PROJECT PERFORMANCE QUESTIONNAIRE

Purpose: The University of Colorado at Boulder and Pennsylvania State University are conducting a survey to investigate the role of project delivery methods, contracting terms, procurement, team behavior and technology in project success. Please help us by completing the survey for at least one project you have completed in the last 5 years in the United States. The questionnaire should take between 20-30 minutes to complete. If needed, any follow-up interviews with the respondent will take approximately 15-20 minutes to conduct.

Confidentiality: The project information you provide will be kept in strict confidentiality, within a password protected database. Only the primary investigators and their research assistants will see and have access to your information. In the event of a publication or presentation based on the results of this study, no personal or company identifiable information will be shared.

Participation: Your decision to participate in this research is voluntary and you may withdraw at any time. There is no direct compensation; however, participants may request a copy of the final reports. If you have any questions, complaints or concerns regarding this research, you may contact Dr. Robert Leicht at (814) 863-2080.

Completed questionnaires may be returned by mail or email to:

Dr. Robert Leicht, Dept. of Architectural Engineering, Penn State University
104 Engineering Unit A, University Park, PA 16802
cpf@colorado.edu

SECTION 1: PROJECT CHARACTERISTICS

Project name: _____

Project location: _____

Your name: _____

Your company name: _____

Phone #: _____ Email: _____

Specify your role on the project:

○ Owner ○ Construction Manager (CM)/General Contractor (GC)
○ Architect/Designer ○ Design-Builder ○ Other: _____

Owner type: ○ Public ○ Private

Specify the project type *(e.g. Office, Hospital)* or describe the intended use of the project: _____

Relative to your experience with similar project types, rate the level of complexity for this project *(1=Low, 6=High)*:

Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *High*

Building gross square footage: _____ ft^2

No. of floors above grade: _____ No. of floors below grade: _____

Percentage (by cost or area): Renovation ____ % New construction ____ %

Select the closest foundation type:

○ Slab on grade with spread footings ○ Caissons, piles or slurry walls
○ Mat foundation ○ Other: _____

SECTION 2: PROJECT ORGANIZATION

Select the project delivery system best matching the delivery of your project:

○ Design-Bid-Build ○ Design-Build (DB)
○ Construction Manager at Risk (CM/GC) ○ Integrated Project Delivery

Denote when each project participant was **contracted** for the project *(timing as based on percent of overall design completion)*:

	Pre-Design	Concept (0-15%)	SD (15-30%)	DD (30-60%)	CD (60-90%)	Bidding (Full CD)
Architect/Designer	○	○	○	○	○	○
GC, CM/GC or DB	○	○	○	○	○	○
MEP Contractors	○	○	○	○	○	○
Structural Contactors	○	○	○	○	○	○

Were specialty contractors involved before being contracted? ○ Yes ○ No

Relative to your expectations, evaluate the administrative burden you experienced *(1=Low, 6=High)*:

Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *High*

SECTION 3: PROJECT COST

What were the following project costs?

Provide separate Construction Costs if known; otherwise, enter Total Project Costs only, indicating whether the cost data provided is estimated (E) or actual (A). Please deduct all property costs, owner costs, costs of installed process or manufacturing equipment, furnishings, fittings and equipment, or items not a cost of the base building.

	Construction Costs	Total Project Costs
Contract award	○ E ○ A	○ E ○ A
Final cost	○ E ○ A	○ E ○ A

Estimate the cost of site work *(work performed outside the building footprint)* included in the project costs listed above: $ _____

Are there any unresolved costs or change orders? ○ Yes ○ No

Has the project ever been in litigation?

○ Yes, resolved ○ Yes, unresolved ○ No

If applicable, are the costs of litigation and/or claims included in the project costs listed above? ○ N/A ○ Yes ○ No

SECTION 4: PROJECT SCHEDULE

Please provide the following schedule information:

	Planned *(mm/dd/yy)*	Actual *(mm/dd/yy)*
Design start date *(Notice to proceed)*		
Construction start date *(Notice to proceed)*		
Construction end date *(Substantial completion)*		

SECTION 5: PROJECT QUALITY

If you are the owner, please complete this section. If not, please provide the owner's name or point of contact: _____ , *phone number or email address:* _____ .

Relative to your expectations, evaluate the facility turnover and operation *(1=Low, 6=High):*

	Low 1	2	3	4	5	6 *High*
Difficulty of facility start-up	○	○	○	○	○	○
Number and magnitude of call backs	○	○	○	○	○	○
Operation and maintenance costs	○	○	○	○	○	○

Relative to your expectations, evaluate the quality of the facility and systems *(1=Low, 6=High):*

	Low 1	2	3	4	5	6 *High*
Envelope, roof, structure, foundation	○	○	○	○	○	○
Interior finishes	○	○	○	○	○	○
Environmental systems (lights, HVAC)	○	○	○	○	○	○
Exterior aesthetic (style, proportions)	○	○	○	○	○	○
Interior environment (mood, feel, image)	○	○	○	○	○	○

Rate your overall satisfaction with the design and construction process *(1=Not satisfied, 6=Exceeded expectations)*:

Not satisfied ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *Exceeded*

SECTION 6: PROJECT SAFETY

If you are the builder, please complete this section. If not, please provide the builder's name or point of contact: _____ , *phone number or email address:* _____ .

Number of recordable injuries: _____ Number of lost time injuries: _____

Work-hours for all onsite construction activities *(indicate (E) for estimated or (A) for actual):* _____ ○ E ○ A

SECTION 7: SUSTAINABILITY

Specify any green or sustainable rating system used on this project:

_____

What level of certification was planned and awarded?

Planned: _____ Number of points/credits: _____

Awarded: _____ Number of points/credits: _____

SECTION 8: TEAM PROCUREMENT & CONTRACTS

Indicate how proposals were solicited from each project participant:

	Open Bid	Pre-Qualified Bid	1-Stage RFP	2-Stage RFP	Sole Source
Architect/Designer	○	○	○	○	○
GC, CM/GC or DB	○	○	○	○	○
MEP Contractors	○	○	○	○	○
Structural Contactors	○	○	○	○	○

Which of the following factors were considered in the selection of each project participant *(check all that apply)*?

	Price (Fee)	Price (Work)	Tech. Proposal	Design Concept	Similar Project Experience	Interview Performance
Architect/Designer	☐	☐	☐	☐	☐	☐
GC, CM/GC or DB	☐	☐	☐	☐	☐	☐
MEP Contractors	☐	☐	☐	☐	☐	☐
Structural Contractors	☐	☐	☐	☐	☐	☐

Select the commercial terms used for the following project participants:

	Lump Sum	GMP	Unit Price	Cost Plus
Architect/Designer	○	○	○	○ Fixed Fee / ○ % Fee
GC, CM/GC or DB	○	○	○	○ Fixed Fee / ○ % Fee
MEP Contractors	○	○	○	○ Fixed Fee / ○ % Fee
Structural Contractors	○	○	○	○ Fixed Fee / ○ % Fee

Were performance-based incentives used in any contracts? ○ Yes ○ No

Was the operation and maintenance of the facility included in the contract scope of any team member or members ○ Yes ○ No

Did the project team use a formal partnering agreement? ○ Yes ○ No

If Yes, please explain:

SECTION 9: TEAM CHARACTERISTICS & BEHAVIOR

Indicate the owner's type of relationship with the project team:

Architect/Designer ○ First Time ○ Repeat

GC, CM/GC or DB ○ First Time ○ Repeat

Evaluate each of the following attributes of your project team:

Team's prior experience as a unit *(1=Low, 6=High)*:

Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *High*

Team chemistry *(1=Poor, 6=Excellent)*:

Poor ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *Excellent*

Relative to your expectations, denote the frequency of staff turnover within the project team *(1=Low, 6=High)*:

Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *High*

When was end-user feedback provided to the project *(check all that apply)*?

☐ Inception ☐ Conceptual ☐ DD ☐ Construction

☐ Programming ☐ SD ☐ CD ☐ Operation

Specify when each project participant was **co-located** or sharing a workspace with other team members *(check all that apply)*:

	Owner	Architect/ Designer	CM/GC	MEP Contractors	Structural Contractors
Design Phase	☐	☐	☐	☐	☐
Construction Phase	☐	☐	☐	☐	☐

Evaluate the communication among the project team:

Formality of communication *(1=Informal, 6=Formal)*:

Informal ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *Formal*

Timeliness of communication *(1=Never on time, 6=Always on time)*:

Never ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *Always*

How often did the project team compromise on project issues *(1=Never, 6=Frequently)*?

Never ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *Frequently*

Did the project team manage a shared, internal contingency usable by both design and construction team members? ○ Yes ○ No

Who participated in setting goals for the project *(check all that apply)*?

☐ Owner ☐ Architect/Designer ☐ GC, CM/GC or DB

☐ MEP Contractors ☐ Structural Contractors ☐ Other: _____

To what extent were **all** project team members committed to the same project goals *(1=Very Weakly, 6=Very Strongly)*:

Weakly ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *Strongly*

SECTION 10: PROCESS AND TECHNOLOGY

Number of design charrettes held by the project team: _____

Who was involved with the design charrettes *(check all that apply)*?

☐ Owner ☐ GC, CM/GC or DB ☐ Structural Contractors

☐ Architect/Designer ☐ MEP Contractors ☐ Other: _____

How was Building Information Modeling (BIM) used *(check all that apply)*?

☐ BIM was not used ☐ MEP Coordination/Clash Detection

☐ Architectural Design ☐ 4D Scheduling

☐ Engineered Systems Design ☐ Facility Management

Who was involved in developing a BIM execution plan *(check all that apply)*?

☐ No BIM execution plan was developed for this project

☐ Owner ☐ GC, CM/GC or DB ☐ Structural Contractors

☐ Architect/Designer ☐ MEP Contractors ☐ Other: _____

To what extent was electronic file and information sharing used by the project team *(1=Primarily paper-based, 6=All electronic)*?

Paper-based ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *Electronic*

List any lean tools or approaches consistently used by the project team:

Evaluate the level of offsite fabrication and modularization used on the project *(1=Entirely built onsite, 6=Entirely built offsite)*:

Onsite ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *Offsite*

Did any prefabricated or modularized system on the project involve multiple trades? ○ Yes ○ No

SECTION 11: LESSONS LEARNED

Rate the overall success of this project *(1=Poor, 6=Excellent)*:

Poor ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 *Excellent*

How could this project have been delivered more successfully?

Describe any unique features of this project that may have influenced its cost, schedule, quality or sustainability: