

ALABAMA BOARD FOR ENGINEERS & LAND SURVEYORS

GUIDELINES FOR EVALUATING CONSTRUCTION ENGINEERING EXPERIENCE

The State of Alabama Administrative Code, Regulating the Practice of Engineering and Land Surveying, amended, January 4, 2019, defines the PRACTICE OF ENGINEERING, in Section 34-11-1, paragraph (13), a., 4., to include:

The review of construction for the purpose of monitoring compliance with drawings and specifications.

One of the important responsibilities of Alabama Board for Engineers & Land Surveyors (Board), is to review applications for professional licensure, and determine the appropriateness of experience claimed as meeting the requirement that experience is “progressive experience in engineering work of a grade and character satisfactory to the board” before a certificate of licensure to practice engineering in Alabama is granted. The Board recognizes the increasing need by Companies engaged in construction activities, to have competent engineering oversight of those construction activities, especially for complex construction projects. Accordingly, these Companies are increasing the requirements for engineering graduates involved in construction, to obtain professional licensure. The Board determined that it would be beneficial to develop guidance for evaluating the experience of those applicants involved in construction, and generally outline the types of experience that can be considered engineering during a project construction phase.

The practice of engineering is regulated in order to “safeguard health, life, safety, welfare and property”. Construction can present risks, and the construction engineer must possess a working engineering knowledge in order to promote safety and reduce risks during construction. The construction engineer is responsible for coordination of all engineering disciplines to ensure compliance with project plans and specifications and satisfactory project completion.

Just as Pre-construction activities can be generally divided between “Engineering Design” and “Drafting” in the preparation of construction plans, Construction activities can be considered “Construction Engineering” or “Inspection” during a project construction phase. It is also important to evaluate the organizational structure of a Construction Company to determine at what level within a construction management team, engineering decisions are made. These two factors should be considered when reviewing construction experience.

Generally speaking, construction experience will be credited by the Board, if in the opinion of the Board, the experience is of a nature that is responsible and progressively expands the engineering knowledge and skill of the applicant. Alternatively, the mere

execution of work designed by a professional engineer, or supervisory oversight as would be performed by a construction foreman or superintendent will not be credited.

The Construction Institute of the American Society of Civil Engineers, (ASCE), in their publication, "GUIDE TO PROFESSIONAL ENGINEERING LICENSURE for the CONSTRUCTION ENGINEER", emphatically states, "Experience in construction can be valid, but it must demonstrate the use of engineering principles, including design. This is not necessarily design in the traditional sense of the design of the facility. Rather, it is important to understand that engineering design includes design of systems and processes. In construction, the construction engineer is involved in the design of the construction process and the design of systems (for example, safety systems) for execution of that process. Just as costs, specifications, materials, and coordination are part of the appropriate experience of the traditional designer for the facility, they are also part of the appropriate experience of the construction engineer."

The Board can only consider construction experience as described in the application for licensure. Therefore, the applicant must take care to accurately explain and document relevant construction engineering experience. Construction engineering experience claimed, must have been performed under the oversight and supervision of a Professional Engineer and verified by that same Professional Engineer supervisor.

Again, the earlier referenced ASCE publication, offers a listing of construction activities to be considered when evaluating construction engineering experience. Construction engineering activities* include:

- Design of equipment fleet operations and productivity; temporary support systems; and formwork systems.

- Design and optimization of project schedule

- Value Engineering

- Quality Control

- Materials testing

- Construction Plant design

- Design of temporary haul roads

- Design, maintenance, and adaptation of Traffic Control plans

- Design, Inspection, and Application of Temporary erosion Control

- Reviewing Shop drawings and Vendor submissions

Analyzing and correcting construction failures

Analyzing changed site conditions

Design Build Coordination

Design of Rigging and conveyance systems

Coordination among other Disciplines involved in the construction

Scheduling and Budget review

* This list is not intended to be all inclusive, but is included as a representation of the types of engineering activities performed during construction

This document does not purport to offer a cookbook recipe for evaluating construction experience claimed by applicants for professional licensure. It is, however intended to provide general guidance to assist the Board with their responsibility to evaluate experience in the area of construction engineering.