

ASSOCIATE CIVIL ENGINEERDEFINITION

Under general supervision, performs complex professional engineering work; directs the work of a project team or unit of professional and technical staff; performs related work as assigned.

DISTINGUISHING CHARACTERISTICS

This is the working lead level class in the professional engineering series. This class is distinguished from Associate in Civil Engineering, in that the latter does not require registration as a Professional Civil Engineer. It is further distinguished from Senior Civil Engineer which is the first full supervisory level in this series.

EXAMPLES OF DUTIES (Illustrative Only)

- Plans, assigns, directs and reviews the work of a professional and technical project team or unit performing engineering duties in the areas of design, construction, transportation planning, traffic engineering and/or real property.
- Participates in the hiring of assigned staff, recommending selection for management approval.
- Trains assigned staff in areas of responsibility; evaluates performance and counsels staff as required.
- Assists in budget preparation for the unit; monitors annual expenditures.
- Provides technical and professional assistance to staff; reviews plans, specifications, contract documents and other reports and documents to ensure compliance with applicable codes, policies and procedures.
- Assists in policy and procedure development and implementation.
- Personally performs the most difficult and complex engineering assignments; plans, reviews and participates in design work, contract administration and land use activities.
- Prepares and reviews project quantity and cost estimates; analyzes structures, roadways and other project sites for engineering, economic, legal, and other considerations.
- Performs complex project engineering work for a group of smaller projects or for major construction projects; inspects and monitors contract work for compliance with plans, specifications, codes and deadlines.
- Manages and administers County parks modification and construction projects from project definition, through bidding, construction and completion.
- May provide surveying assistance to the real property manager for parcel assessment and property acquisition; develops legal property descriptions.
- Directs and supervises survey crews; directs and reviews the reduction of field data and the preparation of maps, plans, cross-sections and related documents.
- Coordinates assigned activities with those of other divisions, departments and public and private organizations and individuals.

- Represents the department and the County in meetings with property owners, engineers, contractors, developers, attorneys and representatives of other organizations.
- Prepares and maintains a variety of records and reports related to unit activities.
- Acts as "engineer in responsible charge" on assigned projects; approves and signs off on drawings and project documents.

#### QUALIFICATIONS

##### Knowledge of:

Basic supervisory principles and practices.  
Principles and practices of civil engineering design and construction.  
Principles and practices of land development and transportation planning.  
Principles and practices of traffic engineering.  
Principles and practices of contract administration and project management and evaluation.  
Applicable codes, regulations, standards and safety practices.  
Construction materials, methods and equipment.  
Computer applications related to engineering work.  
Engineering mathematics.  
Basic principles of budget development and administration.  
Office administrative principles and practices.

##### Skill in:

Performing detailed analysis of designs, specifications, and plans.  
Applying engineering principles and techniques to the solution of complex civil engineering problems.  
Planning, assigning, directing, reviewing and evaluating the work of others.  
Training others in work procedures.  
Organizing work, setting priorities and exercising sound independent judgment within policy guidelines.  
Preparing clear, concise and accurate reports, records and correspondence.  
Analyzing complex civil engineering data and reports, evaluating alternatives and reaching sound conclusions.  
Dealing tactfully and effectively with the public, staff, other agencies, engineering firms, contractors, developers, manufacturers and others.

##### Other Requirements:

Must possess a valid driver's license. Must possess a valid California Registration as a Professional Civil Engineer.

##### Education and Experience:

Equivalent to graduation from a four year college or university with major coursework in civil engineering and two years of professional engineering experience in design, project management construction and/or right-of-way work at a level equivalent to the County's Assistant in Civil Engineering II class.

NOTE: The above qualifications are a typically accepted way of obtaining the required knowledge and skills.

ASSOCIATE CIVIL ENGINEER

DEFINITION

Under general supervision, performs complex professional engineering work; provides lead direction to a project team or unit of professional and technical staff; performs related work as assigned.

DISTINGUISHING CHARACTERISTICS

This is the lead level classification in the professional engineering series provides direction as assigned. This class is distinguished from Senior Civil Engineer which is the first full supervisory level class in the professional engineering series.

EXAMPLES OF DUTIES (Illustrative Only)

- Plans, assigns, provides lead direction, and reviews the work of a professional and technical project team or unit performing engineering duties in the areas of design, construction, transportation planning, traffic engineering, and/or real property.
- Trains assigned staff in areas of responsibility and provides for their development.
- Assists in budget preparation for projects and monitors project expenditures.
- Provides technical and professional assistance to staff; reviews plans, specifications, contract documents, and other reports and documents to ensure compliance with applicable codes, policies, and procedures.
- Assists in policy and procedure development and implementation.
- Performs the most difficult and complex engineering assignments; plans, reviews, and participates in design work, contract administration, and land use activities.
- Prepares and reviews project quantity and cost estimates; analyzes structures, roadways, and other project sites for engineering, economic, legal, and other considerations.
- Performs complex resident engineering work for a group of smaller projects or for major construction projects; inspects and monitors contract work for compliance with plans, specifications, codes and deadlines.
- Coordinates the activities of the unit with other divisions, departments, and public and private organizations and individuals.
- Represents the department and the County in meetings with property owners, engineers, contractors, developers, attorneys, and representatives of other organizations.
- Prepares and maintains a wide variety of records and reports related to unit activities.
- May act as "engineer in responsible charge" on assigned projects of a less complex nature; approves and signs off on drawings and project documents.

QUALIFICATIONS

Knowledge of:

- Basic supervisory principles and practices including work planning, scheduling, review, and employee training.
- Principles and practices of civil engineering design and construction.

Associate Civil Engineer  
Page Two

- Principles and practices of land development and transportation planning.
- Principles and practices of traffic engineering.
- Principles and practices of structural engineering.
- Principles and practices of contract administration and project management and evaluation.
- Applicable codes, regulations, standards, and safety practices.
- Construction materials, methods, and equipment.
- Computer applications related to engineering work.
- Engineering mathematics.
- Basic principles of budget development and administration.
- Office administrative principles and practices.

Skill in:

- Performing detailed analysis of designs, specifications, and plans.
- Applying engineering principles and techniques to the solution of complex civil engineering problems.
- Planning, assigning, providing direction, and reviewing the work of others.
- Training others in work procedure.
- Organizing work, setting priorities, and exercising independent judgement within policy guidelines.
- Dealing tactfully and effectively with the public, staff, other agencies, engineering firms, contractors, developers, manufacturers, and others.
- Preparing clear, concise, and accurate reports, records, and correspondence.
- Analyzing complex civil engineering data and reports, evaluating alternatives, and reaching sound conclusions.

Other Requirements:

Must possess a valid driver's license. Must possess a valid California Registration as a Professional Civil Engineer.

Education and Experience:

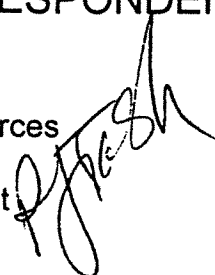
- Equivalent to graduation from a four-year college or university with major course work in civil engineering and two years of professional engineering experience in design, construction, and/or right-of-way work at a level equivalent to the County's Assistant in Civil Engineering II class.

**NOTE:** The above qualifications are a typically accepted way of obtaining the required knowledge and skills.

## HUMAN RESOURCES DEPARTMENT

### INTERDEPARTMENTAL CORRESPONDENCE

**TO:** Kathryn Libicki, Director of Human Resources

**FROM:** Patricia J. Tash, Senior Personnel Analyst 

**DATE:** April 18, 1997

**SUBJECT:** Revision of Job Specification for Associate Civil Engineer Classification

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I have had discussions with several senior management staff members of the Department of Transportation, including Robert Slater and Richard Brown as well as Michael Stoltz, Director of Transportation regarding the minimum qualifications for the classification of Associate Civil Engineer. The Department of Transportation is requesting that these qualifications be modified.

Currently, we require as a minimum qualification, registration as a Professional Engineer. This was to permit the Associate Civil Engineer to act as "Engineer in Responsible Charge" enabling the incumbent to sign off on plans. DOT staff has pointed out that there are individuals who may not be registered but may have the qualifications to perform all other functions of the Associate Civil Engineer classification with the exception of signing off plans. The Department states that they have staff at the Senior Civil or Supervising Civil Engineer level who have traditionally acted as "Engineer in Responsible Charge". Therefore, the incumbents at the Associate level do not necessarily have to be able to perform that function.

The Department of Transportation has requested the job specification for the Associate Civil Engineer be modified as follows:

Other Requirements:

Must possess a valid driver's license. Must possess a valid California Registration as a Professional Civil Engineer.

Possession of a valid California Registration as a Professional Civil Engineer may be waived if an applicant meets all of the following requirements:

- Graduation from and engineering curriculum with a Bachelor of science degree in engineering or equivalent four year engineering degree.

Assoc. Civil Engineer  
Memorandum  
Page 2

- Seventeen or more years of professional engineering-related experience.
- Possession of valid written notification of qualification to set for the professional engineer's examination from the State of California Board of Registration for Professional Engineers and Land Surveyors.

This change would affect a minimal number of candidates as most would meet minimum qualifications in the traditional manner. However, this change would give the department some flexibility in hiring and/or promoting if the need arose.

Bill Carey, Building Official, is aware of the proposed changes to this job specification. He feels that this change will not have a negative impact on the functioning of his department as the Building Department also utilizes the job classification of Associate Civil Engineer.

Attached is a copy of the revised job specification for the classification of Associate Civil Engineer.

cc: Michael Stoltz  
Bill Carey  
Richard Brown  
Charles Egbert

**HUMAN RESOURCES DEPARTMENT  
INTERDEPARTMENTAL CORRESPONDENCE**

**DATE:** May 1, 1997

**TO:** Patricia J. Tash, Senior Personnel Analyst

**FROM:** Kathryn Libicki, Director of Human Resources *KL*

**SUBJECT:** Revision of Job Specification - Associate Civil Engineer

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I am in receipt of your memo dated April 18, 1997 regarding revision of the Associate Civil Engineer job specification. Pursuant to Section 302 of Personnel Management Resolution #228-84, the requested revision is hereby approved. The changes are nominal and do not affect the salary, nor require substantive revision of the job specification; therefore it does not require submittal to the Board of Supervisors for their approval. However, please ensure that, by copy of this memo and your memo, both the job specification and classification history folder are updated.

**cc:** Michael Stoltz  
Bill Carey  
Richard Brown  
Charles Egbert

## ASSOCIATE CIVIL ENGINEER

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### DISTINGUISHING CHARACTERISTICS

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### EXAMPLES OF DUTIES (Illustrative Only)

- Plans, assigns, provides lead direction, and reviews the work of a professional and technical project team or unit performing engineering duties in the areas of design, construction, transportation planning, traffic engineering, and/or real property.
- Trains assigned staff in areas of responsibility and provides for the development.
- Assists in budget preparation for projects and monitors project expenditures.
- Provides technical and professional assistance to staff; reviews plans, specifications, contract documents, and other reports and documents to ensure compliance with applicable codes, policies, and procedures.
- Assists in policy and procedure development and implementation.
- Performs the most difficult and complex engineering assignments; plans, reviews, and participates in design work, contract administration, and land use activities.
- Prepares and reviews project quantity and cost estimates; analyzes structures, roadways, and other project sites for engineering, economic, legal, and other considerations.
- Performs complex resident engineering work for a group of smaller projects or for major construction projects; inspects and monitors contract work for compliance with plans, specifications, codes and deadlines.
- Coordinates the activities of the unit with other divisions, departments, and public and private organizations and individuals.
- Represents the department and the County in meetings with property owners, engineers contractors, developers, attorneys, and representatives of other organizations.
- Prepares and maintains a wide variety of records and reports related to unit activities.
- May act as "engineer in responsible charge" on assigned projects of a less complex nature; may approve and sign off on drawings and project documents.

### QUALIFICATIONS

#### Knowledge of:

Basic supervisory principles and practices including work planning, scheduling, review, and employee training.

Principles and practices of civil engineering design and construction.

Principles and practices of land development and transportation planning.

Principles and practices of traffic engineering.

Principles and practices of structural engineering.



Principles and practices of contract administration and project management and evaluation.  
Applicable codes, regulations, standards, and safety practices.  
Construction materials, methods, and equipment.  
Computer applications related to engineering work.  
Engineering mathematics.  
Basic principles of budget development and administration.  
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Skill in:

Performing detailed analysis of designs, specifications, and plans.  
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Training others in work procedure.  
Organizing work, setting priorities, and exercising independent judgement within policy guidelines.  
Dealing tactfully and effectively with the public, staff, other agencies, engineering firms, contractors, developers, manufacturers, and others.  
Preparing clear, concise, and accurate reports, records, and correspondence.  
Analyzing complex civil engineering data and reports, evaluating alternatives, and reaching sound conclusions.

Education and Experience:

Equivalent to graduation from a four-year college or university with major course work in civil engineering and two years of professional engineering experience in design, construction, and/or right-of-way work at a level equivalent to the County's Assistant In Civil Engineering class.

Other Requirements:

Must possess a valid driver's license. Must possess a valid California Registration as a Professional Civil Engineer.

Possession of a valid California Registration as a Professional Civil Engineer may be waived if an applicant meets all of the following requirements:

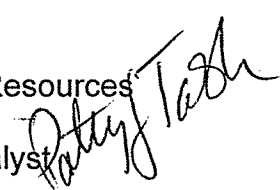
Graduation from an engineering curriculum with a Bachelor of science degree in engineering or equivalent four year engineering degree.

Seventeen or more years of professional engineering-related experience.

Possession of valid written notification of qualification to set for the professional engineer's examination from the State of California Board of Registration for Professional Engineers and Land surveyors.

NOTE: The above qualifications are a typically accepted way of obtaining the required knowledge and skills.

**INTERDEPARTMENTAL CORRESPONDENCE  
HUMAN RESOURCES DEPARTMENT**

DATE: August 29, 2000  
TO: Kathryn Libicki, Director of Human Resources  
FROM: Patty J. Tash, Senior Personnel Analyst   
RE: Revisions of Job Specifications for Civil Engineering Class Series and Associate Land Surveyor

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In the interest of increasing our ability to recruit and retain qualified professional engineers, our department has been meeting periodically with staff from the Department of Transportation to discuss these issues and develop strategies for success.

One of the issues we have discussed is whether the minimum qualifications for the professional engineering series could be modified to allow licensed engineers from other states to compete for our positions (currently the requirement is licensure in the State of California). The department is now requesting that the job specifications for Associate Land Surveyor, Associate Civil Engineer, Senior Civil Engineer, Senior Traffic Civil Engineer, and Supervising Civil Engineer be revised as follows:

Other Requirements:

Must possess a valid driver's license. Must possess a valid California Registration as a Professional Civil Engineer **or obtain licensure in California by comity (reciprocity) within the one-year probationary period.**

If an employee failed to receive his/her California registration within the one year probationary period, they would be released from probation.

Revising the job specification will allow us to recruit for these positions nation-wide and will enable us to more effectively utilize recruitment tools such as the internet.

cc: Matt Boyer, Director of Transportation  
Bob Slater, Deputy Director of Engineering  
EDCEA, Local 1

same branch of engineering has been approved by the Board, or who is serving in a tenure-track faculty position in a Board-approved engineering curriculum, at the level of Assistant Professor or higher. This waiver is in effect until January 4, 2000.

f. A person who holds a valid license in another branch of professional engineering in California.

(B&P 6755, 6759; CCR 438)

Note: EIT waivers are not available to applicants without an earned BS degree in engineering, or to applicants with a non-ABET degree in engineering technology.

**2: Q4. What are the steps that an applicant must take to become licensed as a Professional Engineer by examination in any branch of engineering?**

A4. a. For all branches of engineering, comply with all of the following requirements:

(1) Not have committed any acts or crimes which would be grounds for denial of license (see Section 2, Question 18).

(2) Become certified as an "Engineer-in-Training" (EIT) by passing the EIT exam in California or in another state, or by qualifying for a waiver thereof (see Section 2, Questions 2 and 3).

(3) Obtain the Professional Engineer application package from the Board (see Section 1, Question 3 for the Board address and telephone number).

(4) Type the application and the engagement record portion of the Engagement Record and Reference Forms and include evidence of sufficient qualifying experience with no gaps or overlapping engagements and with all statements made under oath. *An engagement is a period of time for which engineering experience was gained without a significant change of responsibility. The use of the words "see attached" and the inclusion of additional documents and/or a resume is not acceptable and may not be substituted for the completed engagement record portion of the forms.* {As a suggestion, if the experience description is completed using a word processor and a printer which will allow for a smaller than normal type size, a great deal of information can be included on the form itself.} The engagement record portion of the forms must be completed in sufficient detail to allow the Board to determine that the nature and the extent of the engineering work claimed to have been performed by the applicant has indeed been qualifying (see Section 2, Question 19 for the required amount of experience to be verified). {While typing may seem to be an unreasonable requirement, the Board receives about 13,000 applications a year, all of which must be reviewed by several different people, and microfilmed. Hence, the requirement that the application and accompanying forms must be typewritten; handwritten applications and forms will not be accepted.}

(5) Sign the application and the engagement record portion of the Engagement Record and Reference Forms under

penalty of perjury. {Applications will not be processed without a Social Security Number or an Individual Taxpayer Identification Number.}

(6) Send the Engagement Record and Reference Forms to the required reference persons. (See Section 2, Questions 7, 25, & 26 for important information about references). The references must complete their portion of the form, sign the form, seal it in the envelope provided, sign across the flap (and affix their seal if appropriate) and return the sealed envelopes to the applicant.

(7) If the applicant is claiming experience credit for education, he or she should contact their college and have a current copy of his or her official transcript sent to him or her in a sealed envelope. Credit will only be given for education if an official transcript is received in a sealed envelope, and it clearly shows the degree received and the date it was issued. If a college will not provide an official transcript, or if the college is no longer in existence, the applicant should include certified photocopies of the transcripts in their possession. If the applicant's name as it appears on the transcript does not match the name used on the application, a change-of-name affidavit form must be filed with the application. Also, if the original transcript or other educational document is in a language other than English, a copy of it must be accompanied by an original certified English translation. Thus, foreign education from a non-English speaking university must be verified by certified copies of the original documents in the non-English language, and by the originals of the documents comprising the certified English translation. {Documents of this type do not need to be received in a sealed envelope}

(8) {If the applicant wishes to be notified when his or her application has been forwarded to professional staff for review and when the review of the application is complete, the applicant should return the two postcards included in the application package with his or her name and address on the front and the required postage affixed.}

(9) Return the two stamped cards (optional), the typed application, the typed Engagement Record and Reference Forms in the sealed envelopes, and the transcript (optional) in a sealed envelope, along with the applicable filing fee, to the Board. All of the foregoing material must be returned to the Board in the envelope provided and it must be postmarked or hand delivered by the final filing date. The California Board will obtain your EIT verification if you indicated on your professional application that you passed the EIT examination in another state.

(10) Complete and pass the take-home test on California engineering laws and the Board's rules. The test should be returned within 30 days of the time that it is provided to the applicant, or as soon as possible thereafter, in order to avoid any possible delay in issuing the applicant's license. {Comity applicants are mailed this exam; all others receive a copy at the examination site.}

(11) Pass the appropriate eight-hour professional engineer's examination.

b. For persons seeking a civil engineering license:

(1) Comply with all of the steps (1) through (11) listed above.

(2) In addition, the applicant must pass special tests on seismic principles and on engineering surveying principles, which are given as two additional 2½-hour proctored tests on the day after the regular eight-hour professional engineer's examination.

(B&P 480, 6750, 6751, 6755, 6755.1, 6755.2; CCR 420, 422, 427.10)

**2: Q5. What type of activity constitutes qualifying experience for a professional engineer license and how many years of credit may be obtained for each type?**

A5. a. Credit is given toward the six-year qualifying experience requirement as follows:

(1) Undergraduate Education

(a) Four years' credit for graduation with an engineering degree from a Board approved engineering curriculum (see Section 2, Question 1, part b). Canadian engineering programs accredited by the Canadian Engineering Accreditation Board entitle the graduate to four years credit. Except in very unusual circumstances, the credit will be granted as of the date indicated on the official transcript that the degree was actually awarded. This four years' credit will NOT be given to a graduate from a non-ABET approved engineering curriculum.

(b) Two years credit for graduation with a bachelor's level engineering technology degree, or one year credit for graduation with an associate level engineering technology degree, from a technology curriculum which has been accredited by the Technology Accreditation Commission (TAC) of ABET.

(c) Two years credit for graduation with an engineering degree from any school whose engineering curriculum is not Board approved (this includes all foreign schools). Transcripts from foreign universities must be translated if not in English.

(d) The Board may at its discretion give credit as qualifying experience of up to one-half year for each year of successfully completed study (not to exceed two years' maximum credit) in an engineering curriculum which did not result in a four-year engineering degree. A year of undergraduate education is equal to 32 semester units or 48 quarter units. This credit will not be granted for any education which overlaps with qualifying work experience.

(e) A maximum of five years experience credit shall be granted for graduation from a cooperative (CO-OP)

work-study program from an engineering curriculum accredited by ABET.

(2) Post-Graduate Education

The Board may give a maximum of one year credit as qualifying experience for satisfactorily completed graduate work in an ABET-approved curriculum. No credit will be given for foreign graduate work or graduate work done in any non-ABET approved curriculum. Completed post-graduate work is work for which a degree has been received.

(3) Engineering Teaching

The law allows the Board to give a maximum of one year credit as qualifying experience for engineering teaching in a college curriculum, provided that an applicant is claiming no more than four years credit for education.

(4) Engineering Work Experience

Qualifying engineering work experience is that experience in the appropriate branch of engineering which has been gained while performing professional level engineering tasks under the direction of a person authorized to practice in the branch of engineering in which the applicant is seeking licensure. There is no limit to the amount of such qualifying experience which will be accepted by the Board, provided that the experience meets the other requirements indicated herein. Applied engineering research is considered to be an engineering task, which may constitute qualifying experience.

Work in management, proposal writing, contract administration, estimating, sales, and other peripheral areas, however, is presumed to contain little or no element of qualifying experience, and therefore an applicant must provide a detailed explanation of what portions of such work are actually qualifying and why the Board's presumption is not correct, if the applicant expects to obtain any credit for this type of work. Such peripheral experience will then be evaluated on a partial credit basis as applicable to each applicant's particular situation. Thus, the actual credit allowed may range from near zero to a substantial amount.

All civil engineering work experience must be gained while working under the direction of a licensed Civil Engineer.

For applicants claiming education credit, work experience must begin after the date of graduation, as shown on the transcripts, and be complete prior to the exam final filing date. Official school transcripts or an official letter from the College Registrar, indicating the date that all of the degree requirements were met, are the only acceptable means of verifying graduation dates. Applicants not claiming any

education credit must take and pass the EIT exam and be able to verify at least six years of professional level engineering work.

Subprofessional work such as work normally performed by a drafter or a technician is not qualifying. Nor is construction inspection qualifying. However, work as a field engineer may be qualifying. The distinction is covered by Section 6703.1 of the B & P Code, which reads as follows:

"Supervision of the construction of engineering structures' means the periodic observation of materials and completed work to determine general compliance with plans, specifications, and design and planning concepts. However, 'supervision of the construction of engineering structures' does not include responsibility for the superintendence of construction processes, site conditions, operations, equipment, personnel, or the maintenance of a safe place to work or any safety in, on, or about the site. For purposes of this subdivision, 'periodic observation' means visits by an engineer, or his or her agent, to the site of a work of improvement."

Work between semesters while in college is not qualifying experience because (1) it is usually at a subprofessional level and (2) credit as experience cannot be given for two types of experience, which occur in the same time period. Since a full year's credit is given for two semesters or three quarters of schoolwork, giving credit for work performed during the summer would be double counting.

A problem area that often occurs with professional engineer applicants trying to use the same experience more than once. This happens because there is some degree of overlap between the various branches of engineering. Consequently, applicants often construe their experience as being all applicable to the one branch in which they are applying, so that they can gain maximum experience credit. They do not separate out different kinds of experience, but instead, they lump it altogether. The application reviewer, however, must apply a strict interpretation of the experience in each engineering branch, as determined by the statutes and the Board Rules. Thus, in such situations, the reviewer must attempt to determine from the information provided by the applicant, exactly how much of the applicant's experience can be accepted for credit toward licensure in the branch in which the person has applied, and invariably, the result is that the applicant often receives less credit than he or she expected. In situations where the applicant has verified only marginally sufficient experience, this often results in an applicant being found ineligible for lack of sufficient qualifying experience.

For instance, applicants frequently confuse what is civil engineering and what is traffic engineering. Engineering work such as traffic periodicity, street and highway capacity studies, traffic forecasting, signal placement and timing, pavement striping, parking lot layout, and other related items, are traffic engineering and do not count as civil engineering work experience. Other areas of engineering

such as geometric studies which are preliminary to the design of fixed works, e.g., the planning of intersection layouts and turnouts, may be used as experience credit for either civil engineering or traffic engineering, but the same experience cannot be used for both licenses because the experience requirements are different for both disciplines.

Similar overlaps occur between electrical engineering and traffic engineering. Engineering work such as signal system design, highway lighting, the design of special highway message signs, and the design of ramp or lane metering systems, while traffic related, is in fact electrical engineering, not traffic engineering.

Another area of overlap is piping design. The design of municipal water and sewer systems and their associated pipes is clearly civil engineering, but the design of similar piping systems which occur within a building (with the exception perhaps of nuclear power plants) is customarily considered to be mechanical engineering. Thus, as a handy rule of thumb, a building perimeter can be considered as a line of demarcation between the two disciplines when it comes to piping design.

Work experience which has been used to qualify for licensure in one branch of engineering may not be used again to qualify in another branch of engineering. Therefore, applicants who wish to qualify for licensure in more than one branch of engineering must provide evidence of sufficient qualifying experience in each branch in which they wish to seek licensure. In the situation where an applicant's professional experience includes work covered by more than one of the branches of engineering for which licensure is granted in California, the applicant should include with his or her description of their experience on a particular application a summary of only the experience which is pertinent to the branch of engineering covered by that application, and an indication of what percent of their total experience (what percent of the time for each engagement) is applicable to that branch of engineering. For instance, if a particular engagement includes some civil, electrical, and mechanical engineering work, an applicant applying for a mechanical engineer license should list the total time applicable to the entire engagement, should describe only the work experience applicable to the field of mechanical engineering, and should specify the percent of the time during that engagement that the mechanical engineering work was performed. An applicant for licensure as a Civil Engineer must have gained their work experience under the direction of a Civil Engineer legally qualified to practice in the state or country where the work was done.

Total months of qualifying experience does not include time spent in training (except in a recognized rotation program); subprofessional tasks, i.e., drafting, technician work, etc.; non-professional tasks, i.e., sales, construction, etc.; overtime (experience which consists of more than 40 hours per week); work in a second job ("moonlighting"); or



engineering not in the branch for which the applicant is applying. Thus, the total months of qualifying experience accepted by the Board may be less than the total number of months the applicant has claimed to have worked.

b. Credit is given toward the qualifying experience requirement for a waiver of the EIT examination as follows:

Same as provision a. (2), (3) and (4) above. {i.e. post-graduate education, engineering teaching, engineering work experience. NOTE: The education credit described in (a) above does not apply to EIT waiver applicants.}

(B&P 6731, 6751, 6751.2, 6752, 6753, 6753.5; CCR 404, 424, 460)

**2: Q6. Can an applicant receive any experience credit toward a professional engineer license by passing either the EIT or LSIT examinations?**

A6. No! Experience credit toward Professional Engineer licensure has never been allowed for passing the LSIT examination, and the credit that used to be allowed is no longer provided for passing the EIT examination.

**2: Q7. Must an applicant's references be licensed in the same engineering branch that the applicant is seeking licensure?**


A7. That depends. If the applicant is applying for licensure as a civil engineer, and the experience offered has taken place in the United States, all references must be licensed engineers authorized to practice civil engineering, or federal employees (see Section 2, Question 26, for more information). If a civil engineer applicant has had qualifying work experience outside of the United States, the references for that experience must be from persons authorized to practice civil engineering in accordance with the laws of the country in which the experience took place. If such references are not licensed civil engineers, they must provide information, which indicates by what authority they are authorized to practice civil engineering.

If the applicant is applying for licensure as an electrical or mechanical engineer, all references must be from engineers authorized to practice in the discipline in which the applicant is seeking licensure, by virtue of licensure or by exemption. Since licensed civil engineers are authorized to perform supplementary electrical and mechanical engineering work, such persons may serve as references if they meet other requirements. (see Section 2, Question 26 for information on satisfactory references). (See also Section 4, Question 13 for other exemptions from licensure which may be used as the basis on which an unlicensed person can provide a reference for an electrical or mechanical applicant).

If the applicant is applying for licensure in any of the remaining branches of professional engineering, all references must be from engineers who meet the satisfactory reference requirements of Section 2, Question 26. Since these other branches are not practice regulated, all engineers are authorized to practice in those branches, and thus any engineer can serve as a reference, provided, however, that the reference must have sufficient knowledge of the applicant's engineering specialty to be able to make knowledgeable comments about the applicant's performance on the job.

(CCR 427.10)

**HUMAN RESOURCES DEPARTMENT  
INTERDEPARTMENTAL CORRESPONDENCE**

**TO:** Patty J. Tash, Senior Personnel Analyst  
**FROM:** Kathryn Libicki, Director of Human Resources   
**DATE:** September 1, 2000  
**SUBJECT:** Revisions of Job Specifications for Civil Engineering Class Series and Associate Land Surveyor

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I am in receipt of your memo dated August 29, 2000 regarding revision of the job specifications for Associate Land Surveyor, Associate Civil Engineer, Senior Civil Engineer, Senior Traffic Civil Engineer, and Supervising Civil Engineer. Pursuant to Section 302 of Personnel Management Resolution #228-84, the requested revision is hereby approved. The changes are nominal and do not require submittal to the Board of Supervisors for their approval. However, please ensure that by copy of this memo and your memo, both the job specification and classification history folder are updated.

cc: Matt Boyer, Director of Transportation  
Bob Slater, Deputy Director of Engineering  
EDCEA, Local 1

## ASSOCIATE CIVIL ENGINEER

### **DEFINITION**

Under general supervision, performs complex professional engineering work; provides lead direction to a project team or unit of professional and technical staff; performs related work as assigned.

### **DISTINGUISHING CHARACTERISTICS**

This is the lead level classification in the professional engineering series which provides direction as assigned. This class is distinguished from Senior Civil Engineer which is the first full supervisory level class in the professional engineering series.

### **EXAMPLES OF DUTIES (Illustrative Only)**

- Plans, assigns, provides lead direction and reviews the work of a professional and technical project team or unit performing engineering duties in the areas of design, construction, transportation planning, traffic engineering and/or real property.
- Trains assigned staff in areas of responsibility and provides for their development.
- Assists in budget preparation for projects and monitors project expenditures.
- Provides technical and professional assistance to staff; reviews plans, specifications, contract documents and other reports and documents to ensure compliance with applicable codes, policies and procedures.
- Assist in policy and procedure development and implementation.
- Performs the most difficult and complex engineering assignments; plans, reviews and participates in design work, contract administration and land use activities.
- Prepares and reviews project quantity and cost estimates; analyzes structures, roadways and other project sites for engineering, economic, legal, and other considerations.
- Performs complex project engineering work for a group of smaller projects or for major construction projects; inspects and monitors contract work for compliance with plans, specifications, codes and deadlines.
- Coordinates the activities of the unit with other divisions, departments, and public and private organizations and individuals.
- Represents the department and the County in meetings with property owners, engineers, contractors, developers, attorneys and representatives of other organizations.
- Prepares and maintains a variety of records and reports related to unit activities.
- Acts as "engineer in responsible charge" on assigned projects of a less complex nature, may approve and sign off on drawings and project documents.

## **QUALIFICATIONS**

### **Knowledge of:**

- Basic supervisory principles and practices including work planning, scheduling, review and employee training.
- Principles and practices of civil engineering design and construction.
- Principles and practices of land development and transportation planning.
- Principles and practices of traffic engineering.
- Principles and practices of structural engineering.
- Principles and practices of contract administration and project management and evaluation.
- Applicable codes, regulations, standards, and safety practices.
- Construction materials, methods, and equipment.
- Computer applications related to engineering work.
- Engineering mathematics.
- Basic principles of budget development and administration.
- Office administrative principles and practices.

### **Skill in:**

- Performing detailed analysis of designs, specifications, and plans.
- Applying engineering principles and techniques to the solution of complex civil engineering problems.
- Planning, assigning, providing direction, and reviewing the work of others.
- Training others in work procedures.
- Organizing work, setting priorities, and exercising independent judgment within policy guidelines.
- Dealing tactfully and effectively with the public, staff, other agencies, engineering firms, contractors, developers, manufacturers and others.
- Preparing clear, concise and accurate reports, records and correspondence.
- Analyzing complex civil engineering data and reports, evaluating alternatives and reaching sound conclusions.

### **Other Requirements:**

Must possess a valid driver's license. Must possess a valid California Registration as a Professional Civil Engineer or obtain licensure in California by comity (reciprocity) within the one-year probationary period.

### **Education and Experience:**

Equivalent to graduation from a four-year college or university with major coursework in civil engineering and two years of professional engineering experience in design, construction, and/or right-of-way work at a level equivalent to the County's Assistant in Civil Engineering class.

**NOTE:** The above qualifications are a typically accepted way of obtaining the required knowledge and skills.