THE CONSTRUCTION INDUSTRY INSTITUTE, BASED AT THE UNIVERSITY OF TEXAS AT AUSTIN, is a consortium of nearly 150 leading owners, engineering-contractor, supplier and related professional firms from both the public and private arenas.

These organizations have joined together to enhance the business effectiveness and sustainability of the capital facility lifecycle through CII research, related initiatives, and industry alliances. CII is unique as the research and development forum for the engineering and construction industry.

OUR MISSION
The mission of CII is to provide a research and development platform to create and drive innovative solutions that tangibly improve business outcomes through an academically-based, disciplined approach.

OUR VISION
CII envisions an efficient capital projects industry that builds predictable value for member organizations, society and stakeholders. Leveraging new ideas, unique forms of collaboration, and knowledge across the capital project and facility lifecycle, CII provides unmatched advocacy for the built environment.
The rationale for participating in CII has never been more compelling. I say that not because of the extensive progress we’ve made reimagining and retooling your Institute for what’s next, but because the value of **making connections and collaborating with other people and other companies** has never been more necessary than it is now.

In following many of our members, I recently read with interest how General Motors was leading a working group of companies including Ford, BMW, Honda, Renault, Bosch, IBM and others to share data gathered from automated driving. The reason? The automakers concluded that it would take between 10 and 20 years to each obtain enough experience to make the automated car commercially viable – but it might only take five years if they shared their experiences and data (in a secure, blockchain-enabled way) with each other. The parallel to CII is unmistakable – working together, our members can realize their desired business outcomes much faster and at a heightened level relative to what they could accomplish on their own.

Throughout 2018, CII focused on reshaping our operations to provide consistency and an improved focus on what’s needed to facilitate our members’ success in the future. In fact, our Funded Studies Committee took the initiative through the year to engage “futurists” at the University of Houston to help them envision what the Institute needs to be researching today to meet our companies’ needs in the years ahead. More than just the new research programs that emerged (i.e., AI for AWP, Workforce 2030, and Collaborative Delivery), a desire for CII to intensify its focus on a core set of strategic initiatives was gained (think eight, not 80, initiatives being worked on by CII’s 11 committees). That focus has now generated a renewed interest amongst our membership to make connections with peers and collaborate with competitors in new and exciting ways.
Moving forward, your Institute is charting a technology path to the future that includes digital project delivery.

CII is creating a new “data lake” to better understand industry metrics and new products to synthesize the past and current research so that it can be deployed by our members and the industry. And, CII is focused on reaching even more companies and engaging their executives in these pursuits. If we’re going to elevate our members’ business results, we must involve our companies’ business leaders, too.

Steve Jobs once said that “You can’t ask customers what they want and then give it to them. By the time you get it built, they’ll want something new.” As a result, CII has to think in both the short- and long-term. We must provide innovations for projects under way and also the capability and resolve to succeed in an uncertain future. Resolve of this type requires research which needs financial and human resources. In this regard, 2018 paved the way to make long-term success possible. Some examples:

- The staff and leadership of CII successfully reduced our annually recurring expenses by renegotiating our supporting cost structure with The University of Texas.
- In partnership with CURT, CII articulated the research needed to create a new commercial model and business ecosystem known as Operating System 2.0 (OS2). This activity generated significant non-dues research dollars, plus brought new companies into CII.
- Through RAPID, part of the Department of Energy and Manufacturing USA, CII received funding to research the next generation of modularization (think miniaturized, self-contained plants).

The work we completed with you in 2018 has made CII more relevant than ever. Because of these efforts, I expect that the amount of money dedicated to program funding will triple in 2019 compared with the amount available just five years ago. I also anticipate that the benefits will be exponential in terms of member impact and our global and industry sector reach. Importantly, I am confident that improved business opportunities and increased financial success lie “just ahead” for our membership.

Some years ago, Forbes magazine cited that most successful companies were passionate about making connections with colleagues, both internal and external. Hallmarks of these companies included being genuine, providing massive help, paying ridiculous attention, cultivating persistence, and remaining unforgettable. Certainly, these are hallmarks that we strive for at CII; in our committees, research teams, communities, and on our staff. I am excited about the progress that CII made in 2018 and I’m bullish about the future of our industry. Please continually let us know what we can do to enable your success — after all, that’s why CII exists! Know that I truly appreciate your involvement in the Institute and your enthusiasm for what’s next.

Sincerely,

Stephen P. Mulva, Ph.D.
DIRECTOR
CONNECTING WITH PEERS

EACH YEAR, CII MEMBERS COME TOGETHER TO SHARE BREAKTHROUGH IDEAS, TAKE PART IN RESEARCH-BASED LEARNING, HONOR PEERS AND NETWORK. NEARLY 600 INDUSTRY LEADERS GATHERED AT THE 2018 CII ANNUAL CONFERENCE IN INDIANAPOLIS.

Top photo: CII Annual Conference attendees experience the latest technologies at the conference’s Innovation Showcase; Bottom photo: craft workers discuss the need for developing the workforce.
STANDING COMMITTEES

ENABLING TANGIBLE BUSINESS OUTCOMES

CII CONTINUED ITS DYNAMIC EVOLUTION IN 2018. Sector committee ideas became research results. Overarching research tackled industry-wide topics. Fiatech officially merged with CII to expand the use of technology, and CII seized the opportunity to continuously improve how it delivers value to its members.

LAST FALL, CII RESHAPED ITS STANDING COMMITTEES TO INCLUDE:

- FUNDED STUDIES
- DEPLOYMENT
- TECHNOLOGY

They are designed to support all sector committees and promote collaboration more efficiently by sharing information, ideas and capabilities. Together, the committees enable innovative research while taking advantage of advanced technologies and resources to turn that research into tools businesses can use.
For overarching research initiatives, the Funded Studies Committee advertises for and selects the most appropriate academic researchers from participating universities, taps motivated CII industry members who volunteer, launches the team, and monitors its progress.
Deployment

CII research creates new knowledge, but that knowledge needs to be transformed into tools or other products that companies can use in order to realize its potential value. At the end of 2018, CII streamlined this effort by creating the Deployment Committee and sunsetting the Implementation, Performance Assessment and Professional Development Committees.

The Deployment Committee’s role is to define the scope and manage the conversion of CII research into useable products related to people, processes, and data, and identify additional resources to help companies adopt those products and principles into their work.

The committee’s priorities for 2019 include developing a Next-Generation Benchmarking Platform to replace our existing obsolete systems and a second product that will help businesses implement CII research to improve their operations.

Deployment manages the CII Registered Provider program, which consists of CII companies who can provide professional education or consulting services to interested members.

The committee also draws on the expertise in the Communities for Business Advancement in order to unlock the value in CII knowledge. Led by subject matter experts, these groups use their expertise to improve project delivery and company business performance through sharing knowledge and techniques, and supporting CII’s Research and Deployment efforts in specific practice areas:

- Advanced Work Packaging
- Information Management
- Modularization
- Project Controls
- Quality Management
- Risk Management
- Safety
- Supply Chain Management
Technology

When CII moved technology from a sector to a standing committee in 2018, it elevated technology’s role in advancing the effectiveness and efficiency of the industry. The Technology Committee identifies, evaluates and promotes current and emerging innovations and technologies — including how they may be used to radically change and improve how things are done rather than simply automating the way work is done now. The committee works to integrate technology into research initiatives as well as imagining where and how technology could be used in the future.

Its Horizons 360 subcommittee looks for and tracks the development of new technologies from other fields that could be applied to capital projects. From digital integration to artificial intelligence to drones, the committee is considering a range of technologies as it solicits and assesses ideas for research or industry release. The Technology Committee also is developing a Digitally Structured Project Delivery system that incorporates the latest technologies and delivery trends from planning through operations and maintenance that would increase a project’s return on investment.

30-45%

Adoption of proven technology can improve construction industry productivity by 30-45%, as well as improve material predictability and reliability.
BUSINESS-DRIVEN RESEARCH

CII HAS FIVE SECTOR COMMITTEES to meet the varying needs of members across the capital projects industry. Driven by key business imperatives for its sector, each committee oversees one or two research initiatives designed to be completed within 6-12 months.

Examples of tangible results from this work include the Construction Readiness Assessment tool for the Downstream and Chemicals sector, a scope definition tool developed for the Manufacturing and Life Sciences sector, and tools being developed to improve predictability, agility and cost-effectiveness of a design standardization strategy in the Upstream, Midstream and Mining sector.

THE DOWNSTREAM AND CHEMICAL SECTOR DEVELOPED A DECISION-SUPPORT TOOL TO ASSESS A PROJECT’S CONSTRUCTION READINESS THAT DEMONSTRATED A:

- **20%** COST SAVINGS
- **29%** GAIN IN PRODUCTIVITY
- **22%** SCHEDULE REDUCTION*

* COMPARED TO PROJECTS NOT CONSTRUCTION READY
CII SECTOR COMMITTEES, THEIR COMPOSITION AND FOCUS:

**UPSTREAM, MIDSTREAM + MINING**
Includes onshore and offshore facilities and terminals, mining, pipelines, and oil and gas production
**FOCUS** Determining how higher levels of facility design standardization can be achieved

**FACILITIES + HEALTHCARE**
Includes government buildings, healthcare facilities, higher education institutions, hospitality, and commercial buildings
**FOCUS** Creating and testing a methodology and tool for predicting lifecycle business returns

**POWER, UTILITIES + INFRASTRUCTURE**
Includes power (generation and transmission), utilities (electric, gas, water, wastewater, steam, recycling, waste processing, and telecommunications), and infrastructure (rail and subway, ports and terminals, airports, roads, bridges, and tunnels)
**FOCUS** Assessing and defining existing methodologies used to proactively identify, anticipate, and respond to pre-existing and ever-evolving regulatory requirements

**MANUFACTURING + LIFE SCIENCES**
Includes industrial facilities related to pharmaceuticals, automobile and high-tech manufacturing, food/beverage, agriculture, pulp/paper, consumer products, and companies whose primary purpose is to engineer, design, and build or revamp facilities that include a manufacturing process
**FOCUS** Developing a methodology for generalizing a long-lead flexible facility with an undefined manufacturing process

**DOWNSTREAM + CHEMICALS**
Includes industrial facilities related to refining, petrochemical, specialty chemical, and industrial chemicals production
**FOCUS** Establishing a road map for research on how to double productivity
CARROLL H. DUNN AWARD OF EXCELLENCE

As one of our industry’s most prestigious recognitions, this award was named in honor of Carroll H. Dunn, Project Director of the Construction Industry Cost Effectiveness Project, which formed the foundation of CII, to honor an individual for significant achievements in improving the engineering and construction industry.

Throughout her career, Melissa Herkt has successfully led major capital projects around the world while improving the engineering and construction industry, and mentoring rising leaders. Her career and countless years of service to CII and the industry have earned her this well-deserved honor.

Herkt began at Exxon Research and Engineering Company before serving as Vice President of Global Project Management for GlaxoSmithKline. She went on to Emerson Process Management, where she retired in 2012 as president and chief operating officer of the Systems and Solutions group. Her numerous accolades include the 2012 Richard L. Tucker Leadership and Service Award, and CII's 2004 Outstanding Implementer Award. She has been a frequent speaker in CII’s Executive Leadership Program, a member of CII’s BOA and Executive Committee, a Research Committee Chair, a Benchmarking Associate and a Data Liaisons Committee member.

Herkt is a mentor to the Auburn Engineers Without Borders. She was inducted into the Alabama Engineering Hall of Fame in 2008 and the National Academy of Construction in 2009, and received the 2015 Auburn Alumni Association Lifetime Achievement Award.

RICHARD L. TUCKER LEADERSHIP AND SERVICE AWARD

Named for Dr. Richard L. Tucker, who led the founding of CII in 1983, this award recognizes individuals who have made a significant contribution to CII’s mission and success.

For more than 13 years, Dr. Bill O’Brien has been an outstanding role model, mentor, active volunteer and champion of CII, making him a natural to receive this award. He has been instrumental in leading and supporting change, holding leadership roles in the formation of CII sector groups and not only serving as the interim Director of Fiatech, but also overseeing its successful integration into CII.

Throughout his career, Dr. O’Brien has led, taught and served others as a civil engineer, a start-up innovator during the early years of the Internet, a researcher, and an expert on construction supply-chain management and electronic collaboration. His research has been supported by the National Science Foundation, National Institute of Standards and Technology, CII, the Transportation Research Board, and the Texas Department of Transportation. In 2012, Dr. O’Brien received CII’s Outstanding Researcher Award, and his work on Advanced Work Packaging was designated a Best Practice by CII. Dr. O’Brien currently teaches at The University of Texas.
For more than 50 years, John Fish’s relentless pursuit of “a better way” has led to decades of technological improvement in the capital projects industry.

Since 1994, he has represented S & B Engineers and Constructors, Ltd. and Ford, Bacon & Davis at CII, where he was part of the research team that developed the first PDRI and alignment tools. He continued on several CII teams to improve front-end planning and served as a guest lecturer for the CII Best Practices course at The University of Texas. In 2005, Fish joined Fiatech to initiate a program to fully digitize the manufacturer and supplier data, and remains active in the global development and adoption of innovative practices and technologies to realize the highest business value throughout the life cycle of capital assets.

Fish also spent 22 years in the Army Reserves, where he developed a data-centric training system and another that grew into the fully integrated Project Information Management System supporting engineering, procurement, materials, and construction. At Ford, Bacon & Davis, he helped make it possible to use 3D design on small projects and use conceptual models for front-end planning. He assisted in the implementation of laser scanning, clash detection, the use of tablets, touchscreens, and 3D plastic printed models for conceptual visualization and operator training.
DRIVING VALUE

As the premier research and development platform for the engineering and construction industry, CII and its members are creating and driving innovative solutions that tangibly improve business outcomes and advance our industry.

OWNERS

Abbott
Adventist Health
Ameren Corporation
American Transmission Company LLC
Anadarko Petroleum Corporation
Anheuser-Busch InBev
Aramco Services Company
Architect of the Capitol
Ascend Performance Materials
AstraZeneca
BP America, Inc.
Bruce Power
Cargill, Inc.
Chevron
ConocoPhillips
Consolidated Edison Company of New York
Covestro LLC
DTE Energy
Eastman Chemical Company
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EnLink Midstream
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General Electric Company
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Global Infrastructure Partners
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Huntsman Corporation
Irving Oil Limited
Johnson & Johnson
Kaiser Permanente
Koch Industries, Inc.
Linde North America
LyondellBasell
Marathon Petroleum Corporation
Motiva Enterprises, LLC
National Aeronautics & Space Administration
NOVA Chemicals Corporation
Nutrien
Occidental Petroleum Corporation
ONEOK, Inc.
Ontario Power Generation
Petroleo Brasileiro S/A - Petrobras
Petronas
Phillips 66
Pioneer Natural Resources
Public Service Electric & Gas Company
Reliance Industries Limited (RIL)
SABIC - Saudi Basic Industries Corporation
Shell Global Solutions US Inc.
Smithsonian Institution
Southern Company
Tennessee Valley Authority
The Dow Chemical Company
The Procter & Gamble Company
The Williams Companies, Inc.
TransCanada Corporation
U.S. Army Corps of Engineers
U.S. Department of Commerce/NIST/EL
U.S. Department of Energy
U.S. Department of State
U.S. Department of Veterans Affairs
U.S. General Services Administration
**CONTRACTORS**

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**SERVICE PROVIDERS**

| Atlas RFID Solutions | Enstoa, Inc. |
| Autodesk, Inc. | ePM |
| AVEVA Solutions Ltd. | FMI Corporation |
| Bentley Systems Inc. | Group ASI |
| Blue Cats | Hexagon Process Power & Marine |
| Construct-X, LLC | Hilti Corporation |
| Continuum Advisory Group | I.M.P.A.C.T. |
| Dassault Systèmes SE | iConstruct |
| Deloitte | Insight-AWP Inc. |
| Design + Construction Strategies | JMJ Associates LLC |
| | |
| | McKinsey & Company, Inc. |
| | O3 Solutions |
| | On Track |
| | Pathfinder, LLC |
| | Pillsbury Winthrop Shaw Pittman LLP |
| | PTAG, Inc. |
| | Valency Inc. |
For more than two decades, PIP has been developing and implementing common industry practices for facility design, procurement, construction, operations and maintenance that help reduce a facility's total cost of ownership.

Members share their collective wisdom by collaborating across more than a dozen engineering disciplines. They draw on their combined experiences to define and document practices for all members to use while staying on top of emerging trends. Members are currently exploring opportunities in areas such as metadata as part of a long-term goal to digitally deliver PIP practices. Practices include the following disciplines:

- **Process**
- **Mechanical**
- **Piping**
- **CSA**
- **I/E**
## FINANCIALS

Construction Industry Institute, The University of Texas at Austin
2018 Financial Report | December 31, 2018
DOES NOT INCLUDE FINANCIAL INFORMATION FOR PIP

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<th><strong>COMPOSITION OF AVAILABLE FUNDS</strong></th>
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<tr>
<td>Other available funds</td>
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<tr>
<td><strong>ENDING AVAILABLE FUNDS BALANCE</strong></td>
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To the Management and Board of Advisors
Construction Industry Institute
Cockrell School of Engineering
The University of Texas at Austin

We have performed the procedures enumerated below, which were agreed to by Construction Industry Institute (Institute) management, on Member Dues and Available Funds reported in the Institute’s 2018 financial report to be included in its annual report. The Institute’s management is responsible for Member Dues and Available Funds reported in the 2018 financial report. The sufficiency of these procedures is solely the responsibility of the Institute’s management. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

Our procedures and associated findings are as follows:

• We obtained from management the 2018 financial report to be included in the annual report.
• We obtained from management certain financial reports from *DEFINE, The University of Texas at Austin’s software that accounts for the Institute’s financial transactions.
• We obtained from management the QuickBooks company file that the Institute uses to supplement *DEFINE for financial reporting purposes.
• We have provided below a reconciliation of the Institute’s “member dues” revenues from membership payments reported in *DEFINE to the 2018 financial report.
• We have provided below a reconciliation of the Institute’s ending “available funds” balances from *DEFINE to the 2018 financial report.

Reconciliation of Member Dues per *DEFINE to the 2018 financial report:

Membership payments received per *DEFINE: $4,550,069

Reconciling items:
  - Add: 2018 member dues accrued (receivable) 426,000
  - Add: 2018 member dues received (deferred) in prior year 435,600
  - Less: 2017 member dues accrued in prior year (415,800)
  - Less: 2019 member dues deferred (198,000)
  - Less: Miscellaneous reconciling items (21,604)

Member dues reported in Annual Report $4,776,265
Reconciliation of Available Funds per *DEFINE to the 2018 financial statement:

Free Balances per *DEFINE: $ (418,435)

Add: Encumbered funds (not yet spent) 2,216,732

Adjusted Free Balances per *DEFINE: 1,798,297

Reconciling items:

Add: 2018 member dues accrued (receivable) 426,000
Add: PIP O/H accrued (receivable) 104,517
Add: Other accounts receivable 137,126
Less: 2019 member dues deferred (198,000)
Less: 2019 Executive Leadership Program revenues deferred (306,440)
Less: Accounts payable and accrued expenses (182,956)
Less: CCIS Funds (86,524)
Less: Miscellaneous reconciling items –

Ending Available Funds Balance per Annual Report $ 1,692,020

This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. We were not engaged to and did not conduct an audit or review, the objective of which would be the expression of an opinion or conclusion, respectively, on Member Dues and Available Funds reported in the Institute’s 2018 financial report. Accordingly, we do not express such an opinion or conclusion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the information and use of Management and the Board of Advisors of the Institute and is not intended to be and should not be used by anyone other than these specified parties.

Austin, Texas
February 14, 2019