



Where the project is won or lost:

Monitoring construction in higher education

Feb. 1, 2024

WHERE THE PROJECT IS WON OR LOST

Welcome and introduction

Today's presenter:



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WHERE THE PROJECT IS WON OR LOST

Welcome and introduction

Trends in higher education:

Project complexity

- Varying size and funding attributes
- Diverse project types

Stakeholder landscape

- Responsibility to students, faculty, community, donors
- Multiple sets of eyes and varying degrees of ownership

Limited resources

- Project teams have not rebounded to pre-covid levels
- Every dollar, and every hour count



Agenda:

Part one: What is the challenge?

- Define and discuss the current project monitoring landscape

Part two: Why is monitoring important?

- Show key aspects of effective project monitoring

Part three: How can Baker Tilly help?

- Walk through our approach to project monitoring

The background image shows a construction site with workers in hard hats and safety gear. One worker is kneeling on the left, looking at a set of blueprints. Another worker is on the right, working with vertical rebar. The scene is overlaid with several large, semi-transparent teal circles of varying sizes, creating a modern, layered aesthetic.

Part one

What is the challenge?

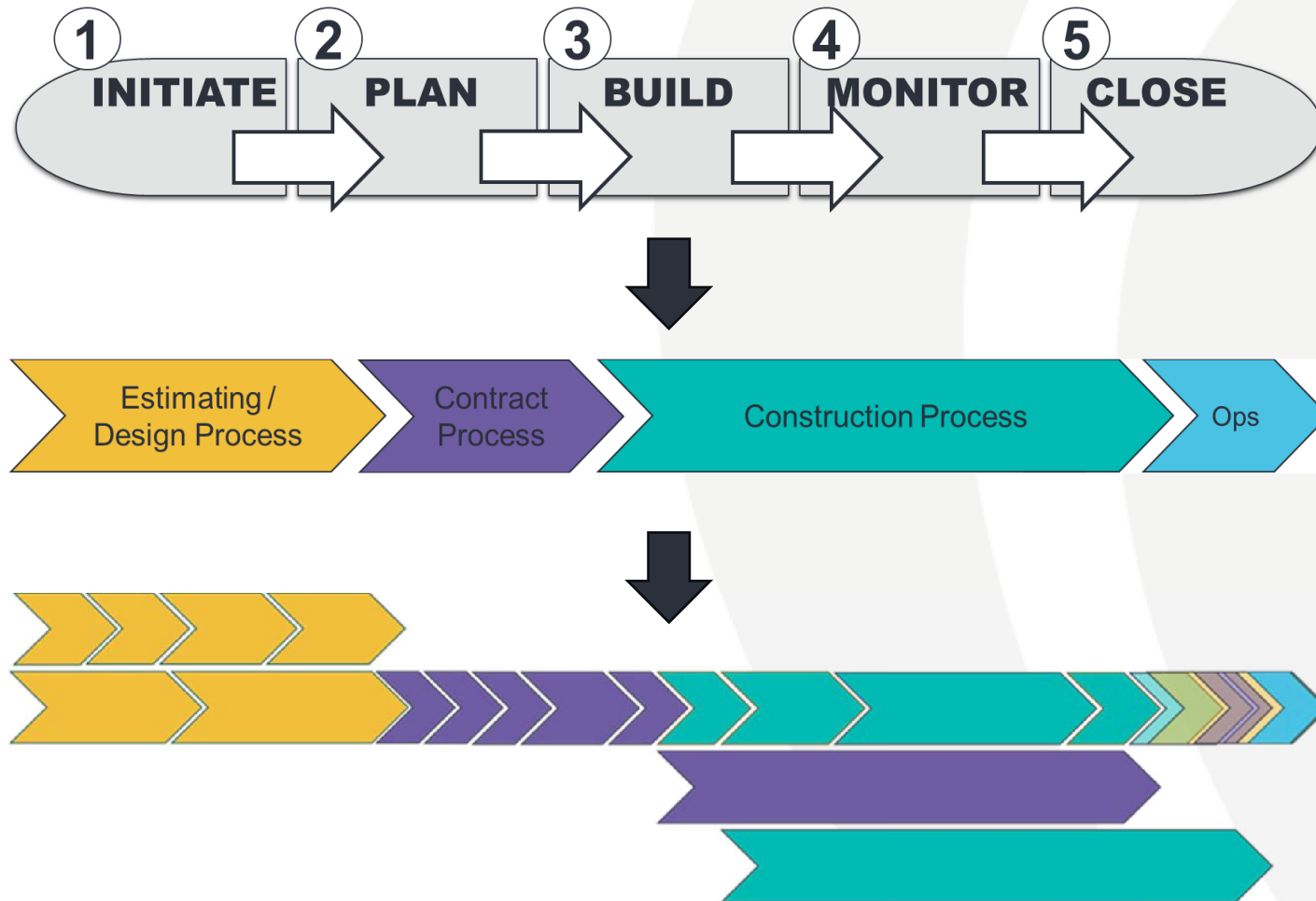
What is the challenge?

Sample of Baker Tilly construction audit findings in 2023:

- Found \$400,000 mis-use of project contingency by a contractor on a \$3 million renovation
- Identified multiple instances at 2 different campuses where project managers were approving pay applications without backup
- Found \$250,000 in miscalculated and duplicate fees paid to a contractor on a \$16 million dorm project
- Identified lack of contractual mechanisms in place to control contractors' compliance with the schedule (No executed contract contained industry-standard contractor expectations at the time of our finding)

What is the challenge?

Going from reactive and reliant to proactive and resilient:



Capital projects are complex beasts with challenges and nuances at every point which can potentially impact the overall ROI.

Too often, project oversight loses clarity after the planning phase.

The background image shows a construction site with workers in hard hats and safety gear. One worker is in the foreground looking at blueprints, while another is in the background working on a structure. The image is overlaid with a semi-transparent teal color and several overlapping circular shapes of varying shades of teal.

Part two **Why is monitoring important?**

WHERE THE PROJECT IS WON OR LOST

Why is monitoring important?

Key aspects of effective project monitoring:

Improved ROI

Focuses on return on investment (ROI) and positive outcomes

Data-driven decisions

Promotes better informed decision making and stakeholder communication

Proactive risk management

Creates proactive, not reactive, risk management environment



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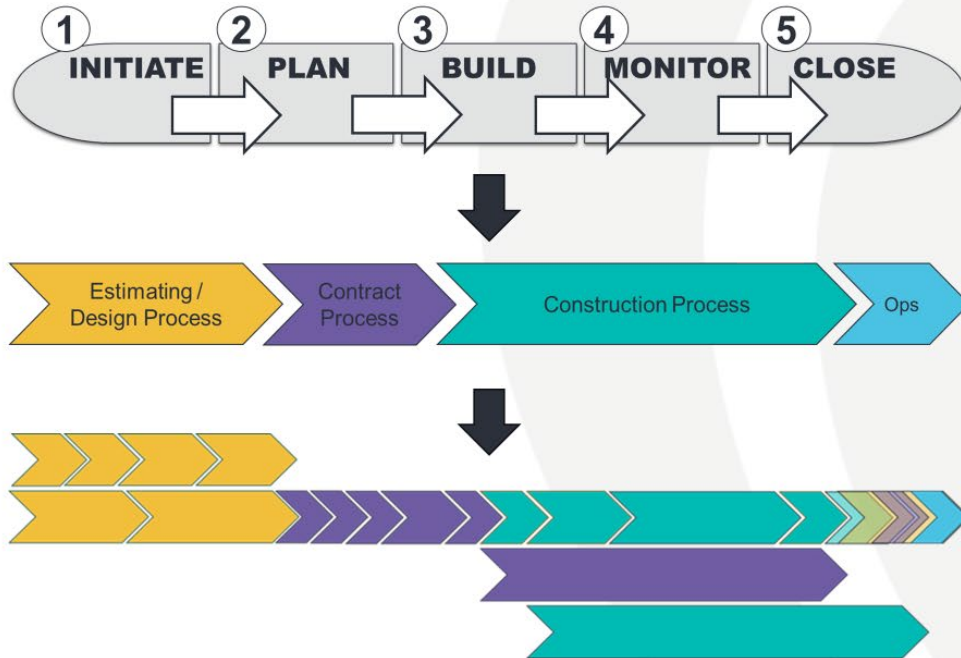
Why is monitoring important?

Improved project ROI:

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What is the challenge?

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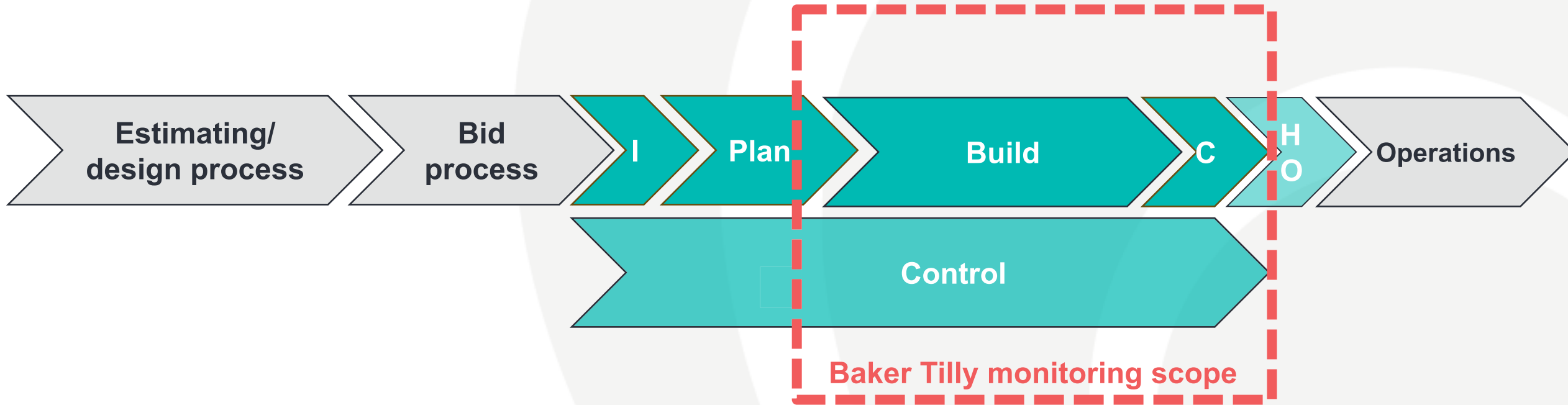
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Why is monitoring important?

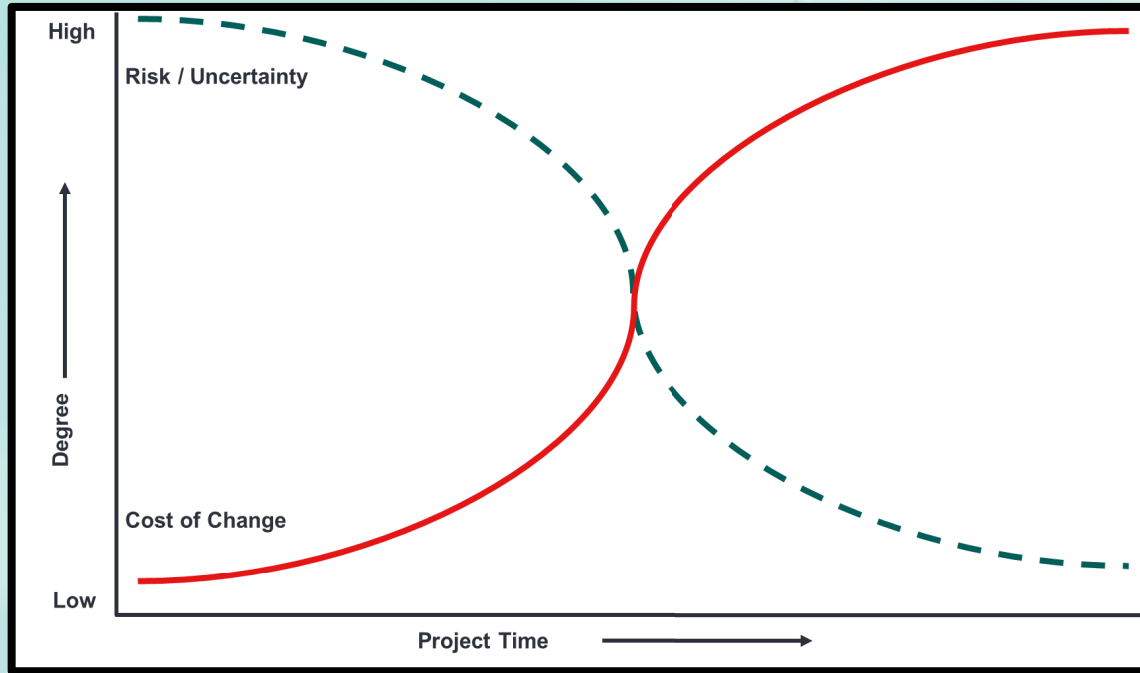
Improved project ROI:



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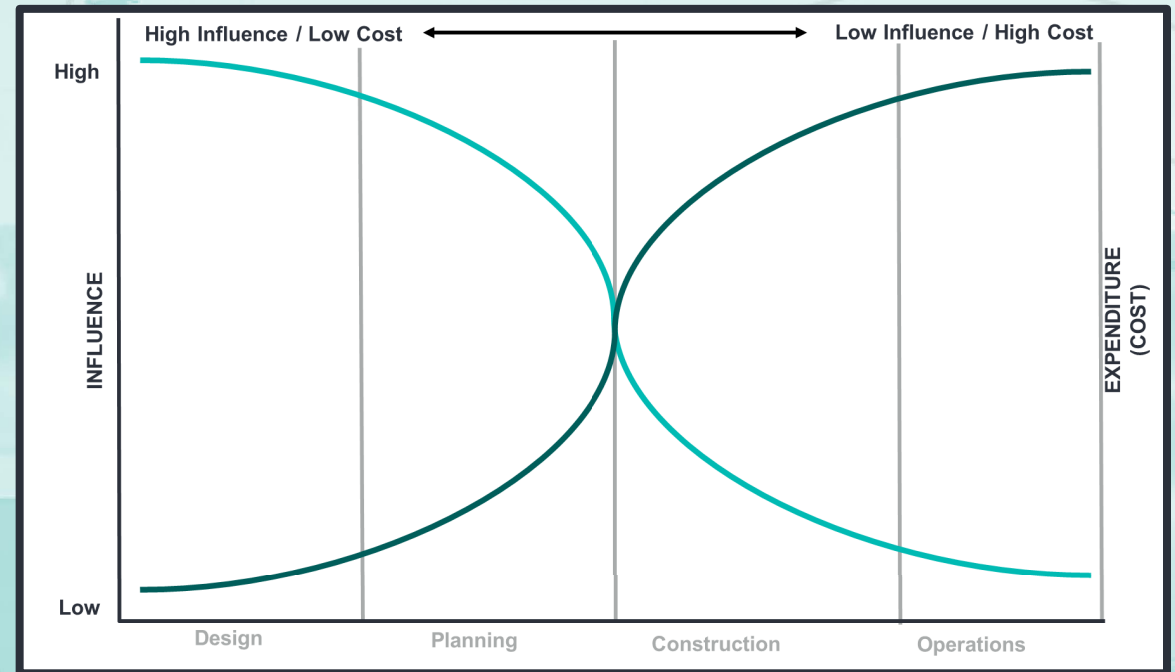
Why is monitoring important?

Improved project ROI:



Risk and cost correlation

Influence and cost correlation



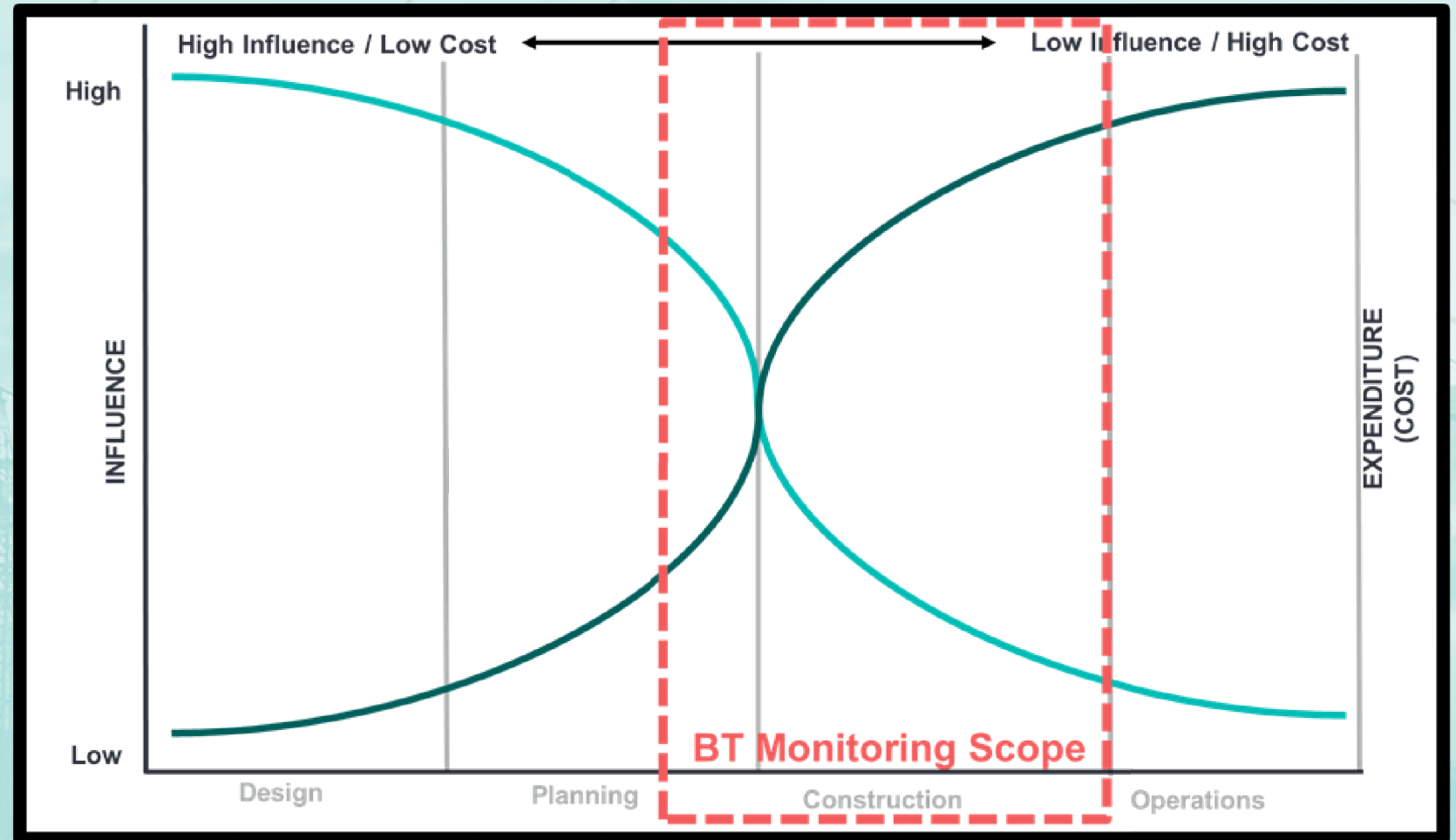
WHERE THE PROJECT IS WON OR LOST

Why is monitoring important?

Data-driven decision making:

Baker Tilly's monitoring effort is meant to give our client piece of mind during the most critical stage of a project.

Leading to better informed decision making, when every change is costly.



WHERE THE PROJECT IS WON OR LOST

Why is monitoring important?

Proactive risk management:

Contractor
progress

Cost/schedule
/forecast tracking

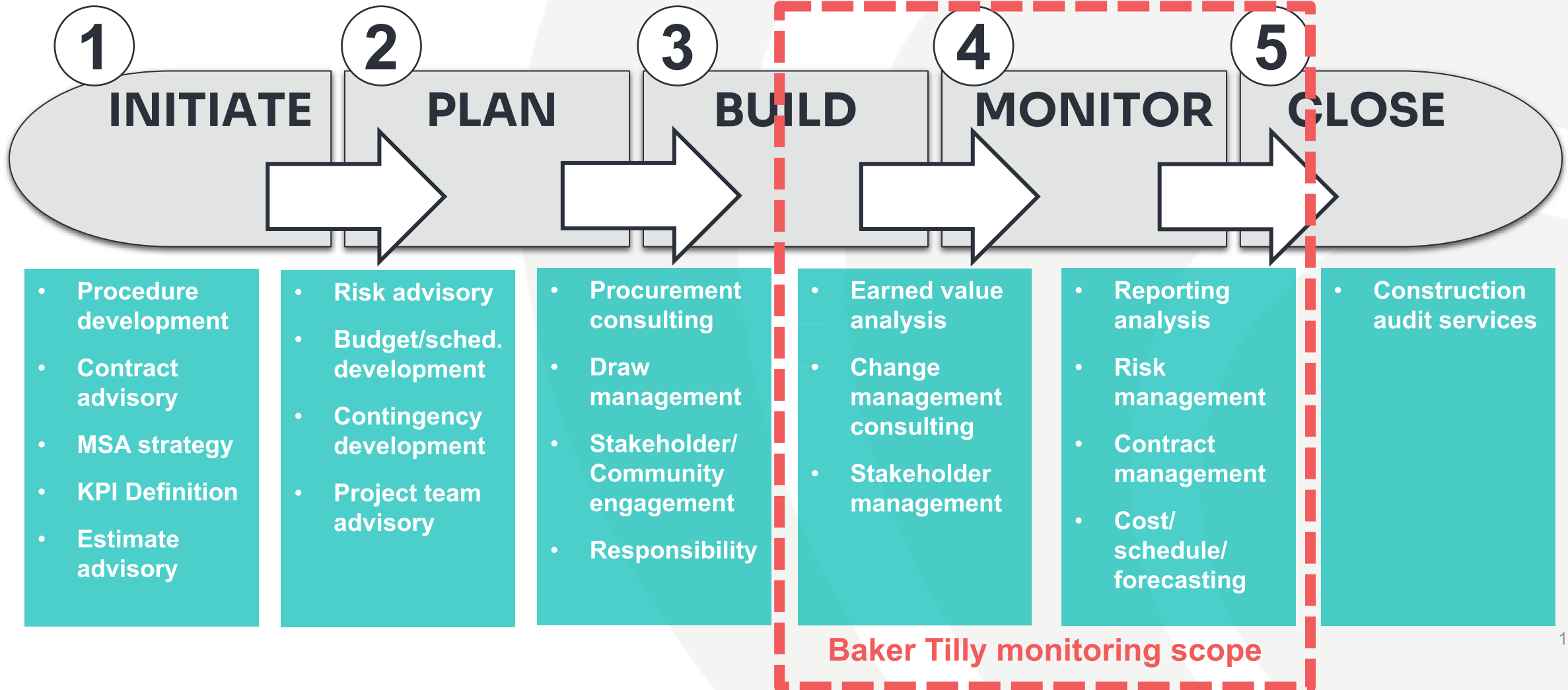
Identify early
warning signs

The goal is **NO SURPRISES!**

WHERE THE PROJECT IS WON OR LOST

Why is monitoring important?

The goal is no surprises:



The background image shows a construction site with workers in hard hats and safety gear. One worker is kneeling and looking at blueprints, while another is standing nearby. The scene is overlaid with several large, semi-transparent teal circles of varying sizes, creating a modern, layered aesthetic.

Part three

How can Baker Tilly help?

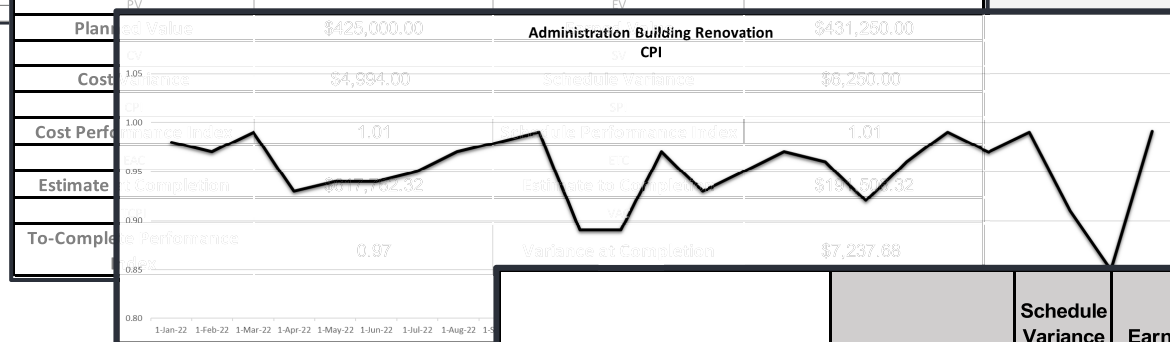
WHERE THE PROJECT IS WON OR LOST

How can Baker Tilly help?

Our approach to project monitoring:

| Project Name | Department | Status | Original Budget | Current Budget | Actual Costs (To Date) | Original Completion Date | Estimated Completion Date | Actual % Complete | Planned % Complete |
|------------------------------------|---------------------------------------|-----------------|-----------------|----------------|------------------------|--------------------------|---------------------------|-------------------|--------------------|
| Administration Building Renovation | Facilities | In Construction | \$ 1,800,000 | \$ 2,050,000 | \$ 1,985,642 | November-23 | February-24 | 96% | 100% |
| New Dining Facility | Student Housing | In Construction | \$ 1,000,000 | \$ 1,269,042 | \$ 913,710 | July-24 | July-24 | 74% | 72% |
| Bonham Pavilion Upgrades | Athletics | In Construction | \$ 625,000 | \$ 625,000 | \$ 506,250 | May-24 | April-24 | 86% | 81% |
| Architecture Building Renovation | College of Architecture | In Construction | \$ 19,500,000 | \$ 29,562,342 | \$ 17,698,421 | July-24 | August-24 | 49% | 50% |
| McCartney Hall Upgrades | Facilities | In Construction | \$ 256,000 | \$ 235,256 | \$ 145,278 | July-24 | May-24 | 56% | 35% |
| Mechanical Engineering Renovation | College of Engineering | In Construction | \$ 7,900,000 | \$ 8,456,321 | \$ 7,856,321 | December-23 | March-24 | 89% | 100% |
| Museum East Wing Addition | Facilities | In Construction | \$ 12,000,000 | \$ 12,000,000 | \$ 10,888,020 | May-24 | May-24 | 83% | 86% |
| Hendrix Theatre | College of Visual and Performing Arts | In Construction | \$ | \$ | \$ | | | | |
| School of Veterinary Medicine | School of Veterinary Medicine | In Construction | \$ | \$ | \$ | | | | |
| Stadium Renovation | Athletics | In Construction | \$ | \$ | \$ | | | | |
| Soccer Facility Upgrades | Athletics | In Planning | \$ | \$ | \$ | | | | |
| Engineering Renovation | College of Engineering | In Construction | \$ | \$ | \$ | | | | |
| Floyd Hall Renovation | Facilities | In Construction | \$ | \$ | \$ | | | | |
| Lab Upgrades | College of Medicine | In Construction | \$ | \$ | \$ | | | | |

| Current Budget | Actual Spend to Date | Actual % Complete | Planned % Complete |
|----------------|----------------------|-------------------|--------------------|
| \$625,000.00 | \$426,256.00 | 69.00% | 68.00% |



| Project Name | Budget Variance | Schedule Variance (Weeks) | Earned Value (EV) | Estimate at Completion (EAC) | Cost Perf. Index (CPI) | Sched. Perf. Index (SPI) | TCPI | Risk Level |
|------------------------------------|------------------------|---------------------------|-------------------|------------------------------|------------------------|--------------------------|-------------|------------|
| Administration Building Renovation | \$ (250,000) | 10 | \$ 1,968,000 | \$ 2,068,377 | 0.99 | 0.96 | 1.27 | Yellow |
| New Dining Facility | \$ (269,042) | 0 | \$ 939,091 | \$ 1,234,744 | 1.03 | 1.03 | 0.93 | Green |
| Bonham Pavilion Upgrades | \$ (36,000) | -8 | \$ 537,500 | \$ 588,663 | 1.06 | 1.06 | 0.74 | Green |
| Architecture Building Renovation | \$ (10,062,342) | 1 | \$ 14,485,548 | \$ 36,119,227 | 0.82 | 0.98 | 1.27 | Yellow |
| McCartney Hall Upgrades | \$ 20,744 | -12 | \$ 131,743 | \$ 259,425 | 0.91 | 1.60 | 1.15 | Yellow |
| Mechanical Engineering Renovation | \$ (556,321) | 13 | \$ 7,526,126 | \$ 8,827,327 | 0.96 | 0.89 | 1.55 | Yellow |
| Museum East Wing Addition | \$ - | 0 | \$ 9,960,000 | \$ 13,118,096 | 0.91 | 0.97 | 1.83 | Yellow |
| Hendrix Theatre | \$ 1,424,663 | -4 | \$ 13,909,722 | \$ 16,552,387 | 1.27 | 1.27 | 0.71 | Green |
| School of Veterinary Medicine | \$ (25,562,892) | 39 | \$114,262,232 | \$ 135,783,398 | 0.92 | 0.91 | 5.65 | Red |
| Stadium Renovation | \$ (1,603,407) | 0 | \$ 7,992,896 | \$ 9,071,522 | 1.04 | 1.04 | 0.83 | Green |
| Soccer Facility Upgrades | \$ (2,187,619) | 0 | \$ 1,609,381 | \$ 64,375,238 | 0.50 | 0.50 | 1.06 | Green |
| Engineering Renovation | \$ (3,200,692) | 26 | \$ 6,992,526 | \$ 11,165,384 | 0.82 | 0.76 | 3.09 | Red |
| Floyd Hall Renovation | \$ (7,564,892) | 35 | \$ 20,190,233 | \$ 47,685,310 | 0.68 | 0.62 | 4.12 | Red |
| Lab Upgrades | \$ 27,000 | 3 | \$ 431,250 | \$ 617,762 | 1.01 | 1.01 | 0.97 | Green |
| Total | \$ (49,820,800) | 7 | | | 0.92 | 0.97 | 1.80 | |



WHERE THE PROJECT IS WON OR LOST

How can Baker Tilly help?

Our approach to project monitoring:

Without requiring additional software or resources, Baker Tilly can take existing client project data and build out an action plan in a matter of days. This is an example of all we need to get started

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| Museum East Wing Addition | Facillities | In Construction | \$ 12,000,000 | \$ 12,000,000 | \$ 10,888,020 | May-24 | May-24 | 83% | 86% |
| Hendrix Theatre | College of Visual and Performing Arts | In Construction | \$ 22,500,000 | \$ 21,075,337 | \$ 10,924,575 | September-24 | August-24 | 66% | 52% |
| School of Veterinary Medicine | School of Veterinary Medicine | In Construction | \$ 100,000,000 | \$ 125,562,892 | \$ 123,562,892 | August-23 | May-24 | 91% | 100% |
| Stadium Renovation | Athletics | In Construction | \$ 7,800,000 | \$ 9,403,407 | \$ 7,710,794 | June-24 | June-24 | 85% | 82% |
| Soccer Facility Upgrades | Athletics | In Planning | \$ 30,000,000 | \$ 32,187,619 | \$ 3,218,762 | November-24 | November-24 | 5% | 10% |
| Engineering Renovation | College of Engineering | In Construction | \$ 6,000,000 | \$ 9,200,692 | \$ 8,485,692 | September-23 | March-24 | 76% | 100% |
| Floyd Hall Renovation | Facillities | In Construction | \$ 25,000,000 | \$ 32,564,892 | \$ 29,564,892 | August-23 | April-24 | 62% | 100% |
| Lab Upgrades | College of Medicine | In Construction | \$ 652,000 | \$ 625,000 | \$ 426,256 | May-24 | May-24 | 69% | 68% |



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How can Baker Tilly help?

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Communication with stakeholders and/or contractors is driven from a place of confidence

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| Bonham Pavilion Upgrades | \$ (36,000) | -8 | \$ 588,663 | \$ 588,663 | 1.06 | 1.06 | 0.74 | Yellow |
| Architecture Building Renovation | \$ (10,062,342) | 1 | \$ 14,611,922 | \$ 16,119,227 | 0.82 | 0.98 | 1.27 | Yellow |
| McCartney Hall Upgrades | \$ 20,744 | -12 | \$ 259,425 | \$ 259,425 | 0.91 | 1.60 | 1.1 | Green |
| Mechanical Engineering Renovation | \$ (556,321) | 13 | \$ 7,526,126 | \$ 8,827,327 | 0.96 | 0.89 | 1.5 | Yellow |
| Museum East Wing Addition | \$ - | 0 | \$ 9,960,000 | \$ 13,000,000 | 0.77 | 0.77 | 1.8 | Yellow |
| Hendrix Theatre | \$ 1,424,663 | -4 | \$ 13,909,722 | \$ 16,000,000 | 0.88 | 0.77 | 0.7 | Red |
| School of Veterinary Medicine | \$ (25,562,892) | 39 | \$ 114,262,232 | \$ 135,000,000 | 0.84 | 0.84 | 5.65 | Red |
| Stadium Renovation | \$ (1,603,407) | 0 | \$ 9,000,000 | \$ 9,000,000 | 0.94 | 0.83 | 1.06 | Green |
| Soccer Facility Upgrades | \$ (2,187,619) | 0 | \$ 609,381 | \$ 64,375,238 | 0.50 | 0.50 | 1.06 | Green |
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| Total | \$ (49,820,800) | 7 | | | 0.92 | 0.97 | 1.80 | |

Large variances could indicate a potential issue with estimates

Understand at a glance what it will take to finish successfully

Use Earned Value data to frame change order discussions

Track performance numbers and EAC across periods to identify trends and mitigate risks

Triage projects most at risk, and dive into KPIs to adjust management of future projects

Schedule data can be used to justify perceptions of projects "always running over"



Baker Tilly's construction audit resource center

Scan the code to download our complimentary resources!



- **NEW:** Construction audit blueprint, a construction risk management video series
- Sample audit checklists, templates and tools
- Construction audit essential e-book
- On-demand contract controls and audit webinar series



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