By Patrick Lapinski

PARTNERS IN PROGRESS

FRASER SHIPYARDS TEAMS UP WITH API TO ENCLOSE DRY DOCK FOR WINTER SHIPBUILDING PROJECT

Since acquiring Fraser Shipyards in 2021, the new management team has been hard at work transitioning the century-old shipyard to a leader in contemporary shipbuilding. Two recent partnerships are strong indicators that the shipyard is on the right course.

In a recent conversation, CEO Patrick Kelly talked about their collaboration with APi Construction to build an enclosure around a new-build underway in Dry Dock No. 1 that he believes will strengthen and revitalize one of the yard's core sectors, large-scale shipbuilding.

"In order for us to be productive to a world-scale standard, European or Asian productivity, we've got to create a controlled environment to give our folks a fighting shot at it."

Following decades of near-stagnant growth, wherein Fraser Shipyards became known primarily as an emergency repair or winter lay-up, seasonal maintenance and fit-out facility for the commercial lakers, the yard's previous owners (Capstan) charted a different course.

Incorporating small craft construction through the acquisition of Lake Assault Boats and reinforcing it with government shipbuilding contracts has infused the shipyard with a new revenue stream, providing year-round stability to its workforce in lieu of the cycle of seasonal on-demand work.

The joint press release at the launch of the collaboration between Fraser and APi boldly stated the project would "reshape the future of shipbuilding."

CEO Kelly concedes that might not quite be the case, but he totally embraces the spirit of the comment.

"We're trying to do everything we can to bring modern shipbuilding techniques to Fraser shipyard, and working in a controlled environment is standard operating procedure in a lot of European and overseas yards. We think it should be with us as well."

Regardless of the season, shipbuilding is largely an outdoor job, and in Superior, that means working in adverse conditions.

"There was a perception in the yard that during the winter we work outdoors and we kind of muscle our way through and put up with the weather," said CEO Kelly about the shipyard. "That was kind of the perception and it still is – we're not turning into a bunch of wimps or wussies here," he laughed, "but realistically, we looked at some of the weather statistics around Superior, and it rains or snows about 60% of the time. A lot of what we do requires guys and gals to be out in the elements for extended periods. When there's precipitation or moisture in the air, things like welding are hard to do. Moisture and welding don't go well together when you're outdoors."

To avoid any confusion and dispel potential rumors, the enclosure will not be evaluated for regular repair work on lakers entering Dry Dock No. 2, says the shipyard's executive officer. "The biggest reason isn't so much the dimensions but because on the repair side we're able to pick and choose days that we're out on the hull, versus in the hull or in the vessel, so there's much less requirement for it on the repair side than there is on the new build side."

The major outdoor project currently in the shipyard is the construction of a new car ferry for the Beausoleil First Nation band (G'Chimnissing) of Ojibwe, whose scheduled completion does not allow for weather delays. To keep the project on schedule, Fraser Shipyards has entered into

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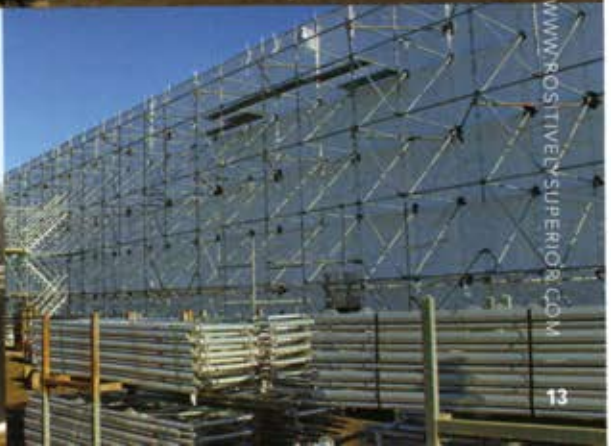
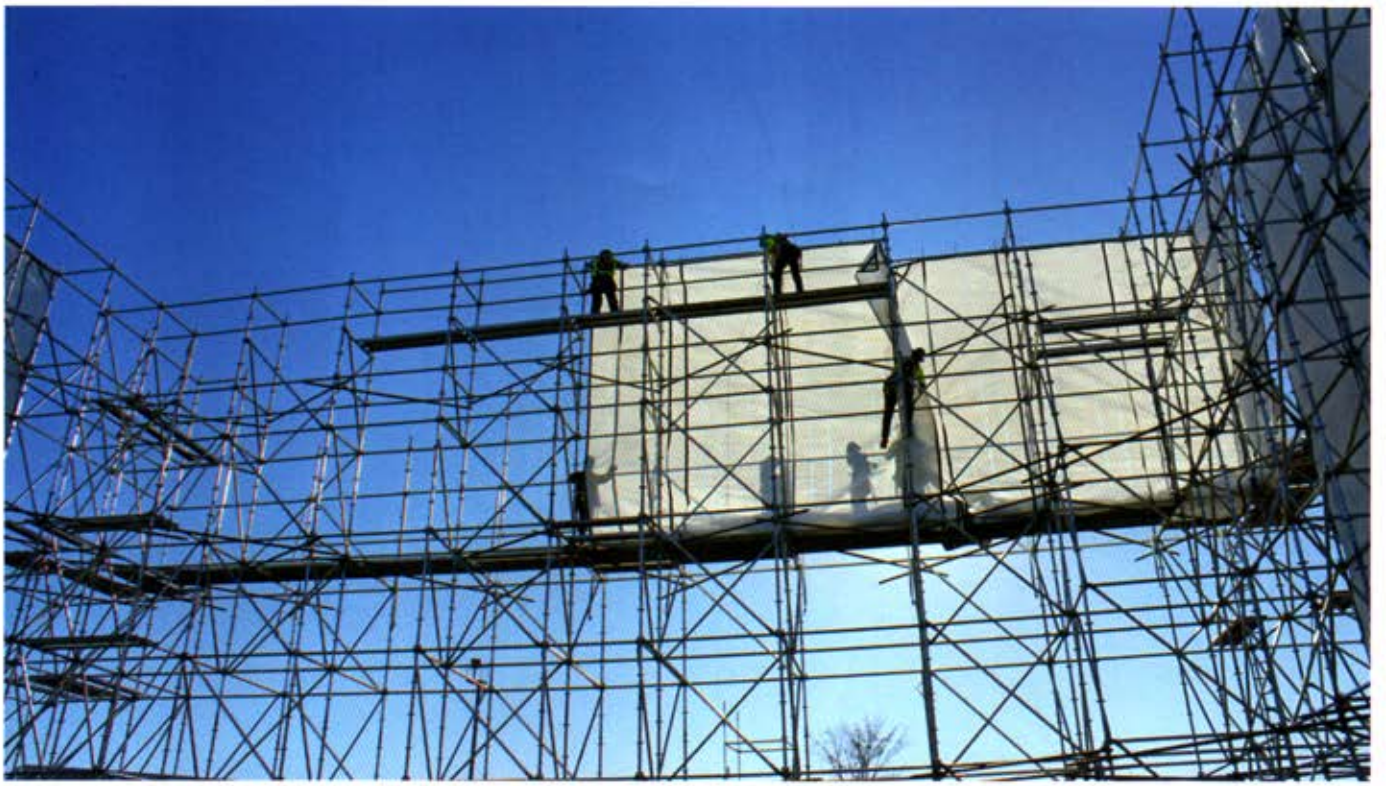
– PATRICK KELLY, CEO - FRASER SHIPYARDS





a partnership with APi Construction of New Brighton, to enclose a large portion of Dry Dock 1 with an all-aluminum modular weather protection roof system.

"We think it's an investment in the yard and the investment in our people that is extremely well placed," Kelly said. "When it's raining and 33 degrees, that's unpleasant weather to be in. I think we'd all say we'll take 15 degrees and snow any day. Being outdoors for extended periods just isn't realistic in a lot of our weather conditions."

Fraser had previous experience working with APi's Milwaukee division for various projects around the shipyard, erecting rigid fabric enclosures, but on a much smaller scale. When Fraser contacted Russ Byers, Manager of Scaffold Services, in December of 2022, he was excited to tell them about the new addition to their product line, the MonZon PROTECT IT™ modular weather protection system.

"We can give you a retractable roof to crane in material when you need it, but then also have this entire enclosure that you can heat to operable temperatures in the winter up there in Superior."

The ability to have a retractable roof is what ultimately sold Fraser officials on the MonZon system.

APi regional project manager Trevor Dittberner traveled to Superior to meet with Fraser personnel and conduct a preliminary site inspection.

"They'd had some systems in the past but they could never open it up and crane

in material, equipment. Our big sell to them was well, 'We can make this retractable for you guys. You can crane in whatever size material you need'," Dittberner said.

Given the scope of the drydock enclosure, Dittberner was excited for the challenge and the opportunity to test the scalability of the MonZon system with a roof span of roughly 260 feet long by 75 feet wide, supported by a 385-foot scaffold system beneath it nestled inside the 628-foot drydock. From the bottom of the drydock, all the way to the pitch of the roof point it will be approximately 70-75 feet in height.

The concept of enclosing a workspace is not new, having wide application within the building and construction trades.

"This is a pretty basic; this is not rocket science," said CEO Kelly, who sees the enclosure from the lens of innovation and a willingness to try new things at the yard.

"We're certainly not set in our ways of this is how we've always done it so we're going to continue doing it this way. We are open to innovative new ideas or trying different things. We very much respect that there's a learning curve in shipbuilding; we're always trying to do better in how we build our boats."

The project team from APi has been working with the shipyard, taking measurements and making modifications to create the custom-designed enclosure. One of the challenging aspects of the project was keeping the road access around the drydock open for the movement of machinery and equipment.

In its initial design, the roof was going to open over the roadways surrounding the drydock, which was a no-go for Fraser Shipyards. APi worked collaboratively with the management teams at Fraser to arrive at a two-piece roof opening engineered to travel over the drydock instead of blocking access to the roadways.

The MonZon roof system is a product built in Sweden, explained Dittberner. "APi Construction is the sole U.S. distributor of this product. We've had a partnership with them since 2022. We've already put up two handfuls of this product in the air, but this one is definitely our biggest, thus far."

For three generations, the Månsson family of Gothenburg, Sweden, has been active in the scaffolding industry.

"With solid experience and knowledge of scaffolding, the family has constantly worked to facilitate the scaffolding builder's everyday life," said a company spokesperson. "We launched the MonZon brand in 2005 and are leading the industry development with innovative solutions and competitive pricing."

Månsson was one of the earliest firms, if not the first, to introduce and use scaffolding systems in aluminum on the Swedish market.

On October 8 the assembly team from APi arrived on site at Fraser to begin erecting the support scaffolding to house the two-section MonZon roof structure. To ensure the stability of the enclosure, project manager Dittberner said APi brought in an independent engineer who made detailed weather calculations factoring in wind and

"FRASER SHIPYARDS IS PROUD TO PARTNER WITH THE BEAUSOLEIL FIRST NATION IN CONSTRUCTION OF THE NIIGAN ENAAZHEK, A 36-VEHICLE, 150-PASSENGER DOUBLE-ENDED FERRY.."

– JAKE VIEBAHN - SENIOR PROJECT MANAGER, FRASER SHIPYARDS

snow, "just to make sure our system is a) swayed and braced and tied into the dry dock and concrete barriers appropriately and b) making sure this thing is just not going to move a centimeter. We want this thing tied down, especially with it being enclosed. It's been a lengthy process. We've been working with the engineer since August," said Dittberner, who estimated the total completed weight of the enclosure to be around 400,000 pounds.

The engineer calculated for wind gusts in the range of 96 to 98 miles per hour, with sustained winds of 40 to 50 miles an hour during a five-minute period, explained Dittberner. "He told us, 'If you want your scaffold system and roof system to be enclosed at these wind loads, this is where you need to tie into the drydock and these are the appropriate amount of concrete barriers you need.'"

One of the features of the lightweight aluminum MonZon roof system that attracted APi Construction is its compatibility with their ring-lock scaffolding system. In a ring-lock system, a single rosette allows up to four braces and four horizontals to be attached

with the simple use of a hammer. When it comes to opening the roof, APi will train designated shipyard employees on how to securely tie-off onto the support structure, unlock the pins and push the roof open.

Once the scaffolding is erected and the roof installed the structure will be wrapped with customized 20 mil poly geotarps that lock down onto the scaffolding, creating a secure windproof seal. A special tarp is being created for the roof section facing Highway 2/53 that will proudly feature a large Fraser Shipyards logo, as well as a smaller one for APi Construction.

PHOTO COURTESY OF APi

As the spidery silver framing rises high above the perimeter of Dry Dock No. 1 toward its mid-November completion date, CEO Kelly expressed confidence in the shipyard's decision to partner with APi on the enclosure. "It's a good relationship, and they will be available as needed. We don't need APi on site 24/7 with us once it's constructed but they'll be available as and when or if we need them."

Throughout the winter, Fraser Shipyards will evaluate how the enclosure performs. One of the big unknowns is how warm it will be on the inside during the coldest parts of the season.

"Ambient heat from the drydock, combined with heated portions of the ferry, will certainly keep the temperature above freezing, but beyond that is the big unknown,"

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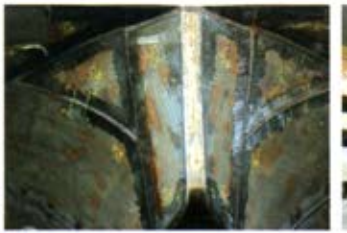
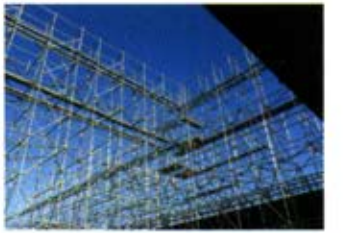
– TREVOR DITTBERNER, REGIONAL PROJECT MANAGER - APi



Kelly said. "I've heard estimates that we might be able to maintain 50 to 60 degrees during the worst of the winter; that's what we need to find out."

Another aspect of the enclosure they'll be evaluating is its portability. Shipyard officials believe they may be able to move sections of the enclosure without a complete dismantlement. "We believe it can be moved in sections to use in other dry land applications without complete dismantlement. That's also part of our learning process, and we're going to be looking at that this winter and evaluating this particular application, just how portable it is," Kelly said." I don't want to suggest for a second that it can be picked up and moved over to dry dock No. 2, for example. It doesn't work that way, because the widths are different on those dry docks. It is an engineered product for drydock No. 1."

Without minimizing the partnership between Fraser Shipyards and APi, the vessel under construction in the dry dock represents another partnership, a critical one, between the shipyard and a valued customer.

"The Beausoleil First Nations band, who we're building this ferry boat for, have proven to be very good partners with us. We're excited to get this boat delivered to them before the end of next year, before the end of 2024."

The primary home for the First Nation band (G'Chimnissing) of Ojibwe is Christian Island, located in the southern waters of the Georgian Bay of Lake Ontario. The double-ended ferry, (DEF) currently under construction will be the long-awaited replacement for the 66-year-old M/V Sandy Graham.

To meet the delivery expectations for the island-based community, Fraser Shipyards needs to maintain a production schedule that tracks directly through the severe winter months, regardless of the weather. "We fully expect this cover to contribute to that timetable, that it helps us in our day-to-day work and makes us more efficient as a shipbuilder.

"There's a lot of enthusiasm and excitement about the enclosure, and the signal it sends that we're investing in the yard and creating a better work environment for our teams out there," concludes Kelly. "I think everyone's excited about it. We want to see how it performs, but I fully anticipate this becomes a part of our standard operating procedure going forward, and it helps everybody do their jobs better."

Patrick Lapinski is a freelance writer who grew up in Superior