

Committee Request for Board Action: None

41 attendees, representing 21 member agencies.

Roundtable Discussion on Manholes

Led by Andrew Damron (Napa Sanitation District), Tyree Jackson (City of Oakland) and Stephen Miksis (Ross Valley Sanitary District), attendees discussed manhole design, inspections, maintenance, and rehabilitation. Key points are highlighted below.

Inspections

- Several agencies reported moving to a completely digital inspection report using tablets/cell phones. Others are still doing hand sketches or inspection reports and later digitizing the results.
- Artificial intelligence is being increasingly used for inspections, with the goal of “taking the operator out of the inspection.” For example, Ross Valley Sanitary District has a new IBAK 4K SI that can complete an inspection and generate maintenance codes all within a few minutes.
- Inspections for I&I should be conducted during wet weather, after the ground is saturated. Inspection frequencies vary widely; some agencies (e.g., City of Oakland) are required to conduct manhole inspections at a defined frequency.
- Dry weather inspections are useful for looking for problems like broken water lines, a common source of infiltration.
- Prioritize inspections for basins known to have high I&I.
- A thermal scanner can show whether a manhole has been properly sealed.

Ways to Reduce Manhole I&I

- Add HDPE inserts that sit under the manhole cover and stop inflow that is generated from ponding.
- Gel grout injection is not expensive and can be completed quickly (within a day).
- Curtain grouting works well for some agencies.
- Require waterstops on manhole inlets and outlets.
- Manhole epoxy coating from **Mainstay** was reported as highly effective and appears to be durable. Such products can even be applied on brick and on horizontal surfaces (not just vertical surfaces in the manholes), as an alternative to CIPP.
- Agencies noted success with using **SealGuard** polyurethane grout for sealing infiltration into manholes. Others reported success with **Avanti** products applied as a curtain grout, to prevent water from coming in higher up. When grouting manholes via grout injection, it’s good practice to do it when groundwater levels are high.
- Good practice is to keep a manhole asset inventory, keeping track of each manhole separately (age, condition, type of manhole, etc.). Every time operators pop a manhole for other reasons (such as line cleaning) they should do a quick check for I&I and/or corrosion in the manhole.

Design

- Napa San is revising their design standards because they have had negative experiences with cast-in-place structures developing defects and infiltration within a few years of installation. It is difficult for the construction inspectors to observe concrete thickness during installation. However, most other agencies allow cast-in-place.
- Most agencies are moving away from having ladders installed in the manholes, and are cutting out existing ladders.

Leadership

- The vice chair position of the committee remains open.

SSS WDR Update

State Water Board staff have completed an internal administrative draft of the SSS-WDR update and it continues to be circulated internally. It will be ready for public review in approximately February 2021. There will be a new requirement related to resiliency, which will apply to both capital planning and O&M. The CASA working group is currently assessing the cost of compliance for this new requirement. The new order will cover discharges to waters of the state (i.e., groundwater), not just waters of the US. It will use the term “leakage” instead of “exfiltration.”

The SSS-WDR update is expected to include a new Category 4 for SSOs less than 50 gallons that do not need to be reported to CIWQS.

Next Collection System Committee Meeting

Our next committee meeting will be held on Thursday, February 18th, at 10 AM via Zoom. The committee will be meeting quarterly, but may schedule additional meeting(s) to respond and develop comments to the proposed new SSS-WDR.