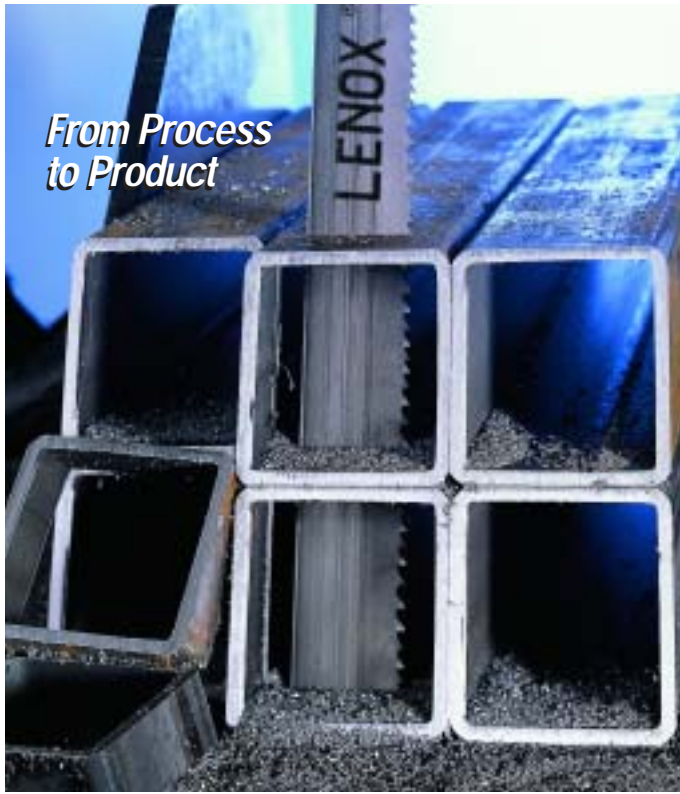


*From Process
to Product*



Building a

SUPER STADIUM

By Jon Bowen

This football season, the world champion New England Patriots are getting exactly what they deserve — a spiffy new stadium worthy of a Super Bowl® winner. And when fans file into their seats at Gillette Stadium this fall, they'll be stepping into the most state-of-the-art sports venue money can buy.

The story of Gillette Stadium begins back in the late 1990s, when Patriots' owner Robert Kraft made a decision: it was time, he decided, to build a new stadium for the Patriots and their fans. He wanted to give fans better seating and better amenities than what they were used to at the Patriots' old home, Foxboro Stadium. The old stadium — with its uncomfortable metal bench seating, drab concrete facade and pot-holed concourses — was universally regarded as one of the sorriest sports venues in the country.

Stacey James, director of media relations for the Patriots, says, "Foxboro was utilitarian, done

inexpensively just to give the Patriots a home. It lacked the comfort and amenities that so many other fans around the country enjoyed in their home stadiums."

In contrast, the new stadium is a Cadillac®. The \$325 million complex, completed this summer, covers more than 17 acres of land. The stadium, designed by HOK Sport, is a 68,000 seat, open air facility with a natural grass playing surface. With more than 350 concession stands, 1,000 television monitors, 2,000 luxury suite seats and 60 bathrooms, it's the largest multi-purpose entertainment venue in New England.

"It's great to give fans this facility, with all the creature comforts of the modern stadium," says James. "The way the stadium is built, it really highlights fans' ability to socialize before, during and after the game. For fans, going from Foxboro to Gillette Stadium is, to use a sports cliché, going from worst to first."



The new stadium has three concourses, one on every level, each one twice as wide as the narrow 35-foot concourse that fans crowded onto at Foxboro Stadium. And every concourse has a clear view of the field, so fans won't miss the play-by-play action while they're heading to the concession stand for hot dogs and beer.

One of the most distinctive features of the new stadium is the metal frame lighthouse connected to the stadium's exterior. Designed to give the complex a uniquely New England feel, the lighthouse towers above a rocky shore lined with seagrass.

This new stadium is the fruition of Kraft's dream from the 90s. But stadiums don't get built on dreams alone. Gillette Stadium is the final product of the combined efforts of many different people from many different professions — architects, engineers, and steel suppliers and fabricators — who worked together to build the stadium on a hurry-up schedule. Those are the people who deserve the credit for turning this field of dreams into a reality.

Nuts and Bolts

The ground breaking for the stadium came in the spring of 2000. The project was managed by Beacon-Barton Malow, a joint venture between Beacon Skanska, Inc. of Boston and Barton Malow Company of Southfield, Michigan. Haley & Aldrich provided geotechnical engineering services for the design and construction of the stadium.

One of the first steps in the project was a subsurface exploration program, followed by foundation design for the stadium itself as well as the associated bridges and roadways. Some portions of the site required rock blasting, while other parts needed massive earthwork operations to raise site grade.

Once the site was properly prepared, it was time to get busy with construction. Canadian company Canam Manac Group supplied the structural steel. Canam project manager Dave Pepper

says, "We fabricated the steel and delivered it to the site. We used large circular saws and large band saws to do the cutting." Canam operates a wide range of band saws, including saws made by Hyd-Mech®, Marvel® and Kasto®.

Subcontractor CAPCO Steel Corporation, a Providence, Rhode Island-based company, erected all the structural steel for the super structure of the stadium, using steel supplied by Canam. CAPCO project manager Joe Laughter says, "We were the steel erector and precast erector for Canam. They fabricated the steel, and we erected it for them."

CAPCO worked on the project for a time span of about 12 months, putting in more than 150,000 hours on the job. At the peak of the construction phase, according to Laughter, they had about 150 working at the site every day. They needed a lot of people on the job because they had a lot of steel to put up. "We had about 13,000 tons of steel," Laughter says. "It was shipped down from Canada and we took it over in the parking lot. We did a great deal of welding, a great deal of bolting." CAPCO has band saw machines from both Marvel and HEM®.

Now that Gillette Stadium is open for business, do Laughter and his colleagues get satisfaction from seeing the finished project and knowing they contributed to its construction in a crucial way? "Absolutely," says Laughter. "It's pretty impressive to drive by that stadium. CAPCO is very proud of that accomplishment. We do take pride in our work. We have a great deal of satisfaction from completing it on time and under budget for our hometown crowd."

And personal satisfaction isn't the only reward. Laughter says that other people are taking notice of CAPCO's performance. "We have received numerous accolades from Bob Kraft," he says. "He has mentioned the quality of our work to other stadium owners in the NFL; the word is out that we're very proficient at erecting stadiums. We've gotten future business out of that project."

Ryan Iron, a Massachusetts metal fabricating company, fabricated all of the

Ryan Iron used Lenox blades on both its Hyd-Mech horizontal saws and Marvel vertical band saws to get a superior cut. They did most of the cutting in their shop; they brought portable band saws to the site to do additional cutting if individual pieces didn't fit properly.

railings within the stadium. And a professional football stadium has a lot of railings. "There are three large concourses at the stadium," says project manager Mike Springs, "and railings are there. There are four large stairways, and the railings are there. You've got guardrails at the edge of the seats. Inside the suites, there are guardrails. They're everywhere. We had to fabricate and install about nine miles of steel and aluminum."

All that steel had to be cut into the appropriate size for the railing and pickets. Springs says, "We saw-cut approximately 20,000 half-inch square pickets for the railings. We stacked them into piles of 100, and ran them through the saw."

Ryan Iron used Lenox blades on both its Hyd-Mech horizontal saws and Marvel vertical band saws to get a superior cut. They did most of the cutting in their shop; they brought portable band saws to the site to do additional cutting if individual pieces didn't fit properly.

One of the biggest challenges, Springs says, was the construction schedule itself. "The time schedule was extremely tight," he says. "We started last July and we had to install everything by April. We



had approximately 40 people on the project working 55 hours a week for six months. We added crews to get the job done on time."

Those Ryan employees had to do a lot of hustling to finish their part of the construction process on schedule, but now that Gillette Stadium is finished, they can look at the stadium and smile. "Everybody involved gets a big sense of satisfaction," Springs says.

In addition to giving the Patriots a great new stadium, owner Robert Kraft wanted fans to be able to get in and out of the stadium parking lot more easily. (Coming and going from games at Foxboro, fans used to sit in traffic for hours due to back-ups on Route 1.) The state of Massachusetts came up with \$70 million to improve the roads around Foxboro, and Kraft hired Rizzo Associates, a traffic and engineering consultant, to develop a traffic management plan to alleviate congestion on Route 1. Among the improvements are four new overpasses so Route 1 traffic doesn't have to stop for pedestrians. Now game-day traffic flows faster and the fans are happier — especially when the Patriots win.

A Super Stadium

With any construction project — and especially a big one like a football stadium — there are going to be last-minute problems and eleventh-hour modifications. But there was one late-breaking adjustment that nobody minded making: during the construction process, builders had to expand the display case at Gillette Stadium to make room for the Super Bowl® trophy the Patriots won last February.

Now it's football season again, and the Patriots are gearing up for another run at the trophy. But this year, the Patriots are playing in one of the newest, nicest venues in the country. The stadium opened in May with a Major League Soccer game between the New England Revolution and the Dallas Burn. But that event was billed as a "soft opening" — sort of a dry run with the stadium's soccer crowd of 22,000 before 68,000 fans pack it for Patriots games.

The Rolling Stones opened their world tour at the new facility on September 5. (For concerts, seats in Gillette Stadium's south end zone retract and the stage is set on concrete risers to protect the grass.)

The big debut for the stadium was the Patriots' preseason opener August 17 against the Philadelphia Eagles and their regular season home opener against Pittsburgh, a Monday night rematch of last year's AFC title game.

James says, "There's never been as much anticipation in this area for the start of the new season." He says the Patriots have risen to the top of the NFL — not with get-rich-quick schemes — but by slowly, surely building a solid football organization.

"There's a very good organizational structure with the Patriots, from management to football personnel and coaches. Together they have constructed a very good team. And, like any good construction team, you know that it is done by building a strong foundation and adding to it. And I think the Patriots, like the construction team at Gillette Stadium, take a lot of pride in their work and in their collective accomplishments."

Hopes are high in New England for the Patriots to make another Super Bowl run, but whether the team wins or loses this season, fans will have a real "home field advantage" at Gillette Stadium. ♦

Circle 301 on the Reader Service Card.