How the A/E Design Industries Drive Construction Delays

When was the last time your design team was back charged for creating a disruption or delay? Even better: have you ever been on a project where a designer was back charged for omitted or erroneous construction documents? Me neither. Though no one doubts that design errors and omissions are a key driver of schedule delay and disruption, designers are traditionally immune to owning or sharing responsibility, and are protected by E&O insurance (errors and omissions).

In theory, design E&Os should be kept to a minimum by due diligence: proper coordination, such as overlays and BIM model coordination and clash-detection. In practice, coordination still takes place, but it is mostly punted to contractors’ detailers and sketchers forced into that position by an absence of a **sufficiently detailed drawing set**: they have no choice if they want to keep a job moving.

Along with that added design responsibility, designers are able to transfer risk to the contractor: when shop drawings are issued late, endlessly cycled or rejected, the contractor is blamed for shortcomings that were originally the designer’s bailiwick. Sometimes this conundrum is by design (no pun) but often the designer has little or no choice.

There are several reasons for failure to launch that designers are affected by:

* Insufficient budgets: designers may be forced by aggressive owners to be more competitive and take jobs at lower margins. They will cut their services to a minimum to compensate, leading to poor design habits, and a complete lack of project administration for the production period
* Over-aggressive timeframes: owners face carrying costs for high interest construction loans. They put pressure on design teams, who must rush through their work, increasing the likelihood for errors and omissions
* Incompetence: some designers are simply lousy at their practice, and some merely don’t care. They may pick up bad habits, such as over-reliance on shop-drawings

Incomplete drawing sets are regularly issued as preliminary, or D&D, with the expectation of a construction set being released in time for build out. The construction set should clarify all discrepancies short of unforeseen field conditions. However, few job teams are given the luxury of timely construction drawings, leading to endless RFIs and submittal/review cycles, rejections for which the contractor is invariably blamed and penalized. Contractors may be able to make EOT claims, but these tend to pay out very seldomly, and with poor ROI. Some contracts enforce *no damage for delay* clauses, law in many states.

10 Signs of Underdeveloped Drawings

* Stamped “Not for Construction”
* Absence of dimensions and requests for VIF
* Endless submittal/review cycles, covered with red-lines
* Preponderance of sketches
* High volume of RFIs
* High volume of change orders
* Gaps in drawing numbers
* Missing specifications
* Sections and details referred to or not included
* Exculpatory language on the drawings

In preconstruction buy-out phase, contractors are forced to guess at missing or unclear SOW, and either pad their bids, or create allowances or contingencies to cover themselves. At the same time, owners will pressure contractors for a GMP bid nonetheless. In other words, a guaranteed sum for an indeterminate quantity of work. Owners expect contractors to be somewhat clairvoyant and able to be accurate with such assessments.

At the same time, contractors are forced to maintain project performance and delivery dates despite not having timely or complete design details when they need them. The way they do this is to continually postpone work until the scheduling GANTT chart S-curve looks like a reverse waterfall with a cliff at the end. Again, all to minimize owners’ carrying costs.

“In Great Britain, architects were required to produce drawings within a set construction budget, and see that the project costs did not exceed it. In the event that it did, they were held liable for the overage. To some extent, they still are held liable, though I have never heard of one being taken to task.

In order to minimize damages, contractors are forced to bankroll enhanced resources, shift-work, expedited material, additional equipment rental, and general conditions, little of which they are reimbursed. They also are vulnerable to specialty contractor claims. Just like the prime contractor, specialty trades have all the same expenses and risks that come with delay and disruption, and are no more likely to be compensated. If a prime is not compensated, there’s little chance his trades will be. If the prime is compensated for disruption or delay, it’s unusual for trades also to be compensated.

For that reason, a contractor should always apply for EOT (extension of time) or compensable EOT, as soon as he realizes a delay or disruption is in play. He should also expect that specialty contractors also have valid claims if they so choose to make them. Although they may have a valid argument, they are notoriously feckless in preparing claims to the point that they seldom pursue tem, and then only the most costly and debilitating.

Contractors should utilize design deadlines for critical drawings and deliverables required of architect and engineer. I like to put them right in the schedule as activities with driving logic. Otherwise, the schedule of deliverables is left up to the design team, who aren’t exactly the most articulate schedulers or schedule managers. In this way, a contractor can demonstrate how the untimeliness or incompleteness of A/E issues directly affect production, and assign an EOT and value to the delay. The likelihood the design team will be held to account is minimal, but at least the contractor can back his claim and make a request for compensation.

Best practices to obviate A/E driven delays include preconstruction coordination, and timely input on the shop drawing submittal/review process. There should be transparency as to the state of design deliverables, as well as the quality of the reviewers comments. Reviewers should note all comments as early as possible, so to avoid latent errors and oversight. That means that honest and open lines of communication and discussion drive the process in a way that all parties understand and contribute to.

In this way, delay and disruption caused by design conflict can be minimized. With minimized conflict, there will be fewer EOT claims, back-charges, or change-orders. A wholesome coordinated team-approach creates a better sense of vigilance, and a more cooperative atmosphere where partners prioritize team wins over individual player wins.