

FISHER CONSTRUCTION GROUP RECIPIENT OF CEBA BUILT BY THE BEST AWARD



*Shared campus provides best-in-cold solutions
for customer Dole Fruit.*

By Keith Loria

Fisher Construction Group, Inc. has received the 2021 Built by the Best Award for constructing the year's most innovative and complex temperature-controlled facility.

The company's recent design-build of the United States Cold Storage's newest, fully automated and state-of-the-art cold storage and processing facility in McDonough-Medline, near Atlanta, Georgia, United States, was the project that earned this recognition.

"This was certainly an exciting project," says Scott Guimond, Senior Project Manager for Fisher. "We were very proud and honored to be United States Cold Storage's selected and trusted partner for this important project. I believe we were ultimately selected because

of our ability to provide transparency on financials and our expertise to deliver turnkey, design-build solutions for both temperature-controlled storage and processing spaces."

Fisher added that the company's extensive experience in the design and construction of high-rise, fully automated cold storage facilities helped, also.

The McDonough Medline campus was selected as the strategic location for United States Cold Storage to provide additional best-in-cold solutions for its customer – Dole Fruit.

The shared campus approach promotes and leverages synergies between processors and storage teams, says Fisher.

"Ultimately, the return on investment was maximized on the project by strategically positioning the facility adjacent to an existing conventional frozen space, thereby leveraging existing refrigeration, fire protection, storm and other vital infrastructures while utilizing the remaining expansion space to its full potential," says Michael Adkins, Engineering Manager, United States Cold Storage. "It was our most significant expansion ever and included a processing center designed and built for Dole Fruit."

The newly constructed facility on United States Cold Storage's McDonough campus maximizes the site's footprint of 110 feet with 14,944,285 cubic feet of storage. The



The 254,928-square-foot design-build expansion to the McDonough facility includes an ASRS cold storage and repacking facility for Dole Foods. (Photo courtesy of Fisher Construction Group.)

facility is designed to operate at temperatures ranging from -20 degrees F to 55 degrees F, as well as 32 degrees F to 55 degrees F in the processing space.

Key Challenges

The project began in late 2019, with completion scheduled for January 2021. The first challenge came when the COVID-19 pandemic hit early on.

“We had started construction and had been into it for a couple of months, when the whole construction industry was impacted,” says Juan Arellano, Fisher’s Project Manager for United States Cold Storage Atlanta. “Since the project was essential to the country’s food supply chain, we moved forward. We brought the team together and developed solutions to respond to this unprecedented situation. Though it was a challenge, and some people were unable to come to work, we kept the project moving by creating a safe workplace. There was no day that COVID stopped us from working. That’s something that we were all very proud of—we kept moving forward.”

Another challenge that needed to be expertly managed was that the expansion was on an active and operating site. It was imperative to be noninvasive and covert in the building process, yet effective. Specific logistical challenges included limited laydown areas, shared operational and construction entrances as well as management of a robust set of safety policies specifically intended to provide a safe interface between construction and United States Cold Storage operations.

Additionally, this project had a cost control variable that added to the project complexity. Specifically, this build required 100% financial accuracy and transparency. The United States Cold Storage engineering team in conjunction with Fisher had to identify and clearly communicate to all project participants the cost segregation required to correctly tabulate trending costs specific to the tenant processing (Dole) space from the cold storage and site (United States Cold Storage) spaces. This data was made accessible in real time and aided in critical project decisions.

Savvy Innovation

The McDonough-Medline facility has nearly 253,000 square feet of usable space built beside United States Cold Storage’s 236,000-square-foot temperature-controlled warehouse built five years earlier. The new addition accommodates 47,000 new pallet positions.

The construction technique used for the high-bay expansion is leading edge with the structure envelope supported by the storage racks to maximize product density and save costs by replacing structural steel for structural racks.

The hybrid direct expansion-refrigeration system by Innovative Refrigeration was well thought out and creative in numerous ways, according to Arellano. It employs mini-penthouses that provide a safe and serviceable installation on a more than 100-foot high-rise, rack-supported building. And the system offers strategic equipment locations as the facility’s cold dock has multiple conveyor systems across two levels with transfer fans strategically located to avoid dead air spaces. These fans are controlled and easily adjusted

by the facility to maintain the required operating conditions on the cold dock. The fans also utilize re-heat humidity controls for dehumidification on the dock during the hot and humid Georgia summers.

Additionally, the expansion is specifically designed to keep the overall ammonia charge below the 10,000-pound threshold.

“Despite ammonia’s dominance in the industry throughout the last century, many are looking to other options to minimize the hazard for facility staff while keeping regulatory bodies at bay,” Arellano says. “It is unheard of for refrigeration systems of this size primarily using ammonia to have charges below 10,000 pounds. However, the United States Cold Storage Medline facility has accomplished this.”

Regarding safety, the United States Cold Storage engineering team is credited with developing benefits for its customer by requiring a glycol heat exchanger to utilize only glycol refrigerant to their tenant space eliminating the risk to their customer of having ammonia equipment in their space.

The facility also utilizes the most advanced conveyor systems available, alongside nine 100-foot-tall cranes in the automated warehouse. The conveyor system allows United States Cold Storage operators to efficiently handle the product throughout the facility with minimal forklift interface.

Sustainability Efforts

United States Cold Storage’s mission is to provide the very best long-term solution for its customer by providing added value through managing their customer’s refrigeration system and being on-site to provide support along the way.

“The concept of the assignment to vertically integrate processor and cold storage operator on a single campus lays a foundation of sustainability at the core of the project,” Guimond says. “This scenario replaces interfacing truck trips between remote facilities with a simple and effective pallet transfer through a demising wall.”

By nature, ASRS facilities offer greater product density over less footprint. This drastically reduces the need for lighting and energy/heat infiltration. These factors, coupled with reduced opening sizes for product interface locations, have a measurable impact on the overall building’s overall energy consumption.



From truck to freezer, automated conveyors carry product throughout the conveyor tracks. (Photo courtesy of Fisher Construction Group.)



The conveyers are operated from a crow nest that can regulate product flow between the loading dock and freezers. (Photo courtesy of Fisher Construction Group.)

“Throughout the design process, Fisher and United States Cold Storage looked to leverage all existing infrastructures, where applicable, for both cost savings and sustainability advantages,” Guimond says. “The team sought to match new refrigeration equipment with existing to provide significant cost savings by keeping United States Cold Storage’s maintenance and training programs as simple as possible despite the large expansion.”

The team also achieved long-term energy savings as refrigeration penthouses and the new evaporative condenser are controlled by

VFDs (variable frequency drives) to maintain precise temperatures while increasing energy efficiency. Additionally, the project utilized all the standard energy savings measures implemented in most controlled environment facilities built today by using elements such as LED lights, high-speed doors and dock seals.

Partnership Key to Success

The United States Cold Storage Medline expansion project faced various challenges that were mitigated via teamwork between all stakeholders. Throughout the design and



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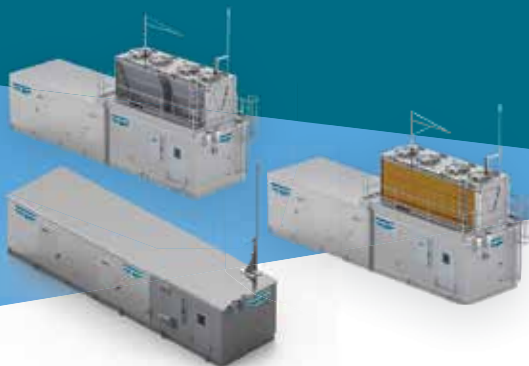
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construction of the project, communication and continual alignment of goals were of the utmost importance to ensure project success.

An excellent example of the team's management was spotlighted during the weekly schedule meetings, where the project's trades from the Northeast, Southeast, Northwest and Southwest came together to develop and update the pull plan schedules. The management team worked to bring all stakeholders together using open and honest communication, repeatedly emphasizing the larger common vision from management to field.

The Fisher team also stressed the importance of leveraging the expertise of United States Cold Storage's engineering team as being a key to the overall success of the project. Additional collaboration with the onsite United States Cold Storage operations managers provided valuable direction and leadership throughout the entire project.

"The collaboration between all parties was central to our approach," Arellano says. "Fisher worked hand in hand with United States Cold Storage to make team decisions. We ensured everyone was on the same page as we focused on making the very best decisions collectively, which ultimately brought a lot of value to the project. We were able to meet the schedule and budget." 📧

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Top: Viewed from the mezzanine as products are conveyed from the freezers to Dole's process area. (Photo courtesy of Fisher Construction Group.)



Left: The 100-foot cranes efficiently handle product hand-off from conveyor tracks with little to no forklift interface. (Photo courtesy of Fisher Construction Group.)

2021 Built by the Best Award-Winning Supplier Profiles

These are the companies integral to the success of the winning project.

Ahern Fire Protection, a division of J. F. Ahern Co.

Ahern Fire Protection (AFP) offers a full range of fire protection system installation, inspection, and repair services. Whether you are building a new structure or need a sprinkler system retrofit or upgrade, the experts at AFP will handle your project quickly, efficiently, and with the utmost professionalism. Our friendly, knowledgeable technicians are on call 24 hours, seven days a week. Ahern Fire Protection has extensive experience in the cold storage industry and is a Quell® licensed fire protection contractor. We are also licensed to work in 48 states. Ahern Fire Protection is backed by a company with over 130 years of contracting experience, offices in six states (WI, MN, IA, MO, NE, and IL), and over 1,500 employees. Our depth of resources enables us to handle every job through design to construction and beyond - from installing the first sprinkler head to ongoing inspections and maintenance. We are truly a one-stop shop” for all of your fire protection needs!” <https://www.jfahern.com/>.

All Weather Insulated Panels

With over 90 years of combined industry experience, All Weather Insulated Panels is an innovator in the design, construction and advancement of insulated metal panels to meet the growing challenges facing the building industry. <http://www.awipanel.com>.

ASI Doors – Enviro

Manufactures a complete line of insulated steel reinforced fiberglass, galvanized and stainless steel door systems. Manual or power operated doors for all uses. Applications include: horizontal (bi-parting and single slide), swinging, vertical rise and high speed roll-up doors, along with the fully insulated, two-way impactable hard panel sliding horizontal door. The air door products allow you to travel in and out of freezers without the constant opening and closing of a door. Its unique system keeps the warm side warm and the cold side cold with no fog, ice or condensation. Nationwide sales and service available. <http://www.asidoors.com>.

AutoMak Assembly Inc.

Working in partnership with manufacturers and contractors, AutoMak is dedicated to delivering handling and installation solutions for metal insulated panels. We offer proven vacuum lifting equipment to delivery installation efficiency with practical health and safety benefits. We provide full contract rental and sales service covering the whole of the United States and Canada with complete technical support as well as after sales support, servicing, testing and certification. Operating from a modern distribution center and with a large dedicated rental fleet we are able to respond to customer requests and orders quickly. Our network of technical advisors provides full on the job product training and support services. <http://www.cladboyusa.com>.

Evapco Inc.

International manufacturers of low charge ammonia packages, evaporative condensers, evaporators, cooling towers, closed circuit coolers, heat exchangers, recirculation and transfer systems. Plants located in Taneytown, MD; Greenup, IL; Bryan, TX; Madera, CA; Lake View, IA; Milano and Sondrio, Italy; Johannesburg, South Africa; Kingsgrove NSW, Australia; Shanghai and Beijing, China; Tongeren, Belgium; and Flex coil a/s Aabybro, Denmark. <http://www.evapco.com>.

Fastener Systems Inc.

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Frazier Industrial Company

Frazier is producer of structural steel storage rack systems in North America with 10 manufacturing facilities strategically located to reduce lead times and minimize freight costs. Refrigerated warehouse professionals rely on Frazier storage systems for their durability and custom application engineering. This design provides you with our exclusive two-year warranty against fork-lift abuse. From standard pallet rack to complex pick towers and AS/RS installations, Frazier's expert team of engineers will help each customer design the best, most cost-effective material handling solution. We provide the management resources needed to ensure the project runs smoothly and remains on time throughout the entire design-build-integrate process. Frazier's structural steel pallet rack systems include: selective pallet rack, drive-in/drive-thru, push-back, carton flow & pallet flow, pick towers, rack supported buildings and AS/RS systems. <http://www.frazier.com>.

The Fricks Company

Industrial concrete floor contractor providing workmanship and customer satisfaction. The Fricks Company is in premium food facility, manufacturing and distribution facility floor construction. <https://www.frickscos.com>.

Innovative Refrigeration Systems Inc.

Design builder of refrigerated systems and spaces. Turnkey refrigeration engineering, piping, insulation systems, power systems design, power wiring, controls systems and control wiring, envelope design and installation. Background in large refrigerated package ammonia refrigeration for outdoor installation and stand-alone control packages independent of compressor manufacture. <http://www.R717.net>.

Jamison Door Company

Manufacturers of insulated doors for all cold storage applications: swinging, horizontal sliding, overhead, vertical sliding; manual and power; cooler, freezer, blast freezer; finishes include galvanized, aluminum, stainless, painted steel, fiberglass reinforced molded plastic and sheet plastic. Products also include high performance insulated Mark IV Versaflex Door and Mark IV InVision clear-paneled door, HCR Air Doors and BMP high speed rollup doors. Write for specific door suggestions for warehouses.

<http://www.jamisondoor.com>.

Kalman Flooring Company

Kalman Floor Company has produced industrial concrete floors since 1916. Working side by side with owners, architects, design-builders and contractors, Kalman Floor Company provides self-polishing, abrasion resistant floors for cold storage, dry storage, distribution warehouses, manufacturing plants, waste transfer stations and many other kinds of facilities.

<http://www.kalmanfloor.com>.

LTI Contracting

Since its start in 1958, LTI Contracting has been recognized as a subcontractor that specializes in the installation of low temperature insulated metal panels, underfloor insulation, vapor barriers, cold storage doors and complete roof package. We have compiled over the years a full-time knowledgeable and efficient project management, technical and field supervision staff to help aid in any problem and/or detailing on our projects.

<http://www.lticontracting.com>.

RHH Foam Systems Inc.

Manufacturers of VERSI-FOAM portable two-component, low-pressure spray polyurethane foam systems. Units available in a variety of foam densities and sizes; both disposable and refillable containers. Also VERSI-TITE single component foam sealant and VERSI-BLOCK Fire Block and sealant in aerosol cans. All units compatible with low temperature environments and for a wide variety of insulating, sealing, caulking, and patching applications.

<http://www.rhhfoamsystems.com>.

Rite-Hite

Rite-Hite® is in the manufacture, sale, and service of loading dock equipment, industrial doors, safety barriers, HVLS fans and more innovative products. We offer several products designed specifically for the cold storage industry, including high-speed doors, insulated curtain walls and loading dock equipment. Rite-Hite works closely with each customer to meet their needs. Our Global Distribution Network means there is a local representative nearby to provide solutions, service, and expertise at the loading dock, and inside the facility.

<https://www.ritehite.com>.

Rytec High Performance Doors

Rytec is a manufacturer of high-performance doors for industrial, commercial, pharmaceutical and cold-storage environments. Whether rolling, folding, sliding or swinging doors, high-performance doors are our only business. Rytec corporate offices and manufacturing operations are headquartered in Jackson, Wisconsin, a suburb



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<http://www.rytecdoors.com>.

SubZero Constructors, Inc.

SubZero specializes in providing refrigeration/thermal design and construction services on a nationwide basis for the low-temp and food processing industry.

<http://www.szero.com>.

Twintec USA

Twintec USA designs and builds steel fiber reinforced and engineered industrial jointfree floors. Our jointfree FREEPLAN engineered floors do not have saw cut joints, effectively minimizing if not completely suppressing maintenance and repair costs, while increasing the productivity in your cold storage. A specialized sub-contractor, Twintec USA offers design build services to a variety of clients in North America within the cold storage, distribution and heavy manufacturing industries. The parent company, the Twintec Group, has designed and installed 500 million square feet of engineered industrial slabs to date. Twintec USA will design and install your FREEPLAN slabs on grade, on piles (suspended slabs) and on insulation (such as for cold storage slabs). Twintec USA also offers turn-key design build services regarding structural FREEPLAN mat slabs, such as for fully automated, rack supported distribution facilities. Twintec USA is dedicated to the highest level of quality and durability in their industry and offers a unique five year guarantee on all their FREEPLAN engineered slabs.

<http://www.twintecusa.com>.

United States Cold Storage Inc.

Region V.P. - Mid-Atlantic, Jesse Hooks; General Manager, Leslie Burkholder; Chief Engineer, James Prussia; Superintendent-Veto Mendoza. 18,345 racked pallet positions; Temperatures ranging from -05°F to 40°F; 44 dock doors.

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