Building from Within

For nearly twenty-five years, I've had the opportunity to work on a broad range of scientific projects with varied budgets. I often start each project by reminding our client that the answer to their design challenges lies within their existing organization. As lab designer, I have always sought to position the design team as facilitators trained to translate the client's needs into a comprehensive planning solution. These comments are received with a certain level of bewilderment, but if the planning process goes as planned, they quickly realize how critical their internal resources are to the success of their project. This was exemplified in 2015 when our firm was hired to design a ground-up $85 million (USD) R&D Facility for one of Fortune 500's Top 50 companies. Working with a client with nearly 300,000 employees worldwide, we expected a burdensome and bureaucratic approval process. Instead, we were pleasantly surprised by an efficient decision-making process focused on leveraging their internal strengths for the benefit of the project.

Rather than the cumbersome deliberations that often accompany a lot of projects, four individuals were allotted the time and were empowered to make decisions on behalf of their entire organization. This "Group of Four" provided our design team with access and expertise, paired with their unique corporate perspective, which expedited our ability to calibrate our deliverables to define their vision of the project.

The project was completed over 18 months ago and I continue to appreciate the effectiveness of the "Group of Four". Now, as we begin new projects, we look for opportunities to advocate for each clients' individualized version of the "Group of Four" composed of the following key individuals:

1. The Visionary – The primary role of this individual, or small group of individuals, is to passionately drive the group to think beyond conventional wisdom. New construction projects provide a unique opportunity to revisit existing norms and research protocols. They also can provide the catalyst for new ways to increase innovation and collaboration for the foreseeable future of the facility. In many cases, this individual is the scientific heart of the project with enough skills as a consensus builder to rally their research team and their organization in support of the project.

2. The Steward – While the Visionary focuses on the scientific mission of the project, the Steward is representing the goals for the project as set by their institutional or corporate leadership tier. At times, the Visionary's goals may not be entirely aligned with the broader priorities from the leadership tier. As the Visionary tests the project boundaries, the Steward needs to be well-versed in the leadership's priorities, grounded in reality, and most importantly, the budget. From the onset of the project, it will be key for the Steward to define funding sources and establish a comprehensive project budget inclusive of all anticipated costs.

3. The Caretaker – Laboratory projects are inheritably complex projects, heavy with the infrastructure to support the laboratory's technical needs. The costs associated with this infrastructure can significantly impact the initial project costs. In addition, they can also burden the operational costs for the life of the project. By bringing in a key individual from the facilities/support staff early in the process, the Caretaker can gain an understanding of the research needs. By representing the long-term operational

needs of the future laboratory project, the Caretaker can provide insight on existing inefficiencies that could be addressed in the design of the future laboratory project. As the A&E Team starts their design, the Caretakers can be an invaluable resource outlining the institutional preferences based on energy costs, local technical expertise, and the regional availability of parts and the manufacturer's technical support. This facility/support staff will be responsible for the long-term care and upkeep of the facility. By integrating the Caretakers into the "Group of Four", they can vest themselves into the design process as they provide technical insight that can curtail short and long-term costs to ensure the long-term viability of the project.

4. The Herder – Regardless of the sector, effective project management, including design process experience, is often an oversight. As design professionals, it is easy for us to take for granted the lack of understanding in the planning process. We have construction-specific procurement procedures and are notorious for acronyms (i.e. DD, FFE) and industry-specific terminology that is as cryptic to the scientist and researchers as their terminology may be to us as designers. Often, this lack of mutual nomenclature leads to increased anxiety that is counterproductive to the design process. With a comprehensive understanding of the design process, the Herder can serve as the facilitator/moderator between the "Group of Four" and the A&E Team. With the complexity typical of laboratory projects, the Herder also provides proactive project management to ensure the critical milestones are met to ensure the success of the project. By providing a framework for the design effort, the Herder can foster a collaborative environment allowing for the "Group of Four" to effectively work as a unit and capitalize on the group's collective and individual strength.

The intent of the "Group of Four" is to provide a streamlined decision-making body composed of key individuals. With a project of any significant size, it will be very unlikely that the "Group of Four" will possess a comprehensive scientific and technical expertise required of the project. The "Group of Four" will also need input from other scientific stakeholders and technical experts with their own list of priorities and requirements. Their contributions through the "Group of Four" will significantly influence the lab project and it is imperative for their voices to be heard. By creating a group of Advocates, an additional tier of active participants can be incorporated into the design process. Through regularly scheduled Design Forums, the "Group of Four", along with the A&E Team, can provide the Advocates a forum to define their technical and spatial requirements. The Design Forums with the Advocates can also serve as an additional way to convey information to a larger group of stakeholders and optimistically, vest a greater group of individuals on the success of the project. The Design Forums also represent scheduled opportunities for the "Group of Four" to be held accountable for the design process.

In my experience, no two projects are alike; even when they seem so at the onset. With each project, it is important to tailor the design process to meet both the client's and project's specific requirements. The recommendations above are not intended to be prescriptive, but rather a starting point for our clients. The intent is to encourage our clients to identify and empower a project team that can guide the design process while being held accountable by the institutional leadership tier and by the varied users and stakeholders that will define the project needs.