

Welcome to SAO College 2011

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State Architect



Continuing Education



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Who or what is SAO?

- The Office of the State Architect and Engineer, also known in recent years informally as the State Architect's Office (SAO), is created by Section 121.04 of the Ohio Revised Code (ORC). The manager of this office is generally an Ohio registered architect.
- The mission of the State Architect's Office is to effectively and efficiently lead capital planning, design, and construction of public facilities through quality service, expertise, and knowledge sharing.

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History of the SAO

- Public Works was originally a Board formed for the purpose of building and maintaining Ohio's canal transportation system. Created in 1921, the Office of the State Architect and Engineer was originally established in the Department of Highways and Public Works, located in the Ohio-Hartman Building, formerly the Hartman Hotel, at 275 South Fourth Street.

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History of the SAO

- It was listed as the Division of Public Lands and Buildings in the 1923 Columbus City Directory. In 1927, the Department was split between Highways and Public Works. In 1930, the office was listed as the Division of Architects and Engineers in the Department of Public Works, and in 1933 moved to the new Departments of State Building, now the Ohio Judicial Center, at 65 South Front Street.

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History of the SAO

- In 1974, Public Works was "demoted" to a Division when the departments of Finance, State Personnel, and Public Works were reorganized into the Department of Administrative Services (DAS) and the Office of Budget and Management, and moved to the new State Office Tower, subsequently named for Governor James A. Rhodes, at 30 East Broad Street.

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History of the SAO

- It became an office in the General Services Division (GSD) of DAS in 1995, and the office moved to the General Services Center at 4200 Surface Road. After being located downtown since its inception, the office moved to the West side of Columbus just inside the I-270 outerbelt. For a short period of time in the late 1990s, it was known as the Office of Construction Management.

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History of the SAO

- Prior to the establishment of the Office of the State Architect and Engineer in 1921, the individual state Boards engaged outside architects and contractors to serve their construction needs on an ad hoc basis. Consolidation of authority in one agency allowed for consistency of policy and procedure, as well as standardized contracts and conditions.

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History of the SAO

- The Administrative Act of 1921 provided an architectural expert employed by the state, which allowed centralized planning and administration. In 1921, the only agency exempt from central administration was the Adjutant General. Over the years, this authority has eroded significantly, and state institutions of higher education have had varying degrees of interaction with the office.

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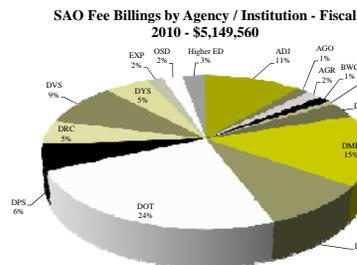
History of the SAO

| | | | |
|------------------------|-------------|------------------|-------------|
| Robert S. Harsh | 1921 - 1924 | George Hodge | 1981 - 1983 |
| Herbert B. Briggs | 1924 - 1929 | Lee Martin | 1983 - 1985 |
| T. Ralph Ridley | 1929 - 1931 | Carole Olshavsky | 1985 - 1989 |
| John P. Schooley | 1931 - 1940 | Jack Frost | 1989 - 1991 |
| Robert B. Schildknecht | 1940 - 1942 | Joe Busch | 1991 - 1994 |
| Thomas E. Brand | 1943 - 1944 | Randy Fischer | 1994 - 1997 |
| Floyd F. Glass | 1947 - 1948 | Roger B. Booker | 2000 - 2007 |
| H. G. Allen | 1948 - 1958 | Craig Weise | 2007 - 2011 |
| Carl E. Bentz | 1958 - 1978 | Lane J. Beougher | 2011 |
| Don Welsch | 1978 - 1981 | | |

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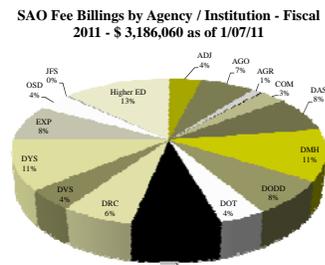
SAO Customers



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Advantage Ohio
Advantage Ohio
Advantage Ohio

Report of the
Ohio Construction Reform Panel
April 2009

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Amended Substitute House Bill 153

AN ACT

3264 pages / Operating Budget 14

Construction Reform

- Retains Multiple-Prime Design-Bid-Build project delivery as the default method of construction, but adds other options
- Removes limitations on Single-Prime Design-Bid-Build project delivery (General Contractor may be used at any dollar value)
- Allows Design-Build project delivery (single entity assumes risk for final design and construction of the facility including cost overruns)
- Allows Construction Manager at Risk project delivery (CM holds subcontracts and assumes risk for cost overruns)

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Construction Reform

- Enables selection of a Design-Build Firm or CM at Risk through a Best Value Selection process (combination of qualifications and price)
- Allows public authorities to authorize a Design-Build Firm or CM at Risk to utilize Design Assist Subcontractors (early engagement to facilitate coordination before construction begins)
- Enables Design-Build Firms and CM at Risk to execute a Guaranteed Maximum Price amendment when construction documents are at a sufficient level of detail (60-75 percent complete)

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Construction Reform

- Requires DAS to file rules for Best Value Selection process, and standards for criteria that Design-Build Firm and CM at Risk may use to prequalify subcontractors, and adopt the form of Contracts and Subcontracts
- Requires DAS to file rules for bonding requirements before Construction Reform provisions go into effect (earliest possible date is Dec. 15, 2011)
- Allows the new project delivery methods to be used by state agencies, state institutions of higher education, counties, townships, municipal corporations, school districts, or other political subdivisions (except Ohio Turnpike Commission)

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Capital Bill Forecast

- With no Capital Bill in the foreseeable future, H.B. 153 included \$50 million in emergency capital funds to be appropriated by the Controlling Board.
- Given the current economic condition of the State and the schedule of the General Assembly for the rest of this year, we are unaware of an effort to introduce a Capital Bill before 2012.
- We recognize that without funding, the new delivery methods will not save any money.

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Introduction to Energy Rules & Updates

Ramsey E. Najjar, P.E., LEED AP
SAO Energy Services Manager

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House Bill 251 126th General Assembly

- Amended O.R.C. Section 123.011(D) to require DAS to file rules that include:
 - Specifications for cost-effective, **energy efficiency and conservation standards** that govern the lease, design, construction, operation and maintenance of all state-funded facilities except state institutions of higher education;
 - Specifications for Life Cycle Cost Analysis;

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House Bill 251 126th General Assembly

- Specifications for Energy Consumption Analysis;
- Specifications for **energy performance indices** to be used to evaluate competing proposals;
- A requirement that, within two years, each state-funded facility, except state institutions of higher education, be managed by a **certified building operator**; and
- A waiver process for all of the above.

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House Bill 467 126th General Assembly

- Adopted the LEED rating system at the Silver level for **state-owned buildings** and school buildings owned by a local board of education.
- Required the **Director of Development** to adopt rules.
- H.B. 467 **did not** pass and was not adopted, nor reintroduced.
- H.B. 251 **passed** in the lame duck session and was adopted.

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Executive Order 2007-02s

- Begin implementing policies required by H.B. 251 immediately, **including developing rules to establish energy efficiency and conservation standards** for buildings.
- Develop **a tool for measuring energy consumption** for use by state agencies, including carbon footprint.
- Expired at end of Strickland Administration.

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Executive Order 2007-02s

- Each state agency, board, and commission must use the energy tool to audit its owned and leased facilities by June 2007. We actually accomplished this!
- Reduce energy consumption by 5% by the end of the first year of the next biennium [June 2008] and 15% by the end of four fiscal years [June 2011].

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Architecture 2030

- Founded by Ed Mazria, architect and passive solar expert from Santa Fe, New Mexico.
- Begins immediately with 50% reduction of energy consumption based on our existing building portfolio.
- Uses the EIA Commercial Building Energy Consumption Survey [CBECS] from 2003 as the baseline for the reduction goals.
- Increases by 10% every five years until we are building carbon neutral in 2030.
- Adopted by the National Governor's Association at their annual meeting in July 2009.

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Energy and Independence Security Act (EISA)

- Section 433 - Reduce green house gas emitting fossil fuel consumption of federal facilities by 50% over CBECS 2003 in new construction and major renovations:
 - 55% in FY2010
 - 65% in FY2015
 - 80% in FY2020
 - 90% in FY2025
 - 100% in FY2030
- Based on Architecture 2030 Goals *[passed]*

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H.R. 2454 - American Clean Energy & Security Act of 2009

- Requires 83% reduction [2005 levels] in green house gas emissions by 2050.
- Section 201 calls for building code reduction targets below baseline:
 - 30% beginning in 2010
 - 50% in 2014-15
 - 5% every three years up to 2029-30
- Based on Architecture 2030 Goals *[pending]*

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March 2007 - Sept. 2008

- Countless hours of research spent analyzing and harmonizing various strategies and guidance documents.
- Draft rules were distributed to the AIA Ohio Committee on the Environment, USGBC Cincinnati Regional Chapter, and our EPA consultant, The Cadmus Group, for review and comment.

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Meanwhile in Sept. 2007

- The Ohio School Facilities Commission acted on a study to evaluate the LEED rating system required by H.B. 251 and passed a resolution requiring LEED certification at the Silver level or above.
- They currently have 259 buildings registered with GBCI. Occupied buildings with plaques: 4 Silver & 7 Gold

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House Bill 7 128th General Assembly

A BILL

To enact section 153.013 of the Revised Code to require a building or structure erected or constructed using state capital moneys to adhere to certain sustainability standards.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF OHIO:

Section 1. That section 153.013 of the Revised Code be enacted to read as follows:

Sec. 153.013. Whenever any building or structure is to be erected or constructed using any state capital moneys, including moneys from the education facilities trust fund, the building or structure shall be certified as meeting at least the silver standard of the leadership in energy and environmental design green building rating system developed by the United States green building council.

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House Bill 7 128th General Assembly

- Introduced February 17, 2009
- A brief was filed by the Sierra Club and Ohio Chemistry Council, supported by Ohio USGBC Chapters and others.
- It added Green Globes and an ASHRAE **Energy Standard** to the mix. Standard number and year were unspecified.
- **Passed the House and died in the Senate.**
- **Reintroduced as House Bill 306 on 8/9/2011**

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House Bill 306 129th General Assembly

- Introduced August 9, 2011
- Any building & structure using state capital budget moneys shall meet **both** of the following:
 - Achieve at least one of the following bldg. standards: LEED Silver, Green Globes Level 2, Equivalent Standard determined by Director of DAS
 - Achieve at least one of the following energy efficiency standards: Exceed most current ASHRAE standard by 30%, achieve at least a 77 energy star rating.
 - Exemptions:
 - Building or structure < 5,000 SF
 - Building or structure that does not consume energy for HVAC
 - Building or structure with construction costs < \$500,000
 - Waiver can be requested if state capital moneys ≤ 10% of total construction cost

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Meet or Exceed Energy Consumption Standard

- New construction and major renovations shall be designed to a fossil-fuel greenhouse gas emitting, energy consumption performance standard of fifty per cent of the regional average for that building type.
- The fossil-fuel greenhouse gas emitting, energy consumption reduction standard for new buildings shall increase from fifty per cent of the regional average, in the following increments:
 - Sixty-five per cent for designs completed on and after January 1, 2015;
 - Eighty per cent for designs completed on and after January 1, 2020;
 - Ninety per cent for designs completed on and after January 1, 2025; and
 - One-hundred per cent for designs completed on and after January 1, 2030. [Carbon neutral or net zero energy]

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Meet or Exceed Energy Consumption Standard

- 50% less than regional average [CBECS 2003]
- 30% less than ASHRAE 90.1-2004
 - Current Ohio Building Code
 - 25% less than ASHRAE 90.1-2007
 - "New" Ohio Building Code (Nov. 2011)
- Meets goal of ASHRAE 90.1-2010 (90.1-2010 is 25% improvement over 90.1-2007)
- LEED Energy & Atmosphere Credit 1
 - New Buildings = 8 points
 - Existing Building Renovations = 10 points

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Meet or Exceed Energy Consumption Standard

- Use EPA Target Finder to evaluate modeled building performance v. target reduction goals for most uses.
- Use CBECS data to evaluate modeled building performance v. target reduction goals for other uses.
- If use is not available in either, the State Architect will set the target, using history in the state's Portfolio Manager account.

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Life Cycle Cost Analysis [LCCA]

- LCCA is required for state owned projects more than 5,000 square feet.
- The LCCA must be a primary consideration in the selection of a building design.
- A/E prepares LCCA alternatives during schematic design stage to evaluate:
 - Initial cost to construct [First cost]
 - Maintenance costs
 - Operational costs
 - Management costs
 - Expected useful life [usually 40 years]
 - Replacement costs
 - Energy consumption and performance [ECA]

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Energy Consumption Analysis [ECA]

- ECA is required for state leased space more than 20,000 square feet.
- The ECA must be a primary consideration in the selection of a facility to be leased.
- The ECA must consider:
 - Illumination
 - Electrical plug loads
 - Heating, cooling, ventilation, and controls
 - Architectural features [site orientation, daylight harvesting, etc.]

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Building Operator Certification Program

- 123:4-1-02 Definitions
 - (J) "Designated building operator" means a person or persons, certified by an approved training program and designated by a state agency, to be responsible for overseeing the energy-efficient maintenance and operational practices of one or more facilities managed by a state funded entity.
 - (K) "Building operator certification" means a nationally recognized professional development program, administered with oversight from a committee of advisors representing public and private sector employers of building operators. The building operator certification program is designed to provide training and certification on energy-efficient maintenance, operation, safety, and other best practices, including but not limited to indoor environmental quality and occupational safety and health administration regulations.

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Building Operator Certification Program

- 123:4-1-06(A) Each state funded entity that manages or operates facilities shall employ designated building operators to manage or operate its facilities as follows:
 - (1) State funded entities that manage or operate a single or stand-alone facility or campus shall assign at least one designated building operator to manage such facility or campus.
 - (2) State funded entities that manage or operate multiple facilities or campuses located in regions or districts throughout the state shall assign at least one designated building operator to manage such facilities or campuses in each region or district.
 - (3) State funded entities that manage or operate multiple facilities or campuses and provide centralized facility related direction or services to multiple centers or campuses shall assign at least one designated building operator to manage such multiple facility or campus locations.

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Tracking Energy Performance [Portfolio Manager]

- 123:4-1-06 (D) Each state agency shall enter the energy and water consumption of each facility into the energy audit tool within 30 days of receiving utility bills. Each facility entered into the energy audit tool shall be shared with the master account managed by the department of administrative services.
- 123:4-1-02 Definitions
 - (L) "Energy Audit Tool" means the web-based energy consumption tracking software adopted by the department of administrative services, which is currently energy star portfolio manager developed jointly by the U.S. department of energy and the U.S. environmental protection agency.

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New Regulations and Standards

- 2009 Department of Energy Regulations
 - New efficiency standards for linear & u-shaped fluorescent lamps and halogen PAR lamps
 - Effective date: July 14, 2012
 - Will eliminate all 4-ft. T12 lamps, all T12 2Ft. U-lamps, some 4-ft. T8 lamps, most 8-ft. T12 lamps & nearly all standard halogen PAR lamps from the marketplace

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New Regulations and Standards

- New ASHRAE Standard 189.1
 - Standard for the Design of High Performance Green Buildings
 - Adds to Standard 90.1 & 62.1 requirements
 - It provides technical content to LEED & compliance path for International Green Construction Code (IGCC - 2012)

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Governor's Energy Summit

- The Ohio Governor's 21st Century Energy & Economic Development Summit
- Hosted by Governor John Kasich
- September 21-22, 2011
- Produced by Battelle
- The Ohio Union at The Ohio State University
- <http://www.battelle.org/Conferences/ohioenergy/index.aspx>

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Updates: Documents and OAKS Capital Improvements (OAKS CI)

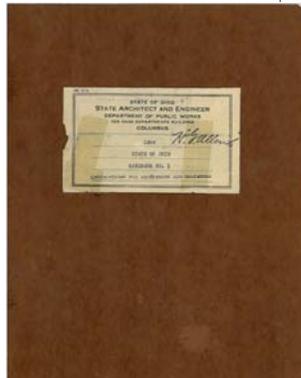
Kevin Russell, AIA
Corrections Segment Manager

Steve Mayo
OAKS CI Manager

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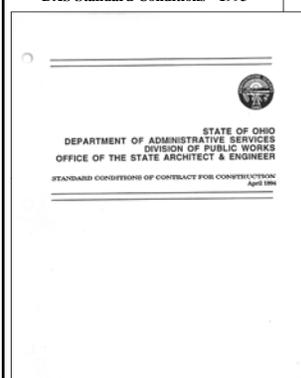
DPW Handbook No. 1 - 1954



Ohio Departments Building

45

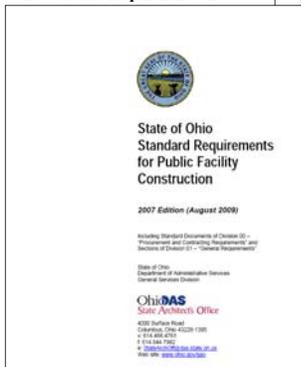
DAS Standard Conditions - 1993



Rhodes State Office Tower

46

Ohio Standard Requirements - 2007



General Services Center

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The SAO Manual - 2005-2010



State Architect's Office
A Management Guide for Ohio Capital Improvements

304 pages / paper form-based

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The SAO Manual | 2011

THE SAO MANUAL | 2011
A MANAGEMENT GUIDE FOR OHIO CAPITAL IMPROVEMENTS

200 pages / OAKS CI-based

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SAO website: ohio.gov/sao

- BIM Protocol
- Standard Requirements
- The SAO Manual

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Standard Requirements for Public Facility Construction

Department of Administrative Services General Services

Standard Requirements (Manufacturing) Supplementary Documents

| Formal | Number | Title | Date |
|--------|----------------------|--------------------------------------|-------|
| PDF | MS140-01-00-00-01-01 | Memorandum to the Architect/Engineer | 04/11 |
| PDF | MS140-01-00-00-01-02 | Contractor Qualification Document | 04/11 |
| PDF | MS140-01-00-00-01-03 | Construction Document | 04/11 |

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Construction Reform:

- Fundamental shift in Ohio Capital Construction
- Approved June 2011
- Now What?

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What's Different:

- Contract - A/E Agreement
- Contract - Criteria A/E for Design-Build
- Contract - A/E for CM at Risk
- Subcontractor Form
- "Offshoring" Statement
- Builders Risk (August 2010)
- Standard Requirements (aka 'Front End')

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What's Not:

- General Contracting model (June 2007)
- Drug Free Safety Program (DFSP)
- Building Information Modeling > \$4 million

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Coming Soon...

- *SAO Manual – January 2012*
- *Increasing threshold from \$50,000 to \$200,000 (timing is uncertain)*
- *Threshold inflation adjustment – 5 years out.*
- *Rules... Pre Qualification Criteria... Best Value Selection... Bonding ... Electronic Advertising.*

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OAKS CI

- *OAKS CI has become the State of Ohio's Construction Management system*
 - *62 business processes*
 - *250 Projects*
 - *1500 Users*
 - *\$220M of released funds managed*

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Recent Enhancements

- *Accounting of Escrowed Funds*
- *Change Order Enhancements*
- *Contractor and PS Evaluation BPs*
- *Contractor Pay Request Enhancements*
- *Unifier Updates*
- *On Line Webex-based User Training*

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In Progress

- *SAO Billing of Owners*
 - *SAO Administration Fee*
 - *Consultant List Services*
- *Business Intelligence (Cognos)*

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Construction Reform

- *Construction reform will impact OAKS CI broadly*
- *OAKS CI implements The SAO Manual and the State of Ohio Standard Requirements for Public Facility Construction (to the extent the changes affect OAKS CI).*

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Possible Functional Impacts

- *Addition of online bidding*
- *Addition of new contract documents as custom prints*
- *Pre-qualification of subs in Design-Build and CM at Risk*
- *Guaranteed Maximum Price (GMP)*
- *Improved submittal management*

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Possible Functional Impacts

- Modified work flows to many business processes for Design-Build and CM at Risk
- Extensions to the Document Manager and WBS (Work Breakdown Structure) codes
- Addition of a Claims business process
- Extensions to reporting

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Possible Logistical Impacts

- Creation of new permissions group for Design-Build and CM at Risk firms
- Inclusion of key subcontractors
- New online and classroom training
- Help file revisions

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ORC 123.101

- Use of the Capital Improvements module of OAKS for reporting
 - ...submit a report about the project
 - ...in OAKS Capital Improvement format
 - ...in a manner determined by the Director

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To BIM or Not to BIM What IS the Question?

*William J. Ramsey, AIA, LEED AP
Capital Planning Manager*

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Status of the Ohio BIM Protocol

- Implemented July 1st
- Supports State Agencies, Colleges and Universities
- Subject to Regular Reviews and Updates
- Supports the Goals of Construction Reform



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BIM Protocol Highlights

- Modeling Use (>\$4 million project value)
- Open Standards / Open Software
- Execution Plan Requirements
- Compensation Schedule Focus
- Model Development for Owner Needs/Use
- Deliverables for 2D/3D Environment

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Before the RFQ:

- *Review of Client Expectations/Goals*
- *Model Use after Construction*
- *Determining the Level of Model Development*
- *Effort Implications*
- *Model Management and Execution*

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What will be in the RFQ?

- *Not your average "A/E to provide BIM" statement*
- *Owner's expectations of model use and outcome will be described*
- *Level of Model Development provided*
- *Types of Deliverables described*

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BIM Execution Plan

- *Defines BIM Goals/Uses*
- *Roles & Responsibilities*
- *Document Management Plan*
- *Model Participants*
- *Model Components*
- *Types of Analysis*
- *Deliverables*



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BIM Under CM / Design-Build

- *Further Definition of Manager Role*
- *More Collaboration*
- *Opportunities to Expand BIM participation beyond Design*

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Next Steps:

- *Training (Owners, Architects/Engineers, Contractors)*
- *Execution Opportunities*
- *BIM through Construction*
 - *Increasing Contractor Development*
- *Refinements and New Opportunities*

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CM at Risk

*Crystal Canan, J.D., LEED AP
Project Services Manager*

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CM at Risk

- *CM at Risk means person with substantial discretion and authority to plan, coordinate, manage, direct and construct all phases of a project . . .*
- *And who provides the public authority a guaranteed maximum price (GMP).*
- *GMP represents the total maximum price including costs of the work, general conditions, contingency and fee.*

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CM at Risk Selection

- *Review of proposals received in response to notice and ranking of three most qualified proposers.*
- *"Qualified" is defined in RC 9.33(E)*
- *Most Qualified Firms ("short list") requested to respond to specific RFP*

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CM at Risk Selection

- *Short list CMs are provided following information:*
 - *Statement of available design detail*
 - *Description of how the GMP shall be determined, including estimated level of design detail upon which it will be based.*
 - *Form of Contract*
 - *Request for Pricing Proposal*

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CM at Risk Selection

- *CM at Risk firms respond to RFP request:*
 - *Key personnel list.*
 - *General Conditions and Contingency requirements.*
 - *Fee proposal (preconstruction, construction phase & at risk component).*

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CM at Risk Selection

- *Evaluation of pricing proposals and discussions with proposers about the scope and nature of proposed services and technical approaches.*
- *Ranking of the firms based upon evaluation of value, considering cost and qualifications.*
- *"Best Value" selection rules required by June 30, 2012.*

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CM at Risk Negotiation

- *Mutual understanding of essential requirements*
- *Ability to staff and equip project.*
- *Procedure and schedule for determining GMP.*
- *Open book pricing – all records pertaining to bidding, pricing or performance provided to public authority.*
- *If no GMP agreed upon, can revert to CM Agent.*

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CM at Risk Selection of Subs

- *CM at Risk to establish prequalification criteria for subcontractors (subject to DAS rule).*
- *CM at Risk identifies at least 3 prequalified bidders for each subcontract; list subject to approval by public authority.*
- *CM at Risk solicits bids, subject to open book.*
- *CM not required to award to low bidder. Public authority may reject sub if not responsible.*

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CM at Risk Self Performed Work

- *If CM at Risk intends to self-perform, firm must submit sealed bid for the portion of work before accepting and opening any bids for the same work.*
- *Anticipate additional provisions in CM at Risk Agreement, such as restriction of use of contingency.*

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DAS Rules for Bonding

- *CM/R or D/B to provide a surety bond in accordance with rules adopted by the director of DAS before construction begins.*
- *Amount of Bond*
- *Payment Bond*
- *Performance Bond*

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DAS Rules for CM@R and D-B

- *Procedures and criteria for determining best value selection of CM@R or D-B.*
- *Standards for CM@R or D-B when establishing prequalification criteria.*
- *Form of contract documents for subcontracts by CM@R, D-B or general contractor.*
- *Form of contract documents for CM@R or D-B contract.*

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Design-Build

*Ned Thiell, AIA, LEED AP
Higher Education Segment Manager*

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Design-Build Delivery

*Best Value Selection (BVS)
Versus
Qualification Based Selection (QBS)*

*Design, construction, demolition, alteration,
repair, or reconstruction work*

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Design-Build Delivery

- **The Players**
 - **Owner's Project Team (OPT)**
 - Project Manager (PM)
 - **Criteria Architect/Engineer**
 - Retained by Owner per RC 153.65 & 153.70 or is an employee thereof
 - Develops RFP criteria package
 - Advisor to selection committee
 - Reviews design docs and construction for compliance

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Design-Build Delivery

- **Design Builder**
 - **Organization**
 - Design & Construction In-house
 - Designer/Contractor Joint Venture
 - Contractor led team w/ Designer as sub
 - Designer led team w/Contractor as sub
 - **Architect or Engineer of Record**
 - Signatory on plans and specifications

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Design-Build Delivery

- **The Process**
 - **Phase I (QBS)**
 - Public Announcement
 - Statement of Qualifications
 - Interview Phase
 - **Phase II (BVS)**
 - Pre-Proposal Phase
 - Proposal Evaluation

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Design-Build Delivery

- **Public Announcement: Request for Qualifications (RFQ)**
 - Project Purpose Statement (Preamble)
 - Project Description
 - Selection Process
 - Instructions to Offerers
 - Phase II Request for Proposals Preview
 - Clarifications Process
 - Pre-Proposal Meeting

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Design-Build Delivery

- **Statement Of Qualifications for Phase I (QBS)**
 - Qualifications per RC 153.65(D) includes competence to perform required services as indicated by technical training, educations and experience of personnel and key consultants and RC 4703.182, RC 4703.332 and RC 4733.16 including the use of a licensed design professional for all design services.
 - SOQ/SAO Form F110-330
 - 3 member minimum evaluation committee of larger interview committee

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Design-Build Delivery

- **Statement Of Qualifications continued**
 - Pre-Evaluation meeting of committee
 - Scoring
 - Shortlist of 3 - 5 firms
 - Interview procedures
 - Site visit
 - Processing questions prior to interviews
 - The interview process
 - Number of individuals on interview committee

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Design-Build Delivery

- **The Interview**
 - **Structure**
 - SOQ Format
 - Preliminary Concepts Format (Confidential)
 - Interview discussions
 - Invitation list formation
 - 3 firms

SAO College 2011 91

Design-Build Delivery

- **Pre-Proposal – Request for Proposals (RFP)**
 - **Phase II RFP**
 - Project Purpose Statement (Preamble)
 - Program of Facility Requirements
 - Performance Requirements
 - Model Contract and Bond(s)
 - Instructions to Offerers
 - Stipend
 - Evaluation Criteria
 - Technical
 - Pricing

SAO College 2011 92

Design-Build Delivery

- **Pre-Proposal Meeting**
 - One-on-One
 - Proposal Clarifications
 - Direction & Intent of Proposal

SAO College 2011 93

Design-Build Delivery

- **Phase II Proposal Evaluation**
 - **One Part Submission**
 - Technical and Pricing proposals coincide and evaluated
 - **Two Part Submission**
 - Technical proposals evaluated with respect to each other and criteria
 - Technical proposals evaluated in terms of price

SAO College 2011 94

Design-Build Delivery

- **Evaluation Criteria**
 - Fixed Price/Highest Score
 - Variable Price/Highest Score
 - Proposed Price/Technical Score
 - Best Value w/Time Factor
- **Negotiations**
 - Understanding of use of contingency and distribution of savings
 - Ability to perform
 - Understanding of Open book pricing method
- **Unsolicited Alternates**
- **Right to Reject any and all proposals**

SAO College 2011 95

BOWLING GREEN STATE UNIVERSITY

Introduction to Design/Build

SAO College 2011

Presented by:
Steven P. Krakoff
Associate Vice President
Capital Planning and Campus Operations
Bowling Green State University

BGSU 96

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Presentation Outline

- » Overview of BGSU Case Study – Student Housing and Dining
- » Design/Bid/Build vs. Design/Build – 10 Differences
- » Concluding Comments – Q&A

BGSU 97

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Residence Life and Dining Plan - PPP

- » Plan approved: 08.09
- » Decision on 08.11 delivery: 10.09
- » Selection process: Fall 2009
- » Formation of CFP: 01.10 – 03.10
- » Negotiation of underlying documents: 01.10 – 06.10
- » Close on financing: 06.10

BGSU 98

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BGSU Case Study

Residence Halls:

- 1,300 new beds in 2 buildings
- 660 bed freshman hall
- 640 bed sophomore/upper class hall

Performance:

- Selection of team: 12.09
- 1st design meeting: 01.10
- Ground breaking: 04.10
- Move-in: 08.11
- \$65 million project cost – delivered under budget
- 100% leased



BGSU 99

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BGSU Case Study

Carillon Place Dining Center:

- 17,000 square feet
- \$6 million for building
- \$2 million of site and infrastructure

Performance:

- Decision to expedite: 11.10
- 1st design meeting: 12.10
- Ground breaking: 03.11
- First meal: 08.11



BGSU 100

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Design/Build Approach

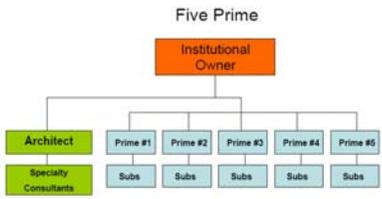
- » The method of delivering a project where a design/builder, architect and contractor, form an aligned team to design and construct a project based on a set of program criteria established by the owner.
 - » The design/build team is responsible for scope, schedule and budget consistent with the owner's program of requirements
 - » The design/builder will go at-risk to deliver results

BGSU 101

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Design/Bid/Build Approach – Multiple Prime Scenario

Five Prime



BGSU 102

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Design/Build Approach

```

graph TD
    IO[Institutional Owner] --- OR[Owner's Representative / Project Manager]
    IO --- CA[Criteria Architect]
    IO --- DB[Design/Builder (Contractor/Architect)]
    DB --- SC[Subcontractors]
    DB --- SpC[Specialty Consultants]
    
```

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Embrace a Change in Mindset

| Design/Bid/Build | Design/Build |
|--------------------------------|---|
| » Long-term buildings | » May be developer-driven |
| » Scope – most important | » Scope is flexible |
| » Budget driven by scope | » Budget – pro forma driven |
| » Schedule – whatever it takes | » Schedule – controllable; once established it is fixed contractually |

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Decision-Making

| Design/Bid/Build | Design/Build |
|--|--|
| » By consensus/committee | » Decisions by one accountable individual |
| » Architect drives design | » Basis for decisions are driven by project criteria/scope/pro forma/schedule/budget |
| » Basis for decisions are typically scope/standards driven | |
| » Budget and schedule may be secondary | |

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Process

| Design/Bid/Build | Design/Build |
|---|---|
| » Complete programming and design | » Design-builder or developer is at-risk |
| » Bid out project | » Requires good criteria document: program, scope, budget, schedule |
| » Re-design if over budget | » Estimates at each phase |
| » Generally lacks real-time checks and balances | » Constructability reviews at each phase |
| | » Schedule input at each phase |
| | » Ongoing adjustment based on real-time checks and balances |

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Organizational Structure of Team

| Design/Bid/Build | Design/Build |
|--|--|
| » Owner relies on architect to design to Program | » Less reliance on A/E |
| » Architect is closely aligned with owner/institution | » Owner/institution needs to develop criteria document initially |
| » Scope is fleshed out during design | » Delivery architect is less aligned with owner/institution who works for design/build firm or developer |
| » Contractors are lowest responsive and responsible bidders – have no unified alignment with owner/institution | » Owner still needs to devote staff resources to (or engage owner's rep) to manage team and uphold owner's interests |

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Risk/Control

| Design/Bid/Build | Design/Build |
|---------------------------------------|------------------------------------|
| <u>Owner/Institution At-Risk For:</u> | <u>Design/Builder At-Risk For:</u> |
| » Cost overruns | » Cost overruns |
| » Schedule overruns | » Schedule overruns |
| » Coordination changes | » Coordination changes |

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Team Selection

| Design/Bid/Build | Design/Build |
|--|--|
| <ul style="list-style-type: none"> » RFQ for design firms » Public bid – multiple primes – lowest responsive and responsible gets work » Subcontractors selected by primes – owner may not have significant input | <ul style="list-style-type: none"> » RFQ for design/build firms » Delivery architect works for design/builder » Subcontractors selected by D/B firm from a list of selected firms; owner has input on potential firms |

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Scoping Process

| Design/Bid/Build | Design/Build |
|---|---|
| <ul style="list-style-type: none"> » Owner develops a Program » Architect designs to the Program » Institutional standards are imbedded in design: architectural, mechanical, electrical, IT security » CDs issued for bid – contracts awarded » More challenging to manage constructability, schedule » Ancillary work to support project are additional projects the owner must deliver | <ul style="list-style-type: none"> » Design/build firm selected » Architect designs to the Program » Institutional standards are challenged for appropriateness/applicability » Contractor provides ongoing estimates, constructability reviews, schedule input » Contractor selects subcontractors – bids/negotiates » Subcontractors provide ongoing input » Ancillary work can be delivered by design/builder |

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Schedule Management

| Design/Bid/Build | Design/Build |
|--|---|
| <ul style="list-style-type: none"> » Construction schedule is incorporated into bid documents » Owner/institution is responsible to manage delivery architect's design schedule » Owner/institution is responsible to manage contractors' schedules | <ul style="list-style-type: none"> » Schedule is outlined to design/build in RFQ » Schedule is established in design/build agreement » Schedule is monitored and validated throughout the design process » Responsibility belongs to the design/build team to deliver both the design and construction on-schedule (no finger pointing) |

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Prioritizing (Scope/Schedule/Budget)

| Design/Bid/Build | Design/Build |
|---|---|
| <ul style="list-style-type: none"> » Architect prepares CDs » Owner finds out cost upon return of bids » Schedule for design is negotiated between owner and architect » Project schedule needs to include bid and award period » Schedule for construction is included in bid documents | <ul style="list-style-type: none"> » Scope/schedule/budget for design/bid/award is negotiated at beginning of project with design/build firm |

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Budget/Financing

| Design/Bid/Build | Design/Build |
|--|--|
| <ul style="list-style-type: none"> » Design to a budget – no contractor input » Bid the project » Award or re-design based on bid results » Owner/institution financed either: <ul style="list-style-type: none"> • Cash on hand • Borrow funds • Bond funds | <ul style="list-style-type: none"> » Pro forma driven budget » Ongoing estimating during design » Manage scope/quality to stay within budget » Owner/institution financed either: <ul style="list-style-type: none"> » Cash on hand » Borrow funds » Bond funds, OR » 3rd party financed (developer, design/build, operator) based on owner commitment/operating revenues |

BGSU 113

Thank you!

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