



## APPA Effective and Innovative Practices Award

### Saint Louis University Facilities Services

### In-House Construction Program

#### STATEMENT OF PROGRAM AND RESULTS

Saint Louis University's in-house construction unit, named the Billiken Construction Crew (BCC), was conceived from the need for an in-house construction crew capable of performing construction and renovation in University-owned buildings. Its mission is to provide skilled trade staff to perform demolition, general interior construction and renovation services.

The BCC's goal is to deliver quality workmanship and general construction services more cost effectively and efficiently than similar services provided by outside contractors. This program allows our Facilities Planning and Construction department to function as its own general contractor or perform as a project manager on designated projects, creating opportunities for saving cost and/or project efficiencies. The goal would be measured by how well we performed financially, the quality of work performed, customer satisfaction, maintaining an excellent safety record, and the overall productivity of the group.

Upon conclusion of the program's initial year, a review determined that the BCC did provide construction services more effectively and efficiently than if these services were contracted out. This program met or exceeded all criteria established in the goals and objectives that were set forth in the business plan and is a successful endeavor.



Figure 1 (Initial Crew Members)

## INNOVATIVE PRACTICE

### **New from the start**

Facilities Management was asked to provide a proposal and business plan for an “In-House” construction crew. The intent was to fund and sustain a program that would allow Facilities Management to act as a general contractor for small to mid-sized projects. The program would use University employees and would be directed by a University Supervisor.

A crew was assembled to perform the required construction trade tasks and skills. The trades desired were carpenters, floor layers, and skilled plaster/painters. Specific skills demonstrated by the carpenters include the fabrication of trim molding, casework and door and hardware installation. The floor layers are capable of installation of broadloom carpet as well as ceramics and VCT. Cross training and versatility were core components to the success of the BCC.

The supervisor is responsible for all of the functions of the program including: estimating, scheduling, procuring materials, and project implementation/coordination with customers.

The savings and benefits would be realized in several areas:

- 1) The employees would be working at our union based salary. Our Union Contract wages were 46% lower than contractor charge rates for the same skilled trades.
- 2) The program eliminates contractor overhead and profit fees. Contractors will normally charge up to 5% mark up on materials and for overhead and profit.
- 3) The University controls project scheduling and project delivery. The University would act as a project “General Contractor” providing for greater control of project scheduling and delivery dates and allowing for greater flexibility when coordinating and planning projects with our end users. We can respond quickly when priorities arise, and create a reasonable back log that will allow continuous utilization of the work crews.
- 4) This program eliminates the use of maintenance personnel for project work, allowing them to focus on routine and preventive maintenance tasks. Past practices included use of existing maintenance personnel to perform small projects, removing them from their primary duties. This is not a healthy practice, if continued over an extended period of time.

Our employees have a vested interest in the University and its value to the community. These employees are not just another contractor that will rotate on to the next job after this one is complete. Our employees work here every day and interact and develop professional relationships with the University community. They take pride in their work and know it serves the University as a whole.

## INSTITUTIONAL BENEFITS

### Cost Savings

Cost savings is one of the major benefits of the program. The University realizes cost savings in several areas: supervision, labor, and materials. The largest savings is realized in labor.

The BCC is made up of six craftsmen and one supervisor.

- The BCC workers are in a union shop, but work at a much lower hourly rate than what is charged by outside contractors.
- The supervisor's salary is compared to contractor charge rates for General Foreman wages, again showing significant cost savings.

Project materials are purchased locally from suppliers at wholesale pricing, thus eliminating contractor mark-up, and saving approximately 5% on material costs.

Finally, unforeseen work and project change orders are not marked up as a penalty. Expenses are documented and charged appropriately.

The table below illustrates total savings for the Billiken Construction Crew for FY11 – FY13:

<b>Billiken Construction Crew</b>	<b>FY13 Total</b>	<b>FY12 Total</b>	<b>FY11 Total</b>
FT - Staff	7	7	7
Temporary Staff	0	6	0
Union Employees	6	12	6
Labor Savings	\$461,527	\$415,236	\$347,733
Contractor Fee Savings	\$72,015	\$159,974	\$77,748
<b>Total Savings</b>	<b>\$533,542</b>	<b>\$575,210</b>	<b>\$425,481</b>

## INSTITUTIONAL BENEFITS *(continued)*

### Customer Service

The Billiken Construction Crew is service and team-oriented. Communication with the end users is one of the reasons for the success of the program. When using outside contractors, often times customers' needs are lost through the linear communication between customer, project manager, and outside contractors. We strive to be in constant communication with our end users to keep them involved with the project, aware of the schedule, and provide updates on the progress of the project.

Leadership meets every week to insure that the lines of communication are always open, and everyone has the opportunity to provide input. Each part of the project is discussed from initial demolition to the final walk through and punch list. Information Technology and electrical work is normally sub contracted out, but the coordination and implementation of this work is addressed through weekly meetings. **The BCC builds a personal relationship with our end users and strives to make sure they are happy with the project and its end result.**



Figure 2 (Team for BCC Renovation of Pius Library)



Figure 3 (Before Renovation)



Figure 4 (After Renovation)

## HOW OUR PROGRAM CAN BE USED BY OTHERS

**In-house construction services departments can be established by other colleges and universities.**

Factors to consider:

- **Union vs. non-union labor costs**

SLU already employed union Maintenance workers performing similar types of construction/renovation activities and SLU typically hires union contractors for its work.

- **Job classification to hire skilled-trades persons**

SLU hired painters, carpenters and floor layers under our union Maintenance worker job classification.

- **Plan for the type/size of projects in-house crew will handle to make sure they remain active year round.**

SLU staffed and sized its construction services department with 6 Maintenance workers to handle projects of a smaller size, scope and duration, focusing on restoration and minor construction.

We wanted a crew that would be flexible and adaptable to handling multiple smaller scale projects and not tied up on one project for months. We also wanted to ensure we had enough projects to keep the entire crew active throughout the year. Colleges and universities can supplement the crew with temporary staff if/when needed for a larger project, as SLU did on one project handled by the BCC.

Over the three year period (FY11 – FY13) the BCC's average project size is \$35,773 with a 2.6 week completion time.

- **Supervision**

SLU has a full time Maintenance Supervisor to manage the construction services department. The Supervisor is also responsible for purchase and delivery of materials, scheduling and coordination of work with other vendors and completion of project paperwork.

- **Start-up costs**

SLU purchased tools, a truck and equipment appropriate to the size crew and scope of services the crew would perform.

## MANAGEMENT INVOLVEMENT AND EMPLOYEE COMMITMENT

### Management involvement

With full support from the University President, the program was implemented. The program was monitored by many groups within the University to insure its viability and continuation. Participation involved Business and Finance for cost effectiveness, Facilities Management for quality and productivity, and Facilities Planning and Construction for schedule delivery. The original business plan for the BCC included the intent, goals and objectives for the initiative. When the individual groups recognized that established criteria was being met, funding and staffing resources were continued and the BCC was rewarded with project responsibilities of greater scope.

### Employee commitment

Our employees display a sense of ownership while making a positive change for our customers. The University offers many benefits and job security not always found in the construction industry. Our employees are committed to their work, and display a feeling of responsibility to the University itself and its mission. They see their employment as a way of life not just a job.

Our employees are constantly striving to meet the needs of the University. They know that their work and accomplishments are a reflection of themselves and the “core values” of the Facilities Services division of the University. Their commitment and dedication are consistent with Jesuit values of teaching, research, and service to the community.



**Figure 5 (Homecoming Parade Float)**

*An example of the BCC's dedication and commitment was demonstrated in the completion of a float entry for the Parents Weekend Homecoming parade. They modeled a Spirit of St. Louis replica to fit atop a golf cart, symbolizing the forward thinking and pioneering spirit to be an industry leader.*

## DOCUMENTATION OF RESULTS, ANALYSIS, FEEDBACK, BENCHMARKS

### Customer Satisfaction

Two different “Customer Satisfaction Surveys” are used to gather information on job performance. Each survey is reviewed and evaluated to determine if more effort is required to better serve our clients.

- One survey is sent to the end user and provides feedback about service, professionalism, and how the customer would rate the overall experience of the project.
- The second survey is sent to the University’s Supervisor, to assess the crew’s performance relating to quality of work. This includes craftsmanship, and deadlines, as well as meeting overall project expectations.

The surveys are Likert Scale Surveys, asking for a “1 to 5” grade with 5 being the best score. In 3+ years, the BCC has never scored below a 4, and has received a perfect score of 5 on 93% of all project surveys. **This speaks highly of the efforts of the BCC and the complete satisfaction of our customers.**

### Summary

Over the last three years, the BCC has completed 52 projects with an estimated three year savings of 1.5 million dollars. All of the work was completed within scheduled time frames and within budgeted parameters, and has met or exceeded managerial as well as customers’ expectations.