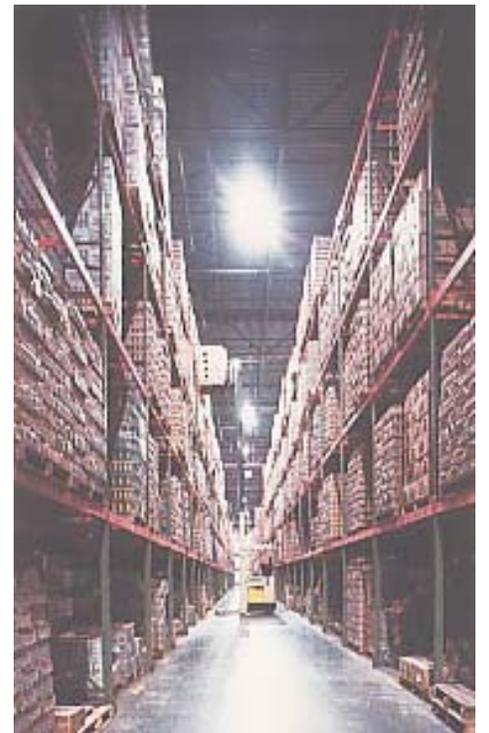




*At Grand Union, the expanded receiving area facilitates full truck unloading by drivers, providing rapid turnaround and improved productivity. The battery charging room (right) was upgraded, enlarged and relocated closer to employee time clocks. This has had a positive impact on productivity. (Below): 32ft. clear stacking in the expansion has enlarged Grand Union's working capacity to 1,674,000 cubic ft. The new product storage layout was designed by Kom International, Inc.*

## Expansion eases storage problems, raises productivity

After researching several potential solutions to its storage/distribution problems at its Waterford, New York center, Grand Union decided to embark on a series of expansions that blended systems improvement with structural changes.



The Grand Union Company, second oldest retailer in the United States, was established in 1872 as a one man, one store operation in Scranton, Pennsylvania. Today, Grand Union is one of the largest retail distributors in the country, servicing over 300 stores throughout the Eastern United States. With operations based in Wayne, New Jersey, Grand Union currently has six distribution centers servicing its retail food stores in New York, New Jersey, New Hampshire, Connecticut, Pennsylvania, Vermont, Massachusetts and Georgia. In recent years, Grand Union's operations have experienced rapid growth.

The Waterford, New York facility, for example, was operating at maximum capacity. This three building complex provides dry grocery, perishable and frozen products to Grand Union's retail food stores in New York, New Hampshire, Vermont and Massachusetts. Overcrowded conditions had decreased operating efficiency, and it was evident that the facility could no longer support its

To ease the strain on the 562,000sq.ft. complex, Grand Union utilized two off site satellite warehouses for dry grocery storage.

Grand Union's objective was to restore the facility to full operating efficiency. The company immediately sought to relieve the overcrowded conditions and increase productivity, to expand the facility to adequately handle the storage requirements indicated in its five year growth plan, and to allow the company to take full advantage of forward investment buying.

Working with The Facility Group of Smyrna, Georgia, and Kom International of Montreal, Quebec, Grand Union explored a number of onsite and offsite solutions. Alternatives included the consolidation of several facilities in eastern New York, expanding the roles of other facilities to relieve the Waterford complex, constructing a new facility, and renovating the existing Waterford distribution center. Grand Union decided to undertake a series of warehouse expansions, renovations and redesigns

that would provide the required increased storage capacity and operating efficiency.

Prior to the expansion, the Waterford grocery warehouse held 5,720 SKUs, with a working capacity of 828,000 cubic ft. in a 252,000sq.ft. warehouse. Clear height stacking ranged from 14 ft. to 28 ft. Although the existing facility utilized virtually all of the available acreage, by relocating certain service and building access roads, two areas of expansion became available. The first, on the west side of the warehouse, added 81,400 sq. ft. of 32ft. clear space and increased capacity to 6,200 SKUs, with a 1,165,000cubic ft. working capacity. The second addition, on the east side, provided 54,900 sq. ft. of 32ft. clear stacking, and increased picking slots to 6,780 SKUs and the working capacity to a total of 1,647,000 cubic ft.

Carefully integrating the new high bay spaces with the existing building, the expansion design maintained the structural integrity of the original warehouse and provides the "snow



Eleven banana ripening rooms at Grand Union ripen 8,240 bananas per week. Additional rooms are being added this Fall as part of the perishables expansion project.



The latest computerized central ammonia refrigeration technology installed in the freezer addition is more costeffective, significantly reducing energy consumption.

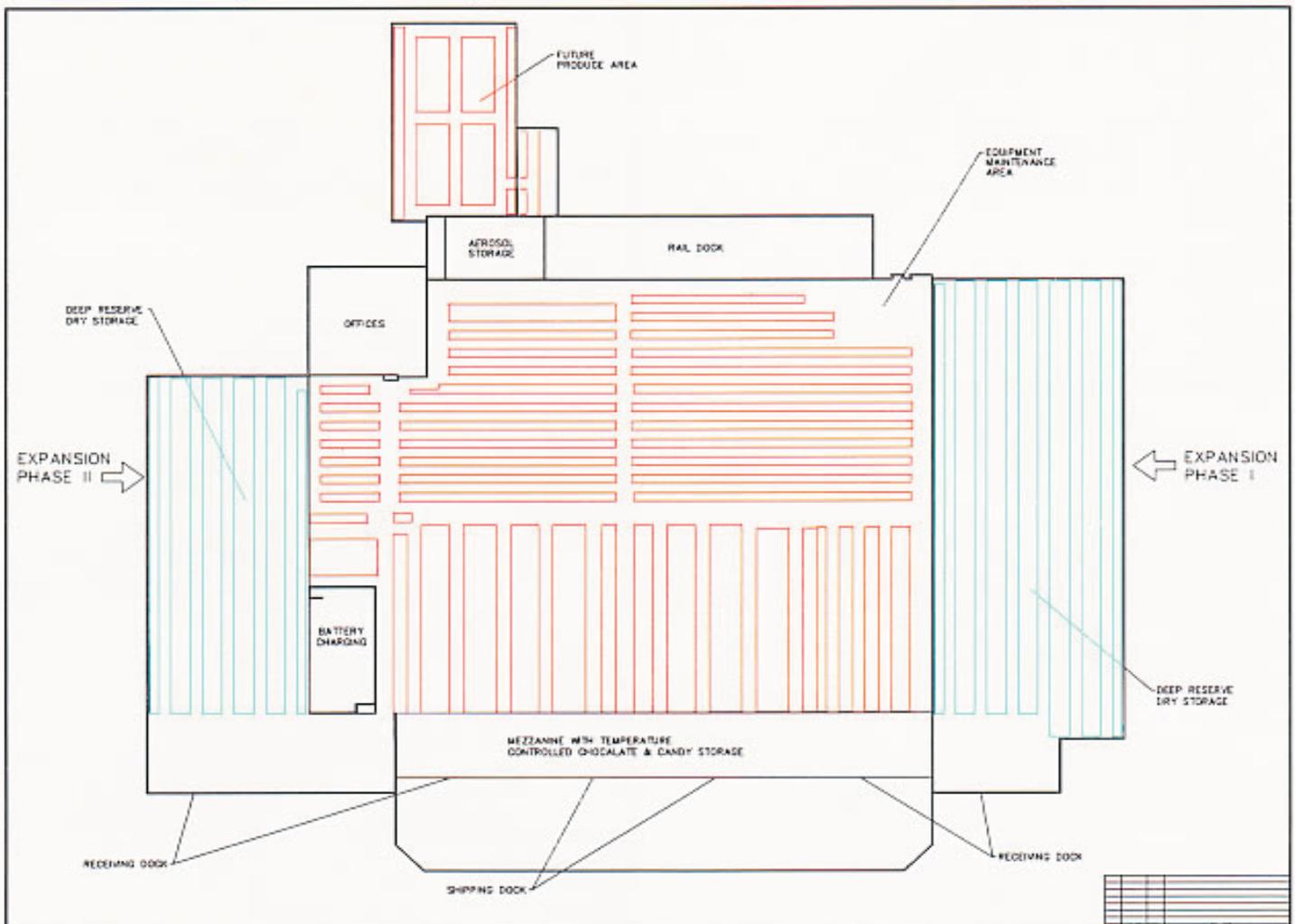
load" protection critical to this northeastern territory. The expansions and renovations designed, engineered and constructed by The Facility Group were completed on a fast track basis with minimal disruption to daily operations. Completed in eight months, the expanded dry grocery warehouse now totals 388,900 sq. ft.

During the design phase of the project,

"special" spaces such as high protection areas for foam tray and other plastics storage, and controlled temperature areas for chocolate candy storage. A new fire protection system with in rack sprinklers was installed to meet more stringent underwriter requirements.

In addition to the expanded areas, the existing warehouse received a completely redesigned warehouse layout. Rail docks were filled in and

overhead dead space recaptured to take maximum advantage of the available cube. All existing facilities were overhauled and new break rooms, locker rooms and toilet facilities were added. Johnson rotation heating systems were installed for increased employee comfort in the warehouse areas. Maintenance shops and battery charging areas were relocated and completely rebuilt, providing additional storage space and



The plan layout indicates the original dry grocery facility (red center area), and the east and west expansions designed and constructed

by The Facility Group, Inc.



At Grand Union, Robert Groebel is corporate director of distribution development and Curt Taylor is Waterford's director of distribution. The immediate result of the expansion program has increased storage capacity 208 percent.



Richard Cavosie, grocery warehouse manager, and Matt Goyette, warehouse operator, review the day's performance levels. New labor management standards have significantly increased productivity levels.

increased efficiency.

The entire storage system was reslotted utilizing a "Z" picking system with a 140cube selection cutoff for efficient pallet selection. Working closely with Grand Union personnel, Kom International effected a complete changeover of the existing areas to the new layout. The product storage system was reorganized into updated family groups. Items are sorted from heaviest to lightest, with slow moving items at the rear of the facility. Double deep racking systems optimize storage space, especially in the forward buy operation. The new design has increased the effectiveness of the replenishment and selection systems, allowing Grand Union to substantially increase overall productivity.

As the plan layout indicates, both the east and west additions are used primarily for deep reserve dry storage. Twenty five new receiving dock doors were added. Product is received on either end of the facility, logged onto the computerized inventory program, and assigned slot locations for storage. As orders are selected, the items are brought to the shipping docks located in the center of the facility. With 375 orders processed each week, the facility ships approximately 72,000 full cases each day.

After completing the expansions, Grand Union implemented a computerized labor management system. Using the operator's personal input, each selector can monitor his/her own productivity throughout the shift. This, in conjunction with Kom International's slotting mechanisms, has increased pure selection productivity by an estimated 40 percent.

According to Richard Cavosie, grocery warehouse manager, "the additional storage capacity immediately improved our productivity levels.

In addition to the grocery facility, the Waterford complex also includes separate freezer storage facilities for meat, fish, bakery, grocery and ice cream. As part of the expansion and modernization program, Grand Union doubled the size of the existing freezer facility. The 30,000sq.ft. addition accommodates 32 ft. clear stacking in the 10'F. and 20'F. freezers. Automatic fly open freezer doors help to maintain temperatures within the freezer and keep productivity levels high. Customized dock levelers were installed throughout the 35'F. dock area. Approximately 80,000 pieces are handled each week from the freezer facility on a single shift operation. Refrigeration is provided by a central ammonia system with the latest state of the art controls to minimize power usage.

The final stage of Grand Union's expansion program has begun this Fall. The produce, floral and dairy areas are being totally renovated and modernized to meet the dramatically increased requirements for the perishables departments. Grand Union plans to increase the clear height and double the storage capacity, provide additional banana ripening and fruit conditioning areas, and implement the latest

temperature and humidity control systems through the perishables area. This final expansion will enable Grand Union to maximize the use of the Waterford facility.

Curt Taylor, Waterford's manager of distribution, terms the revitalization program a success: storage capacity has increased by 208 percent; overall productivity is up by 15 percent and will soon reach the planned improvement of 30 percent; and increased space for forward investment buying has, as predicted, provided increased profits for the company.

In less than 18 months, the multimillion dollar expansion program has paid for itself. Grand Union expects this Fall's perishables renovation to provide similar results.

Revitalization of this strategic distribution center will not end with the completion of the expansion program. Says Robert Groebel, corporate director of distribution development, "we are constantly challenged to keep pace with a changing industry. Our goal is to meet that challenge headon, and continue to provide our customers with the high level of service they have come to expect from The Grand Union Company."

#### VITAL FACTS

<b>Name of company:</b> The Grand Union Company				Rider/walk pallet jacks (48" fork)	142	Crown/MotoTruc	Loading/unloading/selection
<b>Location:</b> Waterford, New York				<b>No. of shifts operated:</b> 2			
<b>Size of complex:</b> 720,000 sq. ft. under roof				Receiving shift: 6:30 a.m. to 3:00 p.m.			
<b>Departments</b>				Selection shift: 6:30 a.m. to 3:00 p.m. (grocery/frozen foods)			
Grocery/supplies	389,900	6,200		5:00 p.m. to 1:30 a.m. (perishables)			
Frozen foods	59,000	939		Loading shift: 6:45 a.m. to 3:15 p.m.			
Produce/floral	82,000	540		<b>Width of aisles and rack heights:</b>			
Dairy	18,000	630		<b>Department</b>	<b>Aisle Width</b>	<b>Rack Height</b>	
Meat/fish/deli	52,000	1,037		Grocery	9' and 10'	20', 26', 32'	
<b>No. of stores served:</b> 135				Grocery	9' and 10'	26', 32'	
<b>No. of orders shipped per week:</b> 375 (grocery), 310 (frozen)				Frozen foods	9'	14'	
<b>Farthest delivery point:</b> 200 miles				Produce	8' and 9'	20'	
<b>Size of truck fleet:</b>				Meat	9'	20'	
No. of over-the-road tractors	69			<b>No. of dock doors:</b> 113			
No. of dry trailers	132			<b>Key personnel:</b>			
No. of refrigerated trailers	83			<b>Name</b>	<b>Title</b>		
<b>Types of material handling equipment used:</b>				Robert Groebel	Corporate Director of Distribution Development		
<b>Type</b>	<b>Number</b>	<b>Make</b>	<b>Primary Function</b>	Curt Taylor	Waterford Director of Distribution		
Reach/straddle forklifts	6	Crown	Putaway/letdown	Tim Wright	Transportation Manager		
Straddle forklifts	24	Raymond/Crown	Putaway/letdown	Richard Cavosie	Grocery Warehouse Manager		
Mid-rider pallet jacks	50	Crown	Selection	Thomas Bayly	Perishable Warehouse Manager		
				"Mickey" Thomas	Frozen Foods Warehouse Manager		