



## Challenges on the Lagoon at Treasure Island Resort

By Zach Brazier

**G**lobal Specialty Contractors, Inc., was contracted by Knutson Construction, Minneapolis, MN, to build four substantial water features in their new “Lagoon” expansion at the Treasure Island Resort and Casino in Welch, MN. The \$19 million dollar, 40,000 ft<sup>2</sup> (3700 m<sup>2</sup>), project began in May 2015.

Global Specialty was brought on site in late summer of 2015 and given a completion time of 5 months. The centerpiece of the new Lagoon project is the 325 ft (100 m) lazy

river. The river is complete with rapids and waterfalls. Global placed 150 yd<sup>3</sup> (110 m<sup>3</sup>) of floor and wall. Once the work area was ready, they broke up the concrete placement in three sections. The Global Specialty carpenters paid extra attention to build proper joints to ensure watertightness.

The adjacent 2000 ft<sup>2</sup> (185 m<sup>2</sup>) leisure pool’s walls were placed with another 55 yd<sup>3</sup> (42 m<sup>3</sup>) of wet-mix shotcrete. At this point in the project, the building that included the Lagoon expansion had not been enclosed from the elements.



Fig. 1: First section of lazy river placed



Fig. 2: Lazy river



Fig. 3: Leisure pool ready for shotcrete application



Fig. 4: Lounge pool

Synthetic BurLene® blankets were used for curing of the entire workspace.

Not the largest vessel, but still complicated, was the aesthetically pleasing Lounge Spa. The monolithic shotcrete structure of 35 yd<sup>3</sup> (28 m<sup>3</sup>) was placed and carved by skilled workers. The formwork prior to shotcreting looked like a web of reinforcing bars, tubes, and water stops. It is often a challenge to fit enough workers to place, finish, and remove rebound in these smaller water features. After about a 14-hour day, a swim-up bar was easily recognizable.

Just before Christmas, they began work to form and shoot the two-tiered cascading spa. This last water feature proved difficult as the other trades were also trying to wrap up their work. A lot of planning and coordination took place to allow Global to pump shotcrete without damaging the surroundings from hose breaks or rebound.

By Christmas, all four of the water features were in. Global Specialty's tile and plaster crews were working behind the concrete crews throughout the various new structures' placement. It was certainly a challenge to maintain proper curing time and method, with Knutson pushing to get finishes applied to the shotcreted structures. Through good communication and coordination, we were able to cure and keep the final finishing on schedule.

Behind the scenes, the casino was moving forward, adding an additional outside spa to the project. Knutson produced a change order and directed Global Specialty to begin work immediately on the outside spa. Knutson Construction was very understanding and helpful with the need to maintain a proper working environment for building the shotcrete structure.

As the shotcrete crew was getting ready to go ice fishing for the winter, they were called back. The mission was the same: build a quality vessel in very little time. Knutson was as accommodating as possible for the work area; in return, we assured that all shotcrete placement would follow standard industry practice. In the freezing temperatures, we had a pre-application meeting with the ready mix supplier. We successfully shot a monolithic spa of 15 yd<sup>3</sup> (11 m<sup>3</sup>) and Knutson was kind enough to allow the little enclosure to be heated for an appropriate cure time.

With all the usual difficulty of a large project, I found the



Fig. 5: Finished Lagoon

biggest challenge was to stay in close contact for coordinating with the various oversight groups. The Owner had a high demand for quality and timeliness. The engineering and management firms onboard had an equally high demand for proper placement, curing, and protection practices. I personally learned in my early years in the shotcrete business that it is more economical to use proper methods, and avoid cutting any corners. There was a lot of stress to keep the various inspectors satisfied, but our team slept well at night knowing we were delivering a high-quality product.

As the expansion came to a completion, the casino heavily advertised the new Lagoon on radio, TV, and online. To date, the Lagoon has had over 100,000 swimmers. The indoor waterpark is the second largest for the Minnesota Casinos. This facility has truly made Treasure Island Resort and Casino a family destination.

After less than a year of operation, Global Specialty was honored to be selected to construct two more pools in yet another expansion at the casino. The new pool expansion is adjacent to the Lagoon, and so far, we've placed another 45 yd<sup>3</sup> (34 m<sup>3</sup>).



**Zach Brazier** is Vice President at Global Specialty Contractors, Inc. With father Charles "Ron" Brazier being an Owner at Global, Zach considers himself born into the business of shotcrete. Outside the shotcrete crews, Zach manages various projects in Minnesota and assists the Hawaii Division. He also

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