

Construction Sludge: The Hidden Friction Slowing Capital Projects

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One of the earliest places construction sludge develops is in the specifications.

Designers commonly use specifications from prior projects as a starting point. Problems begin when those documents are not fully cleaned up for the current job. Requirements remain for systems that are not part of the project. Testing provisions do not match the work. Submittals are required for items that do not appear in the drawings. Administrative provisions developed for a much larger project are carried over. Sometimes the specifications and drawings do not match.

During design, these issues can look minor. During construction, they create work.

The contractor has to price and build from the issued documents. An unclear or contradictory requirement can trigger an RFI and require review by the designer and owner. The response then must be documented and distributed. If the response changes the contractor's understanding of the scope, it may also affect cost or schedule.

A few bad paragraphs can create hours of work across several organizations. If the issue affects materials, procurement, sequencing, testing, or quantities, it may also lead to a change order.

A thorough pre-bid review can catch many of these problems while the documents are still being developed. Design quality control, coordination between the drawings and specifications,



and input from people with construction experience can remove irrelevant requirements, correct conflicts, and address scope gaps before contractors have to price and build from them.

Poor contract documents push that work into construction, where the same issue takes more people, more time, and often more money to resolve. That is construction sludge.

WHAT IS SLUDGE?

Behavioral economist Richard Thaler used “sludge” to describe friction that makes it harder for people to accomplish a legitimate objective. Cass Sunstein later developed the idea of a “sludge audit,” which examines administrative burdens and whether the results justify the effort they impose.

The concept applies directly to construction management.

Capital projects need controls. Contracts, schedules, submittals, inspections, cost reporting, testing, change documentation, payment review, and approvals are all parts of delivering the work. Problems begin when those controls require more work than the project justifies.

Construction sludge is contractual, administrative, and procedural work that consumes time and money without improving safety, quality, cost control, schedule performance, decision-making, or accountability.

HOW SLUDGE ACCUMULATES

Capital projects bring together the owner, designer, contractor, consultants, finance staff, operations staff, and leadership. Each organization has its own procedures, systems, and reporting needs. The project team must make all of them work together.

The owner may maintain one change log while the contractor maintains another. Finance has its own forecast. The project management platform holds the formal record. Leadership receives a separate dashboard. Similar information may be entered, updated, and reconciled in several places.

Procedures accumulate the same way. A review step gets added and stays. Another approval level appears. A report expands. Contract language from one project gets carried into the next. Eventually, people keep following the process without checking whether the project still needs it.

THE COST OF SLUDGE

The cost of sludge gets buried in design fees, contractor costs, owner staff time, and project delays, which makes the total difficult to see.

People spend time preparing documents, updating logs, reconciling comments, responding to avoidable RFIs, routing approvals, attending meetings, and entering the same information in several places. Each task may be small, but the hours add up.

Delays can cost far more. Approval may require little effort to process and still hold up procurement or field work. A slow decision can lead to expired pricing, extended general conditions, out-of-sequence work, remobilization, or schedule compression. An RFI involving a long-lead item can delay procurement and affect the overall project schedule.

Sludge also pulls attention away from more important work. Time spent maintaining duplicate records or resolving avoidable document issues is time not spent addressing schedule risk, major changes, shutdown planning, difficult submittals, field coordination, or emerging problems.

REVIEW CHURN AND DECISION AUTHORITY

Document review can create a lot of sludge. A design package, change recommendation, contract, or procurement document may circulate through a long list of reviewers. One person comments on technical content. Someone else rewrites language. Another reviewer reopens an issue that was already settled. Comments conflict, and another version goes around.

Before a document circulates, the team should know who is reviewing the technical content, who is checking commercial or compliance issues, who has approval authority, and who only needs the final version. It should also be clear who resolves conflicting direction.

Decisions can get stuck for the same reason. Several people are involved, but nobody is clearly responsible for deciding. More reviewers and signatures are added, and the issue keeps circulating because no one knows when enough review has occurred.

The team should know who prepares the recommendation, who provides technical or operational input, who makes the decision, and who needs to be informed afterward.

INFORMATION HANDLING, MEETINGS, AND REPORTS

Construction projects generate a lot of information. Emails arrive with attachments. RFIs, submittals, change requests, schedules, photographs, inspection reports, meeting minutes, and correspondence all need to be filed and tracked.

Some of that work requires judgment. Reviewing a daily report for safety concerns, progress, delays, or potential changes is construction management. Deciding whether a field issue requires an RFI, change notice, owner decision, or risk entry requires experience.

Other work is repetitive. Downloading the same report every morning, renaming it, and placing it in the same folder can often be automated.

Technology can also create more work. A document may be uploaded to the project platform, emailed to the owner, entered into a spreadsheet, summarized in meeting minutes, copied into a report, and shown again in a dashboard. Before adding another system, tracker, or dashboard, the team should know what it will replace.

Meetings and reports should move the project forward. A meeting becomes sludge when the same information is repeated without moving an issue toward a decision. A report becomes sludge when sections remain because they have always been included, even though nobody uses them. Multiple logs tracking the same issue add work and increase the chance that people are working from different information.

FINDING THE SLUDGE

Start with one recurring process, such as change management, submittal review, invoice approval, RFI management, monthly reporting, procurement, or closeout. Trace it from beginning to end based on what the team does.

Look at who touches it, how many systems are involved, where information is entered more than once, where decisions get stuck, and which reviews must occur in sequence.

Ask a few basic questions:

- » What risk is this step controlling?
- » Who uses the information?
- » Who has authority to make the decision?
- » Is the same information maintained somewhere else?
- » What happens if the step goes away?

Duplicate entries can be consolidated. Routine decisions can be delegated. Reviews that do not depend on one another can occur at the same time. Repetitive information handling can often be automated.

The same questions should be asked during design. If a specification requirement does not support the scope or a clear project need, it should be questioned before the documents are issued.

THE OWNER'S ROLE

Owners set most of the administrative requirements for a capital project. They establish approval authority, reporting requirements, contract requirements, payment procedures, technology platforms, change processes, and decision thresholds.

This matters in organizations with established standards and procedures. Requirements can outlive the projects that created them. Processes developed for one type or scale of project can become standard on very different work. Those requirements should be reviewed to make sure they still fit the current project.

An owner's representative often sees this overlap because the work crosses the owner, designer, contractor, consultants, finance, leadership, and operations. That broad view can show where decisions are getting stuck, information is being duplicated, contract requirements do not fit the work, and administrative effort is costing more than it is worth.

HANDLING THE SLUDGE

Construction projects will always generate paperwork, reviews, approvals, meetings, and documentation. The question is whether that work is helping deliver the project.

Good constructability and document-coordination reviews reduce avoidable RFIs. Clear approval paths keep decisions moving. Reports should provide information people use, and project systems should reduce duplicate work rather than create another layer.

Anything that repeatedly consumes time without improving the project deserves another look.

For any project requirement, ask: Does the effort required by this process justify what the project gets from it? 



About the Author

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