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By Jeff Yoders

Manufacturing's Quest For Process Efficiency

Clients desire prefabrication and even design management



BEEHIVE Woodward hired Ghafari to help it create a connected campus for offices and manufacturing.

Manufacturers are demanding process efficiencies, lean construction, highly collaborative and flexible spaces, prefabrication and even more complex automation that makes for more difficult projects for their general contractors and construction managers.

“Our clients are clearly looking to our process group for advice, counseling,” says Joe Gonzalez, global director of design at Ghafari. “We did three projects for Woodward, and we were very involved in establishing the process flow and delivery on each. Now, that amount

varied per project, but process design is one of the things that we offer that’s important for the client to see.”

Woodward is the world’s oldest designer, manufacturer and service provider of energy control systems for the aerospace and

industrial sectors. Among other projects Ghafari designed for the manufacturer, the company helped Woodward to transform a 100-acre site in Fort Collins, Colo., into a campus that includes an industrial turbomachinery-systems manufacturing facility, corporate headquarters and support facilities for a total of 870,000 sq ft.

Woodward was looking to rebrand and, in that context, improve both manufacturing and office environments while integrating the company’s office, engineering, administration and manufacturing staffs. These groups were

historically siloed, and Ghafari was charged with bringing about greater transparency among the groups and a greater sense of collaboration across the company. The shift was a conscious corporate decision to attract a new generation of employees to its Fort Collins campus.

“Many of our clients come for repurposing of existing facilities or new facilities and know what they do today, have ideas of what they want to do tomorrow but, honestly, do not have a picture of where they’ll be in terms of product and manufacturing in five years,” says Ray Clark, executive vice president in charge of Ghafari’s architecture-engineering group.

“Flexibility of space is a huge consideration in developing processes within the plant, developing the plant and the adaptability of the space for technologies that are just emerging.”

Building flexible, highly complex facilities can be a daunting task for contractors not familiar with lean processes, prefabrication and the delivery processes necessary for modern manufacturing facilities.

“On aesthetics, they are asking for mostly functional facilities that fit in with their surroundings and make them a good community neighbor,” said Mike Ford, a management committee member at DPR Construction. “The conversations are really around the function of the manufacturing facility. We are being relied upon more and more ... to make sure the systems get designed right for the long haul.”

A major DPR client, a manufacturer of appliances building an 829,000-sq-ft factory in Tennessee, required design management from the contractor side.

“Our focus is not to do the designer’s work,” Ford explains of the project, “but to make sure they’re working on the right thing at the right time to hit the target value cost that’s been established.” ■

TOP MANUFACTURING CONSTRUCTION STARTS REPORTED BY DODGE

RANK	CONTRACTOR	PROJ. TOTAL (\$ MIL.)	
1	NOVO NORDISK PLANT, CLAYTON, N.C.	FLUOR	1,200.0
2	PORK-HOG PROCESSING FACILITY, EAGLE GROVE, IOWA	PRESTAGE FARMS	240.0
3	PROCTER & GAMBLE MANUFACTURING FACILITY, MARTINSBURG, W.V.	FLUOR	230.0
4	BLUE ORIGIN ROCKET FACILITY, CAPE CANAVERAL, FLA.	HASKELL CO.	210.0
5	GRIFOLS PLANT EXPANSION, CLAYTON, N.C.	SHELCO	210.0

SOURCE: MCGRAW HILL CONSTRUCTION DODGE DATA