Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

Operation and Maintenance Manual Certificate of Completion

Wastewater Treatment Program

Doc Type: Management Plan/O&M Plan/BMPs

Instructions: Complete and submit this Certificate of Completion and include any attachments as necessary to the Minnesota Pollution Control Agency's (MPCA) Review Engineer assigned to your project. Refer to the facility's discharge permit, plan, and specification approval letter for any additional specific information required for the certification. Many permits for wastewater treatment facility construction require the submittal of an Operation and Maintenance Manual or a copy of this certification form. In addition**, Minn. R. 7077.0286, subp. 1, requires that all projects receiving financial assistance must submit this form.**

- **Initiation of operation date will not be approved** by the MCPA until the Certificate of Completion and the final O & M Manual has been submitted and reviewed.
- **The project certification report will not be approved** until the Certificate of Completion and the revised final O & M Manual or letter indicated no revisions were necessary has been submitted to and approved by the MPCA.

Facility Information

Facility name: _____ Date: _____

Consulting engineer/ Company name: _____ MPCA review engineer: _____

Project name: _____ MPCA project no.: _____

☐ **Final** O&M Manual or ☐ **Revised final** O & M Manual

I. Introduction

An Operation and Maintenance (O & M) Manual is a valuable tool in the proper operation and maintenance of a wastewater treatment facility. Manuals are used during start-up training and provide long-term guidance in standard operating and maintenance procedures for operating staff.

Change in submittal requirements*

*In 2004, the MPCA established new methods regarding O & M Manual review and approval. **You can help us to more efficiently approve and track your document by including a completed and signed copy of this Certificate of Completion, with your O & M Manual, which we will use as part of our evaluation process**. On this certificate, indicate either yes (Y) or not applicable (N/A) for each item and include an explanation for any requirements marked N/A.

II. Definitions and Submittal Requirements

- The **Final O & M Manual** shall be given to the project owner prior to actual start-up. The MPCA will only approve the date for "initiation of operation" after reviewing the Certificate of Completion for the final manual.
- The **Revised Final O & M Manual** is the revised version of the Final O & M manual as a result of the first year of operation. If no revisions are made, submit a letter indicting that fact. The MPCA will only approve a "project certification report" after reviewing the Certificate of Completion for the revised final manual or the letter which indicates no revisions were necessary.

III. Format of an O & M Manual

These guidelines offer a suggested format. Consultants are encouraged to accommodate unique treatment plant requirements. It is not the intent of these guidelines to restrict or stifle initiative or innovation. Alternate formats are acceptable. However, all required material must be included or provide justification on why it has not been included. The manual must provide clear operating and maintenance instructions for facility staff

Operator input is vital to the development of the O & M Manual. For example, the operator should be sure that all necessary procedures, records, and lab forms be incorporated in the manual. The operator should also provide input on the implementation of their maintenance program, which could include the development of a table summarizing the maintenance schedule of all equipment for the revised manual.

IV. Stabilization Pond O & M Manual Requirements

All stabilization pond facilities **must include** a copy of the latest edition of the *MPCA Stabilization Pond Manual.* The MPCA manual can be used verbatim as a base, with specific information concerning required items added on colored paper to each chapter or consolidated at the end of manual. The manual should begin with an introduction describing the manual's organization and explaining the differences between the MPCA manual and the facility's O & M Manual.

Yes	N/A	Stabilization Pond O & M Manual Requirements
☐	☐	*MPCA Stabilization Pond Manual*, latest edition
☐	☐	Description of pond system, including flow diagram, design summary, and control structure diagrams
☐	☐	National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit, plan/specification approval letter, and any special permit requirements and reporting procedures for spills of raw or inadequately treated wastewater and toxic/hazardous wastes to the state duty officer
☐	☐	Description of specific pond system operations
☐	☐	If four feet of elevation difference is not available between the primary and secondary cells, a discussion is provided explaining the need for a transfer pump
☐	☐	Examples of discharge volume calculations for various flow rates (in feet discharged)
☐	☐	Permit requirements for "acceptable and problem discharge periods" specific to this system
☐	☐	Recommended qualifications, staffing, and required operator certification
☐	☐	Common safety issues, including Federal OSHA confined space entry requirements (29 CFR 1910.146, including Appendix A-F), and how they apply to the system. Rules are available at http://www.osha.gov

V. Mechanical Treatment Plant and Lift Station O & M Manual Requirements

Mechanical treatment facility manuals must contain all items. Lift station manuals must include indicated items.

Yes	N/A	Mechanical Treatment Plant and Lift Station O & M Manual Requirements	Lift Station
		Chapter I – Introduction	
☐	☐	Purpose, intent, manual organization	~
☐	☐	Operator and management responsibilities	~
☐	☐	Theory of wastewater treatment	
☐	☐	Description of plant/lift station, type and unit processes	~
☐	☐	Design summary for each unit	~
☐	☐	Treatment requirements/effluent limitations	
		Chapter II - Permits	
☐	☐	NPDES/SDS Permit	
☐	☐	MPCA treatment facility (lift station) plan/specification approval letter, and description of any special requirements	~
☐	☐	Reporting procedures for spills of raw or inadequately treated wastewater and toxic/hazardous wastes including NPDES/SDS permit requirements to report and explain effluent violations	~
☐	☐	NPDES/SDS permit special requirements such as bypass authorization, special provisions, compliance schedule, pretreatment requirements and so on	~
		Chapter III – Operation and Control of Wastewater Treatment	
☐	☐	Description of each unit and auxiliary system function	~
☐	☐	Flow and process unit diagrams, including valve/gate locations	~
☐	☐	Comparison of wastewater between the influent and effluent for each unit	
☐	☐	Description of relationship of adjacent units and explanation of how the operation of each treatment process/lift station will affect or be affected by adjacent units	~
☐	☐	Operation of the unit including start-up, normal operation, alternate modes of operation, seasonal operation and bypass, shutdown and draining procedures and valve positions	~
☐	☐	Initial operating parameters	~
☐	☐	Operation controls for each unit	~
☐	☐	Use of control tests and observations in operating each unit and how to apply test results to process control	
☐	☐	Potential operational problems and solutions, including a troubleshooting guide	~

Yes	N/A	Mechanical Treatment Plant and Lift Station O & M Manual Requirements - continued	Lift Station
		Chapter IV – Operation and Control of Sludge Handling	
☐	☐	Description of each unit function	
☐	☐	Flow and process unit diagram(s), including valve/gate locations for each unit	
☐	☐	Comparison of sludge characteristics between the influent and effluent for each unit	
☐	☐	Relationship of adjacent units	
☐	☐	Operation of each unit	
☐	☐	Initial operating parameters	
☐	☐	Operation controls for each unit	
☐	☐	Use of control tests and observations and how to apply the test results to process control	
☐	☐	Potential operational problems and solutions, including a troubleshooting guide	
☐	☐	Biosolids management plan	
☐	☐	*MPCA Land Application of Biosolids Manual*	
		Chapter V - Personnel	
☐	☐	Recommended staffing requirements and qualifications	~
☐	☐	Operator certification requirements, including both wastewater and waste disposal	~
		Chapter VI - Process Control And Laboratory Testing	
☐	☐	NPDES/SDS sampling requirements, process control testing, purpose and so on	
☐	☐	Instruction for conducting tests or taking physical measurements. Approved “Standard Methods” procedures should be referenced, all others should be described	
☐	☐	Proper sampling procedures	
☐	☐	Test recording methods	
☐	☐	Interpretation of test results and measurements	
☐	☐	Lab quality control program for NPDES or SDS permit and control tests conducted on-site	
☐	☐	Proper lab safety	
☐	☐	Sample worksheets	
		Chapter VII - Records	
☐	☐	Sample records including daily operations, equipment, costs, personnel, lab, etc.	~
☐	☐	Sample MPCA Discharge Monitoring Report	
☐	☐	Sample annual wastewater report and budget	~
☐	☐	Sample MPCA Biosolids Annual Report	
		Chapter VII – Maintenance	
☐	☐	Maintenance program purpose	~
☐	☐	Maintenance procedures	~
☐	☐	Equipment record system and instructions for starting and implementing such a system	~
☐	☐	Planning, scheduling and use of the maintenance record system	~
☐	☐	Inventory system	~
☐	☐	Special tools	
☐	☐	Warranty provisions and expiration dates	~
☐	☐	Maintenance cost and budgeting system	~
☐	☐	Maintenance schedule of all equipment including lubricants, filters, frequency and so on	~
		Chapter IX – Emergency Operating and Response Program	
☐	☐	Vulnerability analysis including emergencies such as power outage, tornado, flooding and so on	~
☐	☐	Equipment and telephone list to handle emergency situations	~
☐	☐	Personnel training and coordination with local fire and police during an emergency situations	~
☐	☐	Emergency operating plan and mutual aid recommendations. NPDES/SDS permit instructions for notifying the state duty officer	~

Yes	N/A	Mechanical Treatment Plant and Lift Station O & M Manual Requirements - continued	Lift Station
		Chapter X – Safety	
☐	☐	General safety discussion including hazards of sewers, mechanical equipment, explosion, bacterial infections, chlorine, oxygen deficiencies, lab, electrical and so on	~
☐	☐	Discussion and use of required safety equipment	~
☐	☐	Hazards relating to specific areas and equipment in the treatment facility/lift station	~
☐	☐	Common safety issues, including Federal OSHA confined space entry requirements (29 CFR 1910.146, including Appendix A-F) and how they apply to this system. Rules are available at http://www.osha.gov	~
		Chapter XI – Utilities	
☐	☐	General discussion of electrical, telephone, water and other utilities	~
☐	☐	Procedures and list of contacts for utility suppliers	~
		Chapter XII – Electrical And Control Systems	
☐	☐	General description of electrical and control system	~
☐	☐	Specific discussion of electrical distribution, control, monitoring and instrument systems	~
		Chapter XIII – Appendices	
☐	☐	Flow diagrams, including valve/gate locations, plant/lift station layout and so on	~
☐	☐	Copy of Wastewater Operator Certification Rules Chapter 9400.0100 to 9400.1500	~
☐	☐	Copy of Sewage Sludge Management Rules Chapter 7041.0100 to 7041.3400	
☐	☐	Copy of Federal OSHA Confined Space 29 CFR 1910.146, including Appendix A-F	~
☐	☐	Copy of NPDES/SDS permit, and Plan and Specification approval letter	~
☐	☐	Instructions and copy of MPCA Monthly Discharge Monitoring Reporting Form	
☐	☐	Copy of *MPCA Land Application of Biosolids Manual*	
☐	☐	Copy of MPCA Emergency Notification Poster	~
☐	☐	Miscellaneous sample forms; e.g. lab, maintenance, and so on	~
☐	☐	List of manufacturers manuals	~
☐	☐	List of reference materials	~

VI. Certification

I certify that I have answered the above checklist items in Section IV or V as yes or not applicable and hereby certify that the Operation and Maintenance Manual for this project, to the best of my knowledge, confirms to MPCA requirements. An explanation for each requirement checked “not applicable” is attached.

Print name: _____ Title: _____

Signature: _____ Date: _____