

Wiggert & Co. GmbH, 76227 Karlsruhe, Germany

# A new production facility positions Camp Precast Products for future growth

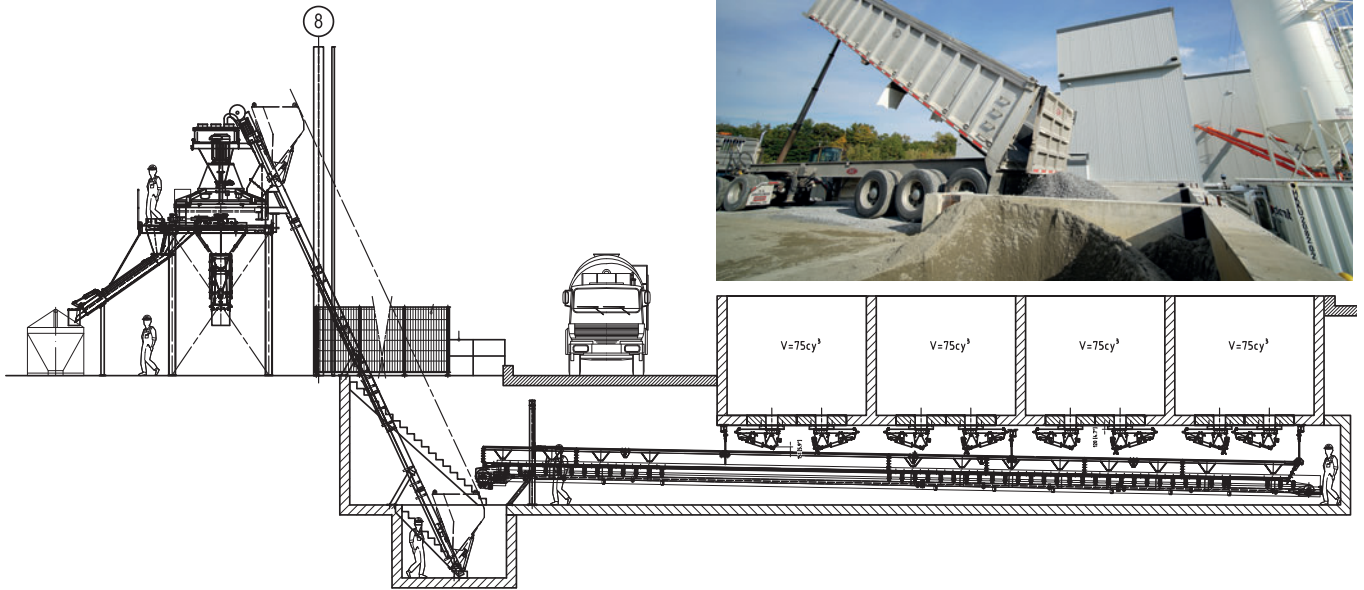
**There comes a time in the lifecycle of a company when you need to plant your flag and make a major move forward. For Camp Precast Concrete Products in Milton, Vermont, that time came in 2014, when Kevin Camp and Travis Brousseau decided it was time to scrap their existing facility and build a new plant. Located in upstate Vermont, 80 miles south of Montreal, Canada, the company's growth was stifled by its old equipment and facilities. Kevin's parents, Dale and Mary Camp, built the business from the ground up, starting in 1968, but now it was time to modernize.**

When his parents retired, Kevin and his brother Patrick took over the operation in 1996. Patrick left in 2005. A few years

later, Travis Brousseau, who had worked at Camp Precast previously, rejoined the company as its general manager and eventually became a partner. The company was evolving, and so was the precast concrete industry. Demand was growing for larger, more complicated structures, with ever higher quality expectations and pricing that demanded efficient production operations. Camp Precast did not want to get left behind. "The plant was just getting old and beat up. We had to do something," Brousseau said. "We couldn't let it continue. We had a small square foot facility. We were pouring everything outside that was over 20,000 pounds. We knew that if we wanted to continue to get more state work and bigger projects, we had to build a facility. Things are changing, the world is revolving. We had to change with it."



*Present day SCC recipes require state of the art mixing plant equipment. At Camp Precast a computer controlled mixing batching plant from Advanced Concrete Technologies (ACT) delivers concrete directly to two crane bays. The ACT WiCoMix 2250-4-WCS features a high shear planetary mixer, auto mixer cleaning system, WCS Control and microwave moisture technology for complete W/C ratio control.*



The ACT team worked with Camp Precast to design a new compact & efficient plant layout. The design situates the HPGM mixer platform, with 2 discharge gates, between two crane bays. The batch plant includes 4 x 100-ton aggregate storage bunkers, and 3 cement silos. The underground aggregate storage bunkers offer low cost of operation. Aggregates are charged directly from dump truck, eliminating loader and operator costs.



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A weigh belt below the aggregate bunkers, with dual batch gates, for coarse fine batching, accurately weighs up the aggregate batch. Additionally, the geothermal temperature of the below grade bunkers benefits both winter and summer concrete production.



Hydrtester radar moisture probes, mounted below the aggregate batching gates, measure real-time aggregate total moisture. Hydrtester moisture probes are used in the aggregate bins for accurate batch yield correction due to moisture content in the raw materials.

### Tipping Point

It was a tipping point for Kevin Camp, who knew they needed to take a big step forward if they were going to compete long-term and not be limited by the brutal winter weather.

"I felt like we were either going to make this investment or I might as well just get out of it," Camp said. "My father built the original building in 1972. The batch plant was a 1960s Johnson batch plant – not ours originally – so we were using a second-hand batch plant that we had dumped a pile of money into that was never intended to be used in cold weather."

The weather could be stifling. "We were very limited," Camp said. "We were pouring outside, and the quality was suffering from having to pour in the cold and the snow. There were many things that came into play. Another was retaining good employees. It's hard to retain quality employees when they have to work in that environment."

### Focus on Technology

After making the big decision, Camp and Brousseau started their search with a focus on technology and customer service. "Price was important, but it didn't all come down to price, because this is such a big piece of our business," Brousseau said. They didn't have to go far to find the supplier they were seeking. Advanced Concrete Technologies, based in Greenland, N.H. The decision to go with ACT started an intensive planning process that resulted in a new 14,000- square-foot facility that has transformed the way Camp Precast does business. Constructed beside the original plant, the new facility opened in February 2017, featuring ACT's state-of-the-art equipment. The ACT system solved one of Camp Precast's biggest challenges: aggregate handling. Aggregate was stored outside and had to be loaded onto a bucket elevator at the old plant, which slowed production and limited capacity.

"We had a guy operating a loader for a half day – loading up in the morning for two or three hours to get ready for production," Brousseau said. "Then we'd pour 30 or 40 yards and we would have to load it again."

Early in the design discussions, Camp pitched an idea for aggregate storage that he learned from another cold weather precaster, Andy Wieser, president of Wieser Concrete Products, based in Maiden Rock, Wisconsin.

ACT made it a focal point of the new design. "They were able to take our concept and custom engineer their equipment layout to fit our needs, and I think they did a really nice job with it," Camp said.

### The Bunker Solution

ACT brought in the WiCoMix 2250-4 WCS plant, which features underground precast concrete aggregate bunkers engineered to take advantage of the geothermal warmth below grade. That was a game-changer for the Camp production team, which was plagued with the issue of frozen aggregates every winter.

The four aggregate bunkers each have about 100 tons of storage capacity. Not only is the aggregate protected from harsh weather, the bunkers will never wear out. The need for an operator to run a front-end loader is eliminated because aggregate deliveries go directly into the bunkers. The bunkers are fitted with dual batching gates for precision batching. Two of the bins include ACT's Radar Hydrtester, which measures real-time aggregate moisture and automatically corrects batch weights to deliver a consistent batch every time.

"We also added a heating unit to keep the aggregates at temperature," Brousseau said. "You can't make good concrete out of frozen aggregates in the wintertime. So, when you put all that technology together, now we can produce all winter. We weren't able to do that before." During the coldest months of the year it was cheaper for us to buy concrete from the ready-



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The WCS allows the batch plant operator to manually add specialty components, such as structural fiber or pigments, into the skip bucket for delivery to the mixer.



The aggregate weigh belt pre-weighs the next batch into the skip. Pre-weighing and holding the next batch in combination with the high intensity HPGM 2250 mixer maintains fast cycle time so that Camp Precast meets their productivity goals.



Mono rail system rotary bucket



Bucket with double flap gate



Two rail system rotary bucket



Bucket with double flap gate



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*Camp Precast is a NPCA certified plant. Ethan Camp performs QC tests to ensure that unit weights, SCC spread, concrete temperatures and air content meet specification. Additionally, daily compressive strength tests, run by Gerry Daniels in the concrete lab, verify that Camp Precast products meet quality parameters.*

mix guy down the road," he added. "Everybody knows as a precaster you're not going to survive very long doing that. But we had to do that for two or three months a year."

### More Capacity and Efficiency

The underground bunkers are just the start of the features that ACT brought to Camp Precast. The mixer is a Wiggert high shear planetary model, HPGM 2250, which can produce a full 2-cubic-yard batch consolidated concrete every three minutes. Integrated with the WCS control system, it offers a user-friendly, visual control panel that provides real-time access to production statistics. The reporting metrics enable the operator keep tabs on material consumption, inventory and maintenance schedules. The WCS controls also calibrate the Hydrotester and provide data for quality control reports.

For Brousseau, the speed, precision and ease of use have enabled Camp Precast to add more capacity, work more efficiently, and compete for DOT work year-round. They can also go after other major projects that may have been out of reach in the past.

"The bottom line is, it's easier. The ACT system allows us to be more accurate, more hands on. The reporting system is excellent. It gives us great reports - monthly reports, daily reports - and we can give the state what they need too, versus some of the reporting that was done by hand before," Brousseau said.

"It makes a better, accurate batch and keeps our yield right on," he added. "It's just more accurate, and a better mix, that's for sure. There's no question about it."

Another big improvement: there's no down time waiting to refill the aggregate bins. "We have a tremendous amount of capacity now," Brousseau said. "It can make concrete faster than we can place it."



*Camp Precast transitioned in the summer of 2018 to the new WiCoMix 2250 mixing and batching system from ACT/Wiggert. The plant produces 2 CY concrete each batch, approx. every 3 minutes, automatically delivering about 40 CY per hour concrete, continuous production. Concrete is efficiently delivered to forms via crane buckets.*

### New Technology

In addition to the Hydrotester, ACT added additional new technology inside the mixer, which is equipped with a Hydro-mat probe that measures moisture inside the mixer. Mounted to the floor of the mixer, the digital microwave probe takes 25 moisture content readings per second and automatically manages batch water metering to deliver the specified water/cement ratio in every batch. ACT's probe technology is beyond what most DOTs recognize. It is automated, more accurate and more advanced than what is defined in the specifications, so ACT is working with DOTs to provide technical support and explain the system.

The ACT system also features built-in housekeeping and environmental features that reduce waste, protect the environment and help keep the plant clean.

There is a double-walled split silo for cement and cement blends that includes top-mounted dust collectors with cartridge filters and an automatic "air-shock" filter cleaning system that reclaims all the dust and returns it to the appropriate silo. The silos are also fitted with overflow protection systems to further protect the environment.

The mixer's self-cleaning feature is also a big bonus. ACT's patented high-pressure cleaning system automatically cleans the mixer in 10 minutes, which makes it possible to run a cleanout cycle during breaks or at lunch to prevent concrete buildup. Hand-operated lances allow spot cleaning and cleaning of chutes and buckets outside the mixer at the end of the day.

The new production facility creates an environment that Brousseau wants his employees to have pride in and maintain.



Rick Swann checks a batch ticket on the WCS Batch Control System. The WCS system features Hydrotester and Hydromat auto aggregate moisture compensation technology. In addition, the WCS Control includes password protection, recipe management, batching statistics, inventory, maintenance reminder module and reporting for DOT compliance.

“Like I tell my guys, it should be cleaned like you would clean your Corvette in the garage. Clean it more than you’re using it, because without it, we’re nothing, guys.”

### Weather? No Problem

As another winter closes in, the Camp production team no longer has to fret the weather.

“We can do projects in the wintertime that we could never do before,” Camp said. “We did a big pile cap job this past winter that we wouldn’t have been able to do in the past. We’ve done box culverts in the winter that we wouldn’t have been able to do in the past. It just opens us up to be able to produce. There’s not a lot of good winter work around here, and if you can get something and have the capability to do it, that’s a big deal.”

Camp Precast stays competitive in a fairly isolated region by offering a wide range of products, Camp said. “The biggest way we compete is by being diverse in our product lines,” he said. “You can’t just be a manhole producer in Vermont. You’d go hungry. So, diversity in our product lines enables us to drive sales.”

Going forward, Camp and Brousseau are considering even more diversity, looking at bringing on additional products that may bring a higher profit margin. With a modern facility, precision production processes, and a dedicated team of employees, Camp Precast Products won’t be limited from future growth and is now set to stay ahead of the game. ■



Quality, safety and productivity requires teamwork at Camp Precast in Milton, VT.

### FURTHER INFORMATION



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