



Tree Hugger Consulting

Growing ideas for sustainable construction

Is It Too Late For LEED?

Every article and book I've ever read on green building, and LEED in particular, says that the decision regarding environmentally-friendly design needs to be made as soon as possible in the design process. While I think every design professional will agree with that statement, I've often wondered, "How soon is too late?" In other words, is there a "point of no return" where LEED certification can't be accomplished.

In an attempt to answer this question, I will be looking at my own experience as the LEED consultant on a recent mixed-use project. By the time I joined the team, the design had been mostly completed, and the concrete pad and steel framing had started. It was at this time that the owner decided to seek LEED certification for the building, with a goal of Silver.

The building was originally designed with sustainability in mind. So, trying to get LEED certification shouldn't be that big of a stretch. The concept was to dismantle the current building on site, by hand, and then construct a mixed-use commercial and residential building in the heart of downtown. The project site was by a creek, so the duality of the urban and natural environments was stressed in the major elements of the design.

Construction continued at a feverish pace, as I attempted to compile documentation to show which LEED credits we had achieved. At first glance there were many points that seemed to be easily achieved, until it came to the documentation needed. We had either already bypassed the stage of design or construction, or when the final numbers were added up, we were short of the requirements. Contracts and specifications were written without strict language regarding the environmental characteristics of the design or the materials. Bid packages mentioned that environmentally friendly products and services would be preferred, but the subcontractor had the responsibility to suggest them.

We were also challenged by the very nature of the development. The condominium units were all custom designed by the owners. They had complete control over all the finishes, the size of the rooms, and even the size of the units themselves. Both the design and construction firms were powerless in the choice of materials. While the owners were supportive of the green aspects of the building, when the final selections were made, non-water-conserving fixtures, non-eco-friendly paints, and lots of other "conventional construction" finish materials were used. There were some highlights, however: beautiful cork flooring, dual-flush toilets, bamboo ceilings, and wool carpets. Unfortunately, the dollar amount of these items in comparison to the total material costs was not enough to achieve most of the credits.

The commercial spaces were spec built, so we were able to have more control over the materials. Here we shone: recycled content carpet, low-VOC paints, recycled paint primer, lots of big windows for daylighting, sensor lighting, and great views of the creek. It became apparent as we were doing our calculations that we would want to focus

on the commercial spaces in the building, and try to downplay the residential spaces. This can be difficult, as many of the calculations in LEED depend upon the full building area and occupancy and do not allow the inclusion and exclusion of areas as desired.

In the end we successfully documented the minimum number of credits required for the project to be certified, as well as all the required prerequisites for certification. This was a lofty accomplishment, given the constraints of time and design that were imposed on the project. Although we did not achieve the Silver rating we desired, we learned several valuable lessons.

1. Select as many materials ahead of time as possible. Some environmentally-friendly materials have longer lead times, and less availability, than conventional materials. For example, we used some wonderful siding material from Spain that is made using poplar wood, but the lead time was 12-16 weeks. We also had to jump through some hoops financially to pay the company and get the material shipped internationally. By the time the siding arrived, we were behind schedule.
2. Be specific in the specifications about what types of materials are desired and their characteristics (such as recycled content). Environmentally friendly should not be an “alternate” to be suggested by the supplier. Owners and architects must demand the correct products, or they will find they are getting something else.
3. While it is possible to design sustainable custom spaces, the designer needs to exercise control over what is being purchased. For example, there may need to be a limit to the number of VOCs allowed in the interior paint selections. This kind of language will need to be written up in the contracts for design and construction of the space. Someone will then have to monitor all products going into the space (before they are applied or installed). Watch out for the one tube of caulk for the tub or the one non-FSC 2x4 that might make or break a credit!
4. Commissioning is an invaluable resource in evaluating the mechanical and electrical systems in a building. We discovered that our HVAC system was not functioning as required when the commissioning agent did the testing. In essence, we had paid extra for energy-saving features that we weren't getting. Adjustment of the system corrected the problem. However, without the documentation from the commissioning agent, we probably never would have known that it wasn't working correctly.
5. The final lesson goes back to the question I posed at the beginning of the article: “How soon is too late?” Starting early is still the best bet, to be sure. Based on my experience with this project, however, I believe with the proper controls and communication between all the important parties, a LEED certified building can be achieved even if the final decision comes as construction starts. The process is not going to be pretty, and the project probably won't come in on budget, but it will meet the requirements for a LEED building. Is a building designed and built

this way truly sustainable? That is for another discussion. However, it will have sustainable features, and, depending on the owner's goals, that may be enough.

The process of certifying our building wasn't easy. As tough it was, it should be acknowledged that we designed and constructed a beautiful building that has become a focal point for downtown revitalization in our town. That was it's primary goal, and it achieved that heartily. I hope this article spares others the turmoil we experienced by getting such a late start in the LEED process, but also shows that it can be done.

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