Building Official's Expectations

By Chris Kimball, S.E., P.E., MCP, CBO

Like it or not, design professionals are required to deal with building officials on a regular basis. This is such an important aspect of structural engineering that NCSEA has a committee devoted to it – the Code Officials and Government Agencies Committee. Several member SEA's also understand the importance of the relationship that structural engineers should have with building officials. A great example is a white paper entitled *Guideline – Structural Plan Review Philosophy* that was developed by the Structural Engineer's Association of Washington (SEAW) with the help of the Washington Association of Building Officials (WABO) and is located on the WABO website.

Structural engineering firms should understand the importance of working collaboratively with the building official during the plan review process and should ensure their engineers respect this relationship. It is important to remember that we are on the same team trying to make sure that the final product meets code, is safe for the public, and that a good product is provided to the owner. Structural engineers should take into account the following items before submitting documents for a building permit.

Attitude

The most important thing to keep in mind is to maintain your composure. Be professional and treat the building official, and his or her staff, in a professional manner. The plan review comments that are provided might seem silly or ridiculous to the engineer of record, but remember that everyone sees things differently and a building official's background is not the same as a design professional's. Also, while you might have hundreds of hours poured into a design, the jurisdiction is only provided a few short hours to review what is provided.

Be patient and respond to plan review comments in a tactful manner. This includes clouding changes made to the plans and providing direct references to the revised sheet number or calculation page numbers. A better relationship and a level of mutual respect can be established with the jurisdiction if extra time is taken to provide clarity in your response letters.

Supporting Calculations

Calculations should be provided to support the design contained within the construction documents. These calculations should be performed in reference to the adopted building code and current standards that are listed in Chapter 35 of the *International Building Code* (IBC). Perhaps the most common plan review comment made by building officials is the need to update calculations, as they might reference outdated codes or referenced standards.

Try not to rely too much on engineering judgment and ensure that calculations are provided for all major structural elements. When engineering judgment is used, provide a clear and concise explanation that justifies the approach. Considerations for structural irregularities, combined lateral systems, redundancy, etc. should be clearly identified within the calculation package. For example, if the building in question has an obvious re-entrant corner, the calculations should note how the 25% increase required by Section 12.3.3.4 of ASCE 7 was taken into consideration. This will help to avoid a general plan review comment where it may not be clear to the building official how the re-entrant corner was addressed in the design.

Statement of Special Inspections (SSI)

Section 1704.3 of the IBC states that the "… design professional in responsible charge shall prepare a statement of special inspections." This SSI should be specific to the project and not just list the materials to be inspected, but provide a clear breakdown as to the extent of the inspections and testing to be performed. It should also note the frequency of those inspections and tests. This has become increasingly difficult, as many of the special inspection requirements are now provided in referenced standards rather than in Chapter 17 of the IBC. The special inspection requirements covered in Chapter 17 of the IBC are critical to the building official. The Structural Engineer of Record (SER) should take extra time to ensure that a specific SSI is created for each project.

Deferred Submittals

The IBC defines deferred submittals as "those portions of the design that are not submitted at the time of the application and that are to be submitted to the building official within a specified period." Three items should be pointed out in regards to deferred submittals.

1) It is important to understand that the Building Official is not required to allow deferred submittals. Section 107.3.4.1 of the IBC requires the Building official's approval for all deferred submittals. Some items that may not be allowed as deferred submittals could include prefabricated metal buildings, deep foundation elements, seismic restraint of nonstructural components, etc.
2) All structural deferred submittals must be reviewed by the SER before submission to the Jurisdiction. The SER should ensure that the deferred submittal design is in general conformance with their design of the structure and then place a notation on the submittal noting such. No deferred submittals should be provided to the jurisdiction without a notation from the SER.
3) All too often items, are deferred and then installed without being submitted to the jurisdiction for their review and approval. If the SER notes on the plans that an item is to be deferred, they should ensure that those items are properly submitted to the jurisdiction for approval.

Conclusion

As the SER, there are several steps you can take to help make a potentially uncomfortable process a smooth and beneficial one. Please remember that both the SER and the Building Official share a common goal. They are each trying to ensure that the structure is safe and that a good product is provided to the owner. In summary, work together in a professional manner, provide appropriate calculations, include a project-specific SSI, and be careful when including deferred submittals for a portion of the project.▪

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