

Story Of A Landscape: Logistics Challenges For University Of Texas Green Roof



Source: www.TurfMagazine.com

It's a rare job where logistics doesn't play some part in the mix. When you're working seven stories in the air in a crowded downtown construction site, however, logistics are a big part of the story – and on this project, the greatest challenge.

When it comes to the new [Dell Medical School facilities at the University of Texas](#), just about everything is big and out of the ordinary.

As the first medical school to be built from the ground up in the last 50 years, it's perhaps not surprising the design includes a 17,000-square-foot [succulent and wildflower garden](#) on top of a parking garage which is visible from the adjacent Health Transformation Building and hospital rooms at the nearby Dell Seton Medical Center.



Photo: Brightview

Getting that garden built and planted was no easy feat. It was done in three-and-a-half weeks with a dozen men as a testament to the organizational abilities of [BrightView Landscape Development](#)'s area superintendent, Kayla Jahrman. John Faske, the assistant manager of BrightView's Austin branch, says Jahrman was the glue that kept the project together.

BrightView Landscape Development was awarded the contract based on its bid.

"It was a hard-bid situation," Faske says. "We were awarded the job based on the best value to the general contractor, Hensel Phelps."

However, the company is developing a reputation for [installing green roofs](#),

and Faske adds that designers and developers are seeing more value to them, whether it's helping with [LEED](#) (Leadership in Energy and Environmental Design) or [SITES](#) (Sustainable Sites Initiative) rating systems, reducing roof temperatures or controlling runoff.



Photo: Brightview

Although this is the largest green roof Faske has done, BrightView Landscape Development has completed a green roof project at another University of Texas campus and has several more in progress. The Dell Medical School job was recognized by the [Texas Nursery and Landscape Association](#) with a Texas Excellence in Landscaping gold award.

In many ways the project was straightforward. Faske explains that BrightView received the site once the decking was done and the waterproofing applied. The first thing the company did was put down a hydro-tech retention mat.

"It has a lightweight aggregate in it which is contained in plastic cups that help retain water," he says. "We then put filter fabric over the mat and installed custom-molded concrete curbing on a mortar bed to act as a retainer between the planting areas on the inside and the gravel maintenance strip on the outside."



Photo: Brightview

Getting the 450-pound curbs to the jobsite and then on the roof wasn't a simple job. The curbs were craned up, as well as a very small tractor BrightView arranged to have. Faske says because of weight limits on the roof it was one of the smallest mini-tractors available.

"We actually fabricated a lifting apparatus," Faske says. "It's designed to lift boulders, but we custom fabricated some fingers on the end of it so we could lift the concrete curbs. That allowed us to use the tractor to pick them up safely by machine rather than using labor."

Simply having access to the crane was its own challenge.



Photo: Brightview

"The crane was there for a separate building project, but we were able to partner up with Hensel Phelps," Faske says. "We had to use the crane on off times, so we worked later hours and we worked weekends when the crane was available. We also had to coordinate the use of the crane with the other trades."

The unfinished nature of the Health Transformation Building also required the BrightView crew to leave space nearest that building undone early in the process.

"We won't work below a building that's going up because of the fall hazards,"

he says. "The main wall we were working against was a solid glass wall, so we left about 20 feet undone against the building while they were putting up the glass."

At least as challenging as getting the curbing onto the roof was delivering the soil – all 28 truckloads of it. The soil is a special mix called out by the [Lady Bird Johnson Wildflower Center](#), who was a key partner in the project.

"There was an exact ingredient mix that we had to produce for them," Faske says. "We didn't have any say in that; it was pre-determined by the wildflower center and approved by the University of Texas."



Photo: Brightview

Coordinating its delivery with the availability of the crane meant the BrightView team had to be efficient. Once a truck would arrive on-site (staging was done in a closed traffic lane next to the building), the soil which was shipped in [Super Sacks](#) – one cubic yard per sack – was hoisted to the roof, two at a time by the crane.

"We scheduled deliveries so they'd come in every hour over a period of days," Faske says. "Our guys would take a knife, cut the bottom of the bag and the soil would dump out in one area. We had the mini-tractor to act like a dozer and do the grading."



Photo: Brightview

While he adds that it was fun to see the work as it happened, coordinating with the other trades meant the crew would have to do as much as possible in a small window of time to stockpile materials in certain areas and then go back later to finish.

The soil mix was spread to a full foot to allow for greater insulation from heat and retention of rain water. Once the soil was in, the company installed a drip irrigation system with special soil sensors.

"The sensors tie to the [University of Texas' irrigation system](#)," Faske says. "They monitor the water and the moisture retention in the soil for research they're doing."



Photo: Brightview

The soil also provided Faske's biggest learning experience for the project. Getting the soil to the roof may have been one challenge, but keeping it there was another – and unanticipated.

"When we got the soil up there, not all the windows were in the building," he says. "When the wind would blow, it would take the smaller particles of soil and blow them into the building. We had to come up with a way to hold the

soil down, so we came up with a jute mesh netting we put down. It's normally used for erosion control, and when the plants came in we just pulled it part, made holes and planted through it."

The plants included 6,500 prickly-pear, red yucca and manfreda, over-sewn with a mix of Texas bluebonnets and plains coreopsis.



Photo: Brightview

"We had them custom grown for the job," Faske says. "I believe we put the order in four months in advance and it worked out well that when the job was ready the plants were mature and ready to go in the ground."

Although maintenance of the project has been taken over by the University of Texas, BrightView still has a finger in the pie with monthly inspections of the site.

Of course, Faske's very proud of the job, particularly the way everything came together, and everyone worked together on a difficult site. However, he says that's due to the work Jahrman put in on the project, including going to weekly coordination meetings and making sure that deliveries of materials were scheduled in around the other subs and the general contractor.

"She was the mastermind," Faske says. "She did all the coordinating to get everybody out of our way, so we could do our work. She really made it happen."