

# Batson-Cook Construction Gets a 34% Cost Reduction in Self-perform Layout

Batson-Cook Construction is one of the top 100 construction firms in the United States. The company is a general contractor, primarily focused on large construction projects. They typically self-perform layout activities for building systems in the majority of their projects, using a Robotic Total Station for marking control points and manual tools including a tape measure and chalk lines for marking walls. The largely manual process led to concerns about efficiency.

## Highlights

### 7x Faster Execution

More information printed directly on the slab compared to manual methods.

### 34% Lower Layout Costs

Reduce labor requirements and improve efficiency with a single operator.

### 1/8” Layout Accuracy

Consistent precision that helps minimize errors and rework.

## Project Scope

**Description:**
Mark interior wall placement in a laboratory.

**Name:**
Biomedical Preparatory of the Health Science Center at a Medical Center.

**Main Focus:**
Self-perform layout activities, marking interior walls in a laboratory.

**Project Size:**
70,000 sq ft of layout space.

# The Challenge

Batson-Cook is an experienced construction firm serving a wide array of industries, including Healthcare, Education, Hospitality, Multi-Family, Office, and Parking Lots.

The company performs as a general contractor and often self-performs layout activities. Their typical layout process requires a team of one or two foremen, responsible for marking control points used as references for subsequent layout tasks. A Robotic Total Station is used for marking control points and manual tools like measuring tape and chalk lines are used for marking walls. The foremen tasked with layout are also responsible for marking and building drywalls and overseeing the quality control process. This approach to layout is time-consuming and labor-intensive, limiting company efficiency and presenting concerns related to the potential for human error.

As a leading construction firm in the US, Batson-Cook is selected to perform many large-scale jobs. However, they face challenges in scaling their self-performing business due to the amount of labor they need to dedicate to layout tasks. While the company's in-house BIM team manages data preparation for layout, they need more efficiency in execution.

The current manual process for layout requires multiple professionals to devote their entire focus to layout tasks before drywall installation can begin. To improve efficiency and scale the business, the team needed a tool that allows fewer people to handle layout tasks so the rest of the crew can start installation work simultaneously



# The Solution

In an effort to meet company growth goals, Batson-Cook decided to implement the HP SitePrint robot in self-performed projects. The company's test project would require using HP SitePrint to mark 70,000 sqft of interior walls in a laboratory at the Biomedical Preparatory of the Health Science Center at the University of North Texas.

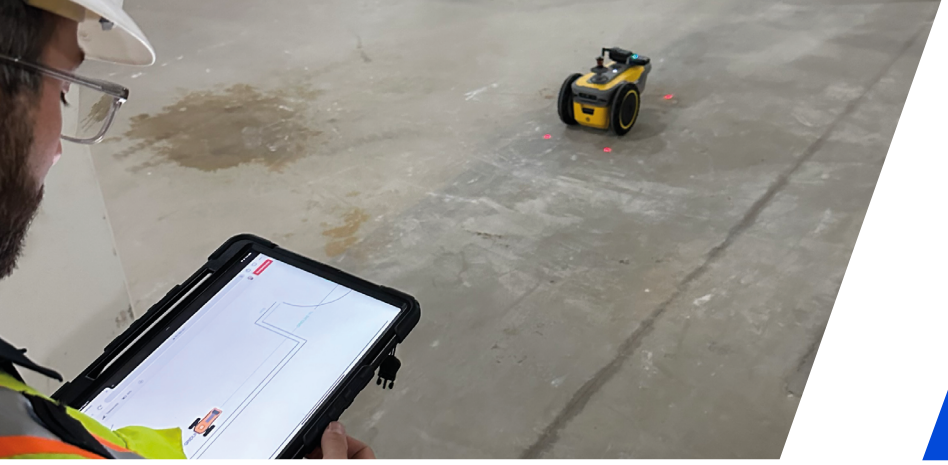
HP SitePrint's autonomous activity enables the team to efficiently handle layout with just one person, freeing up the rest of the team to start installing interior walls simultaneously. As a result, they experienced increased productivity and substantial ease of use in comparison to Robotic Total Station assisted layout. Since the robot prints the layout directly onto the floor using CAD files, the process also offers the advantage of improved accuracy by reducing the potential for error.

The team was delighted with the results, reporting:

**"By creating your set points through CAD, you can have all your framing and MEP layout coordinated with errors and clashes corrected before you even put chalk on the ground."**

**Jonathan Polk**
Project Manager Batson-Cook Construction





# The Results with HP SitePrint

Batson-Cook's traditional layout process requires a team of two foremen to devote their entire focus to time-consuming Robotic Total Station assisted manual layout for large projects, preventing other team members from moving forward until the entire layout is finished. With HP SitePrint, they only needed a single operator to oversee the printing of 70,000 sq ft.

Layout with the robot took only 24 hours with one operator, allowing other team members to start installing interior walls immediately.

- Cost Reduction: Completing the job faster with a single operator overseeing the process resulted in substantial savings. The team managed to self-perform layout activities in a fraction of the time required for Robotic Total Station assisted layout, resulting in a 34% reduction in operational costs.
- Time Saved: HP SitePrint allowed the team to complete the job in 24 hours, an impressive 7 times faster than their traditional approach with Robotic Total Station assisted layout which would have taken about 158 hours. The team saved 134 hours using HP SitePrint.

**"With HP SitePrint, we could dive into the details, mapping out framing, door placements, MEP runs, ceiling heights, and even printing circuits for the floor boxes."**

**Jonathan Polk**
Project Manager Batson-Cook Construction

# Long-Term Impact

Batson-Cook implemented the SitePrint robot with the goal of improving efficiency in self-performed layout activities to work toward growing their self-performing business. The increased productivity and accuracy the team achieved with HP SitePrint will allow the company to take on more jobs, helping them reach their business growth goals.

Following the successful deployment at the Biomedical Preparatory of the Health Science Center, Batson-Cook plans to use the robot in a multi-year project in one of the largest hospitals in Dallas.

**"When we deliver layout information to the VDC team early in the project, we set the stage for effective clash resolution. This proactive strategy saves time down the line, reduces rework man hours, limits unnecessary coordination meetings, and can increase construction productivity by up to 10 times, all while keeping our timeline intact."**

**Clayton Guillory**
Assistant VDC Manager, Batson-Cook Construction



# Comparative Analysis

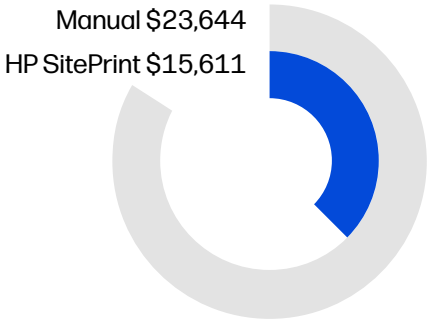
Batson-Cook chose HP SitePrint in an effort to enhance efficiency in their overall layout workflow in self-performed jobs. The ability to self-perform layout tasks faster and with only a single operator enabled them to achieve their goals. However, the company also recognized substantial advantages in the form of time savings and cost reduction.

The benefits Batson-Cook experienced when using the SitePrint robot are easy to see.

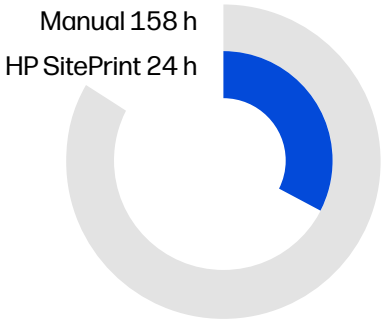




| | L5 at 1900 North Loop | Manual | HP SitePrint |
|---|---|---|---|
| Job Data | Printed Floor Area (ft²) | 67,639 ft² | |
| | Printed Distance (ft) | 9,520 ft | |
| Labor cost rates | Layout Crew Size | 2 | 1 |
| | Layout professional cost/hour | $75 | $75 |
| | SitePrint Support Usage Fee (CAD/m²) | - | $0.2/ft² |
| Time | Total Time (h) | 158 h | 24 h |
| Total job cost | Labor Cost | $23,644 | $1,763 |
| | SitePrint Support Usage Fee | - | $13,528 |
| | SitePrint D&A (1 week) | | $320 |
| | **Total Cost** | **$23,644** | **$15,611** |




**34% Cost reduction**




**7 Times faster**

# Expanding Horizons with HP SitePrint

As a result, Batson-Cook will be able to complete self-performing layouts faster, enabling them to take on more jobs to increase their bottom line and grow the business. Contact HP to learn more about how HP SitePrint can help you transform your construction workflows.

**Learn more at www.hp.com/siteprint**

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