

The What and Why of End-Of-Project Artifacts

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As a project's end approaches, it's typically the time to wrap up all the artifacts the owner will use to validate all building requirements have been met and to help manage and maintain the project well into the future. But as capital projects have grown and their sophistication and complexity have increased, there's been a corresponding increase in the amount and types of final deliverables to present at turnover.

That can leave contractors discreetly scratching their collective heads, wondering if – and hoping – they've captured everything. Or they may honestly believe they already have, not realizing items are incomplete or missing.

How can contractors gather, organize, and present the necessary end-of-project artifacts owners need? And how can contractors and owners feel confident they've been accounted for? It may take revisiting the *what* and *why* of these types of artifacts and then how existing turnover processes can improve their delivery.

What Artifacts to Collect For Turnover

Knowing what end-of-project artifacts to collect involves understanding how they could be used. They do more than prove compliance with building requirements; they serve as critical records for future maintenance and possible legal purposes.

A non-exhaustive final set of artifacts could include proposals, contracts, project plans, drawings, permits and certificates, daily reports, inspection reports, change orders, risk registers,



manufacturer information for each element in the asset, maintenance history and schedules, repair and warranty information, safety records, operational manuals, punch lists and commissioning checklists, and etc.

Everything plus the kitchen sink, right? It's more than just having such thorough, accurate documentation; it's about having an efficient artifact documentation process.

How to Efficiently Capture Artifacts

Knowing *what* to gather makes it easier to know how to gather everything.

Traditionally, compiling artifacts has materialized as stacks upon stacks of hard-copy paperwork for owners and their teams to sift through to ensure everything is there. And that's

still the case today in many instances.

But timing is key. One of the biggest challenges in ensuring the completeness and accuracy of artifacts is that this mammoth effort usually starts as turnover is in sight, right alongside commissioning and punch lists. That's a lot of blood, sweat, and tears packed into such a critical stage of the project life cycle, especially given how multifaceted and involved capital projects have become.

To be most efficient, gathering artifacts should be an ongoing process rather than a crush of activity at turnover. As is happening with commissioning and punch lists, shifting the start of artifact collection and verification to the project planning phase and continuing throughout the execution phase leads to a higher degree of certainty of turnover accuracy and completeness.

To streamline this effort, contractors and owners have been migrating to documentation control software to handle the lion's share of collecting and organizing the thousands upon thousands of artifacts that will be turned over to the owner.

Repositioning and digitalizing end-of-project artifact compilation introduces needed structure, standardization, and cadence to the process. For example, document control software provides a centralized platform that automates data and document capture, storage, and packaging. Key features to look for that smooth the turnover process are version control, document tagging, and search capability, making locating and sharing needed artifacts easier and faster than digging through binders and boxes of paper-based documentation.

Site crews and other project teams with access to such software systems can consistently update, tag, collect, and close out work packages and checklists in real time throughout the project. That translates into reduced staff being hired and less time to review and verify all artifacts at turnover, relieving, an overwhelming administrative burden for both the contractor and owner teams.


What about the as-built structure itself? Two artifact types can provide an interconnected 3D virtual representation of a built asset: building information modeling (BIM) and digital twins.

BIM tells the narrative of the structure from its initial design to the final deliverable and includes all data associated with

each element that goes into the asset's construction, all of which are digitalized, centralized, and searchable within the BIM software. Digital twins enable owners and their facilities management teams to monitor real-time data about how the asset reacts and will react in specific conditions. Leveraging this data helps proactively improve maintenance and monitor the safety of the structure and its occupants.

Why Capture Them?

For contractors, turnover represents a big moment of truth. Did the various teams accurately input and update their relevant data and documentation in the right place throughout execution? Are all project requirements met and all changes documented? Compiling artifacts digitally increases confidence of answering "yes." With a reduced risk of incomplete, lost or incorrect artifacts, there's less likelihood of contract retention payments being withheld. Turnover can be a defining moment for the contractor; digitalizing the process can help protect and strengthen their reputation as proactive, thorough, and conscientious.

Owners have an asset to service, inspect, and maintain. So, for them, turnover is about certainty and control. Because their built asset's performance depends on accessing the right data at the right time, having complete, accurate artifacts in digital form is crucial. The actionable data and documentation they contain help reduce future operational failure risk while optimizing facilities management efficiency. 



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