

Memorandum



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To: Wenatchee Valley Stormwater Technical Advisory
Committee
From: Alissa Maxwell, PE
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Copies:
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Subject: Stormwater Pollution Prevention O&M Plan
Template Guidance Document
Project No.: 31703

Introduction

This Guidance Document accompanies the *Stormwater Pollution Prevention Operations and Maintenance Plan Template for Eastern Washington NPDES Phase II Communities* (Otak, Inc., DRAFT, September, 2010) (referred to as O&M Plan Template hereafter) and provides background information as to how the O&M Plan Template was developed and how it should be used. This Guidance Document provides step-by-step instructions for Eastern Washington cities and counties to transform the O&M Plan Template into a community-specific O&M Plan for the protection of their local receiving waters.

The NPDES *Eastern Washington Phase II Municipal Stormwater Permit* (Phase II Permit) requires permittees to have an O&M Plan in place prior to February 2011. The activities and Best Management Practices (BMPs) identified in the O&M Plan must be fully implemented (including training for municipal field staff) prior to August 2011.

The O&M Plan Template is designed so that municipalities can quickly develop an O&M Plan that meets the Phase II Permit requirements. The resulting O&M Plan for each community will focus on the activities and BMPs that field staff, supervisors, and managers need to implement on a regular basis in order to meet the Phase II Permit requirements. The O&M Plan can also be utilized as a training document to instruct field staff on the activities and BMPs that must be implemented in order to meet the water quality requirements of the Phase II Permit.

Acknowledgements

The O&M Plan Template was developed by Otak, Inc. for the Wenatchee Valley Stormwater Technical Advisory Committee (WVSTAC), consisting of representatives from the City of Wenatchee, the City of East Wenatchee, Chelan County, and Douglas County. Contributions to the project were made by other Eastern Washington communities, including stormwater program

managers from the Cities of Kennewick, Moses Lake, Richland, Spokane, and Spokane Valley, Spokane and Walla Walla Counties, and the Eastmont Metropolitan Park District. The O&M Plan Template project was funded by a grant from the Washington State Department of Ecology (Ecology).

Template Development

The O&M Plan Template was developed with significant contribution from the WVSTAC and other stormwater program managers throughout Eastern Washington. Prior to developing the template, a Stormwater O&M Activities Questionnaire was distributed to Eastern Washington stormwater program managers in order to develop an understanding of current maintenance practices in the region. The results of that questionnaire and the implications for the O&M Plan Template are presented in a separate memorandum, *Summary of Existing O&M Practices and Comparison to NPDES Requirements* (Otak, Inc., August, 2010).

Regulatory Framework

The National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit for Eastern Washington (Phase II Permit) was implemented by Ecology in January 2007, with a modification effective June 17, 2009. The Phase II Permit requires permittees to develop a stormwater management plan aimed at protecting the water quality of local streams and rivers.

The Phase II Permit addresses municipal O&M activities in a number of areas, including requirements to develop a comprehensive stormwater system inventory (S5.B.3.a), to inspect for illicit discharges (S5.B.3.c), to inspect active construction sites (S5.B.4.c), and to inspect constructed stormwater management facilities (S5.B.5.c). In addition, Section S5.B.6.a, requires permittees to develop an O&M Plan addressing stormwater pollution prevention measures for ten specific municipal maintenance activities. The ten topics that must be covered in the O&M Plan are:

1. Stormwater Collection and Conveyance
2. Roads, Highways, and Parking Lots
3. Vehicle Fleets
4. Municipal Buildings
5. Parks and Open Space
6. Construction Projects
7. Industrial Activities
8. Material Storage Areas, Heavy Equipment Storage Areas, and Maintenance Areas
9. Flood Management Projects
10. Other Facilities

Within these ten areas, the Phase II Permit requires permittees to implement BMPs and maintenance standards that are at least as protective as the inspection frequencies and standards

described in Ecology's 2004 *Stormwater Management Manual for Eastern Washington* (Ecology 2004 Manual).

Standards and BMPs

The inspection schedules, maintenance standards, recommended activities, and BMPs included in the O&M Plan Template were developed based on the Ecology 2004 Manual, the *Model Municipal Stormwater Program for Eastern Washington* (2003), and other reference documents as listed at the end of this memorandum.

Maintenance standards describe the conditions when maintenance is needed to clean or repair a facility. The Ecology 2004 Manual includes maintenance standards that apply primarily to the stormwater collection and conveyance system, such as the depth of sediment that is allowed to accumulate in a catch basin before it must be removed. The maintenance standards for stormwater facilities required in the Ecology 2004 Manual have been incorporated into Appendix A of the O&M Plan Template. The Ecology 2004 Manual also includes required inspection frequencies to evaluate conditions at catch basins and stormwater management facilities. These inspection frequencies have been incorporated into Section 3 of the O&M Plan Template.

Beyond the inspection frequencies and maintenance standards for stormwater facilities, neither the Phase II Permit nor the Ecology 2004 Manual specifies prescriptive activities or BMPs related to municipal maintenance activities. For example, the Phase II Permit does not list required BMPs for municipal storage areas or specific street sweeping frequencies. Instead, the Permit requires that permittees "... reduce the discharge of pollutants to the maximum extent practicable..." and "...use all known, available, and reasonable methods of prevention, control and treatment to prevent and control pollution..." (Sections S4.C and S4.D). To meet these goals, the O&M Plan Template includes recommended BMPs for common activities within each of the ten areas listed above. Template users will need to review the recommended BMPs and select those that will help their jurisdiction meet the permit requirements. Additional BMPs can be found in the SWPPP Template (Appendix D of the O&M Plan Template) and in the reference documents listed at the end of this Guidance Document.

How to Use the Template

General Process

1. Create generic O&M Plan by inserting your city/county name throughout the document.
2. Create a Draft O&M Plan by editing and customizing the generic Plan to meet the needs of your community.
3. Review the Draft O&M Plan with maintenance staff to obtain their input.
4. Finalize the O&M Plan.
5. Utilize the O&M Plan in training municipal field staff.

Template Format

The O&M Plan Template is a Microsoft Word document, formatted for double sided printing. Page breaks can be added as needed, so the cover page for each section falls on an odd numbered page of the document.

IMPORTANT ! This Word document is made up of many separate Sections, each containing headers, footers, and page numbers specific to that Section. Be very careful not to delete Section Breaks in the document. (Click the Show/Hide ¶ button to see the Section Breaks.)

Throughout the template, text in <Triangular Brackets> must be replaced with information specific to your local jurisdiction. Additional instructions to the user are included in the template using **<colored, bracketed text>**. These instructions should be removed from the O&M Plan prior to finalization.

Pictures have been included in each section of the O&M Plan Template to provide visual interest for the reader. The photos in the template are from Eastern Washington communities. The template photos can be retained in your document or replaced with photos taken in your community. If desired, captions can be added into the text boxes surrounding each photo.

All colors included in the O&M Plan Template can be modified to fit the preferred color scheme for your jurisdiction.

Basic Customization: Develop a Generic O&M Plan

1. Review the O&M program requirements in Section S5.B.6 of the Phase II Permit.
2. Review the O&M Plan Template to become familiar with the content and structure of the plan.
3. Use the “Find and Replace” features in Microsoft Word to search the template for the “<” symbol. Information in <Triangular Brackets> must be replaced with information specific to your local jurisdiction. Common bracketed text includes:

- <FULL NAME>: Replace with the full name of your community (e.g., “City of Wenatchee”).
 - <CITY/COUNTY>: Replace with the short name for your community (e.g., “Wenatchee”) or use the word “City” or “County” as appropriate.
 - <NAME/TITLE>: Replace with the name and/or job title of the person responsible for the particular task or activity (e.g., Joe Smith, Public Works Director).
4. Instructions and notes to the user are included in the template using **<colored, bracketed text>**. These instructions should be removed from the O&M Plan prior to finalization.
 5. The isopluvial map needed for identifying the 10-year, 24-hour rainfall intensity has been attached to this memorandum. The referenced map is Figure 4.3.4 from the *Stormwater Management Manual for Eastern Washington* (September 2004), and is used to define rainfall intensity for flood management BMPs listed in Sections 3 and 11.
 6. Complete the Program Overview information in Section 2.
 7. Create the Stormwater System Map and Facilities Map for inclusion in Section 2.

At this point, the user will have a Generic O&M Plan. The Generic O&M Plan is a working document that can then be distributed to other staff that will be participating in the development of the Draft O&M Plan.

Local Customization: Develop a Draft and Final O&M Plan

1. Conduct a self-evaluation to identify components of your maintenance program and existing practices that have the potential to discharge pollutants to receiving waters.
2. Based on the self-evaluation, identify the applicable sections of the O&M Plan template that need tailoring. Note that Sections 3 through 12 are required by the Phase II Permit, though the level of detail included in each section may vary based on the extent of your program. For example, a City that does not operate a Parks Department may be able to significantly reduce the BMPs in Section 7 to only cover open space vegetation management activities.
3. Carefully review the BMPs in each section of the O&M Plan. Add and delete BMPs as they apply to your jurisdiction.
4. Complete the Implementation Checklist for each section to document the activities currently being performed in each department, the new activities that must be implemented for compliance with the Phase II Permit, and additional activities that should be implemented as staff and equipment are available.
5. Search again and remove all <bracketed text> that remains in the document.
6. Review the Draft O&M Plan document, noting which appendices and attachments must be included and which can be removed.
7. Tailor and customize appendices (see descriptions below).
8. Adjust document colors, photographs, and cover, as desired.

9. Delete the first two pages of the O&M Plan Template, so the first page of the document is the colorful cover page. Add your jurisdiction name and logo to the cover page, and mark the cover as Draft.
10. Issue the Draft O&M Plan for review by maintenance supervisors, field staff, and management. Participating in the plan development process will help staff have a sense of ownership in the O&M Plan and increase their interest in implementing the identified BMPs.
11. Receive comments, adjust BMPs and Implementation Checklists.
12. Review final formatting of the document. Add or delete page breaks and the “This page intentionally left blank.” text, so that the first page of each new section starts on an odd numbered page.
13. Finalize the document and issue the Final O&M Plan.
14. Conduct training for field staff and management and begin implementation.

Appendices and Attachments

1. **Appendix A:** Review and customize the Inspection Checklist to correlate with local record keeping systems. The intent of the inspection checklist is to have a field form that translates well to a spreadsheet or GIS database.
2. **Appendix B:** Review and customize the Waste Disposal Procedure to fit local guidelines or replace the template document with an existing local policy.
3. **Appendix C:** Review and customize the Private Facilities Maintenance Protocol or replace the template document with an existing local policy.
4. **Appendix D:** Insert a previously developed Stormwater Pollution Prevention Plan (SWPPP) or utilize the SWPPP Template to develop a SWPPP for municipal storage areas (details provided below).
 - Review and customize the Spill Response Plan within the SWPPP Template or replace the template document with an existing Spill Response Plan.
5. **Appendix E:** Replace the sample documents in Appendix E with the local Integrated Pest Management (IPM) Plan or Policy. If a local plan or policy has not been developed, review the sample IPM policies in Appendix E and consider whether a similar policy for vegetation and pest management should be developed.
6. **Appendix F (Optional):** Complete the Staffing and Equipment Tracking spreadsheet to calculate the cost and staffing required to implement the O&M Plan.
7. Insert any other appendices or attachments that have been added as references within the O&M Plan text.

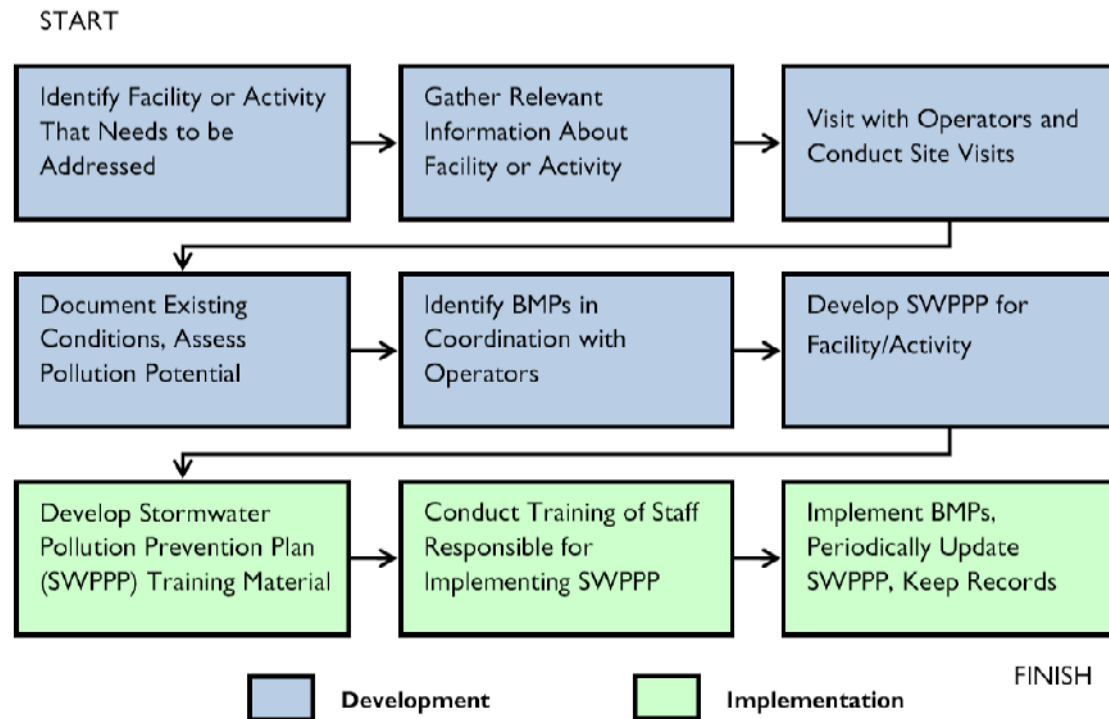
Note: The Staffing and Equipment Tracking Spreadsheet included in Appendix F of the O&M Plan Template is an internal management tool. The spreadsheet does not need to be completed to finalize the O&M Plan. However, the user is strongly encouraged to retain a placeholder appendix for the spreadsheet or other planning/scheduling documents that may be developed in the future.

Information on how to utilize the Staffing/Equipment spreadsheet is included in the “Additional Uses” section below.

How to Develop a SWPPP

The NPDES Phase II Permit requires that jurisdictions develop and implement a SWPPP for material and equipment storage yards and maintenance facilities. The NPDES Phase II Permit allows communities to develop a single generic SWPPP that can be applied across multiple municipal properties. Appendix D of the O&M Plan Template includes a SWPPP Template that can be tailored to local conditions.

Below is a flow chart that shows the SWPPP development and implementation process.



Note that some activities/facilities do not require a “SWPPP”; however, the process and documentation will be similar.

The process begins with identifying the municipal storage and/or maintenance facilities that need a SWPPP, then gathering information about the facilities for inclusion in the SWPPP. Appendix B of the SWPPP Template includes a questionnaire that can be sent to facility managers for completion ahead of the site visit. The questionnaire asks questions related to the description of the facility and the practices and activities performed at the facility that may impact stormwater quality and potentially cause stormwater pollution. This questionnaire can then be referenced during a thorough site visit to document current conditions and practices. The site visit should be performed by the

City/County stormwater manager or other assigned personnel. Photos should be taken during the site visit to document the current practices and facility condition. The SWPPP Template includes an example Facility Site Visit Assessment Questionnaire, found in Appendix C of the SWPPP Template, to help guide the site visit.

After the site visit, the SWPPP can then be prepared using the SWPPP Template in Appendix D of the O&M Plan Template as a guide. The SWPPP is developed by documenting current activities and site uses at the facility and identifying BMPs for each site use and activity that may be used to reduce the potential for stormwater pollution. Appendix E in the SWPPP Template includes an extensive list of BMPs for common storage facility and maintenance site uses and practices.

In general, SWPPP Template users should search for all terms in <BRACKETS> and replace that information with facility specific information. Throughout the template, general information for the template user is denoted in <BLUE FONT AND BRACKETS>.

Additional Uses for the O&M Plan Template

Training

Training for municipal field staff is required under Section S5.B.6.b of the Phase II Permit. The O&M Plan Template project includes the development of a training program for municipal field staff. The objectives of the training are to introduce the maintenance requirements of the Phase II Permit and educate field staff about the specific activities, methods, and BMPs that they will need to implement for stormwater quality protection. The intention is for communities to utilize the O&M Plan Template to develop a Draft O&M Plan tailored to their local conditions prior to the training sessions. Municipal field staff can then use the Draft O&M Plan as a reference document throughout the training session.

Planning and Budgeting

The O&M Plan Template includes a Staffing and Equipment Tracking Spreadsheet that program managers can use for planning and budgeting purposes. The spreadsheet is set up for managers to input the maintenance activities, frequencies, and crew/equipment requirements from their Draft or Final O&M Plan. The result shows an annual work plan with total required staff time and equipment needs to meet the desired maintenance standards. The spreadsheet is an important planning tool to budget for annual program expenditures and to justify the need for additional field staff or equipment. Program managers can also use the spreadsheet to evaluate the cost of increasing service levels (through more frequent inspections or higher maintenance standards) for various aspects of the maintenance program.

Crew Assignments and Task Orders

The inspection frequencies and maintenance standards included in the O&M Plan can be translated to work assignments based on the desired maintenance frequencies. When recurring activities are needed, the O&M Plan Template includes tables for managers to outline both a frequency (annual, quarterly, etc.), and schedule (particular months) for each activity. This will allow managers to plan for recurring activities on an annual basis and organize work crews to address the needs in a proactive manner.

Tracking and Reporting

Recordkeeping is a separate requirement of the Phase II Permit and operations and maintenance program records are a major component of what is required in the Phase II Permit. The Inspection Checklists in Appendix A of the O&M Plan Template have been created to easily translate into local record keeping software – whether through the use of a spreadsheet or GIS-based database. For communities that have not developed an electronic records system, the checklists provide a standardized method to track inspection and maintenance activities for the whole stormwater collection and conveyance system.

Assistance/Contact

For additional information or assistance in utilizing the O&M Plan Template, the SWPPP Template, or any of the planning materials included in the O&M Plan Template, contact the WVSTAC or Otak, Inc. using the following information:

- Jessica Shaw, City of Wenatchee, jshaw@wenatcheewa.gov
- Brandon Mauseth, City of East Wenatchee, bmauseth@east-wenatchee.com
- Paula Cox, Chelan County, paulah.cox@co.chelan.wa.us
- Jennifer Lange, Douglas County, jlange@co.douglas.wa.us
- Alissa Maxwell, Otak, alissa.maxwell@otak.com
- Natalie Martinkus, Otak, natalie.martinkus@otak.com

Attachment

10-Year 24-Hour Isoplunials

O&M Plan Template References

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