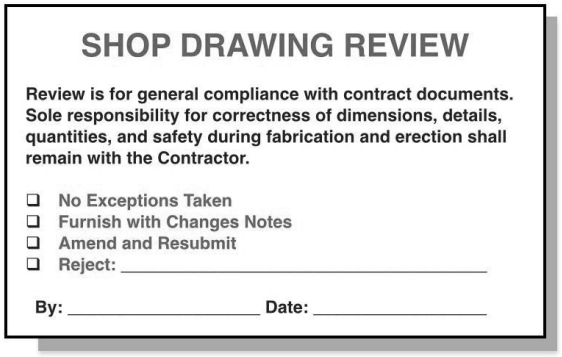
Submittals …

As construction is about to commence, structural engineers often get inundated with submittals. This typically includes shop drawings, product data and samples, concrete mix designs, and calculations for any delegated design elements. Engineers are obligated to review only those submittals which have been sent through established protocols, which pertain to structural elements designed by them, and which have received prior approval by contractors. All other submittals are normally returned without review.

The purpose of submittal reviews by structural engineers is to ensure general compliance with the project requirements. This does not include checking dimensions or quantities, reviewing the contractor's safety plans, or evaluating the means and methods of construction. Review of delegated design elements is similar and does not include structural analysis or verification. Engineers generally prefer “no exceptions taken” over “approved.” They typically employ review stamps with language like the example below, or something stronger if written by their lawyers.



Structural engineers must promptly review and process the contractors’ submittals as described above. As subconsultants, engineers often are required to process the submittals within a period of seven days or less. This can be challenging if all of the submittals arrive at the same time, or at a time when the engineer is traveling or otherwise unavailable. It can also be difficult if there are multiple sets of documents to mark-up, stamp, and transmit. Nevertheless, any failure to process submittals in a timely manner can bring significant risk if this potentially delays or disrupts construction.

There is a fundamental concept behind the submittals process that is not universally understood. Structural engineers define *what* is to be built through their contract documents. Contractors define *how* and *when* it is to be built through their submittals. Since any revisions or substitutions normally require change orders signed by project owners, submittal reviews should never alter the contract documents. Contractors cannot slip contract deviations into stacks of submittals and expect not to be held responsible when those changes are eventually discovered. Engineers must insist on receiving sufficient information in the submittals from contractors, just as code officials insist on receiving sufficient information in the contract documents from engineers.

Submittals are prepared by contractors for their own use in developing their work plans and demonstrating their project understanding. They are not part of the contract documents and are not the structural engineers’ design work - not professionally, not contractually, and not legally. Why then do engineers “stamp” submittals as though they were their designs? The tradition of stamping submittals has increasingly led to the erroneous belief by contractors and owners that engineers are responsible for “designing” and “approving” submittals in much the same way that they sign and seal the contract documents. While the review of submittals will always be an important part of the construction process, the use of review stamps should soon be waning.

Properly written transmittal forms, when included as an integral part of all submittals, can effectively replace review stamps. The structural engineer's initials on each form are sufficient for reference and tracking. No separate stamps are necessary on every sheet - or on any sheet. Similarly, engineers should only be required to mark-up one set of each submittal. Finally, engineers should require electronic submittals whenever possible, preferably with good project website services to post, log, and record the paperwork. This will be critical as integrated project delivery with paperless construction becomes commonplace. Physical, ink-on-paper, review stamps represent an unnecessary source of misunderstanding. Like slide rules and logarithm tables, review stamps are no longer needed and should be relegated to history.

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