Planters	M. Cahill, D.C. Godwin and M. Sowles	Factsheet	Design, Construction & Maintenance	This factsheet provides detailed information on design, construction & maintenance.
Factsheet on Dry Wells		Factsheet	Design, Construction & Maintenance	This factsheet provides detailed information on design, construction & maintenance.
Factsheet on Swales		Factsheet	Design, Construction & Maintenance	This factsheet provides detailed information on design, construction & maintenance.
Porous Pavement Ownership and Maintenance	Metropolitan St. Louis Sewer District	Brochure	Inspection & Maintenance	
Rain Garden Ownership and Maintenance		Brochure	Inspection & Maintenance	
Planter Box Ownership & Maintenance		Brochure	Inspection & Maintenance	
Bioretention Maintenance Inspection Checklist		Checklist	Inspection	
Pervious Pavement Maintenance Inspection Checklist		Checklist	Inspection	
Rain Garden Care	Milwaukee Metropolitan Sewerage District	Brochure		
Stormwater Tree Factsheet		Factsheet		
DRAFT Green Infrastructure Maintenance and Equipment Needs		Factsheet	Maintenance	
Inspection Guide (Filtration Practices, Infiltration Basins and Trenches, Bioretention (Rain Gardens), and Swales)	Minnehaha Creek Watershed District	Factsheet (Inspection Guide)	Inspection	
Inspection Guide for Permeable Pavers		Factsheet (Inspection Guide)	Inspection	
Green Roof Maintenance	Montgomery County	Factsheet	Description, Maintenance	Maintenance activities, frequency and troubleshooting tips.
Porous Pavement Maintenance		Factsheet		
Rain Garden/Bioswale Maintenance		Factsheet		
Swale Maintenance		Factsheet		
Vegetated Stormwater Facility Maintenance		Factsheet		
Buried Dry Well Maintenance		Factsheet		
Rain Barrels		Factsheet		
Planting Design for Bioretention & Rain Gardens		Brochure	Design	
Permeable Pavement Design Template		Guide	Design, Installation & Maintenance	This guidebook provides information on the design, installation and maintenance of permeable pavements.
Inspector's Guide for Permeable Interlocking Concrete Pavers (PICP) Installation & Maintenance	PICP Institute	Checklist	Inspection	This PICP inspector's guide for project construction and maintenance consists of a checklist developed from the ICPI PICP manual and the PICP certificate course.
Green Infrastructure Practices: An Introduction to Permeable Pavement	Rutgers University	Factsheet	Maintenance	Types, benefits, maintenance.
Rain Gardens and Mosquitoes		Factsheet	Maintenance	How to keep rain gardens free from mosquitoes.
An Introduction to Green Infrastructure Practices				Introduction/benefits/types.
Green Infrastructure Practices: Tree Boxes		Factsheet	Maintenance	Fact Sheet FS1209, includes information on installation, maintenance of tree boxes.

TABLE 4
FACTSHEETS/BROCHURES/CHECKLISTS/FORMS

Source Document	Organization	Type	Category	Comments/Notes
Stormwater Treatment BMP Inspection Data Collection Form	Santa Clara Valley Urban Runoff Pollution Prevention Program	Form	Inspection & Maintenance	
Natural Drainage Systems Landscape Maintenance Categories (LMC) and Characteristics Checklist	Seattle Public Utilities	Checklist	Maintenance	
Rain Gardens	University of Delaware Co-operative Extension	Factsheet	Design, Installation & Maintenance	This factsheet provides information related to design, installation and maintenance.
Green Roofs		Factsheet	Design, Installation & Maintenance	This factsheet provides information related to design, installation and maintenance.
Rainwater Harvesting		Factsheet		
Regular Inspection and Maintenance Guidance for Porous Pavements	University of New Hampshire Stormwater Center	Factsheet & Checklist	Inspection & Maintenance	Inspection checklist and maintenance activities.
Regular Inspection and Maintenance Guidance for Bioretention Systems/Tree Filters		Factsheet & Checklist	Inspection & Maintenance	Inspection checklist and maintenance activities.
USEPA Stormwater Technology Factsheet (Vegetated Swales)	USEPA	Factsheet	Design, Operation & Maintenance	Cost, performance, design criteria, operation & maintenance.
USEPA Stormwater Technology Factsheet (Constructed Wetlands)		Factsheet	Design, Operation & Maintenance	Cost, performance, design criteria, operation & maintenance.
USEPA Stormwater Technology Factsheet (Porous Pavement)		Factsheet	Design, Operation & Maintenance	Cost, performance, design criteria, operation & maintenance.
USEPA Stormwater Technology Factsheet (Bioretention)		Factsheet	Design, Operation & Maintenance	Cost, performance, design criteria, operation & maintenance.
Bioretention Inspection Form	Washington State Department of Ecology	Forms		
Permeable Pavement Inspection Form		Forms		
Bioretention Soil Mix	Found as a resource on the 12,000 Rain Gardens program webpage	Factsheet		This factsheet helps understand the composition of soil mixes for bioretention.

TABLE 5
VIDEOS/WEBCASTS

Title	Source	Type	Category	Comments/Notes
A Guide to Proper Construction Techniques for Contractors, Local Governments and Involved Homeowners	Chesapeake Stormwater (Videos)	Construction	https://youtu.be/efu1LfF1rio?list=PLvAwYhXd7L0L_Fmj2HsMXMqdN5MU6OWfh	Covers construction practices and the importance of following the construction sequence.
Inspecting LID Stormwater Practices: A Guide to Proper LID Inspection Practices for Local Governments and Contractors		Inspection	https://youtu.be/eAFuMro0gvA?list=PLvAwYhXd7L0L_Fmj2HsMXMqdN5MU6OWfh	Offers tips on how to conduct routine and more formal inspections of LID-type stormwater management practices such as bioretention, bioswales and permeable pavement.
Stormwater BMP and LID Maintenance: A Guide to Proper Maintenance Practices for Local Government Staff and Landscapers		Maintenance	https://www.youtube.com/watch?v=coFbdMB-q0U&feature=youtu.be&list=PLvAwYhXd7L0L_Fmj2HsMXMqdN5MU6OWfh	Discusses routine maintenance of LID-type stormwater management practices including commonly encountered maintenance problems and offers potential solutions for remediating them.
Analyzing the Bioretention Construction Sequence	Chesapeake Stormwater (PDF of PPT/slides)	Construction	http://chesapeakestormwater.net/wp-content/uploads/downloads/2013/10/Bioretention-Construction-Sequence.pdf	
Bioretention Design, Installation and Maintenance	Chesapeake Stormwater (Webcast)	Design, Installation & Maintenance	http://chesapeakestormwater.net/2010/04/bioretention-design-installation-and-maintenance/	
RiverSmart Rooftops in Washington, DC	DDOE (Videos)	Construction & Maintenance	https://vimeo.com/122354242	
RiverSmart Homes – Rain Barrel Maintenance		Maintenance	https://vimeo.com/85290827	
MSD Rain Garden and Planter Box Maintenance	Metropolitan St. Louis Sewer District (Video)	Maintenance	https://www.youtube.com/watch?v=nK4x1rtyMds&feature=youtu.be	
Getting Polluted Runoff Under Control	Stormwater PA and GreenTreks Network (DVD/Videos)		This DVD can be purchased at: http://www.greentreks.tv/?tag=green-building	The videos targeting homeowners and the one on GI gives useful big picture information on water cycle, how living roofs, rain gardens, etc., green stormwater management).
Greening Your Backyard: Water Efficiency and Stormwater Solutions for Homeowners and Communities	USEPA		https://www.youtube.com/watch?v=WOMLB2kLYVA&feature=youtu.be	This webcast provides information to homeowners and communities about some of the latest tools and information on water efficiency and stormwater solutions.
Green Infrastructure for Arid Communities			Webcast slides and transcript can be found at: https://www.epa.gov/green-infrastructure/green-infrastructure-arid-communities	This webcast showcases how green infrastructure practices and the many associated benefits can be effective not only in wetter climates, but also for those communities in arid and semi-arid regions around the nation that have different precipitation patterns and water demand challenges.
Best Practices for Green Infrastructure O&M			Webcast slides and transcript can be found at: https://www.epa.gov/green-infrastructure/best-practices-green-infrastructure-om-webcast	This webcast provides a general overview of best practices to consider when creating a green infrastructure O&M plan.
Getting More Green from your Stormwater Infrastructure			Webcast slides and transcript can be found at: https://www.epa.gov/green-infrastructure/getting-more-green-your-stormwater-infrastructure-webcast	This webcast showcases different ways of communicating both cost savings and benefits related to green infrastructure.

TABLE 6
BOOKS

Organization	Source Document	ISBN	Comments/Notes
Green Roof Plants: A Resource & Planting Guide	Edmund Snodgrass & Lucie Snodgrass	ISBN-13: 978-0-88192-787-0	Great plant identification guide, focuses primarily on green roof plants.
Permeable Interlocking Concrete Pavements	David R. Smith	ISBN 978-1-4507-8440-5	Design, specifications, construction, maintenance.

TABLE 7
REFERENCES, DOCUMENTS AND TRAINING MATERIALS FOR GREEN STORMWATER INFRASTRUCTURE

#	Title	Author/Publisher	Bioretention*	Porous/Permeable Pavements	Green Roofs	Blue Roofs	Dry Wells	Rainwater Harvesting**	Stormwater/Constructed Wetland
1	Start at the Source: Design Guidance Manual for Stormwater Quality	Bay Area Stormwater Management Agencies Association	✓	✓			✓	✓	
2	Pervious Pavement (Stormwater Control for Small Projects)		✓	✓					
3	Rain Gardens (Stormwater Control for Small Projects)								
4	Rain Barrels & Cisterns (Stormwater Control for Small Projects)							✓	
5	Regional Bioretention Soil Guidance & Model Specification	Bay Area Stormwater Management Agencies Association (& WRA Consultants)	✓						
6	Routine Maintenance for Rain Gardens	Blue Water Baltimore	✓						
7	Stormwater Management Guidebook for the DC DOEE	Center for Watershed Protection	✓	✓	✓			✓	✓
8	A Guide to Proper Construction Techniques for Contractors, Local Governments and Involved Homeowners	Chesapeake Stormwater							
9	Inspecting LID Stormwater Practices: A Guide to Proper LID Inspection Practices for Local Governments and Contractors		✓	✓					
10	Stormwater BMP and LID Maintenance: A Guide to Proper Maintenance Practices for Local Government Staff and Landscapers								
11	Bioretention Design, Installation and Maintenance Webcast		✓						
12	Analyzing the Bioretention Construction Sequence		✓						
13	CSN Technical Bulletin No. 10 Bioretention Illustrated: A Visual Guide for Constructing, Inspecting, Maintaining, and Verifying the Bioretention Practice		✓	✓					
14	Maintenance Matters Now! The changing world of BMP Inspection								
15	Low Impact Development Construction Guide – Version 1.0	Credit Valley Conservation	✓	✓					

* For the purposes of this table, bioretention refers to the following Green Infrastructure practices: Rain Gardens, Bioswales, Tree Boxes, Bioretention Planters

** For the purposes of this table, Rainwater Harvesting refers to the following Green Infrastructure practices: Rain Barrels, Cisterns, Rainwater Harvesting systems

TABLE 7
REFERENCES, DOCUMENTS AND TRAINING MATERIALS
FOR GREEN STORMWATER INFRASTRUCTURE

#	Title	Author/Publisher	Bioretention*	Porous/ Permeable Pavements	Green Roofs	Blue Roofs	Dry Wells	Rainwater Harvesting**	Stormwater/ Constructed Wetland
16	Post-Construction Stormwater Management	City of Alexandria, VA							
17	Bioretention Area Maintenance Schedule and Guidelines								
18	Permeable Pavement Maintenance Schedule and Guidelines		✓						
19	Rainwater Harvesting Maintenance Schedule and Guidelines							✓	
20	Sheet Flow to Vegetated Filter Areas and Conserved Open Space Maintenance Schedule and Guidelines								
21	Urban Bioretention Area Maintenance Schedule and Guidelines		✓						
22	Vegetated Roof Maintenance Schedule and Guidelines				✓				
23	Constructed Wetlands Maintenance Schedule and Guidelines							✓	
24	Green Infrastructure Stormwater Management Practices for Small Commercial Development	City of Atlanta, Watershed Department, GA	✓	✓	✓			✓	
25	Green Infrastructure for Single Family Residences		✓	✓	✓		✓	✓	
26	Stormwater Strategic Plan – Green Infrastructure Design & Implementation Guidelines	City of Columbus, OH		✓					
27	LID Guidance Manual	City of Flagstaff, AZ							
28	Permeable Pavement Factsheet	City of Omaha Stormwater Program, NE		✓					
29	Bioretention Systems Factsheet		✓						
30	Bioretention System Annual Evaluation Form		✓						
31	Permeable Pavers & Pervious Pavement Annual Evaluation Form			✓					
32	Rain Garden Annual Evaluation Form		✓						
33	Bioretention Gardens: A Manual for Contractors in the Omaha Region to Design and Install Bioretention Gardens		✓						
34	Stormwater Management Manual	City of Portland, OR	✓	✓	✓		✓		
35	Stormwater BMP Guidance Manual	City of Santa Barbara, CA	✓		✓				
36	Water Harvesting Guidance Manual	City of Tucson, AZ						✓	
37	Low Impact Development Approaches (LIDA) Handbook	Clean Water Services, OR	✓	✓	✓				✓
38	Stormwater Maintenance Training for Municipal Employees in Northeast Ohio	Cleveland, OH	✓	✓	✓			✓	
39	Filterra® Solutions Brochure	Contech Engineered Solutions	✓						
40	Filterra® Operation & Maintenance Guide		✓						
41	Stormwater C.3 Guidebook	Contra Costa Clean Water Program, CA	✓	✓			✓	✓	
42	CULTEC Plastic Chamber as Dry Well	CULTEC, Inc							
43	CULTEC Stormwater Product Booklet								
44	Industry Guidelines for Permeable Interlocking Concrete Pavement in the United States and Canada	David R. Smith of ICPI		✓					
45	Green Infrastructure Primer for Delaware	Delaware Department of Natural Resources and Environmental Control (DNREC)	✓		✓			✓	

* For the purposes of this table, bioretention refers to the following Green Infrastructure practices: Rain Gardens, Bioswales, Tree Boxes, Bioretention Planters

** For the purposes of this table, Rainwater Harvesting refers to the following Green Infrastructure practices: Rain Barrels, Cisterns, Rainwater Harvesting systems

TABLE 7
REFERENCES, DOCUMENTS AND TRAINING MATERIALS
FOR GREEN STORMWATER INFRASTRUCTURE

#	Title	Author/Publisher	Bioretention*	Porous/ Permeable Pavements	Green Roofs	Blue Roofs	Dry Wells	Rainwater Harvesting**	Stormwater/ Constructed Wetland
46	Green Infrastructure Designs – Scalable Solutions to Local Challenges	Delta Institute, IL	✓	✓					
47	Green Infrastructure Standards	District of Columbia – Department of Transportation	✓	✓					
48	Technical Memorandum #6 – Green Infrastructure Technologies	DC Water	✓	✓	✓	✓		✓	
49	DC Water Green Infrastructure Utility Protection Guidelines		✓	✓					
50	DCCR GI Design Standards (Draft)		✓	✓	✓			✓	
51	Riversmart Homes (Training materials)	District Department of the Environment (DDOE)*** and Alliance for the Chesapeake Bay	✓						
52	Low Impact Development (LID) Construction and Maintenance Guidance Manual	District Department of the Environment (DDOE)*** and LID center	✓	✓	✓		✓	✓	
53	RiverSmart Rooftops in Washington, DC	District Department of the Environment (DDOE)**			✓				
54	RiverSmart Homes – Rain Barrel Maintenance		✓						
55	RiverSmart Homes		✓	✓				✓	
56	Stormwater Management Guidebook								
57	Green Roof Plants: A Resource & Planting Guide	Edmund Snodgrass & Lucie Snodgrass			✓				
58	Bioretention Practices	Fairfax County, VA							
59	Permeable Pavement		✓						
60	Rainwater Harvesting		✓					✓	
61	Tree Box Filters								
62	Soil Compost Amendments								
63	Vegetated Roofs				✓				
64	Wet and Dry Stormwater Management Ponds								
65	Vegetated Swales		✓						
66	Public Facilities Manual (Chapter 6) – Fairfax County		✓	✓	✓			✓	✓
67	Fairfax County Maintenance Contractor Awareness Training		✓	✓	✓				✓
68	Recommended Plant List for Bioretention Facilities								
69	40-hrs Stormwater Inspection Team Training Materials (Internal)								
70	Technical Bulletin: Porous Asphalt Pavement, (Rev. 16 July 2012)	Flexible Pavements of Ohio		✓					
71	Georgia Stormwater Management Manual	Georgia Environmental Protection Division (and Atlanta Regional Commission)							
72	Change the Game with Green Infrastructure – Retrofits of Existing Detention Basin may be Orders of Magnitude More Cost-Effective than New BMP Construction: A Preliminary Report	Goodrich et al.							
73	Cost-Effective Stormwater Management Retrofit Device								

* For the purposes of this table, bioretention refers to the following Green Infrastructure practices: Rain Gardens, Bioswales, Tree Boxes, Bioretention Planters

** For the purposes of this table, Rainwater Harvesting refers to the following Green Infrastructure practices: Rain Barrels, Cisterns, Rainwater Harvesting systems

*** Now called Department of Energy and Environment (DOEE)

TABLE 7
REFERENCES, DOCUMENTS AND TRAINING MATERIALS
FOR GREEN STORMWATER INFRASTRUCTURE

#	Title	Author/Publisher	Bioretention*	Porous/ Permeable Pavements	Green Roofs	Blue Roofs	Dry Wells	Rainwater Harvesting**	Stormwater/ Constructed Wetland
74	Green Roof Design 101: Introductory Course, Second Edition Participant's Manual	Green Roofs for Healthy Cities			✓				
75	Green Roof Waterproofing and Drainage 301: Participant's Manual				✓				
76	Strategic Green Infrastructure Planning	Green Infrastructure Center Inc.							
77	Permeable Interlocking Concrete Pavements (Fourth Edition)	Interlocking Concrete Pavement Institute		✓					
78	Inspector's Guide for PICP Installation & Maintenance				✓				
79	A Resident's Reference Guide to Creating a Rain Garden	Kansas City Water Services	✓						
80	Green Infrastructure Pilot Through The Seasons		✓	✓					
81	City of Lancaster Green Infrastructure Plan: Appendix A – Green Infrastructure Technology Fact Sheets	City of Lancaster and Pennsylvania DCNR	✓	✓	✓		✓	✓	
82	Construction Field Guide	Louisville and Jefferson County Metropolitan Sewer District							
83	Stormwater BMP Guidance Tool	Louisiana Department of Environmental Quality (LDEQ)	✓	✓	✓				
84	LID for Southern California	Low Impact Development Center	✓	✓	✓		✓		
85	Maryland Stormwater Design Manual (Volumes 1 and 2)	Maryland Department of the Environment							
86	Factsheet on Stormwater Planters	M. Cahill, D.C. Godwin and M. Sowles	✓						
87	Factsheet on Dry Wells						✓		
88	Factsheet on Swales			✓					
89	2016 LID Manual	Metropolitan Nashville–Davidson Co	✓	✓	✓			✓	
90	Green Infrastructure Design Manual	Metropolitan Sewer District of Louisville, KY	✓	✓	✓	✓		✓	✓
91	Chapter 18 of the GI Design Manual (Draft)		✓	✓	✓	✓		✓	✓
92	Qualified Post-Construction Inspector (QPCI) Exam								
93	Qualified Post-Construction Inspector Training Program								
94	Porous Pavement Ownership & Maintenance	Metropolitan St. Louis Sewer District		✓					
95	Rain Garden Ownership & Maintenance		✓						
96	Planter Box Ownership & Maintenance		✓						
97	Bioretention Maintenance Inspection Checklist		✓						
98	Pervious Pavement Maintenance Inspection Checklist				✓				
99	MSD Rain Garden and Planter Box Maintenance		✓						
100	Landscape Guide for Stormwater BMP Design		✓						✓
101	Low Impact Development Manual for Michigan	Michigan Department of Environmental Quality	✓	✓	✓				
102	Manual of Best Management Practices For Stormwater Quality	Mid-America Regional Council And American Public Works Association	✓	✓	✓				

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#	Title	Author/Publisher	Bioretention*	Porous/ Permeable Pavements	Green Roofs	Blue Roofs	Dry Wells	Rainwater Harvesting**	Stormwater/ Constructed Wetland
103	MMSD Stormwater Tree Factsheet	Milwaukee Metropolitan Sewerage District	✓						
104	Rain Garden Care		✓						
105	Green Infrastructure Maintenance and Equipment Needs (Draft)		✓	✓	✓			✓	✓
106	Inspection Guide (Filtration Practices, Infiltration Basins and Trenches, Bioretention (Raingardens), and Swales)	Minnehaha Creek Watershed District	✓						
107	Inspection Guide for Permeable Pavers			✓					
108	Minnesota Stormwater Manual	Minnesota Pollution Control Agency	✓	✓	✓		✓	✓	✓
109	Missouri Guide to Green Infrastructure	Missouri Department of Natural Resources							
110	Factsheet on Green Roof Maintenance	Montgomery County			✓				
111	Factsheet on Porous Pavement Maintenance			✓					
112	Factsheet on Rain Garden/ Bioswale Maintenance		✓						
113	Factsheet on Swale Maintenance		✓						
114	Factsheet on Vegetated Stormwater Facility Maintenance		✓						
115	Factsheet on Buried Dry Well Maintenance						✓		
116	Factsheet on Rain Barrels		✓					✓	
117	RainScapes Rain Garden Video		✓						
118	How Green Streets Work		✓						
119	Site Assessment for a Rain Garden		✓						
120	Planting Design for Bioretention & Rain Gardens	✓							
121	Permeable Pavement Design Template			✓					
122	Raingardens for Rainscapes	✓							
123	Rainscapes Projects Manual	✓	✓				✓		
124	Grassy Swales (& Bioswales) Maintenance	NEOSWTC (Workshop Materials 2015)	✓						
125	Green Roofs Maintenance				✓				
126	Cisterns & Rainwater Harvesting Maintenance							✓	
127	Bioretention Maintenance (Part 1 and 2)		✓	✓					
128	Permeable Pavement Maintenance (Part 1 and 2)								
129	Parking Lot BMPs (Part 1 and 2)	NEOSWTC (Workshop Materials 2014)							
130	Operations & Maintenance for Bioretention Stormwater Practices (Part 1 & 2)		✓						
131	Plants for Rain Gardens and Bioretention								
132	High Performance Landscape Guidelines	New York City Department of Parks & Recreation	✓	✓	✓	✓	✓		
133	Guidelines for Design & Construction of Stormwater Management Systems	New York Department of Environmental Protection			✓	✓			
134	New York State Stormwater Management Design Manual	New York State Department of Environmental Conservation							
135	Maintaining Stormwater Systems – A Guidebook for Private Owners and Operators in Northern Virginia	Northern Virginia Regional Commission	✓	✓	✓				

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136	Stormwater Best Management Practices Manual	North Carolina Department of Environment and Natural Resources							
137	Stormwater BMP Inspection & Maintenance Certification – Participant’s Manual	North Carolina State University	✓						✓
138	Low Impact Development A Guidebook for North Carolina	North Carolina Cooperative Extension		✓	✓			✓	✓
139	Maintaining Stormwater Control Measures Guidance for Private Owners & Operators	Northeast Ohio Storm Water Training Council	✓	✓	✓			✓	
140	BioMod Modular Bioretention Brochure	Oldcastle Stormwater Solutions	✓						
141	BioMod Modular Maintenance Manual		✓						
142	TreePod Biofilter		✓						
143	StormCapture Harvesting & Reuse Brochure							✓	
144	StormCapture Installation Manual							✓	
145	StormCapture Maintenance Manual							✓	
146	PermeCapture Brochure				✓				
147	Save the Rain Program Green Infrastructure Maintenance Manual	Onondaga County, NY	✓	✓	✓		✓	✓	
148	Save the Rain Program Green Infrastructure Maintenance Training		✓	✓	✓			✓	
149	Field Guide: Maintaining Rain Gardens, Swales and Stormwater Planters	Oregon State University Stormwater Solutions	✓						
150	Pennsylvania Stormwater Best Management Practices Manual	Pennsylvania Department of Environmental Protection							
151	Green Infrastructure Maintenance Manual Development Process Plan	Philadelphia Water Department	✓	✓	✓			✓	
152	Stormwater Management Guidance Manual		✓	✓	✓	✓		✓	
153	Plant Identification Manual		✓						
154	Green Stormwater Infrastructure Maintenance Manual		✓	✓	✓	✓		✓	✓
155	Low Impact Development & Green Infrastructure Guidance Manual	Pima County & City of Tucson, AZ	✓	✓			✓	✓	
156	Prince George’s County Stormwater Design Manual	Prince George’s County, MD	✓	✓	✓		✓		
157	Bioretention Manual		✓						
158	Green Infrastructure Practices: An Introduction to Permeable Pavement	Rutgers University		✓					
159	Rain Gardens & Mosquitoes		✓						
160	An Introduction to Green Infrastructure Practices								
161	Green Infrastructure Practices: Tree Boxes		✓						

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#	Title	Author/Publisher	Bioretention*	Porous/ Permeable Pavements	Green Roofs	Blue Roofs	Dry Wells	Rainwater Harvesting**	Stormwater/ Constructed Wetland
162	GI Construction Training Program	San Francisco Public Utilities Commission							
	Green Infrastructure Construction Guide Book		✓	✓					
	Course 1.1 – Introduction to Green Infrastructure Construction								
	Course 1.2 – Green Infrastructure Site Management								
	Course 2.1 – Bioretention Planter Construction		✓						
	Course 2.2 – Permeable Pavement Construction			✓					
	Tailgate Talks		✓	✓					
163	Stormwater Treatment BMP Inspection Data Collection Form	Santa Clara Valley Urban Runoff Pollution Prevention Program	✓	✓	✓				✓
164	Natural Drainage Systems Landscape Maintenance Categories (LMC) and Characteristics Checklist	Seattle Public Utilities							
165	City of Seattle Stormwater Manual Volume 3: Project Stormwater Control		✓	✓			✓	✓	
166	Green Stormwater Infrastructure Manual – Volume 5: Operations and Maintenance		✓	✓					
167	Low Impact Development (LID) for Southern California	Southern California Stormwater Monitoring Coalition							
168	Site Design Procedures for Better Stormwater Management	Stormwater PA							
169	Getting Polluted Runoff Under Control	Stormwater PA and GreenTreks Network	✓		✓				
170	Tennessee Permanent Stormwater Management and Design Guidance Manual	Tennessee Dept of Environment and Conservation Division of Water Resources	✓	✓	✓			✓	
171	Porous Asphalt Pavements with Stone Reservoirs	U.S. Department of Transportation, Federal Highway Administration		✓					
172	Army Low Impact Development Technical User Guide	U.S. Army Corps of Engineers	✓	✓	✓			✓	
173	Rain Gardens	University of Delaware Co-operative Extension	✓						
174	Green Roofs				✓				
175	Rainwater Harvesting							✓	
176	An Introduction to Stormwater Practices Maintenance – Vegetated & Biological Stormwater Practices Maintenance	University of Minnesota	✓						✓
177	Regular Inspection & Maintenance Guidance for Bioretention System/Tree Filters	University of New Hampshire Stormwater Center	✓						
178	Regular Inspection & Maintenance Guidance for Porous Pavements			✓					
179	Rain Garden Educator's Kit	University of Wisconsin-Extension Basin Education Program & Wisconsin DNR							
180	Urban Storm Drainage Criteria Manual Volume 3	Urban Drainage and Flood Control District, Denver, CO	✓	✓					
181	CU-Structural Soil – A Comprehensive Guide	Urban Horticulture Institute, Cornell University	✓						
182	Using Porous Asphalt and CU-Structural Soil			✓					

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183	Post-Construction Performance Standards & Water Quality-Based Requirements	USEPA								
184	Stormwater Technology Factsheet (Bioretention)		✓							
185	USEPA Stormwater Technology Factsheet (Vegetated Swales)		✓							
186	USEPA Stormwater Technology Factsheet (Constructed Wetlands)								✓	
187	USEPA Stormwater Technology Factsheet (Porous Pavement)				✓					
188	Performance of Stormwater Retention Ponds and Constructed Wetlands in Reducing Microbial Concentrations									✓
189	Green Roofs for Stormwater Runoff Control					✓				
190	Green Infrastructure Case Studies									
191	Greening Your Backyard: Water Efficiency and Stormwater Solutions for Homeowners and Communities			✓					✓	
192	Green Infrastructure for Arid Communities									
193	Best Practices for Green Infrastructure O&M									
194	Getting More Green from your Stormwater Infrastructure									
195	Virginia Stormwater BMP Clearing House		Virginia Department of Environmental Quality							
196	Low Impact Development Operations and Maintenance Training		Washington State Department of Ecology	✓	✓	✓				
197	Bioretention Inspection Form									
198	Permeable Pavement Inspection Form				✓					
199	Western Washington Low Impact Development (LID) Operation and Maintenance (O&M)			✓	✓	✓		✓		
200	Washington State Low Impact Development Training Plan									
201	Rain Garden Handbook for Western Washington	Washington State Department of Ecology & WSU Extension	✓							
202	Green Infrastructure Implementation	Water Environment Federation	✓	✓	✓	✓		✓		
203	Green Infrastructure for Southwestern Neighborhoods	Watershed Management Group (Funded by USEPA and Arizona Department of Environmental Quality)								
204	West Virginia Stormwater Management and Design Guidance Manual	West Virginia Department of Environmental Protection	✓	✓	✓			✓	✓	
205	Bioretention Soil Mix	12,000 Rain Gardens Program webpage	✓							
206	Sustainable Stormwater Kit	Found as a resource on the ASLA website								

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THANK YOU!

WEF thanks the NGICP Program Partners for their assistance in building the Body of Knowledge. The Body of Knowledge document is an outcome of a collective effort of various subject matter experts (SMEs) in the field of stormwater and GI. We are thankful to the Technical Advisory Group (TAG) members and the Governing Body members for their time and commitment in reviewing this document and providing comments.



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