CSO’s: LESSONS LEARNED

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IDEM Office of Water Quality
Combined Sewer System - How It Works

- **Wet Weather**
  - Combined Flow to WWTP and Outfall
  - Regulator

- **CSO Outfall**
  - To WWTP

- **River**

- **SOILS**

- **BEDROCK**
CSO Communities

• There are 772 communities in the United States that have combined sewer systems.
• The map represents the locations of all 109 CSO communities in Indiana.
• Indiana ranks 3rd in the nation for number of CSO communities behind Pennsylvania (136) and Illinois (119).
What is a CSO Long-Term Control Plan?

• A document that contains a plan to control CSOs that will ultimately result in compliance with the requirements of the Clean Water Act.

• The long-term plans should consider the site-specific nature of CSOs and evaluate the cost-effectiveness of a range of control options/strategies.
It all started on April 19, 1994

- **U.S EPA CSO Control Policy published in 1994**
  - All CSO Communities must develop Long-Term Control Plans (LTCP)
  - LTCP must include CSO control measures
    - Immediate measures – nine minimum controls
    - Source Controls
    - Collection System Controls
    - Storage Methods
    - Treatment Methods
CSO Metrics

- Total CSO Communities: 109
- Total Approved LTCPs: 105
- Total LTCPs remaining to be approved: 4
- Total LTCPs Fully Implemented: 45
CSO Implementation - “where are we now...”

- Total CSO Communities (109)
- LTCP Approved (105)
- LTCP Completely Implemented (45)
CSO Lessons Learned: LTCP Development

- All alternatives are not equal for all communities...sewer separation is not the answer for most communities.
- Starting a LTCP with inaccurate maps or information leads to unsuccessful results.
- Understanding is needed Indiana regulations for compliance are applied at the end of pipe.
- CSO programs are most effective when they have good records, good mapping, and good maintenance procedures in place.
- One large mistake communities make when choosing alternatives is not taking into account storm water components, and potential SSO effects.
CSO Lessons Learned: LTCP Application

• Modeling does not always reveal all the real life issues you may encounter in implementing a LTCP.
• Often the LTCP does need to be revised or changed.
• PCCM is very valuable, because often the result shows whether the project has indeed achieved success, and can allow time to stop and re-evaluate before continuing down the wrong path.
• LTCP related projects often involve more expenditures than originally intended, and it is necessary to involve other departments to decrease the cost and enhance project effectiveness.
CSO Lessons Learned: General Items

• People do not like to spend money on things they cannot see... funding is highly integrated with community awareness.

• CSO programs are most effective when they have good records, good mapping, and good maintenance procedures in place.

• The mistakes communities most often make are on not reporting/following requirements: CSO forms, CSOOP Updates, submitting LTCP PCMP reports.
CSO Lessons Learned: Upcoming Issues

- E reporting will enhance the need for communities to be reporting properly to avoid misinterpretation or reporting on forms.
- New technologies continue to advance; however, we still see the traditional technologies implemented in CSO programs.
- Changing federal regulations such as opinions and legislation regarding bypasses and SSOs may affect the end points for some CSO communities.
CSO Program Reminders

• If CSO communities are not meeting the level of control in approved LTCPs...additional work may be required in a LTCP Compliance Plan.

• IDEM continuing our Audit Program; we have conducted audits in almost all CSO communities.

• A mass email is being sent regarding each CSO Community's obligation to provide notification of any completed/missed LTCP milestone.
IDEM Compliance Reviews

**CSO Audit**
- Purpose: to ensure the nine minimum controls are being implemented and to site-verify LTCP projects are completed.
- This is an on-site field inspection.
- An Audit can take place anytime during or after LTCP implementation. Currently, staff perform about one Audit each month, rotating through their community list.
- There is pre-coordination with the community through an Audit Form sent by the CSO staff for the community to fill out before the inspection. This form is on the CSO SharePoint site in the Audit Folder.
- The Audit inspection also provides an opportunity for IDEM staff and the CSO community to openly discuss any issues (i.e. rain gauges, the new CSO MRO form, post construction monitoring, possible schedule changes, etc.)

**CSO Level of Control Review** (aka Post Construction Monitoring)
- Purpose: to evaluate if the implemented LTCP is achieving the approved design goals (level of control).
- This is an in-office review.
- This initial review takes place approximately one year after the LTCP is fully implemented.
- Data evaluated comes from the improved CSO MRO form and may also come from the community’s own PCM assessment.
- If the initial review shows compliance with the approved LOC, then additional reviews will be completed every 3 to 5 years to ensure continued compliance.
- Communities shown to be missing their target LOC are required to complete a CSO Compliance Plan that may require additional projects to meet the LOC.

Both Audit and LOC review outcomes are tracked with the "Compliance Status Report" in TEMPO360 Reports
Level of Control Review

- LOC reviews are re-visited every 5 years.
- LTCP project implementation schedules are reviewed monthly.
- If LOC, or compliance dates, are not met, then a compliance plan may be required.
CSO Program Reminders

• 5-year update requirement; community must evaluate inputs into the FCA and certify that no major differences have occurred. If not a full-blown FCA would not be required unless proposing going backward in their LOC.

• There is an obligation to notify us when LTCP Projects are completed.
CSO Program Reminders

• Heads-up on our development of a new Wet Weather Monthly Monitoring Report (MMR) form. Form still under development by IDEM staff. For communities with a constructed Wet Weather Treatment Facility (WWTF), with effluent limits applied to discharges.

• New e-Reporting rule; please note that IDEM will no longer accept paper DMR or MRO forms after December 31, 2016

• CSO Program has a new person (Colin Shumake), and that some CSO Communities have been reassigned
Questions?

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