

It's not easy being green

A conversation with the architect and builder of one of the first buildings in Maine to meet national environmental design standards

BY MICHAELA CAVALLARO

Work had already begun on the \$8 million expansion of the John Mitchell Center in Gorham, home to the University of Southern Maine's School of Applied Science, Engineering and Technology, when Gov. John Baldacci announced that any new or expanded state-owned building would be required to incorporate so-called "green design" principles. Specifically, Baldacci's November 2003 executive order mandated that contractors working on state buildings adopt principles developed by the U.S. Green Building Council's Leadership in Energy and Environmental Design, or LEED, program.

At the time, Auburn architectural firm Harriman Associates had started drawing up plans for the project, which included renovation of the existing, 37,000-square-foot building, which was built in the 1960s, as well as construction of a 23,000-square-foot addition. And Portland-based Wright-Ryan Construction had already been selected to build it.

While Baldacci's announcement didn't significantly change the plans for the Mitchell Center, it did set the wheels turning for what became a nearly 18-month-long process to pursue LEED certification for the building. Baldacci's executive order didn't require certification — just the incorporation of LEED principles where they are cost-effective — but in late March this year, Harriman and Wright-Ryan announced they had achieved it. The Mitchell Center, which re-opened in December, is officially the second building in Maine to receive LEED certification, though both Kevin Whitney, Harriman's lead architect on the project, and Pat Richter, Wright-Ryan's project manager, are certain it won't be the last. (State officials plan to submit the LEED application for the Governor Baxter School for the Deaf in Falmouth early this month.)

Mainebiz recently sat down with Whitney and Richter to talk about what



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On a learning curve: Kevin Whitney of Harriman Associates (l.) and Pat Richter of Wright-Ryan figured out the LEED process together

LEED certification involves, why it's worth the trouble and whether we can expect to see more LEED-certified buildings in Maine and across the country in the years ahead. An edited transcript of the conversation follows.

Mainebiz: How did each of your firms get involved in this project in the first place?

Whitney: Our office has always designed with the LEED guidelines in mind — we've always tried to design energy efficient, environmentally friendly buildings, and to site the buildings in a conscientious way that's sensitive to the environment. So really it wasn't a big leap for us. When the request for proposals came out for this project, which is basically a science and engineering technology laboratory, it was a natural [opportunity] to marry the building technologies with the program that it was going to house, and sort of have the building act as a model to demonstrate all these capabilities.

So we went into the interview selling that as a service that we could provide, and that we'd have a big interest in doing. Fortunately for us, [USM officials] loved the idea and we were selected.

At what point did Wright-Ryan get involved with the project?

Richter: The drawings were probably about 30%-50% done. We were also selected in an interview process, and brought on board while the design was still fairly new and fairly fluid. There were a lot of things that had not been thought of up to that point that now needed to start coming to the front. We started having to pull in specific products. We were going out to vendors and talking to them about specific materials that would fit the criteria — structural steel with recycled content became a big element of the project, so we were out talking to vendors right at that point about being able to procure that



PHOTO/DAVID A. RODGERS

material and what kind of price points we were going to have to pay for it. [Forest Stewardship Council]-certified wood became an element that had to be worked.

Whitney: To go back a bit to the interview process for Wright-Ryan, they also expressed a great deal of desire to produce this sort of building. It really did take a desire on [the part of] both parties to work together to do this, because at that time it was — and it really still is — a new process in Maine; nobody had really done it yet and still haven't. We're still the first.

So everything that Pat's talking about took a high level of cooperation between our two firms working together to find the products, to specify the products, to search out the availability of all the options, because really even though [LEED] is a

buzzword right now, the options are fairly limited. It's difficult to obtain this level of building quality.

How does cost factor in, if you don't have a lot of choices in terms of products?

Whitney: It's just constant communication. I wouldn't say that this drove the cost up substantially, but what it did do was create a burden on the two of us — probably in this case more Pat than myself — to come up with options that were cost effective and fit the owner's budget. That was, I'm sure, a giant time drain.

Richter: It was, and it was increased by a significant factor due to the industry not being familiar yet with what they need to provide. So a lot of us, and a lot of our subcontractors, were having to dig back into

suppliers and really guide them as to, "This is the information that we need. We know you've got it back there somewhere — you've just got to start giving it to us."

So certification requires that you provide documentation of the building materials you used?

Richter: That's correct.

Whitney: The LEED process itself has a little checklist that covers all the topics that pertain. It's more than just materials that can be recycled or that are manufactured from recycled material. It deals with locally grown products, products that are manufactured locally to cut down on transportation, it takes into account site sensitivity, environmental friendliness, energy and atmosphere, water, energy reduction.

What are some of the specific features that you incorporated into the Mitchell Center?

Richter: We started from a site that was advantageous. One of the things [the U.S. Green Building Council] is after is for you not to be clearing a lot of trees and taking up a lot of green space for your building, so this building was sited into an existing parking lot. We took hard surface out, and put new hard surface in — it was an even trade in their mind.

Whitney: And then that surface was recycled and is underneath some roadbed somewhere — it was crushed and reprocessed. All the plantings on the site are native plantings and drought-resistant so they don't require irrigation or watering. All the [plumbing] fixtures are low-flow. All the spaces have occupancy sensors in them, so that when a space is unoccupied, it senses it and shuts the light off automatically. It turns the HVAC system off and puts it in an unoccupied mode, which saves considerable energy.

Richter: There was quite a bit of effort put into the mechanical systems for the building, to make that portion energy-efficient. And we achieved a number of points [toward certification] just based upon how much better this building performed than the minimum, baseline code standards.

We also incorporated some wood products into the project that are made from quickly renewable resources. We have sunflower seed in some of the wood sheet products that were used for some of the desks and cabinet work. So that was part of the research process early on — sourcing those sorts of products and figuring out where we could fit them into the job.

Whitney: They have a credit [or an opportunity to earn points] that they call "innovation in design process." That leaves it up to the imagination of the builders and designers. In the interview process, we stressed

that we wanted to make the building a model of learning, that the building is actually a learning tool. If you tour the building you'll see that we actually put windows into the electrical rooms and the elevator room so you can see the parts working. And in the main lobby there's a plasma screen that can be programmed to do a lot of different things, from showing class scheduling to floor plans of the building. But the main function was that it has a built-in program that shows an energy plan for the building — it shows how the air is flowing, the sensors and where they're located and what they're reading, what parts of the building are being cooled, and what parts are being heated. So we submitted that as a learning tool for the students, and it's now one of the first stops on the tour when they bring prospective students through.

You talked a little about the work required to find the materials and the documentation for them.

Were there any other real roadblocks or situations in which pursuing LEED certification made everyone scratch their heads?

Richter: We ran into a number of those. One of the things that we learned from the process is that you probably are not going to achieve everything that you set out to. We probably ended up with eight or 10 specific items that we thought we had a really good chance at achieving, but due to what may have gone on during the process, or maybe just not having done our research well enough or not having planned that specific thing well enough, we just weren't able to do.

So in order to get the points necessary for certification, it sounds like you need to plan for more than you think you're going to need.

Whitney: In the general guidelines they suggest that they decline five to 10% just for general principles, just to keep us honest. [Laughter]

For every design or construction decision that was made, more or less, the question always had to be asked, how does that affect our status with the LEED process? This went on through construction, and then you do not get to submit your qualifications until the project is complete. So

things are evolving right to the end, and you don't know how many points you actually can submit until that time.

How much does the Green Building Council push back? You were talking about the amount of credits they decline.

Richter: We submitted for 36 points, and after the initial process that they went through, they said okay to 16 of them. Eighteen of them they wanted further information on, and two of them they outright rejected. So they pushed back on half



Push and pull: Kevin Whitney says getting LEED certification for this USM building meant going back and forth with the U.S. Green Building Council

of them.

Whitney: They scrutinize it pretty thoroughly — it's not a slam-dunk process where you pay a fee and get a plaque. [Laughter] They make you work for it.

Richter: What I took away from it, though, was they do seem to have an attitude that they want you to succeed.

How many points did you finally end up achieving?

Richter: Twenty-nine.

It obviously was a huge amount of work to get this stamp of approval. Why is it valuable?

Whitney: It's going to be the future. I think environmental friendliness is going to be something that's no longer an alternative — I think it's going to be a prerequisite. We believe as a firm that it's morally the right thing to do. And I think that once it becomes more mainstream, it's not going to be so much of a burden as it is now. Because it was the first time either of our firms had attempted this, there was a steep learning curve attached to it.

Once that becomes more part of the common process, Pat's not going to have to shake his subcontractors down quite as much to get the information he needs, and it's going to be more on the top of my head — I'm going to know more of the questions

to ask up front. I'm already finding out what to do in the next process, where we've been selected to do a new dormitory on the same campus, right across the street from this building. We're starting earlier, we're coming in with our eyes opened a little wider.

Richter: I think it produced a building that was of a higher level of quality in the way that it functions. I know I came away from this one having a very high degree of confidence that all of the mechanical systems were working properly, that lighting systems have been fully tested — that everything that needed to perform an intricate function was doing what it was supposed to.

Whitney: It's an easier transition for the occupants of the building, too. Typically I hear a lot of people going home early because the fumes from the off-gassing of the building products — the new carpet smell. Some people think of new car smell — that's probably the most exaggerated form of off-

gassing, and people are like, "Oh, smell that new car," and actually you're breathing in toxic gases. None of that occurred — it was an easy transition for the owner to move in.

Does having a LEED-certified building under your belt do anything for you in terms of increasing your marketability for certain clients?

Whitney: We already have — that was one of the main benefits we had for going after the next project with the university. On that request for proposals, it was required that it had to be a LEED-certified building — you had to demonstrate in the interview process that you could achieve that. Currently, we're the only architect in Maine that has a LEED-certified building.

Richter: It's definitely been an item for the resume, and it is opening doors to certain projects. I think we are probably going to be able to utilize it in our residential side of construction also, where those clients aren't necessarily going to be looking for the certification or the national recognition, but they have a distinct interest in environmental issues.

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