

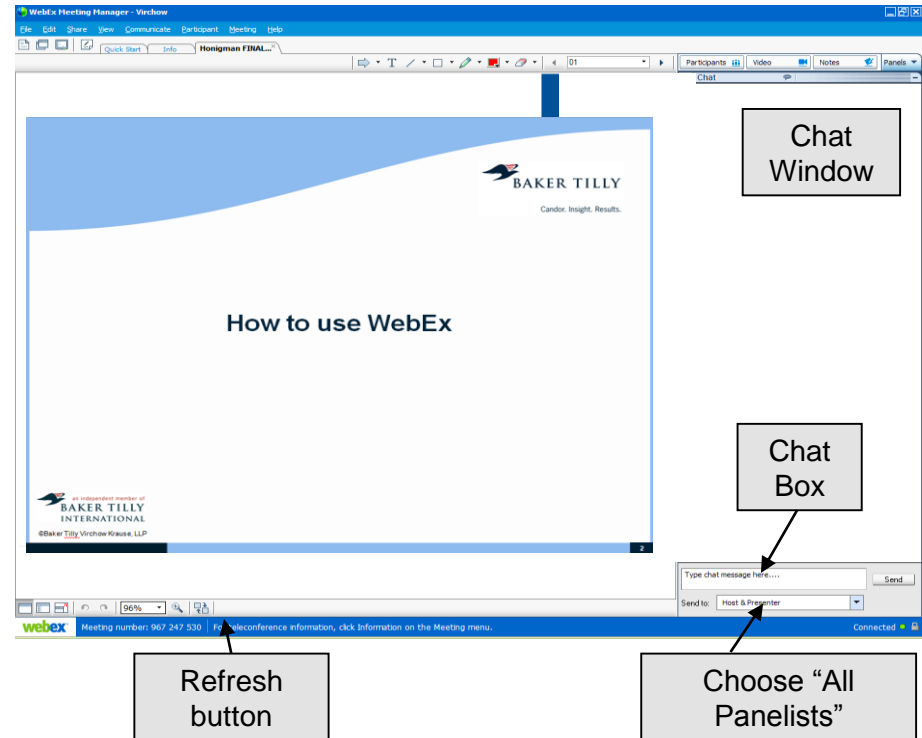
Construction Auditing:

Where to Start and How to Make It Work for Your Organization

The information provided here is of a general nature and is not intended to address the specific circumstances of any individual or entity. In specific circumstances, the services of a professional should be sought.

Jana Clark
ACUA Distance Learning Director
Senior Internal Auditor, Kansas State University

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**Sandy Jansen, CIA, CCSA,
CRMA**

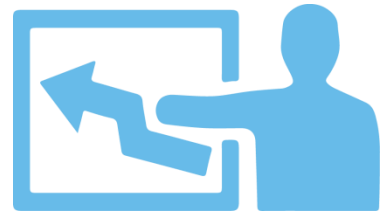
Executive Director
University of Tennessee



Tony Ollmann, CPA, CCA

Firm Director
Baker Tilly

- > Share recent **trends, terminology, and key considerations** for starting a construction audit
- > Identify gaps in current **pre-construction activities** and owner's responsibilities
- > Evaluate **how internal audit can participate** most effectively in pre-construction activities and create a collaborative work environment with development parties



Why are you here today?

- A. To enhance my knowledge of construction auditing
- B. Because I am responsible for an upcoming construction audit
- C. I am interested in learning more about how I can contribute to upcoming construction projects at my institution
- D. Construction audit is a current “hot topic”, and I’m curious to learn more!

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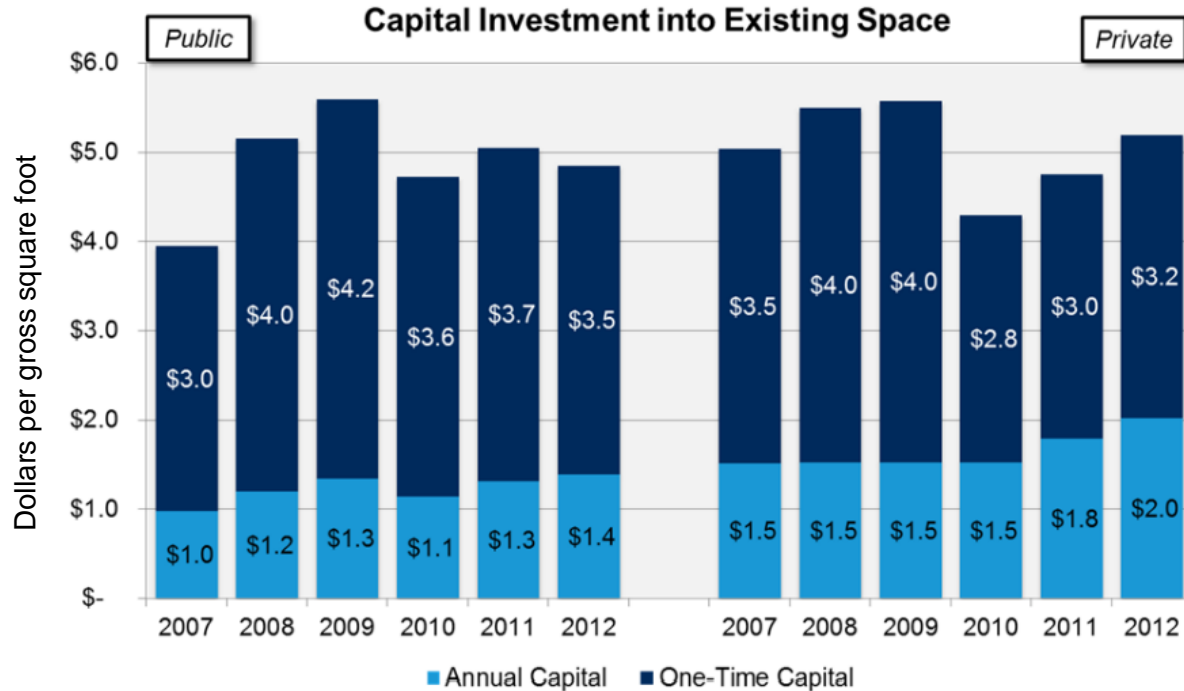
Colleges and universities are shifting focus to:

- > Utilizing **innovative, hands-on learning spaces**, instead of traditional classroom space
- > Creating facilities that **emphasize social involvement** with learning spaces (e.g., student unions, residence halls)

Cuts in federal and state funding for higher education and research:

- > Result in budget constraints, leading some institutions to consider **alternative methods of financing** major construction projects
- > Increase the need for **effective and controlled spending**

Construction trends within higher education



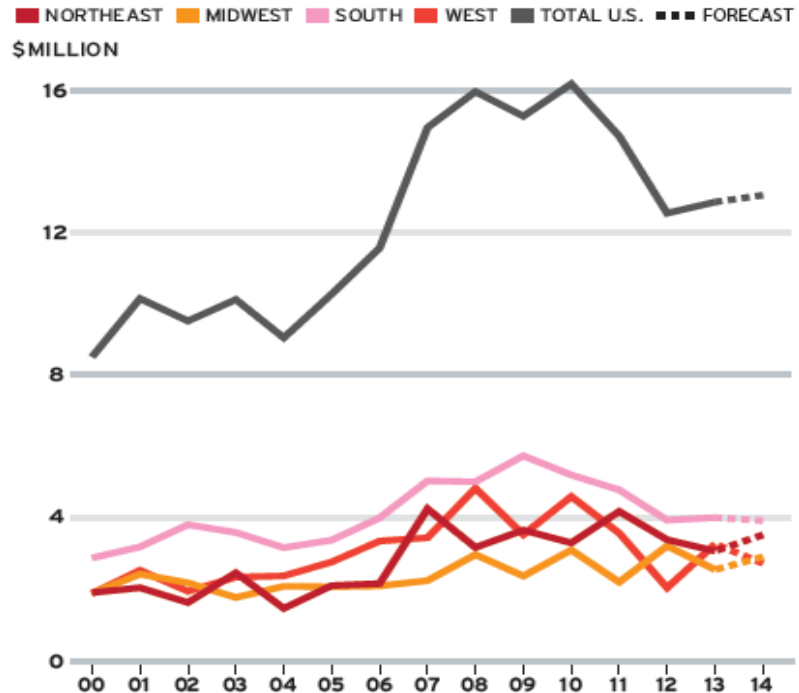
- > Colleges and universities have **high levels of capital spending**
- > Reduced support and willingness of government and campuses to add further bond debt increases the need for effective spending

Source: *The State of Facilities in Higher Education: 2013 Benchmarks, Best Practices, & Trends*

There has been a gradual rebound in construction work as the stock market improves and higher education institutions look to increase gifts and endowments

Higher-Education Starts by Region

In addition to U.S. total and 2014 forecast figures



An audit can:

- > Serve as a **risk management tool** with construction procedures
- > Provide **assurance** that university money is handled properly
- > Assist in **minimizing project construction costs**
- > Identify improvement opportunities concerning project control and construction cost recovery
- > Refine provisions within the contract to address risk
- > Help **establish policies and procedures** for monitoring processes related to the owner or contractor

Understand the environment

- > **Who is responsible** for the construction activity?
- > How does the construction activity fit into the institution's strategy?
- > Is management prepared to prioritize the audit?
- > Does the institution have the **right resources** to address the audit recommendations?
- > What parts of the **construction lifecycle** would you be auditing?



Evaluate internal resources and capabilities

- > Does the internal audit team have the **technical knowledge** to conduct the audit?
- > How do you **plan for and determine the timing** of the audit?
- > What **technical resources** are available to the team?



Create a collaborative environment

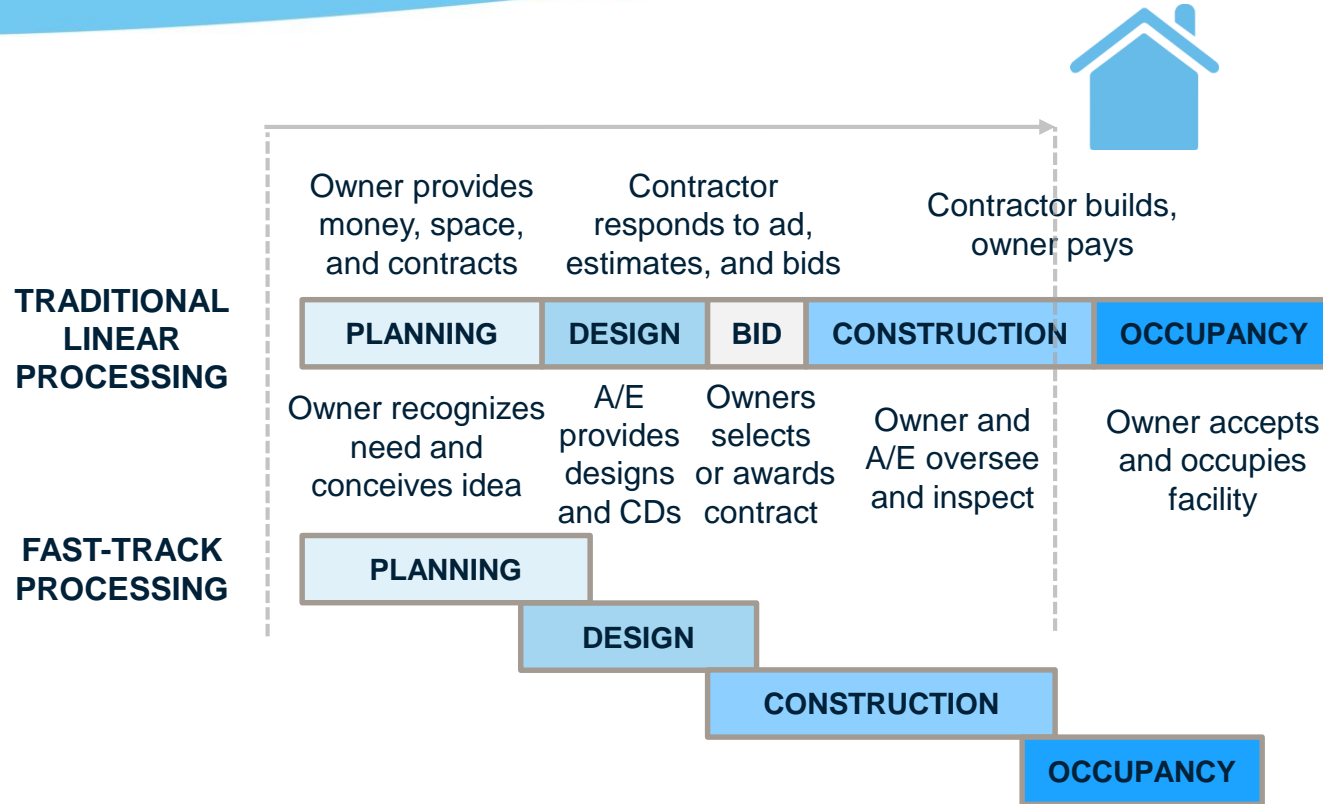
- > Demonstrate a working knowledge of construction
 - Learn to **speak the language** of construction and contractors
 - Provide **real-time feedback** to help prevent compliance issues
- > **Commit resources** to the construction project from the beginning
- > **Be responsive** to prevent delaying the construction process
- > Recognize the limitations of other construction professionals to fulfill compliance responsibilities



My internal audit department:

- A. Has the ability and experience to support pre-construction and ongoing construction activities currently
- B. Is too busy with other activities to actively engage with construction activities right now
- C. Co-sources with a third party to support construction controls reviews
- D. Does not perform construction audits

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Owner Responsibilities

Owner's Rep

Internal Control

Architect

Construction Manager

Pre-Construction

- Feasibility & Design
- Contractor Selection
- Contracting Process
 - Pricing Provisions
 - Change Order Pricing
 - Contingency Budget Control
 - Allowable and Non-allowable Expenses
 - Owner's Right to Audit
- Estimating

Construction

- Change Order Control
- Change Order Pricing
- Progress Reporting
- Change Order Scope
- Project Controls
 - Budget Reporting
 - Cash Flow Reporting
 - Estimate to Complete
- Contract Accounting
- Schedule Management
- Business Ethics Compliance
- Document Compliance Requirements
- Design, Plan & Spec. Compliance
- Contract Compliance Pricing
- Contract Compliance Service Provided

Post-Construction

- Financial Reconciliation
- Shared Savings Calculations
- Contingency Reconciliation
- Allowances & Credits Reconciliation
- Closeout Reporting/Cost Audit
- Final Walk-through Punch List

	Owner's Rep	Internal Control	Architect	Construction Manager
Feasibility & Design	█		█	
Contractor Selection	█	█	█	
Contracting Process	█	█	█	█
Pricing Provisions		█		
Change Order Pricing		█		
Contingency Budget Control		█		
Allowable and Non-allowable Expenses		█		
Owner's Right to Audit		█		
Estimating			█	█
Change Order Control	█	█	█	█
Change Order Pricing		█		█
Progress Reporting			█	█
Change Order Scope	█	█		█
Project Controls	█	█		
Budget Reporting	█	█		
Cash Flow Reporting	█	█		
Estimate to Complete	█	█		
Contract Accounting	█	█		
Schedule Management			█	█
Business Ethics Compliance		█		
Document Compliance Requirements		█		
Design, Plan & Spec. Compliance			█	
Contract Compliance Pricing		█		
Contract Compliance Service Provided		█		
Financial Reconciliation	█	█		█
Shared Savings Calculations		█		
Contingency Reconciliation		█		
Allowances & Credits Reconciliation		█		
Closeout Reporting/Cost Audit		█		
Final Walk-through Punch List	█		█	█

How familiar are you with construction terminology?

- A. Very familiar; I could have a fast paced conversation with my university's construction team
- B. Familiar; I would benefit from a brush up on key terms and risks
- C. Unfamiliar with key terms and risks
- D. None of the above

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Competitive Bid



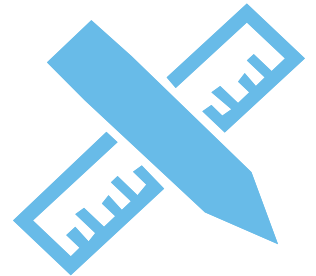
Negotiated



Master Services Agreement

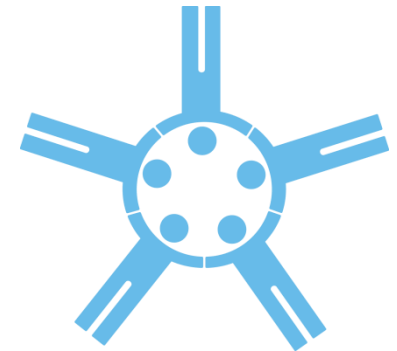
Contract types

- > Lump sum (stipulated sum or fixed price)
- > Guaranteed maximum (GMAX or GMP)
- > Unit price
- > Time & material
- > Cost plus fixed fee or cost plus percentage fee



Contracting methods

- > Competitive bid
- > Negotiated
- > Construction management at risk
- > Construction management not at risk
- > Prime contracting
- > Direct contracting



Project delivery methods

- > Design > bid > build
- > Design > build
- > Integrated project delivery



Financial terms

- > Labor burden rates
- > Overhead rates
- > General conditions
- > Procurement burden and mark-up
- > Overbilling
- > Aggressive billing
- > Value engineering



Key risks of this stage

- > Stakeholder identification
- > Architect selection
- > Delineation of needs and wants
- > Conflicting pragmatic and political objectives
- > Note: Architects and engineers are not typically “bid” but are selected based upon their technical qualifications



Example: A recently constructed research center (\$40M) put “flash and finish” ahead of work flow and total cost of ownership. This resulted in:

- > Very pretty building
- > Operating costs per square foot **30 percent higher** than buildings built 20 years prior
- > Subsequent 1% (\$400,000) capital expenditure to replace building environmental controls



Key activities of this stage

- > Establish technical qualifications (facility's responsibility)
- > Assemble bid package with specifications (facility's responsibility)
- > Request financial package:
 - Cash report
 - Credit references
 - Audited or reviewed year end financials
 - Current financials
 - Work in process (WIP) schedule
 - Backlog schedule
 - List of recent layoffs



Key activities of this stage, continued

- > Indicators of financial weakness
 - Significant changes in owner's equity
 - Weak cash position
 - Repeated late payments to suppliers
 - Outstanding and recent contractor's liens
 - Refusal to supply financial information, especially if it is the current financial statement
- > Mitigation strategy: **Request a performance bond.** The bond underwriter will also closely examine the financial strength of the contractor before underwriting the project
- > Caution: **Performance bonds do not mitigate all risks.** An owner will not be reimbursed for time delays, cost of rework, additional internal efforts, or cost of capital

Key risks of this stage

- > Selecting a contractor that is unqualified or does not have the financial stability to deliver the project and support its warranty obligations

Example: A financially weak contractor may result in suppliers and subcontractors not getting paid. The impact to the owner is significant:

- > Liens against the building may prevent occupancy
- > Construction delays until subcontractors and suppliers are paid
- > Reluctance or refusal by professionals to work on the project
- > Lost discounts and credits, even late payment penalties
- > Impact to owner's credit rating

Key activities

- > Determining contract method
- > **Negotiating contract terms**, conditions, and provisions

Risks

- > **Paying too much** for the building
- > Restricting the owner's ability to **control financial risk**
- > Empowering the contractor to legally take advantage of the owner



Lump sum

- > Usually **less than \$10 million**
- > Facility is **fully designed**
- > Designs are simple and often a duplicate of another campus facility
- > There are fewer unknowns that lead to change orders

Benefits

- > **Known financial commitment**
- > Less owner's administrative burden
- > Less risk of scope creep and budget overrun

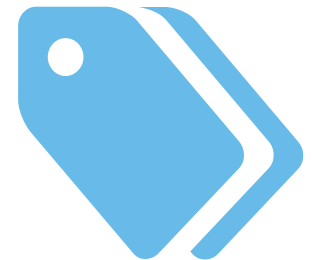


Guaranteed maximum price (GMP)

- > Usually used on **larger projects**
- > Project nature is **complex with unknowns**
- > Often coupled with a concurrent design process

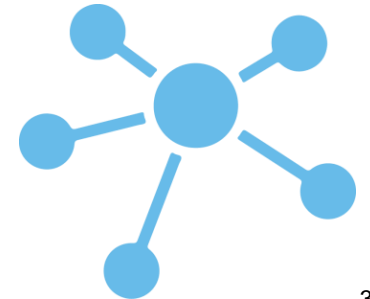
Benefits

- > Establishes a **not-to-exceed price**
- > Enables the owner to benefit from value added engineering, price reductions, and well-managed procurement
- > Enables the owner to select and contract with the contractor while still designing the facility



GMP, continued – disadvantages

- > Requires a **more complex contract** that specifies as much as possible
- > Burdens the owner with **more project management** and administration
- > Project complexity leads to more opportunity for aggressive or abusive behavior
- > Contractors like to believe that their budget is the entire maximum price



Cost plus or time & material contracting

- > Usually found in **highly complex and very large projects** or extremely small maintenance projects
- > Unable to determine or estimate the overall project cost
- > Projects typically last many years
- > Used on projects such as nuclear power plants and refineries

Benefits

- > Enables an owner to **segment a very large project** into multiple smaller projects
- > **Advances the construction timetable** so that progress is made on simple phases while engineering continues on more complex phases

Unit price contracts

- > Typically used in a utility setting or type of service
- > Limited application, used on projects like underground piping and road construction
- > Establish a **rate price for each type of service** to be delivered
- > **Unit price for each segment of work** includes all direct and indirect construction costs

Benefits

- > **High degree of control** over scope and pricing
- > Change orders are easier to calculate



Starting point: American Institute of Architects (AIA) contracts



**The American
Institute
of Architects**

AIA is written to favor the architect and contractor, not the owner, and should only be considered a **starting point**

Is the relationship between Internal Audit, General Counsel, and Facilities at your university...

- A. Collaborative; we meet often and on a regular basis
- B. Ad hoc; we meet as we determine it is necessary
- C. We do not interact as a team frequently
- D. None of the above

Please respond using the radio buttons in the WebEx screen to the right

Provisions that apply to all contracts:

- > **Change order process** for scoping, pricing, and approval
- > Process for handling owner **allowances and credits**
- > Process and pricing for **reduction in work scope**
- > Process for using and reporting contingency budget
- > Progress **reporting**
- > Business ethics and professional **conduct**
- > Insurance, guarantee, and warrant requirements
- > **Right to audit** clause



Provisions that are most applicable to GMP and cost plus:

- > **General conditions fees** and definition of what this covers
- > Construction management fee and definition of **allowable and non-allowable construction costs** in the formula
- > Trade, craft, and professional rate schedules
- > Allowable **pass through expenses**
- > Established labor and overhead burden rates
- > **Shared savings** calculation
- > Self-performed work (bidding, pricing, reporting)



Key risks

- > Donations and contractor preference
- > Unethical bidding practices
- > Kickbacks
- > Courtesy bids are not competitive bids

Example: The prime contractor is also a concrete and masonry contractor and intends to bid on this phase of work. The other subcontractors in the market do not believe that they will have a legitimate chance to win the work and do not submit their “best” price for the work. The prime’s bid is lowest and they are awarded the concrete work, even though this may not have been the lowest price achievable.

Action items

- > Establish contracting **goals and objectives**
- > Establish development team's **roles and responsibilities**
- > Determine subcontracting methodology
- > Develop contractor **qualification criteria**
- > Establish bidding process
- > Develop bid **award criteria**
- > Develop owner communication requirements
- > Develop project performance **reporting requirements**
- > Develop project cost and financial reporting requirements
- > Develop owner's **right to audit** requirements

This must be reviewed by your legal counsel prior to implementation:

Right to Audit

Availability of Records. The records of the parties to this Agreement relating to the Project, which shall include but not be limited to accounting records (hard copy, as well as computer readable data if it can be made available; subcontract files (including proposals of successful and unsuccessful bidders, bid recaps, bidding instructions, bidders list, etc); original estimates; estimating work sheets; correspondence; change order files (including documentation covering negotiated settlements); backcharge logs and supporting documentation; general ledger entries detailing cash and trade discounts earned, insurance rebates and dividends; any other supporting evidence deemed necessary by Owner to substantiate charges related to this agreement, and all other agreements, sources of information and matters that may in Owner's reasonable judgment have any bearing on or pertain to any matters, rights, duties or obligations under or covered by any contract document (all foregoing hereinafter referred to as "Records") shall be open to inspection and subject to audit and/or reproduction by Owner's representative and/or agents of Owner. Owner may also conduct verifications such as, but not limited to, counting employees at the job site, witnessing the distribution of payroll, verifying payroll computations, overhead computations, observing vendor and supplier payments, miscellaneous allocations, special charges, verifying information and amounts through interviews and written confirmations with employees, Subcontractors, suppliers, and contractors representatives. All records shall be kept for seven (7) years after Final Completion.

This must be reviewed by your legal counsel prior to implementation:

Right to Audit, continued

Flow down. CM/GC and Architect shall require that all of their payees (including Architect's Consultants, Subcontractors and Suppliers) comply with the provisions of the Right to Audit article by incorporating these requirements in all written contracts. This requirement to include flow down right to audit provisions in contracts with payees shall also apply to Subcontractors and Sub-Subcontractors, and Suppliers. CM/GC and Architect shall cooperate fully and will request all of their payees to cooperate fully in furnishing or in making Records available to Owner, provided, however, the CM/GC and Architect shall not be responsible for any failure of Architect's consultants, Subcontractors or Suppliers to comply with recordkeeping requirements after the date of Final Completion.

- > ACUA listserv
- > www.bakertilly.com/construction-audit-webinar
- > <http://www.theiia.org/>
- > <https://www.thenaca.org/>
- > <http://www.caacci.org/>
- > <http://rsmeans.reedconstructiondata.com/>
- > <http://www.auditnet.org/>



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- > **December 7th** – Nancy Nasca from Rochester Institute of Technology will present a webinar on Auditing for Title IX Compliance
- > **March 26th through March 29th** – 2017 ACUA Midyear Conference
 - Omni Austin Hotel Downtown
 - Austin, Texas

