



# CONSTRUCTION MANAGEMENT: EVOLUTION OF A PROFESSION

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## Introduction

The task CMAA took on at its founding, and has now pursued for nearly 35 years, is both unusual for an association and quite challenging. Faced with a perennially underperforming industry, CMAA's founders wanted to apply professional management skills to help construction owners save time and money. To achieve this, they had to define and gain acceptance for a new profession.

Once that recognition was achieved, CMAA has faced the continuing challenge of maintaining relevance, increasing the value of the profession, and fostering strong relationships with other participants in the architecture/engineering/construction field – all to help fulfill its original goal of applying professional management to solving owners' pressing problems.

"Management" of construction has been around, of necessity, for as long as construction itself. The idea of separating construction management into a separate contract for professional services began to gain attention in the 1960s. Over the years, CM has been thought of as part of the engineer's portfolio, as an ancillary service provided by architects, and as a routine part of what construction contractors do. It has been discussed (if not exactly "taught") as part of a wide variety of college and university curricula.

The term "construction management" was itself subject to confusion and competing claims. Architects and engineers often used the term to describe their construction administration responsibility. General contractors used it to describe what their construction superintendents did. Government employees like the Corps of Engineers used it to describe what they did. The term was used to describe a person, a person's job, a project delivery process, the construction activity of anyone engaged in the construction industry or the curriculum in a university aimed at educating future general contractors. Meanwhile, a new cadre of creative people were trying to sell CM as a professional service. The industry badly needed clarity, and the emerging new profession needed definition.

Yet from these scattered seeds, over the last four decades, a recognized profession of construction management has emerged. Advancing this profession has been the mandate of CMAA since its founding in 1982. To achieve its goals CMAA has had to:

- Provide a neutral forum for practitioners of CM to share their ideas.
- Communicate exactly what a "profession" is.
- Demonstrate that the practice of CM meets those criteria.
- Create effective "barriers to entry" to protect owners and society from unqualified, self-identified practitioners.
- Define a clear societal benefit to be gained by bestowing the title of "professional" on CM practitioners.
- Develop standards of practice and ethical conduct.
- Identify the minimum knowledge and skills required for the practice of CM, while maintaining flexibility to accommodate future growth.
- Help the academic community develop and deliver appropriate education programs.
- Determine who in the construction industry would be most influential in recognizing the new profession.
- Devise a way to distinguish professional CMs from less qualified practitioners.

- Shape the relations between the new profession and older, related disciplines to define productive and collaborative working relationships.
- Create a future vision for the profession.

Most established professions have filled out these requirements over generations, if not centuries. Construction management is much younger, and rather than evolving over time, CM's development has been consciously driven by its leading practitioners and its national association.

CMAA's job was not really to "create" a new profession, since at least some individuals had already been practicing CM, by whatever name, well before the association's creation. Instead, the task was to assure that CM would be practiced to a consistent professional standard by all practitioners in all areas; that CMs would have uniform and appropriate education, and that they would embody a true code of professional ethics.

Two conditions need to exist before such an effort can even be launched:

- There must be individuals in the marketplace who are in fact practicing a new profession not embraced within any pre-existing definitions; and
- There must be a perceived need for the values and opportunities a new profession can provide.

CMAA's founders were driven by pressing problems in the capital construction industry. Project complexity was multiplying quickly. Double-digit inflation in construction costs meant delays – long pervasive in the industry – had extreme consequences for owners. Projects were being slowed, cancelled or even abandoned in midstream. Major improvements in capital construction execution were simply imperative.

## The Elements of a Profession

The United States Office of Personnel Management, in its Job Family Series documentation, offers this description of a profession:

"Professional work involves exercising discretion, analytical skill, judgment, personal accountability, and responsibility for creating, developing, integrating, applying, and sharing an organized body of knowledge:

- Uniquely acquired through extensive education or training at an accredited college or university;
- Equivalent to the curriculum requirements for a bachelor's or higher degree with major study in, or pertinent to, the specialized field; and
- Continuously studied to explore, extend, and use additional discoveries, interpretations, and applications to improve data quality, materials, equipment, applications, and methods."

In his book *The System of Professions* (University of Chicago Press, 1988), author Andrew Abbott defines a profession as “an occupational group with some special skill.” Abbott further identifies universities as “legitimizers of professional knowledge and expertise.”

In practical terms, a profession can be identified by these qualities:

- Its practitioners exercise independent judgment in response to conditions that vary and are not easily predicted or controlled.
- This judgment is shaped by rigorous and specialized education, coupled with broadly accepted Standards of Practice.
- The Standards of Practice and related Body of Knowledge undergo continuous review and improvement.
- The professional practice is governed by a Code of Ethics and represented by a single nationwide association.
- The professional has a moral obligation to place the client’s interests above his or her own, and to place society’s interest above all.

In addition, according to Abbott, it is critical that the profession itself determine what skills and knowledge it requires of newcomers. To be successful, a profession must be able to control who can claim membership. In this regard, Abbott says, “a single, identifiable national association is clearly a prerequisite.”

Generally, all professions over the years have tended to form associations to provide venues in which practitioners can share thoughts about improving their part of an industry or culture. And professions, by and large, tend to advocate and benefit from procurement regimes that emphasize qualifications over cost, such as the federal Brooks Act governing procurement of architectural and engineering services.

## Origins of CMAA

The creation of CMAA had two key preliminary actions. In 1975, the three leading national associations representing architects, engineers and general contractors issued a joint statement that for the first time recognized CM was a separate discipline and that the skills and knowledge needed to perform CM were not automatically part of the education and skill sets of other practitioners. “The basic minimum capabilities of contractors, architects and engineers do not necessarily or automatically provide an individual with all of the skills required of a competent CM.”

That statement further called for additional collaboration to “define, develop and disseminate the standards and levels of quality of CM...(and) develop guidelines and educational programs.”

Among the participants in that 1975 statement were Charles Thomsen, AIA, George Heery, AIA, and Frank Muller, PE, one of the co-authors of the first true textbook of CM, *Construction Management: A Professional Approach* (1978). Thomsen would later produce the first of several books on CM and Program Management, *CM: Developing, Marketing and Delivering Construction Management Services* (1982).

Walter Meisen, then acting commissioner of the Public Buildings Service, U.S. General Services Administration, was another key player in launching this new understanding of CM, representing the viewpoints and priorities of one of the nation's most influential program owners. Robert Marshall of Turner Construction was another early member of the group that called itself the "white hats."

These practitioners were among some three dozen who gathered in 1981 in Indianapolis to form a steering committee to begin organizing a new association for CMs.

In defining the new profession, CMAA's founders first reached out to the pre-eminent companies and individuals practicing CM in the late 1970s and early 1980s. It was critical to recruit prospective charter members who were well known in the industry, who self-identified as construction managers, and who had extensive knowledge and experience. These individuals would bring the new profession not only authority but credibility.

This cross-section of expertise is reflected in the association's founding Board of Directors, which included representatives from Heery Program Management, Parsons Brinckerhoff Construction Services, Hill International, CH2M Hill, and O'Brien-Kreitzberg & Associates.

Since these were the practitioners shaping the emerging profession at the time, they became the natural resource for CMAA in accessing experience, opinions and intellectual property and assembling these resources into a new Body of Knowledge for CM.

Shortly after the association's founding, a Standards of Practice Committee was formed to begin codifying the minimum levels of service and effectiveness expected of a professional CM. The first draft SOP, published in 1986, and an extensive revision that followed in 1988, represented the first formal statement of how CMs should be expected to practice their profession, and what levels of service and quality owners could expect.

## The Key Voice: Owners

CMAA recognized that the constituency with the greatest influence on the acceptance of the profession would be owners of capital construction projects and programs. They had the most to gain from quicker, smoother, more efficient project delivery. It was the owner community's urgent need for better construction outcomes that gave the initial spark to the creation of the CM profession. As a result, much of CMAA's activity in the ensuing years has been directed at getting owners involved in the association and committed to the profession.

The federal government was the arena in which CMAA efforts first bore fruit. Such major players as the U.S. General Services Administration and the Army Corps of Engineers saw the benefit of CMAA's Standards of Practice and became members of the association. Major state, regional and local government entities, including the New York City Metropolitan Transportation Authority, followed suit.

CMAA worked with these and other agencies to develop language that could be included in bid solicitations expressing the agencies' preference to work with professional CMs, or mandating that professional CMs be part of a bidder's project team.

Identifying professional CMs, and setting them apart from the many other specialists who could claim to perform construction management, came to the fore as a challenge for the association. The answer began to take shape in 1986 when CMAA began work on a certification program for construction managers.

The association created an affiliate, the Construction Manager Certification Institute, and made several key decisions. First, CMCI would work to create a credential based on career-long achievement, not simply a certificate that could be earned through a short-term course and a test. Second, the credential qualification process would stress “responsible-in-charge” experience on actual projects. Third, no practitioner would be “grandfathered” into certification. Everyone, no matter how senior, would have to go through the same process to become a Certified Construction Manager.

CMAA also decided, in the early 2000s, to seek accreditation of its CCM program by the American National Standards Institute (ANSI). ANSI accreditation would verify that the CCM program operated under the norms set forth in the International Organization for Standardization’s ISO 14024, assuring the industry of the program’s transparency, fairness and rigor.

To obtain ANSI accreditation, CMAA had to develop a very detailed understanding of the basic functions CMs performed on actual jobs every day, and demonstrate the close connection between these tasks and the content of the CCM examination. In 2006, CMAA carried out the first comprehensive study of the actual job competencies required of a CM. This study identified 120 distinct job functions, spread across seven broad areas from project management planning to cost, time, and quality management to contract administration.

The CCM examination, taken by candidates who have met the education and experience requirements for the credential, reflects the distribution of these tasks as defined by the study.

In 2007, ANSI granted its accreditation to the CCM program, and CMCI has maintained it through the present through regular ANSI audits and program refinements, including a new job task analysis to be carried out in 2016.

CMAA has promoted the CCM credential as a valuable additional qualification for practitioners, including licensed professional engineers, who wish to practice CM. The association has not advocated formal government licensing of CMs, largely because construction management can be effectively practiced by holders of a variety of other existing licenses. The key point, in CMAA’s view, is that these licenses by themselves do not vouch for the holders’ expertise in CM, but the Certified CM designation does.

2013 brought another milestone in the establishment of construction management as a profession. As the U.S. Office of Personnel Management has long stated, professionalism entails specialized education at “an accredited college or university.” Previously, there had been no specifically CM programs accredited by the leading accrediting body in the engineering field, ABET.

Acting on the initiative of a number of universities, ABET in 2013 invited CMAA to become a member society and to lead an effort to develop criteria for ABET accreditation of undergraduate CM programs. CMAA assembled a steering group in which the other major industry organizations participated, along with owners and major service providers, and published its draft criteria in 2014. After a process of public comment and review, ABET approved the criteria in late 2015 and the first three university programs achieved accreditation in the fall.

A clearly defined educational path and a distinguishing credential for experienced practitioners are two key markers of professionalism in CM, and indicators that CMAA's original task of establishing construction management as a recognized profession has largely been achieved.

Moreover, CMAA's message of credentialed professional has gained significant acceptance, particularly in government settings. A growing number of agencies now encourage or require their own in-house CMs to become certified. Similarly, agencies are increasingly including in their Requests for Proposals specific citations of the CM Standards of Practice and/or requirements that proposed project teams be led by Certified CMs.

CMAA has also been a strong advocate of Qualifications Based Selection as the basis for procurement of CM services. QBS procurements place first emphasis on a bidder's professional qualifications and relevant experience, rather than encouraging bidder selection based solely on lowest price. Since passage of the Brooks Act in 1972, this has been the preferred method for procuring engineering and architectural services, and CMAA has consistently advocated a similar approach to securing CM services.

## Into the Future

Achieving recognition for the CM profession is only part of the challenge for CMAA. The second part includes maintaining relevance, increasing the value of the profession, and fostering strong relationships with other participants in the architecture/engineering/construction field.

CMAA's main strategy in addressing this challenge has been to create, and steadily expand, a wide-ranging program of professional development for its members and others, all designed to improve the industry, serve the people who needed to build, and improve the built environment.

Most CMAA programs offer participants the opportunity to earn Professional Development Hours (PDH) or Learning Units (LU). In particular, CMAA has been recognized as a provider of continuing education for architects by the American Institute of Architects, and by other accreditors of continuing education.

To support an effective transition of new practitioners from the academic setting into the workplace, CMAA created the Construction Manager In Training Program (CMIT). Individuals can become CMITs while still in college by taking a course and passing an examination. After graduation, each CMIT is linked to an experienced professional mentor, and CMAA provides educational programs especially suited to these early-career practitioners, including an annual "Rising CM" Conference in conjunction with the association's National Conference & Trade Show.

Perhaps most important is the imperative to understand the evolving needs of capital program owners. Owners have comprised a critical and growing element of the association's membership, are represented on the CMAA Board of Directors, and participate fully in all program planning and other association activities. CMAA strives to respond to owners' needs as well as to convey those needs to its members who provide CM/PM services.

In recent years, owner priorities have largely shifted to emphasize outcomes as well as processes; an asset's lifecycle performance rather than initial cost, and the "triple bottom line" of business, environmental and social impacts. CMAA education programs have increasingly addressed such non-

traditional topics as life cycle analysis, land use, sustainability, supply chain integration and facility management.

CM has also taken on an increasingly global character. US-based firms are providing services to international clients just as international firms become more active in the Americas. Owners in major markets all over the world – from Seoul to São Paulo, and from Beijing to Bahrain – insist on high performance in every aspect of the planning, execution and operation of their capital assets.

What knits all of these demands and opportunities together is the concept of professionalism in construction management. The core of that concept is the professional CM's combination of focused education, defined skill, and high ethical standards, together with the obligation to serve first of all the client's needs and those of the larger society.

These changes, of course, mean a continuing challenge for construction managers as they will be expected to provide expert counsel and effective management of an ever-wider range of services in an ever-larger arena. This evolution will also bring CMAA into ever-closer collaboration with a variety of other industry organizations.

Instead of clear demarcations and hand-offs between distinct disciplines, today's owners want a more collaborative approach to project delivery, with the various specialists all focused on delivering a project that works for the owner, now and in the future.

The professional construction manager is ideally positioned to manage these collaborative teams. Earning that central role for the CM, and equipping CMs to perform it well, remains the most important challenge for the national association for professional construction management, CMAA.

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