

Wi-Fi

Username: IHG Connect

Password: CVGAR

WELCOME!

August 7 | Columbus 1

August 16 | Cleveland

August 22 | Cincinnati

August 28 | Columbus 2

Welcome

David Williamson
Executive Director

Housekeeping

Jeff Westhoven

Chief of Program Services

Housekeeping

- Wi-Fi
Username: IHG Connect
Password: CVGAR
- Silence your cell phones
- Restroom locations
- Breaks & lunch
- Conference survey

Housekeeping

- EDGE support desk
- Ask OFCC

Social Media – Let's Connect!

- Social Media – Share your project photos!
 - Twitter @OHFacilities – Hashtag #OFCCConf18
 - Facebook – Ohio Facilities Construction Commission
 - LinkedIn – Ohio Facilities Construction Commission

Continuing Education

- Continuing Education Credits & Certificate of Participation
 - 6.0 LU/HSW AIA Credits – attend entire conference, no partial credits
 - AIA Architects only – remember to provide your AIA # and signature at registration desk at conference close
 - Pick up your certificate of attendance at reception desk

Questions?

Jeff Westhoven

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The Numbers Behind the Programs

Shawn Smith

Chief Financial Officer, OFCC



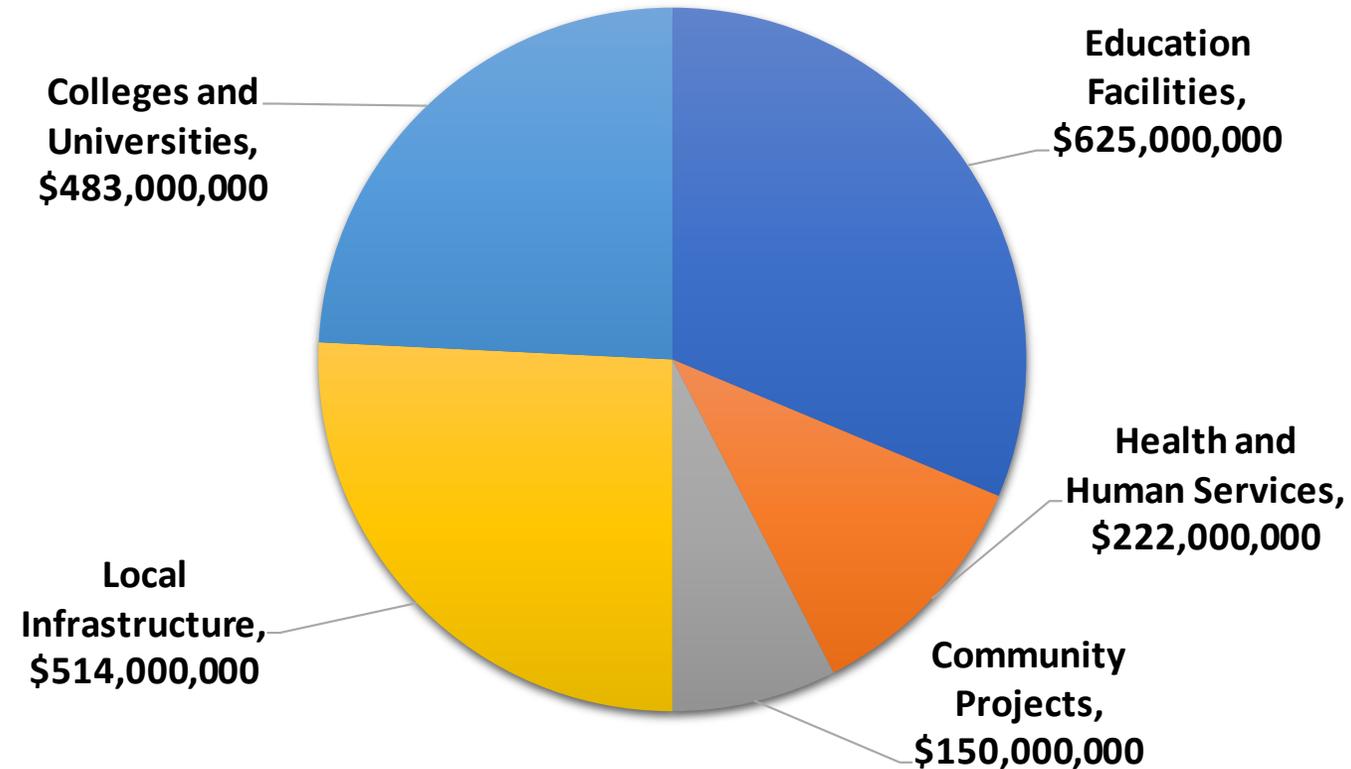
Program Data

Commission Activity Status- Program Summary					
OFCC Status Area	Program Total	K-12*	Colleges & Universities	State Agencies	Cultural Grants
Dollars Invested to Date	\$12.7B	\$11.9B	\$119.9M	\$617.8M	\$112.2M
Facilities Constructed/Renovated to Date	1,565	1,193	20	185	167
Projects in Design	132	59	5	68	N/A
Projects Currently in Construction	183	47	2	51	83
Value of Projects in Design & Construction	\$1.94B	\$1.45B	\$46.1M	\$410.4M	\$35M

* Note: K-12 since FY 1997; Higher Ed/State Agency since FY2013; Cultural Facilities since FY2014

2019/2020 Capital Budget

House Bill 529 and Senate Bill 266 created \$2.6 Billion in new spending



State Agency Capital Budgets

Agency	FY17-18 Budget	FY19-20 Budget	Agency	FY17-18 Budget	FY19-20 Budget
Facilities Construction	\$ 716,845,000.00	\$ 681,525,500.00	Veterans Services	\$ 15,505,221.00	\$ 16,609,072.00
Public Works	\$ 500,400,000.00	\$ 514,000,000.00	Public Safety	\$ 12,885,941.00	\$ 12,400,000.00
Higher Education	\$ 536,955,000.00	\$ 483,382,500.00	Expo Commission	\$ 10,900,000.00	\$ 7,000,000.00
Natural Resources	\$ 323,131,793.00	\$ 234,618,104.00	Development Services Agency	\$ 15,000,000.00	\$ 5,000,000.00
Rehab & Corrections	\$ 150,851,567.00	\$ 220,024,071.00	Attorney General	\$ 2,554,167.00	\$ 3,813,752.00
Mental Health	\$ 41,175,000.00	\$ 168,605,600.00	Commerce	\$ 4,497,500.00	\$ 3,697,500.00
Administrative Services	\$ 68,552,371.00	\$ 105,674,700.00	Capitol Square Review	\$ 300,000.00	\$ 3,000,000.00
Transportation	\$ 100,000,000.00	\$ 60,200,000.00	Educational Media	\$ 952,987.00	\$ 1,586,910.00
Adjutant General	\$ 29,450,000.00	\$ 31,476,805.00	Job and Family Services	\$ 497,298.00	\$ 1,287,223.00
Developmental Disabilities	\$ 28,440,000.00	\$ 30,775,000.00	Judiciary/Supreme Court	\$ 8,373,883.00	\$ 513,000.00
Youth Services	\$ 34,745,430.00	\$ 22,497,797.00	School for the Deaf	\$ 3,105,134.00	\$ 237,050.00
Agriculture	\$ 15,362,446.00	\$ 17,717,000.00	School for the Blind	\$ 794,653.00	\$ 225,500.00

LSC Analysis

Geographic Local	\$ Budgeted	% of Total
Statewide	\$ 1,750,952,489	66.68%
Franklin	\$ 321,470,043	12.24%
Multi-County	\$ 69,223,834	2.63%
Hamilton	\$ 63,583,037	2.42%
Cuyahoga	\$ 58,390,290	2.22%
Summit	\$ 30,893,650	1.17%
Lucas	\$ 27,323,073	1.04%
Wood	\$ 26,213,689	0.99%
Athens	\$ 25,441,979	0.96%

Agency Capital Project Oversight

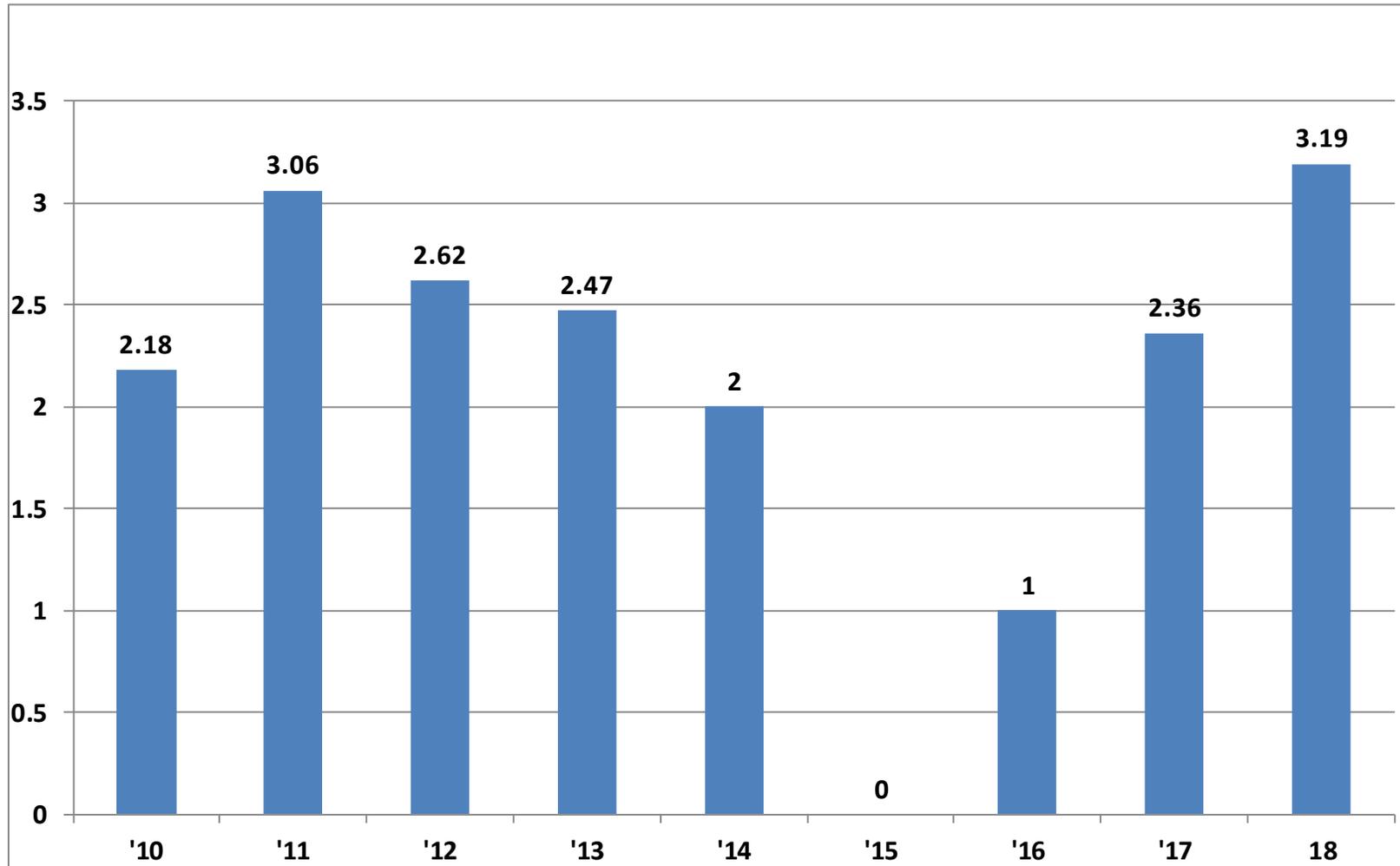
- <\$215K- Agency has the ability to manage
- \$215K to \$1.5M- OFCC managed unless Local Administration Authority granted
- >\$1.5M- OFCC must manage

ORC 123.211 requires the use of OAKS CI if Local Administration Authority is granted

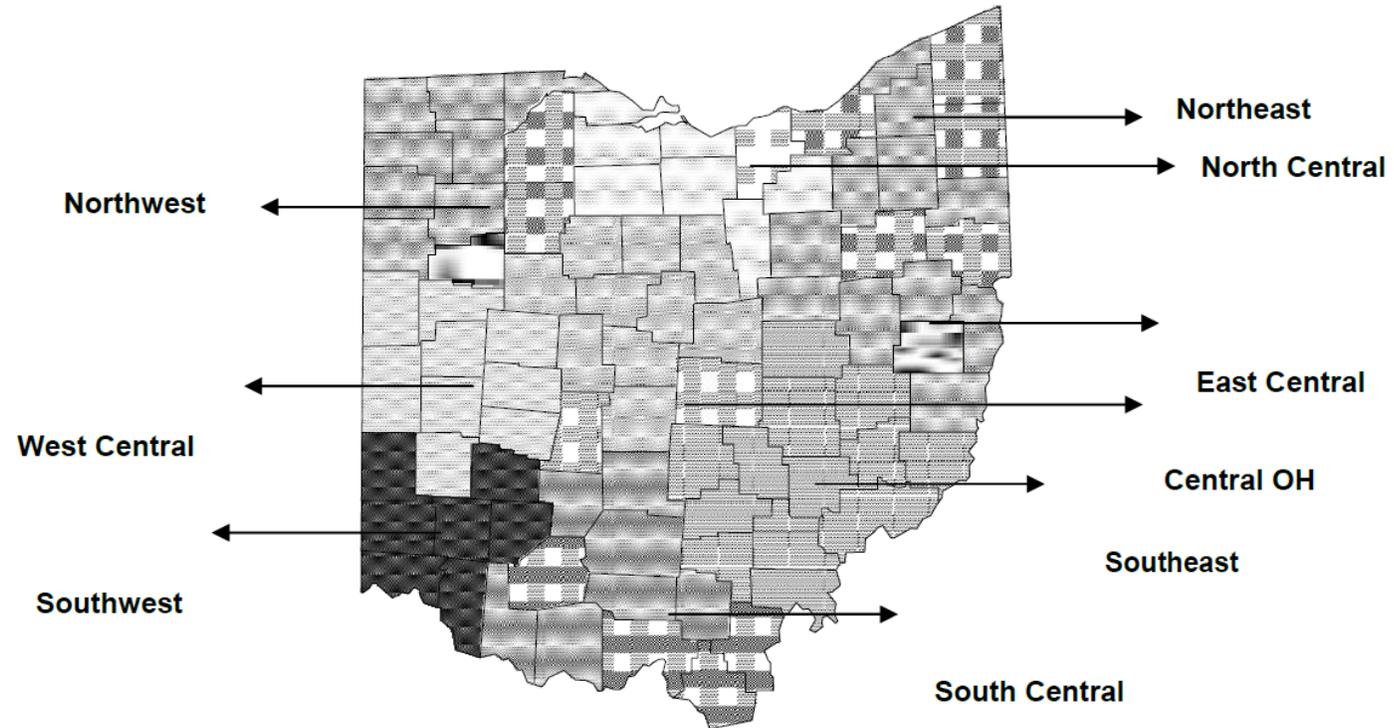
Controlling Board Requirements

	Architect/ Engineer	CM Adviser	OFCC Consultant	Construction <\$215K	Construction >\$215K	CM at Risk	Design- Builder
Capital Request	●	●	●	●	●	●	●
Release of Capital Funds (R.C.Sec. 127.14G)	●	●	●	●	●	●	●
Transfer of Capital Funds (R.C.Sec. 127.14G and/or 127.15)	○	○	○	○	○	○	○
Waiver of Competitive Selection (R.C.Sec. 127.16B)				○			
No Competitive Opportunity							
Agency Released Competitive Selection (R.C.Sec. 127.162)	●	●		●		●	●

Historical Inflation



Regional Cost Factors



Central	Southwest	West Central	Northwest	North Central	South Central	Southeast	East Central	Northeast
1.0000	0.9595	0.9897	1.0468	1.0025	1.0121	1.0114	1.0083	1.0360

Questions?

Shawn S. Smith

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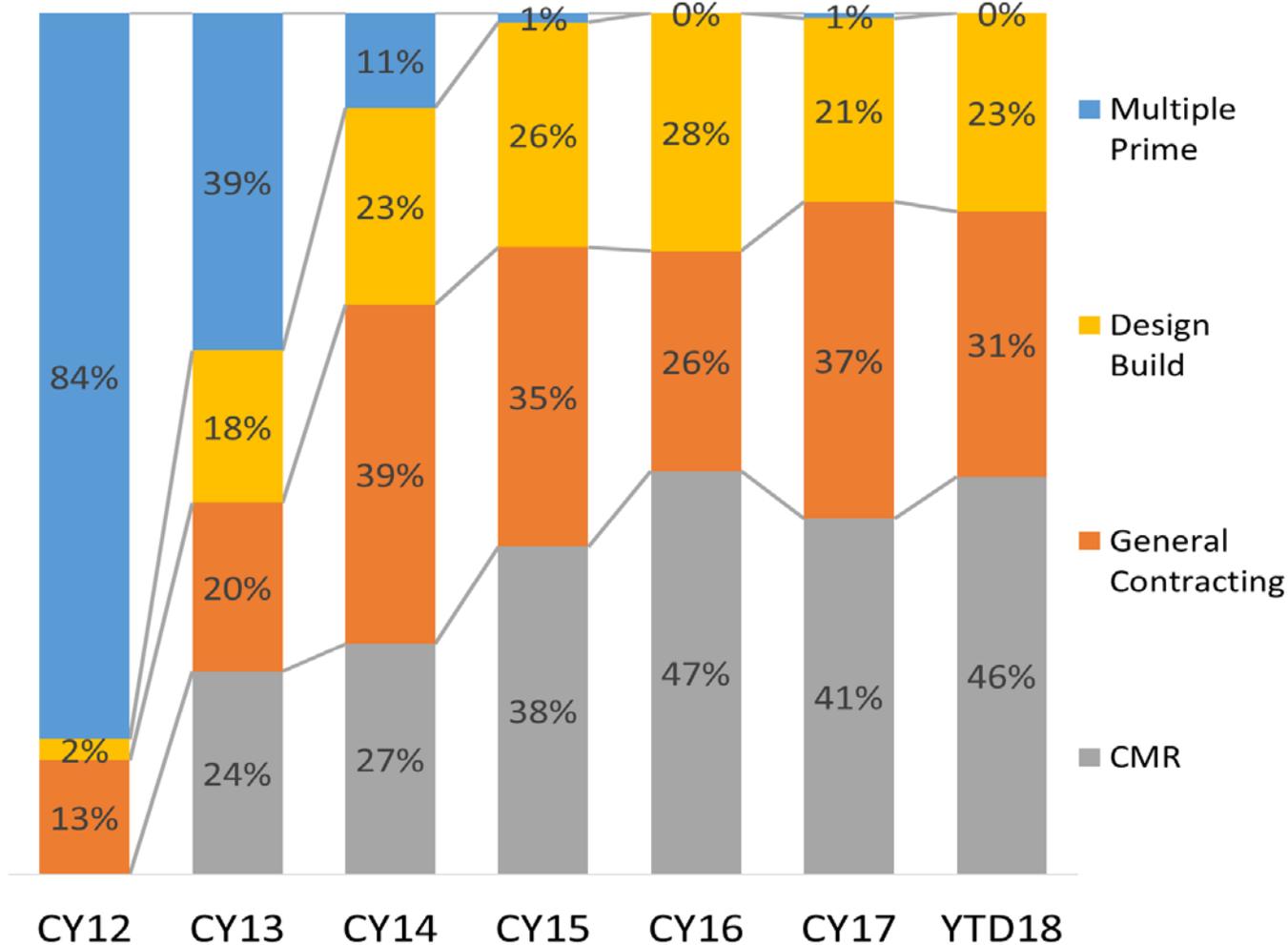
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Past Trends & New Directions

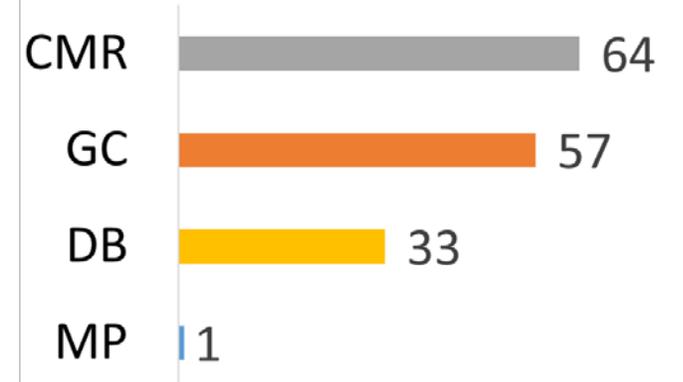
Craig Weise, AIA, CCM, PMP, LEED AP
Chief of Projects, OFCC

Project Delivery Methods

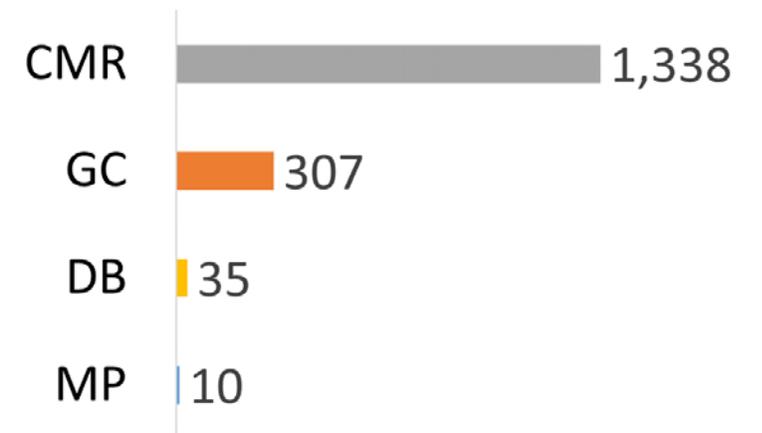
Projects by Delivery Method



CY17 - Number of Projects



CY17 - Value of Projects (\$M)



Totals may not equal 100% because of rounding

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Profile of Projects

- OFCC initiates 100 projects per year on average
- These projects equate to approx. \$1B a year
- OFCC manages about 200 active projects at any given time
- Overall avg. project size is approx. \$10M
 - Avg. CMR project = \$20M
 - Avg. GC project = \$5M
 - Avg. DB project = \$2M

Looking Forward (1 year)

- Implement Primavera P6 Scheduling Software
 - OFCC will require electronic submission of schedule file for review
 - P6 version 7.0 and newer
 - XML file format
 - OFCC template
 - OFCC PM will review schedule for compliance with P6 Spec.
 - Pilot on some projects beginning 3Q of CY2018
 - Require on all projects >\$500K by July 1, 2019

Looking Forward (1-2 years)

- Restructure OFCC Consultant Lists
 - Maintain numerous Consultant Lists for different types of services
 - Maintain procurement rules
 - \$250K max of fees awarded per firm for the fiscal biennium (2-yr period)
 - “Pick one” if estimated fees < \$100K
 - “Pick three” if estimated fees \geq \$100K
 - Eliminate duplication of accounting
 - Delegate contracting & payments to Contracting Authority
 - Require use of OAKS CI for project administration

Looking Forward (2 years)

- Rebuild OAKS CI (**CI 2.0**)
 - Incorporate LEAN principles
 - Expand consistency across all project types (K12, agency, higher educ.)
 - Include more business processes
 - Utilize new Primavera Unifier features
 - Implement mobile apps for certain business processes
 - Integrate Primavera P6 Schedule milestone data

Looking Beyond (Long Term)

- Opportunity to support state's Facility Management (FM) needs
 - Greatest impact on capital needs
- Data-driven decision making organization
 - “Big Data” for dynamic predictive models (eg: AI)
 - Seeking methods to assist in automating collection of more data

Questions?

Craig Weise

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@OHFacilities #OFCCConf18

Lessons Learned: Design Build | Perspectives

Ned Thiell

Program Manager, Agency | Higher Education

Lessons Learned: Design Build

Owner's Perspective:

- Fully vetted project scope in criteria documents is critical
- Give up some control – design details
- Greater potential to save time incl.
 - commit of project funds earlier
 - upfront DB design stage input for construction stage planning
- AOR is member of DB team
- DB contingency is part of GMP



Lessons Learned: Design Build

Criteria Architect's Perspective:

- Not traditional AOR role
 - Not designing the solution
 - Establish scope and parameters for solutions / performance
 - Eliminate unknowns when possible
- Criteria must be informed by DB contract docs. and GMP processes
- Project conditions may necessitate more CAE participation than originally anticipated.



Lessons Learned: Design Build

Design Builder's Perspective:



- Difficult to propose on criteria documents only (esp. w/ GMP at time of proposal)
- Formalized process and documentation is good, but not equipped to realize true speed potential of DB delivery
 - Contracts, amendments, NTP, SOV
 - Owner decision making process
- Flexibility for DB to make adjustments to maintain budget
- Difficult to acquire market validation and min. # of bidders

Lessons Learned: Design Build

Architect of Record's Perspective:

- Difficult to design to loose or overly restrictive criteria
- Less time for upfront investigation of existing conditions
- Abbreviated design time
- Align with DB (and team) expectations relative to document completeness
- Not traditional AOR role
 - confusion how and whom to represent (DB vs. Owner)
- Would like more involvement during construction stage



Lessons Learned: Design Build

Project Manager's Perspective:

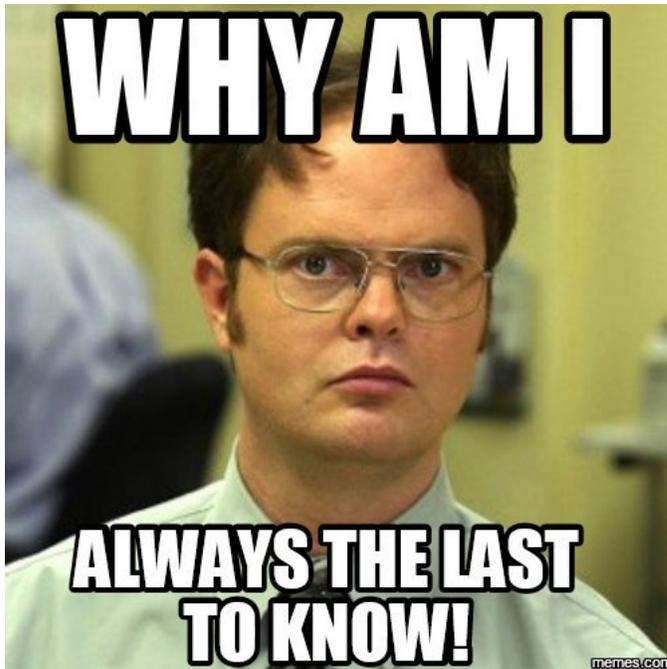
- Org. meeting – review of DB contract documents
- Scope fully defined and Budget aligned early
- Schedule – plan enough time for various Owner reviews
- GMP negotiation / facilitation incl. live edits and doc. back check
- Expanded PM Const. Admin. role
- CAE for construct. progress mtgs.
- PC in the loop



Lessons Learned: Design Build

Project Coordinator's Perspective:

- Participate in Organizational meeting – meet the team
- Understand budget and schedule – aware of changes



- Assist DB with GMP documents for proposal
- Attend GMP negotiation / facilitation
- Confirm most current version of proposal for GMP amendment prep
- Prepare for GMP SOV distributions

Questions?

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Kahoot! Survey: Artificial Intelligence

Craig Weise

Chief of Projects, OFCC

BREAK

LEED's Relevance Towards Larger Sustainability Goals

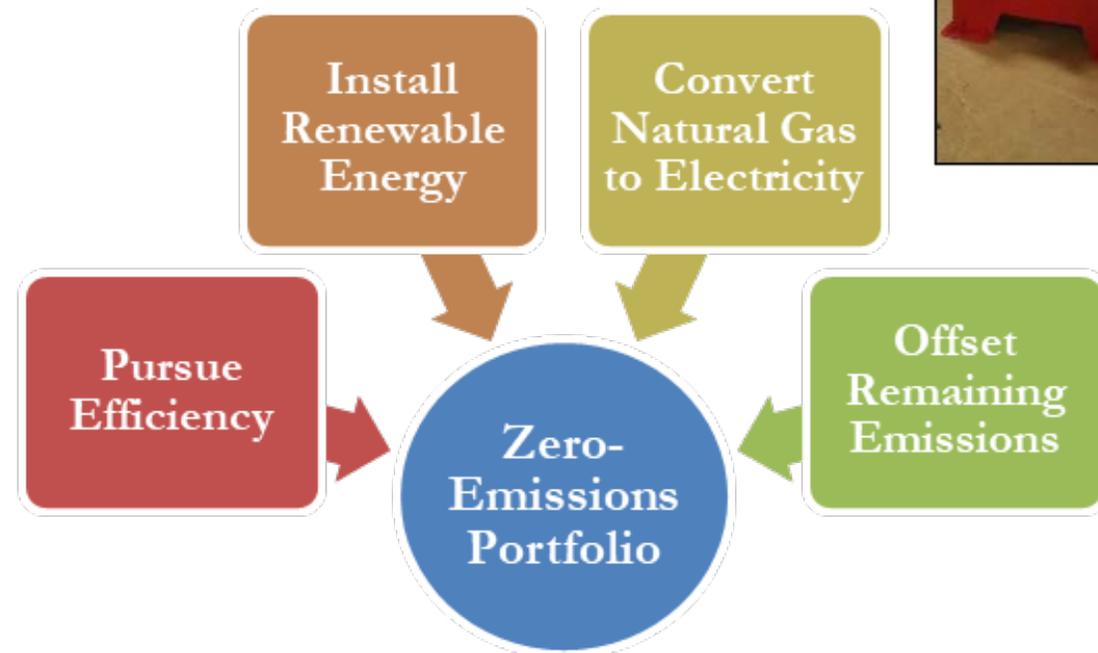
Jacqueline Langhals

Energy Conservation and Sustainability Administrator

Ohio Department of Rehabilitation and Correction

Start with our goals.

1. Utilities
2. Waste
3. Fleet
4. Land, Animals, and Plants
5. Behavior



LEED | Goals

1. Utilities
2. Waste
3. Fleet
4. Land, Animals, and Plants
5. Behavior

Ohio Reformatory for Women Lincoln Bldg
1000085224

SUBMIT FOR REVIEW

Details Credits Uploads Team Timeline Interpretations Clarifications Payments Design Final Application

All All Attempt All Credits All selected

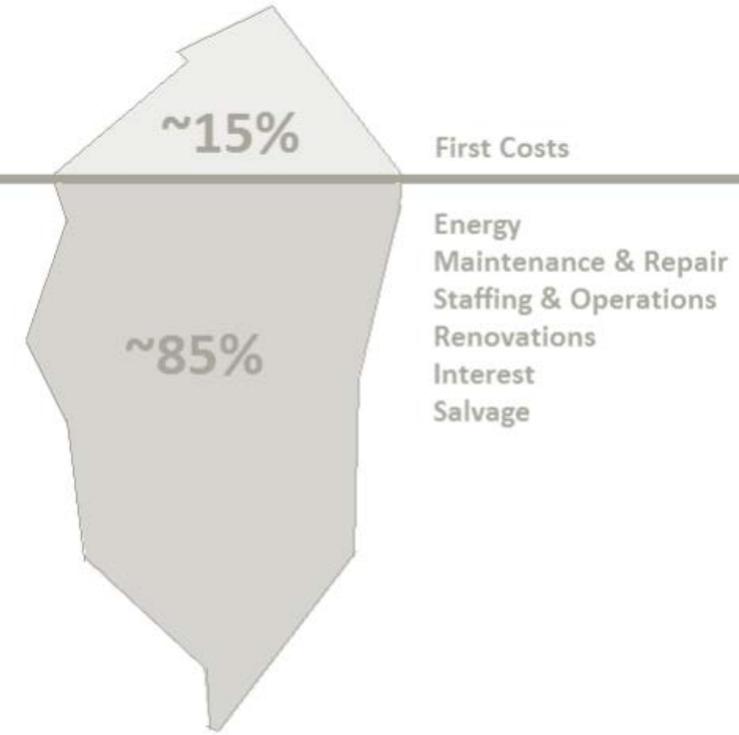
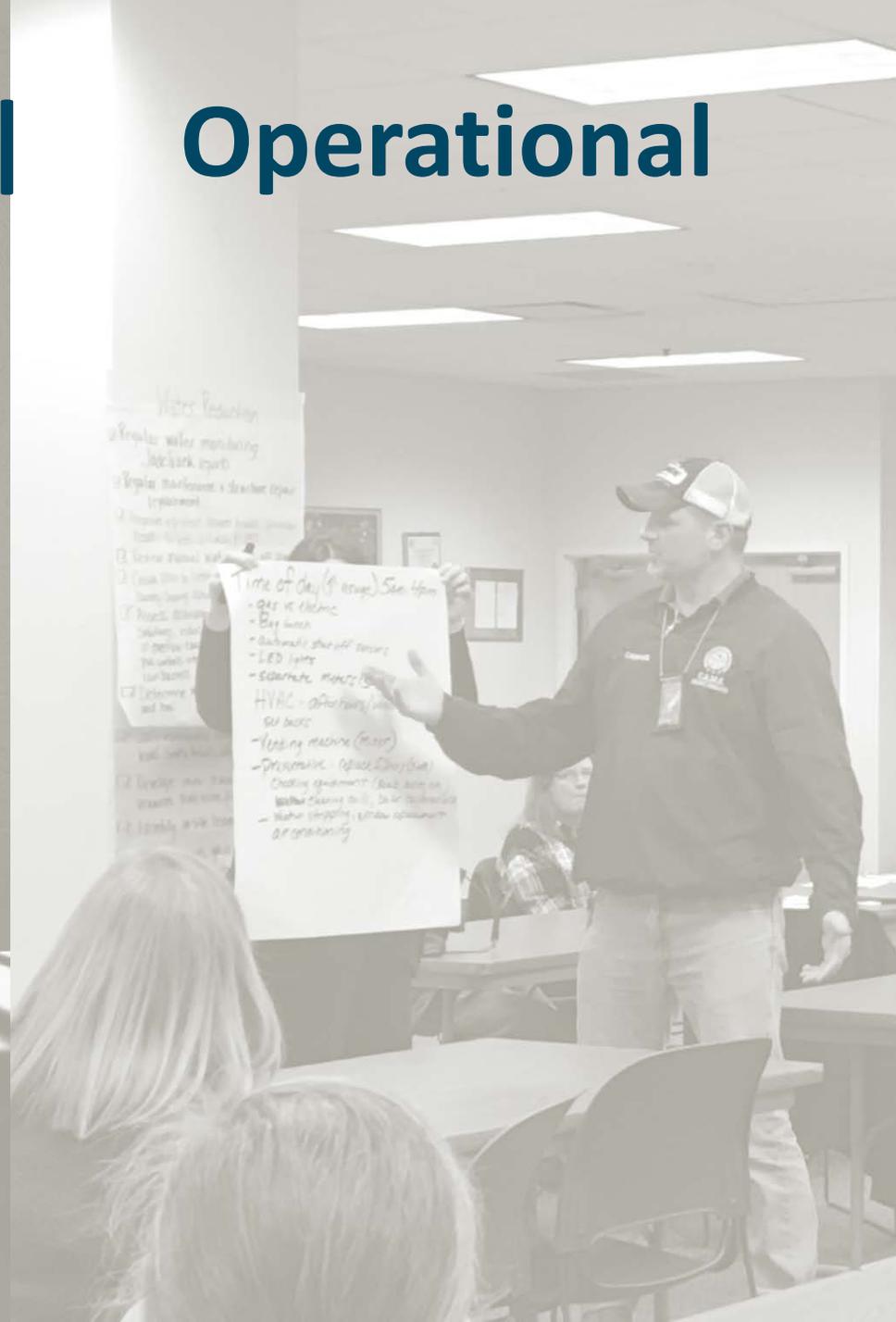
PROJECT INFORMATION FORMS				
SUSTAINABLE SITES	16 OF 26	AWARDED	0	
WATER EFFICIENCY	4 OF 10	AWARDED	0	
ENERGY AND ATMOSPHERE	8 OF 35	AWARDED	0	
MATERIALS AND RESOURCES	0 OF 14	AWARDED	0	
INDOOR ENVIRONMENTAL QUALITY	5 OF 15	AWARDED	0	
INNOVATION IN DESIGN	1 OF 6	AWARDED	0	

TOTAL ATTEMPTED 34 of 106 ANTICIPATED 8 PENDING 24 DENIED 0

Security

Operational

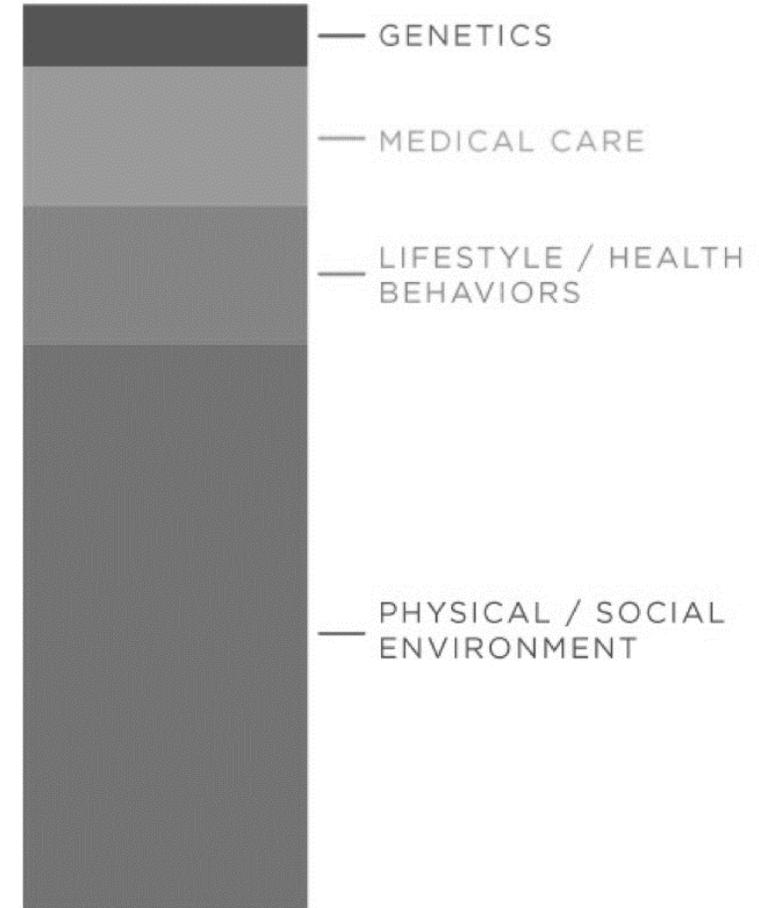
Fiscal

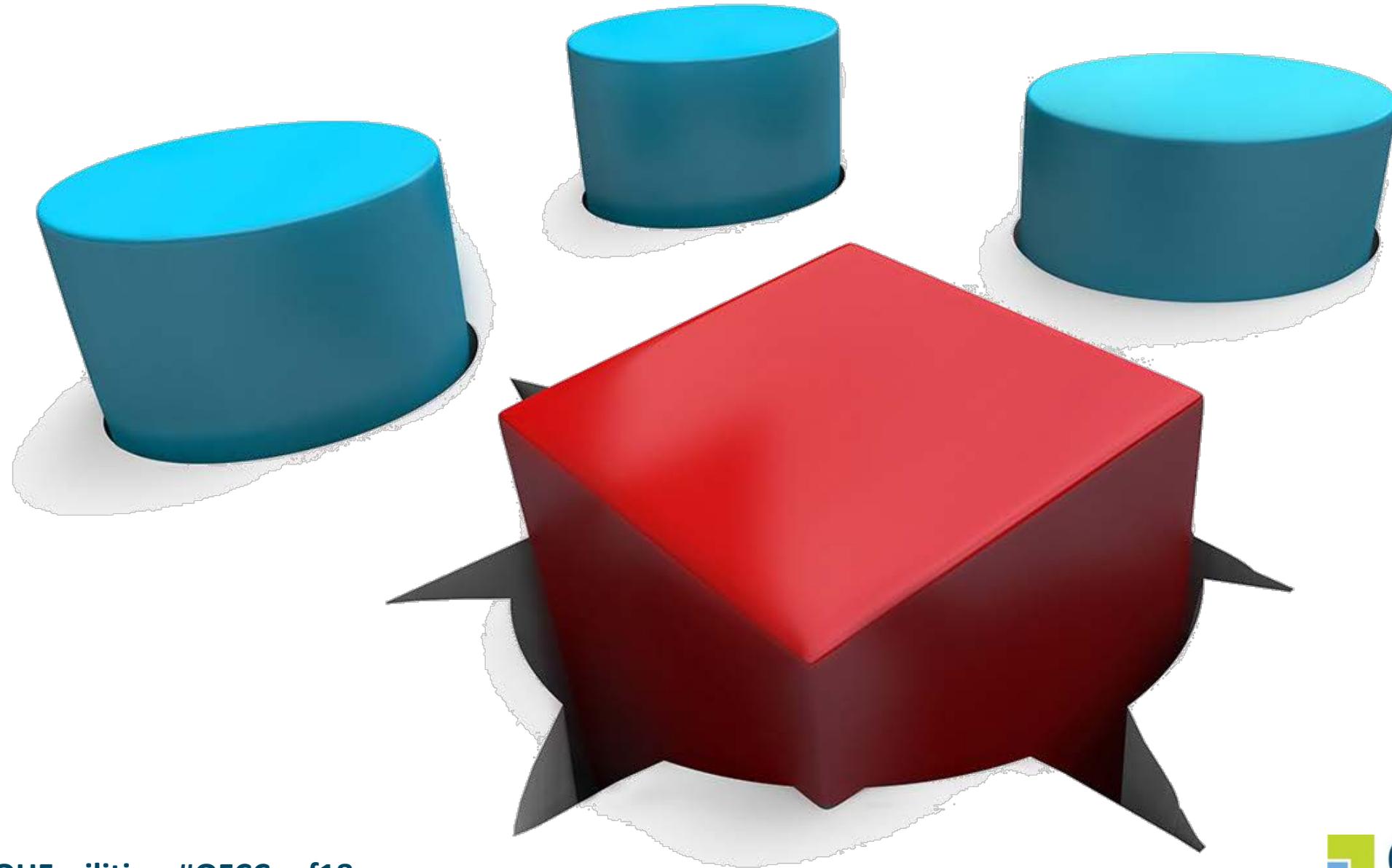


Environmental

Training

Health





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Questions?

Jacqueline Langhals

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Total Cost of Ownership (TCO)

Donn Young

Engineering Economic Inc.

Total Cost of Ownership (TCO)

- TCO is a strategy:
 - An investment strategy that aligns both investment and life cycle costs
- The goal is to bring all aspects of the facility into one common group: Design, construction, space, operation, maintenance for the best Return on Investment of your capital dollar.
- You are looking for the true cost of ownership over the life of the investment, both prior to construction and throughout the asset's life.

Total Cost of Ownership Frame Work

Initial Assets Cost (First Cost *One Time!)

- Planning and Programming
- Acquisition
- Design
- Construction / Site Development
- Lease or Rental
- Commissioning

Operations and Maintenance (Recurring)

- Maintenance
- Operation
- Overhead and Administration

Utilities (Recurring)

Total Cost of Ownership Frame Work

Renewal (Periodic)

- Replacement
- Programmatic upgrades
- Improvements and Enhancements

End of Useful (Functional) Life (One Time)

- Sale / Adaptive Re-Use
- Re-sale Value / Salvage Value
- Removal
- Site Restoration / Remediation
- Deconstruction / Recycling

Total Cost of Ownership (TCO)

- TCO Should be discussed in Planning
- Ensure your design team is on board (holistic approach)
 - TCO is not just life cycle costing
 - TCO is not just first cost and utilities
- Underlining theme is to improve Return on Investment
 - Looking at true cradle to grave
 - This is much more than just cost!

Total Cost of Ownership (TCO)

One Example

Packaged Equipment
up System

Vs

Built

First Cost ** (Always Ask for Add Alternate)
Can My Staff Take Care of System
Outside Contractor Cost
How Will We Control the System
Life Expectance of Equipment
Special Equipment
What will wear out
Is It Easy to Replace
Efficiency

Questions?

Donn Young

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Smart Technologies Integration

Michael Berning, PE, CEM, LEED Fellow
Senior Principal, Heapy Engineering



WHAT IS “SMART”



- Provide lighting, comfort, air quality, security, safety, etc. efficiently and effectively to enable occupants to be more productive
- AND, with the least environmental impact

Take advantage of the capabilities of the IoT (Internet of Things)

Create cross-communication links..... Interconnecting platforms

Optimize (the formerly) independent technology driven systems:

- For Energy Efficiency
- For People Efficiency (management time/effort)

Manufacturers have “Smart“ labeled equipment

- (“Smart“ DX Rooftops?)

Cities are becoming “Smarter” (and Campuses)



WHERE WE ARE...



Prefabrication, automation, 3D printing (whole structures)

More assembly, safer, consistency, **Skilled Technicians** versus Laborers

Robots for repetitive and/or dangerous processes

Drones used for Inspection, site safety, Inventory Control...

Electronic Information is gathered throughout Design, Construction and Occupancy

Real Time / Instant & Accurate Feedback = Efficiency Gains (**Less RFI's**, Less waste, etc.)

BIM used not only for Design, Construction...

- **BIM now used for: (7D + Construction 4.0)**
 - Estimating
 - Purchasing
 - Scheduling
 - Ongoing **Operations!**

What's Next? Creating the Interactive: “BLANK”



Modernizing the **electrical grid + 5G Telephone** Rollout

System-wide communications allows immediate response to any Grid **“influence”**

FOCUS: To be more resilient, safe, reliable and sustainable

RENEWABLE ENERGY IS COST EFFECTIVE: Under \$2/Watt
(-70% in last 7 years)

COMBINED: Endless Possibilities.... **Microgrids... Distributed Energy... Storage...**

Apple embraced a complete **Microgrid** strategy when designing their new HQ's

- energy storage / clean energy sources / back-up generators
 - Fully capable of operating as a standalone Microgrid
-

Prius...?

What's Next? Creating the Interactive: "BLANK"



UTILITIES

- Prius

CITIES

- Autonomous Cars
- Smart Light Poles

CAMPUSES

- Safety-Security / Energy / Resiliency / Sustainability

BUILDINGS

- Systems Analytics (PLATFORMS)

EQUIPMENT

- Sensor Rich

Questions?

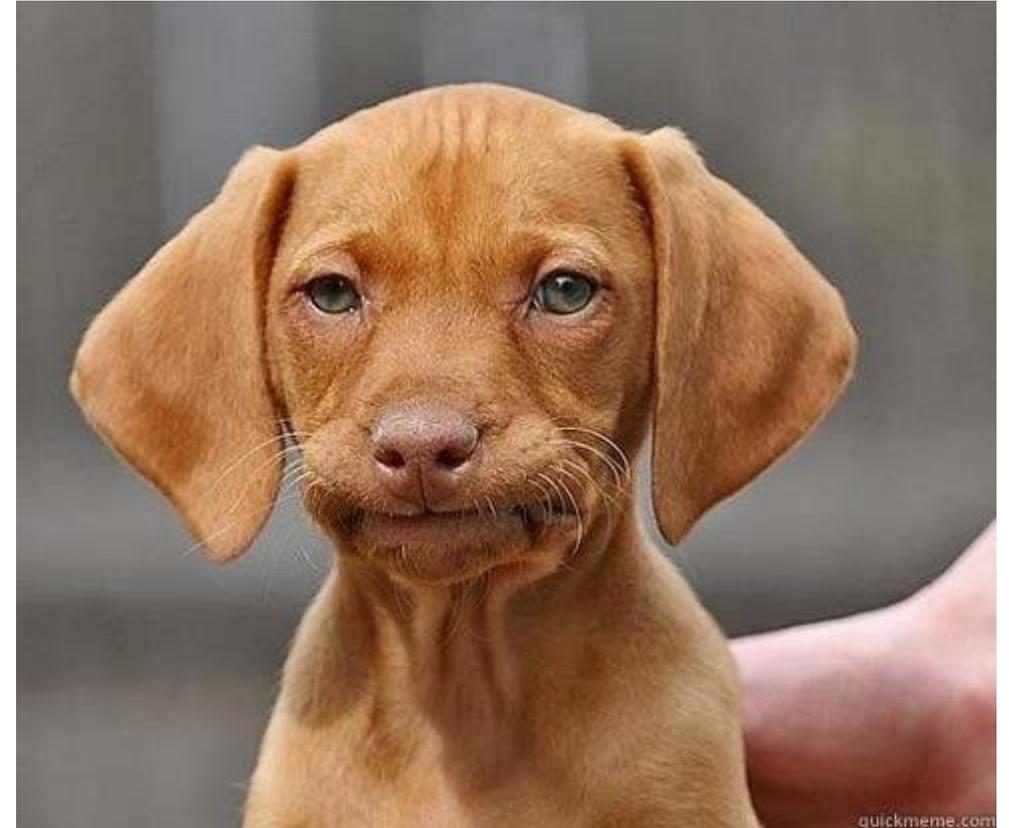
Michael Berning, PE, CEM, LEED Fellow
mjberning@heapy.com

Lessons Learned: CMR

Kim Magovac, P.E.
Project Manager, OFCC

Preconstruction

- Understand your budget and design accordingly
- Estimates formatted the same
- ***Proactive participation from CMR***
- CMR & AE meet before delivering estimate to owners
- Don't showcase a design that is not within budget
- What is 50% CD's?



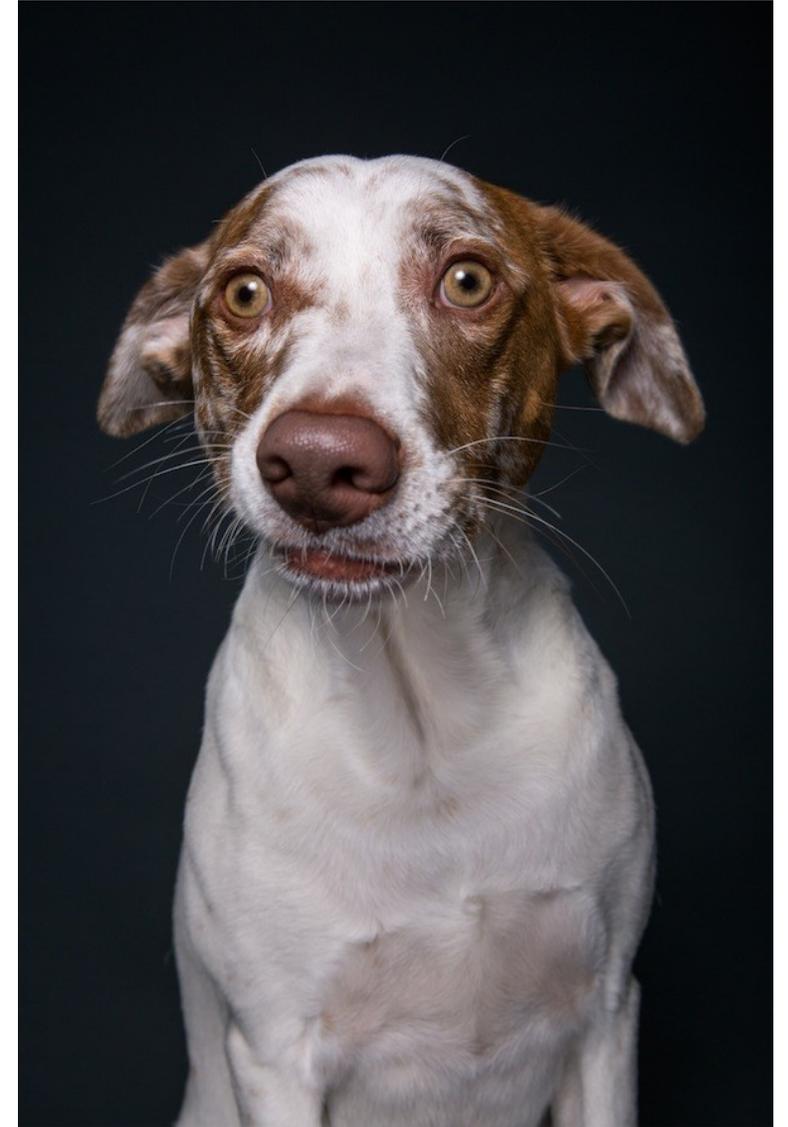
GMP Amendment Negotiation

- Define budgets early in precon
- Facilitate large value GMP sessions
- If the project is not within budget—cancel facilitated session
- GMP documents to the team at least five days before facilitated session
- Design intent statements
- Know the scope



Post GMP Amendment

- Do **NOT** add scope
- **IF** scope needs to be added – AE to submit a list to the Project team
- Detailed Design Statements
- Full understanding of assumptions and clarifications
- Constructability review by CMR
- If bidding the GMP set – CMR to convey the information in the Design Intent statement to the bidders.



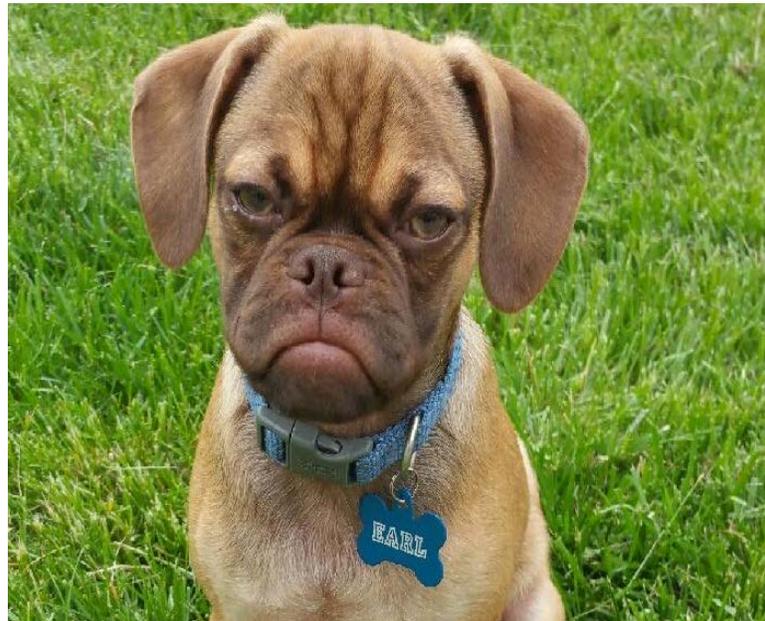
PC Perspective

- CMR bond (or Acknowledgement of Surety form)
- Bid packages estimates included in GMP
- NTP date
- Bid tabs



Miscellaneous

- Prequalified subcontractors
- Combination Bids
- Proposal Forms



Questions?

Kim Magovac

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@OHFacilities #OFCCConf18

Contracts Update: The Dotted Line

Lane Beougher, FAIA, FCSI, LEED BD+C

Energy Program Manager (*and Contracts Dude*)

Which contract template can I use? [ORC 153.503 (D)]

- **OAC 153:1-2-01 Form of CM at Risk Contract Documents**
 - **The State and State Institutions of Higher Education:** *The Standard Requirements for Public Facility Construction* developed by OFCC
 - **All other public authorities:** *The Standard Requirements* or contract documents published and licensed by: American Institute of Architects (AIA); ConsensusDOCS, LLC (Associated General Contractors and its endorsers); or Construction Management Association of America (CMAA)
- **OAC 153:1-2-02 Form of Design-Build Contract Documents**
 - **The State and State Institutions of Higher Education:** *The Standard Requirements for Public Facility Construction* developed by OFCC
 - **All other public authorities:** *The Standard Requirements* or contract documents published and licensed by: AIA; ConsensusDOCS; Design-Build Institute of America (DBIA); or Engineers Joint Contract Documents Committee (EJCDC: a joint venture of ACEC, ASCE, and NSPE)

What's new in the CM at Risk Contract?

Phase: *A separation in the Work of the Project by sequence or time intervals, which may include different Subcontractors for each Phase.*

Punch List Milestone: *The date 30 days after the achievement of Substantial Completion of all or a portion of the Work.*

Self-Performed Work: *Work performed by direct employees of the CM or a CM Affiliated Entity, which does not include Work performed by direct employees of a Subcontractor...*

CM Affiliated Entity: *Any entity related to or affiliated with the CM or with respect to which the CM has direct or indirect ownership or control...*

What's new?: Phase

5.7.1.1 This **Section 5.7** is based on the assumption there will be only one GMP Amendment. The parties recognize, however, that they may decide to use more than one GMP Amendment for *phased* construction. In that case, they will execute each GMP Amendment for one or more *Phase(s)* with each amendment supplementing the previous amendment(s).

- This may now affect Liquidated Damages (§8.7.1), the CM's Contingency (§9.2.6.1.1), and the CM's Retainage (§9.2.12.3 and §9.2.14.5) which will *apply on a per Phase basis if Phases are explicitly identified* in tables on the Agreement Form and/or GMP Amendment. (currently only in the K-12 forms)

What's new?: Punch List Milestone

6.26.3.1 Before expiration of the *Punch List Milestone* and before the date of Contract Completion, the CM shall complete all items on the A/E's Punch List. After completing all items on the A/E's Punch List, the CM shall provide a written request for Final Inspection of the Work to the A/E.

8.7 Liquidated Damages

Contract Sum	Liquidated Damages per day for Milestones <i>other than the Punch List Milestone</i>	Liquidated Damages per day for the <i>Punch List Milestone</i>
Less than \$1,000,000	\$500	\$125
From \$1,000,000.01 to \$2,000,000	\$1,000	\$250
From \$2,000,000.01 to \$5,000,000	\$2,000	\$500
From \$5,000,000.01 to \$10,000,000	\$5,000	\$1,250
From \$10,000,000.01 to \$20,000,000	\$7,500	\$1,875
From \$20,000,000.01 to \$50,000,000	\$10,000	\$2,500
More than \$50,000,000	\$15,000	\$3,750

What's new?: Self-Performed Work

4.7.6 If the Contracting Authority awards to a *CM Affiliated Entity* the right to *Self-Perform* a particular scope of Work by operation of **Sections 4.7.2** and **4.7.3**, the *CM Affiliated Entity* **will be a Subcontractor** under the Contract and the CM's Subcontract with the *CM Affiliated Entity* shall be on the **State of Ohio Subcontract Form** prescribed in OAC 153:1-03-02.

4.7.7 If the Contracting Authority awards to the *CM* the right to *Self-Perform* a particular scope of Work by operation of **Sections 4.7.2** and **4.7.3**, the *CM* **shall not be a Subcontractor** under the Contract and shall not enter into a Subcontract with itself for that Work.

7.7.2.10 Subcontractor Overhead and Profit. ...equal to 15 percent...

.1 The allowance *applies to CM Affiliated Entities* and to each Subcontractor tier. The *CM is not entitled to recover overhead and profit* under **Section 7.7.2.10** on account of changes in *CM Self-Performed Work* or Work the *CM* performs as a Subcontractor at any tier.

What's new?: Acknowledgement of Surety

10.1.5 Any time the CM increases the penal sums of the Bonds under **Section 10.1.3** or **Section 10.1.4**, the CM shall deliver to the Contracting Authority an *Acknowledgment of Surety* from the affected Surety or Sureties to evidence the Surety's or Sureties' receipt of notice of the increased penal sums.

10.1.5.3 If any Surety fails or refuses to provide a required *Acknowledgement of Surety*, the Contracting Authority may require the CM to deliver to the Contracting Authority *new Bonds* showing the increased penal sums and *written consent* of the affected Surety or Sureties *confirming the increased penal sums*.

10.1.5.4 Each Acknowledgment of Surety shall be **(1)** *on a form provided by the Contracting Authority* and **(2)** subject to the acceptance of the Contracting Authority.

Questions?

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LUNCH