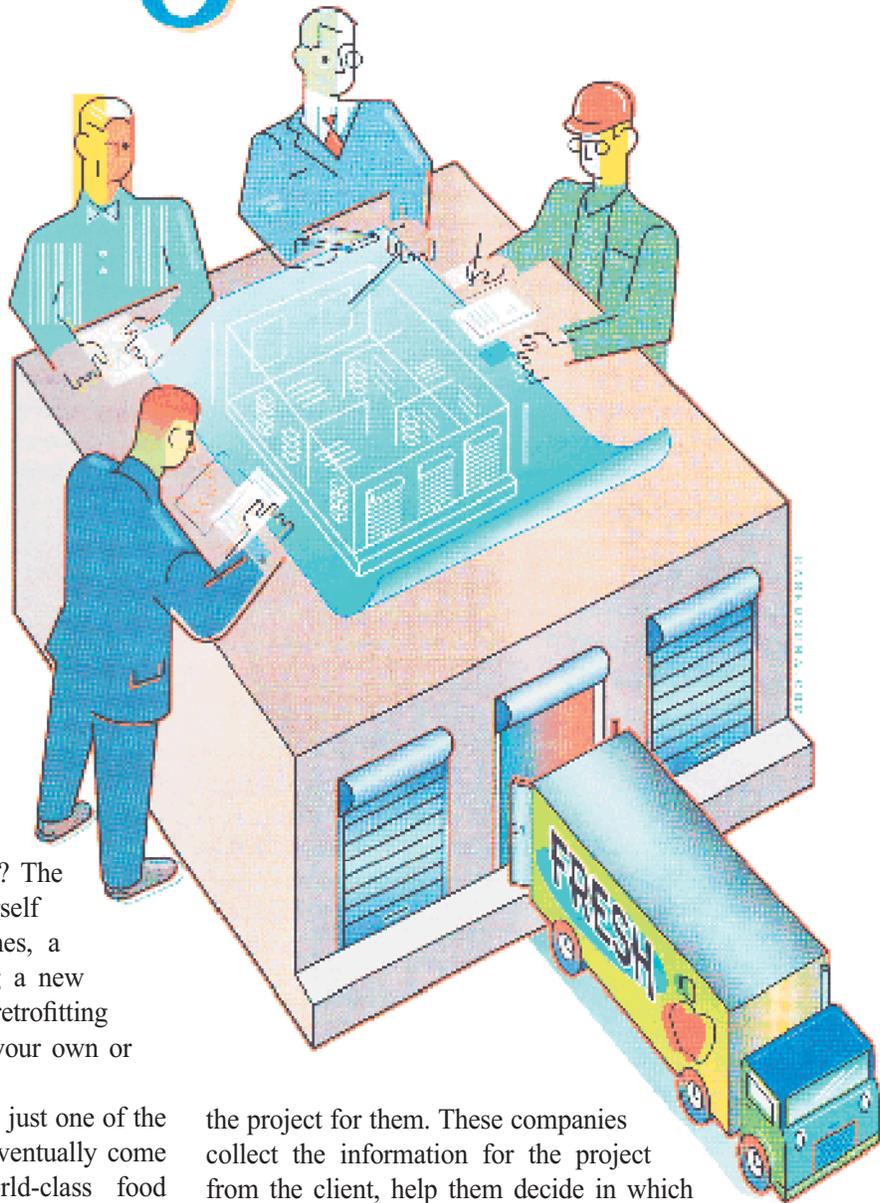


Drafting A DC

Experts offer a blueprint for the successful construction of a distribution center.

BY ANDREW KAPLAN



S0 YOU'RE IN THE MARKET for a new distribution center? The first question to ask yourself is, are you really? Oftentimes, a smarter choice than building a new DC from the ground up is retrofitting an existing facility whether your own or someone else's—to fit your needs.

Figuring out if you need to build is just one of the many pieces of the puzzle that will eventually come together—hopefully—in getting a world-class food facility off the ground.

Most experts will tell you that building a new facility is a painstaking endeavor involving numerous phases, dozens of contributors, and a lot of work on the part of the client. Many things can go wrong, but they don't have to if planning is done right from the start and the lines of communication are kept open between the client and the planning firm hired to oversee the project.

In fact, for many food companies, the process starts right there hiring the companies that will be responsible for the different phases of the project. Some food companies hire a planning firm to oversee

the project for them. These companies collect the information for the project from the client, help them decide in which direction to go—i.e., build a new facility, or retrofit an existing one—and then hire the different specialists (engineering firms, IT system managers, material handling automation specialists, etc.) needed to get the new facility up and running.

Keith Swiednicki, managing partner, KOM International, Montreal, says specialized planning firms like his tend to be “unbiased” when it comes to the construction phase of the project, since they will not be the ones doing the building themselves. “We will perform a proper evaluation of alternatives,” he says.

Other firms serve as one-stop shops—they not only oversee the planning, but also build as well. “In our instance,

ILLUSTRATION: HANK OSUNA

BREAKING UP THE 'LITTLE KINGDOMS'

"I didn't do a very good job of retiring," says Stan Brewer, former senior vice president with Associated Food Stores in Salt Lake City, recalling how he was quickly called back into service a few years ago as a consultant to help the company build a new 1.24 million-square-foot distribution center in Farr West, near Ogden, UT.

The DC was opened on May 18, 2001, after some four years of planning and construction.

Brewer helped Associated Food Stores acquire the site for the DC, formerly a Rite-Aid distribution warehouse. Associated was then faced with the task of renovating and expanding the warehouse to suit its distribution demands. A primary task was to plan and design a perishable foods addition and the needed improvements, which would include offices.

The food retailer and distributor, founded by 33 retailers in 1940, had also partnered with Food Facility Engineering, Yakima, WA, to plan the facility.

As part of the process, Brewer organized and conducted a series of weekly roundtable sessions with AFS personnel ranging from line workers through upper management, to identify key operational elements and objectives for the new facility.

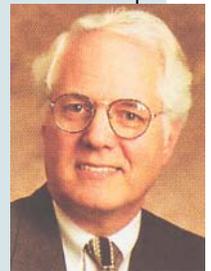
Barry Hulet, president of Food Facility Engineering, calls "outstanding" the job Brewer did with those employee roundtables. "If they can buy into the new building, they're going to protect the new building. They're going to make it work better," he says.

Associated's employees helped the company tackle one of its biggest problems in the new DC: breaking up, as Brewer calls them, "the little kingdoms" that had created inefficiencies in the company's other warehouses.

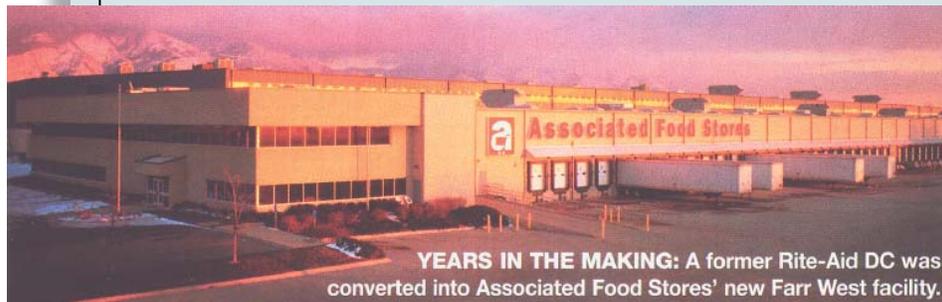
"Our existing structure was very labor intensive," he says. "There was a meat department, there was a deli department, there was a frozen foods department, there was a produce department, there was a dry grocery department and there was general merchandise. And everybody had their kingdom."

"But we knew when we moved that we wanted to have a much leaner supervisory team. We would have a perishables manager, a grocery manager and people would be cross-trained so they could work in any number of those departments."

Brewer advises companies to look externally when embarking on a construction project. "Your internal staff can add a lot, but when I was inside I really had blinders on. We had discovered or invented a lot of processes and felt very good about them, but when I got outside of the company I began to look at other forms of distribution, and competitors, and open my mind up and say, 'You know, there's a better way of doing this.'" -A.K.



Brewer



YEARS IN THE MAKING: A former Rite-Aid DC was converted into Associated Food Stores' new Farr West facility.

we're an architecture, engineering and construction firm, all under one roof and what we bring to a client is a scenario where all three of those work together as a cohesive team right from the beginning," explains Bob Graham, vice president business development for food and beverage with The Austin Co., Cleveland. "It's all one group of people and we're going to look at all of these issues from the outset. So there really isn't any opportunity for finger pointing. We're the ones that are essentially doing everything as a team."

"The first step will depend on where the owner is in terms of understanding his needs," says Bruce Anderson, director of industrial engineering for The Stellar Group, Jacksonville, FL "If the owner has a clear vision and has developed a good set of criteria, then he can contact companies in order to find out who can deliver what he needs within the desired schedule and budget."

A MULTI-PHASED APPROACH

Whether a company chooses to hire an all-in-one

planning and construction firm, or separate firms to handle each of the processes, experts recommend they follow a multiphased approach to constructing a new facility. This approach typically includes the following stages, generally in the following order:

- Putting together a project team;
- Hiring a planning firm;
- Collecting the necessary data for locating, planning and designing the facility;
- Hiring specialists to do the work including an architecture and engineering firm (if they are not actually part of the planning firm hired earlier);
- Obtaining the necessary government approvals;
- Hiring the project specialists and providers of information technology and material handling;
- Constructing the facility; and
- Training the facility's employees.

St. Onge, Ruff and Associates, York, PA, recommends the project team include from the client's side someone from: logistics and distribution operations, engineering, IT, sales and marketing and an upper-level executive

LESSONS LEARNED

Kraft Foods Inc. has been restructuring its distribution network over the past few years, a project that includes the opening of new facilities. Food Logistics recently asked Pam McKenzie, Kraft's director of operations strategy, what lessons the company has learned in the process.

Q: How would you describe the overall process of planning and building the new facility?

A: First, sizing. Determine your space requirements, both for the property and for the building itself. Externally, you will need to accommodate truck and trailer parking, a staging area, trailer drop lot and auto parking. Depending on the location, you may need buffer space between your operations and neighboring real estate. The building itself may need to allow not only for warehouse storage space, but crossdocking, additional area for building modules or other special handling, and an off ice area.

Next, site selection. Consider the big picture—for Kraft, this would include factoring in the location of our manufacturing plants, our major customers and other distribution sites in our network. Then, other important factors would be proximity to major highways and local access road conditions. Of course, local zoning regulations and real estate costs are critical elements when comparing

possible sites.

Once these decisions are made, you engineer the building, ensuring that quality requirements and efficiency are built in throughout the process, including into material handling and systems engineering.

Q: Any surprises along the way?

A: You have to do your work up front to minimize this, but there will always be surprises. The most likely will be some zoning or permitting requirement that needs to be addressed.

Q: What would you have done differently?

A: Assume nothing. Prior to layout and rack specification, validate the product master file physically for stack height, pallet dimensions and weight. We handle a lot of different products and where we've occasionally missed, we've had to reconfigure layouts when possible or lose capacity.

Q: What advice would you give other food companies trying to do the same?

A: Do not short-cut the planning process, from site selection to working with local officials to construction. Involve all potential stakeholders prior to final design and bidding, including internal functions like systems, risk management, quality and transportation. And, as mentioned earlier, validate the product master files. -AX

who can make the financial decisions.

While some of these individuals may come and go from the project, Graham of The Austin Co. stresses the need for a leader who will see the project through from start to finish. "You should have one person who is the constant at the top of the pyramid," he says. "He has the overall responsibility on the client side for working with our folks."

Once the team is selected, then the fun begins: collecting the data and related information to generate an overall picture of the client's existing distribution network in an attempt to see where a new facility will actually fit in. Coming up with the data to determine the best direction to go in whether it is building a new DC or retrofitting an old one—can be a rather arduous process that requires a lot of research and help from the client. But it is a crucial

step, those with experience in the process say.

"Before forging ahead on a new facility planning, expansion or reset exercise, the current physical distribution infrastructure must be assessed," says Swiednicki of KOM International. "This includes examining the existing buildings and sites to identify constraints, capacities and opportunities."

'Before forging ahead on a new facility... the current physical distribution infrastructure must be assessed.'

**-KEITH SWIEDNICKI,
KOM INTERNATIONAL**

Anderson of The Stellar Group, says a company may need to do a material handling and facility sizing study. "This would be conducted by someone from the designer who can analyze the owner's existing operations, review his future plans, walk him through his options and help him select the best choice," Anderson says.

"Maybe he needs more storage space. Maybe he needs more pick faces. Maybe the physical constraints of his current facility make getting orders

out on time next to impossible. Whatever the case, the current problems and future expectations need to be clearly defined. Once that is done, most people find that the answer is halfway defined as well," he says.

"It's really important that they go through this first phase before they start designing the building," adds Lloyd Morgan, a partner with St. Onge. "One of the classic problems we've seen is a company hires an A&E firm, they put a box on a site, and then they say, 'Gee, I wonder how I'm going to fill it.' And they find out the warehouse is either too small or too big. It's important that we're recommending

materials, all kinds of things we pull forward. All this is an attempt to develop an optimized, lowest-possible-cost attempt to accomplish all of the objectives of the project."

An important thing to keep in mind: most experts remind their clients that they are not building a new facility for today, but for years to come. The result is that a planning horizon of anywhere from six to 10 years is usually built into any plan for a new facility. This usually leaves some extra room for growth, based on where the client sees his business going.

With the planning completed, the construction finished and all the internal systems of the new

WAREHOUSE CONSTRUCTION: WHAT'S HOT?

According to industry experts, the latest trends in warehouse construction include:

- **LASER TECHNOLOGY:** Warehousing expert Ken Ackerman says he is seeing the use of laser technology to flatten warehouse floors. This same technology can also be applied to control the grade in parking lots and truck docks.

- **AIR ROTATION:** More efficient air rotation heating systems are also available. "These systems are infinitely more efficient and therefore more economical than the gas-fired heaters," says Ackerman. "With a good air rotation system, the temperature on the floor is about the same as the temperature on the ceiling."

- **ESFR SPRINKLERS:** Early Suppression, Fast Response sprinklers are also being widely used. "All of the old systems are obsolete," Ackerman says. "ESFR sprinklers put three or four times as much water out as the others did, eliminating the need for rack-mounted sprinklers."

- **HIGHER CEILINGS:** Tom Barrett, president of Barrett Builders, says he is observing a trend towards high-cube facilities—building them higher so that they can take up less square footage on the ground. "Today, clearly the way to go in upgrading a facility is to gain more SKU positions under a smaller footprint, and you do that by going high-cube," he says. For example, a warehouse built back in 1974 would have been 24 feet clear under the steel. Today, that number has risen to 46 feet. —A.K.

a methodology here that is the design of the inside of the box, before you put the walls around it."

About this time, St. Onge will typically engage in what it calls a "visioning" of the project. "It's a brainstorming," says Paul Evanko, the firm's vice president, "where we access the Institute St. Onge and a lot of material handling and logistics information that we maintain as a company—videotapes, slides, hardcover reference

facility in place, there is still one more important step—training.

Typically, in a new facility, people that are being hired are also new or they are being confronted with new work processes that they have to comply with or new systems that they have to work with on the information side," Evanko says. "So training them is an extremely important ingredient to the ultimate success of the entire project."