

# Lessons Learned from CP's Wastewater and Storm Water Treatment Standard Implementation Study

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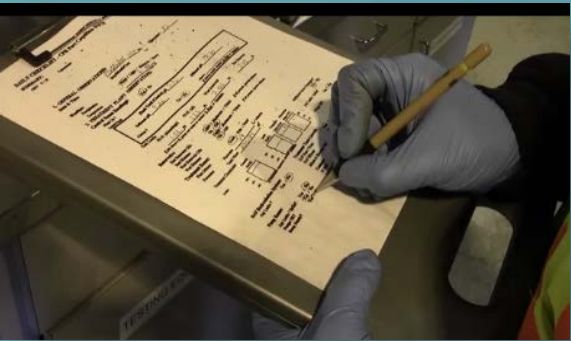
## Background



- CP owns 100+ WW and SW systems
- All different - ages, sizes, designs

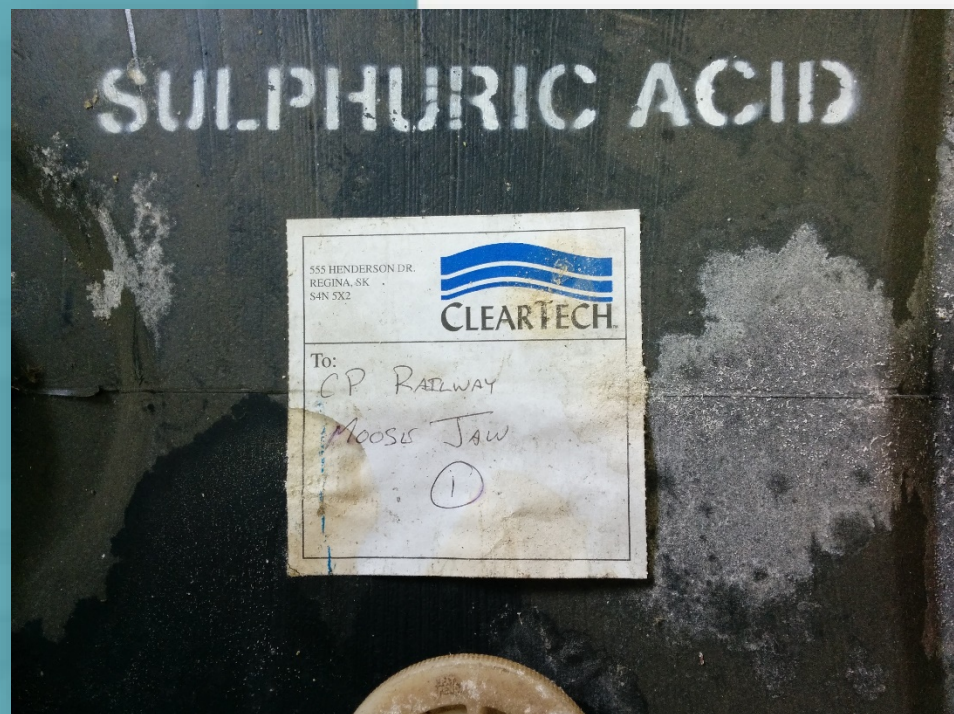


## Historical Challenges



- Defined
  - Roles, responsibilities and requirements
  - System design/equipment standardization
- System information, documentation and records
- Corporate knowledge of issues/needs – directing resources
- Consistent operations (dynamic workforce)
- Training

## Historical Challenges



- Results of challenges = higher risks & costs
  - Non-compliance;
  - Safety;
  - Disruption of core business activities; and
  - Resource usage.



## Goal - reduce risks and costs through “Standardization” & “Optimization”

- Step 1 - Gap analysis (2012)
- Step 2 – Ops, Maint and Mngt Standard (2013)
- Step 3 - Pilot study (2014)
- **Step 4 - Full scale implementation (2015/16)**
- Step 5 – Improve Standard & Develop Design standard
- Step 6 – Optimization - support, monitor and improve

# Implementation of Standard





INDUSTRIAL WASTEWATER  
&  
IMPACTED STORM WATER

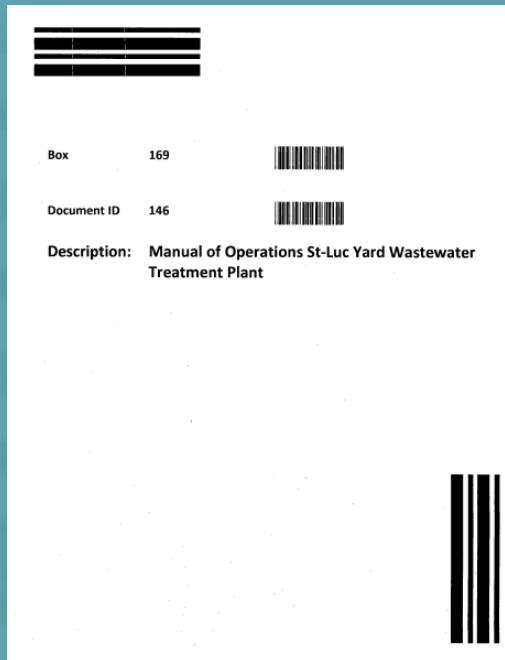
CORPORATE STANDARD

Effective Date of Standard: April 23<sup>rd</sup>, 2014

Last Revision Date: April 23<sup>rd</sup>, 2014

## WW and SW Corporate Standard

1. Assignment of ownership
2. Roles and responsibilities
3. Operational control
4. Competency and training
5. Incident, alarm and emergency response
6. Design and safety
7. Documentation, record keeping
8. Corrective and preventative action process
9. Reporting
10. Management Review



## Implementation of Standard

- Pre-visits
  - Organize key players (operator, “owner”, consultants)
    - Buy-in
  - Collect available documentation
    - O&M manuals
    - Studies
    - Existing procedures
    - Etc.



## Implementation of Standard

- Site Visits
  - Established baseline O&M activities (as currently performed)
    - O&M activities
    - Troubleshooting
  - Collected system documents/records
  - Identified OFIs



## Implementation of Standard

- Outputs
  - Documented and video SOPs
  - Completed System Overview Report
  - Archive on corporate database
    - System information
    - Procedures/videos
    - Forms, historical data
  - List of OFIs to help guide future decision making (locally, corporately)



Adobe Acrobat Document



Microsoft Excel Worksheet

## Lessons Learned

- Owners/operators wanted the Standard
  - Want procedures for stability in dynamic workforce environment
  - Want to know how/why (Supervisors)
  - Want training – self taught
    - Re-assurance/support/feedback
    - Tips from how other systems operate

## Lessons Learned

- Many good practices
  - What is a good practice?



## Lessons Learned

- Beware of the work-around
- Everyone has a story
- Choose your target audience wisely





## Next Steps

- Monitor and measure improvements in risk and costs
- Implement corporate training program
- Integrate deliverables in auditing program
- Address OFIs
- Develop design standards

# Thank You

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