

# DESIGN-BUILD



# Solutions

*ESI specializes in food processing and distribution center design and construction.*

**SUMMER 2013**

## PROJECT FEATURE



- **High-speed roll-up door (in motion) with soft curtain wall. This design offers flexibility for future growth.**

the perfect intersection of two major southern California highways—into a temperature-controlled building.

ESI Group was selected to design and construct improvements to nearly 200,000 square feet of the existing shell warehouse. The project included alterations to its existing office areas as well as creation of a refrigerated food storage area, dry food storage, refrigerated loading dock and the dry dock area. It also required dock equipment upgrades.

**ESI needed just seven months to convert a 380,650-sq.-ft. dry facility into a temperature controlled building.**

The project also meant constructing a new battery charging and maintenance area, installing a new 4,000-amp electrical service with emergency generator and a new 1,200-square-foot mechanical building to support a newly installed ammonia refrigeration system. Other features include an insulated metal wall panel system, an insulated metal ceiling panel system and dry pendant head sprinkler system.

ESI completed the project in just seven months. Through ESI's value engineering process the project came in significantly under budget; which allowed the client to add more scope to the overall project. In the end, this customer was extremely pleased.

"With the additional room and ability to lay out a more efficient floor plan than our current facility, we are better able to meet the growing demands of our customers," said the president. "This new, modern facility allows our company to service more customers and do it more effectively than was possible before." ///

## Quick Service!

There are times when you quickly need to go—to grow. That was the case last year for a leading national foodservice distributor. Officials recognized that customer growth necessitated a move to a larger southern California warehouse and distribution center.

The company supplies popular restaurant chains in the quick-service and casual family dining segments, as well as the regional restaurant concept market.

Speaking of quick service, this distributor asked ESI Group to quickly convert a large, 380,650-square-foot facility—located at

# A "COOL" IDEA: Box-in-Box Retrofit

DESIGN TREND

Here's a cool solution that happens every day: a public warehouse operator or distributor suddenly needs controlled-temperature storage to satisfy a key customer, compete in a new geographic market; or perhaps a fast-growth refrigerated or frozen food processor quickly needs more production space but doesn't have the time or money for a Greenfield project.

In both cases, food warehouses and food processors should consider box-in-box retrofit projects. All it takes is thinking outside the box—and selecting knowledgeable and reputable architects, engineers, and contractors such as ESI Group.

The objective of a good retrofit is to make the final product act and behave exactly the same as a new Greenfield building. Although projects vary by size and scope, the typical retrofit project can be completed in 30% to 40% less time because the new structure is already sealed from exterior influences (rain, snow, excessive heat or cold). Likewise, such a project can be more economical than a similar expansion or Greenfield project.

However, any cost equation starts with the right project partner. If a retrofit is not planned and executed correctly, building owners can



■ **Retrofits may be completed in 30% to 40% less time and cost less than a similar expansion or Greenfield project.**

set themselves up later for immeasurable damage from improper freezer floors, hidden mold or other issues. For its part, ESI has completed multiple temperature-controlled building retrofits. Some of these operations are approaching 20 years of trouble-free operation.

ESI applies that experience to the design and materials selection of ...

... **walls and ceilings:** The downside of a retrofit is its duplicity of ceiling and walls. In Greenfield projects, a building's exterior (including the roof and walls) serves as the envelope and isolates the structure.

In retrofits, walls and ceilings must be separate due to thermal and vapor issues that cause condensation and ice formation. Regardless of whether it's a warehouse or food processing plant, both facility types require inside ceiling designs and materials that maintain refrigerated or frozen room temperatures.

... **food warehouse floors:** The biggest retrofit shift occurs when an existing building becomes a -10°F freezer. Here, it's important to remove the existing floor and replace with an under-floor heating system, vapor barrier, insulation, and new wear slab. Contractors must take special care to ensure that the columns and footings directly under the slab have been modified for protection from freezing.

## KEEP YOUR COOL

Product	Proper Storage Temperature
Tomatoes, Onions, Potatoes	+55F
Herbs, Vegetables, Fruits	+47F
Dairy, Fruits, Eggs	+34F
Meat, Poultry	+28F
Frozen foods	-10F
Ice Cream	-20F

Source: ESI Group USA

This can require extensive remediation.

... **food plant floors:** USDA-regulated food plants typically require an extensive network of under-floor process waste lines to carry water from the drains. Floors must be pitched in excess of 3/16" per foot to ensure that there's no ponding and drain pots collect water. Although each case is specific, it's generally better to remove the entire (pre-existing) floor to install the drain lines and pitch the floor. This is more cost effective than patching and using epoxy to pitch. ESI is a proven partner for quick, retrofit, box-in-a-box projects. Contact us to learn about "cool" options and fast-growth building solutions. ///

— ESI Group's Tim Gibbons, AIA, LEED AP, is VP of Design/Business Development

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talk to us!

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Las Vegas, NV  
Booth 5-6813

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