

CASE STUDY

DISTILLERIES & BREWERIES

MBMA

METAL BUILDING MANUFACTURERS ASSOCIATION®
Research | Leadership | Education



A photograph of a modern metal building with a blue-grey corrugated metal exterior. The building features large, multi-paned windows that offer a view into the interior, where wooden barrels are stacked on racks. To the right, a wooden door is open, revealing stainless steel brewing equipment inside. A single industrial-style light fixture is mounted on the wall. The scene is set outdoors with some foliage visible on the left and a concrete walkway in the foreground.

CRAFTING VERSATILE FACILITIES WITH METAL BUILDING SYSTEMS

Whether brewing beer or distilling spirits, the alcohol beverage market remains strong throughout the U.S. At the end of 2017, there were over 6,300 breweries in the nation, including 6,266 craft breweries; and the craft distillery market has grown from fewer than 100 in 2005 to nearly 2,000 in 2018. These markets continue to grow dramatically. For each, metal buildings are a versatile, attractive and cost-efficient solution and can be used in a variety of applications.

DISTILLERY & BREWERY MARKETS INCLUDE:

- Contract Breweries
- Contract Distilling Producers
- Craft Breweries
- Craft Distilleries
- Distillers
- Distillery Bottlers
- Farm Breweries
- Microbreweries
- Minibreweries
- Non-distilling Producers (NDP)
- Pub Breweries (brewpubs)

Here are five reasons why metal building systems are tailor-made for these types of businesses:

1 Metal buildings meet the speed of delivery expectations of owners and builders in brewing and distillery businesses. Construction can move fast! Owners are pleased because they can open their doors quickly, bringing in a revenue stream much sooner than they would anticipate with other types of buildings.

2 A metal building solution fits the production and manufacturing space needs for both breweries and distilleries. High ceilings allow owners to stack barrels in the best configuration for their craft; and materials and equipment can be easily moved because of the column-free clearspan spaces. When a business grows, so

can the building. Expansion is typically built right into the design. Removal of just one wall opens the space to many configuration options.

3 Metal building systems are easy to maintain. The exterior is essentially maintenance-free and long-lasting, thanks to superior, life-extending wall and roof coatings that retain color and resist dirt. Metal walls and sloped metal roofing are both self-cleaning. Steel does not support mold growth and does not warp, split, crack or creep. The bottom line is that low maintenance costs lead to low operating costs—a huge benefit over time. Further, metal buildings are durable, standing strong against wind events. Testing performed by the Metal Building Manufacturers Association (MBMA) shows metal buildings can be designed to withstand sustained winds up to 170 mph.

4 Most distilleries and breweries are retail destinations that require curb appeal and customer engagement through attractive design. Depending on colors, styles and interior/exterior materials, a facility can achieve high-end design appeal to multiple generations. Elements include decorative columns and varied arch forms and daylighting elements. Building panels and roofing can be provided in many colors. Exteriors can be clad with steel siding, wood, glass, aluminum, masonry or concrete.

5 Metal building systems are known for their energy-saving attributes. Metal building panels promote energy efficiency because they are designed to incorporate fiberglass or rigid board insulation of varying thicknesses, creating an energy-tight environment. Insulation can also be easily added and increased within the roof cavity without removing the roof. Further, the interlocking edges of metal building panels provide excellent weathertightness. Cool roofing technology creates a reflective surface that causes a building to absorb less heat, facilitating energy efficiency and lower electricity costs.



VISTA BREWING

Vista Brewing is a 5,000-square-foot facility that includes a production area and a 2,500-square-foot tasting room and restaurant. The brewery is in Driftwood, Texas, just outside of Austin.

The founders, Kent and Karen Killough, used local architect OPA Design Studio to guide their design. A metal building system was chosen for its organizational and functional workspace options. Vista Brewing needed easy and quick access to barrels when making and brewing its varied selection of beers. The metal structure's 30-foot ceiling height permitted the team to easily stack the wine barrels used for aging beer.

A metal building system fit the brewery owners' desire to effectively control energy costs. The intense Texas heat called for some unique cooling solutions. The builder chose a very high insulation value within the structure to aid in keeping out the summer heat. Karen says, "The 30-foot ceilings help with the hot air rising

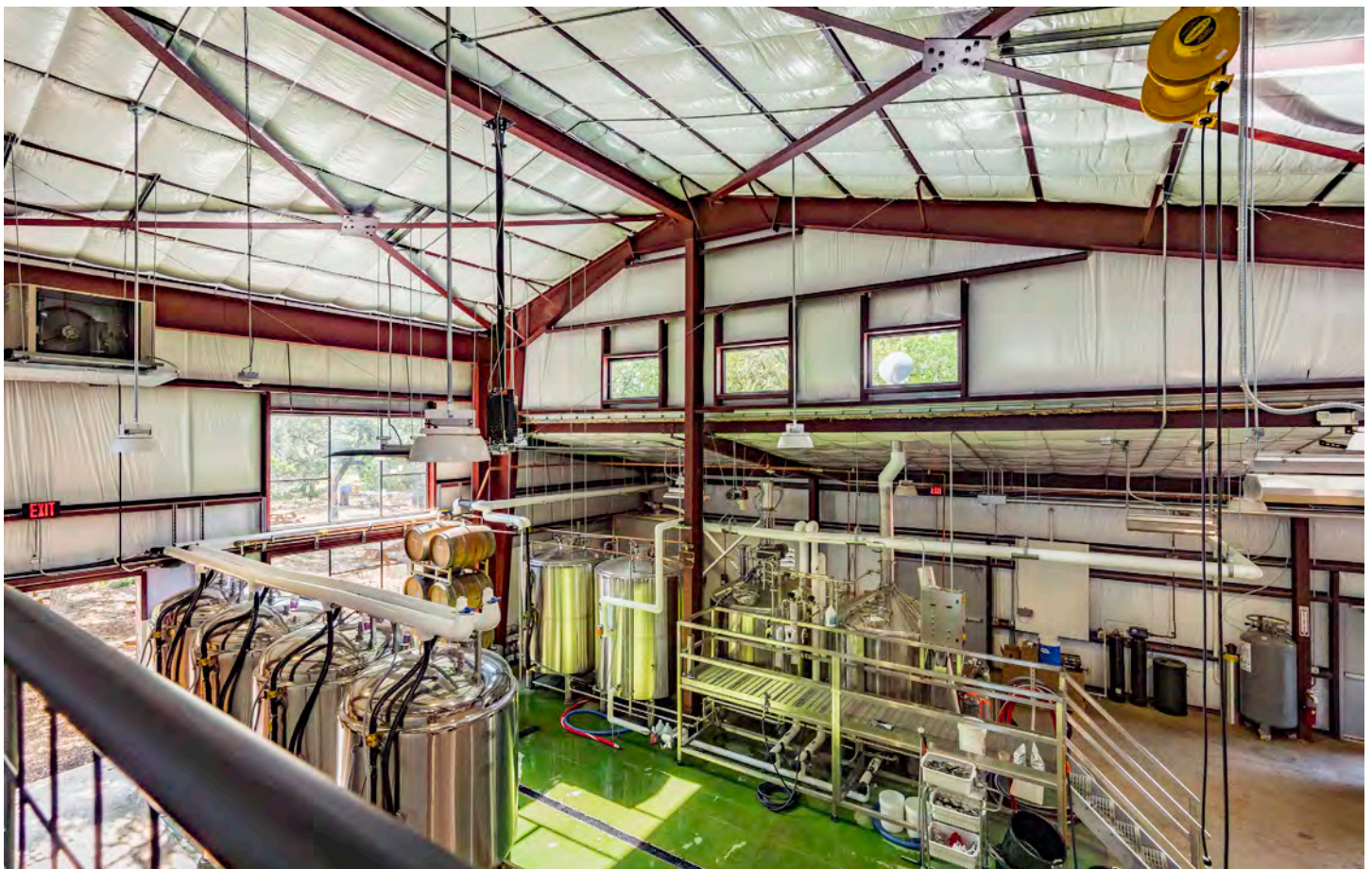
above where our production team is brewing and working daily. We have been very happy with the ambient temperatures and energy bills."

For the owners of Vista Brewing, being environmentally friendly is one of their core values. For them, an important factor in choosing a metal building was the environmental footprint during construction. The Killoughs felt a metal structure allowed for a less invasive environmental disturbance to the natural surroundings. They have trees that come right up to the walls of their building so construction was carefully choreographed to accommodate the natural setting. Karen says, "We actually changed the roofline in the design in order to showcase and accommodate the tree canopies toward the rear of our building." She says the metal building "speaks" to visitors and customers, calling attention to the organic atmosphere of the brewery, restaurant and farm.



“The 30-foot ceilings help with the hot air rising above where our production team is brewing and working daily. We have been very happy with the ambient temperatures and energy bills.”

-Karen Killough
Co-founder, Vista Brewing



STONY CREEK BREWERY

Stony Creek Brewery, located in Branford, Connecticut, required a production facility to fit with its hybrid-designed building that features a tasting room, tap room and event area. The brewery's business plan originally called for expansion in three years, but the need was reached in three months.

The two-story main structure incorporates a 14,700-square-foot building for a state-of-the-art brewing area. Manuel Rodriguez, senior vice president of operations, says the new addition met their expectations, budget and time constraints. He says, "It is perfect. The budget and the speed at which it was erected were major factors in choosing the structure."

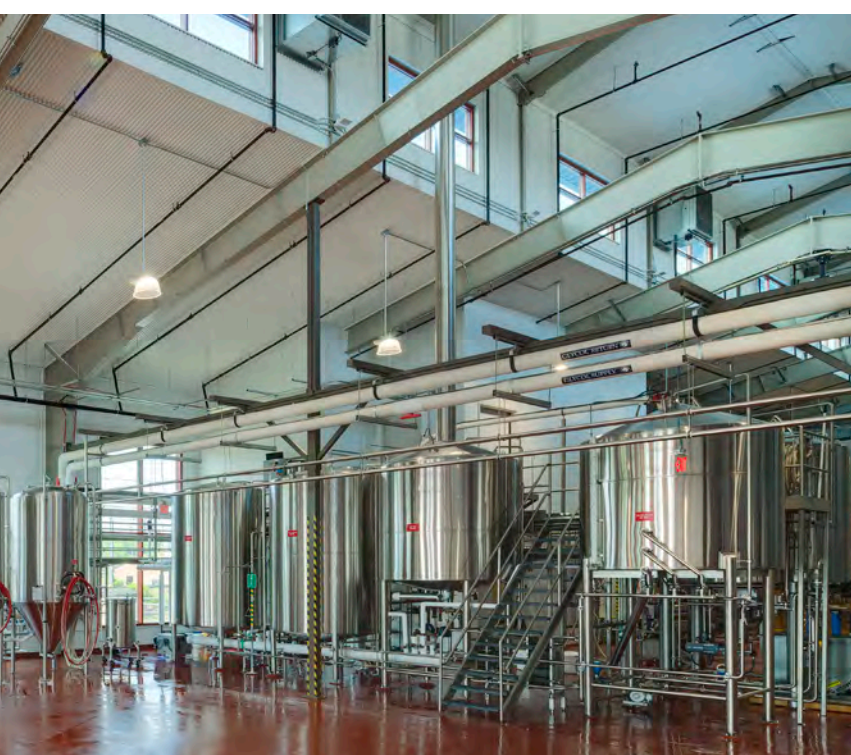
The 24-foot ceiling heights enabled the installation of large equipment such as a fermentation tank. Rodriguez says, "For this manufacturing facility, we needed space and height to facilitate expansion. The new addition came through beautifully. We increased our fermentation and refrigeration within the first year."

Located on the Branford River, the brewery design offers relaxing waterfront views. Rodriguez says, "The building look fits well in our New England community. The brewery is lovely." The facility was designed by architect Joseph T. Sepot and built by Pat Munger Construction Company, Inc.

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-Manuel Rodriguez
Senior VP of Operations,
Stony Creek Brewery







CAPE FEAR VINEYARD & WINERY AND CAPE FEAR DISTILLERY

Award-winning Cape Fear Vineyard & Winery is located near Elizabethtown, North Carolina. Built by Cape Fear Construction Co., Inc., the facility features a winery, cottages and event center. The 13-acre property also houses Cape Fear Distillery, which offers free tastings of the company's signature hand-crafted gin.

Flexibility was a key consideration for Cape Fear owner, Alex Munroe. He says, "That was an important point for us. We're growing and a metal building allowed us to add additional square footage with minimal cost."

From a design standpoint, a metal facility was a very economical way to achieve what his team wanted. "Our facility is so large, we were very cost-conscious; but we also wanted the performance that we expected," Munroe says. The performance of the structure has checked off all their boxes. Besides filling their equipment needs, the building is energy efficient, virtually maintenance-free and is designed to withstand hurricane-force winds.

"Our facility has zero maintenance," Munroe adds. "From a maintenance standpoint, we never have to do anything. It's been such a good alternative for us." In addition, Munroe is impressed with the building's durability. "After five days of 'sideways' rain from Hurricane Florence we had zero leakage. No leaks, no flooding," he adds.

The flexibility of a metal building solution permitted Munroe to incorporate antique cypress and pine as siding on the interior walls. "The elegance of the wood really complements the metal," he says. One unexpected bonus of the metal building was enhancement of sound in their event center. Bands frequently entertain at the winery. Munroe says, "We have so many people talk about how good the bands sound and how they appreciate the acoustics in our event space."

"Every time we add on, we are married to metal," Munroe says. "It's versatile, it looks great. You can do many things with it."



"After five days of 'sideways' rain from Hurricane Florence we had zero leakage. No leaks, no flooding."

-Alex Munroe
Owner, Cape Fear Vineyard & Winery
and Cape Fear Distillery

ERIE BREWING COMPANY

Erie Brewing Company, in Erie, Pennsylvania, is another award-winning brewery. An aesthetically inspiring space, the 19,000-square-foot metal building includes a brewery, main bar, pizzeria, gift shop, event area and barrel room. A covered mezzanine bar and patio complement the space.

A unique steel beam and glass walkway flows throughout the brewhouse, allowing for self-guided tours of the facility. The structure was built into a hill with a 4-foot raised elevation to take advantage of dramatic Lake Erie views.

The project was designed by Bostwick Design Partnership and built by McCormick Structural Systems, Inc.



SUNKEN CITY BREWING COMPANY

Located in Hardy, Virginia, Sunken City Brewing Company needed a special fit for its new structure. A metal building system gave the production area enough space for a 25-barrel, four-vessel brewhouse. With 8,800 square feet of space, the unique destination features a fermentation area, canning room, tap room and outdoor beer garden. Construction was provided by Avis Construction Company, Inc.

The brewhouse's unique interior design is inspired by the beautiful vistas of the nearby Smith Mountain Lake, a recreation destination in central Virginia. The metal walls of the tap room feature a hand-painted wall mural of the lake and historic local scenes, making this popular haven for beer lovers both relaxing and refreshing.

A metal building provided a cost-efficient yet rich design for this lakeside brewery.



DANCING GOAT DISTILLERY

Located in Cambridge, Wisconsin, Dancing Goat Distillery is housed in a 16,700-square-foot metal building structure. The building footprint includes a 7,500-square-foot production space, a 6,250-square-foot storage/equipment area and a 2,950-square-foot tasting room.

The distillery was designed by Sketchworks Architecture, LLC and built by 1848 Construction, Inc. A metal building system united the interests of Dancing Goat's leadership and the architect, Brad Koning, to create a building with a Midwestern agricultural atmosphere. The structure's high ceilings were the perfect answer for large

equipment organization and storage. The design accommodates a unique setup where security glass surrounds the distillery area, allowing visitors to see how spirits are produced.

The building's three key attributes are presentation, functionality and low maintenance. The metal building system allowed for visual versatility incorporating natural stone and wood finishes.



Comments from Michael Reiber, Chief Operations Officer, Dancing Goat Distillery

We selected a metal building because of a few key factors in our decision-making. We knew that we wanted to create a destination place for our customers to come and visit and that the structure would help in creating the experience that we are looking for.

We designed the distillery to be an inviting, pleasant, memorable experience in the minds of our customers. The facility, the location and the branding all work hand in hand to create the level of excitement around our brand that we want. Our job is then to deliver quality spirits, made in a great space, made by great people.

Our facility is a specific-use location. We needed a facility that was functional for our mission and was easy to maintain and service. We wanted the flexibility to add attractive options for finishing out the space within the distillery. The finish to the building helps to set the tone for the rest of the experience the customer will have.



The metal building option for us was a clear choice economically. We had a budget to work within and the metal building enabled us to have the most features for our budget. The column-free floor design allowed for us to build in work spaces to accommodate our unique equipment and allowed for us to plan for future expansions that are facilitated by the original building design and structure.

As a business that works closely with farmers and agriculture, our sensitivity to being energy efficient, generating a low carbon footprint, minimization and reuse of recycled metals and minimal job site waste are near and dear to our primary sense of responsibility.



ALAMO BEER BREWERY

When Lake|Flato partner Greg Papay, FAIA was approached by his former college roommate to design the award-winning Alamo Beer Brewery (Alamo) complex in San Antonio, Texas, he instinctively knew it had to be a metal building system.

“At that time, my friend had not ‘made’ it just yet, so I wanted to use a material that wouldn’t require a lot of upkeep,” he says. “Metal can be a low-maintenance and low-cost solution, and it seemed like the right choice for the three separate buildings to house production space, offices and a beer hall.”

With its location in an industrial warehouse district overlooking San Antonio’s historic Hays Street Pedestrian Bridge, Papay also knew metal buildings would be a natural extension of the Alamo’s urban surroundings—something Lake|Flato strives to achieve with all of its location-inspired designs.



“That’s what I admire most about [metal buildings]—they’ve been refined to a point where they’re economical, efficient and beautiful. They capture all the aspects of what a building should be.”

-Greg Papay, FAIA, Partner
Lake | Flato Architects

“The decision to use metal frames and Corten skin played off of the adjacent railroad tracks where rust-colored boxcars are flying by,” he says. “It felt natural to give the brewery a rugged feeling that was both appropriate and flexible.”

That flexibility is particularly important for breweries that grow over time, and metal buildings can be easily adapted to shifting height preferences, accommodating high spans for brewing tanks and large openings like the Alamo’s oversized sliding doors and large ceiling fans.

“A metal building system allows you to integrate elements of size and scale,” Papay explains. “This ability to deconstruct and reconstruct the building when you need to adapt it for increased production was a pretty critical concept in using the system.”

What’s more, those spans can offer sustainable solutions for a budget-conscious brewery owner. Designed for high performance, the 18,000-square-foot facility operates without air conditioning and boasts a project energy use intensity that’s 77% lower than similar building types.

“You might not think it, but metal building systems are very sustainable,” Papay reflects. “That’s what I admire most about them—they’ve been refined to a point where they’re economical, efficient and beautiful. They capture all the aspects of what a building should be.”



FIREFLY SPIRITS

Firefly Spirits is Charleston, South Carolina's oldest working distillery and is best known for producing the world's first sweet-tea-flavored vodka. Today, it is a nationally recognized brand with more than 25 spirits distributed in all 50 U.S. states.

After years of growth, Firefly founders Jim Irvin and Scott Newitt sought a builder that could replicate the small, quaint feel of their original distillery on a larger scale using stronger materials. "When Firefly first came to us, their architect had drawn up plans for a conventionally built structure," says Todd Bulwinkle, vice president at Trident Construction. "But we knew a metal building would be faster, more cost-efficient and, with Charleston situated in a hurricane-prone area, steel would provide the strength needed to endure high storm conditions."

Designed by Rush Dixon Architects, LLC, the facility combines 12 metal building structures put together to create an old horse-barn look. The building

manufacturer also created a grand entrance that looks identical to the original distillery, 30 miles away in Wadmalaw Island.

The entire structure is protected with a mechanically field-seamed, vertical leg, standing seam roof system with exceptional uplift resistance. For the exterior walls, charcoal gray metal panels were attached to the building structure, complementing its metal roof and achieving the design aesthetic that both the architect and owner desired.

"With South Charleston situated in a hurricane-prone area and an earthquake zone, we were looking for robust products that would provide the strength and durability required to withstand these potential challenges," Bulwinkle says. These building elements "meet the owners' goals of quality, aesthetics, cost-effectiveness and weathertightness, he adds."

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-Todd Bulwinkle, Vice President
Trident Construction

The complex design of 12 different metal building structures coming together created many different roof slopes and gables, causing difficulty in the roof's construction; but with all parties involved working together toward a common goal, the building shell envelope ended up being 30% more economical and was installed 10% faster than conventional construction, according to the manufacturer.

The finished product was a 19,000-square-foot metal building with rustic interior finishes and large open space for events. The structure includes a working distillery, tasting room, gift shop, event space, commercial kitchen and office space.

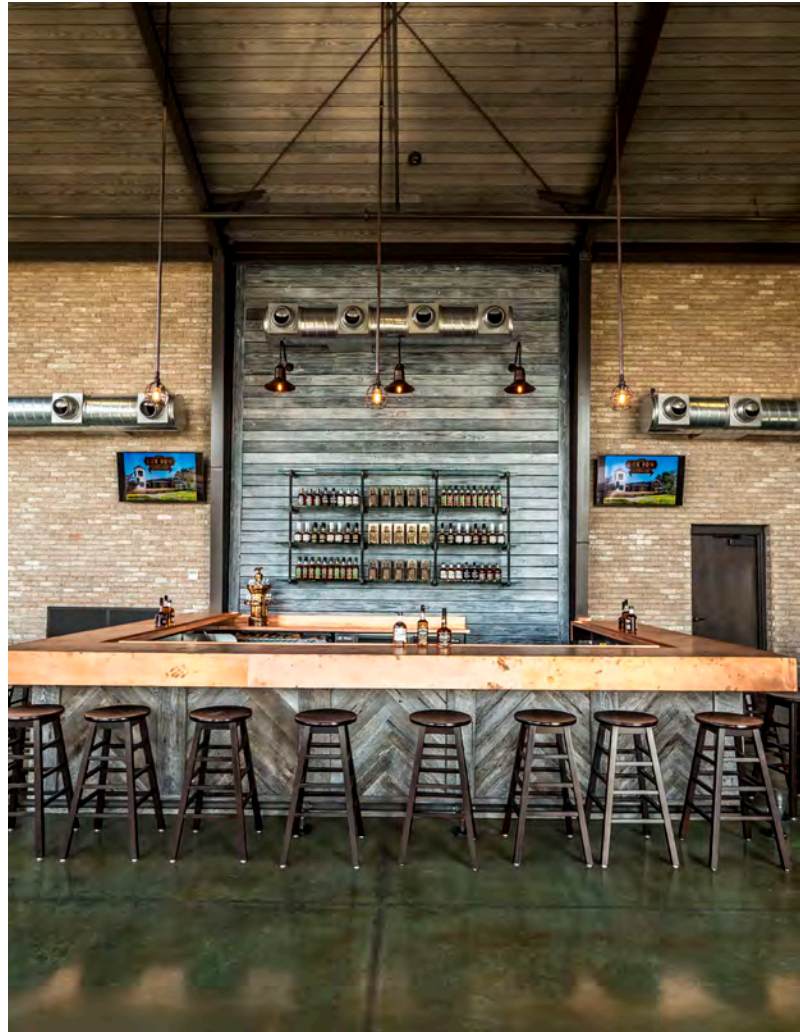
“The Firefly distillery is definitely not just your grandpa's distillery,” Bullwinkle says. “The creative use of interior space and next-level aesthetics will redefine the way you look at metal buildings and distilleries in the future.”





LUX ROW DISTILLERS

Lux Row Distillers' 18,000-square-foot facility in Bardstown, Kentucky, houses a 36-inch beer still, room for a second 36-inch still, along with a 2,200-square-foot visitors center, a retail store and a 1,500-square-foot tasting room. Six 20,000-barrel rickhouses, with room for more, can provide storage capacity for over 82,000 barrels. Joseph & Joseph + Bravura Architects designed the \$25-million facility, which was built by Buzick Construction. Located on a 70-acre site, the distillery is situated on the property next to an 18th-century stone house that is registered in the National Register of Historic Places. The distillery is composed of a metal building system that combines eight framing shapes. Three years after opening, the owners invested an additional \$4 million in a building expansion to increase production capacity by 75% and allow for 24-hour operation.





TWIN OAST BREWING

An oast is a building designed for drying hops as part of the beer brewing process. At Twin Oast Brewing, the patio is organized around two oast structures that are clad in Catawba stone. The brewery's oasts aren't used in production and actually house a fire pit and an outdoor bar.



Twin Oast features a tap room, an area for live musical performances, a four-seasons room for seated and private events and other amenities. The facility is located on a 60-acre family farm and orchard in Port Clinton, Ohio.

Dimit Architects assisted in the customization of the oasts to accommodate an outdoor bar, kitchen and dining area. The firm also designed a custom walnut bar that incorporates steel accents fabricated by the owner's steel company. Walnut and steel wall paneling add to the ambiance, as does a custom mural wall diagramming the components of an oast.

BIG UGLY BREWING

Big Ugly Brewing is a cultural destination in the Great Bridge/Hickory area of Chesapeake, Virginia. When owners Jim Lantry and Shawn Childers opened Chesapeake's first brewery, it didn't take long before they needed to expand. Heartland Construction teamed with WPA, Altruistic Design, Pennoni, Lynch Mykins and GET to create a structure that gives a distinct and creative vibe. The metal building provides an eclectic space that was designed with equipment exposed so that guests can experience the ongoing activities in the working brewery. A tasting room provides an open-floor plan, inviting patrons to relax in a comfortable and spacious environment. The building design evokes a traditional industrial look with a brick façade and garage-style doors that can be opened to bring the outdoors in.



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