THE BEST-LAID PLANS...OFTEN GO AWRY

With any construction or remodeling project there are bound to be surprises. The contractor calls and tells you that plumbing pipes need to be rerouted, wiring needs to be replaced, or the foundation has cracks that allow water to seep into the basement. "We can fix it," the contractor says, "but it's going to be more expensive`." Those are the words you feared the most when you signed on the dotted line to remodel your bathroom, create your dream kitchen, or finally put a rec room in your basement. As the drawings and construction documents for Olbrich's new Learning Center and greenhouses have been finalized over the past few months, there have been a few surprises popping up for us, too.

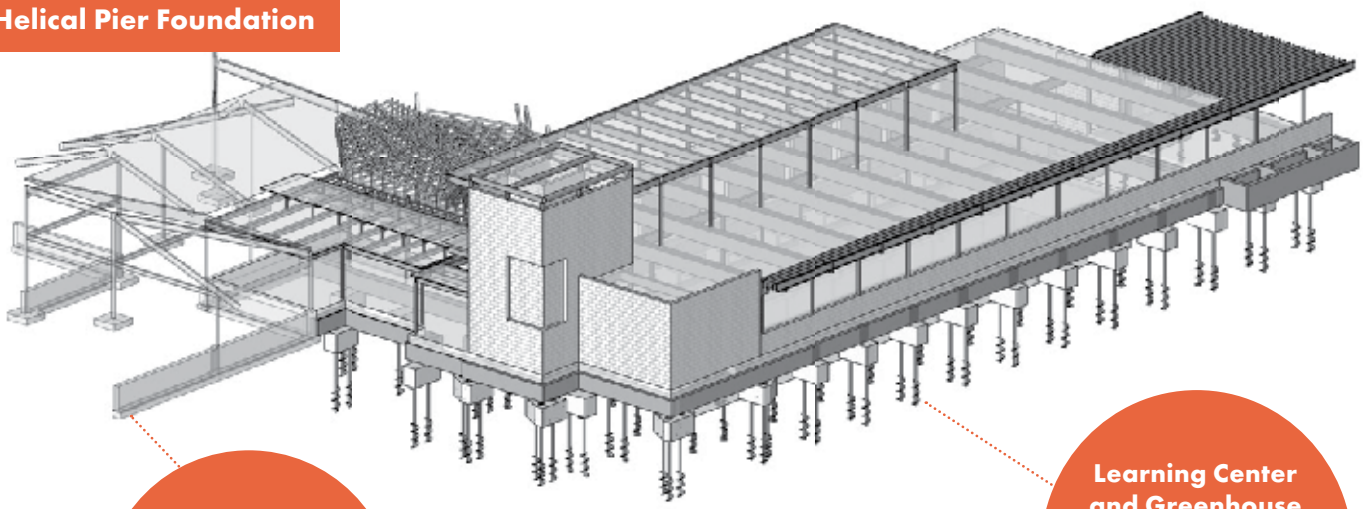
First, soil borings from areas where the new buildings will be sited revealed that the soil quality goes from poor to bad very quickly. (This isn't extremely surprising if you consider that the land the gardens and buildings occupy was once an urban dumping ground and marshland.) This information was unexpected because the existing buildings were built on a traditional spread footing foundation; it was assumed that the soil could support the same type of foundation for the new buildings. Using this type of foundation with such poor quality soil would require deeper and wider excavation of the site, causing more disruption in the gardens, add months to the construction schedule, and require additional permits from the Wisconsin Department of Natural Resources.

So what's the solution? In order to minimize the amount of excavation and keep the project on the same timetable, helical piers topped with a modified concrete foundation will be used beneath both the Learning Center and new greenhouses. These helical piers essentially screw into the ground, providing strength and stability in less-than-favorable soil conditions.

The second surprise was the need for a 30-foot by 100-foot by 3-foot detention pond to capture roof runoff and prevent it from reaching Starkweather Creek and Lake Monona. Water conservation and protection is something that is at the forefront of everything we do at Olbrich. We collect rainwater in rain barrels throughout the gardens, irrigate sparingly only when needed, plant drought-tolerant plants whenever possible, and add rain gardens that allow rainwater to filter slowly into the ground. Making sure to responsibly recapture roof runoff is, without a doubt, something that we feel is necessary to do. But, we weren't exactly thrilled with the idea of such a large detention pond taking up garden space.

It wasn't long before a solid solution – one of the oldest ways to capture water came about - a cistern. A large, 60,000 gallon cistern will be placed underneath the Learning Center to capture 95 percent of the roof runoff from the Learning Center and greenhouses. Water held in the cistern will be the primary water source for plants in the Bolz Conservatory and greenhouses, providing about three-fourths of the required 339,000 gallons of water it takes to maintain the

Helical Pier Foundation



Existing structure is traditional spread footing

Learning Center and Greenhouse will use helical piers topped with a modified concrete foundation

The cistern will hold the equivalent of six 10,000 gallon fuel tankers!

indoor plant collection each year. Currently, water used for the plants in the Conservatory and greenhouses provided by the Madison Water Utility and is pumped from the aquifer. The water is softened and then processed through a reverse osmosis (RO) system to remove additives like salts from the softening process, as well as chlorine and flourine that can damage the leaves of certain plants. The entire process of softening water to remove hardness and then turning it to RO water requires a higher volume of water than what is truly used to water the plants.

Rainwater, on the other hand, is pH neutral, has no hardness, contains no additives, and is overall better for plants. A small detention pond will handle overflow water and be a way to educate visitors about the water cycle and how rainwater is captured and reused at Olbrich.

The third surprise was the requirement to add fire suppression sprinklers and fire doors to the entire complex, including the existing buildings. Since the botanical center buildings were constructed before these types of fire suppression were required, coupled with the fact that the new Learning Center only connects to the existing building in one location, we weren't expecting sprinklers and fire doors to be a requirement during this project. But, as the saying goes, "Better safe than sorry!" While this unexpected expense adds more to the total bill, everyone will breathe a little easier knowing the people who utilize our facilities, the plants we grow, and the buildings themselves are safer should there ever be a fire.

Much like a home renovation, these solutions are going to be more expensive. In fact, it will take an additional $2 million to address these issues (bringing the project's total cost to approximately $12 million).

Like the rest of the building project, the Olbrich Botanical Society and the City of Madison will split the cost of these additions equally because we feel strongly that we are constructing these buildings in the most economical, environmentally conscious way possible while using less-than-ideal soil and wisely capturing roof runoff.

We are so grateful to the companies, foundations, and individuals who have contributed to the Rooted & Growing Capital Campaign. Thanks to them, we've almost reached our fundraising goal, but these surprises are pushing that goal just a little further away. If you haven't already, please consider a contribution to support the capital campaign. Your gift can (literally!) help build a strong foundation so we can continue to be a locally treasured and globally renowned source of beauty and education, connecting people and plants in meaningful ways. Visit olbrich.org/rootedandgrowing.cfm for more information or to make a donation.

PROJECT TIMELINE

June 1-July 12
bidding period

July 12
bids due and opened

July-August
contract signing

September
construction begins

September 2019
construction completed