

**Table 1-1  
CSMP Organization**

<b>Volume 1 of 6</b>	<b>Description</b>
<b>Section 1 Executive Summary</b>	Explains the purpose and scope of the Collection System Master Plan; provides a summary of each section and overall recommendations.
<b>Section 2 Existing System Description</b>	Presents an overview of the existing system and key facilities, and describes the existing service area and extents of the current urban growth boundary (UGB).
<b>Section 3 Wastewater Flow Projections</b>	Describes the development of dry weather and wet weather parameters to determine existing and future design flows.
<b>Section 4 System Analysis</b>	Provides a summary of the methodology and results of the system analysis.
<b>Section 5 Project Unit Costs and Cost Analysis</b>	Summarizes the development of unit costs and the overall optimization approach used for minimizing capital and life cycle, collection system costs.
<b>Section 6 Optimization</b>	Describes the process used to determine the combination of system improvements that satisfy the specified hydraulic performance criteria while minimizing capital and life-cycle costs.
<b>Section 7 Capital Improvement Program</b>	Presents the Capital Improvement Program (CIP) for the City of Bend.
<b>Section 8 Financial Strategy</b>	Presents the financing strategy that will be utilized by the City to pay for the identified sewer related improvements.
<b>Volume 2 of 6</b>	<b>Description</b>
<b>Appendix 1A Sewer Infrastructure Advisory Group (SIAG)</b>	<i>(This appendix is a standalone supplement to the CSMP.)</i> Introduces SIAG, describes the group's formation, and charter. Presents SIAG and City Council meeting agendas and minutes, work session summaries, community surveys, financial and technical data, SIAG presentations, and other data that informed SIAG's decisions and recommendations used in developing this CSMP.
<b>Volume 3 of 6</b>	<b>Description</b>
<b>Appendix 1B Collection System Public Facility Plan</b>	<i>(This appendix is a standalone supplement to the CSMP.)</i> Details the CSMP's compliance with the requirements of Oregon Administrative Rule Goal 11, Public Facilities Planning, and the implementing rule for the planned land uses under the Bend Area General Plan.

Volume 4 of 6	Description
<p align="center"><b>Appendix 3A Land Use Assumptions in CSMP GIS Database</b></p>	<p><i>(This appendix supplements Volume 1, Section 3.)</i> This City generated technical memorandum explains the assumptions and process used to load the hydraulic model used in this CSMP based on land use data. It also provides data used in subsequent analysis relying on population projections and growth rates.</p>
<p align="center"><b>Appendix 3B Developments Outside of the UGB</b></p>	<p><i>(This appendix supplements Volume 1, Section 3.)</i> Cites authoritative sources that allow a comprehensive plan to provide for serving destination resorts on rural lands (in this case, Inn at the Seventh Mountain and Tetherow developments) without taking an exception to statewide planning goals relating to agricultural lands, forest lands, public facilities and services or urbanization.</p>
<p align="center"><b>Appendix 4A Design Storm Considerations</b></p>	<p><i>(This appendix supplements Volume 1, Section 4.)</i> This technical memorandum discusses the City of Bend Sewer Collection System design storm and its application in the system-wide modeling. The design storm was used in modeling the existing, short-term (1- to 5-year), and long-term (6- to 20-year) planning horizons.</p>
<p align="center"><b>Appendix 4B Model Calibrations</b></p>	<p><i>(This appendix supplements Volume 1, Section 4.)</i> Summarizes the methodology and results for the calibration of the updated hydraulic model, which predicted the collection system response under dry and wet weather conditions.</p>
<p align="center"><b>Appendix 4C Lift Station Duty Point Analysis</b></p>	<p><i>(This appendix supplements Volume 1, Section 4.)</i> Presents the Lift Station Duty Point Analysis by comparing the capacity of each existing lift station under peak wet weather flow response for existing and future planning horizons.</p>
<p align="center"><b>Appendix 5A Supplemental Information for Project Unit Costs</b></p>	<p><i>(This appendix supplements Volume 1, Section 5.)</i> Presents project unit cost tables and project cost curves for collection system assets used to develop estimates for individual projects; provides the cost basis used in the optimization evaluation of collection system alternatives in Section 6; and the development of the final CIP budgets associated with the collection system improvements recommended for adoption by the City in Section 7.</p>
<p align="center"><b>Appendix 6A Optimization Solution Alternatives</b></p>	<p><i>(This appendix supplements Volume 1, Section 6.)</i> Presents detailed figures and associated descriptions of the improvement alternatives included in the overall optimization analysis.</p>
<p align="center"><b>Appendix 6B Initial Optimization Solutions</b></p>	<p><i>(This appendix supplements Volume 1, Section 6.)</i> Presents plan view layouts and cost summaries for the initial optimization solutions.</p>

<b>Volume 4 of 6</b>	<b>Description</b>
<b>Appendix 6C Intermediate Optimization Solutions</b>	<i>(This appendix supplements Volume 1, Section 6.)</i> Presents plan view layouts and cost summaries for the intermediate optimization solutions.
<b>Appendix 6D Final Optimization Solutions</b>	<i>(This appendix supplements Volume 1, Section 6.)</i> Presents plan view layouts and cost summaries for the final optimization solutions.
<b>Volume 5 of 6</b>	<b>Description</b>
<b>Appendix 4D Flow Monitoring</b>	<i>(This appendix supplements Volume 1, Section 4.)</i> Provides flow monitoring reports created by ADS Environmental Services (2011 and 2013), and an inflow and infiltration analysis report created by V&A Consulting Engineers, Inc. in 2007. This information was used for calibrating the hydraulic model.
<b>Volume 6 of 6</b>	<b>Description</b>
<b>Appendix 7A Flow Monitoring Program</b>	<i>(This appendix supplements Volume 1, Section 7.)</i> Recommends temporary and permanent flow monitoring sites that will help determine when key CIP projects are required and for the ongoing calibration of the hydraulic model.
<b>Appendix 7B CIP Project Cutsheets</b>	<i>(This appendix supplements Volume 1, Section 7.)</i> Presents the CIP cutsheets, which include information and figures describing each proposed project. These cutsheets provide detail and context for each project to aid City staff in planning, designing, and constructing the improvement.
<b>Appendix 7C 20-Year Lift Station Improvement Plan</b>	<i>(This appendix supplements Volume 1, Section 7.)</i> Summarizes the 20-Year Lift Station Improvement Plan for this CSMP, and outlines the projects required for all City-owned, non-residential lift stations to provide reliable near-term and long-term service.