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Maximizing efficiency in a public library construction project

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Abstract

Undertaking a public construction project like a library is a complex and challenging endeavor. It is critically important that owners, city or library management, are armed with the proper information so they can clearly articulate their goals for the project to all members of the design and construction team. Owner’s representatives are construction experts who function as effective translators, ensuring that everyone understands their roles, expectations and schedules. An owner’s representative will help manage risks and control costs at every stage of the project.

An owner’s representative is especially important in the public sector as many substantial construction projects – such as a library – may only come once during the course of a librarian’s career.

When involved early in a project, the owner’s representative can do the following:

- Help govern a list of reputable firms and people to fill out the rest of the team;
- Help in building criteria and question lists to assist in the team selection process;
- Assess proposed contracts and construction documents in favor of the owner/library;
- Translate and ensure effective communications between all parties throughout the design and building process;
- Objectively evaluate an owner’s wish list in relation to the budget;
- Serve the project to run smoothly and on time;
- Anticipate and monitor minor construction issues before they develop into larger problems and risks;
- Serve as point person in the post-construction warranty period

Overview of the Pflugerville Library Project

H.R. Gray, the owner’s representative for the City of Pflugerville Library expansion project, worked directly for the owner, the City of Pflugerville. The city held separate contracts with the project designers,
Vietetta/Piwonka-Sturrock Architects, and the contractor, Lee Lewis Construction, Inc. H.R. Gray served as the controlling entity on the project to bridge the communication gap between all parties.

The overall construction cost for the project was about $4.5 million with another roughly $2 million dedicated to design, the owner’s representative, furniture, fees, utilities and other outside consultants. The city funded construction of the project with a $7.0 million bond approved by the voters in 2007.

The library was more than doubled in size, expanding from 12,500 square feet to 28,000 square feet. A new wing was added to the existing building, which was then completely renovated. The new space includes seven meeting rooms, an enhanced computer lab, tech bar, new teen and genealogy areas, a quiet reading room, and a beautiful water-saving courtyard.

**Determining the scope of and funding for the project**

**Communication is Key**

When discussing a project, the owner and librarian should have in mind their goals, a rough budget, public input, and a timeframe. The owner’s representative will work with whole team; owners and librarians, architects and designers, contractors and engineers, to facilitate communications and keep project information flowing smoothly and intelligibly between them.

**Translating vision to design**

A library director needs to be able to program the library; delineating how much space is needed for each function and how close together each of these spaces should be for the library to run efficiently.

The owner’s representative will work with the library director to make sure the rest of the construction team understands what the library needs to make it function the way it should.
In the case of the Pflugerville Library, the functional vision for the library was to make it the community living room. Translating this vision into the design had repercussions throughout the building; opening ceilings and windows, defining seating areas and workflows, reducing shelving and introducing warm color and glass design elements. Without the library staff’s input and influence on the entire scope of the design and construction process, a gorgeous building would still have been erected – one that may even become an icon aesthetically – but it might not have necessarily worked well as a library.

Although library directors may have a mosaic of opinions about what each of their communities would like in a library, the vision for each library may not be realized if a library director’s ideas are not communicated and advocated to the project team.

Some examples of how a library’s design and functionality go hand-in-hand:

- **Circulation desk.** Some library directors say these are necessary, but others don’t agree. Make sure the architect and contractor understand if you need this and where it makes the most sense and then make sure it is integrated into the design where it works the best.

- **Gathering areas: Furniture, plugs, speakers and air vents.** Placement of these should be well thought out in the design process. Instead of just filling the space with furniture after the structure has been built, the location of the furniture and its use needs to be integrated with the building design early in the process. If it will be a study or reading area, electrical outlets will need to be located nearby each study desk or table. If people will be congregating in large numbers, air quality requirements will dictate where ventilation is needed, thus making a difference on the placement of air vent locations.

- **Security and line of sight.** Where will your staff work and what can they see from there? Will they be able to see around the shelves? How will the study areas be secured? Will there will be a computer lab, and if so, will there be computer classes? How about gathering areas and dark corners? These must be considered during the initial design.
• **Parking lot.** Determine whether the parking lot will be used for programming. If so, make sure this becomes part of the overall design so the space may be used for this reason. An example is the visiting S.T.E.A.M. (Science, Technology, Engineering, Art and Design, and Math) trailer that arrived through a Connecting Texas Libraries Statewide (CTLS) grant last summer. The large size of the trailer didn’t cause any issues because the parking lot was designed to accommodate something of this size without inconveniencing library patrons.

• **Book drop:** If a book drop is going to be part of the library, it needs to be integrated into the overall design because decisions such as whether it will be a drive-up book drop or just a drop box outside the library – or even whether there will be both will dictate the building’s functionality. If there will be a drive-up drop, the library director must decide beforehand whether books will be able to be picked up like a fast food window. This plays into the design because the book drop/pick-up window will need to be designed within a reasonable proximity to the reserves or technical processing. This will have an impact on the overall technical processing of the books, and the vehicle circulation, vehicle access and parking plan, which is critical to the functionality of a library. RFID used in library media must also be considered when configuring this design.

• **Specific programming and restroom proximity:** The restrooms also play importantly into the overall vision of a library. Size of the restroom, which patrons will be using it the most, and the proximity to programming areas in the library need to be considered in the overall library design. Does it make the most sense to have a separate bathroom in the children’s area so a parent with a child doesn’t have to drag a baby or toddler across the adult area to use the restroom?

   How can everyone be accommodated best without causing disruption? The building owner, architect and contractor may have thoughts on where the bathrooms should be located, but only the library director really understands where it should be located to both serve its actual purpose and fit into the overall functionality of the library’s vision.
• **Meeting Rooms:** When planning for meeting rooms, whether they will be open outside of library hours needs to be considered. If so, will people meeting there need accessible after-hours restrooms too? If so, you’ll need to place those rooms carefully and plan on extra doorways and security between those rooms and the library itself. Don’t forget the issues of drinking fountains and vending areas.

• **Noise:** Do you want your seniors right next to the teen room? Babies and storytime near the meeting rooms? Think about noise as well as traffic flow.

**Assembling the project team/understanding roles**

Assembling the project team is the responsibility of the owner. With goals & a rough budget firmly in mind, the owner sends out a request for proposal (RFP) to various entities, including a design team, contractor, architect, etc. Although an owner’s representative isn’t always chosen before the rest of the construction team, it’s advantageous to get the representative involved earlier rather than later so he or she can advise on the best choices for contractors and architects.

It’s easy for cities to choose large architectural firms, with large reputations built on experience designing large academic libraries. Unfortunately, this experience is very different from designing a municipal public library. This goes full circle back to the city and librarian’s vision for the library and is a worthy topic for discussion with city managers.

Once the team is assembled, the pre-construction phase has been completed. From this point, the assembled team’s focus should be on completing the project and successfully integrating their own agendas and viewpoints.

**Using an owner’s representative**

**Why do you need an owner’s representative?**
Asking for an owner’s rep for new construction or the reconstruction/remodeling of a library may be met with opposition. The city manager may be quick to make a point that the rep isn’t necessary and handling the project under status quo procedures is sufficient.

This should not discourage a library director from advocating for the owner’s representative. He or she should be up front that a library director does not have the time, expertise or vocabulary to coordinate everything. Be very clear that having a person who does have this background is worth the cost involved because an owner’s representative can do the following:

- help govern a list of reputable firms and people to fill out the rest of the team;
- help in building criteria & question lists to assist in the team selection process;
- assess proposed contracts and construction documents in favor of the owner/library;
- translate and ensure effective communications between all parties throughout the design and building process;
- objectively evaluate an owner’s wish list in relation to the budget;
- serve the project to run smoothly and on time;
- anticipate and monitor minor construction issues before they develop into larger problems; and
- serve as point person in the post-construction warranty period.

It is in a contractor’s best interest to be cost-effective. An architect focuses on design plans and building codes, rules and regulations. Although the architectural team conducts onsite visits, they are not there on a daily basis. The owner’s representative serves as the daily coordinator to streamline processes, keep everyone on the same page, and drive the project to completion on budget. This includes ensuring shortcuts are not taken, catching items before they slip through the cracks, and conducting double-checks to solve small issues before they escalate into major ones.

The Pflugerville Library was a complicated construction project involving the addition of a new wing, a move into it, the renovation of the existing library, and the move back into the whole space. H.R. Gray
played a pivotal role in coordinating the timeline and readiness of the spaces with a total closure of only 12 days for both moves.

‘Owner-friendly’ contracts

In addition to project coordination, an owner’s rep will protect the owner in contract negotiations; contracts are often written based on American Institute of Architects (AIA) or other organizations’ standard agreements, a format that is not always in the best interest of cities or libraries.

While the majority of standard agreements work well as a base or template, an owner absolutely needs to add in language that makes the contract their own and governs their concerns. By having an advocate, e.g. an owner’s rep, the owner can be confident that their best interests are considered.

However, it is also the owner’s representative’s responsibility to advise the owner as to the wisdom, budgetary impact, and long term viability of wish list items. The owner’s rep keeps all aspects of the project balanced, while keeping it moving forward within the proper time frame and budget.

Risk management

An owner needs to realize that there are risks associated with any project. Hiring others does not transfer the risk, because ultimately the owner is the one responsible for mitigating it. If an owner is misinformed on an issue, it could start out small and fester into a much larger problem.

For example, a contractor may tell an owner that additional time is needed on something and more money is warranted. An owner may not question this and will just provide the change order. However, an owner’s rep will review all requests and help determine whether the additional time and/or funds is/are warranted. If 15 additional hours of time are requested, an owner’s representative may review and
determine that really only four hours are needed or negotiate to reduce the price for additional work or for just time and materials.

Post-construction issues and management

After the library building is completely operational and the architect and contractor are no longer involved, there may still be issues related to construction that must be addressed. There is still a warranty period. An owner’s rep provides the coordination and management to evaluate and address post-construction issues; is this warranty work or should it be provided by the contractor?

At the Pflugerville Library, nearly a year after the addition opened, water puddled on the floor after an overnight 12-inch rain. However, the leak couldn’t be found. The walls and roof were checked with no luck. After two days of work with a hose and ladder, the owner’s rep discovered an 8-inch gap in the eaves between two sections of the roof. The area had been caulked, but a hole about the size of a garden hose had been missed. During regular rains, the water didn’t build up high enough to enter the hole and the problem remained undiscovered. What could have been a very time-consuming and complicated issue was efficiently handled by the owner’s rep.

Other issues such as automatic doors “ghosting,” hand dryers not working properly, and even landscape problems were all handled by the owner’s rep. When some of the landscaping died last summer, the owner was able to show that the landscaping was dead prior to the city’s institution of drought-related water restrictions. The owner’s representative had kept a spreadsheet detailing the landscape installation and the condition of the plants. This careful tracking allowed the owner to go back to the landscaper and ask for warrantied replacements.
Conclusion

Construction ends, but the library staff will deal with the building for the next 20 to 30 years. Everyone wants to come out with a supremely functional building that requires minimal maintenance.

The owner’s representative, with their experienced, objective eye, monitors all aspects of the project from pre-construction through post-construction. This oversight ensures a well-built project, on budget and on time.

The new children’s section of the renovated Pflugerville Library was well thought out so it functions efficiently and is aesthetically pleasing.

The courtyard serves as an area that community members can enjoy for relaxing while reading and as a place to socialize during events as well as an everyday gathering space.
The Pflugerville Library’s Great Hall has an inviting and chic design, but it also is extremely functional so the librarians are able to provide the best service to the community.
Addendum: Helpful Construction Management Concepts

**Architect/Design Engineer:** Designs the building based on the building program. Focus is on providing a functioning and aesthetically pleasing structure while meeting current building codes.

**Bid:** Cost of the project determined by the contractor based off the drawings created by the architect.

**Bonds:** Usual means of financing the construction of municipal libraries and branches. Proposed project costs voted on to gain approval from local residents. The city controls regarding when, during the course of the project, the bonds are issued with interest rates, playing a significant role in the project budget.

**Budget:** What you have to spend on the project. Varies throughout the process, depending on funding sources- bond issuance, donations, grants etc. and the cost of building and services.

**Charettes:** Series of public meetings that may be called to allow for public input on building priorities

**Contractor:** Builds the building, usually with the help of subcontractors who specialize in particular systems, such as electrical, plumbing, roofing, etc. Focus is on maximizing profits based on the submitted bid.

**Librarian:** Knows how the building needs to work as a library. Strives for a structure that will be easy to supervise and maintain.

**Owners:** In municipal situations, city management, otherwise library management. Always wants a cost-effective building.

**Owners Representative:** Works for the owner to translate project goals and construction issues from owner to construction team and back. Provides pre-construction assistance, supervises the construction project, and handles post-construction issues during the warranty period.

**Operating Costs:** Yearly costs associated with running and maintaining the building structure.

**Programming:** Deciding what goes where; which library functions need to be close to which others and how much square footage is required of them. Plays tightly into the budget.

**Request for Proposal (RFP):** Seeking qualified people or firms to provide specific services. Criteria are prepared that generally outlines the sort of help needed and is sent out for responses from qualified people or firms.

**Request for Qualifications (RFQ):** Asking people or firms to show what they’ve done to determine if experience lines up with what is needed. Used to gather vendor information from multiple companies to generate a pool of prospects.

**Site:** Where the building will be built. Typically has specific constraints that must be dealt with such as rocks, clay, high or low spots, drainage, road access, etc. Affects cost of the land and the project budget pre-construction.

**Vision:** Overall purpose of building. What role will the library serve in this building? Who will it serve? E.g. the Pflugerville Library is the community living room of the residents of Pflugerville.