

## EXECUTIVE SUMMARY

Growing Power's recent success and growth of their nonprofit organization has created a need of a new vertical farming facility to enhance their mission of providing equal access to healthy, high-quality, safe and affordable food for people in all communities. The facility will provide space to demonstrate innovative farming techniques, an area to host large lectures, office space, and a market to sell food grown on site. In order for the Growing Power facility to be successful, the project goals defined as flexibility, community, sustainability, and economy, must be achieved through an integrated design approach, prioritizing efficiency, mutual trust and respect between partners, and an openness to collaboration. Total Building Design approached and completed the design of the vertical farm with an integrated process embraced by all team members, which resulted in a quality facility for Growing Power.

### INFORMATION EXCHANGE

Integration was empowered through an efficient and effective method of information exchange, intricately mapped through team collaborative planning sessions with the aid of the Last Planner System®. TBD utilized a co-located space and various methods of digital communication, including virtual information exchange between different design partners' modeling software, to create and maintain a valuable flow of information.

### DECISION MAKING PROCESS

To ensure all major design decisions benefited the Growing Power organization and their goals, as well as confirm that the most advantageous decisions were made, a decision matrix was created to analyze the value added to the project by design solutions. Continuous cost tracking throughout the design phases enabled cost to influence decisions across all design partners' scopes, and target values to be shifted from one Unitformat II section into another.

### INTEGRATED DESIGN PACKAGES

To create an environment of simultaneous discipline design focus, 5 design packages were identified, grouping spaces of similar intended use together. The 5 distinct packages were created with synchronized design by all parties, enabling real time coordination, integration, with clash resolution and system integration input from all team members concurrently.

### BUILDING INFORMATION MODELING

Support for an integrated design process was provided by Building Information Modeling (BIM) tools and processes. The TBD design partners engaged in BIM Project Execution Planning to take full advantage of the potential added value by identifying BIM goals and clearly explaining the processes required to achieve those goals and the information exchanges associated with them.

### INTEGRATION POINTS

The facility developed through an integrated approach took determination, input, and creative problem solving from all team members, specifically with development of the rainscreen façade system, the unique greenhouse design and analysis, and the redesign of the gathering space without the visual interruption of unnecessary columns. Through facilitated, integrated design management and coordination, and value driven effort, a cost effective facility aligned with Growing Power's current goals and the potential for organizational growth, was produced to be turned over to the ownership partners at Growing Power.