

THE MISSION

Help our client reduce its recurring capital costs of construction by:

30%

Provide an integrated project delivery (IPD) approach with a focus on design innovation for a complex manufacturing plant

Identify opportunities to utilize pre-fabrication, pre-assembly, modularization & off-site fabrication

Utilize a target value design (TVD) approach to achieve cost savings from start to finish

A Winning Formula for Lean Construction

Target Value Design + Off-site + Integrated Project Delivery + BIM

OUR APPROACH

Assemble the right (fully integrated) team upfront

The project team (system experts, design team, construction team, off-site experts, and strategic subcontractors) was assembled before any drawings were created. We spent significant time on aligning around our goals and the types of solutions the team would be exploring together. By spending time to align upfront, the design sessions that followed were more focused, productive and efficient.

Look at every angle

The team carefully analyzed the current system design and costs, understanding inputs and outputs, identifying major components, and labor intensive areas. Each specialty group within the team conducted an Initial Dissection Plan (IDP) – a brainstorming session focused on generating as many waste reduction ideas for the project as possible.

Go virtual

Leveraging 3D modeling in a BIM environment enabled the team to help the client visualize the new fabrication model including its new design, work flow and opportunities to leverage off-site throughout the facility. The team would have been crippled without the ability to virtually model possible solutions and new ideas.

OUR RESULTS

It's all about ideas

In total, the integrated team generated over 160 potential solutions and then evaluated the list against possible constraints, potential value, feasibility, cost, scheduling and so on. In the end, 75 improvements were identified as key elements that should be incorporated.

Bigger isn't always better

The team's new Target Value Design reduced the project footprint by 60% and the actual building area by 32%, which will translate into a significant cost reduction.

The bottom line

Leveraging this approach, our integrated team was able to identify a 40% potential cost reduction in the design and construction of these complex manufacturing plants.

For more insight on our Zero Waste strategies and how they can support your project, drop us a note: relentlessallies@balfourbeattyus.com

Balfour Beatty
Construction