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CALIFORNIA ARCHITECTS BOARD

PUBLIC PROTECTION THROUGH EXAMINATION, LICENSURE, AND REGULATION

MEMORANDUM

DATE: March 1, 2017

TO: CSE Candidates

FROM: Douglas R. McCauley, Executive Officer

SUBJECT: 2014 CSE Test Plan

The 2014 California Supplemental Examination (CSE) Test Plan was developed based upon the findings of the 2014 Occupational Analysis (OA). The Department of Consumer Affairs' Office of Professional Examination Services conducted the OA using specialized job analysis methodologies.

The Test Plan consists of the critical task and knowledge associated with entry-level of practice, as identified in the OA. The task and knowledge statements retain the numbering assigned to them during the OA.

In the development of the Test Plan, groups of architects served as subject matter experts to review the task and knowledge statements and eliminate those related to tasks and knowledge either already addressed by the National Council of Architectural Registration Boards' Architect Registration Examination or not related to California-specific practice. Accordingly, not all of the 62 task and 82 knowledge statements included as part of the OA will be found in the Test Plan.

Please visit cab.ca.gov for additional information about the CSE and other Board programs.

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2014 CALIFORNIA SUPPLEMENTAL EXAMINATION TEST PLAN

I. General Practice (14%): This area assesses the candidate's knowledge related to core areas of practice applicable across types of projects, construction contract arrangements, and project delivery methods.

Task Statements	Knowledge Statements
1 Advertise and solicit services in compliance with professional and legal requirements.	1 Knowledge of the provisions of the Architect's Practice Act and CA Code of Regulations related to architect's business and professional requirements (e.g., contracts, architectural corporations, responsible control, architect's stamp).
2 Evaluate the project's opportunities and constraints for alignment with client goals and requirements.	2 Knowledge of different project delivery methods and the architect's and project team's corresponding roles and responsibilities (e.g., to client, as part of team).
3 Assess preliminary project requirements including budget and schedule relative to own firm's/organization's business goals, resources, and expertise.	4 Knowledge of types of contracts and their application to the scope of work and the project's service requirements (client, consultant, etc.).
4 Evaluate potential contractual risks and determine strategies to manage them.	5 Knowledge of methods for limiting professional liability (e.g., contractual allocation of risk, standard of care, client and project selection).
5 Collaborate with client to determine scope of work, project delivery method, deliverables, and compensation, etc., to prepare owner-architect agreement.	7 Knowledge of methods for evaluating own/firm's capabilities and capacities in relation to project requirements.
6 Identify the local, state, and federal regulatory jurisdictions impacting project.	9 Knowledge of methods and procedures for identifying the regulatory agencies having jurisdiction over the project and their specific requirements.
7 Identify the project team members (e.g., architects, engineers, specialty consultants) and who is responsible for the contracting, management, and coordination of each member.	13 Knowledge of architect's role and responsibilities for managing project and contractual risk for the architect and client.
8 Collaborate with client to determine the specific roles and responsibilities of project participants (e.g., owner's representative, architect, contractor, construction manager).	15 Knowledge of the architect's role and responsibilities in orchestrating the architect's consultants and the entire project team.
9 Solicit the consultants to be contracted under the architect and evaluate their qualifications and scope of services based on project requirements.	16 Knowledge of the architect's professional and contractual responsibilities related to the client.
	20 Knowledge of methods and techniques for resolving conflicts that occur during design and construction.

I. General Practice (14%) (continued)

Task Statements	Knowledge Statements
<p>10 Implement strategies for managing contractual risk (QA/QC, peer review).</p> <p>11 Implement strategies for managing and documenting communication (e.g., point of contact, reporting methods) between the architect, client, and team and between the design team and external parties (e.g., agencies, stakeholders).</p> <p>12 Implement strategies to control risk and manage liability for the client (e.g., due diligence, accessibility).</p> <p>17 Conduct periodic progress meetings with design and project team to identify potential issues in work processes or team communication and develop plans to address the issues.</p> <p>19 Manage the design team's fees, deliverables, and schedules to conform to contract.</p>	

II. Programming / Design (36%): This area assesses the candidate’s ability to identify and evaluate site and project opportunities and constraints in developing design concepts that meet the client’s, user’s, and stakeholder’s needs and applicable California regulations.

Task Statements	Knowledge Statements
<p>20 Perform or evaluate site feasibility studies (e.g., size, gradient, infrastructure, environmental conditions) to clarify and address project requirements.</p> <p>21 Assist client in evaluating design concepts based on budget, aesthetics, etc., to determine design direction.</p> <p>22 Review program with client to validate project requirements and gain approval to proceed.</p> <p>23 Provide consultants with program and background information to collaboratively develop the design concept.</p> <p>24 Develop the project program using multiple approaches (e.g., surveys, interviews) to identify and evaluate user needs.</p> <p>25 Present project to community groups and other stakeholders for their input and feedback.</p> <p>28 Integrate sustainable design strategies and technologies into design.</p> <p>29 Identify the specific requirements of regulatory agencies and discuss their incorporation into the design/program with client and design team.</p> <p>30 Prepare and submit exhibits and application forms to governing agencies (e.g., Planning Department, Coastal Commission, Design Review Board) for discretionary approvals.</p>	<p>23 Knowledge of methods for developing design solutions with the involvement of client, users, consultants, and stakeholders.</p> <p>26 Knowledge of environmental conditions regulated in California (e.g., wetlands, coastal regions, habitats of endangered species) related to design and construction.</p> <p>27 Knowledge of the impacts to project from environmental conditions (e.g., seismic activity, fire, winds, flood zone, hazardous materials) and their potential mitigations.</p> <p>28 Knowledge of processes and procedures for obtaining discretionary approvals.</p> <p>29 Knowledge of processes and procedures for compliance with local codes and ordinances related to design.</p> <p>30 Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction.</p> <p>31 Knowledge of methods and procedures for complying with California Coastal Act as it related to design and construction.</p> <p>32 Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction (e.g., air quality requirements for dust mitigation, limitations on generator exhaust).</p> <p>33 Knowledge of methods and procedures for complying with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to the design and construction of hospitals, schools, fire/police stations, etc.</p> <p>34 Knowledge of what is encompassed by the California Building Standards Code (e.g., building, electrical, mechanical, plumbing, energy) and how the CBSC is distinct from the model codes.</p>

II. Programming / Design (36%) (continued)

Task Statements	Knowledge Statements
<p>31 Work with agency staff to incorporate proposed conditions of discretionary approval into project documents.</p> <p>32 Develop design concepts based on program requirements and constraints placed by applicable laws, local codes, ordinances, etc.</p>	<p>35 Knowledge of methods and procedures for complying with provisions of the California Building Standards Code related to design, construction, and accessibility.</p> <p>36 Knowledge of methods and procedures for complying with the California Health and Safety Code related to design and construction.</p> <p>37 Knowledge of methods and procedures for complying with the California water quality regulations related to design and construction.</p> <p>38 Knowledge of the Americans with Disabilities Act (ADA) with regard to how it impacts architectural practice (e.g., client and architect responsibilities, design, construction).</p> <p>39 Knowledge of national standards (e.g., UL, ANSI, ASTM, Factory Mutual) relevant to design and construction.</p>

III. Development / Documentation (30%): This area assesses the candidate's knowledge regarding developing design solutions, managing a project team, and preparing design and construction drawings and documents in conformance with the project program and applicable California regulations.

Task Statements	Knowledge Statements
<p>33 Lead the preparation of design development documents that integrate the architectural design and engineered building systems.</p> <p>34 Analyze and coordinate the selection and design of building systems (e.g., structural, mechanical, electrical, fire safety, security) with consultants.</p> <p>35 Lead the project team in the integration of the regulatory requirements into the design development documents.</p> <p>36 Coordinate design with input from client and the overall project team (e.g., general contractor, building official), and evaluate/incorporate their inputs based on project requirements.</p> <p>37 Perform value engineering and life-cycle cost analyses to advise owner about approaches for managing project costs.</p> <p>39 Analyze and integrate the selection of sustainable design strategies and technologies into the design.</p> <p>40 Incorporate final conditions of discretionary approval into project documents.</p> <p>41 Conduct constructability review of Design Development documents.</p> <p>42 Coordinate the preparation of the construction documents (e.g., architectural, structural, mechanical, civil, electrical, specs) and resolve potential conflicts or errors.</p>	<p>41 Knowledge of methods and procedures for evaluating and integrating building systems (e.g., structural, mechanical, electrical, plumbing, life safety, conveying, building systems controls) into the project design.</p> <p>42 Knowledge of methods and procedures for evaluating building materials (e.g., material characteristics, performance, testing standards) for selection into the project design.</p> <p>46 Knowledge of architect's role and responsibilities in leading project team in order to obtain necessary agency approvals at the appropriate time.</p> <p>48 Knowledge of methods for performing a QA/QC review of Design Development documents including constructability.</p> <p>49 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements for environmental quality: CEQA, Coastal Act, Clean Air Act, water quality regulations, etc.</p> <p>50 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to design and construction of hospitals, schools, fire/police stations, etc.</p> <p>51 Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC).</p> <p>52 Knowledge of methods and procedures for demonstrating design compliance with local regulations: zoning, planning, general plan, CBSC modifications, etc.</p> <p>53 Knowledge of methods and procedures for demonstrating design compliance with federal laws and authorities: ADA, Army Corps of Engineers, FAA, etc.</p>

III. Development / Documentation (30%) (continued)

Task Statements	Knowledge Statements
<p>44 Manage distribution and review of documents during the construction document and permit phases.</p> <p>45 Prepare construction documents that meet program requirements and project goals, and present to client for approval.</p> <p>46 Prepare construction documents and verify conformance with the conditions of prior agency approvals and applicable codes and regulations.</p> <p>47 Perform a detailed review of construction documents for constructability and incorporate changes into final documents.</p> <p>48 Manage the submittal of construction documents to regulatory agencies through initial submittal, coordinating responses, and obtaining approvals.</p>	<p>54 Knowledge of methods and procedures for demonstrating design compliance with National Standards: NFPA, ASTM, etc.</p> <p>55 Knowledge of methods for performing a QA/QC review of construction docs including constructability, code compliance, etc.</p> <p>57 Knowledge of methods and procedures for managing the distribution and review of documents during the construction document and permit phases.</p> <p>59 Knowledge of contents of contract documents (e.g., construction drawings, specifications, project manual) required for agency approval, bidding, and construction.</p> <p>61 Knowledge of methods for documenting the anchoring of nonstructural elements as defined by the California Building Code (e.g., fixtures and equipment items, nonbearing partitions, suspended ceilings).</p> <p>62 Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over the project to obtain final approvals (local, regional, State, federal).</p> <p>63 Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions).</p> <p>64 Knowledge of the architect's role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.</p>

IV. Bidding / Construction (20%): This area assesses the candidate’s knowledge related to California regulations associated with project bidding, construction, and post-construction activities.

Task Statements	Knowledge Statements
<p>49 Assist client in the bidding process (e.g., distribute documents, conduct pre-bid meetings, prepare addenda).</p> <p>50 Assist client in selecting contractors and negotiating construction contracts.</p> <p>51 Prepare bid documents appropriate to the selected delivery method.</p> <p>52 Manage the initiation/processing of documents to record construction changes (e.g., Construction Change Directives, Architect’s Supplemental Instructions, Change Orders).</p> <p>53 Participate in pre-construction and pre-installation meetings with contractor as required by the contract documents.</p> <p>54 Monitor project construction costs and schedule (e.g., review and certify contractor applications for payment, verify lien releases).</p> <p>55 Review test, inspection, observation schedules, programs and reports for conformance with construction documents.</p> <p>56 Review shop drawings and submittals during construction for conformance with design intent.</p> <p>57 Conduct periodic site observations/field reports to confirm that construction is in general conformance with contract documents.</p>	<p>66 Knowledge of architect’s role and responsibilities related to construction bidding and negotiation processes.</p> <p>67 Knowledge of the provisions of the California Public Contract Code related to the bidding and contracting requirements for publicly funded projects.</p> <p>68 Knowledge of California laws related to design professional and contractor liens and their implications for the architect’s and client’s responsibilities.</p> <p>70 Knowledge of the interrelationships and responsibilities between the owner, architect, and contractor during construction.</p> <p>71 Knowledge of methods for resolving conflicts that occur during construction (e.g., mediation, arbitration, litigation).</p> <p>73 Knowledge of procedures for determining general conformance of construction with contract documents (e.g., observation, submittal reviews, RFIs).</p> <p>74 Knowledge of methods and procedures for implementing changes during construction (e.g., Architect’s Supplemental Instructions, Change Orders).</p> <p>75 Knowledge of procedures for monitoring construction costs and schedules (e.g., reviewing and certifying payments to contractor, reviewing lien releases).</p> <p>76 Knowledge of procedures for performing project close-out (e.g., Certificate of Substantial Completion, Notice of Completion, final lien releases).</p> <p>77 Knowledge of the California construction laws related to minimum warranty periods.</p>

IV. Bidding / Construction (20%) (continued)

Task Statements	Knowledge Statements
<p>58 Respond to contractor Requests for Information.</p> <p>59 Assist client with evaluating possible changes to the project during construction (e.g., cost, scope, schedule, quality).</p> <p>60 Manage project close-out procedures (e.g., Certificate of Substantial Completion, Notice of Completion, verification of final lien releases, verification of public agency approvals) per contract</p> <p>61 Conduct post-construction services (e.g., post- occupancy evaluations, extended commissioning, record drawings) per contract.</p> <p>62 Assist owner with resolving post-occupancy issues, (e.g., evaluation of building performance, warranty issues).</p>	<p>78 Knowledge of code-required special inspections and testing (e.g., field welding, high-strength concrete).</p> <p>79 Knowledge of State inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings.</p>