A CONSTRUCTION OBSERVERS GUIDE: FROM MANHOLE REHABILITATION TO PROJECT MANAGEMENT INSIGHTS

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A construction observer is the system owner's representative on a construction project. Their primary responsibility is to thoroughly understand the project plans and specifications and be present on-site during construction to ensure adherence to these plans and specifications, safeguarding the owner's best interests.

Additionally, they are tasked with documenting and verifying quantities to ensure the owner achieves the desired project outcome and that the contractor is compensated fairly. This role involves effective communication with the owner, the engineer, and the contractor(s) and acting as the owner's liaison with residents, business owners, other government agencies, emergency services, and anyone else impacted by the work.

Ideally, this communication should occur throughout all phases of system rehabilitation—from inspection and design (including specifications and plans development) to bidding and the actual construction phase.

While it's understood that some construction decisions must be made in real time on-site, the goal should be to minimize these instances. Project questions that could be resolved during the inspection or design phases are often deferred until construction, when they can no longer be postponed. At this point, the construction observer must collaborate with all parties to find a resolution.

Deferring uncertainties or unknowns to a hurried call made while in the field typically results in higher costs for the owner, engineer, and contractor. Addressing these questions early in the process and resolving issues proactively ensures smoother project execution and avoids the negative implications of last-minute decisions.

Here are key considerations for sewer rehabilitation projects:

- Expect Mapping Discrepancies:
  - An owner's GIS is only as reliable as their process for tracking and incorporating changes. Ensure the most up-to-date GIS is used at every stage.
  - Fieldwork will reveal discrepancies. Changes identified during inspections should be incorporated into the GIS before design and construction. Common mapping issues encountered during construction include:
    - Locations significantly off
    - Wrong pipe sizes
    - Different flow directions
    - Connectivity incorrect
    - Missing or extra structures
    - Inaccessible structures
    - Mislabeled structures (e.g., a sanitary lid on a storm structure)

All discrepancies from the expected conditions need to be confirmed, including identifying active lines and those that can be abandoned.

- Understand the Project Area and Its Impact on Access and Schedule:
  - Special traffic control measures may be required for emergency service routes, schools/bus routes, trash pickup schedules, commercial/industrial areas, and hospitals. One-off events like block parties or festivals can also affect traffic control, safety signage, and the project schedule.
  - Work on state or county roads will likely require special permits and may impose restrictions on work activities. These could include limits on work hours, night work, or weekend work.
  - Work in or near railroad rights-of-way and airports requires communication and planning months in advance and may require special staff onsite
- Be Aware of Other Construction Work in the Area:
  - Consider the impact of other ongoing or planned construction projects. For example, "Do you really want to dig up a two-week-old road to rehabilitate a manhole?" Road programs are typically planned years in advance, so it is crucial to incorporate these schedules into your underground infrastructure rehabilitation planning.
- Familiarize Yourself with Specifications, Especially Special Provisions and Material Submittals:
  - The construction observer and the contractor must have a copy of the contract, plans, and specifications on-site; however, it is not uncommon for contractor staff to be without these documents in the field.
  - The construction observer should understand how work is priced to manage any scope changes and their impact on the project budget.
  - Completed material submittals must be available on-site. The construction crew should know material requirements and not rely on what was delivered or in the truck. Using incorrect materials can cost the contractor time and money and may impact the project schedule.

Planning and communication between all parties are crucial throughout all project phases. The construction observer will likely interact with multiple municipal departments, various governmental entities, businesses, and residents. These stakeholders may have competing interests, so it's important not to hesitate to request changes to owner, municipal, or stakeholder rules when necessary. For example, from a schedule, budget, and public convenience perspective, it might be in the owner's best interest to override ordinances that prevent work on weekends or nights. Some requests may require city council or board approval, so it's best to address these issues early in the process rather than during construction.

THE CONSTRUCTION OBSERVER HAS THE PRIVILEGE OF SEEING AND MANAGING THE IMPLEMENTATION OF A REHABILITATION PROJECT THAT MAY HAVE BEEN YEARS IN THE MAKING. BECAUSE THEY ARE ON SITE WITH RESIDENTS, OWNERS, CONTRACTORS, ETC., THEY HAVE A UNIQUE SET OF KNOWLEDGE THAT IS IMPORTANT TO INCORPORATE AT ALL PHASES OF A PROJECT.

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