



Borrowing Sand to Build I-4 Ultimate



For those building the I-4 Ultimate project, the word “sand” does not convey instability, as in the phrase “the shifting sands.”

Sand, in fact, represents a stable, dependable, compactable material – one

that forms the foundation of some of the largest structures on the 21-mile improvement project. Why is simple, plentiful sand so important?

To ensure the stability of roadways, bridges and flyovers, the I-4 Ultimate team not only has to put steel pilings and concrete support structures deep in the ground, but the team actually has to build up the foundations and roadbeds upon which the new roadway will sit.

Central Florida soils often contain a good deal of organic matter – materials that can decompose over time. That can cause the ground to shift under heavy structures. The decaying matter also can release chemicals that corrode metallic support structures.

Excerpt: www.i4ultimate.com/borrowing-sand-to-build-i-4-ultimate/

“That permits for better compaction and assures that metal straps on the bridge approaches and raised roadways stay strong and won’t be impacted by decaying organics,” said Timothy Copple, Borrow Pit Manager for SGL – the construction joint partnership of Skanska, Granite and Lane.

So far the I-4 Ultimate team has used 2.2 million cubic yards of sand (as measured while still in the ground) and the team expects to use another 4.5 million cubic yards before completion in 2021. That’s enough to fill the Great Pyramid of Giza twice.

In the construction trades, the sand is said to be borrowed, so the place or mine where it comes from is called a borrow pit. Some of the sand used on the I-4 Ultimate project has come from a borrow pit in Apopka.

The team works to select borrow pit locations in environmentally responsible ways. “We make it a priority to find pit locations that represent our strong commitment to the environment,” said Russ Handler, Communications Coordinator for SGL. “That’s exactly what we have done when selecting the pit at the Apopka Northwest Recreational Complex.”

In the future, the Apopka location will store reclaimed water that will support migratory birds, local wildlife and complement the adjacent recreation park, Handler said.



About The FDOT

The goal of the DBE Supportive Services Program is to increase the number of DBEs participating on FDOT contracts and facilitate the opportunity for DBEs to obtain contracts. The services are designed to:

- Assist established construction firms to move them from bidding as a subcontractor to bidding as a Prime Contractor to produce sound bids.
- Provide access to training increases DBE expertise in handling of daily business operations.

About The Program

The Construction Estimating Institute (CEI) works with FDOT as the statewide provider of the federally funded Disadvantaged Business Enterprises (DBE) Supportive Services Program. We want to increase the number of certified DBEs participating in highway and bridge construction, as well as assist DBEs in growing and eventually becoming self-sufficient. Additionally, CEI provides supportive services by assisting prime contractors and consultants with identifying DBEs for subcontracting opportunities on priority projects.



In an effort to ensure motorists and drivers stay as safe as possible during the I-4 Ultimate reconstruction project, the Maintenance of Traffic (MOT) team continues to try out some of the newest safety technology.

“It’s our responsibility to look at new technologies and be willing to test them,” said David Feise, who is Project Maintenance of Traffic Manager with SGL – the construction joint venture of Skanska, Granite and Lane.

Among the most recent tested are traffic cone lights that flash in sequence and portable, wireless alarms systems. Both are part of the I-4 Ultimate team’s ongoing efforts to develop smart work zones.

The lighted traffic cones do not simply flash to make sure drivers see them; they actually blink in sequence from the first cone to the last and then repeat the first-to-last order. It helps drivers see that their lane is tapering toward a closure and they need to move over.

The lights can be attached to nearly any set of cones and are programmed. So, if cones are knocked over, then the remaining lights wirelessly resynch themselves using Bluetooth technology to keep them blinking in proper order.



While drivers may get numb to seeing the same lane-closure warnings, the blinking cone lights seem to have caught their attention. During a typical night, workers often find that three or four of the reflective cones have been knocked over. However, none of the blinking lighted cones had been hit during the first few weeks of use.

The worker alert system is another innovation undergoing testing. It seems simple to set up, yet very effective as part of a smart work zone.

An air-filled tube is stretched across the ground on the edge of a work zone. If a car or truck runs across the tube, then the unit alerts those in the work zone that a vehicle has veered out of the designated traffic lanes and may be endangering nearby crews. The wireless signal sets off portable alarms that emit loud sirens and bright flashing lights. Workers on the ground or those operating vehicles also can carry personal alarm devices that vibrate and flash during the alert.

Excerpt:: www.i4ultimate.com/new-technology-helps-keep-drivers-and-workers-safe/

Supportive Services Offered



- Estimating Training
- Building Capacity
- Mobilization Financing
- Bonding Assistance
- Marketing Plan Development
- Creating a Business Plan
- Building a Website



**BONDING,
FINANCING,
AND
INSURANCE**

CEI is an educational organization providing the highest quality construction training in the industry. Over 100,000 owners, estimators, project managers, field supervisors, office support staff, foremen, laborers, and key management personnel have attended courses that are offered nationwide. The courses provide students with construction skills training and the critical information needed to be effective within their companies and organizations.

Call 800-423-7058 or 866-378-6653 or visit us online at www.cmdp-bgp.com

www.fdotdbesupportservices.com

CEI, 5016 Calle Minorga, Sarasota, FL 34242