CALIFORNIA ARCHITECTS BOARD

SEPTEMBER 12, 2013

BURBANK, CALIFORNIA

Edmund G. Brown Jr.
GOVERNOR

CALIFORNIA ARCHITECTS BOARD

PUBLIC PROTECTION THROUGH EXAMINATION, LICENSURE, AND REGULATION

NOTICE OF BOARD MEETING

September 12, 2013
9:30 a.m. – 5:00 p.m.
Woodbury University
Saffell Board Room
7500 Glenoaks Boulevard
Burbank, California
(818) 252-5121

The California Architects Board will hold a Board meeting, as noted above. The agenda items may not be addressed in the order noted below and the meeting will be adjourned upon completion of the agenda, which may be at a time earlier than that posted in this notice. The meeting is open to the public and is accessible to the physically disabled. A person who needs a disability-related accommodation or modification in order to participate in the meeting may make a request by contacting Annamarie Lyda at (916) 575-7202, emailing annamarie.lyda@dca.ca.gov, or sending a written request to the Board at the address below. Providing your request at least five business days before the meeting will help to ensure availability of the requested accommodation.

Agenda

A. Call to Order – Roll Call – Establishment of a Quorum

B. President's Remarks

C. Public Comment Session

D. Approve the June 13, 2013 Board Meeting Minutes

E. Executive Officer's Report
   1. Update to August 2013 Monthly Report
   2. Update and Possible Action on Legislation Regarding Senate Bill 308 (Lieu) [Sunset Review of California Council for Interior Design Certification], Assembly Bill (AB) 186 (Maienschein) [Military Spouses], AB 630 (Holden) [Instruments of Service], and AB 834 (Williams) [Energy Commission Citations]
   3. Discuss and Possible Action on Recommended Budget Change Proposal Options

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F. National Council of Architectural Registration Boards (NCARB)
   1. Review and Possible Action on Mutual Recognition Agreement Between NCARB and Canadian Architectural Licensing Authorities
   2. Report on the NCARB Practice Analysis
   3. Update on 2013 Changes to the NCARB Architect Registration Examination Process

G. Closed Session – [Closed Session Pursuant to Government Code Sections 11126(c)(1) and (3)]
   1. Review and Approve June 13, 2013 Closed Session Minutes
   2. Discuss and Possible Action on California Supplemental Examination (CSE) Development and Administration

H. Discuss and Possible Action on Process for Conducting an External Review and Evaluation of CSE Development

I. Landscape Architects Technical Committee (LATC) Report
   1. Update on August 20, 2013 LATC Meeting
   2. Review and Approve Proposed Regulations to Amend California Code of Regulations (CCR) Section 2610 (Application for Examination)
   3. Review and Approve Proposed Regulations to Amend CCR Section 2649 (Fees)

J. Review of Schedule

K. Adjournment

The notice and agenda for this meeting and other meetings of the Board can be found on the Board's website: *www.cab.ca.gov*. Any other requests relating to the Board meeting should be directed to Ms. Lyda at (916) 575-7202.

Agenda Item A

CALL TO ORDER -- ROLL CALL -- ESTABLISHMENT OF A QUORUM

Roll is called by the Board Secretary or, in his/her absence, by the Board Vice President or, in his/her absence, by a Board member designated by the Board President.

Business and Professions Code Section 5524 defines a quorum for the Board:

> Six of the members of the Board constitute a quorum of the Board for the transaction of business. The concurrence of five members of the Board present at a meeting duly held at which a quorum is present shall be necessary to constitute an act or decision of the Board, except that when all ten members of the Board are present at a meeting duly held, the concurrence of six members shall be necessary to constitute an act or decision of the Board.

BOARD MEMBER ROSTER

Jon Alan Baker

Chris Christophersen

Pasqual V. Gutierrez

Jeffrey D. Heller

Sylvia Kwan

Matthew McGuinness

Fermin Villegas

Sheran Voigt

Hraztan Zeitlian

Agenda Item B

PRESIDENT'S REMARKS

Board President Sheran Voigt, or in her absence, the Vice President will review the scheduled Board actions and make appropriate announcements.

Agenda Item C

PUBLIC COMMENT SESSION

Members of the public may address the Board at this time. The Board President may allow public participation during other agenda items at their discretion.

Agenda Item D

APPROVE THE JUNE 13, 2013 BOARD MEETING MINUTES

The Board is asked to approve the minutes of the June 13, 2013 Board meeting.

Attachment:
June 13, 2013 Board Meeting Minutes

MINUTES

REGULAR MEETING

CALIFORNIA ARCHITECTS BOARD

June 13, 2013

Sacramento, CA

A. CALL TO ORDER – ROLL CALL – ESTABLISHMENT OF A QUORUM

Board President Sheran Voigt called the meeting to order at 10:00 a.m. and Board Secretary Pasqual Gutierrez called roll.

Board Members Present
Sheran Voigt, President
Hraztan Zeitlian, Vice President
Pasqual Gutierrez, Secretary
Jon Alan Baker
Chris Christophersen
Jeffrey Heller
Marilyn Lyon
Matt McGuinness
Michael Merino
Fermin Villegas

Guests Present
Susan Broderick, California Legislative Coalition for Interior Design (CLCID), National Kitchen & Bath Association (NKBA), National Association of the Remodeling Industry
Mark Christian, Director of Legislative Affairs, The American Institute of Architects, California Council (AIACC)
Kurt Cooknick, Director of Regulation and Practice, AIACC
Elma Gardner, President, NKBA, California Capital Chapter
Bob Holmgren, Ph.D., Supervising Personnel Selection Consultant, Department of Consumer Affairs (DCA), Office of Professional Examination Services (OPES)
Nicki Johnson, Landscape Architects Technical Committee (LATC)
Linda Johnston-Panattoni, CLCID, NKBA
Heidi Lincer-Hill, Ph.D., Testing Division Chief, Contractors State License Board
Shanker Munshani, Chairman, Academic & Credential Records, Evaluation & Verification Service
Raul Villanueva, Personnel Selection Consultant, OPES

Staff Present
Doug McCauley, Executive Officer
Vickie Mayer, Assistant Executive Officer

Marccus Reinhardt, Program Manager, Examination/Licensing Unit
Trish Rodriguez, Program Manager, LATC
Mel Knox, Administration Analyst
Justin Sotelo, Examination/Licensing Analyst
Hattie Johnson, Enforcement Officer
Robert Carter, Architect Consultant
Don Chang, Assistant Chief Counsel, DCA

Six members of the Board present constitute a quorum. There being ten present at the time of roll, a quorum was established.

B. PRESIDENT'S REMARKS

Ms. Voigt announced that, for the first time in five years, a delegation from the Board will attend the 2013 National Council of Architectural Registration Boards (NCARB) Annual Meeting in San Diego on June 19-20. She added that several Board members have been appointed to NCARB committees this year. Michael Merino announced that he was appointed to serve on the National Architectural Accrediting Board (NAAB) Accreditation Visiting Team. Mr. Gutierrez said that he was appointed to the Licensure Task Force. Jon Baker informed the Board that he had been appointed to the Examination Committee. Ms. Voigt stated that she was appointed to the Professional Conduct Committee.

C. PUBLIC COMMENT SESSION

Kurt Cooknick spoke about his observations of the Regulatory and Enforcement Committee (REC) meeting on April 25, 2013. He expressed concern with the REC Chair's decision to limit public testimony time to five minutes at that particular meeting. Mr. Cooknick believed the Chair's decision was contrary to the Board's efforts to foster a spirit of positive, productive, and professional exchange with the public. He added that, of the 18 boards he monitors, and of the 12 he actually lobbies as Director of Regulation and Practice at AIACC, the California Architects Board is one of the best and more transparent, a tradition he hopes to see continue.

Shanker Munshani addressed the Board, thanking members for providing constructive feedback to his comments at the March 7, 2013 meeting in Berkley. He supplied the Board with documentation that outlined foreign credential evaluation services in the United States (US). Mr. Munshani recommended to the Board that it follow the recommendation of the US Department of Education regarding international credential evaluation.

Mr. Merino addressed the comment conveyed by Mr. Cooknick. He shared his concern with the appearance that the Board and its committees provide particular organizations with greater ability to speak at meetings. Mr. Merino acknowledged Mr. Cooknick as an association colleague; however, as Chair of the REC, Mr. Merino explained his intent to create structure and formality and to limit open-ended dialogue with members of the public. He said that AIACC has the right, as does every other member of the public, to provide staff with thorough written comments on issues being considered prior to Board and committee meetings.

D. APPROVE THE MARCH 7, 2013 AND MAY 7, 2013 BOARD MEETING MINUTES

Ms. Voigt invited comments concerning the March 7, 2013 Board Meeting Minutes.

- **Michael Merino moved to approve the March 7, 2013 Board Meeting Minutes.**

  Marilyn Lyon seconded the motion.

  The motion passed 10-0.

Ms. Voigt invited comments concerning the May 7, 2013 Special Board Meeting Minutes.

- **Michael Merino moved to approve the May 7, 2013 Special Board Meeting Minutes.**

  Marilyn Lyon seconded the motion.

  The motion passed 10-0.

E. EXECUTIVE OFFICER'S REPORT

Doug McCauley stated that the next Board meeting will be held on September 12, 2013 at Woodbury University in Burbank, and the December 11-12, 2013 meeting will likely be held at a location to be announced. He said that a presentation on BreEZe (the system used internally by DCA and board/bureau/committee staff to process/track/manage license, cash, and enforcement information) will be provided at a future Board meeting. He also noted the system should be a very powerful tool which is currently in its final development phases, and that the initial roll-out has been delayed.

Mr. McCauley indicated that it will be important for the Board to attend the upcoming NCARB Annual Meeting because there are changes to the national Architect Registration Examination (ARE) that will impact the California Supplemental Examination (CSE). He informed the Board that an out-of-state travel request to attend the 2014 NCARB Annual Meeting had been submitted in April 2013 to DCA for approval. Mr. McCauley reported that program staff had begun to update Sunset Review data for the next report due in 2014, and said a draft will be provided in early 2014. Mr. McCauley reported that the LATC had accepted the opinion of legal counsel concerning ongoing efforts relative to the exempt area of practice. He said the LATC's Exemptions and Exceptions Task Force is determining if current law is sufficiently clear to protect consumers. As a part of the Board's mission to promote multiple pathways into the profession, Mr. McCauley informed that LATC approved the Extension Certificate Programs for the University of California (UC), Los Angeles and UC, Berkeley for a period of six years, effective January 1, 2014.

Mr. McCauley reminded the Board of its positions adopted on three legislative items pertaining to SB 308 (Price) regarding California Council of Interior Design Certification during the May 7, 2013 Special Board Meeting. He said that the Board's positions were communicated to staff for the author of the legislation, and stated he will provide the Board with an update once

the bill is set for hearing. Ms. Voigt asked members of the Board if they wished to change any of the Board's positions on SB 308; there was no response.

Mr. McCauley explained that, based on new information from legal counsel, the Board may wish to reconsider its position taken on Assembly Bill (AB) 186 (Maienschein). He explained that AB 186 would indeed require the Board to waive the CSE, which was identified as a significant concern by Board members in previous discussion. Mr. McCauley stated, if the CSE is important to protect the public, it is *always* important to protect the public. Therefore, he recommended to the Board that it consider a motion to respectfully request an exemption from AB 186. Alternatively, Mr. McCauley recommended that the Board oppose the legislation since it fails to sufficiently address the Board's highest priority: protection of the public.

Ms. Voigt invited comments from members of the Board. Mr. Merino shared his impression that the Board would lean toward taking action to accommodate military spouses in the context of AB 186, but also agreed with members that the Board must honor its mandate to ensure the public health, safety, and welfare. He expressed a desire to take action to avoid any false appearance that the Board opposes the intent of AB 186. Mr. Merino also acknowledged the concept of waiving the CSE as unsettling.

- **Michael Merino moved to adjust the Board's position on AB 186 from "Support with Concern" to "Oppose Unless Amended," and to request an exemption while noting the Board's efforts to address the intent of the legislation.**

  Marilyn Lyon seconded the motion.

  The motion passed 10-0.

Mr. McCauley presented the AIACC-sponsored AB 630 (Holden) proposed legislation on architect's instruments of service, reminding the Board of its earlier vote to support the bill with caveats. He outlined for the Board its concerns enumerated in previous discussion.
Mr. McCauley repeated the Board's opinion that the proposed provisions do not belong in the Architects Practice Act (Act), but are more suitable to the Civil Code or the General Provisions of the Business and Professions Code (BPC). He also revisited the Board's concern that these proposed provisions would expose the consumer to possible abuse by an unscrupulous architect. Mr. McCauley said there is a significant consumer protection issue associated with AB 630.

Bob Carter shared his opinion of AB 630 with the Board, which was expressed in a memorandum to the Executive Officer distributed at the meeting. Mr. Carter advised that, if the proposed legislation were in place, it would not be enforceable by the Board since it has no authority or jurisdiction over consumers including third parties such as banks, developers, or courts. He also said any legal action to gain recovery from the misuse of one's documents would need to be based on application of the current federal copyright law provisions – which are an available remedy for this issue today without AB 630. Mr. Carter suggested to the Board that it oppose AB 630, citing his view that the language in the bill confuses, not clarifies, existing law and requires the consumer to accept a contract that may not be in his/her best interest.
Mr. McCauley recommended that the Board consider a motion to oppose AB 630.

Mr. Gutierrez discussed multiple tiers of consumers and how they could be impacted by AB 630. Jeffrey Heller asked how AB 630 came into existence, to which Mr. McCauley replied that the bill was supported and sponsored by AIACC. Mr. Baker questioned hypothetical scenarios used to illustrate concern with AB 630. He stated that he does not understand how an owner of real property would not simultaneously own the architect's instruments of service during the transfer of ownership from one party to another. Mr. Merino commented that the Board must view this issue not through an architectural lens, but through one of consumer protection. He also stated that, as discussions continue, the Board should consider whether AB 630 is consistent with its mission. Mr. McCauley referred to BPC section 5510.15 to remind the Board that protection of the public is its highest priority, and "Whenever the protection of the public is inconsistent with other interests sought to be promoted, the protection of the public shall be paramount."

Mark Christian of AIACC, the sponsoring entity of AB 630, addressed the Board. Mr. Christian said that AIACC acknowledges and agrees with the Board's mission to protect the public, claiming that the proposed legislation is a pro-consumer law because it states to the consumer the conditions of when one can and cannot use the services of an architect. Mr. Christian submitted that the proposed legislation belongs in the Act and cited three sections of law contained in the Act that do not involve enforcement by the Board. He said there is respectful disagreement about what AB 630 does. Mr. Christian informed that the objective of the bill is to protect the copyright of the architect since federal statute already prevents the architect's intellectual property from being used without permission. He emphasized that AIACC does not intend to change the law or take away any consumer rights with AB 630.

Hraztan Zeitlian expressed his view that the Board should support AB 630 and remove its caveats, saying he does not believe this proposed legislation would jeopardize consumer rights. Mr. Baker agreed.

Mr. Merino asked Mr. Christian why AIACC is proposing additional language to include in the Act for which there is no enforcement mechanism by the Board. Mr. Christian explained that the average consumer does not understand the difference between a product and a service, and said that adding a statement which says an individual cannot use the services of an architect without permission has value. Mr. Merino said it appears that the Board would be acting in the interest of the architect more than that of the consumer. He asked Mr. Christian if the proposed language would expose the Board to the unintended consequence of having to adjudicate a complaint of one architect against another. Mr. Christian opined AB 630 does not take away any existing rights to the consumer who may wish to use a different architect for future modifications to a building. He said if an architect calls the Board and complains that another licensee is not allowing him to use the plans of the original structure and is putting the consumer's rights at risk, it would depend on the definition of "use." Mr. Merino asked if AIACC could modify the proposed language to make it more clear for the benefit of the less-informed consumer. Mr. Christian answered in the affirmative.

Mr. Baker said he does not see this proposed language as something AIACC expects the Board to enforce, and asked, what will happen to the consumer who wishes to change architects if AB 630 is enacted and consent is required to be given by the first architect to the new architect? Mr. Christian responded by asking how the situation is addressed now, stating that the bill does not change the process.

Matt McGuiness asked Mr. Christian, if federal law applies, why not simply address this issue in contract language instead of a manner in which the Board could not enforce. Mr. Christian responded with examples of bank cases to illustrate that there are existing laws already in effect for architects to protect their interests. He said AIACC is attempting to prevent expensive litigation.

Jeffrey Heller said he could see some value with AB 630. He said he can see a consumer protection element if the client wishes to use a project with drawings; the protection is that it must be a licensed professional who uses them, but he says that is not clear in the language. Mr. Heller commented there is no law which addresses solving issues regarding payment and ownership of drawings, and asked Mr. Christian how he sees this bill protecting consumers and promoting the health, safety and welfare of the public. He suggested to Mr. Christian that, perhaps, the way to make the bill more acceptable to the Board is to require the consumer to utilize a licensed professional in order to protect the public from misuse of an architect's work product. Mr. Christian acknowledged that Mr. Heller's points were thought provoking, but said he was not sure if AIACC would entertain amendments or changes because they are attempting to reflect existing law with AB 630, not change it in any way.

Mr. Merino stated he believes the legal aspects of AB 630 are more pertinent to the General Provisions of the BPC than to the Act. Ms. Lyon said she thinks the issue could be addressed using a consumer education approach, and is not sure it belongs in the Act.

Mr. Gutierrez said there are various levels of clients and not all have sophisticated language in contracts. He also said that instruments of service are more than plans and schematics. Mr. Gutierrez sees the bill as a benefit that provides clarification to the consumer.

Mr. Zeitlian said he agrees with AIACC that AB 630 does properly belong in the Act. He said the bill would support the Board's efforts to protect consumers because it will be inserted in a place that the consumer can easily access to inform themselves.

Mr. Villegas disagrees that the proposed language clarifies anything in current law, and thinks it will lead to more confusion. He says the bill is a solution looking for a problem and does not agree that it belongs in the Act.

Mr. Baker stated his belief that the bill restates copyright law and there will be some benefit to placing the language into the Act, making it more visible for consumers.

Mr. McCauley stated that DCA's Division of Legislative and Policy Review, and the Business Consumer Services and Housing Agency have called to ask why the Board is supporting AB 630 since it does not appear to be pro-consumer protection. He said, given the fact that the Board has entered its Sunset Review year, it may not be wise to support the proposed legislation. Mr. McCauley pointed out that AIACC's cited sections of law in the Act may or may not be about consumer protection, but AB 630 differs. He added that a five-line bill (AB 630) is likely not sufficient to clarify hundreds of pages of complex federal copyright law.

Ms. Voigt submitted that a part of the problem with AB 630 is that its pro-consumer protection language is not clear enough. Mr. Baker disagreed, saying the bill clarifies to the consumer what their rights are and what they are not regarding instruments of service they have acquired. He said the concept of communicating and interpreting the law in a way that consumers understand the importance of addressing the issues of the design professional before they embark on a project is okay. Mr. Baker suggested the possibility of taking a neutral position while expressing his support for the concept of AB 630.

Mr. McCauley shared an analogy from the medical profession to explain the normal legislative approach for policy concerns. He explained that, as a first step, an issue should be treated with the simplest, least invasive solution; from there, a more aggressive treatment can be applied. If the second solution fails, then a very aggressive approach is in order. In this instance, Mr. McCauley stated, the more modest approach, as Ms. Lyon identified, would be to use the Consumer's Guide to Hiring an Architect as a vehicle to educate consumers about architects' intellectual property. A more significant approach, he suggested, would be to require a specified disclosure in the written contract. The more severe approach, Mr. McCauley said, might be legislation like AB 630.

Mr. Cooknick complemented his colleague, Mr. Christian, on his presentation of AB 630, and stated that there are instances when the consumer could find themselves in litigation for reasons the Board should consider to be under its purview. He also said the Board should not view this proposed legislation with such a broad scope, and opined that supporting AB 630 should not be a problem for Sunset Review. Mr. Cooknick said the Consumer's Guide to Hiring an Architect is a reflection of the Act, and that this bill makes perfect sense.

Hattie Johnson enquired whether the law could be amended to address third parties. Mr. Christian explained that federal copyright law applies to all consumers, therefore, all consumers must possess a license from the architect to use his/her instruments of service, or must own the intellectual property themselves. Ms. Johnson said the Board's Enforcement Unit does know of cases when architects abandon projects and refuse to allow the consumer to use the plans even though the architect had been fully compensated; she expressed concern that, if AB 630 is enacted, the consumer will be further disadvantaged. Ms. Johnson told Mr. Christian that the Board informs consumers of their right to use supplanting architects and to use the services that were paid for.

Mr. Merino suggested a motion be made for the Board to continue its support of AB 630 with reservations.

- **Hraztan Zeiltian moved to support AB 630 without caveats.**

  Jon Baker seconded the motion.

  The motion failed 3-5-1-1 (Chris Christophersen, Marilyn Lyon, Matt McGuinness, Michael Merino and Fermin Villegas opposed; Jeffrey Heller abstained; Sheran Voigt did not vote).

- **Michael Merino moved to support AB 630 if modified to address the Board's concerns regarding a lack of consumer protective language.**

  Jeffrey Heller seconded the motion.

  The motion failed 3-6-0-1 (Sheran Voigt did not vote).*

- **Jon Baker moved to adopt a neutral position on AB 630.**

  Marilyn Lyon seconded the motion.

  The motion failed 3-4-0-3 (Sheran Voigt and two other Board members did not vote).*

- **Hraztan Zeitlian moved to support AB 630 without caveats.**

  Jeffrey Heller seconded the motion.

  The motion failed 4-5-0-1 (Sheran Voigt did not vote).*

- **Fermin Villegas moved to oppose AB 630.**

  Matt McGuinness seconded the motion.

  The motion failed 2-7-0-1 (Jon Baker, Chris Christophersen, Pasqual Gutierrez, Jeffrey Heller, Marilyn Lyon, Michael Merino and Hraztan Zeitlian opposed; Sheran Voigt did not vote).

Mr. McCauley suggested to the Board that it consider an "oppose unless amended" position, which would enable members to articulate concerns and spell out desired amendments. Mr. Merino said that his motion was intended to do just that. Mr. Heller noted that he wishes to see an amendment that preserves and even strengthens consumer protection. Mr. Baker echoed Mr. Carter's and Ms. Johnson's concern regarding architect/consumer disputes and the potential for architects to abuse power by unnecessarily withholding their consent. He suggested that the current language reflected in AB 630 does not address legitimate consumer protection concerns.

- **Michael Merino moved to support AB 630 if amended with language that a licensed design professional must be utilized.**

  Jon Baker seconded the motion and revised it as follows: support AB 630 if amended with language to require 1) a licensed design professional be utilized, and 2) any consent will not be unreasonably withheld.

Mr. Heller said that he believes this will lead to greater levels of consumer protection.

Michael Merino accepted the amendment to the motion provided by Jon Baker.

The motion passed 6-4 (Pasqual Gutierrez, Marilyn Lyon, Matt McGunniess, and Fermin Villegas opposed).

The Executive Officer's Report (Agenda Item E) was continued until after Closed Session.

F.** CLOSED SESSION – [CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTIONS 11126(C)(1) AND (3)]

The Board went into closed session.

E. EXECUTIVE OFFICER'S REPORT (Continued)

Mr. McCauley continued with his report to the Board. In order to become more transparent, Mr. Merino proposed to the Board that the Nominating Committee first bring officer nominations to a Board meeting, then allow a vote on that slate of candidates at the next meeting. He explained that Board members would then have an opportunity to discuss candidates and to be more active in the election process. Mr. Baker stated that better communication regarding the nominating and selection process is needed. The Board decided to follow the process that currently exists in the Board Member Administrative Procedures Manual, particularly the procedure that allows a run-off election if more than one Board member is interested in an officer position.

Mr. McCauley provided the Board with a budget update. He stated that, given State budget realities and the Board does not spend its entire budget, since the Board will be under Sunset Review next year, the Board may want to consider voluntarily reducing its budget. Mr. Heller asked about the possibility of using the extra funds as leverage to secure permission to travel more freely and to do other things that are currently under restriction. Mr. McCauley said he did not think that would be appropriate. He said if the Board decides to voluntarily reduce its budget, it should do so because it is the right thing to do. Mr. McCauley also said staff would provide options at the next Board meeting.

F. CLOSED SESSION – [CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTIONS 11126(C)(1) AND (3)]

The Board returned to Closed Session when OPES representatives joined the meeting.

G. CALIFORNIA SUPPLEMENTAL EXAMINATION (CSE)

The Board reviewed and discussed the Intra-Agency Contract Agreement with OPES for CSE development contained within the packet.

- **Michael Merino moved to approve the Intra-Agency Contract Agreement with OPES for CSE development for the upcoming fiscal year 2013/14.**

  Chris Christophersen seconded the motion.

The motion passed 9-0 (Hratzan Zeitlian not present at time of vote).

Addressing his remarks to OPES representatives, Mr. Baker stated that, in earlier conversation, the Board discussed examination development process problems related to the last two CSE forms. He recognized that the Board had, in 2011, shifted from an oral examination format to a written one, and informed that the Board is considering an internal audit of its examination development process. Mr. Baker explained that an audit would be important to gauge appropriateness of exams being administered. He then informed that the Board will request that staff explore the structural details of such an evaluation, the role OPES would play, and the possibility of utilizing a third-party to provide objective input. Mr. Baker stated that the intent of this possible action is to identify CSE development areas that could be improved.

- **Jon Baker moved to direct staff to research an internal audit of current practices related to CSE development.**

  Michael Merino seconded the motion.

  The motion passed 10-0.

Ms. Voigt said staff is recommending that the Board delay discussion and possible action on the CSE Occupational Analysis (OA) until after the NCARB Practice Analysis is complete.

- **Marilyn Lyon moved to delay discussion and possible action on CSE Occupational Analysis until after the NCARB 2012 Practice Analysis is complete.**

  Jon Baker seconded the motion.

  The motion passed 10-0.

H. NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARDS (NCARB)

Mr. McCauley explained that NCARB is seeking public comment from Member Boards on two proposed changes to the Intern Development Program (IDP). He said these proposed changes are consistent with IDP discussions that the Board has had for more than 15 years, and suggested the Board consider a motion of support for NCARB's proposals.

- **Jon Baker moved to support NCARB's proposed changes to the IDP related to employment duration and IDP entry point.**

  Michael Merino seconded the motion.

  The motion passed 10-0.

Mr. McCauley reported that the Board's current contract with NCARB for the administration of the ARE is due to expire on June 30, 2013, and asked the Board to approve a new contract for the period of July 1, 2013 through June 30, 2016.

- **Michael Merino moved to approve the new contract with NCARB for ARE administration for the period of July 1, 2013 through June 30, 2016, in anticipation of NCARB approval.**

  Fermin Villegas seconded the motion.

  The motion passed 10-0.

Concerning recommended positions on NCARB resolutions, Mr. McCauley and Vickie Mayer suggested to the Board that it maintain its positions as voted upon in March, and to delegate authority to the Board's NCARB 2013 Annual Meeting delegates to take appropriate action as necessary.

- **Jon Baker moved to approve the recommended positions of support for NCARB Resolutions 2013-01, 2013-02, 2013-03, 2013-04, 2013-05 and 2013-06, and to delegate authority for the Board's NCARB 2013 Annual Meeting delegates to take appropriate action as necessary.**

  Fermin Villegas seconded the motion.

  The motion passed 10-0.

The Board then reviewed the candidates' resumes for NCARB 2013/2014 officer positions contained in the meeting packet.

- **Michael Merino moved to support the existing slate of candidates for 2013/2014 officer positions at NCARB.**

  Jon Baker seconded the motion.

  The motion passed 10-0.

I. REVIEW AND APPROVE PROPOSED REGULATIONS TO AMEND CALIFORNIA CODE OF REGULATIONS, TITLE 16, DIVISION 2, SECTION 116 (ELIGIBILITY FOR EXAMINATION)

Marccus Reinhardt proposed that the Board amend California Code of Regulations (CCR) section 116 (Eligibility for Examination) in response to new NCARB action that requires all candidates to establish and maintain an active NCARB Record for the purpose of accessing, viewing, and downloading examination-related content. He asked the Board to consider a motion approving an amendment to reflect that all candidates who take the ARE must possess an active NCARB Record.

Mr. Baker enquired about the potential for this amendment to negatively impact candidates who do not possess an accredited degree. Mr. Reinhardt asserted that possession of a degree is not relevant to the requirement, as it does not relate to completion of IDP.

- **Hraztan Zeitlian moved to approve proposed regulatory language to amend CCR, Title 16, Division 2, Section 116 (Eligibility for Examination) and delegate authority to the Executive Officer to adopt the regulation provided no adverse comments are received during the public comment period and make minor technical changes to the language, if needed.**

  Jon Baker seconded the motion.

  The motion passed 10-0.

Mr. Gutierrez asked about NCARB resolutions pertaining to Alternative to Education Requirement[s] and Modifications to Broadly Experienced Architect (BEA) Terminology. He inquired about whether a BEA is required to comply with the education standard at NCARB. As a BEA Committee member, Mr. Merino informed Mr. Gutierrez that BEA candidates are evaluated and are required to meet the education standard. He said that none of the resolutions dealing with BEA have anything to do with policy or process, and that NCARB just wants to bring into alignment language that had been incongruous. Mr. Baker stated that the BEA Program is designed specifically as a path for individuals without an accredited degree. He also said a candidate must demonstrate that he/she has enough practical experience to meet the education standard.

J. REVIEW AND APPROVE PROPOSED REGULATIONS TO AMEND CALIFORNIA CODE OF REGULATIONS, TITLE 16, DIVISION 2, SECTION 120 (RE-EXAMINATION)

Mr. Reinhardt informed the Board that NCARB amended the ARE Five-Year Rolling Clock (Rolling Clock) provision with respect to divisions taken and passed prior to January 1, 2006. He said the specific divisions will expire on July 1, 2014. Mr. Reinhardt asked the Board to consider a motion approving an amendment to CCR section 120 (Re-Examination) which aligns the expiration of divisions with NCARB's Rolling Clock.

- **Jon Baker moved to approve proposed regulatory language to amend CCR, Title 16, Division 2, Section 120 (Re-Examination) and delegate authority to the Executive Officer to adopt the regulation provided no adverse comments are received during the public comment period and make minor technical changes to the language, if needed.**

  Marilyn Lyon seconded the motion.

  The motion passed 10-0.

K. PROFESSIONAL QUALIFICATIONS COMMITTEE (PQC) REPORT

Mr. Baker provided the Board with an update on the May 1, 2013 PQC meeting. He reported that the Committee addressed a number of issues and received a presentation from OPES on the ARE review process and CSE OA. Mr. Baker said the OA process can begin to move forward once the practice analysis report is completed by NCARB. He informed that the Board's

proposed Broadly Experienced Intern (BEI) program had been renamed "Broadly Experienced Design Professional," which is more suitable to an individual who may have decades of practical experience. To address the adverse impact of the current IDP Six-Month Rule, Mr. Baker said the development of an evaluation process which enables candidates who seek licensure with more than ten years of practical experience is sensible. He mentioned that NCARB had been supportive of the concept, stated that it is appropriate for the PQC to develop proposed criteria that could be presented in the event of NCARB inaction, and reported that PQC asked staff to prepare a draft of the framework for the Board's consideration. Mr. Baker reported that there were recent comments from NCARB to NAAB concerning accreditation standards, and the PQC asked staff to compose a letter of support to NCARB on the Board's behalf. He said NCARB's positive actions must be recognized when they occur. Mr. Baker asked for the letter of support to be revised.

- **Sheran Voigt moved to approve the PQC's recommended draft framework for the BEI Pathway to licensure and to re-designate the concept as "Broadly Experienced Design Professional."**

  Matt McGuinness seconded the motion.

  The motion passed 10-0.

- **Hraztan Zeitlian moved to approve the draft Letter of Support to NCARB and to permit staff to revise as necessary to enhance the statement of support.**

  Marilyn Lyon seconded the motion.

  The motion passed 10-0.

Ms. Mayer informed the Board that PQC also recommended a regulatory change to waive the accrued renewal fees for returning military personnel wanting to renew their license. The Board discussed different scenarios for how the renewal fee would be assessed upon the licensee's return from active duty.

- **Hraztan Zeitlian moved to approve the PQC's recommendation to pursue a regulatory change proposal that would exempt active duty military licensees from accrued renewal fees, and authorize staff to proceed with the regulatory change process.**

  Michael Merino seconded the motion.

  The motion passed 10-0.

L. REGULATORY AND ENFORCEMENT COMMITTEE (REC) REPORT

Ms. Johnson informed the Board that the REC met on April 25, 2013, when four Strategic Plan objectives were discussed. She reported that the Committee examined the definition of the practice of architecture and considered creating a definition of "instruments of service" for a

regulatory proposal. Ms. Johnson reported that the REC also considered whether mediation should be added to the reporting requirements of BPC section 5588. She said the Committee voted to establish a working group, consisting of Phyllis Newton and Gary McGavin, to explore whether mediation should be included in the statute and to provide specific language to the REC before the issue is brought to the Board. She noted that AIACC was invited to participate in that working group. Ms. Johnson reported that the REC reviewed the Board's Disciplinary Guidelines and voted to direct staff to further modify language before the issue is presented to the Board. She also reported that the Committee considered adding a provision regarding "scope of work" to the written contract requirements of BPC section 5536.22, and that the REC voted to refer the issue to the working group.

Mr. Merino said that the Strategic Plan objective which directs the REC to examine the definition of the practice of architecture and potentially consider creating a definition of "instruments of service" ought to be postponed until NCARB's Practice Analysis and the Board's OA are complete. He explained that these analyses are the primary source of research material for this objective. Ms. Johnson added that AIACC also recommended this issue be postponed until the analyses were complete.

- **Michael Merino moved to postpone examination of the definition of the practice of architecture and potential creation of a definition of "instruments of service" for a regulatory proposal until the results of the NCARB 2012 Practice Analysis and the Board's OA are complete.**

  Hraztan Zeitlian seconded the motion.

  The motion passed 10-0.

Ms. Johnson informed the Board that Robert (Bob) L. Carter was selected as the awardee for the architect consultant contract for fiscal years 2013/2014, 2014/2015, and 2015/2016 on April 10, 2013. She said that the Notice of Intent to Award announcing Mr. Carter's selection was posted in the Board office on April 25, 2013, as required by law. Ms. Johnson asked the Board to consider a motion approving the architect consultant contract.

- **Marilyn Lyon moved to approve Robert L. Carter's architect consultant contract for fiscal years 2013/2014, 2014/2015, and 2015/2016, in anticipation of the Department of General Services' approval.**

  Michael Merino seconded the motion.

  The motion passed 10-0.

M. LANDSCAPE ARCHITECTS TECHNICAL COMMITTEE (LATC) REPORT

Mr. McCauley recognized LATC member, Nicki Johnson, and delivered the LATC report. He informed the Board that the notice for the last LATC meeting, held on May 22, 2013, is included in the packet. He also stated that the draft LATC Strategic Plan through fiscal year 2014/2015 was attached. Ms. Voigt observed that the Strategic Plan was impressive and thorough.

- **Michael Merino moved to approve the draft LATC Strategic Plan through fiscal year 2014/2015.**

  Chris Christophersen seconded the motion.

  The motion passed 10-0.

N. REVIEW OF SCHEDULE

Ms. Voigt delivered parting comments to Ms. Lyon, thanking her for her service. Ms. Lyon expressed gratitude for the kind words and recognition.

Mr. McCauley stated that the next Board meeting will be held on September 12, 2013 at Woodbury University in Burbank, and the December 11-12, 2013 meeting will be held at a location to be announced.

O. ADJOURNMENT

The meeting adjourned at 2:40 p.m.

** Tallied number of votes provided.*

*** Agenda items for this meeting were taken out of order to accommodate the schedule of CSLB and OPES' testing staff. The order of business conducted herein follows the transaction of business.*

Agenda Item E

EXECUTIVE OFFICER'S REPORT

1. Update to August 2013 Monthly Report

2. Update and Possible Action on Legislation Regarding Senate Bill 308 (Lieu) [Sunset Review of California Council for Interior Design Certification], Assembly Bill (AB) 186 (Maienschein) [Military Spouses], AB 630 (Holden) [Instruments of Service], and AB 834 (Williams) [Energy Commission Citations]

3. Discuss and Possible Action on Recommended Budget Change Proposal Options

Edmund G. Brown Jr.
GOVERNOR

CALIFORNIA ARCHITECTS BOARD

PUBLIC PROTECTION THROUGH EXAMINATION, LICENSURE, AND REGULATION

MEMORANDUM

DATE: September 3, 2013

TO: Board Members

FROM: Doug McCauley, Executive Officer

SUBJECT: Monthly Report – August 2013

The following information is provided as an overview of Board activities and projects as of August 31, 2013.

ADMINISTRATIVE/MANAGEMENT

Board The next Board meetings are scheduled for September 12 at Woodbury University and December 5-6 in Santa Barbara [pending Department of Consumer Affairs (DCA) approval], which will include a Strategic Planning session.

BreEZe The BreEZe project's Release 1 is scheduled to occur in mid-September. Release 1 was originally scheduled for February of this year but was delayed because the February date did not allow sufficient time to produce a quality BreEZe product acceptable to the DCA. The BreEZe Project is currently in the User-Acceptance Testing phase for the first release. The BreEZe team is assessing the impacts the delay and new timeline will have on the Phase 2 and Phase 3 release schedules; however, the project is now estimated to be complete in 2014.

BreEZe provides the DCA organizations a web-enabled enterprise system that supports all applicant tracking, licensing, renewal, enforcement, monitoring, cashiering and management capabilities, and allows the public to file complaints and look up licensee information and complaint status through the Internet. BreEZe will support the DCA's highest priority initiatives of Job Creation and Consumer Protection by replacing the DCA's aging legacy business systems with an integrated software solution that utilizes current technologies to facilitate increased efficiencies in the DCA boards' and bureaus' licensing and enforcement programs.

Phase I cutover from the legacy systems (Consumer Affairs System and Applicant Tracking System) to BreEZe is tentatively scheduled for

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September 12, 2013 at 5:00 p.m. The legacy systems will be offline for at least two business days in addition to the weekend, September 13-16, 2013.

Budget On April 23, 2013, the Board was given instructions to complete the Blanket Request for Out-of-State Travel for fiscal year (FY) 2013/14. The instructions included adherence to the Department of Finance directive (Budget Letter 12-05) and Governor's Executive Order 06-11. Staff submitted the completed requests to DCA by the May 15, 2013 deadline.

Budget schedule documents (i.e., major/minor equipment, workload and revenue statistics, and revenue category) for FY 2013/14 are being compiled by staff. Revenue statistics were due to the DCA Budget Office on August 16, 2013, while equipment schedules are due by September 13, 2013.

The Board will consider voluntarily reducing its spending authority at the September 12, 2013 meeting.

Communications Committee The next Communications Committee meeting has been scheduled for October 1, 2013.

Legislation Assembly Bill (AB) 186 (Maienschein) authorizes boards to issue a provisional license to a spouse, domestic partner or other legal companion of an active duty member of the Armed Forces. At its June 13, 2013 meeting, the Board voted to adjust its position on AB 186 from "Support with Concern" to "Oppose Unless Amended," and to request an exemption while noting the Board's existing efforts to address the intent of the legislation. AB 186 has been turned into a two-year bill.

AB 630 (Holden) would prohibit the use of an architect's instruments of service without written contract or written assignment authorization. At its June 13, 2013 meeting, the Board voted to support AB 630 if amended with language to require 1) a licensed design professional be utilized, and 2) any consent cannot be unreasonably withheld by neither the architect nor the consumer. AB 630 is currently with the Senate Committee on Business, Professions and Economic Development.

Senate Bill (SB) 308 (Lieu) is the sunset bill for the California Council for Interior Design Certification (CCIDC). The Board's Executive Officer conveyed the Board's support for the extension of CCIDC's sunset date at the Sunset hearing. In addition, the position taken by the Board on the bill at its May 7, 2013 meeting has been conveyed to the author's staff. The Board maintained its position at its June 13, 2013 meeting. SB 308 was passed by the Assembly Committee on Appropriations on August 30, 2013, and is set to be heard on the Assembly floor.

Newsletter The next issue of the Board's newsletter is scheduled for publication in October 2013.

Personnel Enforcement Officer Hattie Johnson retired from State service on August 30, 2013. Ms. Johnson had 37 years of civil service, 13 of which had been while employed at the Board. She assumed the role of the Enforcement Program's Lead when the former Enforcement Officer

retired. Leosha Eves was selected as Ms. Johnson's successor and will start on September 9, 2013.

Munir Chechi returned from his limited-term position to the Board's receptionist position on August 30, 2013.

Annual Report Board Staff is compiling the DCA Annual Report for FY 2012-13. The due date for narrative portions is August 30, 2013, while the data portions are due September 20, 2013. Pursuant to Business and Professions Code section 312: "The Director shall submit to the Governor and the Legislature on or before January 1, 2003 and annually thereafter, a report of programmatic and statistical information regarding the activities of the department and its constituent entities. The report shall include information concerning the Director's activities pursuant to section 326, including the number and general patterns of consumer complaints and the actions taken on those complaints."

Business Continuity Plan Staff is updating the 2013 Business Continuity Plan. This year's submittal is due by September 30, 2013.

Sunset Review The Board's next Sunset Review Report is due in the fall of 2014. Board staff is commencing its production of the draft report.

Training The following employees have been scheduled for upcoming training:

9/16-20/13 Basic Supervision for State Supervisors - Part II (Marccus)
10/22-24/13 Office of Administrative Law (OAL) 3-day Rulemaking Training (Mel)

Website During August 2013, staff posted information relative to the Phase I deployment of the DCA BreEZe licensing and enforcement system and the Notice of Meeting for the Board's September 12, 2013 Board meeting.

EXAMINATION AND LICENSING PROGRAMS

Architect Registration Examination (ARE) The results for ARE divisions taken by California candidates between April 1, 2013 and June 30, 2013 is available below.

DIVISION	NUMBER OF DIVISIONS	TOTAL PASSED		TOTAL FAILED	
		# Divisions	Passed	# Divisions	Failed
Programming, Planning & Practice	343	186	54%	157	46%
Site Planning & Design	330	192	58%	138	42%
Building Design & Construction Systems	319	187	59%	132	41%
Structural Systems	326	225	69%	101	31%
Building Systems	309	181	59%	128	41%
Construction Documents & Services	447	239	53%	208	47%
Schematic Design	374	281	75%	93	25%

In August, the Board mailed an informational letter to 7,384 active and 2,755 inactive candidates regarding important ARE-related changes. The letter advised candidates of the: 1) details regarding the National Council of Architectural Registration Boards' (NCARB) new My Examination portal, which launched in late-August; 2) NCARB Record requirement affecting all ARE candidates post-ARE blackout and applicable fee information; 3) 12-week Rolling Clock extension as a result of the ARE blackout; and 4) July 1, 2014 change to the ARE Rolling Clock affecting divisions passed prior to 2006.

California Supplemental Examination (CSE) Administration The computer-delivered CSE was administered to 81 candidates during the month of August 2013. Of the 81 candidates, 53 (65%) passed and 28 (35%) failed. The CSE has been administered to 241 candidates in FY 2013/14. Of those candidates, 175 (73%) passed and 66 (27%) failed. During FY 12/13, the computer-delivered CSE was administered to 728 candidates. Of those candidates, 456 (63%) passed, and 272 (37%) failed.

CSE Development The CSE development is an ongoing process. A new Intra-Agency Contract Agreement with the Office of Professional Examination Services (OPES) for CSE development commenced on July 1, 2013.

Board staff is also planning for the next Occupational Analysis (OA). The Board typically conducts an OA every five to seven years by surveying practitioners to determine the necessary knowledge, skills, and abilities to perform architectural services with competence. The most recent OA was conducted in 2007. The next OA is scheduled to commence during the 2013/14 fiscal year.

Intern Development Program (IDP) *"Broadly Experienced Intern" Pathway* – At its May 2012 meeting, the Professional Qualifications Committee (PQC) discussed and considered the feasibility of the NCARB establishing an alternate method to satisfy the IDP requirement for individuals who meet special criteria. The issue was considered in response to a strategic planning objective. The PQC recommended that the Board research and/or develop appropriate criteria for recognizing a broadly experienced intern and provide that information to NCARB. The Board voted on June 14, 2012, to approve the PQC's recommendation. At the September 13, 2012 Board meeting, Jon Baker reported that the NCARB Internship and IDP Advisory Committees were receptive to and supportive of the idea, and that it has become a research task of the IDP Advisory Committee for 2013.

The Board continued to work on this Strategic Plan objective in 2013 by developing criteria for recognizing a broadly experienced intern. At its May 1, 2013 meeting, the PQC voted to recommend staff develop the framework for criteria for a Broadly Experienced Intern pathway. Additionally, Vice Chair Pasqual Gutierrez recommended the concept be more appropriately named the "Broadly Experienced Design Professional" pathway since it better describes the individuals who would make use of it. The criteria framework and a cover letter to NCARB were presented to the Board and approved at its June 13, 2013 meeting. The cover letter and criteria framework were then presented by Doug McCauley, Executive Officer, to Ronald B. Blitch, NCARB President, for future consideration, while attending the 2013 NCARB Annual Meeting in June.

NCARB 2012 Practice Analysis (PA) In April 2012, NCARB surveyed more than 80,000 architects, interns, and educators across the country. The survey content addressed specific tasks and knowledge/skills related to the pre-design, design, project management, and practice management aspects of the architectural profession, as well as general knowledge and skills. The 2012 PA, like the 2007 and 2001 PAs, will be used to drive future updates and modifications to the ARE and to inform the IDP. Additionally, the 2012 PA will guide NCARB's response to the 2013 National Architectural Accrediting Board Accreditation Review Conference and be used to inform NCARB's continuing education policies. The Board assisted NCARB in its efforts to establish a prospective survey pool and provided the relevant contact information for its approximately 20,000 licensees and posted a notice regarding the PA on its website. The Board also promoted participation in the survey through other means, including an article in the spring 2012 newsletter and information on its website. The deadline for survey responses was originally April 30, 2012, but was extended to May 6, 2012. NCARB released its findings from the PA in four individual reports and one comprehensive final report that are available on the NCARB website. Each individual report focuses on a specific component of architecture (education, internship, examination, and continuing education), while the comprehensive final report includes the full set of previously published individual reports. The next step of the process will involve NCARB committees and task forces determining how best to incorporate the findings and recommendations, which are meant to shape the future of the ARE, IDP, and other NCARB policies and programs.

Outreach On June 21, 2013, Program Manager Marccus Reinhardt, in conjunction with NCARB Director of Internship and Education Harry Falconer, provided a joint licensure presentation to approximately 40 attendees during a special event held by NCARB at the 2013 Annual Meeting in San Diego.

Professional Qualifications Committee (PQC) The next PQC meeting is scheduled for October 23, 2013 in Sacramento and via teleconference at various locations throughout California.

Regulation Changes *California Code of Regulations (CCR) sections 109 (Filing of Applications) and 117 (Experience Evaluation)* - Among the changes brought to IDP in the third and final phase of implementing IDP 2.0 was allowing candidates to earn IDP credit through qualifying academic internships approved by NCARB. In May 2012, the PQC considered this change to IDP and recommended that the Board align its regulations with the academic internship allowance. On June 14, 2012, the Board voted to approve the PQC's recommendation and directed staff to proceed with a regulatory change proposal. The Board approved the proposed regulatory language to amend CCR sections 109 and 117 at its September 13, 2012 meeting. Staff began preparing the regulatory package for submission to the OAL when, in November 2012, it was learned that a new edition of the *IDP Guidelines* had been released by NCARB. The latest edition modifies the April 2012 changes to IDP by removing the: 1) requirement for an academic internship to be approved by NCARB; and 2) 930-hour cap on the amount of credit that can be earned. Staff recommended modified language to the regulation based on the changes made in the IDP Guidelines. The Board approved the modifications at its March 7, 2013 meeting and delegated authority to the Executive Officer to adopt the regulation, provided that no adverse comments are received during the public comment period, and, if needed, to make minor technical changes to the language.

Following is a chronology, to date, of the processing of the Board's regulatory proposal for CCR sections 109 and 117:

September 13, 2012	Final Approval by the Board
March 7, 2013	Final Approval of Recommended Modified Language by the Board
March 22, 2013	Notice of Proposed Changes in the Regulations published by OAL
March 22, 2013	Regulation package to DCA Division of Legislative and Policy Review
May 9, 2013	Public hearing, no comments received
June 18, 2013	Final rulemaking file to DCA Legal Office and the Division of Legislative and Policy Review
July 23, 2013	Final rulemaking file to Business, Consumer Services, and Housing Agency (Agency)
August 23, 2013	Final Rulemaking file approved by Agency*

**Staff is preparing the rulemaking file for filing with and review by OAL.*

CCR section 121 (Form of Examinations; Reciprocity) – At its December 2011 meeting, the Board discussed requirements for reciprocal licensure relative to NCARB's Broadly Experienced Foreign Architect (BEFA) Program. This would establish the possibility of recognizing architects licensed in foreign countries (other than Canada, which is specifically excluded from BEFA) through reciprocity in California. The Board added an objective to the 2012 Strategic Plan to pursue a regulatory proposal to amend CCR 121 to allow the Board to recognize NCARB Certification obtained via the BEFA Program. The objective was assigned to the PQC. At its May 2012 meeting, the PQC was provided with detailed information regarding the BEFA Program and reviewed a draft regulatory proposal, which would add a provision to CCR 121, recognizing NCARB Certifications obtained via the BEFA Program. The Board approved the regulatory proposal at its June 2012 meeting and delegated authority to the Executive Officer to adopt the regulation, provided that no adverse comments are received during the public comment period, and, if needed, to make minor technical changes to the language. Staff discovered, while preparing the required notice and documents for filing with OAL, a discrepancy in the originally proposed language concerning United Kingdom licensed architects. The proposed regulatory language was modified to correct for the discrepancy. The recommended modified language was presented to the Board at its March 7, 2013 meeting and approved for filing.

Following is a chronology, to date, for the processing of the Board's regulatory proposal for CCR section 121:

June 14, 2012	Final Approval by the Board
March 7, 2013	Final Approval of Recommended Modified Language by the Board
March 22, 2013	Notice of Proposed Changes in the Regulations published by OAL
March 22, 2013	Regulation package to DCA Division of Legislative and Policy Review
May 9, 2013	Public hearing, no comments received
June 18, 2013	Final rulemaking file to DCA Legal Office and the Division of Legislative and Policy Review
July 25, 2013	Final rulemaking file to Agency

ENFORCEMENT PROGRAM

Architect Consultants Building Official Contact Program: The architect consultants were available on-call to Building Officials in August when they received 57 telephone, email, and/or personal contacts. These types of contacts generally include discussions regarding the Board's policies and interpretations of the Practice Act, stamp and signature requirements, and scope of architectural practice.

Education/Information Program: Architect consultants are the primary source for responses to technical and/or practice-related questions from the public and licensees. In August, there were 16 telephone and/or email contacts requesting information, advice, and/or direction. Licensees accounted for seven of the contacts and included inquiries regarding written contract requirements, out-of-state licensees seeking to do business in California, scope of practice relative to engineering disciplines, and questions about stamp and signature requirements.

Architect Consultant Bob Carter made a presentation to approximately 50 attendees on August 28, 2013, at the County Building Officials Annual Conference & Caucus held in Sacramento. He provided an update on the Board's work with other stakeholders on SB 308 (Interior Designers) and on the Board's efforts with planning departments related to unlicensed practice. Several members requested a copy of the Board's joint letter with the Board for Professional Engineers, Land Surveyors and Geologists sent to planning departments on April 17, 2012.

A Request for Proposal - Secondary for one of the Board's architect consultant was released August 30, 2013. Final date for submission of proposal is due October 16, 2013.

Enforcement Actions The Board issued a citation that included a $2,000 administrative fine to Lawrence F. Cook on May 20, 2013, for alleged violations of Business and Professions Code (BPC) sections 5536.22(a) (Written Contract) and 5584 (Negligence or Willful Misconduct). The citation became final on August 16, 2013.

The Board issued a citation that included a $2,500 administrative fine to Mathew McGrane on May 15, 2012, for alleged violations of BPC section 5536(a) (Practice Without License or Holding Self Out as Architect). The citation became final on August 19, 2013.

The Board issued a citation that included a $5,000 administrative fine to Moises Villegas on March 5, 2013, for alleged violations of BPC sections 5536(a) (Practice Without License or Holding Self Out as Architect) and 5536.1(c) (Unauthorized Practice). The citation became final on August 28, 2013.

Enforcement Statistics	Current Month August 2013	Prior Month July 2013	Prior Year August 2012
Total Cases Received/Opened*:	20	27	40
Complaints with Outside Expert:	0	0	0
Complaints to DOI:	5	6	4
Complaints Pending DOI:	6	8	5
Complaints Pending AG:	2	3	5
Complaints Pending DA:	3	4	3

Enforcement Statistics	Current Month August 2013	Prior Month July 2013	Prior Year August 2012
Total Cases Closed*:	39	29	27
Total Cases Pending*:	75	95	83
Settlement Cases (§5588) Opened:	1	3	4
Settlement Cases (§5588) Pending:	2	11	10
Settlement Cases (§5588) Closed:	10	8	2
Citations Final:	3	2	4

**Total Cases categories include both complaint and settlement cases*

At the end of each FY, staff reviews the average number of complaints received, pending, and closed for the past three FYs. From FY 2010/11 through FY 2012/13, the average number of complaints received per month is 22. The average pending caseload is 111 complaints and the average number of complaints closed per month is 24.

Regulation Changes *CCR section 103 (Delegation of Certain Functions)* – The Board's 2011 Strategic Plan directed the Regulatory and Enforcement Committee (REC) to review and make recommendations regarding SB 1111 proposals. This legislation failed to pass, but DCA encouraged boards and bureaus to review nine provisions included in SB 1111 to determine whether they might be utilized to improve their enforcement processes. After reviewing the provisions, the REC recommended to the Board that it amend CCR section 103 to allow the Board to delegate authority to its Executive Officer to approve stipulated settlements to revoke or surrender a license. The Board approved the recommendation on September 15, 2011. Following is a chronology, to date, for the processing of the Board's regulatory proposal for CCR section 103:

December 7, 2011	Proposed regulatory changes approved by the Board
January 31, 2013	Notice of Proposed Changes in the Regulations published by OAL
April 3, 2013	Public hearing, no comments received
May 16, 2013	Regulation package to DCA's Legal Office and Division of Legislative and Policy Review
June 18, 2013	Regulation package forwarded to Department of Finance
July 31, 2013	Regulation package to OAL for approval

Strategic Plan Objectives The Board's 2013 Strategic Plan tasks the REC with considering whether "mediation" should be added to the reporting requirements in BPC section 5588. The REC is also charged with considering whether a provision regarding "scope of work" should be added to the written contract requirements in BPC section 5536.22. The REC assigned these two objectives to a working group comprised of Phyllis Newton and Gary McGavin. The American Institute of Architects, California Council was also invited to participate. The working group met on July 15, 2013 and made a recommendation that the REC consider recommending to the Board that "mediation" not be added to the reporting requirements in BPC section 5588. They also recommended that "scope of work" be added to the written contract requirements in BPC section 5536.22. Staff is preparing the proposed changes for the working group's approval before presenting the recommendations to the REC and, subsequently, to the Board.

Another Strategic Plan objective charged to the REC was to examine the definition of the practice of architecture and potentially create a definition of "instruments of service" for a regulatory proposal. The REC recommended to the Board, and the Board concurred at its June 13, 2013 meeting, that this issue be postponed until the Board's and NCARB's Occupational Analyses are complete.

LANDSCAPE ARCHITECTS TECHNICAL COMMITTEE (LATC)

LATC ADMINISTRATIVE/MANAGEMENT

Committee The LATC met on August 20, 2013 in Sacramento. The next meeting is scheduled for November 7, 2013, in Ontario.

Exceptions and Exemptions Task Force The Exceptions and Exemptions Task Force is charged to determine how the LATC can ensure clarity regarding BPC section 5641 (Chapter Exceptions, Exemptions) and to ensure that these provisions protect the public. The Task Force held its first meeting on May 24, 2012, in Sacramento. At this meeting, the Task Force reviewed BPC section 5641, and discussed whether the provisions protect the health, safety, and welfare of the public. At the end of the meeting, the Task Force was asked to submit information for review and consideration at its next meeting on October 18, 2012. At the October 18, 2012, meeting, the Task Force recommended that Don Chang, DCA Legal Counsel, provide a legal opinion for BPC section 5641. The recommendation was presented to the LATC on November 14, 2012 and approved. The legal opinion was presented to the LATC at its May 22, 2013 meeting. The LATC accepted the legal opinion and directed the Task Force to convene a final time before the next LATC meeting and report back on their charge to ensure clarity of BPC section 5641. The Task Force met on July 23, 2013, in Sacramento. At this meeting, the Task Force approved a motion that BPC section 5641 is sufficiently clear and does not need modification. Although the Task Force approved a motion that BPC section 5641 is sufficiently clear, they agreed that the public would benefit by having further interpretation and specificity regarding terminology used within the section. At the August 20, 2013 LATC meeting, the Committee accepted the Task Force recommendation that BPC section 5641 is sufficiently clear and does not need modification. LATC also directed staff to maintain a record of any interpretations used for the terminology in BPC section 5641 during enforcement case review, and provide a summary of the interpretations to the LATC at a future meeting. Having completed their charge, the LATC also approved a motion to conclude the Exceptions and Exemptions Task Force.

Personnel Recruitment efforts are underway to fill the Staff Services Analyst position in the Examination Unit.

Training The following employee has been scheduled for upcoming training:

9/26/13	Courtroom Testifying (Matt)

Website In August 2013, the following updates were made to the website:

1) LATC homepage was updated with information related to the BreEZe transition;
2) LATC homepage and "candidates" web pages were updated with LARE administration dates through December 2014;
3) "Meetings" web page was updated with the Notice of Meeting and meeting packet for the August 20, 2013 LATC meeting;
4) "Meetings" web page was updated with the Summary Report for the May 22, 2013 LATC meeting;
5) "Laws and Regulations" web page was updated with a September 7, 2010 legal opinion written by DCA legal counsel regarding local jurisdictions refusing to accept plans prepared by landscape architects; and
6) August 2013 licensee list was posted to the "licensee search" web page.

LATC EXAMINATION PROGRAM

California Supplemental Examination (CSE) A total of 245 candidates have taken the CSE between August 1, 2011 and August 31, 2013 and 225 candidates have passed.

From March through June, 2013, OPES conducted six workshops in order to develop a new CSE. The exam is anticipated to be launched in Fall 2013.

Upon execution of an Inter-Agency Contract with OPES, the LATC began recruiting subject matter experts for an OA. On May 30-31, 2013, a focus group of licensed professionals and stakeholders in the industry was held to begin the process. After the focus group helped to establish current key areas of landscape architecture, OPES conducted telephone interviews of licensees with objectives of reviewing the framework for describing the profession, developing and refining the task and knowledge statements, and developing the demographic items to be used in the OA questionnaire. The first OA workshop was held on July 11-12 and the OA will continue throughout FY 2013/2014 with a focus on identifying key aspects of landscape architecture, projected changes in those areas, and what skills entry level licensees should be able to proficiently demonstrate.

OPES presented an update of the current status of the OA at the LATC meeting on August 20, 2013. The information was well received and a Q & A session was provided for members as well as the public. Staff continue to focus efforts to obtain current email addresses from licensees and prepare for the next phase of the process. The next phase will be to construct and distribute a pilot questionnaire about the profession. The OA is anticipated to be completed in April 2014.

Landscape Architect Registration Examination (LARE) The August 19-30, 2013 LARE results will be available by mid-October. The LATC application deadline is September 23, 2013 for the next administration of the LARE on December 2-14, 2013.

Outreach LATC will contact schools during the Fall semester to schedule outreach presentations.

Regulation Changes *CCR section 2610 (Application for Examination)* – This section currently requires candidates who wish to register for the LARE to file their application with the LATC 70 days prior to their requested examination date. This requirement was established in 1998 when the licensing examination was partially administered by the LATC and it allowed the LATC preparation time for the administration. In December 2009, the Council of Landscape Architectural Registration Boards began administering all five sections of the LARE, and in 2012 eliminated the graphic portion of the examination, reducing the lead time for applications to be reviewed by LATC prior to the examination date. At the August 20, 2013 LATC meeting, the Committee approved staff's recommendation to change the 70-day filing requirement to 45 days to allow candidates more time to register for the LARE. Staff is preparing the regulatory package for processing.

CCR section 2620.5 (Requirements for an Approved Extension Certificate Program) – The LATC established the original requirements for an approved extension certificate program based on university accreditation standards from the Landscape Architectural Accreditation Board (LAAB). These requirements are outlined in CCR section 2620.5. In 2009, LAAB implemented changes to their university accreditation standards. Prompted by the changes made by LAAB, LATC drafted updated requirements for an approved extension certificate program and recommended the Board authorize LATC to proceed with a regulatory change. The Board approved the regulatory change and adopted the regulations at the December 15-16, 2010 Board meeting. The regulatory proposal to amend CCR section 2620.5 was published at the OAL on June 22, 2012. The Exceptions and Exemptions Task Force recommended additional modifications to CCR section 2620.5 to further update the regulatory language with LAAB guidelines and LATC goals. At the November 14, 2012 LATC meeting, the LATC approved the Task Force's recommended modifications to CCR section 2620.5, with additional edits. At the January 24-25, 2013 LATC meeting, the LATC reviewed public comments regarding the proposed changes to CCR section 2620.5 and agreed to remove several proposed modifications to the language to accommodate concerns mentioned in the public comments. The Board approved adoption of the modified language for CCR section 2620.5 at their March 7, 2013 meeting.

Following is a chronology, to date, of the processing of the regulatory proposal for CCR section 2620.5:

November 22, 2010	Proposed regulatory changes approved by LATC
December 15, 2010	Final approval by the Board
June 22, 2012	Notice of Proposed Changes in the Regulations published by OAL (Notice re-published to allow time to notify interested parties)
August 6, 2012	Public hearing; no public comments received
November 30, 2012	40-Day Notice of Availability of Modified Language posted on website
January 9, 2013	LATC received one written comment during the 40-day Notice period
January 24, 2013	LATC approved modified language to accommodate public comment
February 15, 2013	Final rulemaking file to by DCA's Legal Office and the Division of Legislative and Policy Reviews
March 7, 2013	Final approval of modified language by the Board
May 31, 2013	Final rulemaking file to OAL

July 17, 2013	Decision of Disapproval of Regulatory Action issued by OAL*
August 20, 2013	LATC voted not to pursue a resubmission of rulemaking file to OAL

** Staff will analyze proposed modifications to develop a new regulatory proposal with sufficient justification that will meet OAL standards, and submit to OAL.*

CCR section 2649 (Fees) – At the January 24-25, 2013 LATC meeting, DCA Budget Office staff provided a budget presentation to the LATC. In this presentation, the LATC fund balance of 19.5 months in reserve was discussed in context with BPC section 128.5 (Reduction of License Fees in Event of Surplus Funds), which requires funds to be reduced if an agency has 24 months of funds. As a result of this discussion, LATC asked staff to consult with DCA administration to determine if license fees could be reduced for one renewal cycle and to explore additional ways of addressing the fund balance to comply with BPC 128.5. Staff met with DCA Budget Office staff and legal counsel to explore options and a license renewal fee reduction from $400 to $220 was recommended in addition to a negative budget change proposal to reduce LATC's spending authority by $200,000. At the May 22, 2013 LATC meeting, the members approved a regulatory change proposal to implement the proposed temporary fee reduction, reducing license renewal fees for one renewal cycle beginning in fiscal year 2015/2016 from $400 to $220. The proposed language to amend CCR section 2649 was approved at the August 20, 2013 LATC meeting. Staff is preparing the regulatory package for processing.

LATC ENFORCEMENT PROGRAM

Enforcement Actions

Enforcement Statistics	Current Month August 2013	Prior Month July 2013	Prior Year August 2012
Complaints Opened*:	2	0	4
Complaints to Expert:	0	1	0
Complaints to DOI:	0	0	0
Complaints Pending DOI:	0	0	0
Complaints Pending AG:	0	0	0
Complaints Pending DA:	0	0	0
Total Cases Closed:	4	1	0
Total Cases Pending*:	28	30	30
Settlement Cases (§5678.5) Opened:	0	0	0
Settlement Cases (§5678.5) Pending:	5	5	3
Settlement Cases (§5678.5) Closed:	0	0	0
Citations Final:	0	0	0

** Includes both complaint and settlement cases*

UPDATE AND POSSIBLE ACTION ON LEGISLATION REGARDING SENATE BILL 308 (LIEU) [SUNSET REVIEW OF CALIFORNIA COUNCIL FOR INTERIOR DESIGN CERTIFICATION], ASSEMBLY BILL (AB) 186 (MAIENSCHEIN) [MILITARY SPOUSES], AB 630 (HOLDEN) [INSTRUMENTS OF SERVICE], AND AB 834 (WILLIAMS) [ENERGY COMMISSION CITATIONS]

Senate Bill (SB) 308 (Lieu) - Sunset Review of California Council for Interior Design Certification (CCIDC)

SB 308 (Lieu) contains the Sunset Review provisions for CCIDC, the nonprofit organization recognized in the Business and Professions Code that certifies interior designers in California.

At its June 13, 2013 meeting, the Board agreed to maintain its position adopted at the May 7, 2013 meeting relative to SB 308. Namely, the Board continues to support the extension of the sunset date, but opposes:

1) expanding the current definition of "Certified Interior Designer" (CID); and

2) adding modified definitions of "registered design professional" (which would add CIDs to the current definition, which presently refers only to architects and engineers) to state law.

In addition, the Board continues to support the recommendations for CCIDC to adhere to the Bagley-Keene Open Meeting Act, and add a written contract requirement for CIDs. The Board remains "neutral" on the issue of CCIDC utilizing legislatively specified examinations.

Those positions were conveyed in writing when SB 308 was heard by the Assembly Committee on Governmental Organization on August 7, 2013. The bill passed the Assembly Committee on Appropriations on August 30, 2013, and is now set to be heard on the Assembly floor.

Assembly Bill (AB) 186 (Maienschein) - Military Spouses

Current law requires Department of Consumer Affairs' (DCA) boards and bureaus to expedite the licensure of an applicant who: 1) supplies evidence that the applicant is married to, or in a domestic partnership or other legal union with, an active duty member of the Armed Forces of the United States who is assigned to a duty station in this state under official active duty military orders; and 2) holds a current license in another state, district, or territory of the United States in the profession or vocation for which he or she seeks a license from the board. This bill would permit boards and bureaus to provide a provisional license while the board or bureau processes the application for licensure. The provisional license shall expire 18 months after issuance.

At its June 13, 2013 meeting, the Board voted to modify its position on AB 186 to "Oppose Unless Amended," and to request an exemption while noting the Board's efforts to address the intent of the legislation. This action was based upon new information that indicated the Board would indeed be required to waive the California Supplemental Examination (CSE) for individuals who meet special criteria should AB 186 become law. Since the CSE is a critical licensure component that protects the public health, safety, and welfare by assuring competence in seismic, energy efficiency,

accessibility, and legal requirements, etc., the concept of waiving the CSE was unacceptable to the Board.

The Board understands the importance of programs facilitating reemployment of military veterans and their spouses/partners and previously voted to support this bill at its March 7, 2013 meeting. However, on June 25 and 27, 2013, Executive Officer Doug McCauley communicated the Board's position to Assemblyman Maienschein's staff and to Chairman Ted W. Lieu of the Senate Business, Professions, and Economic Development Committee, and requested an amendment to provide an exemption from the bill's provisions.

AB 186 has since been turned into a two-year bill.

AB 630 (Holden) - Instruments of Service

The American Institute of Architects, California Council-sponsored legislation, AB 630, would add a new provision to the Architects Practice Act to prohibit a consumer from using an architect's instruments of service without a current written contract.

At its June 13, 2013 meeting, the Board voted to support AB 630 if amended to require:

1) a licensed design professional be utilized to protect the public from misuse of an architect's work product; and

2) any consent to utilize instruments of service will not be unreasonably withheld.

AB 630 was passed by the Senate on September 3, 2013 and will return to the Assembly for concurrence.

AB 834 (Williams) – Energy Commission Citations

AB 834 allowed the California Energy Commission to establish an administrative enforcement process with penalties for violations of the energy efficiency building standards.

On April 29, 2013, Mr. McCauley communicated the Board's position of opposition for AB 834 to Assemblyman William's staff in writing, noting the bill's likelihood to bring confusion into the marketplace that will negatively impact consumers and architects.

The bill has since been turned into proposed legislation relating to private postsecondary education and is no longer of interest to the Board.

Attachments:
1. SB 308 (Lieu)
2. AB 186 (Maienschein)
3. Letter to Assemblyman Maienschein Regarding AB 186 Dated June 25, 2013
4. Letter to Senator Lieu Regarding AB 186 Dated June 27, 2013
5. AB 630 (Holden)
6. AB 834 (Williams)
7. Letter to Assemblyman Williams Regarding AB 834 Dated April 29, 2013

AMENDED IN ASSEMBLY AUGUST 5, 2013

AMENDED IN ASSEMBLY JUNE 19, 2013

AMENDED IN SENATE MAY 2, 2013

AMENDED IN SENATE APRIL 18, 2013

SENATE BILL No. 308

Introduced by Senator ~~Price~~ *Lieu*
(Principal coauthor: Assembly Member Gordon)

February 15, 2013

An act to amend Sections 5810, 5812, 7200, 7215.6, 7303, and 7362 of, and to add Sections 5806, 5807, and 5811.1 to, the Business and Professions Code, relating to professions and vocations.

LEGISLATIVE COUNSEL'S DIGEST

SB 308, as amended, ~~Price~~ *Lieu*. Professions and vocations.

(1) Existing law authorizes a certified interior designer, as defined, to obtain a stamp from an interior design organization, as defined, that uniquely identifies the designer and certifies that he or she meets certain qualifications and requires the use of that stamp on all drawings and documents submitted to any governmental agency by the designer. Existing law provides that these provisions are repealed on January 1, 2014, and shall be subject to review by the Joint Sunset Review Committee.

This bill would instead repeal those provisions on January 1, 2018, and would make them subject to review by the appropriate policy committees of the Legislature.

The bill would require a certified interior designer to use a written contract that includes specified information when contracting to provide interior design services to a client pursuant to these provisions and

require that nothing in these provisions prohibit interior design or interior decorator services by any person or retail activity.

The bill would require all meetings of an interior design organization to be subject to the open meeting requirements applicable to state agencies.

(2) Existing law provides for the licensure and regulation of various businesses and professions by boards within the Department of Consumer Affairs, including the State Board of Guide Dogs for the Blind. Existing law requires that the board consist of certain members. Existing law establishes a pilot project to provide an arbitration procedure for the purpose of resolving disputes between a guide dog user and a licensed guide dog school, as specified. Existing law repeals these provisions on January 1, 2014.

This bill would extend the operation of these provisions until January 1, 2018.

(3) Existing law provides for the licensure and regulation of barbering and cosmetology by the State Board of Barbering and Cosmetology and authorizes the board to appoint an executive officer. Under existing law, these provisions are repealed on January 1, 2014.

This bill would instead repeal these provisions on January 1, 2016, and specify that the board would be subject to review by the appropriate policy committees of the Legislature upon repeal.

Existing law provides that a board-approved school of barbering and cosmetology is one that is licensed by the Bureau for Private Postsecondary Education or a public school in the state, and offers a course of instruction approved by the board.

This bill would require a school to be approved by the board before it is approved by the Bureau for Private Postsecondary Education and authorize both entities to simultaneously process a school's application for approval. The bill would also authorize the board to revoke, suspend, or deny its approval of a school on specified grounds.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 5806 is added to the Business and Professions Code, to read:

5806. Nothing in this chapter shall prohibit interior design or interior decorator services by any person or retail activity.

SEC. 2. Section 5807 is added to the Business and Professions Code, to read:

5807. (a) A certified interior designer shall use a written contract when contracting to provide interior design services to a client pursuant to this chapter. The written contract shall be executed by the certified interior designer and the client, or his or her representative, prior to the certified interior designer commencing work. The written contract shall include, but not be limited to, all of the following:

(1) A description of the services to be provided to the client by the certified interior designer.

(2) A description of any basis of compensation applicable to the contract and the method of payment agreed upon by the parties.

(3) The name, address, and certification number of the certified interior designer and the name and address of the client.

(4) A description of the procedure that the certified interior designer and the client will use to accommodate additional services.

(5) A description of the procedure to be used by any party to terminate the contract.

(6) A three-day rescission clause in accordance with Chapter 2 (commencing with Section 1688) of Title 5 of Part 2 of Division 3 of the Civil Code.

(7) A written disclosure stating whether the certified interior designer carries errors and omissions insurance.

(b) Subdivision (a) shall not apply to any of the following:

(1) Interior design services rendered by a certified interior designer for which the client will not pay compensation.

(2) Interior design services rendered by a certified interior designer to any of the following:

(A) An architect licensed under Chapter 3 (commencing with Section 5500).

(B) A landscape architect licensed under Chapter 3.5 (commencing with Section 5615).

(C) An engineer licensed under Chapter 7 (commencing with Section 6700).

(c) As used in this section, “written contract” includes a contract in electronic form.

SEC. 3. Section 5810 of the Business and Professions Code is amended to read:

5810. (a) This chapter shall be subject to review by the appropriate policy committees of the Legislature.

(b) This chapter shall remain in effect only until January 1, 2018, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2018, deletes or extends that date.

SEC. 4. Section 5811.1 is added to the Business and Professions Code, to read:

5811.1. The meetings of an interior design organization issuing stamps under Section 5801 shall be subject to the rules of the Bagley-Keene Open Meeting Act (Article 9 (commencing with Section 11120) of Chapter 1 of Part 1 of Division 3 of Title 2 of the Government Code).

SEC. 5. Section 5812 of the Business and Professions Code is amended to read:

5812. It is an unfair business practice for any person to represent or hold himself or herself out as, or to use the title "certified interior designer" or any other term, such as "licensed," "registered," or "CID," that implies or suggests that the person is certified as an interior designer when he or she does not hold a valid certification as provided in Sections 5800 and 5801.

SEC. 6. Section 7200 of the Business and Professions Code is amended to read:

7200. (a) There is in the Department of Consumer Affairs a State Board of Guide Dogs for the Blind in whom enforcement of this chapter is vested. The board shall consist of seven members appointed by the Governor. One member shall be the Director of Rehabilitation or his or her designated representative. The remaining members shall be persons who have shown a particular interest in dealing with the problems of the blind, and at least two of them shall be blind persons who use guide dogs.

(b) This section shall remain in effect only until January 1, 2018, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2018, deletes or extends that date. Notwithstanding any other law, the repeal of this section renders the board subject to review by the appropriate policy committees of the Legislature.

SEC. 7. Section 7215.6 of the Business and Professions Code is amended to read:

7215.6. (a) In order to provide a procedure for the resolution of disputes between guide dog users and guide dog schools relating

to the continued physical custody and use of a guide dog, in all cases except those in which the dog user is the unconditional legal owner of the dog, the following arbitration procedure shall be established as a pilot project.

(b) This procedure establishes an arbitration panel for the settlement of disputes between a guide dog user and a licensed guide dog school regarding the continued use of a guide dog by the user in all cases except those in which the dog user is the unconditional legal owner of the dog. The disputes that may be subject to this procedure concern differences between the user and school over whether or not a guide dog should continue to be used, differences between the user and school regarding the treatment of a dog by the user, and differences over whether or not a user should continue to have custody of a dog pending investigation of charges of abuse. It specifically does not address issues such as admissions to schools, training practices, or other issues relating to school standards. The board and its representative are not parties to any dispute described in this section.

(c) The licensed guide dog schools in California and the board shall provide to guide dog users graduating from guide dog programs in these schools a new avenue for the resolution of disputes that involve continued use of a guide dog, or the actual physical custody of a guide dog. Guide dog users who are dissatisfied with decisions of schools regarding continued use of guide dogs may appeal to the board to convene an arbitration panel composed of all of the following:

(1) One person designated by the guide dog user.

(2) One person designated by the licensed guide dog school.

(3) A representative of the board who shall coordinate the activities of the panel and serve as chair.

(d) If the guide dog user or guide dog school wishes to utilize the arbitration panel, this must be stated in writing to the board. The findings and decision of the arbitration panel shall be final and binding. By voluntarily agreeing to having a dispute resolved by the arbitration panel and subject to its procedures, each party to the dispute shall waive any right for subsequent judicial review.

(e) (1) A licensed guide dog school that fails to comply with any provision of this section shall automatically be subject to a penalty of two hundred fifty dollars ($250) per day for each day in which a violation occurs. The penalty shall be paid to the board.

The license of a guide dog school shall not be renewed until all penalties have been paid.

(2) The penalty shall be assessed without advance hearing, but the licensee may apply to the board for a hearing on the issue of whether the penalty should be modified or set aside. This application shall be in writing and shall be received by the board within 30 days after service of notice of the penalty. Upon receipt of this written request, the board shall set the matter for hearing within 60 days.

(f) As a general rule, custody of the guide dog shall remain with the guide dog user pending a resolution by the arbitration panel. In circumstances where the immediate health and safety of the guide dog user or guide dog is threatened, the licensed school may take custody of the dog at once. However, if the dog is removed from the user's custody without the user's concurrence, the school shall provide to the board the evidence that caused this action to be taken at once and without fail; and within five calendar days a special committee of two members of the board shall make a determination regarding custody of the dog pending hearing by the arbitration panel.

(g) (1) The arbitration panel shall decide the best means to determine final resolution in each case. This shall include, but is not limited to, a hearing of the matter before the arbitration panel at the request of either party to the dispute, an opportunity for each party in the dispute to make presentations before the arbitration panel, examination of the written record, or any other inquiry as will best reveal the facts of the disputes. In any case, the panel shall make its findings and complete its examination within 45 calendar days of the date of filing the request for arbitration, and a decision shall be rendered within 10 calendar days of the examination.

(2) All arbitration hearings shall be held at sites convenient to the parties and with a view to minimizing costs. Each party to the arbitration shall bear its own costs, except that the arbitration panel, by unanimous agreement, may modify this arrangement.

(h) The board may study the effectiveness of the arbitration panel pilot project in expediting resolution and reducing conflict in disputes between guide dog users and guide dog schools and may share its findings with the Legislature upon request.

(i) This section shall remain in effect only until January 1, 2018, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2018, deletes or extends that date.

SEC. 8. Section 7303 of the Business and Professions Code is amended to read:

7303. (a) Notwithstanding Article 8 (commencing with Section 9148) of Chapter 1.5 of Part 1 of Division 2 of Title 2 of the Government Code, there is in the Department of Consumer Affairs the State Board of Barbering and Cosmetology in which the administration of this chapter is vested.

(b) The board shall consist of nine members. Five members shall be public members, and four members shall represent the professions. The Governor shall appoint three of the public members and the four professional members. The Senate Committee on Rules and the Speaker of the Assembly shall each appoint one public member. Members of the board shall be appointed for a term of four years, except that of the members appointed by the Governor, two of the public members and two of the professions members shall be appointed for an initial term of two years. No board member may serve longer than two consecutive terms.

(c) The board may appoint an executive officer who is exempt from civil service. The executive officer shall exercise the powers and perform the duties delegated by the board and vested in him or her by this chapter. The appointment of the executive officer is subject to the approval of the director. In the event that a newly authorized board replaces an existing or previous bureau, the director may appoint an interim executive officer for the board who shall serve temporarily until the new board appoints a permanent executive officer.

(d) The executive officer shall provide examiners, inspectors, and other personnel necessary to carry out the provisions of this chapter.

(e) This section shall remain in effect only until January 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2016, deletes or extends that date. Notwithstanding any other law, the repeal of this section renders the board subject to review by the appropriate policy committees of the Legislature.

SEC. 9. Section 7362 of the Business and Professions Code is amended to read:

7362. (a) A school approved by the board is one that is first approved by the board and subsequently approved by the Bureau for Private Postsecondary Education or is a public school in this state, and provides a course of instruction approved by the board. However, notwithstanding any other law, both the board and the Bureau for Private Postsecondary Education may simultaneously process a school's application for approval.

(b) The board shall determine by regulation the required subjects of instruction to be completed in all approved courses, including the minimum hours of technical instruction and minimum number of practical operations for each subject, and shall determine how much training is required before a student may begin performing services on paying patrons.

(c) Notwithstanding any other law, the board may revoke, suspend, or deny approval of a school ~~on~~, *in a proceeding that shall be conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, when an owner or employee of the school has engaged in* any of the ~~grounds~~ *acts specified* in paragraphs (1) to (8), ~~inclusive,for disciplinary action against a school, the proceedings for which shall be conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.~~ *inclusive.*

(1) Unprofessional conduct which includes, but is not limited to, any of the following:

(A) Incompetence or gross negligence, including repeated failure to comply with generally accepted standards for the practice of barbering, cosmetology, or electrology, or disregard for the health and safety of patrons.

(B) Repeated similar negligent acts.

(C) Conviction of any crime substantially related to the qualifications, functions, or duties of the owner of an approved school, in which case, the records of conviction or a certified copy thereof shall be conclusive evidence of the conviction.

(2) Repeated failure to comply with the rules governing health and safety adopted by the board and approved by the State Department of Public Health, for the regulation of board-approved schools.

(3) Repeated failure to comply with the rules adopted by the board for the regulation of board-approved schools.

(4) Continued practice by a person knowingly having an infectious or contagious disease.

(5) Habitual drunkenness, or habitual use of, or addiction to the use of, any controlled substance.

(6) Obtaining or attempting to obtain practice in any occupation licensed and regulated under this chapter, or money, or compensation in any form, by fraudulent misrepresentation.

(7) Refusal to permit or interference with an inspection authorized under this chapter.

(8) Any action or conduct that would have warranted the denial of a school approval.

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AMENDED IN SENATE JUNE 24, 2013

AMENDED IN ASSEMBLY MAY 24, 2013

AMENDED IN ASSEMBLY APRIL 22, 2013

AMENDED IN ASSEMBLY APRIL 1, 2013

CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

ASSEMBLY BILL No. 186

Introduced by Assembly Member Maienschein
(Principal coauthor: Assembly Member Hagman)
(Coauthors: Assembly Members Chávez, Dahle, Donnelly, Beth Gaines, *Garcia,* Grove, Harkey, Olsen, ~~and~~ Patterson, *and V. Manuel Pérez*)
(Coauthors: Senators Fuller and Huff)

January 28, 2013

An act to ~~amend~~ *add* Section ~~115.5 of~~ *115.6 to* the Business and Professions Code, relating to professions and vocations, and making an appropriation therefor.

LEGISLATIVE COUNSEL'S DIGEST

AB 186, as amended, Maienschein. Professions and vocations: military spouses: temporary licenses.

Existing law provides for the licensure and regulation of various professions and vocations by boards within the Department of Consumer Affairs. Existing law provides for the issuance of reciprocal licenses in certain fields where the applicant, among other requirements, has a license to practice within that field in another jurisdiction, as specified. Existing law requires that the licensing fees imposed by certain boards within the department be deposited in funds that are continuously

appropriated. Existing law requires a board within the department to expedite the licensure process for an applicant who holds a current license in another jurisdiction in the same profession or vocation and who supplies satisfactory evidence of being married to, or in a domestic partnership or other legal union with, an active duty member of the Armed Forces of the United States who is assigned to a duty station in California under official active duty military orders.

This bill would, in addition to the expedited licensure provisions described above, establish a temporary licensure process for an applicant who holds a current license in another jurisdiction, as specified, and who supplies satisfactory evidence of being married to, or in a domestic partnership or other legal union with, an active duty member of the Armed Forces of the United States who is assigned to a duty station in California under official active duty military orders. The bill would require the temporary license to expire 12 months after issuance, upon issuance of the expedited license, or upon denial of the application for expedited licensure by the board, whichever occurs first.

~~This bill would require a board within the department to issue a temporary license to an applicant who qualifies for, and requests, expedited licensure pursuant to the above-described provision if he or she meets specified requirements, except as provided. The bill would require the temporary license to expire 12 months after issuance, upon issuance of the expedited license, or upon denial of the application for expedited licensure by the board, whichever occurs first. The bill would authorize a board to conduct an investigation of an applicant for purposes of denying or revoking a temporary license, and would authorize a criminal background check as part of that investigation. The~~

This bill would require an applicant seeking a temporary license to submit an application to the board that includes a signed affidavit attesting to the fact that he or she meets all of the requirements for the temporary license and that the information submitted in the application is accurate, as specified. The bill would also require the application to include written verification from the applicant's original licensing jurisdiction stating that the applicant's license is in good standing. *The bill would authorize a board to conduct an investigation of an applicant for purposes of denying or revoking a temporary license and would authorize a criminal background check as part of that investigation. The bill would require an applicant, upon request by a board, to furnish a full set of fingerprints for purposes of conducting the criminal background check.*

This bill would prohibit a temporary license from being provided to any applicant who has committed an act in any jurisdiction that would have constituted grounds for denial, suspension, or revocation of the license at the time the act was committed. The bill would provide that a violation of the above-described provision may be grounds for the denial or revocation of a temporary license. The bill would further prohibit a temporary license from being provided to any applicant who has been disciplined by a licensing entity in another jurisdiction, or is the subject of an unresolved complaint, review procedure, or disciplinary proceeding conducted by a licensing entity in another jurisdiction. ~~The bill would require an applicant, upon request by a board, to furnish a full set of fingerprints for purposes of conducting a criminal background check.~~

This bill would authorize the immediate termination of any temporary license to practice medicine upon a finding that the temporary licenseholder failed to meet any of the requirements described above or provided substantively inaccurate information that would affect his or her eligibility for temporary licensure. The bill would, upon termination of the license, require the board to issue a notice of termination requiring the temporary licenseholder to immediately cease the practice of medicine upon receipt.

This bill would exclude from these provisions a board that has established a temporary licensing process before January 1, 2014.

Because the bill would authorize the expenditure of continuously appropriated funds for a new purpose, the bill would make an appropriation.

Vote: majority. Appropriation: yes. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 115.6 is added to the Business and Professions Code, to read:

115.6. (a) A board within the department shall, after appropriate investigation, issue a temporary license to an applicant if he or she meets the requirements set forth in subdivision (c). The temporary license shall expire 12 months after issuance, upon issuance of an expedited license pursuant to Section 115.5, or upon denial of the application for expedited licensure by the board, whichever occurs first.

(b) The board may conduct an investigation of an applicant for purposes of denying or revoking a temporary license issued pursuant to this section. This investigation may include a criminal background check.

(c) An applicant seeking a temporary license pursuant to this section shall meet the following requirements:

(1) The applicant shall supply evidence satisfactory to the board that the applicant is married to, or in a domestic partnership or other legal union with, an active duty member of the Armed Forces of the United States who is assigned to a duty station in this state under official active duty military orders.

(2) The applicant shall hold a current license in another state, district, or territory of the United States in the profession or vocation for which he or she seeks a temporary license from the board.

(3) The applicant shall submit an application to the board that shall include a signed affidavit attesting to the fact that he or she meets all of the requirements for the temporary license and that the information submitted in the application is accurate, to the best of his or her knowledge. The application shall also include written verification from the applicant's original licensing jurisdiction stating that the applicant's license is in good standing in that jurisdiction.

(4) The applicant shall not have committed an act in any jurisdiction that would have constituted grounds for denial, suspension, or revocation of the license under this code at the time the act was committed. A violation of this paragraph may be grounds for the denial or revocation of a temporary license issued by the board.

(5) The applicant shall not have been disciplined by a licensing entity in another jurisdiction and shall not be the subject of an unresolved complaint, review procedure, or disciplinary proceeding conducted by a licensing entity in another jurisdiction.

(6) The applicant shall, upon request by a board, furnish a full set of fingerprints for purposes of conducting a criminal background check.

(d) A board may adopt regulations necessary to administer this section.

(e) A temporary license issued pursuant to this section for the practice of medicine may be immediately terminated upon a finding

that the temporary licenseholder failed to meet any of the requirements described in subdivision (c) or provided substantively inaccurate information that would affect his or her eligibility for temporary licensure. Upon termination of the temporary license, the board shall issue a notice of termination that shall require the temporary licenseholder to immediately cease the practice of medicine upon receipt.

(f) This section shall not apply to a board that has established a temporary licensing process before January 1, 2014.

~~SECTION 1. Section 115.5 of the Business and Professions Code is amended to read:~~

~~115.5. (a) Except as provided in subdivision (d), a board within the department shall expedite the licensure process for an applicant who meets both of the following requirements:~~

~~(1) Supplies evidence satisfactory to the board that the applicant is married to, or in a domestic partnership or other legal union with, an active duty member of the Armed Forces of the United States who is assigned to a duty station in this state under official active duty military orders.~~

~~(2) Holds a current license in another state, district, or territory of the United States in the profession or vocation for which he or she seeks a license from the board.~~

~~(b) (1) A board shall, after appropriate investigation, issue a temporary license to an applicant who is eligible for, and requests, expedited licensure pursuant to subdivision (a) if the applicant meets the requirements described in paragraph (3). The temporary license shall expire 12 months after issuance, upon issuance of the expedited license, or upon denial of the application for expedited licensure by the board, whichever occurs first.~~

~~(2) The board may conduct an investigation of an applicant for purposes of denying or revoking a temporary license issued pursuant to this subdivision. This investigation may include a criminal background check.~~

~~(3) (A) An applicant seeking a temporary license issued pursuant to this subdivision shall submit an application to the board which shall include a signed affidavit attesting to the fact that he or she meets all of the requirements for the temporary license and that the information submitted in the application is accurate, to the best of his or her knowledge. The application shall also include written verification from the applicant's original licensing~~

~~jurisdiction stating that the applicant's license is in good standing in that jurisdiction.~~

~~(B) The applicant shall not have committed an act in any jurisdiction that would have constituted grounds for denial, suspension, or revocation of the license under this code at the time the act was committed. A violation of this subparagraph may be grounds for the denial or revocation of a temporary license issued by the board.~~

~~(C) The applicant shall not have been disciplined by a licensing entity in another jurisdiction and shall not be the subject of an unresolved complaint, review procedure, or disciplinary proceeding conducted by a licensing entity in another jurisdiction.~~

~~(D) The applicant shall, upon request by a board, furnish a full set of fingerprints for purposes of conducting a criminal background check.~~

~~(c)~~

~~A board may adopt regulations necessary to administer this section.~~

~~(d) This section shall not apply to a board that has established a temporary licensing process before January 1, 2014.~~

O

Edmund G. Brown Jr.
GOVERNOR

CALIFORNIA ARCHITECTS BOARD

PUBLIC PROTECTION THROUGH EXAMINATION, LICENSURE, AND REGULATION

June 25, 2013

The Honorable Brian Maienschein
California State Assembly
State Capitol, Room 3098
Sacramento, CA 94249-0077

RE: AB 186 (Oppose Unless Amended) - Military Spouses

Dear Assemblyman Maienschein:

At its June 13, 2013 meeting, the California Architects Board (Board) voted to oppose AB 186 unless amended. The Board respectively requests an amendment to provide an exemption from the bill's provisions.

The Board has already implemented legislation to temporarily waive the renewal fees and continuing education requirements of licensees during the time period they are on active military duty. The Board provides expedited reciprocity licensing to active duty members who are assigned to a station in California under official "active duty" military orders. The Board has also participated in an effort of the Department of Consumer Affairs to ensure that military veterans receive appropriate credit for their architectural experience to count toward licensure.

Although the Board unequivocally supports members of our nation's Armed Forces and initiatives that address the challenges facing military families, it cannot waive the California Supplemental Examination (CSE) requirement.

The CSE is a critical licensure requirement which all licensees in our state must complete, demonstrating competence in California's seismic, accessibility, energy, and legal requirements. The Board cannot waive the CSE requirement and simultaneously meet its mandate to protect the health, safety, and welfare of the public.

Should you have any questions or comments, please contact me at (916) 575-7232.

Sincerely,

Douglas R. McCauley

DOUGLAS R. McCAULEY
Executive Officer

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Edmund G. Brown Jr.
GOVERNOR

CALIFORNIA ARCHITECTS BOARD

PUBLIC PROTECTION THROUGH EXAMINATION, LICENSURE, AND REGULATION

June 27, 2013

The Honorable Ted W. Lieu
Senate Business, Professions, and Economic Development Committee
State Capitol, Room 2053
Sacramento, CA 95814

RE: July 1, 2013 Hearing
AB 186 (Oppose Unless Amended) - Military Spouses

Dear Chairman Lieu:

At its June 13, 2013 meeting, the California Architects Board (Board) voted to oppose AB 186 unless amended. The Board respectfully requests an amendment to provide an exemption from the bill's provisions.

Supporting our military families is a critical public policy issue. At the national level, First Lady Michelle Obama has spearheaded a number of important initiatives on this topic.

In California, there have also been a number of actions that the Board has embraced and implemented. Such efforts include:

- Pursuant to AB 1588 (Chapter 742, Statutes of 2012), the Board temporarily waives renewal fees and continuing education requirements of licensees during the time period licensees are on active military duty.

- The Board also expedites reciprocity licensing to active duty members who are assigned to a station in California under official "active duty" military orders pursuant to AB 1904 (Chapter 399, Statutes of 2012).

- The Board has also participated in an effort of the Department of Consumer Affairs to ensure that military veterans receive appropriate credit for their architectural experience to count toward licensure.

Although the Board unequivocally supports members of our nation's Armed Forces and initiatives that address the challenges facing military families, it cannot waive the California Supplemental Examination (CSE) requirement.

The CSE is a critical licensure requirement which all licensees in our state must complete, demonstrating competence in California's seismic, accessibility, energy, and legal requirements. The Board cannot waive the

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CSE requirement and simultaneously meet its mandate to protect the health, safety, and welfare of the public.

Should you have any questions or comments, please contact the Board's Executive Officer, Doug McCauley, at (916) 575-7232.

Sincerely,

SHERAN VOIGT
President

cc: Members, Senate Business, Professions, and Economic Development Committee (BPED)
LeOndra Clark, Ph.D, Consultant, BPED
Amber Alexander, Consultant, Senate Republican Caucus
Mark Christian, The American Institute of Architects - California Council
Tracy Rhine, Department of Consumer Affairs
Board Members

AMENDED IN SENATE JUNE 3, 2013

CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

ASSEMBLY BILL No. 630

Introduced by Assembly Member Holden

February 20, 2013

An act to add Section 5536.4 to the Business and Professions Code, relating to architects.

LEGISLATIVE COUNSEL'S DIGEST

AB 630, as amended, Holden. Architects.

Existing law establishes the California Architects Board within the Department of Consumer Affairs for the purpose of regulating the practice of architecture in this state. Existing law defines what constitutes an architect's professional services.

This bill would provide that no person may use an architect's instruments of service, as specified, without ~~a~~ written *consent,* contract, or ~~written assignment allowed by a written contract~~ *agreement specifically* authorizing that use. *The bill would provide that this act is a clarification of existing law and does not take away any right otherwise granted by law.*

Vote: majority. Appropriation: no. Fiscal committee: no. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 5536.4 is added to the Business and Professions Code, to read:

5536.4. No person may use an architect's instruments of service, as those professional services are described in *paragraph*

(2) of subdivision (b) of Section 5500.1, without ~~a~~ written *consent*, contract, or ~~written assignment specifically allowed by a written contract~~ *agreement specifically* authorizing that use.

SEC. 2. The Legislature finds and declares that this act is a clarification of existing law and does not take away any right otherwise granted by law.

O

AMENDED IN SENATE JUNE 25, 2013

AMENDED IN ASSEMBLY APRIL 22, 2013

AMENDED IN ASSEMBLY APRIL 10, 2013

CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

ASSEMBLY BILL No. 834

Introduced by Assembly Member Williams

February 21, 2013

An act to amend Section ~~25402.11~~ *94910* of, *and to add Section 94910.5 to,* the ~~Public Resources~~ *Education* Code, relating to ~~energy efficiency standards~~ *private postsecondary education*.

LEGISLATIVE COUNSEL'S DIGEST

AB 834, as amended, Williams. ~~Energy efficiency standards: administrative enforcement.~~ *Private postsecondary education: School Performance Fact Sheets.*

Existing law, the California Private Postsecondary Education Act of 2009, provides, among other things, for regulatory oversight of private postsecondary schools in the state. The act is enforced by the Bureau for Private Postsecondary Education within the Department of Consumer Affairs. The act exempts specified institutions from all, or a portion, of its provisions. The act requires an institution to provide a prospective student prior to enrollment with a School Performance Fact Sheet, which is required to contain specified information relating to the educational program. Existing law requires an institution that maintains an Internet Web site to provide, on that Internet Web site, specified information, including a School Performance Fact Sheet for each educational program offered by the institution.

This bill would provide that a law school that meets specified criteria shall be deemed to satisfy the requirements of the California Private Postsecondary Education Act of 2009 regarding a School Performance Fact Sheet by complying with a specified standard of the American Bar Association relating to the disclosure of consumer information and by providing completion, placement, bar passage, and salary and wage information of graduates to prospective students prior to enrollment through the law school application process administered by the Law School Admission Council.

~~Existing law authorizes the State Energy Resources Conservation and Development Commission to establish an administrative enforcement process to enforce regulations establishing appliance efficiency standards. Existing law requires the commission to establish, by regulations, building construction and design standards and energy and water efficiency standards for new residential and new nonresidential buildings to increase the efficient use of energy and water.~~

~~This bill would additionally authorize the commission to establish an administrative enforcement process to enforce regulations establishing the building construction and design standards and energy and water efficiency standards.~~

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. Section 94910 of the Education Code is amended to read:

94910. *(a)* Prior to enrollment, an institution shall provide a prospective student with a School Performance Fact Sheet containing, at a minimum, the following information, as it relates to the educational program:

~~(a)~~

(1) Completion rates, as calculated pursuant to Article 16 (commencing with Section 94928).

~~(b)~~

(2) Placement rates for each educational program, as calculated pursuant to Article 16 (commencing with Section 94928), if the educational program is designed to lead to, or the institution makes any express or implied claim related to preparing students for, a recognized career, occupation, vocation, job, or job title.

~~(c)~~

(3) License examination passage rates for programs leading to employment for which passage of a state licensing examination is required, as calculated pursuant to Article 16 (commencing with Section 94928).

~~(d)~~

(4) Salary or wage information, as calculated pursuant to Article 16 (commencing with Section 94928).

~~(e)~~

(5) If a program is too new to provide data for any of the categories listed in this subdivision, the institution shall state on its fact sheet: "This program is new. Therefore, the number of students who graduate, the number of students who are placed, or the starting salary you can earn after finishing the educational program are unknown at this time. Information regarding general salary and placement statistics may be available from government sources or from the institution, but is not equivalent to actual performance data."

~~(f)~~

(6) All of the following:

~~(1)~~

(A) A description of the manner in which the figures described in ~~subdivisions (a) to (d)~~ *paragraphs (1) to (4)*, inclusive, are calculated or a statement informing the reader of where he or she may obtain a description of the manner in which the figures described in ~~subdivisions (a) to (d)~~ *paragraphs (1) to (4)*, inclusive, are calculated.

~~(2)~~

(B) A statement informing the reader of where he or she may obtain from the institution a list of the employment positions determined to be within the field for which a student received education and training for the calculation of job placement rates as required by ~~subdivision (b)~~ *paragraph (2)*.

~~(3)~~

(C) A statement informing the reader of where he or she may obtain from the institution a list of the objective sources of information used to substantiate the salary disclosure as required by ~~subdivision (d)~~ *paragraph (4)*.

~~(g)~~

(7) The following statements:

~~(1)~~

(A) "This fact sheet is filed with the Bureau for Private Postsecondary Education. Regardless of any information you may have relating to completion rates, placement rates, starting salaries, or license exam passage rates, this fact sheet contains the information as calculated pursuant to state law."

~~(2)~~

(B) "Any questions a student may have regarding this fact sheet that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education at (address), Sacramento, CA (ZIP Code), (Internet Web site address), (telephone and fax numbers)."

~~(h)~~

(8) If the institution participates in federal financial aid programs, the most recent three-year cohort default rate reported by the United States Department of Education for the institution and the percentage of enrolled students receiving federal student loans.

(b) This section shall not apply to institutions governed by Section 94910.5.

SEC. 2. Section 94910.5 is added to the Education Code, to read:

94910.5. (a) Notwithstanding any other law, a law school that meets the criteria of subdivision (b) shall be deemed to satisfy the requirements of this chapter regarding a School Performance Fact Sheet by doing both of the following:

(1) Complying with Standard 509 of the 2012–13 American Bar Association's Standards and Rules of Procedure for Approval of Law Schools.

(2) Providing completion, placement, bar passage, and salary and wage information of graduates to prospective students prior to enrollment through the law school application process administered by the Law School Admission Council.

(b) Subdivision (a) shall apply to a law school that meets the following criteria:

(1) The law school is accredited by the Council of the Section of Legal Education and Admissions to the Bar of the American Bar Association.

(2) The law school is owned by an institution authorized to operate by the bureau.

(3) The law school reports graduate salary information and other information to the National Association for Law Placement.

~~SECTION 1. Section 25402.11 of the Public Resources Code is amended to read:~~

~~25402.11. (a) (1) The commission may adopt regulations establishing an administrative enforcement process for a violation of a regulation adopted pursuant to Section 25402 and for the assessment of an administrative civil penalty not to exceed two thousand five hundred dollars ($2,500) for each violation. The process shall comply with the requirements of Chapter 4.5 (commencing with Section 11400) and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.~~

~~(2) In assessing the amount of an administrative penalty, the commission shall consider all of the following factors:~~

~~(A) The nature and seriousness of the violation.~~

~~(B) The number of violations.~~

~~(C) The persistence of the violation.~~

~~(D) The length of time over which the violation occurred.~~

~~(E) The willfulness of the violation.~~

~~(F) The violator's assets, liabilities, and net worth.~~

~~(G) The harm to consumers and to the state that resulted from the amount of energy wasted due to the violation.~~

~~(b) If the commission finds that a violation of the regulations adopted pursuant to Section 25402 has occurred or is threatening to occur, the commission may refer the matter to the Attorney General to petition a court to enjoin the violation. The court may grant prohibitory or mandatory injunctive relief as warranted by issuing a temporary restraining order, preliminary injunction, or permanent injunction, and may assess a civil penalty not to exceed two thousand five hundred dollars ($2,500) for each violation, considering the factors specified in paragraph (2) of subdivision (a).~~

~~(c) Penalties collected pursuant to this section shall be deposited into the Efficiency Enforcement Subaccount, which is hereby established in the Energy Resources Program Account. The moneys in the Efficiency Enforcement Subaccount may be expended by the commission, upon appropriation by the Legislature, for the education of the public regarding energy efficiency and for the enforcement of the regulations adopted pursuant to Section 25402.~~

~~(d) An order imposing an administrative civil penalty shall be subject to judicial review pursuant to subdivisions (a) and (b) of Section 25534.2.~~

~~(e) A person shall not be liable for a civil penalty pursuant to subdivision (b) if that person is subject to an administrative civil penalty pursuant to subdivision (a).~~

~~(f) In a civil action brought on behalf of the commission pursuant to this section, upon granting relief, the court shall award to the commission the reasonable costs incurred by the commission in investigating and prosecuting the action.~~

~~(g) The commission shall not initiate an administrative enforcement process pursuant to the regulations adopted pursuant to this section against an entity for the unlawful sale or the unlawful offer for sale of an appliance if both of the following apply:~~

~~(1) The appliance fully complies with all of the requirements of the regulations adopted pursuant to subdivision (c) of Section 25402.~~

~~(2) The only basis for the commission's potential enforcement action is that the appliance is not considered to be in compliance because of the commission's delay in reviewing and processing information submitted to it that demonstrates full compliance.~~

~~(h) In addition to the prohibitions specified in subdivision (g), the commission shall not initiate an administrative enforcement process pursuant to the regulations adopted pursuant to this section for a violation of a regulation adopted pursuant to Section 25402 until both of the following occur:~~

~~(1) No fewer than 60 days have elapsed since the date when the regulation was published in the California Register.~~

~~(2) No fewer than 30 days have elapsed since the date when the alleged violator received written notice of the alleged violation and date when the commission provided public notice of the standard.~~

O

Edmund G. Brown Jr.
GOVERNOR

CALIFORNIA ARCHITECTS BOARD

PUBLIC PROTECTION THROUGH EXAMINATION, LICENSURE, AND REGULATION

April 29, 2013

The Honorable Das Williams
California State Assembly
State Capitol
Sacramento, CA 95814

RE: AB 834 (Oppose) – California Energy Commission Citations

Dear Assemblyman Williams:

The California Architects Board (Board) regrets to inform you that it has taken an "oppose" position on your AB 834.

AB 834 allows the California Energy Commission to establish an administrative enforcement process, with administrative penalties, for violations of the energy efficiency building standards.

The Board is the regulatory entity for the practice of architecture in California pursuant to the Business and Professions Code. It is inappropriate to create a new enforcement system that will bring confusion into the marketplace that will negatively impact consumers and architects.

A better approach to achieve the intent behind this bill would be to focus on the local approval process. California's city and county building departments provide the plan review and inspection services that are designed to ensure compliance with all of the components of Title 24, including the energy efficiency standards. This legislation could be amended to focus on enhanced training and support for building departments' enforcement processes, which will result in a stronger performance of the built environment.

Should you have any questions or comments, please contact me directly at (916) 575-7232.

Sincerely,

Douglas R. McCauley

DOUGLAS R. McCAULEY
Executive Officer

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DISCUSS AND POSSIBLE ACTION ON RECOMMENDED BUDGET CHANGE PROPOSAL OPTIONS

At the June 13, 2013 meeting, Executive Officer (EO) Doug McCauley provided a budget update and discussed the potential for the Board to voluntarily reduce its budget for fiscal year (FY) 2015/16. It was noted that despite challenging State budget realities, a voluntary budget reduction may be in the best interest of the Board and of the State of California due to the reversion each FY. As a result of the discussion, Mr. McCauley offered to identify areas that the Board could reasonably consider reducing, and to present options at the September Board meeting.

Staff met with Department of Consumer Affairs Budget Office personnel to explore options for reducing budget line items. Budget Office staff recommended a negative Budget Change Proposal (BCP) be pursued to reduce the Board's spending authority.

At this meeting, the Board is asked to consider the recommendations and to give the EO authority to proceed with a negative BCP to reduce the Board's spending authority by no greater than $400,000 for FY 2015/16.

Attachments:
1. Budget Report (5-Year Expenditure History)
2. Analysis of Fund Condition (Negative BCP Scenario)

DEPARTMENT OF CONSUMER AFFAIR

CALIFORNIA ARCHITECTS BOARD

BUDGET REPORT

5-Year Expenditure History

OBJECT DESCRIPTION	BUDGET ALLOTMENT FY 2012-13	FIVE YEAR AVERAGE	FY 2012-13 ACTUAL EXPENDITURES (MONTH 13)	FY 2011-12 ACTUAL EXPENDITURES (MONTH 13)	FY 2010-11 ACTUAL EXPENDITURES (MONTH 13)	FY 2009-10 ACTUAL EXPENDITURES (MONTH 13)	FY 2008-09 ACTUAL EXPENDITURES (MONTH 13)
PERSONNEL SERVICES							
Salary & Wages	**1,040,659**	**868,793**	825,893	846,026	973,508	861,004	837,532
Exempt Statutory	**94,224**	**36,529**	89,871	92,773			
Temporary Help	**0**	**4,279**				13,859	7,537
Allocated Proctor	**0**	**6,162**			6,716	11,799	12,295
Separated Proctor	**0**	**934**					4,668
Board Members	**10,036**	**5,422**	4,509	4,900	5,200	5,300	7,200
Overtime	**0**	**258**	1,290				
Benefits	**565,444**	**381,745**	429,717	399,826	407,753	345,801	325,626
TOTAL PERSONNEL SERVICES	**1,710,363**	**1,304,121**	**1,351,280**	**1,343,525**	**1,393,177**	**1,237,763**	**1,194,858**
OPERATING EXPENSES & EQUIPMENT							
General Expense	**16,142**	**33,812**	26,481	25,038	32,389	50,506	34,645
Minor Equipment	**6,600**	**9,331**	16,045	19,544		11,029	38
Major Equipment	**0**	**5,170**		8,710		17,142	
Printing	**52,101**	**30,196**	32,595	17,231	3,009	25,591	72,554
Communication	**8,496**	**8,897**	9,087	6,499	7,922	9,977	11,001
Postage	**78,270**	**33,934**	31,296	30,730	26,207	38,510	42,926
Travel In-State	**96,103**	**48,456**	40,457	38,713	48,663	49,094	65,355
Travel Out-of-State	**0**	**784**					3,919
Training	**20,856**	**2,188**	3,510	900	1,147	4,236	1,145
Facilities Operations	**194,789**	**158,063**	196,946	111,814	124,824	233,827	122,903
C&P Services Internal	**13,743**	**0**					
C&P Services External**	**173,478**	**22,080**	4,164	40,935	21,444	20,965	22,893
Departmental Services	**498,635**	**447,393**	459,936	452,630	511,086	455,433	357,879
Teale	**13,581**	**549**	200	434	856	805	450
Data Processing	**29,518**	**13,163**	15,983	16,501	9,995	9,235	14,099
Central Administration Services	**176,357**	**136,281**	176,357	176,672	115,088	89,500	123,787
EXAMS							
Exam Supplies & Freight	**9,137**	**0**					
Exam Site Rental	**104,515**	**47,859**			61,678	77,348	100,268
Exam Contracts*	**347,043**	**225,902**	126,727	155,728	184,720	215,044	447,289
Expert Examiners (SME)	**40,177**	**71,098**	69,478	55,333	63,226	109,320	58,132
ENFORCEMENT							
Attorney General	**47,018**	**40,657**	48,808	32,040	49,080	60,218	13,140
Office of Administrative Hearings	**19,486**	**4,942**	6,416	8,968	3,415	3,135	2,778
Evidence/Witness	**5,723**	**1,300**		123		500	5,878
Court Reporter Services	**0**	**691**	880	900		673	1,000
Architect Consultant Contacts**	**0**	**184,416**	188,356	168,304	219,960	151,659	193,800
Division of Investigation	**40,211**	**13,487**	40,019	26,757	660		
TOTAL OPERATING EXPENSES & EQUIPMENT	**1,991,979**	**1,540,648**	**1,493,741**	**1,394,504**	**1,485,369**	**1,633,747**	**1,695,879**
TOTAL EXPENDITURES	**3,702,342**	**2,844,769**	**2,845,021**	**2,738,029**	**2,878,546**	**2,871,510**	**2,890,737**
NET APPROPRIATION	**3,702,342**	**2,844,769**	**2,845,021**	**2,738,029**	**2,878,546**	**2,871,510**	**2,890,737**
Scheduled, Other Reimbursement	**(5,000)**	**(8,177)**	**(705)**	**(3,310)**	**(19,325)**	**(14,685)**	**(2,860)**
Distributed Costs	**(26,000)**	**(26,000)**	**(26,000)**	**(26,000)**	**(26,000)**	**(26,000)**	**(26,000)**
Unscheduled Reimbursement	**0**	**(23,301)**	**(42,007)**	**(29,237)**	**(17,435)**	**(12,100)**	**(15,729)**
NET, TOTAL EXPENDITURES	**3,671,342**	**2,787,290**	**2,776,309**	**2,679,482**	**2,815,786**	**2,818,725**	**2,846,148**
		Annual Budget Allotment	**3,671,342**	**3,671,342**	**3,590,833**	**3,655,324**	**3,197,634**
		Annual Reversion	**895,033**	**991,860**	**775,047**	**836,599**	**351,486**

NOTES/ASSUMPTIONS

*Intra-Agency Agreement with OPES included in Exam Contracts (FY11/12 $102,200 & FY12/13 $87,028 and Budget Allotment $321).

**C&P External Contracts for Robert Carter and Barry Williams included in Architect Consultant Contracts (FY 08/09 $193,800, FY 09/10 $151,659, FY 10/11 $219,960, FY 11/12 $168,304 and FY 12/13 $188,356).

California Architects Board
Analysis of Fund Condition

Prepared 9/4/2013

(Dollars in Thousands)

Negative BCP Scenario Appropriation Decrease @ -$400K		ACTUALS 2012-13	Governor's Budget BY 2013-14	BY + 1 2014-15	BY + 2 2015-16	BY + 3 2016-17
BEGINNING BALANCE		$ 4,042	$ 4,061	$ 4,300	$ 3,181	$ 3,680
Prior Year Adjustment		$ 25	$ -	$ -	$ -	$ -
Adjusted Beginning Balance		$ 4,067	$ 4,061	$ 4,300	$ 3,181	$ 3,680
REVENUES AND TRANSFERS						
Revenues:						
125600	Other regulatory fees	$ 3	$ 3	$ 3	$ 3	$ 3
125700	Other regulatory licenses and permits	$ 290	$ 373	$ 290	$ 373	$ 290
125800	Renewal fees	$ 2,447	$ 3,620	$ 2,447	$ 3,620	$ 2,447
125900	Delinquent fees	$ 40	$ 80	$ 40	$ 80	$ 40
141200	Sales of documents	$ -	$ -	$ -	$ -	$ -
142500	Miscellaneous services to the public	$ -	$ -	$ -	$ -	$ -
150300	Income from surplus money investments	$ 10	$ 13	$ 10	$ 11	$ 8
150500	Interest Income From Interfund Loans	$ -	$ -	$ -	$ -	$ -
160400	Sale of fixed assets	$ -	$ -	$ -	$ -	$ -
161000	Escheat of unclaimed checks and warrants	$ 1	$ -	$ 1	$ -	$ 1
161400	Miscellaneous revenues	$ -	$ -	$ -	$ -	$ -
Totals, Revenues		$ 2,791	$ 4,089	$ 2,791	$ 4,087	$ 2,789
Transfers from Other Funds						
		$ -	$ -	$ -	$ -	$ -
Transfers to Other Funds						
		$ -	$ -	$ -	$ -	$ -
Totals, Revenues and Transfers		$ 2,791	$ 4,089	$ 2,791	$ 4,087	$ 2,789
Totals, Resources		$ 6,858	$ 8,150	$ 7,091	$ 7,268	$ 6,469
EXPENDITURES						
Disbursements:						
0840	State Operations	$ 3	$ -	$ -	$ -	$ -
1110	Program Expenditures (State Operations)	$ 2,776	$ 3,833	$ 3,910	$ 3,988	$ 4,068
	Neg BCP - Scenario @ $400K	$ -	$ -	$ -	$ -400	$ -400
Financial Information System for California (State Ops)		$ 18	$ 17	$ -	$ -	
Total Disbursements		$ 2,797	$ 3,850	$ 3,910	$ 3,588	$ 3,668
FUND BALANCE						
Reserve for economic uncertainties		$ 4,061	$ 4,300	$ 3,181	$ 3,680	$ 2,801
Months in Reserve		12.7	13.2	10.6	12.0	8.1

NOTES:

A. ASSUMES WORKLOAD AND REVENUE PROJECTIONS ARE REALIZED

B. ASSUMES 2% GROWTH IN EXPENDITURES IN FY 2014-15

C. ASSUMES 0.3% GROWTH IN INCOME FROM SURPLUS MONEY

Agenda Item F

NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARDS (NCARB)

1. Review and Possible Action on Mutual Recognition Agreement Between NCARB and Canadian Architectural Licensing Authorities

2. Report on the NCARB Practice Analysis

3. Update on 2013 Changes to the NCARB Architect Registration Examination Process

REVIEW AND POSSIBLE ACTION ON MUTUAL RECOGNITION AGREEMENT BETWEEN NCARB AND CANADIAN ARCHITECTURAL LICENSING AUTHORITIES

On June 16, 2013, a new Mutual Recognition Agreement (MRA) was signed between the Canadian Architectural Licensing Authorities (CALA) and the National Council of Architectural Registration Boards (NCARB) in response to evolutions in the path to licensure within the Canadian provinces; it is an update to the 1994 Agreement.

The effective date of the new Agreement is to be January 1, 2014; however, implementation of the Agreement is contingent on more than half of all NCARB Member Boards and more than half of all CALA becoming formal signatories to the Agreement by December 31, 2013.

The Board is asked to review the MRA and consider giving the President authority to sign the Letter of Undertaking in an endorsement of NCARB's efforts to continue its long-standing recognition of the exchange of professional credentials in support of cross-border practice with Canada.

Attachments:

1. Letter from NCARB dated August 7, 2013
2. Letter of Undertaking
3. Mutual Recognition Agreement
4. Letter of Good Standing Template

NCARB

National Council of Architectural Registration Boards

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An Equal Opportunity Employer

August 7, 2013

Dear Member Board Chair and Member Board Executive:

Immediately prior to the 2013 Annual Meeting a new Mutual Recognition Agreement (MRA) was signed between the Canadian Architectural Licensing Authorities (CALA) and NCARB. The current inter-recognition agreement has been in effect since 1994 and is based on the similarities between the two country's education standards, the parallels of the Intern Development Program (IDP) and the Canadian Internship in Architecture Program (IAP), and completion of NCARB's Architect Registration Examination (ARE®).

Evolutions in the path to licensure within the Canadian provinces necessitated an update to the 1994 agreement in order to continue the facilitation of the cross-border practice of architecture. NCARB and CALA have been working to negotiate a new MRA for the past three years. The new MRA respects changes to both the IDP and the Canadian IAP as well as the introduction of Canada's own professional examination, the Examination for Architects in Canada (ExAC), in lieu of the ARE.

The effective date of the new agreement is to be January 1, 2014, however implementation of the agreement is contingent on more than half of all NCARB Member Boards and more than half of all Canadian Architectural Licensing Authorities becoming formal signatories to the Agreement by December 31, 2013. It should be noted that all 11 Canadian jurisdictions have agreed in principle to the new MRA at this time. At our own Annual Meeting in June of this year, the vote of the membership was 47 to 3 in favor of adopting this new agreement. Four jurisdictions were either not present or ineligible to vote.

Attached to this letter is the MRA and a Letter of Undertaking that we are respectfully asking you to sign on behalf of your Board. Once we have collected the required number of signatures, the existing US/Canada Inter-Recognition Agreement will no longer be in effect. Regardless of the implementation of the new agreement, CALA has given us notice of their intention to terminate the existing Agreement effective January 1, 2014. <u>All licenses granted under the existing Agreement will remain valid as long as the architect continues to meet the registration renewal requirements of each Board or Licensing Authority.</u>

The fundamental principles of recognition under the new MRA are recognition of the license plus one year of post-licensure experience in the individual's home country. For the purposes of the Agreement, home country means either the United States or Canada. This additional experience requirement only impacts those who are in their first year of U.S. or Canadian licensure. Anyone with more than one year of practice would qualify for the reciprocal license under this new MRA.

To comply with the new terms in the MRA, the following will be required:

- a letter of good standing from the architectural licensing authority in the architect's principal place of practice;
- a letter of declaration from the applicant attesting to at least 2,000 hours of post-licensure experience;
- proof of citizenship/permanent residency in the home country; and
- a current NCARB Certificate.

In addition, an architect who obtained their license through other foreign reciprocal registration procedures is not eligible under the new Agreement.

Please review this Letter of Undertaking with your fellow Board members and return an executed copy to Allison Smith (asmith@ncarb.org) by December 31, 2013. We will keep you informed as to the progress of Member Boards who are signing on to the Agreement. Should you have any questions regarding the Agreement or its impact, feel free to contact either Kathy Hillegas (khillegas@ncarb.org) or Stephen Nutt (snutt@ncarb.org).

NCARB and CALA represent mature and sophisticated regulatory bodies that support a rigorous path to licensure through education, experience, and examination. The new agreement respects each countries path to licensure and serves as a bold model for MRAs in the future. As a signatory to the current agreement, I am respectfully requesting that your Board sign the attached Letter of Undertaking in order to continue our long-standing recognition of the exchange of professional credentials in support of cross-border practice.

Many thanks for your thoughtful consideration. I look forward to your acceptance and swift implementation of the new Agreement.

Regards,

Blakely C. Dunn, AIA
President

Attachments:

- Letter of Undertaking
- MRA Between NCARB And CALA
- Letter of Good Standing (template)
- Applicant Declaration (template)

Letter of Undertaking
in respect of the
MUTUAL RECOGNITION AGREEMENT
Between The
NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARDS
And The
CANADIAN ARCHITECURAL LICENSING AUTHORITIES

The National Council of Architectural Registration Boards (NCARB) representing the architectural licensing boards of the 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands.

AND

The Canadian Architectural Licensing Authorities representing the 11 Provincial and Territorial jurisdictions in Canada (collectively CALA and individually, the CALA jurisdictions): Architectural Institute of British Columbia; Alberta Association of Architects; Saskatchewan Association of Architects; Manitoba Association of Architects; Ontario Association of Architects; Ordre des Architectes du Québec; Nova Scotia Association of Architects; Architects' Association of New Brunswick/Association des Architectes du Nouveau-Brunswick; Architects Licensing Board of Newfoundland & Labrador; Architects Association of Prince Edward Island; Northwest Territories Association of Architects.

Whereas NCARB and CALA have agreed to and signed a Mutual Recognition Agreement (MRA) dated June 17, 2013 ratified by the 54 architectural licensing authorities represented by NCARB and the 11 architectural licensing authorities represented by CALA. This letter of undertaking shall be signed, without modification, by each licensing/registration authority wishing to participate in the MRA

The undersigned licensing/registration authority, having the authority to register or license persons as Architects within its jurisdiction and being a signatory to the Inter-Recognition Agreement dated July 1, 1994, wishes to become a signatory to the MRA by virtue of this Letter of Undertaking. In doing so, the licensing/registration authority agrees to and acknowledges the following:

1. The terms used in this Letter of Undertaking shall have the same meaning as defined in the MRA between NCARB and CALA dated June 17, 2013.

2. The undersigned individual has the authority to sign on behalf of the licensing/registration authority.

3. As a signatory to the MRA, the undersigned licensing/registration authority will adhere to the fundamental principles of the MRA and agrees to accept the Letter of Good Standing provided by the local licensing/registration authority and the applicant's personal Declaration and Undertaking as satisfying the eligibility requirements for licensing/registration set forth in the MRA.

4. The undersigned will not impose any additional education, experience, or examination requirements, or require education transcripts, experience verification, examination scores, or social security or social insurance numbers. However, the authority may impose familiarity with local laws and other local requirements that apply to all domestic applicants seeking reciprocal licensure.

5. In keeping with the above, the undersigned licensing/registration authority agrees that it will accept for licensure/registration to practice architecture in its jurisdiction a licensed/registered individual who holds a valid and current NCARB Certificate that has been issued in accordance with the MRA and satisfies the conditions outlined within the MRA.

In Witness Whereof: The licensing/registration authority named below has caused the duly authorized person, on its behalf, to execute and deliver this Letter of Undertaking.

Entered into on _____, 2013

By: _____
(name of Licensing/Registration Entity)

_____
(name of duly authorized individual and title)

Copy of Mutual Recognition Agreement attached

MUTUAL RECOGNITION AGREEMENT
Between The
NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARDS
And The
CANADIAN ARCHITECURAL LICENSING AUTHORITIES

The National Council of Architectural Registration Boards (NCARB) representing the architectural licensing boards of the 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands.

AND

The Canadian Architectural Licensing Authorities, a committee representing the 11 Provincial and Territorial jurisdictions in Canada (collectively CALA and individually, the CALA jurisdictions): Architectural Institute of British Columbia; Alberta Association of Architects; Saskatchewan Association of Architects; Manitoba Association of Architects; Ontario Association of Architects; Ordre des Architects du Québec; Nova Scotia Association of Architects; Architects' Association of New Brunswick/Association des Architectes du Nouveau-Brunswick; Architects Licensing Board of Newfoundland & Labrador; Architects Association of Prince Edward Island; Northwest Territories Association of Architects.

WHEREAS, NCARB establishes model regulations for the profession of architecture and promulgates recommended national standards for education, experience, and examination for initial licensure and continuing education standards for license renewal; as well as establishing the education, experience, and examination requirements for the NCARB Certificate in support of reciprocal licensure within the United States;

WHEREAS, the NCARB Member Boards and the CALA jurisdictions are empowered by statutes to regulate the profession of architecture in their respective jurisdictions, including setting education, experience, and examination requirements for licensure/registration and license/registration renewal;

WHEREAS, the standards, protocols, and procedures required for entry to the practice of architecture within the United States and Canada have benefitted from many years of collaboration between NCARB and the CALA jurisdictions;

WHEREAS, accepting there are some differences between the systems in place in United States and Canada, there is significant and substantial equivalence between the regulatory systems for licensure/registration and recognition of the privilege and obligations of architects to practice in the United States and Canada;

WHEREAS, NCARB and the Committee of Canadian Architectural Councils previously entered into the Inter-Recognition Agreement which took effect on July 1, 1994. The Committee of Canadian Architectural Councils no longer exists as an organization, such former Inter-Recognition Agreement is hereby declared no longer to exist and the parties desire to enter into this new Mutual Recognition Agreement.

WHEREAS, NCARB and the CALA jurisdictions recognize the NCARB Member Boards and the CALA jurisdictions as mature and sophisticated regulators to which the utmost full faith and credit should be accorded and desire to facilitate reciprocal licensure/registration in the host country of architects who have been licensed/registered in their home country;

WHEREAS, any architect seeking to engage or actively engaging in the practice of architecture in any NCARB Member Board or CALA jurisdiction must obtain the authorization to practice from the jurisdiction, must comply with all practice requirements of the jurisdiction, and is subject to all governing legislation and regulations of the jurisdiction;

NOW THEREFORE, NCARB and the CALA jurisdictions agree as follows:

ELIGIBILITY

1. Architects who are able to benefit from the provisions of this agreement must be citizens respectively of the United States or Canada or have lawful permanent residency status in that country as their home country in order to seek licensure/registration in the other country as the host country under this Agreement. Architects shall not be required to establish citizenship or permanent residency status in the host country in which they seek licensure/registration under this Agreement.
2. Architects must also be licensed/registered in a jurisdiction of their home country and must have completed at least 2,000 hours of post-licensure/registration experience practicing as an architect in their home country.
3. Notwithstanding items 1 and 2 above, Architects who have been licensed by means of a Broadly Experienced Foreign Architect programs of either of the two countries or other foreign reciprocal licensing agreement are not eligible under this agreement.

CONDITIONS

U.S. Architect to Canadian Jurisdiction

Upon application, those CALA jurisdictions who become signatories to this Agreement and so long as they remain signatories agree to license/register as an architect in their respective province or territory any architect who

1. is currently licensed/registered in good standing by one or more NCARB Member Board(s) that is a current signatory to this Agreement;
2. holds a current NCARB Certificate;
3. meets the eligibility requirements listed above; and
4. whose principal place of practice is in a jurisdiction that is a current signatory to this Agreement.

Canadian Architect to U.S. Jurisdiction
Upon application, NCARB shall issue an NCARB Certificate to any architect licensed/registered in one or more CALA jurisdiction(s) meeting the eligibility requirements listed above.

Upon application, those NCARB Member Boards who become signatories to this Agreement and so long as they remain signatories agree to license/register as an architect in their respective jurisdictions any architect who

1. is currently licensed/registered in good standing by one or more of the CALA jurisdiction(s) that is a current signatory to this Agreement;
2. holds a current NCARB Certificate;
3. meets the eligibility requirements listed above; and
4. whose principal place of practice is in a jurisdiction that is a current signatory to this Agreement.

DEFINITIONS

Demonstration of Required Experience
2,000 cumulative hours of post-licensure experience shall be demonstrated by individual applicants through the provision of proof of licensure in good standing and a signed affidavit attesting to the experience.

Principal Place of Practice
The address declared by the architect to be the address at which the architect is predominantly offering architectural services. The architect may only identify one principal place of practice.

LIMITATIONS
Nothing in this Agreement limits the ability of an NCARB Member Board or CALA jurisdiction to refuse to license/register an architect or impose terms, conditions or restrictions on his/her license/registration as a result of complaints or disciplinary or criminal proceedings relating to the competency, conduct, or character of that architect where such action is considered necessary to protect the public interest. Nothing in this Agreement limits the ability of NCARB, an NCARB Member Board or a CALA jurisdiction to seek appropriate verification of any matter pertaining to the foregoing or the eligibility of an applicant under this Agreement.

MONITORING COMMITTEE
A Monitoring Committee is hereby established to monitor the performance of all signatories who have agreed to be bound by the terms and conditions of this Agreement to assure the effective and efficient implementation of this Agreement.

The Monitoring Committee shall be comprised of no more than five individuals appointed by CALA and no more than five individuals appointed by NCARB. The Monitoring Committee shall convene at least one meeting in each calendar year, and more frequently if circumstances so require.

AMENDMENT

This agreement may only be amended with the written consent of NCARB and all of the CALA jurisdictions who are initial signatories. Any such amendment will be submitted to all of the NCARB jurisdictions who may re-affirm their respective assent to this Agreement as so amended or may withdraw as a signatory.

SIGNING AND WITHDRAWING

Any NCARB Member Board or CALA jurisdiction may become a party to the applicable provisions of this Agreement upon submitting a written affirmation of its intent to become a signatory in the case of NCARB Member Boards to NCARB and in the case of CALA jurisdictions either by signing this Agreement or submitting a written affirmation of its intent to become a signatory to NCARB and the other CALA jurisdictions. Any NCARB Member Board or CALA jurisdiction may likewise withdraw from this Agreement with 90-days written notice given respectively to the same parties in the same manner. NCARB and the CALA jurisdictions shall each promptly notify the other in writing of all signatories and withdrawals. In the event of withdrawal, all licenses/registrations and NCARB certification granted to architects pursuant to this Agreement shall remain valid as long as all renewal obligations are maintained and all other generally applicable requirements are met or unless revoked for cause.

TERMINATION

NCARB or CALA may invoke termination of this agreement with 90-days written notice to the other party. This Agreement shall also terminate if more than one-half of the respective NCARB Member Boards and CALA jurisdictions cease to be signatories to this Agreement. In the event of termination, all licenses/registrations granted to architects of either country prior to the effective termination date shall remain valid as long as all registration renewal obligations are maintained or unless registration is revoked for cause.

ENTRY INTO FORCE

This Agreement shall come into force at such time as more than one-half of all NCARB Member Boards have become parties to this Agreement and more than one-half of all CALA jurisdictions have become parties to this Agreement all as described above so long as such condition is met on or before January 1, 2014, or as mutually extended by the NCARB Board of Directors and the CALA International Relations Committee.

Signatures

NCARB

President Ronald B. Blitch

CEO Michael J. Armstrong

Witness Blakely C. Dunn

Witness Dale McKinney

Witness Scott C. Veazey

Witness Stephen Nutt

CALA

Chair, International Relations Committee Peter Streith

Witness Andre Bourassa

Witness David Edwards

Witness Kristi Doyle

June 17, 2013 San Diego, CA

Date

TEMPLATE TO BE COMPLETED BY LICENSING AUTHORITY
LETTER OF GOOD STANDING

DATE

NAME
ADDRESS
ADDRESS
ADDRESS
ADDRESS

Dear Sir or Madam:

This is to confirm that **[*NAME OF INDIVIDUAL*]** was licensed/registered on **[*MONTH / DAY / YEAR*]**with the **[*NAME OF LICENSING AUTHORITY*]** and was not licensed by means of a foreign reciprocal registration agreement or a Broadly Experienced Foreign Architect program.

[*NAME OF INDIVIDUAL*] is currently a licensee/registrant in good standing with the **[*NAME OF LICENSING AUTHORITY*]** and is not currently the subject of disciplinary action by this licensing authority nor has a record of unresolved disciplinary action on file with this licensing authority.

Sincerely,

NAME
Registrar

TEMPLATE TO BE COMPLETED BY APPLICANT

DECLARATION AND UNDERTAKING
For The
MUTUAL RECOGNITION AGREEMENT
Between The
NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARDS (NCARB)
And The
CANADIAN ARCHITECTURAL LICENSING AUTHORITIES (CALA)

I, **[*NAME*]**, declare and affirm that:

I am a citizen or hold permanent residency status in [***UNITED STATES* or *CANADA*]**;

I am a licensed/registered architect, and currently a licensee/registrant in good standing with the [***NAME OF LICENSING AUTHORITY*]** which is my principal place of practice;

I was licensed on **[*MONTH / DAY / YEAR*]** with the **[*NAME OF LICENSING AUTHORITY*]** who will separately be confirming that I am in good standing with that Authority, and I did not obtain licensure in that jurisdiction by means of a foreign reciprocal registration agreement or a Broadly Experienced Foreign Architect program;

I have completed a minimum of 2,000 hours of post-licensure experience as an architect engaged in the lawful practice of architecture; and

I meet all of the eligibility requirements of the Mutual Recognition Agreement for reciprocal licensing between NCARB and CALA.

I have had a disciplinary action registered against me
by a licensing authority (circle one) YES / NO

If yes, submit the summary findings and official action of the licensing authority, as well as any further explanation necessary with this form.

The accepting licensing authority has the right to request further details with respect to disciplinary actions.

I affirm that the above statements are accurate and true to the best of my knowledge and belief.

_____ _____

Signature *Date*

_____

Name (print)

REPORT ON THE NCARB PRACTICE ANALYSIS

In April 2012, the National Council of Architectural Registration Boards (NCARB) began its recent and most comprehensive Practice Analysis of Architecture ever conducted. The *2012 Practice Analysis of Architecture* survey was distributed to more than 80,000 architects, interns, and educators across the country and more than 7,800 responses were included in the final data analysis. The Practice Analysis of Architecture is conducted by NCARB every five to seven years, as its findings are significant to the profession and help determine the knowledge and skills that are necessary in order to practice architecture independently and protect the public's health, safety, and welfare.

Practice analyses are typically used to update specifications for professional licensure examinations; however, the expanded *2012 Practice Analysis of Architecture* was planned deliberately and methodically to not only drive future updates and modifications to the Architect Registration Examination (ARE), but to also inform the Intern Development Program (IDP), guide NCARB's response to the 2013 National Architectural Accrediting Board Accreditation Review Conference, and guide NCARB's future continuing education policies. The comprehensive study included multiple surveys designed to engage architects in the evaluation of tasks and knowledge/skills required of an independent practitioner and yielded a great deal of data for review and analysis. Practitioners' responses were supplemented with those from interns and educators to allow for deeper analysis and broader application of findings. Additionally, findings will be used to inform important discussions within the profession related to the path to licensure.

In March 2013, NCARB released the first in a series of 2012 Practice Analysis-related reports, the *Education Report*. Subsequently, the *Internship Report* was released in April 2013, and the *Examination Report*, *Continuing Education Report*, and a final report were released in June 2013. The final *2012 NCARB Practice Analysis of Architecture* report includes the full set of previously published individual reports.

Of particular interest to the Board is the *Examination Report* (attached) and NCARB's subsequent actions with regard to the ARE. The Board's 2013 Strategic Plan calls for a national review of the ARE test specification and occupational analysis (OA) of architectural practice in California during the 2013/2014 fiscal year. The results of both projects will be used for the ongoing development of the California Supplemental Examination (CSE). The *Examination Report* encompasses extensive data collected from the study's three examination-specific surveys.

As noted in the report, the *2012 Practice Analysis of Architecture* has already had a meaningful influence on the immediate future of the ARE as a guide for refreshing the existing examination item bank. Additionally, in early 2013, NCARB's Test Specification Task Force, a committee of subject-matter experts, comprehensively reviewed the current test specification. The Task Force's goal was to identify potential short-term updates to the test specification based on the findings of the *2012 Practice Analysis of Architecture* without modifying the overall structure of the ARE. A short-term update to the current ARE test specification will also be used to complete a full review of the item bank in preparation for examination forms scheduled to be released in July 2014. NCARB's Examination Committee and its Test Specification Task Force will continue to analyze the data in support of the current ARE.

The report also indicates that tasks identified in the *2012 Practice Analysis of Architecture* were recently used in a study to evaluate current and potential examination item types that could be incorporated into the ARE. Each item type was evaluated based on its ability to appropriately assess each of the 110 tasks identified in the Practice Analysis. The findings of the study confirmed that current ARE item types adequately cover all tasks identified. The study also identified potential new item types that could be incorporated into the ARE to either complement or replace current item types. The findings of the item type study were also used to evaluate options and inform decisions regarding the future structure of the ARE.

In addition to the short-term uses of the Practice Analysis, survey results will also inform future versions of the ARE. As noted in the report, this data will help determine the specific content areas to be included within a new divisional structure of the ARE, known as ARE 5.0. Survey results will also help inform the weightings of content areas within each division. It is also noted that a supplement to the *Examination Report*, further identifying the long-term application of the Practice Analysis data, will be released in early 2014 following further research and analysis by various NCARB committees and task forces.

Staff can address additional inquiries from the Board regarding the NCARB *2012 Practice Analysis of Architecture* and the Board's upcoming work leading to the next CSE OA.

Attachment:
2012 NCARB Practice Analysis of Architecture: Examination Report

NCARB

2012 NCARB Practice Analysis of Architecture:

EXAMINATION REPORT

CONTRIBUTORS

NCARB EXAMINATION COMMITTEE

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David Cronrath, AIA, NCARB

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Joseph Gardner

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Gregory L. Erny, AIA, NCARB, Nevada
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2012 NCARB Practice Analysis of Architecture: Examination Report

By the National Council of Architectural Registration Boards

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FOREWORD

The *2012 NCARB Practice Analysis of Architecture* is unique in many ways compared to previous practice analyses of the profession. This significant and greatly expanded study was planned deliberately and methodically to:

DRIVE the test specification of the Architect Registration Examination® (ARE®),

INFORM the future of the Intern Development Program (IDP), and

GUIDE *NCARB's Contribution to the 2013 NAAB Accreditation Review Conference (ARC)*, as well as future continuing education policies.

The survey yielded a great deal of data for review and analysis by four NCARB committees: Education, Internship, Examination, and Continuing Education, as well as the Council's Board of Directors. The findings will be used to shape our programs and policies over the coming years and inform important discussions within the profession related to the path to licensure.

This *Examination Report* is the third in a series of Practice Analysis-related reports that NCARB is publishing in 2013. The previously released reports focused on education and internship. The remaining report will share data and findings for continuing education. The complete *2012 NCARB Practice Analysis of Architecture*, which will include the full set of published reports, will be released in late June 2013.

The NCARB Practice Analysis of Architecture is an important example of the many ways the Council is reaching out and soliciting feedback from across the profession as we collectively consider and shape the future of practice. For example, the prestigious NCARB Award is supporting innovation in education; our newly inaugurated Intern Think Tank is giving interns a greater voice in the future of the IDP; our ARE research efforts are informed by ongoing feedback from architect volunteers and our Member Boards as we prepare for the next generation of the examination; and our efforts to increase collaboration with the architectural collaterals is helping drive positive change in the profession.

The Council extends its thanks and gratitude to those involved in the development of the Practice Analysis as well as to every individual who took the time to complete the survey. Your support of the profession throughout this important endeavor is greatly valued and appreciated.

Michael J. Armstrong
Chief Executive Officer
National Council of Architectural Registration Boards

EXECUTIVE SUMMARY

PURPOSE

A practice analysis is conducted with practitioners of a profession in order to define the knowledge/skills they must possess and the tasks they must be able to perform at the time of licensure. These studies are carefully designed according to strict standards and are used to ensure that the body of knowledge necessary to practice reflects the current state of the profession and the needs of practitioners. Practice analyses are not limited to the profession of architecture; they are conducted on behalf of a wide variety of professions, occupations, and vocations, and they play an important role in licensure and certification programs all over the world. Through its long history and experience, NCARB has determined that surveying every five to seven years most appropriately responds to the needs of the architecture profession.

Findings from practice analyses are typically used to update specifications for professional licensure exams, such as the Architect Registration Examination® (ARE®); however, the scope of the *2012 NCARB Practice Analysis of Architecture* was intentionally expanded to gather additional information to strategically support the Council's equally important education, internship, and continuing education initiatives. This comprehensive study included multiple surveys designed to engage architects—the most appropriate representatives of the profession—in the evaluation of tasks and knowledge/skills required of an independent practitioner. Practitioners' responses were supplemented with those from interns and educators to allow for deeper analysis and broader application of findings.

THE EXAMINATION SURVEY

This *Examination Report* encompasses extensive data collected from the three examination-specific surveys:

EXAMINATION A Survey
Architects were asked to indicate how frequently they performed a specific task in the past year and to rate the level of importance of the competent performance of the task by a recently licensed architect practicing independently.

EXAMINATION B Survey
In this survey, architects were presented with two similar, but distinct questions. The first question is very common in practice analyses and asks when each knowledge/skill was acquired. The second question asked the same respondents to identify when each knowledge/skill should be acquired.

EXAMINATION C Survey
In the third survey, architects were asked to rate the importance of each knowledge/skill to a recently licensed architect practicing independently and at what level they typically use the knowledge/skill when performing their job.

KEY FINDINGS

The data resulting from the Examination Survey of the *2012 NCARB Practice Analysis of Architecture* represents the views of a broad sample of architects. The Examination Committee and the Test Specification Task Force, consisting of NCARB Member Board Members, recently licensed architects, and other subject-matter experts will continue to analyze the data in support of the current ARE. Findings will also drive the research and development of new testing innovations and item types to be introduced in future versions of the examination.

- **Level of Importance** – The survey indicates that 129 of the 132 knowledge/skills and 106 of the 110 tasks were rated as "*important*" or greater by architects who completed the survey. Three of these K/S and tasks were rated as "*critically important*" and are directly related to the protection of the public health, safety, and welfare—building code analysis, the impact of building codes on building design, and compliance with laws and regulations governing the practice of architecture.

- **Point of Knowledge/Skill Acquisition** – When comparing level of importance with point of acquisition, 15 knowledge/skills were identified as "*important*" or greater and also identified as being acquired after licensure by more than 50 percent of architects completing the survey. These 15 knowledge/skills primarily deal with practice and project management issues and are vital to competent practice; therefore, their acquisition should be better supported during education and internship.

- **Level of Knowledge/Skill Use** – Architects were asked to rate the level at which they use each knowledge/skill. "*Apply*" was the most frequently selected response at 42.5 percent. "*Evaluate*" and "*Understand*" were evenly split at 26.0 percent and 25.7 percent, respectively. Only 5.8 percent of architects indicated they did not use the knowledge/skill in their job. This data will be used to support item writers in the creation of more relevant items/questions for the examination.

- **Frequency of Task Performance** – Over 70 percent of the tasks included in the survey were indicated by architects as being performed in the past year. Most tasks were rated as being performed "*quarterly*" (20.4 percent) or "*monthly*" (19.0 percent). This data will be used to refine the content and distribution of items included in the ARE. Ten tasks rated "*important*" or greater were identified as "*not performed*" in the past year by more than 50 percent of architects. Additional analysis by various NCARB committees is warranted to better understand the nature of those tasks.

- **Subgroup Analysis** – Respondent characteristics such as years of licensed practice and firm size had minimal influence on responses; however, a couple of differences are worth noting. More experienced practitioners tended to report a slightly higher level of ability than those recently licensed, underscoring the important role continuing education plays after licensure. Additionally, architects working in smaller firms rated their typical level of knowledge/skill use at "*evaluate*" more frequently than those working in medium and larger firms, reinforcing that the small-firm practitioner is typically responsible for performing a broader range of tasks in their daily work.

CONCLUSION

The ARE plays a critical role in assessing the knowledge, skills, and abilities to provide the various services required for the independent practice of architecture. The exam is required by all 54 U.S. jurisdictions and helps ensure that NCARB's Member Boards and licensed practitioners can meet their obligation to protect the public health, safety, and welfare. Further analysis and application of Practice Analysis data will help ensure the ARE remains psychometrically justifiable, legally defensible, and relevant to current practice.

USE AND APPLICATION

The *2012 NCARB Practice Analysis of Architecture* will inform interim updates to the current version of the ARE as well as serve as a foundation for the development of future versions of the examination. The findings will also have a significant impact on the Council's exploration of alternative pathways to licensure that further blend the three traditional components of education, internship, and examination.

SHORT-TERM USE

The 2012 Practice Analysis has already had a meaningful influence on the immediate future of the ARE as a guide for refreshing the existing exam item databank. The survey's ongoing impact will be seen throughout its application over the next few years, as the Council continues to explore new means and methods for examination development and delivery.

Refinement of ARE Test Specification

The ARE Test Specification is the document that outlines the content areas of the ARE as well as the overall requirements to assemble multiple versions (forms) for each division of the exam. The current test specification is based on the findings of the *2007 Practice Analysis of Architecture.* The Test Specification Task Force, a specially-formed committee of subject-matter experts, comprehensively reviewed the current test specification during early 2013. The committee's goal was to identify potential short-term updates to the test specification based on the findings of the *2012 Practice Analysis* without modifying the overall structure of the ARE. Committee members attempted to align the knowledge, skill, and task statements of the *2012 Practice Analysis* to the current test specification and as a result, identified 11 knowledge/skill (K/S) statements that were not in alignment. It was determined that although these 11 K/S are not assessed by the current examination, they are covered in the education and/or internship components of the path to licensure. The committee also aligned the task statements to the knowledge/skill statements to allow for better refinement of each content area within the examination. The result was the identification of four task statements that did not align with any of the K/S statements. Each of these tasks related to the use of various drawing methodologies including hand drawing, computer-aided design (CAD), and building information modeling (BIM).

This short-term update to the current ARE test specification will also be used to complete a full review of the item databank in preparation for exam forms scheduled to be released in July 2014. More detailed information on the slightly updated version of the ARE will be released in early 2014, well in advance of its launch.

Item Type Analysis

The tasks identified in the 2012 Practice Analysis were recently used in a Research & Development Subcommittee study to evaluate current and potential examination item types that could be incorporated into the ARE. Each item type was evaluated based on its ability to appropriately assess each of the 110 tasks identified in the Practice Analysis. The findings of the study confirmed that current ARE item types adequately cover all tasks identified. The study also identified potential new item types that could be incorporated into the ARE to either complement or replace current item types. The findings of the item type study were also used to evaluate options and inform decisions regarding the future structure of the ARE.

CURRENT ARE ITEM TYPES

Single-select Multiple Choice

A candidate must choose the one correct answer from a list of possible options (typically out of four options).

Multi-select Multiple Choice (Check-all-that-apply)

A candidate must choose the multiple correct answers from a list of possible options (typically two to four correct out of six options).

Constructed Response – Numeric (Quantitative Fill-In-The-Blank)

A candidate is presented a question asking him/her to identify a correct numerical response. The candidate must determine and then enter the correct number.

Figural Response (Vignette)

A candidate is presented a problem statement (program requirements, code requirements, etc.) along with a base drawing. Using the CAD toolset available, the candidate must create a solution that is responsive to the various aspects of the problem statement.

LONG-TERM APPLICATION

In addition to the short-term uses of the *2012 Practice Analysis* data, survey results will also inform future versions of the ARE.

Numerous subject-matter experts—including experienced architects, recently licensed architects, educators, and testing consultants—will reference the Practice Analysis data to help determine the specific content areas to be included within a new divisional structure to be proposed for the next version of the ARE, known as ARE 5.0. Additionally, survey results will help inform the weightings of content areas within each division. For example, if a particular content area received a high mean importance and/or frequency rating, that content area will likely be weighted more heavily within a particular division. While each division's content areas and weightings are ultimately determined by the subject-matter experts, the survey data serves as the empirical evidence to inform and validate their decisions.

It is important to note that the Practice Analysis findings inform *what* should be assessed in the ARE; however, they do not determine *how* it is to be assessed. NCARB relies on the informed judgment of subject-matter experts, consultants, and other specialists in the testing industry to assist in designing the most appropriate testing methodology. For example, subject-matter experts, informed by the Practice Analysis data, will determine the composition and cognitive complexity of each division's content areas. These experts will also determine the practical feasibility of an assessment within the given constraints of the examination's domain. It is possible that some K/S or tasks that received high ratings by survey respondents may not be appropriate for assessment in the ARE and therefore should be incorporated in greater depth in the education and/or internship components of the path to licensure.

Computer-based testing in general, and specifically the convenience of year-round administration, requires a deep and robust database of items/questions from which to draw upon to create each division of the exam. The survey responses regarding the cognitive level of use of each K/S will be used to support item writers in the creation of more relevant items to populate this database.

Finally, a supplement to this *Examination Report*, further identifying the long-term application of the Practice Analysis data, will be released in early 2014 following further research and analysis by various NCARB committees and task forces.

EXAMINATION SURVEY

Each examination (ARE) survey was designed to gather information from licensed architects, who reviewed the K/S and task statements and indicated:

- Importance of the K/S and task to independent practice for recently licensed architects;
- Frequency of task performance in the past year;
- Level at which they typically use the K/S in their job; and
- When each K/S was acquired and when it should be acquired.

A total of 2,695 ARE surveys were included in the data analysis. The number of survey responses for each ARE survey included in the final data analysis ranged from 60 percent to 74 percent, based on the 90 percent completion rule (participants who responded to at least 90 percent of the items in the survey were included).

ARE SURVEY	RESPONSES RECEIVED	RESPONSES INCLUDED IN DATA ANALYSIS	PERCENTAGE INCLUDED IN DATA ANALYSIS
ARE A	1,169	865	74%
ARE B	1,429	1,008	71%
ARE C	1,376	822	60%

The chart below summarizes the survey population and the research questions related to the task and knowledge/skill (K/S) statements, as well as the various rating scales for the examination surveys. The chart also references the related Examination (ARE) Data Tables.

SURVEY	SURVEY POPULATION	STATEMENT TYPE	RESEARCH QUESTIONS AND RATING SCALES	DATA TABLE
ARE A	All licensed architects	Task	How frequently have you performed the task during the past year? • Not performed or does not apply • Yearly • Quarterly • Monthly • Weekly • Daily	D2
			How important is competent performance of the task by a recently licensed architect practicing independently? • Of little or no importance • Somewhat important • Important • Very important • Critically important	D3

SURVEY	SURVEY POPULATION	STATEMENT TYPE	RESEARCH QUESTIONS AND RATING SCALES	DATA TABLE
ARE B	All licensed architects	Knowledge/ Skill	When did you acquire the knowledge/skill? • Not acquired • By completion of accredited architecture degree program • During internship • After licensure	D8
			When should the knowledge/skill be acquired? • Not relevant, does not apply • By completion of accredited architecture degree program • During internship • After licensure	D9
ARE C	All licensed architects	Knowledge/ Skill	How important is the knowledge/skill to a recently licensed architect practicing independently? • Of little or no importance • Somewhat important • Important • Very important • Critically important	D6
			At what level do you typically use the knowledge/skill in your job? • Do not use knowledge/skill • Understand: General understanding; no specific details are used on the job • Apply: Application of general principles, procedures, skills to typical job scenarios • Evaluate: Use of knowledge/skill to evaluate and refine solutions for job scenarios or designs	D7
			Indicate why you do not use the knowledge/skill. (Select all that apply.) • Not used in my practice • Not allowed by my jurisdiction • Not recommended by my legal counsel or insurance carrier • Provided by consultant(s) • Lack of experience • Other	D10

NCARB'S KEY FINDINGS

No single licensure examination, or combination of examinations, can comprehensively test for all of the knowledge, skills, and tasks of a profession. Therefore, methods for defining and prioritizing the content are important steps in the examination development and validation process. NCARB relies on the Practice Analysis to help prioritize the practice-related knowledge, skills, and tasks of the profession that should be demonstrated competently prior to licensure.

The identification and prioritization of test content is based on several factors:

- Level of Importance
- Point of Acquisition
- Frequency of Performance
- Level of Use

As noted earlier, Practice Analysis findings will inform *what* should be measured by the ARE, not *how* it should be tested. The key findings on the following pages offer valuable insights that both validate current examination content and drive development of content for a future version of the ARE.

LEVEL OF IMPORTANCE

One of the most frequently asked questions when conducting a Practice Analysis of any profession relates to the level of importance of a knowledge/skill or task in relation to the recently licensed, independent practitioner.

IMPORTANT KNOWLEDGE/SKILLS (K/S)

Architects completing the ARE Survey were asked to rate "*How important is the knowledge/skill to a recently licensed architect practicing independently?*" The data indicates that 129 of 132 K/S were rated "*important*" or greater (an importance rating of 1.5 or above). Of these, 11 K/S were rated 3.0 or greater and include:

ARE K/S #	KNOWLEDGE/SKILL STATEMENT	IMPORTANCE RATING 0 1 2 3 4
20	Building codes and their impact on building design.	3.53
1	Oral, written, and visual presentation techniques to communicate project information.	3.40
102	Appropriate documentation level required for construction documents.	3.37
15	Designing facility layout and site plan that responds to site constraints.	3.24
3	Method for project controls, e.g., scope of services, budget, billing, compensation.	3.18
19	Protocols and procedures for conducting a code analysis.	3.17
122	Design decisions and their impact on constructability.	3.16
71	Relationship between constructability and aesthetics.	3.06
62	Functional requirements for thermal and moisture control systems.	3.04
110	Methods for production of construction documentation and drawings.	3.02
10	Factors involved in selection of building systems and components.	3.02

0 = Of little or no importance 1 = Somewhat important 2 = Important 3 = Very important 4 = Critically important

The three lowest rated K/S were:

ARE K/S #	KNOWLEDGE/SKILL STATEMENT	IMPORTANCE RATING 0 1 2 3 4
49	Methods and strategies for evidence-based design (EBD).	1.35
27	Producing physical scale models.	1.28
130	Factors involved in conducting architectural practice in international markets.	0.97

0 = Of little or no importance 1 = Somewhat important 2 = Important 3 = Very important 4 = Critically important

IMPORTANT TASKS

Architects rated 106 of the 110 tasks surveyed as "*important*" or greater (an importance rating of 1.5 or greater) when asked a similar question, "*How important is competent performance of the task by a recently licensed architect practicing independently?*" Twelve tasks were rated 3.0 or greater and include:

ARE TASK #	TASK STATEMENT	IMPORTANCE RATING 0 1 2 3 4
25	Perform building code analysis.	3.55
107	Comply with laws and regulations governing the practice of architecture.	3.50
106	Adhere to ethical standards and codes of professional conduct.	3.46
96	Develop and maintain effective and productive relationships with clients.	3.33
26	Communicate design ideas to the client graphically.	3.25
1	Gather information about client's vision, goals, budget, and schedule to validate project scope and program.	3.25
67	Coordinate design work of consultants.	3.21
5	Determine impact of applicable zoning and development ordinances to determine project constraints.	3.20
2	Prepare design alternatives for client review.	3.08
7	Determine scope of services.	3.05
39	Prepare code analysis documentation.	3.05
60	Respond to contractor Requests for Information (RFI).	3.00
0 = Of little or no importance 1 = Somewhat important 2 = Important 3 = Very important 4 = Critically important		

The four lowest rated tasks were:

ARE TASK #	TASK STATEMENT	IMPORTANCE RATING 0 1 2 3 4
49	Design landscape elements for site.	1.46
53	Prepare life cycle cost analysis.	1.36
16	Assess socio-cultural context of the proposed site.	1.33
87	Establish procedures for building commissioning.	1.32
0 = Of little or no importance 1 = Somewhat important 2 = Important 3 = Very important 4 = Critically important		

POINT OF KNOWLEDGE/SKILL ACQUISITION

A second, common question asked when conducting a practice analysis is "*When did you acquire the knowledge/skill?*" For our purposes, the *2012 NCARB Practice Analysis of Architecture* asked the question in order to determine if the K/S was acquired by completion of an accredited architecture degree program, during internship, or after licensure. Ideally, if a K/S is rated as important for the competent practice of architecture, it stands to reason that it should be acquired prior to licensure.

As a point of comparison, architects completing the 2012 survey were also asked a slightly different version of that question, "*When should the knowledge/skill be acquired?*" The response to the second question across all K/S statements was predominantly "*before completion of the accredited degree program.*" The scatter plot below contrasts the "*did*" vs. "*should*" responses to the two questions. With only one exception, every K/S had a higher rating for "*was acquired after licensure*" than "*should be acquired after licensure.*" **These responses, as illustrated by the dots falling below the diagonal line, both reinforce the importance of acquiring the K/S prior to licensure and highlight a knowledge gap, as architects acquired the K/S later than they believe is necessary.**

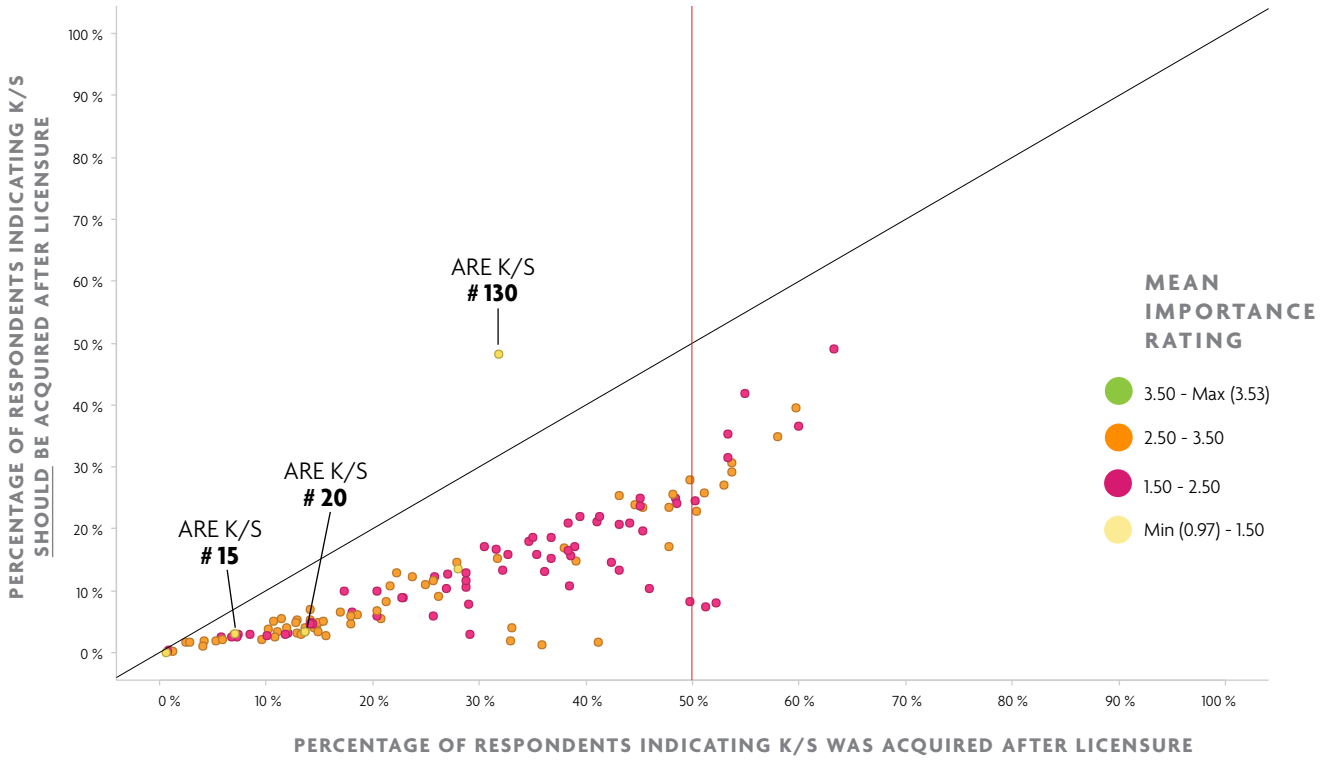
Each dot on this scatter plot represents a specific K/S, with position on the x-axis determined by the percentage of responses from architects who indicated that the K/S *"was acquired after licensure."*

The y-axis represents the percentage of responses from architects who indicated that the same K/S *"should be acquired after licensure."*

The diagonal line represents perfect agreement among responses to the two questions. If architects reported a K/S as being *"acquired after licensure"* to the same degree as they indicated it *"should be acquired after licensure,"* it will appear on or close to this line.

The dots that fall to the right of the vertical dashed line are the K/S that were identified by more than 50 percent of architects completing the survey as being *"acquired after licensure."*

K/S WAS ACQUIRED AFTER LICENSURE VS. K/S SHOULD BE ACQUIRED AFTER LICENSURE



For example, ARE K/S #20 "*Knowledge of Building codes and their impact on building design*" had the highest mean importance rating, and while 13.7 percent of architects indicated they acquired the K/S after licensure, only 3.4 percent indicated it should be acquired after licensure. For ARE K/S #15 "*Skill in designing facility layout and site plan that responds to site constraints,*" 6.9 percent of architects said they acquired it after licensure, with only 3.0 percent saying it should be acquired after licensure. The single exception was ARE K/S #130 "*Knowledge of factors involved in conducting architectural practice in international markets,*" for which a higher percentage of architects (48.1 percent) indicated it should be acquired after licensure than their actual experience (31.8 percent). This result is not surprising as this knowledge was rated as the least important of all K/S and primarily impacts only those architects pursuing work internationally.

IMPORTANCE VS. ACQUISITION

Comparing level of importance and point of acquisition readily identifies several K/S that were rated as "*important*" (or greater) and that were acquired after licensure—an imbalance that is less than ideal.

The scatter plot presented earlier illustrates that 15 K/S were identified by more than 50 percent of architects completing the survey as being acquired after licensure (represented by the dots that fall to the right of the vertical, dashed line, in the lower right quadrant of the scatter plot). These 15 K/S (listed in the table below) also were rated as "*important*" or greater by respondents. It is encouraging to note, however, that none of these K/S were rated as "*critical*" (3.5 or greater).

ARE K/S #	KNOWLEDGE/SKILL STATEMENT	ALL LICENSED ARCHITECTS	
		ACQUIRED *AFTER LICENSURE*	IMPORTANCE RATING 0 1 2 3 4
132	Financial planning methods to manage revenues, staffing, and overhead expenses.	63.3%	2.49
86	Business development strategies.	59.9%	2.47
87	Relationship between staffing capabilities and hours, and internal project budget to meet established milestones and profitability.	59.7%	2.60
88	Purposes and types of professional liability insurance related to architectural practice.	58.0%	2.53
123	Methods to manage human resources.	54.9%	1.95
6	Client and project characteristics that influence contract agreements.	53.7%	2.96
101	Procedures for processing requests for additional services.	53.7%	2.55
126	Purposes of and legal implications for different types of business entities.	53.3%	1.96
131	Methods and procedures for risk management.	53.3%	2.40
37	Strategies for anticipating, managing, and preventing disputes and conflicts.	53.0%	2.56
97	Sustainability strategies and/or rating systems.	52.2%	2.20
98	Sustainability considerations related to building materials and construction processes.	51.2%	2.27
82	Fee structures, their attributes and implications for schedule, scope, and profit.	51.1%	2.68
100	Methods to identify scope changes that may require additional services.	50.4%	2.77
77	Processes and procedures for building commissioning.	50.3%	1.66

0 = Of little or no importance 1 = Somewhat important 2 = Important 3 = Very important 4 = Critically important

Most of the 15 K/S are related to practice and project management issues, which aligns with findings from the Education-related survey of the Practice Analysis that indicated a need for more focus in these areas. Future committees responsible for the development of various NCARB programs will be charged with determining the best way to support the introduction and acquisition of these important K/S during education and/or internship.

IMPACT ON THE TEST SPECIFICATION

As explained in the Use and Application section of this report, the results of the Practice Analysis drive the development and refinement of the test specification for the ARE. Eleven K/S included in the survey are not covered in the current test specification.

ARE K/S #	KNOWLEDGE/SKILL STATEMENT	IMPORTANCE RATING 0 1 2 3 4
25	Using software to produce two-dimensional (2-D) drawings.	2.98
30	Computer aided design and drafting (CADD) software for producing two-dimensional (2-D) drawings.	2.96
106	Principles of computer-assisted design and drafting (CADD) software and its uses in communicating design ideas.	2.75
26	Using software to produce three-dimensional (3-D) models of building design.	2.37
22	Producing hand drawings of design ideas.	2.31
24	Producing two-dimensional (2-D) drawings using hand methods.	2.00
31	Factors involved in selecting computer-based design technologies.	1.99
28	Use of building information modeling (BIM) to develop and manage databases of building and construction information.	1.96
105	Building information modeling (BIM) and its impact on planning, financial management, and construction documentation.	1.82
27	Producing physical scale models.	1.28
130	Factors involved in conducting architectural practice in international markets.	0.97

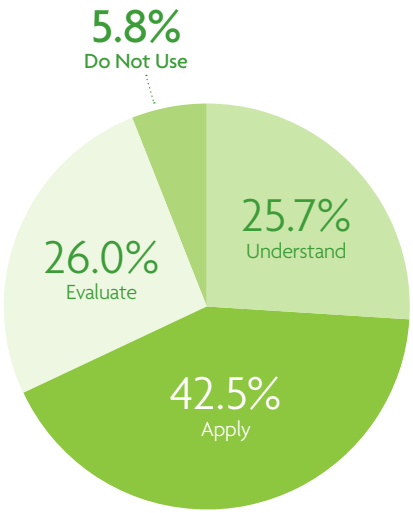
0 = Of little or no importance 1 = Somewhat important 2 = Important 3 = Very important 4 = Critically important

Even though the ARE does not assess these skills, many were rated as "*important*" (mean importance rating of 1.5 or greater) to competent practice. NCARB committees will continue to analyze this data to determine its impact on future versions of the examination. The majority of these K/S are technology based and require early introduction and continuous learning over the course of an architect's career. Therefore, education, internship, and continuing education all share the responsibility in the early introduction of and training in the use of these important tools. Software vendors and their educational resources also play a supporting role in the process.

LEVEL OF KNOWLEDGE/SKILL USE

The Practice Analysis survey also asked architects "*At what level do you typically use the knowledge/skill in your job?*" Based on the mean average rating across all K/S, the most frequently self-reported level of knowledge/skill use by architects was "*apply*."

LEVEL OF K/S USE: MEAN RESPONSE FOR ALL ITEMS



LEVEL OF USE AND IMPORTANCE

When factoring importance ratings into data analysis, 129 of the 132 K/S surveyed were rated as "*important*" or greater, and 98 of these were indicated as used at the "*apply*" level by respondents.

COUNT OF K/S ITEMS IN LEVEL OF USE AND IMPORTANCE CATEGORIES

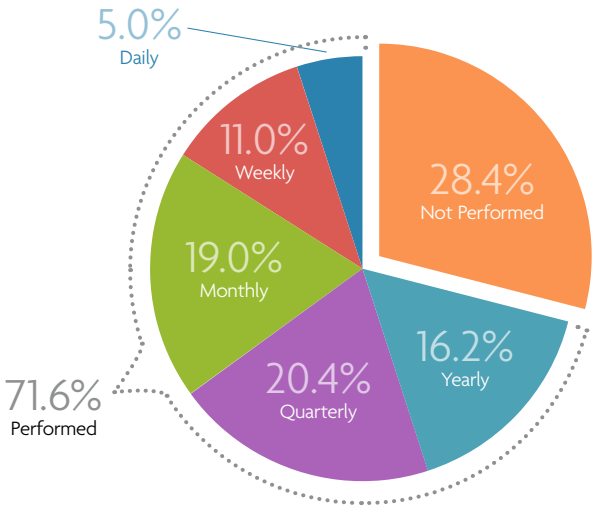
MODAL LEVEL CATEGORY	OF LITTLE OR NO IMPORTANCE	SOMEWHAT IMPORTANT	IMPORTANT	VERY IMPORTANT	CRITICALLY IMPORTANT
Do Not Use	0	2	0	0	0
Understand	0	1	22	1	0
Apply	0	0	41	57	0
Evaluate	0	0	0	**4**	**1**
Multiple Values	0	0	2	1	0

In the table above, the single K/S categorized as "*evaluate*" and "*critically important*" is ARE K/S #20 "*Knowledge of building codes and their impact on building design.*" The other four K/S categorized as "*evaluate*" and rated "*very important*" are: ARE K/S #1 "*Knowledge of oral, written, and visual presentation techniques to communicate project information;*" ARE K/S #15 "*Skill in designing facility layout and site plan that responds to site constraints;*" ARE K/S #71 "*Knowledge of relationship between constructability and aesthetics;*" and ARE K/S #122 "*Knowledge of design decisions and their impact on constructability.*"

FREQUENCY OF TASK PERFORMANCE

For the first time in the history of architecture practice analyses, architects were asked "*How frequently have you performed the task during the past year*?" As identified in the pie chart below, 28.4 percent of responses indicated the task was "*not performed or does not apply*," while 71.6 percent of responses indicated the task was "*performed*" in the past year. When examining the mean response rates in greater detail, the largest number of responses indicated that tasks were performed "*quarterly*" or "*monthly*" at nearly the same rate.

FREQUENCY OF PERFORMANCE



The table below identifies the eight tasks that were rated as "*performed*" by more than 90 percent of respondents. The two most frequently performed tasks, by a significant margin, were ARE Task #106 "*Adhere to ethical standards and codes of professional conduct*" and ARE Task #107 "*Comply with laws and regulations governing the practice of architecture*." The nature of these two tasks is clearly related to the architect's responsibility to protect the public health, safety, and welfare.

ARE TASK #	TASK STATEMENT	FREQUENCY OF PERFORMANCE					PERCENT *PERFORMED*[1]	PERCENT *NOT PERFORMED*
		YEARLY	QUARTERLY	MONTHLY	WEEKLY	DAILY		
106	Adhere to ethical standards and codes of professional conduct.	6.9%	5.2%	5.9%	6.5%	**70.8%**	95.3%	4.7%
107	Comply with laws and regulations governing the practice of architecture.	8.2%	4.7%	6.4%	6.1%	**69.1%**	94.6%	5.4%
26	Communicate design ideas to the client graphically.	5.3%	16.0%	27.1%	**33.1%**	10.6%	92.0%	8.0%
25	Perform building code analysis.	8.2%	21.8%	**32.1%**	20.3%	9.2%	91.8%	8.2%
67	Coordinate design work of consultants.	5.1%	16.3%	23.7%	**32.3%**	13.4%	90.8%	9.2%
2	Prepare design alternatives for client review.	4.6%	20.2%	**34.5%**	25.0%	6.4%	90.6%	9.4%
96	Develop and maintain effective and productive relationships with clients.	5.3%	9.8%	18.4%	25.2%	**31.8%**	90.5%	9.5%
51	Select materials, finishes and systems based on technical properties and aesthetic requirements.	7.1%	22.2%	**29.6%**	22.4%	9.1%	90.4%	9.6%

A closer examination of the tasks that were rated by the largest number of architects as performed "*yearly*," identified in the table below, reveals a few interesting findings. In many instances, these tasks have an even higher rating for "*not performed*" when compared to "*yearly*" performance. These annually performed tasks all relate to practice management issues that are more likely performed by the senior partners or principals of a firm, or by architects practicing in smaller firms where they may be required to assume broader responsibilities than they would in larger firms.

ARE TASK #	TASK STATEMENT	FREQUENCY OF PERFORMANCE					PERCENT *PERFORMED*	PERCENT *NOT PERFORMED*
		YEARLY	QUARTERLY	MONTHLY	WEEKLY	DAILY		
95	Develop business plan for firm.	41.0%	6.2%	2.4%	0.9%	0.1%	50.8%	49.2%
103	Understand firm's legal structure to comply with jurisdictional rules and regulations.	40.7%	11.0%	4.3%	2.0%	1.4%	59.3%	40.7%
94	Determine billing rates.	39.8%	14.0%	7.4%	3.0%	0.6%	64.7%	35.3%
92	Secure insurance policies related to general, automobile, workers' compensation, and professional liability.	39.8%	6.6%	2.9%	0.5%	0.1%	49.8%	50.2%
56	Determine specific insurance requirements to meet contract or business needs.	29.7%	11.9%	5.8%	1.2%	0.3%	48.9%	51.1%
93	Develop strategies to control risk and manage liability.	29.2%	19.1%	11.0%	3.0%	2.9%	65.2%	34.8%

FREQUENCY AND IMPORTANCE

The chart below categorizes the tasks by frequency of performance and level of importance. This comparison will be helpful in refining the content distribution of future versions of the ARE test specification. For example, if two statements are equally rated on the importance scale, and it is not feasible to measure both, it is logical to prioritize the one that is performed more frequently in practice.

COUNT OF TASKS IN FREQUENCY AND IMPORTANCE CATEGORIES

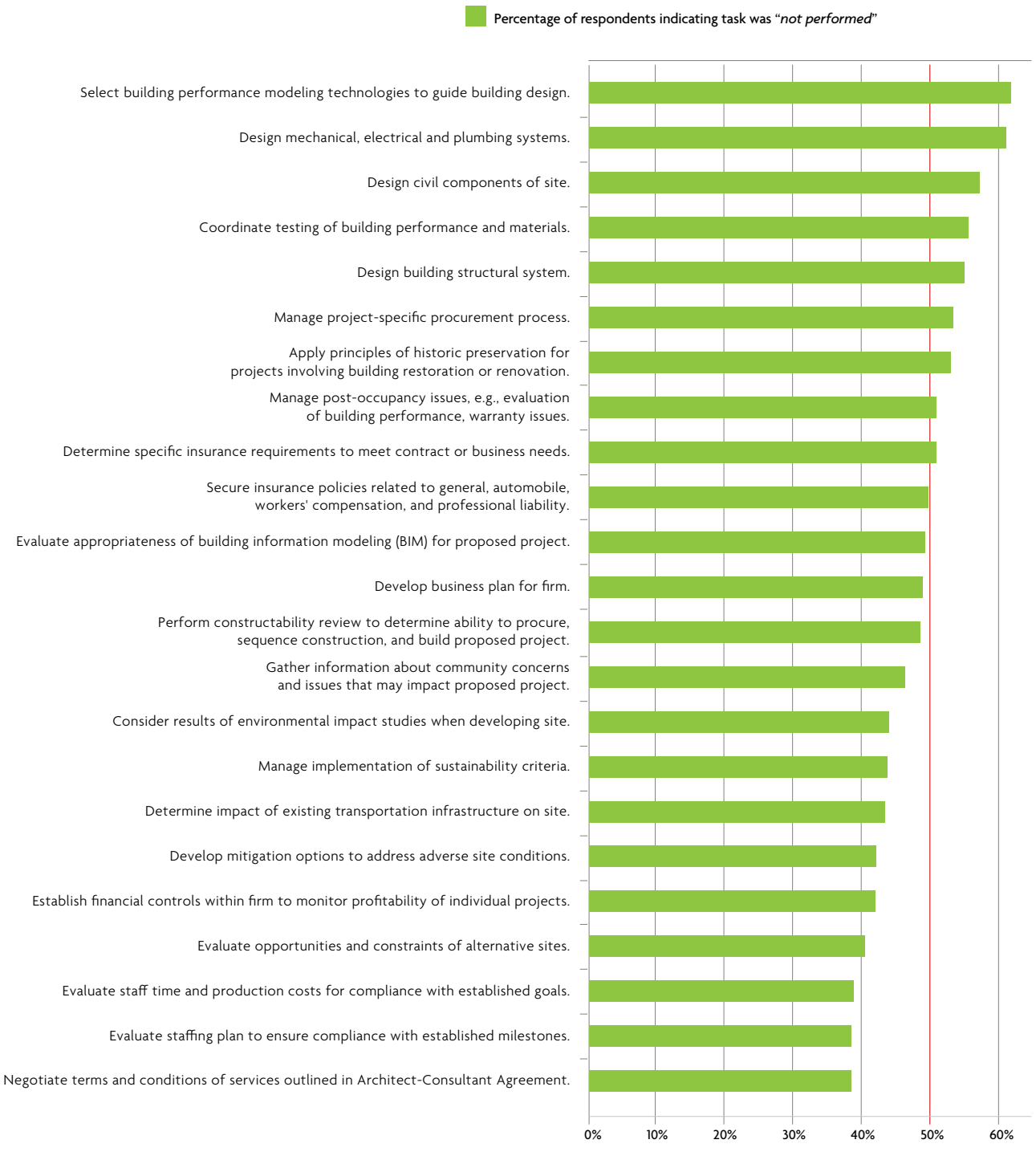
MODAL FREQUENCY CATEGORY	OF LITTLE OR NO IMPORTANCE	SOMEWHAT IMPORTANT	IMPORTANT	VERY IMPORTANT	CRITICALLY IMPORTANT
Multiple Values	0	0	2	0	0
Performed Daily	0	0	0	2	**1**
Performed Weekly	0	0	0	10	0
Performed Monthly	0	0	2	21	**1**
Performed Quarterly	0	0	8	11	0
Performed Yearly	0	0	2	0	0
Not Performed	0	4	**42**	**4**	0

The two tasks identified below were rated "*critically important*," with one performed daily and the other performed monthly. Once again, it is not surprising that these frequently performed and "*critically important*" tasks are directly tied to public health, safety, and welfare.

ARE TASK #	TASK STATEMENT	FREQUENCY OF PERFORMANCE		IMPORTANCE RATING 0 1 2 3 4
107	Comply with laws and regulations governing the practice of architecture.	Daily	69.1%	3.50
25	Perform building code analysis.	Monthly	32.1%	3.55
0 = Of little or no importance 1 = Somewhat important 2 = Important 3 = Very important 4 = Critically important				

Looking more closely at the frequency vs. importance data, the following 46 tasks were identified as "*not performed*" during the past year yet were also rated as "*very important*" or "*important*."

TASKS IDENTIFIED AS "*IMPORTANT*" OR "*VERY IMPORTANT*" AND ALSO IDENTIFIED AS "*NOT PERFORMED*"



CONTINUED

TASKS IDENTIFIED AS "*IMPORTANT*" OR "*VERY IMPORTANT*" AND ALSO IDENTIFIED AS "*NOT PERFORMED*" (CONT.)

Ten of these 46 tasks were identified as "*not performed*" by 50 percent or more of respondents, as noted in the table below. ARE Task #48 "*Design mechanical, electrical, and plumbing systems*," ARE Task #47 "*Design civil components of site*," and ARE Task #46 "*Design building structural system*" received a high percentage of responses indicating the tasks were "*not performed*." This may be because most architects rely on consultants to "*design*" these significant building systems, with the architect performing important review and critical coordination efforts. Those tasks related to practice management issues such as ARE Task #56 "*Determine specific insurance requirements to meet contract or business needs*" and ARE Task #92 "*Secure insurance policies related to general, automobile, workers' compensation, and professional liability*" may have received a higher percentage of "*not performed*" responses because these annual responsibilities are often only carried out by select principals in the firm and therefore not performed by the majority of staff architects.

ARE TASK #	TASK STATEMENT	PERCENT *NOT PERFORMED*
52	Select building performance modeling technologies to guide building design.	62.2%
48	Design mechanical, electrical, and plumbing systems.	61.5%
47	Design civil components of site.	57.7%
80	Coordinate testing of building performance and materials.	56.0%
46	Design building structural system.	55.5%
86	Manage project-specific procurement process.	53.8%
65	Apply principles of historic preservation for projects involving building restoration or renovation.	53.4%
88	Manage post-occupancy issues, e.g., evaluation of building performance, warranty issues.	51.2%
56	Determine specific insurance requirements to meet contract or business needs.	51.1%
92	Secure insurance policies related to general, automobile, workers' compensation, and professional liability.	50.2%

Regardless of interpretation, these results warrant further research by NCARB's committees to better understand why so many important K/S received a high percentage of "*not performed*" survey responses.

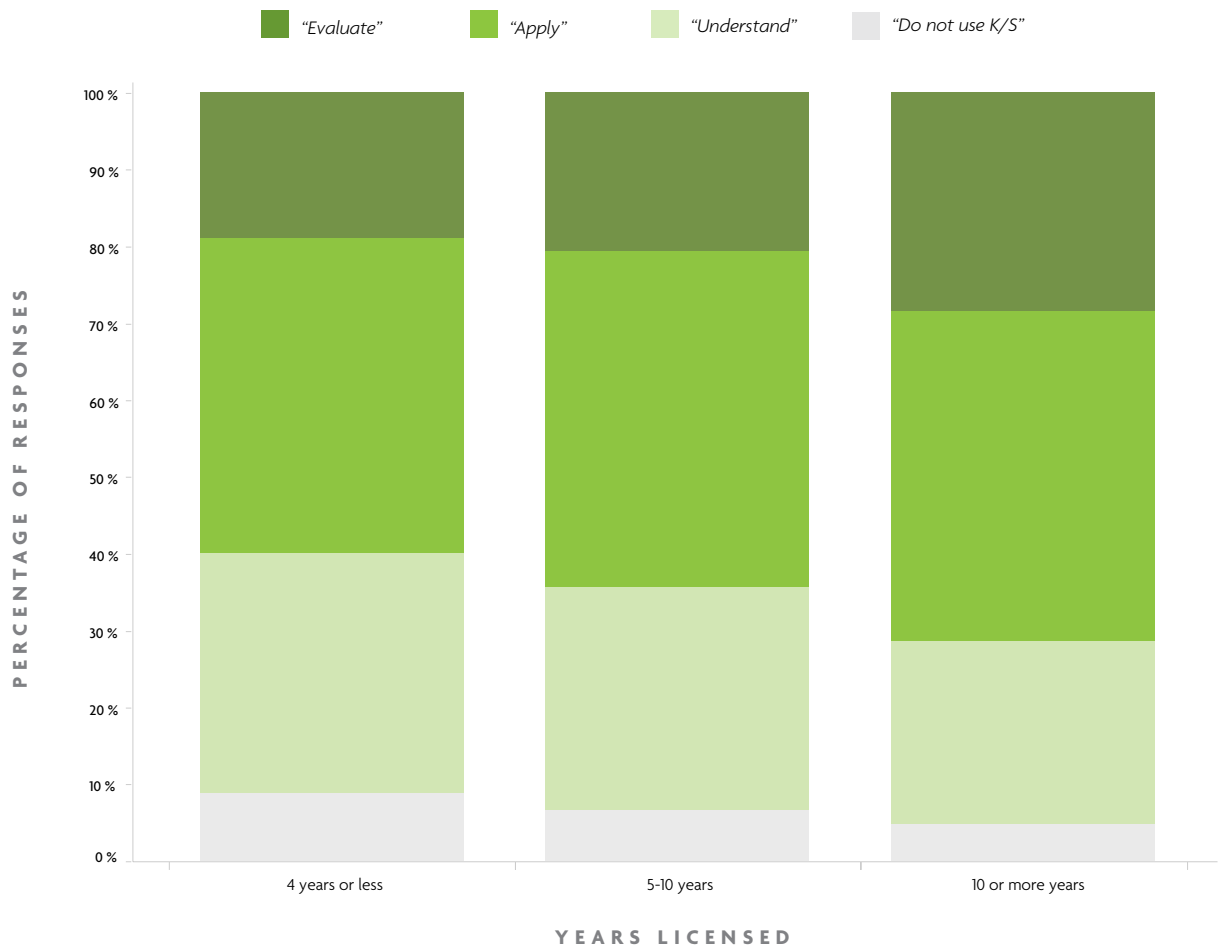
SUBGROUP ANALYSIS

There is little variation in responses when analyzing the data for level of K/S use across two distinct subgroups–years of experience and firm size, although a few differences are worth noting.

KNOWLEDGE/SKILL USE VS. YEARS OF EXPERIENCE

The chart below illustrates responses regarding the level of K/S use ("*understand*," "*apply*," or "*evaluate*") broken down by years licensed. The largest percentage of responses indicating K/S use at the "*understand*" level (31.2 percent) was from architects licensed less than four years. Responses from mid-range practitioners, those licensed five to 10 years, indicated K/S use at the "*apply*" level at the highest rate (43.6 percent). And responses from those licensed more than 10 years indicated the highest K/S use at the "*evaluate*" level (28.3 percent).

LEVEL OF K/S USE, BY YEARS LICENSED

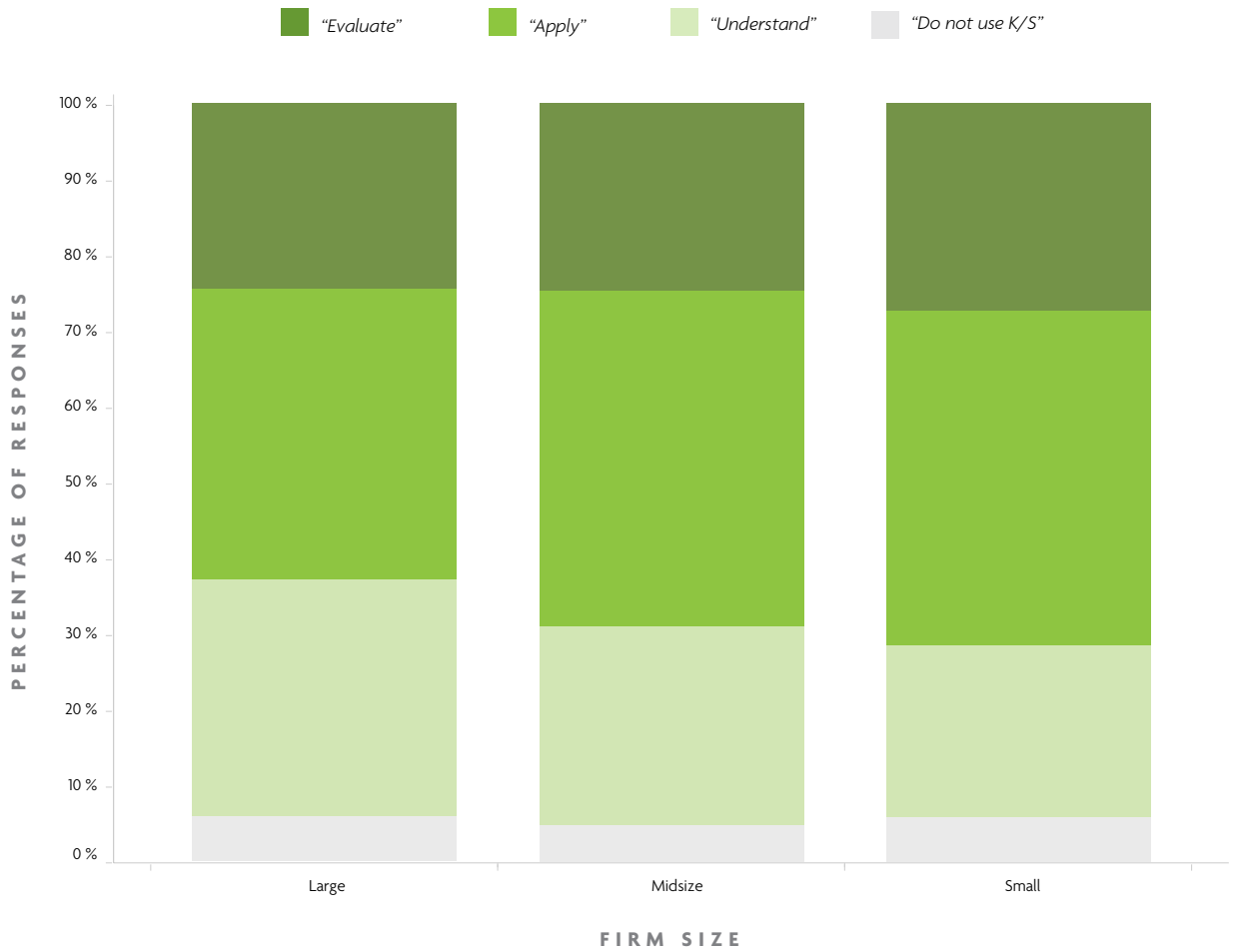


These results are not surprising and clearly indicate that more experienced practitioners tend to have a higher level of ability than more recently licensed architects. Comparing experience across the progression of ability reinforces the need for life-long learning and the value of continuing education to an architect's development over the course of a career.

KNOWLEDGE/SKILL USE VS. SIZE OF FIRM

A second comparison, which looks at level of performance by firm size, also illustrates limited variation in responses. Interestingly, architects practicing in smaller firms (fewer than 10 architects) reported using the K/S at the "*evaluate*" level at a slightly higher rate (27.3 percent) than those in medium (24.6 percent) and large firms (24.5 percent).

LEVEL OF K/S USE, BY FIRM SIZE



While this certainly does not reflect a lesser ability of architects working in larger firms, it does reinforce that architects in smaller practices are typically responsible for performing a broader range of tasks in their daily work. Architects practicing in larger firms may also be more likely to focus on areas of special expertise rather than areas of general practice.

EXAMINATION SURVEY RESULTS

ARE TASK RATINGS

A total of 865 licensed architects responded to the Examination (ARE) task survey and indicated the frequency at which each ARE task was performed and the importance for competent performance by a recently licensed architect practicing independently.

TASK FREQUENCY

Participants rated the frequency with which they perform each of the tasks listed in the ARE A survey by selecting one of the following scale points: "*not performed or does not apply*," "*yearly*," "*quarterly*," "*monthly*," "*weekly*," or "*daily*."

For some of the analyses, task frequency categories higher than "*not performed*" were aggregated (with equal weighting to each category) to derive an overall "*performed*" category.

Data Table D2 lists the percent of architects who rated each task at each level of task frequency. For example, with ARE Task #1 "*Gather information about client's vision, goals, budget, and schedule to validate project scope and program*," 89.6 percent of the architects indicated they perform the task at least once "*yearly*." Specifically, 9.5 percent of the architects indicated "*daily*," 19.5 percent indicated "*weekly*," 28.9 percent indicated "*monthly*," 22.1 percent indicated "*quarterly*," and 9.6 percent indicated "*yearly*."

The chart below displays the distribution of task ratings with respect to the percentage of architects who indicated they performed each of the tasks. For example, 34 tasks were rated as performed by 80 to 90 percent of the responding architects; eight tasks were rated as performed by 90 percent or more of responding architects.

DISTRIBUTION OF ARE TASK RATINGS: PERCENT OF LICENSED ARCHITECTS WHO PERFORM EACH TASK

TASK IMPORTANCE

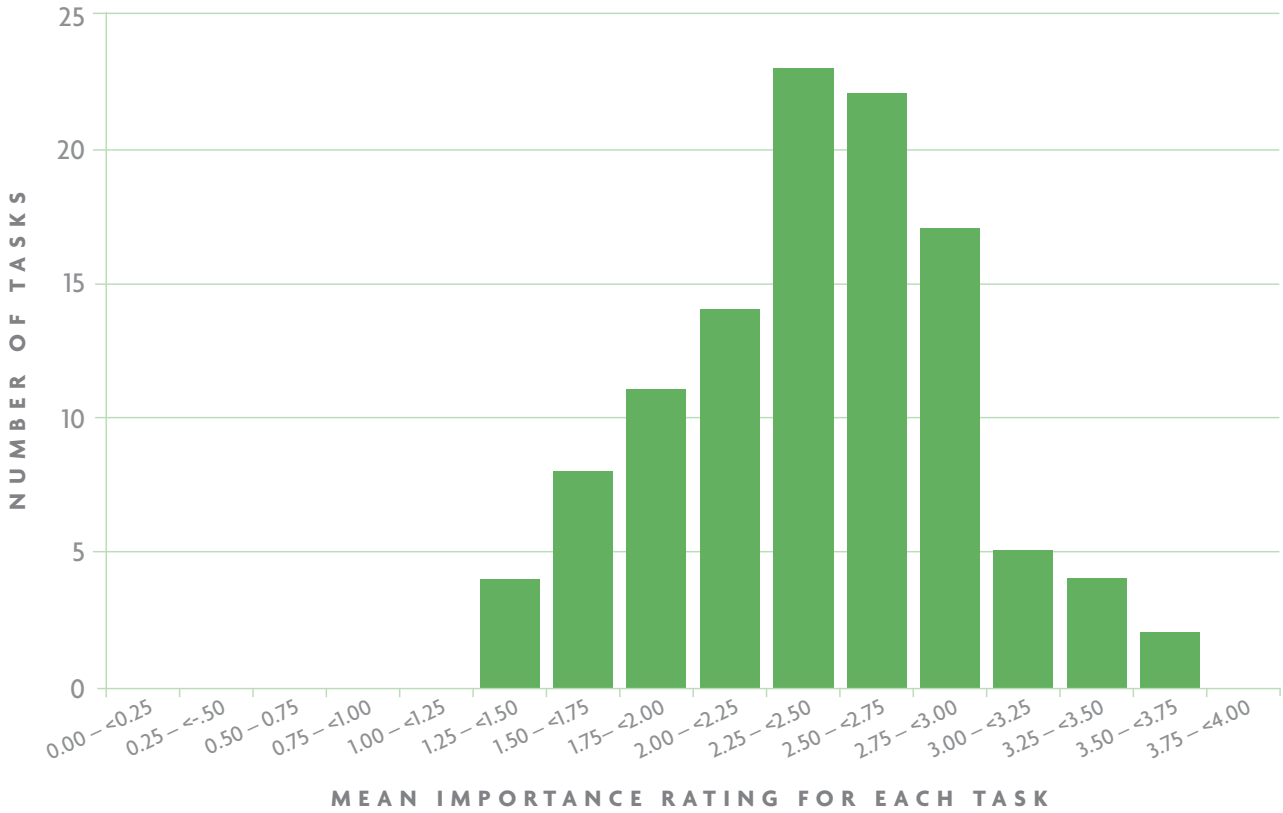
Participants rated the importance of the tasks listed in the ARE A survey by selecting one of the following scale points: "*of little or no importance*," "*somewhat important*," "*important*," "*very important*," or "*critically important*."

Data Table D3 lists the percent of architects who rated each task for each level of task importance. The column labeled "*Percent Imp.*" represents the aggregate percent of ratings of "*important*," "*very important*," and "*critically important*." The mean importance rating is also reported in the column labeled "*Mean Imp.*" and the standard deviation of the importance ratings is reported in the column labeled "*SD Imp.*"

For example, with ARE Task #1 "*Gather information about client's vision, goals, budget, and schedule to validate project scope and program*," 51.3 percent of the architects rated the task as "*critically important*" and 29.6 percent rated the task as "*very important*." The mean importance rating was 3.25 and the standard deviation was 0.94.

The chart below displays the distribution of task mean importance ratings. In this figure, each interval includes the lower bound value, e.g., the interval of 3.50 to 3.75 includes the value 3.50 and excludes the upper bound value. The only exception is with the interval of 3.75 to 4.00, which includes both 3.75 and 4.00. For example, five tasks had a mean importance rating between 3.00 and 3.24.

DISTRIBUTION OF ARE TASK RATINGS: MEAN IMPORTANCE FOR LICENSED ARCHITECTS



TASKS RECOMMENDED FOR ARE CONTENT OUTLINE

The practice analysis ratings were analyzed to identify the ARE tasks that are recommended for consideration to be represented in the content outline and test specification. Tasks were initially recommended for inclusion in the examination if they met each of the following criteria[1]:

1. Mean task importance ≥ 1.5 (between "*somewhat important*" and "*important*")[2], and
2. Percent performed task ≥ 50 percent of architects.

Data Table D4 lists mean importance ratings and percent performed values for each task. As seen in Data Table D4, 87.3 percent of the ARE tasks met both of the above criteria.

The table below displays a cross tabulation of mean task importance with percent performed for 110 ARE tasks that met the above criteria for recommended inclusion. The results indicate that 60.9 percent of the ARE tasks had a mean importance greater than or equal to 2.00 as well as a percent performed of greater than or equal to 66.7 percent. Moreover, 7.3 percent of ARE tasks had a mean importance greater than or equal to 1.50, but less than 2.00, and a percent performed greater than or equal to 50.0 percent but less than 66.7 percent.

		PERCENT PERFORMED TASK				
MEAN IMPORTANCE		<33.0%	33.0% –< 50.0%	50.0% –< 66.7%	>66.7%	ROW SUBTOTAL
	<1.40	1.8%	0.9%	0.0%	0.0%	2.7%
	1.40 –< 1.50	0.0%	0.0%	0.9%	0.0%	0.9%
	1.50 –< 2.00	0.0%	9.1%	7.3%	0.9%	17.3%
	≥ 2.00	0.0%	0.0%	18.2%	60.9%	79.1%
COLUMN SUBTOTAL		1.8%	10.0%	26.4%	61.8%	

Note: The shaded cells represent the percent of ARE tasks that met the criteria for recommended inclusion (mean importance of 1.5 or greater and a percent performed task of 50 percent or greater).

[1] Initial recommended criteria for task inclusion are subject to committee review and modification during the test specification development process.

[2] A mean task importance of 1.5 corresponds to the lower limit of a rating of "*important*" in the present study; this is equivalent to the cut point on mean task importance that was utilized in the *2007 Practice Analysis of Architecture*.

ARE KNOWLEDGE/SKILLS

KNOWLEDGE/SKILL IMPORTANCE RATINGS

A total of 822 licensed architects responded to the Examination (ARE) knowledge/skill (K/S) survey and indicated the importance of each K/S for competent performance by a recently licensed architect practicing independently.

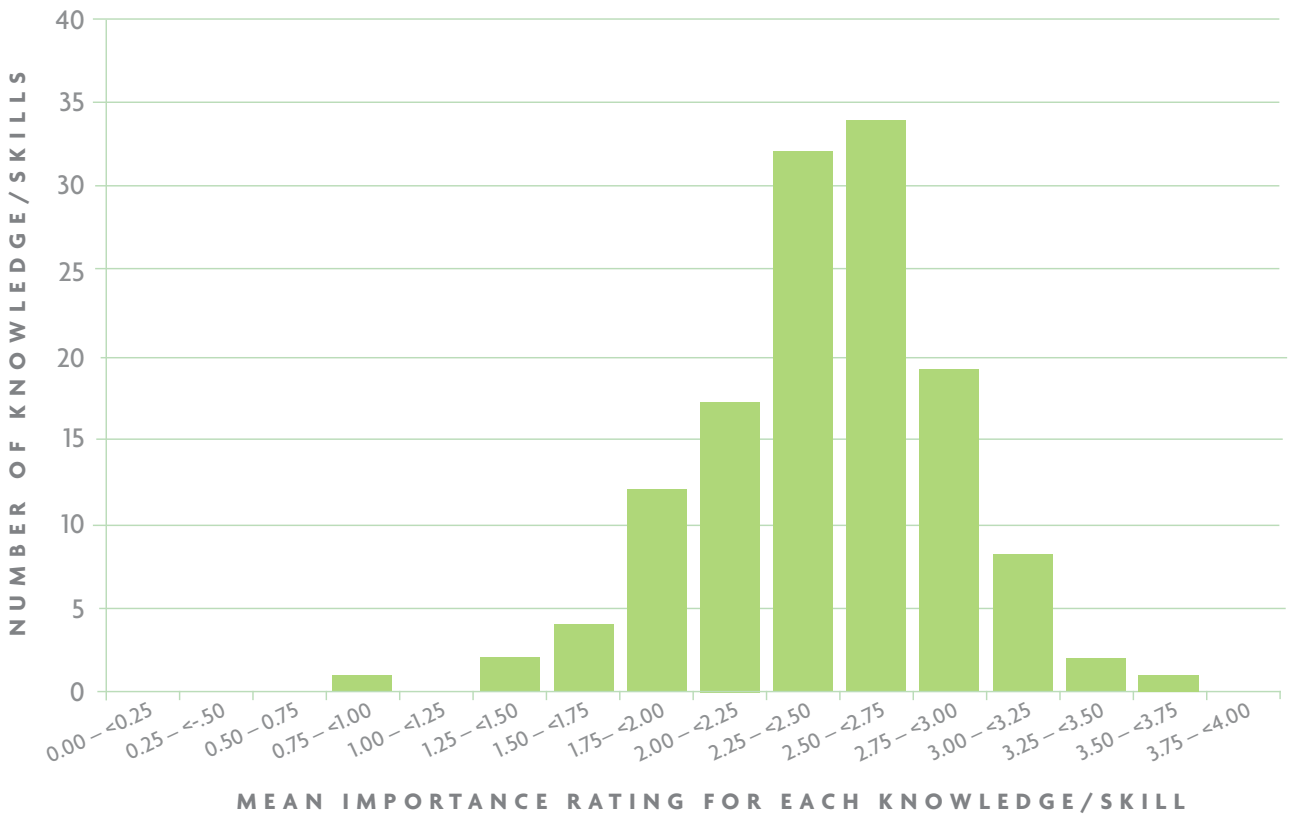
Participants rated the importance of the K/S listed in the ARE C survey by selecting one of the following scale points: "*of little or no importance*," "*somewhat important*," "*important*," "*very important*," or "*critically important*."

Data Table D6 lists the percent of architects who rated each K/S at each level on the importance rating scale. In Data Table D6, the column labeled "*Percent Imp.*" represents the aggregate percent of ratings of "*important*," "*very important*," and "*critically important*." The mean importance rating is also reported in the column labeled "*Mean Imp.*" and the standard deviation of the importance ratings is reported in the column labeled "*SD Imp.*"

For example, with ARE K/S #1 "*Knowledge of oral, written, and visual presentation techniques to communicate project information*," 54.3 percent of the architects rated the K/S as "*critically important*," and 34.1 percent rated the K/S as "*very important*." The mean importance rating was 3.40 and the standard deviation was 0.75.

The chart below displays the distribution of K/S importance ratings. For example, eight K/S items had a mean importance rating between 3.00 and 3.24.

DISTRIBUTION OF ARE K/S RATINGS: MEAN IMPORTANCE FOR LICENSED ARCHITECTS



COGNITIVE LEVELS FOR ARE KNOWLEDGE/SKILLS

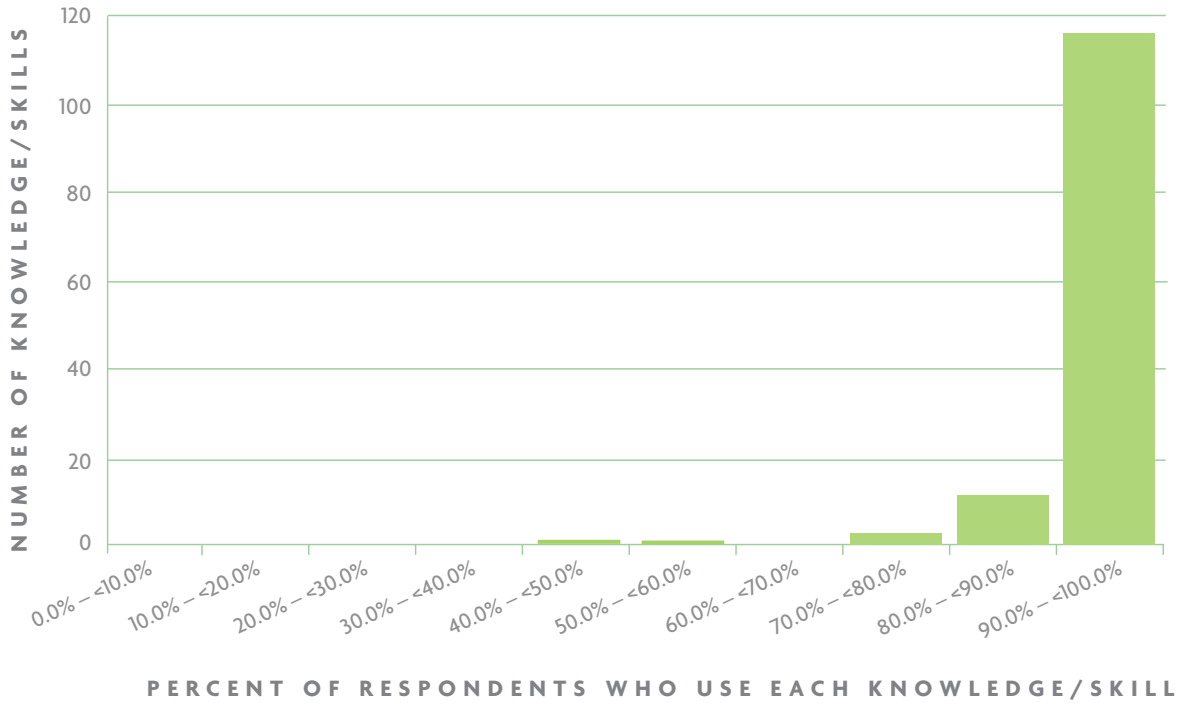
The same group of 822 licensed architects indicated the cognitive level at which they use each of the K/S by selecting one of the following scale categories: "*understand*," "*apply*," "*evaluate*," or "*do not use*."

Data Table D7 lists the percent of architects who indicated the cognitive level for each K/S. The column "*Percent Used*," contains the percent of architects who used the K/S, calculated as the combined percent of ratings of the three cognitive levels.

For example, for ARE K/S #1 "*Knowledge of oral, written, and visual presentation techniques to communicate project information*," 50.6 percent of the architects indicated a cognitive level of "*evaluate*," 45.3 percent indicated "*apply*," 3.6 percent indicated "*understand*," and 0.5 percent indicated "*do not use*." Accordingly, 99.5 percent of architects indicated that they used the task at one of the three cognitive levels.

The chart below displays the distribution of K/S ratings with respect to the percentage of responding architects who indicated they use the K/S. As seen in the figure, the vast majority of the K/S were reportedly used by 90 percent or more architects. (Accordingly, there were very few responses to the follow-up question regarding why a K/S was not used.)

DISTRIBUTION OF ARE K/S RATINGS: PERCENT OF LICENSED ARCHITECTS WHO USE EACH K/S



REASONS WHY ARE KNOWLEDGE/SKILLS WERE NOT USED BY LICENSED ARCHITECTS

The responding architects who indicated they did not use a K/S were asked to indicate why they did not use that K/S by choosing among six reasons. Data Table D10 summarizes the percentage of respondents indicating each reason, as well as the mean, minimum (min) and maximum (max) percentage indicating each reason across the K/S. For example, with ARE K/S #1 "*Knowledge of oral, written, and visual presentation techniques to communicate project information*," all respondents cited "*other*" and were given the chance to type in a reason. None of the following reasons were indicated for not using ARE K/S #1: "*not used in practice*," "*not allowed by jurisdiction*," "*not recommended by legal counsel or insurance carrier*," "*provided by consultant(s)*," or "*lack of experience*."

Data Table D10 also reports the mean percent of ratings across all K/S statements for each of six reasons why they were not used (see bottom section of the table). Of the reasons cited, the most common was "not used in practice" (25.9 percent of ratings), followed by "*lack of experience*" (10.0 percent), and "*provided by consultant(s)*" (9.9 percent). Of all reasons selected, "*not allowed by jurisdiction*" and "*not recommended by legal counsel or insurance carrier*" were the least commonly observed (0.1 percent and 0.5 percent, respectively).

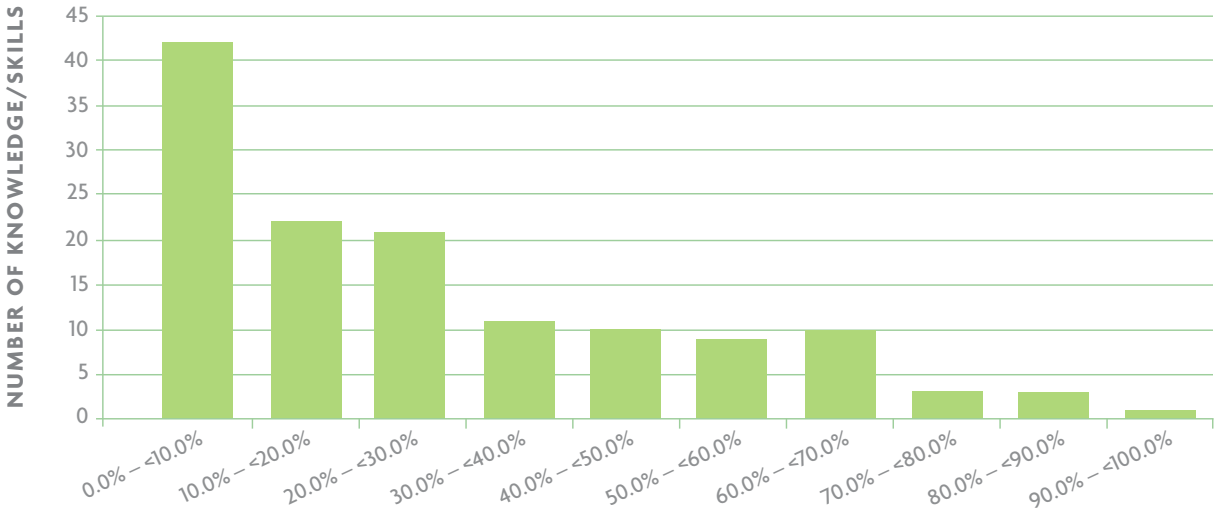
WHEN KNOWLEDGE/SKILLS WERE ACQUIRED

A total of 1,008 licensed architects responded to the ARE B survey and indicated when they acquired each K/S by choosing one of the following categories: "*not acquired*," "*by completion of accredited architecture degree program*," "*during internship*," or "*after licensure*."

Data Table D8 lists the percent of architects who indicated when each K/S was acquired. For example, with ARE K/S #1 "*Knowledge of oral, written, and visual presentation techniques to communicate project information*," 60.4 percent of the architects indicated they acquired the task "*by completion of accredited architecture degree program,*" 26.5 percent indicated "*during internship*," 12.9 percent indicated "*after licensure*," and 0.2 percent indicated "*not acquired*."

The chart below displays the distribution of K/S with respect to the percentage of architects who indicated each K/S was acquired "*by completion of accredited architecture degree program*." For example, one K/S was rated by 90 percent or more architects as being acquired "*by completion of accredited architecture degree program*." Three K/S were rated by 80 to 90 percent of architects as being acquired "*by completion of the degree program*."

DISTRIBUTION OF ARE RATINGS: PERCENT OF LICENSED ARCHITECTS WHO INDICATED K/S IS ACQUIRED "BY COMPLETION OF ACCREDITED ARCHITECTURE DEGREE PROGRAM"



PERCENT OF RESPONDENTS WHO FIRST ACQUIRED EACH KNOWLEDGE/SKILL BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM

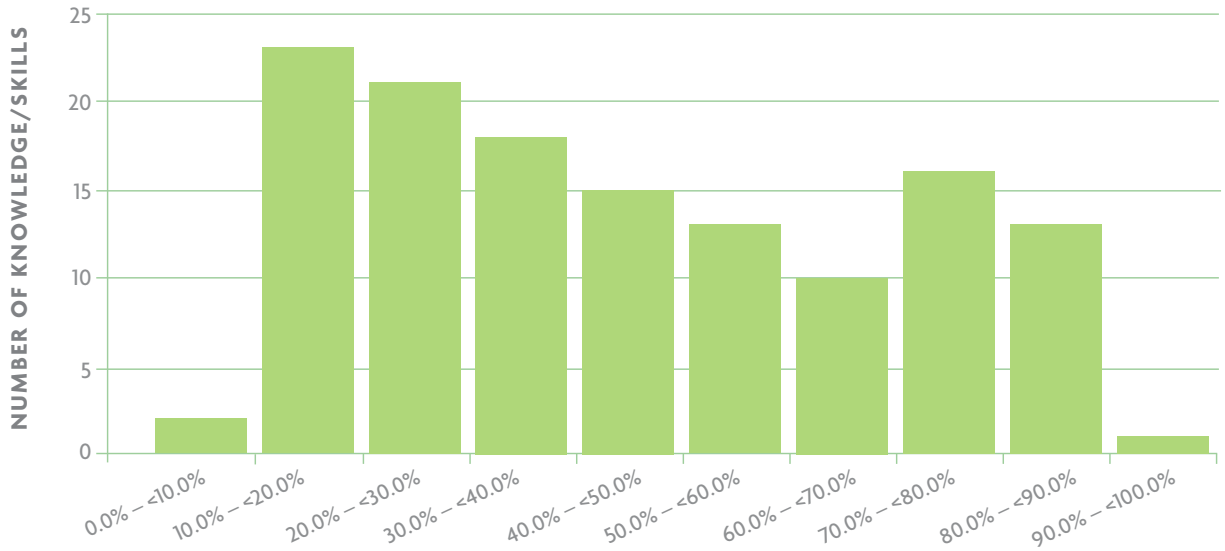
WHEN KNOWLEDGE/SKILLS SHOULD BE ACQUIRED

The same group of 1,008 licensed architects indicated when each K/S should be acquired by selecting one of the following scale values: "*not relevant*," "*by completion of accredited architecture degree program*," "*during internship*," or "*after licensure*."

Data Table D9 lists the percent of licensed architects who rated each K/S. For example, with ARE K/S #1 "*Knowledge of oral, written, and visual presentation techniques to communicate project information*," 70.5 percent of the architects indicated that the K/S should be acquired "*by completion of accredited architecture degree program*," 25.6 percent selected "*during internship*," 3.1 percent indicated "*after licensure*," and 0.8 percent indicated "*not relevant*."

The chart below displays the distribution of K/S with respect to the percentage of architects who indicated each K/S should be acquired "*by completion of accredited architecture degree program.*" For example, one K/S was rated by 90 percent or more of the architects as something that should be acquired by completion of their degree program. Additionally, 13 K/S were rated by 80 to 90 percent of responding architects as something that should be acquired by completion of their degree program.

DISTRIBUTION OF K/S RATINGS: MEAN PERCENT OF LICENSED ARCHITECTS INDICATING THE K/S SHOULD BE ACQUIRED BY COMPLETION OF ACCREDITED ARCHITECTURE DEGREE PROGRAM



KNOWLEDGE/SKILLS RECOMMENDED FOR ARE CONTENT OUTLINE

Knowledge/skills are recommended for possible inclusion in the ARE if the K/S has a mean importance rating greater than or equal to 1.50. The table below displays the percent of K/S statements within four intervals on the importance scale.

PERCENTAGE BREAKDOWN OF ARE K/S MEAN IMPORTANCE RATINGS

	Mean Knowledge/Skill Importance*			
	<1.40	1.40 1.49	1.50 1.99	>=2.00
Percent of Knowledge/Skill Statements	2.3%	0.0%	12.1%	85.6%

*Importance scale: 0 = of little or no importance; 1 = somewhat important; 2 = important; 3 = very important; or 4 = critically important

QUALITATIVE FINDINGS

Three open-ended questions were included at the end of each Practice Analysis survey.

> *"How do you expect your job in the field of architecture to change over the next few years?"*
> *"What tasks will be performed and what knowledge/skills will be needed to meet changing job demands?"*
> *"If you could change the field of architecture, what is the most important change you would make?"*

Nearly 6,000 survey participants provided qualitative feedback, with many similarities emerging from their responses. The summary below represents the comments and suggestions received from those respondents completing the examination survey.

CHANGES OVER THE NEXT FEW YEARS AND MEETING CHANGING JOB DEMANDS

A total of 2,072 licensed architects who completed the Examination (ARE) survey replied to the questions "*How do you expect your job in the field of architecture to change over the next few years*?" and "*What tasks will be performed and what knowledge/skills will be needed to meet changing job demands*?"

Respondents focused on knowledge and skills architects need and shared thoughts on the future trends of architecture. They addressed topics such as technology and business development. Some mentioned a future increase in the use of BIM and suggested that all architects should learn BIM. Respondents also stated that there will be a trend toward more 3-D drawings (and fewer 2-D drawings), along with the elimination of paper drawings and other documents in favor of electronic documentation.

Respondents also noted several other trends within the profession: they expect to see an increase in outsourcing, life cycle costing, LEED, energy efficiency, and other sustainable design practices.

Some of the knowledge or skills identified as being necessary to thrive in the field of architecture included business skills (business development, management, marketing, communication, and people skills), programming and computer skills (including BIM), keeping current with codes and new materials, and greater collaboration with contractors and coordination with other design professionals.

Respondents also mentioned several challenges they envision, including the architect's increased level of risk in a project and improving public perception about an architect's role throughout the project.

MOST IMPORTANT CHANGES TO MAKE

A total of 2,055 licensed architects responded to the question "I*f you could change the field of architecture, what is the most important change you would make*?" The comments received were similar to the themes that appear in the *NCARB 2012 Focus Group Report*, which will be released in late June 2013 as part of the complete *2012 NCARB Practice Analysis of Architecture* publication, and have been grouped into six major categories:

1. Changing role of the architect
2. Adapting to changing demands
3. Impact of technology on the profession
4. Knowledge and/or skills needed now and in the future
5. Professional practice, accreditation, and licensure
6. NCARB opportunities

Changing Role of the Architect
Respondents suggested that training should adopt a holistic approach and emphasize the practice of architecture rather than architectural style, building type, and narrowly focused specializations. Other respondents suggested offering graduates the option of pursuing general practice or specialty fields as is done in the field of medicine, law, and engineering. Some indicated that architects should act as a "master architect/master builder" and assume a leadership role in the project management/construction management process and reclaim control of the final outcome rather than imposing a design-build process that subordinates the architect to the contractor. Many of the respondents identified the need for architects to educate the public with respect to the skills and responsibilities involved in projects in order to better understand the basis of cost estimates for services.

Adapting to Changing Demands
An overwhelming majority of respondents indicated that educational curricula should include more hands-on experience in the field so that graduates can apply their knowledge and experience to actual construction situations. Some respondents commented that flexible work options should be available to accommodate work-life balance. Opinions were mixed with respect to integration of new standards for energy efficiency, sustainability, LEED, and other green technologies into design. Respondents seemed to be evenly split regarding what should drive the design of buildings—either the fundamentals of good design or the new standards for green technologies.

Impact of Technology on the Profession
The majority of architects recognized BIM, CAD, and other technologies as tools that facilitate workflow; however, they cautioned that these tools should be used to supplement, not replace, an architect's design expertise and understanding of design fundamentals.

Knowledge and/or Skills Needed Now and in the Future
Respondents cited a number of knowledge and skills that are valuable when performing day to day activities such as the understanding of conceptual design, construction sequencing, constructability, building performance, working knowledge of building construction, specification writing and code review, and communication skills.

Professional Practice, Accreditation, and Licensure
Several respondents commented that uniform codes, encompassing IBC, LEED, ASTM, ANSI, and OSHA should be created to simplify compliance. Such codes would assist in standardizing the code review process. A few respondents indicated that architects should approve plans for all residential and commercial buildings.

NCARB Opportunities
The majority of the comments related to future opportunities for NCARB addressed internship and the IDP. Some suggested extending the program to five years. Some suggested using the IDP as a sole pathway to licensure. Others suggested that the IDP should be integrated with the educational curriculum, thus extending the years spent in undergraduate curriculum.

EXAMINATION DATA TABLES

The chart below summarizes the survey population and the research questions related to the task and knowledge/skill (K/S) statements, as well as the various rating scales for the examination surveys. The chart also references the related Examination (ARE) Data Tables.

SURVEY	SURVEY POPULATION	STATEMENT TYPE	RESEARCH QUESTIONS AND RATING SCALES	DATA TABLE
ARE A	All licensed architects	Task	How frequently have you performed the task during the past year? • Not performed or does not apply • Yearly • Quarterly • Monthly • Weekly • Daily	D2
			How important is competent performance of the task by a recently licensed architect practicing independently? • Of little or no importance • Somewhat important • Important • Very important • Critically important	D3

SURVEY	SURVEY POPULATION	STATEMENT TYPE	RESEARCH QUESTIONS AND RATING SCALES	DATA TABLE
ARE B	All licensed architects	Knowledge/ Skill	When did you acquire the knowledge/skill? • Not acquired • By completion of accredited architecture degree program • During internship • After licensure	D8
			When should the knowledge/skill be acquired? • Not relevant, does not apply • By completion of accredited architecture degree program • During internship • After licensure	D9
ARE C	All licensed architects	Knowledge/ Skill	How important is the knowledge/skill to a recently licensed architect practicing independently? • Of little or no importance • Somewhat important • Important • Very important • Critically important	D6
			At what level do you typically use the knowledge/skill in your job? • Do not use knowledge/skill • Understand: General understanding; no specific details are used on the job • Apply: Application of general principles, procedures, skills to typical job scenarios • Evaluate: Use of knowledge/skill to evaluate and refine solutions for job scenarios or designs	D7
			Indicate why you do not use the knowledge/skill. (Select all that apply.) • Not used in my practice • Not allowed by my jurisdiction • Not recommended by my legal counsel or insurance carrier • Provided by consultant(s) • Lack of experience • Other	D10

Data Table D1. List of All ARE Task Statements

TASK #	TASK STATEMENT
	Gather information about client's vision, goals, budget, and schedule to validate project scope and program.
	Prepare design alternatives for client review.
	Establish methods for Architect-Client communication based on project scope of work.
	Assist client in determining delivery method for construction of project.
	Determine impact of applicable zoning and development ordinances to determine project constraints.
	Define roles and responsibilities of team members.
	Determine scope of services.
	Determine design fees.
	Determine project schedule.
	Evaluate results of feasibility studies to determine project's financial viability.
	Evaluate results of feasibility studies to determine project's technical viability.
	Determine impact of existing utilities infrastructure on site.
	Determine impact of existing transportation infrastructure on site.
	Assess environmental impact of design decisions.
	Determine impact of environmental, zoning and other regulations on site.
	Assess socio-cultural context of the proposed site.
	Define requirements for site survey based on established project scope.
	Analyze existing site conditions to determine impact on facility layout.
	Consider recommendations from geotechnical studies when establishing design parameters.
	Develop sustainability goals based on existing site environmental conditions.
	Establish sustainability goals affecting building performance.
	Consider results of environmental impact studies when developing site.
	Develop mitigation options to address adverse site conditions.
	Review legal documents related to site to determine project constraints.
	Perform building code analysis.
	Communicate design ideas to the client graphically.
	Communicate design ideas to the client using hand drawings.
	Communicate design ideas to client with two-dimensional (2-D) computer aided design software.

TASK #	TASK STATEMENT
	Communicate design ideas to client with three-dimensional (3-D) computer aided design software.
	Determine design parameters for building systems.
	Prepare submittals for regulatory approval.
	Evaluate opportunities and constraints of alternative sites.
	Gather information about community concerns and issues that may impact proposed project.
	Assist Owner in preparing building program including list of spaces and their characteristics.
	Establish project design goals.
	Prepare site analysis diagrams to document existing conditions, features, infrastructure, and regulatory requirements.
	Prepare diagrams illustrating spatial relationships and functional adjacencies.
	Submit schedule of Architect's services to Owner for each phase.
	Prepare code analysis documentation.
	Select technologies to develop and produce design and construction documentation.
	Coordinate documentation of design team members.
	Manage project close-out procedures and documentation.
	Perform quality control reviews throughout the documentation process.
	Prepare Cost of Work estimates.
	Update Cost of Work estimates.
	Design building structural system.
	Design civil components of site.
	Design mechanical, electrical and plumbing systems.
	Design landscape elements for site.
	Oversee design integration of building components and systems.
	Select materials, finishes and systems based on technical properties and aesthetic requirements.
	Select building performance modeling technologies to guide building design.
	Prepare life cycle cost analysis.
	Perform constructability review to determine ability to procure, sequence construction, and build proposed project.
	Prepare final procurement and contract documents.
	Determine specific insurance requirements to meet contract or business needs.

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Data Table D1. List of All ARE Task Statements

TASK #	TASK STATEMENT
	Review results from field reports, third-party inspections, and other test results for conformance with contract documents.
	Manage modifications to the construction contract.
	Assist Owner in preparing Owner-Contractor Agreement.
	Respond to Contractor Requests for Information.
	Prepare proposals for services in response to client requirements.
	Prepare Owner-Architect agreement.
	Prepare Architect-Consultant agreement.
	Negotiate terms and conditions outlined in Owner-Architect Agreement.
	Apply principles of historic preservation for projects involving building restoration or renovation.
	Collaborate with stakeholders during design process to maintain design intent and comply with Owner requirements.
	Coordinate design work of consultants.
	Select furniture, fixtures and equipment that meet client's design requirements and needs.
	Negotiate terms and conditions of services outlined in Architect-Consultant Agreement.
	Establish financial controls within firm to monitor profitability of individual projects.
	Prepare staffing plan to meet project goals.
	Establish procedures for documenting project decisions.
	Monitor project schedule to maintain compliance with established milestones.
	Evaluate staffing plan to ensure compliance with established milestones.
	Manage client expectations to align with established milestones and final decision points.
	Assist client in selecting contractors.
	Manage implementation of sustainability criteria.
	Identify changes in project scope that require additional services.
	Assist Owner in obtaining necessary permits and approvals.
	Coordinate testing of building performance and materials.
	Review Application and Certificate for Payment.
	Review shop drawings and submittals during construction for conformance with design intent.
	Complete field reports to document field observations from site visit.
	Manage information exchange during construction.

TASK #	TASK STATEMENT
	Resolve conflicts that may arise during design and construction process.
	Manage project-specific procurement process.
	Establish procedures for building commissioning.
	Manage post-occupancy issues, e.g., evaluation of building performance, warranty issues.
	Select design team consultants.
	Conduct periodic progress meetings with design and project team.
	Participate in pre-construction, pre-installation and regular progress meetings with design team.
	Secure insurance policies related to general, automobile, workers' compensation, and professional liability.
	Develop strategies to control risk and manage liability.
	Determine billing rates.
	Develop business plan for firm.
	Develop and maintain effective and productive relationships with clients.
	Develop procedures for responding to changes in project scope.
	Develop procedures for responding to contractor requests (Requests for Information).
	Develop strategies for responding to Owner requests for proposal (Requests for Proposal, Requests for Qualifications).
	Review local, state, and federal codes for changes that may impact design and construction.
	Make staff assignments based on knowledge and skill of staff members.
	Evaluate staff time and production costs for compliance with established goals.
	Understand firm's legal structure to comply with jurisdictional rules and regulations.
	Understand implications of evolving sustainable design strategies and technologies.
	Understand implications of project delivery methods.
	Adhere to ethical standards and codes of professional conduct.
	Comply with laws and regulations governing the practice of architecture.
	Evaluate appropriateness of building information modeling (BIM) for proposed project.
	Understand implications of policies and procedures to ensure supervision of design work by architect in responsible charge/control.
	Monitor performance of design team consultants.

Data Table D2. Percentage Distribution of Task Frequency Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	NOT PERFORMED	Performed					PERCENT PERFORMED	TOTAL N
		YEARLY	QUARTERLY	MONTHLY	WEEKLY	DAILY		
1. Gather information about client's vision, goals, budget, and schedule to validate project scope and program.	10.4%	9.6%	22.1%	28.9%	19.5%	9.5%	89.6%	865
2. Prepare design alternatives for client review.	9.4%	4.6%	20.2%	34.5%	25.0%	6.4%	90.6%	865
3. Establish methods for Architect-Client communication based on project scope of work.	13.3%	8.8%	23.7%	25.0%	21.6%	7.6%	86.7%	865
4. Assist client in determining delivery method for construction of project.	20.9%	17.7%	30.5%	21.0%	8.3%	1.5%	79.1%	865
5. Determine impact of applicable zoning and development ordinances to determine project constraints.	12.7%	14.6%	27.7%	29.0%	12.6%	3.4%	87.3%	865
6. Define roles and responsibilities of team members.	17.5%	10.2%	24.3%	24.3%	16.2%	7.6%	82.5%	865
7. Determine scope of services.	12.8%	7.2%	25.0%	34.0%	17.1%	3.9%	87.2%	865
8. Determine design fees.	20.2%	9.6%	22.1%	28.3%	16.5%	3.2%	79.8%	865
9. Determine project schedule.	11.8%	8.3%	26.4%	32.6%	16.8%	4.2%	88.2%	865
10. Evaluate results of feasibility studies to determine project's financial viability.	38.5%	18.7%	22.8%	14.6%	4.7%	0.7%	61.5%	865
11. Evaluate results of feasibility studies to determine project's technical viability.	32.1%	17.5%	26.0%	16.8%	6.5%	1.2%	67.9%	865
12. Determine impact of existing utilities infrastructure on site.	17.9%	21.0%	31.9%	22.2%	6.4%	0.6%	82.1%	865
13. Determine impact of existing transportation infrastructure on site.	43.6%	23.1%	21.5%	9.6%	2.1%	0.1%	56.4%	865
14. Assess environmental impact of design decisions.	25.2%	19.7%	26.8%	18.6%	7.9%	1.8%	74.8%	865
15. Determine impact of environmental, zoning and other regulations on site.	15.1%	16.9%	29.2%	25.8%	11.0%	2.0%	84.9%	865
16. Assess socio-cultural context of the proposed site.	59.5%	18.2%	13.8%	6.9%	1.5%	0.1%	40.5%	865
17. Define requirements for site survey based on established project scope.	22.0%	25.3%	30.8%	16.9%	4.4%	0.7%	78.0%	865
18. Analyze existing site conditions to determine impact on facility layout.	12.3%	18.5%	34.9%	23.4%	8.4%	2.5%	87.7%	865
19. Consider recommendations from geotechnical studies when establishing design parameters.	22.0%	26.7%	30.4%	17.2%	3.7%	0.0%	78.0%	865
20. Develop sustainability goals based on existing site environmental conditions.	35.6%	23.5%	25.1%	12.7%	2.4%	0.7%	64.4%	865
21. Establish sustainability goals affecting building performance.	29.5%	22.1%	26.8%	15.6%	5.0%	1.0%	70.5%	865
22. Consider results of environmental impact studies when developing site.	44.3%	25.7%	19.1%	8.7%	2.3%	0.0%	55.7%	865
23. Develop mitigation options to address adverse site conditions.	42.3%	28.6%	16.9%	8.4%	3.2%	0.6%	57.7%	865
24. Review legal documents related to site to determine project constraints.	33.5%	25.4%	22.1%	13.5%	4.5%	0.9%	66.5%	865
25. Perform building code analysis.	8.2%	8.2%	21.8%	32.1%	20.3%	9.2%	91.8%	865
26. Communicate design ideas to the client graphically.	8.0%	5.3%	16.0%	27.1%	33.1%	10.6%	92.0%	865
27. Communicate design ideas to the client using hand drawings.	17.6%	11.0%	20.8%	24.2%	21.4%	5.1%	82.4%	865
28. Communicate design ideas to client with two-dimensional (2-D) computer aided design software.	18.4%	3.5%	12.9%	23.0%	29.7%	12.5%	81.6%	865
29. Communicate design ideas to client with three-dimensional (3-D) computer aided design software.	31.6%	10.6%	20.0%	20.9%	12.4%	4.5%	68.4%	865

Total N = number of respondents

CONTINUED

Data Table D2. Percentage Distribution of Task Frequency Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	NOT PERFORMED	Performed					PERCENT PERFORMED	TOTAL N
		YEARLY	QUARTERLY	MONTHLY	WEEKLY	DAILY		
30. Determine design parameters for building systems.	16.6%	13.6%	30.4%	24.9%	11.0%	3.5%	83.4%	865
31. Prepare submittals for regulatory approval.	15.8%	14.9%	33.3%	25.1%	8.8%	2.1%	84.2%	865
32. Evaluate opportunities and constraints of alternative sites.	40.8%	27.3%	19.9%	9.0%	2.4%	0.6%	59.2%	865
33. Gather information about community concerns and issues that may impact proposed project.	46.6%	28.7%	17.2%	5.5%	1.8%	0.1%	53.4%	865
34. Assist Owner in preparing building program including list of spaces and their characteristics.	18.5%	23.4%	31.0%	19.1%	6.7%	1.4%	81.5%	865
35. Establish project design goals.	13.5%	17.2%	31.0%	24.0%	11.0%	3.2%	86.5%	865
36. Prepare site analysis diagrams to document existing conditions, features, infrastructure, and regulatory requirements.	27.1%	23.7%	29.7%	14.7%	3.9%	0.9%	72.9%	865
37. Prepare diagrams illustrating spatial relationships and functional adjacencies.	22.9%	21.3%	27.7%	17.1%	9.0%	2.0%	77.1%	865
38. Submit schedule of Architect's services to Owner for each phase.	34.1%	12.6%	27.1%	21.7%	4.0%	0.5%	65.9%	865
39. Prepare code analysis documentation.	13.5%	16.3%	27.7%	28.7%	10.2%	3.6%	86.5%	865
40. Select technologies to develop and produce design and construction documentation.	31.2%	27.1%	16.9%	13.6%	7.3%	3.9%	68.8%	865
41. Coordinate documentation of design team members.	14.1%	5.7%	16.9%	19.3%	27.6%	16.4%	85.9%	865
42. Manage project close-out procedures and documentation.	21.8%	27.3%	30.8%	14.3%	5.0%	0.8%	78.2%	865
43. Perform quality control reviews throughout the documentation process.	17.0%	7.5%	20.9%	27.3%	19.4%	7.9%	83.0%	865
44. Prepare Cost of Work estimates.	33.5%	14.1%	27.5%	19.2%	4.4%	1.3%	66.5%	865
45. Update Cost of Work estimates.	36.4%	13.2%	25.1%	20.5%	4.2%	0.7%	63.6%	865
46. Design building structural system.	55.5%	12.4%	16.5%	11.0%	4.2%	0.5%	44.5%	865
47. Design civil components of site.	57.7%	15.7%	15.8%	7.6%	2.8%	0.3%	42.3%	865
48. Design mechanical, electrical and plumbing systems.	61.5%	10.4%	15.3%	8.7%	3.1%	1.0%	38.5%	865
49. Design landscape elements for site.	46.9%	24.9%	18.6%	7.1%	2.0%	0.6%	53.1%	865
50. Oversee design integration of building components and systems.	14.3%	9.2%	23.7%	25.3%	16.4%	11.0%	85.7%	865
51. Select materials, finishes and systems based on technical properties and aesthetic requirements.	9.6%	7.1%	22.2%	29.6%	22.4%	9.1%	90.4%	865
52. Select building performance modeling technologies to guide building design.	62.2%	14.1%	13.6%	7.3%	1.6%	1.2%	37.8%	865
53. Prepare life cycle cost analysis.	69.7%	17.3%	8.3%	3.4%	1.2%	0.1%	30.3%	865
54. Perform constructability review to determine ability to procure, sequence construction, and build proposed project.	48.8%	17.0%	17.3%	10.6%	4.7%	1.5%	51.2%	865
55. Prepare final procurement and contract documents.	20.8%	13.6%	21.4%	23.4%	11.8%	9.0%	79.2%	865
56. Determine specific insurance requirements to meet contract or business needs.	51.1%	29.7%	11.9%	5.8%	1.2%	0.3%	48.9%	865
57. Review results from field reports, third-party inspections, and other test results for conformance with contract documents.	19.4%	15.5%	22.8%	25.1%	13.4%	3.8%	80.6%	865
58. Manage modifications to the construction contract.	25.3%	12.1%	19.4%	25.4%	13.2%	4.5%	74.7%	865

Total N = number of respondents

CONTINUED

Data Table D2. Percentage Distribution of Task Frequency Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	NOT PERFORMED	Performed					PERCENT PERFORMED	TOTAL N
		YEARLY	QUARTERLY	MONTHLY	WEEKLY	DAILY		
59. Assist Owner in preparing Owner-Contractor Agreement.	38.6%	20.2%	26.5%	12.6%	1.8%	0.2%	61.4%	865
60. Respond to Contractor Requests for Information.	10.1%	4.2%	12.1%	23.2%	33.8%	16.6%	89.9%	865
61. Prepare proposals for services in response to client requirements.	19.3%	9.8%	23.1%	29.6%	15.3%	2.9%	80.7%	865
62. Prepare Owner-Architect agreement.	28.2%	17.1%	25.0%	23.5%	5.4%	0.8%	71.8%	865
63. Prepare Architect-Consultant agreement.	34.7%	18.2%	23.1%	19.9%	3.9%	0.2%	65.3%	865
64. Negotiate terms and conditions outlined in Owner-Architect Agreement.	34.7%	17.6%	25.0%	17.2%	5.0%	0.6%	65.3%	865
65. Apply principles of historic preservation for projects involving building restoration or renovation.	53.4%	24.0%	12.1%	6.2%	2.8%	1.4%	46.6%	865
66. Collaborate with stakeholders during design process to maintain design intent and comply with Owner requirements.	26.4%	12.6%	22.1%	23.5%	12.9%	2.5%	73.6%	865
67. Coordinate design work of consultants.	9.2%	5.1%	16.3%	23.7%	32.3%	13.4%	90.8%	865
68. Select furniture, fixtures and equipment that meet client's design requirements and needs.	36.2%	18.4%	20.3%	15.5%	7.9%	1.7%	63.8%	865
69. Negotiate terms and conditions of services outlined in Architect-Consultant Agreement.	38.7%	17.8%	23.1%	16.3%	3.1%	0.9%	61.3%	865
70. Establish financial controls within firm to monitor profitability of individual projects.	42.2%	12.1%	15.3%	18.0%	9.2%	3.1%	57.8%	865
71. Prepare staffing plan to meet project goals.	36.8%	10.9%	13.1%	18.8%	17.8%	2.7%	63.2%	865
72. Establish procedures for documenting project decisions.	24.0%	19.3%	19.8%	19.5%	11.8%	5.5%	76.0%	865
73. Monitor project schedule to maintain compliance with established milestones.	13.6%	7.2%	15.6%	25.2%	33.5%	4.9%	86.4%	865
74. Evaluate staffing plan to ensure compliance with established milestones.	38.7%	7.1%	10.8%	20.9%	20.1%	2.4%	61.3%	865
75. Manage client expectations to align with established milestones and final decision points.	18.2%	8.2%	17.0%	28.3%	22.7%	5.7%	81.8%	865
76. Assist client in selecting contractors.	23.6%	21.0%	33.1%	18.6%	3.2%	0.5%	76.4%	865
77. Manage implementation of sustainability criteria.	44.0%	14.9%	21.2%	14.3%	4.0%	1.5%	56.0%	865
78. Identify changes in project scope that require additional services.	13.4%	10.9%	25.1%	32.6%	14.3%	3.7%	86.6%	865
79. Assist Owner in obtaining necessary permits and approvals.	17.1%	14.9%	30.9%	25.7%	8.7%	2.7%	82.9%	864
80. Coordinate testing of building performance and materials.	56.0%	17.2%	16.0%	8.3%	1.8%	0.7%	44.0%	865
81. Review Application and Certificate for Payment.	24.5%	8.4%	12.5%	49.7%	4.5%	0.3%	75.5%	865
82. Review shop drawings and submittals during construction for conformance with design intent.	13.2%	6.9%	16.0%	28.2%	29.5%	6.2%	86.8%	865
83. Complete field reports to document field observations from site visit.	19.9%	8.0%	14.5%	30.2%	26.1%	1.4%	80.1%	865
84. Manage information exchange during construction.	17.9%	4.0%	12.3%	19.5%	27.2%	19.1%	82.1%	865
85. Resolve conflicts that may arise during design and construction process.	11.8%	9.8%	16.4%	23.5%	24.4%	14.1%	88.2%	865
86. Manage project-specific procurement process.	53.8%	10.8%	15.1%	13.3%	6.2%	0.8%	46.2%	865
87. Establish procedures for building commissioning.	69.6%	14.0%	11.9%	3.5%	1.0%	0.0%	30.4%	865

Total N = number of respondents

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Data Table D2. Percentage Distribution of Task Frequency Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	NOT PERFORMED	Performed					PERCENT PERFORMED	TOTAL N
		YEARLY	QUARTERLY	MONTHLY	WEEKLY	DAILY		
88. Manage post-occupancy issues, e.g., evaluation of building performance, warranty issues.	51.2%	27.7%	14.0%	5.0%	1.7%	0.3%	48.8%	865
89. Select design team consultants.	21.8%	18.2%	30.6%	24.0%	4.3%	1.0%	78.2%	865
90. Conduct periodic progress meetings with design and project team.	11.4%	5.3%	14.9%	35.5%	31.7%	1.2%	88.6%	865
91. Participate in pre-construction, pre-installation and regular progress meetings with design team.	16.0%	8.1%	20.0%	34.0%	20.6%	1.4%	84.0%	865
92. Secure insurance policies related to general, automobile, workers' compensation, and professional liability.	50.2%	39.8%	6.6%	2.9%	0.5%	0.1%	49.8%	865
93. Develop strategies to control risk and manage liability.	34.8%	29.2%	19.1%	11.0%	3.0%	2.9%	65.2%	865
94. Determine billing rates.	35.3%	39.8%	14.0%	7.4%	3.0%	0.6%	64.7%	865
95. Develop business plan for firm.	49.2%	41.0%	6.2%	2.4%	0.9%	0.1%	50.8%	865
96. Develop and maintain effective and productive relationships with clients.	9.5%	5.3%	9.8%	18.4%	25.2%	31.8%	90.5%	865
97. Develop procedures for responding to changes in project scope.	21.5%	20.8%	21.0%	22.8%	11.1%	2.8%	78.5%	865
98. Develop procedures for responding to contractor requests (Requests for Information).	23.6%	24.4%	18.0%	13.8%	13.6%	6.6%	76.4%	865
99. Develop strategies for responding to Owner requests for proposal (Requests for Proposal, Requests for Qualifications).	28.0%	23.2%	23.4%	15.1%	8.6%	1.7%	72.0%	865
100. Review local, state, and federal codes for changes that may impact design and construction.	11.0%	26.5%	28.4%	22.0%	8.0%	4.2%	89.0%	865
101. Make staff assignments based on knowledge and skill of staff members.	36.8%	6.7%	12.8%	19.7%	18.8%	5.2%	63.2%	865
102. Evaluate staff time and production costs for compliance with established goals.	39.1%	7.9%	13.4%	24.0%	14.1%	1.5%	60.9%	865
103. Understand firm's legal structure to comply with jurisdictional rules and regulations.	40.7%	40.7%	11.0%	4.3%	2.0%	1.4%	59.3%	865
104. Understand implications of evolving sustainable design strategies and technologies.	26.7%	24.3%	25.3%	17.3%	4.3%	2.1%	73.3%	865
105. Understand implications of project delivery methods.	21.5%	25.5%	27.4%	18.5%	5.4%	1.6%	78.5%	865
106. Adhere to ethical standards and codes of professional conduct.	4.7%	6.9%	5.2%	5.9%	6.5%	70.8%	95.3%	865
107. Comply with laws and regulations governing the practice of architecture.	5.4%	8.2%	4.7%	6.4%	6.1%	69.1%	94.6%	865
108. Evaluate appropriateness of building information modeling (BIM) for proposed project.	49.5%	10.9%	19.9%	12.3%	5.1%	2.4%	50.5%	865
109. Understand implications of policies and procedures to ensure supervision of design work by architect in responsible charge/control.	26.1%	13.1%	11.4%	14.5%	13.6%	21.3%	73.9%	865
110. Monitor performance of design team consultants.	11.0%	5.8%	11.9%	31.1%	33.1%	7.2%	89.0%	865
MEAN	28.4%	16.2%	20.4%	19.0%	11.0%	5.0%	71.6%	865
MIN	4.7%	3.5%	4.7%	2.4%	0.5%	0.0%	30.3%	864
MAX	69.7%	41.0%	34.9%	49.7%	33.8%	70.8%	95.3%	865

Total N = number of respondents

Data Table D3. Percentage Distribution of Task Importance Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	Task Importance					MEAN IMP.	SD IMP	PERCENT IMP.	TOTAL N
	0	1	2	3	4				
	OF LITTLE OR NO IMP.	SOMEWHAT IMP.	IMP.	VERY IMP.	CRITICALLY IMP.				
1. Gather information about client's vision, goals, budget, and schedule to validate project scope and program.	1.3%	4.6%	13.2%	29.6%	51.3%	3.25	0.94	94.1%	865
2. Prepare design alternatives for client review.	0.2%	3.7%	19.3%	41.6%	35.1%	3.08	0.84	96.1%	865
3. Establish methods for Architect-Client communication based on project scope of work.	2.9%	8.4%	27.2%	34.5%	27.1%	2.74	1.04	88.7%	865
4. Assist client in determining delivery method for construction of project.	3.1%	15.6%	37.2%	30.8%	13.3%	2.35	1.00	81.3%	865
5. Determine impact of applicable zoning and development ordinances to determine project constraints.	1.0%	3.9%	16.5%	31.0%	47.5%	3.20	0.92	95.0%	865
6. Define roles and responsibilities of team members.	4.5%	15.1%	32.1%	33.1%	15.1%	2.39	1.06	80.3%	865
7. Determine scope of services.	1.7%	5.2%	17.8%	36.8%	38.5%	3.05	0.96	93.1%	865
8. Determine design fees.	3.2%	6.1%	18.3%	34.7%	37.7%	2.97	1.05	90.6%	865
9. Determine project schedule.	1.7%	7.6%	28.7%	41.0%	20.9%	2.72	0.94	90.6%	865
10. Evaluate results of feasibility studies to determine project's financial viability.	7.6%	26.2%	30.2%	22.9%	13.1%	2.08	1.15	66.1%	865
11. Evaluate results of feasibility studies to determine project's technical viability.	5.1%	16.6%	32.9%	29.8%	15.5%	2.34	1.08	78.3%	865
12. Determine impact of existing utilities infrastructure on site.	3.5%	15.3%	34.3%	32.5%	14.5%	2.39	1.02	81.3%	865
13. Determine impact of existing transportation infrastructure on site.	14.6%	32.4%	34.5%	14.3%	4.3%	1.61	1.04	53.1%	865
14. Assess environmental impact of design decisions.	6.8%	16.1%	35.6%	31.0%	10.5%	2.22	1.06	77.1%	865
15. Determine impact of environmental, zoning and other regulations on site.	2.3%	8.3%	25.8%	35.8%	27.7%	2.78	1.02	89.4%	865
16. Assess socio-cultural context of the proposed site.	23.9%	35.1%	27.4%	10.6%	2.9%	1.33	1.04	40.9%	865
17. Define requirements for site survey based on established project scope.	3.1%	18.3%	35.7%	29.7%	13.2%	2.32	1.02	78.6%	865
18. Analyze existing site conditions to determine impact on facility layout.	1.2%	6.1%	22.8%	42.4%	27.5%	2.89	0.92	92.7%	865
19. Consider recommendations from geotechnical studies when establishing design parameters.	3.9%	11.7%	31.0%	32.0%	21.4%	2.55	1.07	84.4%	865
20. Develop sustainability goals based on existing site environmental conditions.	8.7%	23.0%	36.3%	25.3%	6.7%	1.98	1.05	68.3%	865
21. Establish sustainability goals affecting building performance.	7.2%	20.9%	32.3%	30.6%	9.0%	2.13	1.07	71.9%	865
22. Consider results of environmental impact studies when developing site.	6.9%	20.2%	38.3%	25.3%	9.2%	2.10	1.05	72.8%	865
23. Develop mitigation options to address adverse site conditions.	7.9%	23.9%	33.8%	24.9%	9.6%	2.04	1.09	68.2%	865
24. Review legal documents related to site to determine project constraints.	5.9%	15.5%	28.9%	31.4%	18.3%	2.41	1.13	78.6%	865
25. Perform building code analysis.	0.3%	0.9%	7.5%	26.0%	65.2%	3.55	0.70	98.7%	865
26. Communicate design ideas to the client graphically.	0.7%	1.4%	11.1%	45.7%	41.2%	3.25	0.76	97.9%	865
27. Communicate design ideas to the client using hand drawings.	7.4%	15.8%	26.2%	33.8%	16.8%	2.37	1.15	76.8%	865
28. Communicate design ideas to client with two-dimensional (2-D) computer aided design software.	3.9%	8.0%	26.0%	39.7%	22.4%	2.69	1.03	88.1%	865
29. Communicate design ideas to client with three-dimensional (3-D) computer aided design software.	6.6%	16.3%	29.1%	33.4%	14.6%	2.33	1.11	77.1%	865

Total N = number of respondents

CONTINUED

Data Table D3. Percentage Distribution of Task Importance Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	Task Importance					MEAN IMP.	SD IMP	PERCENT IMP.	TOTAL N
	0	1	2	3	4				
	OF LITTLE OR NO IMP.	SOMEWHAT IMP.	IMP.	VERY IMP.	CRITICALLY IMP.				
30. Determine design parameters for building systems.	1.8%	7.7%	35.4%	37.9%	17.1%	2.61	0.92	90.4%	865
31. Prepare submittals for regulatory approval.	2.2%	6.9%	20.9%	37.0%	32.9%	2.92	1.00	90.9%	865
32. Evaluate opportunities and constraints of alternative sites.	8.4%	21.3%	38.4%	25.9%	6.0%	2.00	1.03	70.3%	865
33. Gather information about community concerns and issues that may impact proposed project.	9.1%	31.0%	34.6%	19.0%	6.4%	1.82	1.04	59.9%	865
34. Assist Owner in preparing building program including list of spaces and their characteristics.	1.5%	6.1%	25.7%	40.1%	26.6%	2.84	0.94	92.4%	865
35. Establish project design goals.	1.7%	4.5%	29.7%	38.6%	25.4%	2.82	0.92	93.8%	865
36. Prepare site analysis diagrams to document existing conditions, features, infrastructure, and regulatory requirements.	3.4%	12.8%	32.6%	34.6%	16.6%	2.48	1.02	83.8%	865
37. Prepare diagrams illustrating spatial relationships and functional adjacencies.	3.9%	12.0%	30.2%	37.0%	16.9%	2.51	1.03	84.0%	865
38. Submit schedule of Architect's services to Owner for each phase.	5.3%	16.6%	29.8%	33.6%	14.6%	2.35	1.08	78.0%	865
39. Prepare code analysis documentation.	1.8%	4.6%	18.4%	37.0%	38.2%	3.05	0.96	93.5%	865
40. Select technologies to develop and produce design and construction documentation.	8.8%	20.7%	33.3%	26.7%	10.5%	2.09	1.11	70.5%	865
41. Coordinate documentation of design team members.	2.2%	5.7%	20.6%	36.1%	35.5%	2.97	0.99	92.1%	865
42. Manage project close-out procedures and documentation.	3.0%	14.3%	32.9%	36.3%	13.4%	2.43	0.99	82.7%	865
43. Perform quality control reviews throughout the documentation process.	2.9%	8.1%	23.0%	36.6%	29.4%	2.82	1.04	89.0%	865
44. Prepare Cost of Work estimates.	7.7%	18.7%	33.8%	28.8%	11.0%	2.17	1.09	73.5%	865
45. Update Cost of Work estimates.	9.2%	21.7%	34.3%	25.8%	8.9%	2.03	1.10	69.0%	865
46. Design building structural system.	13.6%	23.7%	26.7%	22.4%	13.5%	1.98	1.24	62.7%	865
47. Design civil components of site.	17.6%	29.4%	29.9%	17.1%	6.0%	1.65	1.13	53.1%	865
48. Design mechanical, electrical and plumbing systems.	17.7%	31.1%	25.7%	17.6%	8.0%	1.67	1.19	51.2%	865
49. Design landscape elements for site.	15.7%	38.7%	32.1%	10.5%	2.9%	1.46	0.97	45.5%	865
50. Oversee design integration of building components and systems.	2.3%	4.7%	23.0%	37.2%	32.7%	2.93	0.98	92.9%	865
51. Select materials, finishes and systems based on technical properties and aesthetic requirements.	1.0%	4.3%	24.6%	46.5%	23.6%	2.87	0.86	94.7%	865
52. Select building performance modeling technologies to guide building design.	18.3%	31.8%	33.2%	13.1%	3.7%	1.52	1.05	49.9%	865
53. Prepare life cycle cost analysis.	20.0%	38.8%	28.1%	11.1%	2.0%	1.36	0.99	41.2%	865
54. Perform constructability review to determine ability to procure, sequence construction, and build proposed project.	13.8%	30.2%	30.1%	18.4%	7.6%	1.76	1.13	56.1%	865
55. Prepare final procurement and contract documents.	3.1%	7.2%	22.7%	32.6%	34.5%	2.88	1.06	89.7%	865
56. Determine specific insurance requirements to meet contract or business needs.	15.1%	26.4%	31.3%	17.9%	9.2%	1.80	1.17	58.5%	865
57. Review results from field reports, third-party inspections, and other test results for conformance with contract documents.	2.8%	15.5%	34.2%	33.3%	14.2%	2.41	1.00	81.7%	865
58. Manage modifications to the construction contract.	3.0%	14.0%	29.6%	36.1%	17.3%	2.51	1.03	83.0%	865
59. Assist Owner in preparing Owner-Contractor Agreement.	7.6%	19.4%	35.4%	25.8%	11.8%	2.15	1.10	72.9%	865

Total N = number of respondents

CONTINUED

Data Table D3. Percentage Distribution of Task Importance Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	Task Importance					MEAN IMP.	SD IMP	PERCENT IMP.	TOTAL N
	0	1	2	3	4				
	OF LITTLE OR NO IMP.	SOMEWHAT IMP.	IMP.	VERY IMP.	CRITICALLY IMP.				
60. Respond to Contractor Requests for Information.	0.9%	3.4%	20.1%	46.5%	29.1%	3.00	0.84	95.7%	865
61. Prepare proposals for services in response to client requirements.	2.7%	7.5%	28.8%	39.2%	21.8%	2.70	0.98	89.8%	865
62. Prepare Owner-Architect agreement.	3.1%	5.2%	21.3%	33.2%	37.2%	2.96	1.04	91.7%	865
63. Prepare Architect-Consultant agreement.	5.3%	9.6%	27.9%	34.8%	22.4%	2.59	1.10	85.1%	865
64. Negotiate terms and conditions outlined in Owner-Architect Agreement.	4.2%	9.7%	26.2%	33.8%	26.1%	2.68	1.09	86.1%	865
65. Apply principles of historic preservation for projects involving building restoration or renovation.	10.2%	24.7%	35.7%	23.7%	5.7%	1.90	1.05	65.1%	865
66. Collaborate with stakeholders during design process to maintain design intent and comply with Owner requirements.	5.1%	13.3%	29.1%	35.3%	17.2%	2.46	1.08	81.6%	865
67. Coordinate design work of consultants.	0.8%	2.0%	14.1%	42.1%	41.0%	3.21	0.81	97.2%	865
68. Select furniture, fixtures and equipment that meet client's design requirements and needs.	11.4%	24.7%	35.1%	22.9%	5.8%	1.87	1.07	63.8%	865
69. Negotiate terms and conditions of services outlined in Architect-Consultant Agreement.	5.5%	15.6%	33.4%	30.2%	15.3%	2.34	1.08	78.8%	865
70.Establish financial controls within firm to monitor profitability of individual projects.	7.3%	14.1%	29.1%	27.2%	22.3%	2.43	1.19	78.6%	865
71. Prepare staffing plan to meet project goals.	8.8%	14.3%	30.4%	30.8%	15.7%	2.30	1.16	76.9%	865
72. Establish procedures for documenting project decisions.	5.8%	14.2%	29.4%	31.8%	18.8%	2.44	1.12	80.0%	865
73. Monitor project schedule to maintain compliance with established milestones.	2.5%	9.4%	32.0%	39.3%	16.8%	2.58	0.96	88.1%	865
74. Evaluate staffing plan to ensure compliance with established milestones.	9.1%	17.7%	34.2%	27.9%	11.1%	2.14	1.12	73.2%	865
75. Manage client expectations to align with established milestones and final decision points.	4.2%	8.8%	30.6%	35.3%	21.2%	2.60	1.04	87.1%	865
76. Assist client in selecting contractors.	3.6%	19.1%	36.3%	31.4%	9.6%	2.24	0.99	77.3%	865
77. Manage implementation of sustainability criteria.	13.2%	24.5%	36.4%	20.6%	5.3%	1.80	1.07	62.3%	865
78. Identify changes in project scope that require additional services.	1.5%	7.2%	33.3%	39.2%	18.8%	2.67	0.91	91.3%	865
79. Assist Owner in obtaining necessary permits and approvals.	1.7%	11.0%	28.0%	36.3%	22.9%	2.68	1.00	87.3%	864
80. Coordinate testing of building performance and materials.	16.8%	31.1%	34.0%	13.9%	4.3%	1.58	1.06	52.1%	865
81. Review Application and Certificate for Payment.	3.2%	10.9%	31.7%	37.9%	16.3%	2.53	0.99	85.9%	865
82. Review shop drawings and submittals during construction for conformance with design intent.	1.2%	4.7%	20.7%	43.6%	29.8%	2.96	0.89	94.1%	865
83. Complete field reports to document field observations from site visit.	1.5%	9.4%	33.6%	39.1%	16.4%	2.60	0.92	89.1%	865
84. Manage information exchange during construction.	2.1%	8.3%	32.3%	36.6%	20.7%	2.66	0.97	89.6%	865
85. Resolve conflicts that may arise during design and construction process.	0.9%	3.9%	22.3%	40.7%	32.1%	2.99	0.89	95.1%	865
86. Manage project-specific procurement process.	19.2%	28.8%	34.5%	13.4%	4.2%	1.55	1.07	52.0%	865
87. Establish procedures for building commissioning.	24.0%	34.8%	28.9%	9.7%	2.5%	1.32	1.02	41.2%	865
88. Manage post-occupancy issues, e.g., evaluation of building performance, warranty issues.	15.0%	35.4%	32.3%	12.9%	4.4%	1.56	1.03	49.6%	865

Total N = number of respondents

CONTINUED

Data Table D3. Percentage Distribution of Task Importance Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	Task Importance					MEAN IMP.	SD IMP	PERCENT IMP.	TOTAL N
	0	1	2	3	4				
	OF LITTLE OR NO IMP.	SOMEWHAT IMP.	IMP.	VERY IMP.	CRITICALLY IMP.				
89. Select design team consultants.	2.8%	9.9%	29.0%	38.6%	19.7%	2.62	1.00	87.3%	865
90. Conduct periodic progress meetings with design and project team.	1.3%	6.2%	32.8%	41.4%	18.3%	2.69	0.88	92.5%	865
91. Participate in pre-construction, pre-installation and regular progress meetings with design team.	2.0%	9.9%	37.9%	35.7%	14.5%	2.51	0.93	88.1%	865
92. Secure insurance policies related to general, automobile, workers' compensation, and professional liability.	15.7%	23.9%	30.2%	17.7%	12.5%	1.87	1.24	60.3%	865
93. Develop strategies to control risk and manage liability.	6.8%	16.6%	31.0%	27.4%	18.2%	2.33	1.15	76.5%	865
94. Determine billing rates.	5.9%	12.6%	31.6%	33.1%	16.9%	2.42	1.09	81.5%	865
95. Develop business plan for firm.	9.2%	15.6%	28.6%	29.9%	16.6%	2.29	1.19	75.1%	865
96. Develop and maintain effective and productive relationships with clients.	1.2%	2.1%	12.4%	31.6%	52.8%	3.33	0.86	96.8%	865
97. Develop procedures for responding to changes in project scope.	2.1%	10.8%	36.4%	36.3%	14.5%	2.50	0.94	87.2%	865
98. Develop procedures for responding to contractor requests (Requests for Information).	3.2%	11.9%	35.8%	33.2%	15.8%	2.46	1.00	84.9%	865
99. Develop strategies for responding to Owner requests for proposal (Requests for Proposal, Requests for Qualifications).	4.3%	12.9%	34.2%	32.5%	16.1%	2.43	1.04	82.8%	865
100. Review local, state, and federal codes for changes that may impact design and construction.	1.5%	6.6%	26.6%	33.9%	31.4%	2.87	0.98	91.9%	865
101. Make staff assignments based on knowledge and skill of staff members.	7.7%	10.8%	32.1%	34.5%	14.9%	2.38	1.10	81.5%	865
102. Evaluate staff time and production costs for compliance with established goals.	8.3%	15.1%	35.3%	29.0%	12.3%	2.22	1.10	76.5%	865
103. Understand firm's legal structure to comply with jurisdictional rules and regulations.	9.2%	18.7%	33.4%	22.2%	16.4%	2.18	1.19	72.0%	865
104. Understand implications of evolving sustainable design strategies and technologies.	10.6%	21.6%	37.6%	24.4%	5.8%	1.93	1.06	67.7%	865
105. Understand implications of project delivery methods.	4.6%	19.0%	37.1%	30.8%	8.6%	2.20	0.99	76.4%	865
106. Adhere to ethical standards and codes of professional conduct.	0.9%	2.4%	9.6%	23.9%	63.1%	3.46	0.84	96.6%	865
107. Comply with laws and regulations governing the practice of architecture.	1.2%	1.7%	10.1%	19.8%	67.3%	3.50	0.83	97.1%	865
108. Evaluate appropriateness of building information modeling (BIM) for proposed project.	16.0%	26.4%	34.7%	17.9%	5.1%	1.70	1.09	57.7%	865
109. Understand implications of policies and procedures to ensure supervision of design work by architect in responsible charge/control.	4.7%	10.2%	28.8%	28.4%	27.9%	2.65	1.13	85.1%	865
110. Monitor performance of design team consultants.	1.4%	4.6%	28.6%	47.4%	18.0%	2.76	0.85	94.0%	865
MEAN	6.2%	14.8%	29.0%	30.5%	19.5%	2.42	1.02	79.0%	865
MIN	0.2%	0.9%	7.5%	9.7%	2.0%	1.32	0.70	40.9%	864
MAX	24.0%	38.8%	38.4%	47.4%	67.3%	3.55	1.24	98.7%	865

Total N = number of respondents

Data Table D4. Summary Statistics of Task Importance and Task Frequency Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	MEAN IMP.	SD IMP.	PERCENT PERFORMED	TOTAL N
1. Gather information about client's vision, goals, budget, and schedule to validate project scope and program.	3.25	0.94	89.6%	865
2. Prepare design alternatives for client review.	3.08	0.84	90.6%	865
3. Establish methods for Architect-Client communication based on project scope of work.	2.74	1.04	86.7%	865
4. Assist client in determining delivery method for construction of project.	2.35	1.00	79.1%	865
5. Determine impact of applicable zoning and development ordinances to determine project constraints.	3.20	0.92	87.3%	865
6. Define roles and responsibilities of team members.	2.39	1.06	82.5%	865
7. Determine scope of services.	3.05	0.96	87.2%	865
8. Determine design fees.	2.97	1.05	79.8%	865
9. Determine project schedule.	2.72	0.94	88.2%	865
10. Evaluate results of feasibility studies to determine project's financial viability.	2.08	1.15	61.5%	865
11. Evaluate results of feasibility studies to determine project's technical viability.	2.34	1.08	67.9%	865
12. Determine impact of existing utilities infrastructure on site.	2.39	1.02	82.1%	865
13. Determine impact of existing transportation infrastructure on site.	1.61	1.04	56.4%	865
14. Assess environmental impact of design decisions.	2.22	1.06	74.8%	865
15. Determine impact of environmental, zoning and other regulations on site.	2.78	1.02	84.9%	865
16. Assess socio-cultural context of the proposed site.	1.33	1.04	40.5%	865
17. Define requirements for site survey based on established project scope.	2.32	1.02	78.0%	865
18. Analyze existing site conditions to determine impact on facility layout.	2.89	0.92	87.7%	865
19. Consider recommendations from geotechnical studies when establishing design parameters.	2.55	1.07	78.0%	865
20. Develop sustainability goals based on existing site environmental conditions.	1.98	1.05	64.4%	865
21. Establish sustainability goals affecting building performance.	2.13	1.07	70.5%	865
22. Consider results of environmental impact studies when developing site.	2.10	1.05	55.7%	865
23. Develop mitigation options to address adverse site conditions.	2.04	1.09	57.7%	865
24. Review legal documents related to site to determine project constraints.	2.41	1.13	66.5%	865
25. Perform building code analysis.	3.55	0.70	91.8%	865
26. Communicate design ideas to the client graphically.	3.25	0.76	92.0%	865
27. Communicate design ideas to the client using hand drawings.	2.37	1.15	82.4%	865
28. Communicate design ideas to client with two-dimensional (2-D) computer aided design software.	2.69	1.03	81.6%	865
29. Communicate design ideas to client with three-dimensional (3-D) computer aided design software.	2.33	1.11	68.4%	865
30. Determine design parameters for building systems.	2.61	0.92	83.4%	865
31. Prepare submittals for regulatory approval.	2.92	1.00	84.2%	865
32. Evaluate opportunities and constraints of alternative sites.	2.00	1.03	59.2%	865
33. Gather information about community concerns and issues that may impact proposed project.	1.82	1.04	53.4%	865
34. Assist Owner in preparing building program including list of spaces and their characteristics.	2.84	0.94	81.5%	865
35. Establish project design goals.	2.82	0.92	86.5%	865
36. Prepare site analysis diagrams to document existing conditions, features, infrastructure, and regulatory requirements.	2.48	1.02	72.9%	865
37. Prepare diagrams illustrating spatial relationships and functional adjacencies.	2.51	1.03	77.1%	865
38. Submit schedule of Architect's services to Owner for each phase.	2.35	1.08	65.9%	865

Total N = number of respondents

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Data Table D4. Summary Statistics of Task Importance and Task Frequency Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	MEAN IMP.	SD IMP.	PERCENT PERFORMED	TOTAL N
39. Prepare code analysis documentation.	3.05	0.96	86.5%	865
40. Select technologies to develop and produce design and construction documentation.	2.09	1.11	68.8%	865
41. Coordinate documentation of design team members.	2.97	0.99	85.9%	865
42. Manage project close-out procedures and documentation.	2.43	0.99	78.2%	865
43. Perform quality control reviews throughout the documentation process.	2.82	1.04	83.0%	865
44. Prepare Cost of Work estimates.	2.17	1.09	66.5%	865
45. Update Cost of Work estimates.	2.03	1.10	63.6%	865
46. Design building structural system.	1.98	1.24	44.5%	865
47. Design civil components of site.	1.65	1.13	42.3%	865
48. Design mechanical, electrical and plumbing systems.	1.67	1.19	38.5%	865
49. Design landscape elements for site.	1.46	0.97	53.1%	865
50. Oversee design integration of building components and systems.	2.93	0.98	85.7%	865
51. Select materials, finishes and systems based on technical properties and aesthetic requirements.	2.87	0.86	90.4%	865
52. Select building performance modeling technologies to guide building design.	1.52	1.05	37.8%	865
53. Prepare life cycle cost analysis.	1.36	0.99	30.3%	865
54. Perform constructability review to determine ability to procure, sequence construction, and build proposed project.	1.76	1.13	51.2%	865
55. Prepare final procurement and contract documents.	2.88	1.06	79.2%	865
56. Determine specific insurance requirements to meet contract or business needs.	1.80	1.17	48.9%	865
57. Review results from field reports, third-party inspections, and other test results for conformance with contract documents.	2.41	1.00	80.6%	865
58. Manage modifications to the construction contract.	2.51	1.03	74.7%	865
59. Assist Owner in preparing Owner-Contractor Agreement.	2.15	1.10	61.4%	865
60. Respond to Contractor Requests for Information.	3.00	0.84	89.9%	865
61. Prepare proposals for services in response to client requirements.	2.70	0.98	80.7%	865
62. Prepare Owner-Architect agreement.	2.96	1.04	71.8%	865
63. Prepare Architect-Consultant agreement.	2.59	1.10	65.3%	865
64. Negotiate terms and conditions outlined in Owner-Architect Agreement.	2.68	1.09	65.3%	865
65. Apply principles of historic preservation for projects involving building restoration or renovation.	1.90	1.05	46.6%	865
66. Collaborate with stakeholders during design process to maintain design intent and comply with Owner requirements.	2.46	1.08	73.6%	865
67. Coordinate design work of consultants.	3.21	0.81	90.8%	865
68. Select furniture, fixtures and equipment that meet client's design requirements and needs.	1.87	1.07	63.8%	865
69. Negotiate terms and conditions of services outlined in Architect-Consultant Agreement.	2.34	1.08	61.3%	865
70. Establish financial controls within firm to monitor profitability of individual projects.	2.43	1.19	57.8%	865
71. Prepare staffing plan to meet project goals.	2.30	1.16	63.2%	865
72. Establish procedures for documenting project decisions.	2.44	1.12	76.0%	865
73. Monitor project schedule to maintain compliance with established milestones.	2.58	0.96	86.4%	865
74. Evaluate staffing plan to ensure compliance with established milestones.	2.14	1.12	61.3%	865
75. Manage client expectations to align with established milestones and final decision points.	2.60	1.04	81.8%	865
76. Assist client in selecting contractors.	2.24	0.99	76.4%	865

Total N = number of respondents

CONTINUED

Data Table D4. Summary Statistics of Task Importance and Task Frequency Ratings

Survey Population: All Licensed Architects

TASK STATEMENT	MEAN IMP.	SD IMP.	PERCENT PERFORMED	TOTAL N
77. Manage implementation of sustainability criteria.	1.80	1.07	56.0%	865
78. Identify changes in project scope that require additional services.	2.67	0.91	86.6%	865
79. Assist Owner in obtaining necessary permits and approvals.	2.68	1.00	82.9%	864
80. Coordinate testing of building performance and materials.	1.58	1.06	44.0%	865
81. Review Application and Certificate for Payment.	2.53	0.99	75.5%	865
82. Review shop drawings and submittals during construction for conformance with design intent.	2.96	0.89	86.8%	865
83. Complete field reports to document field observations from site visit.	2.60	0.92	80.1%	865
84. Manage information exchange during construction.	2.66	0.97	82.1%	865
85. Resolve conflicts that may arise during design and construction process.	2.99	0.89	88.2%	865
86. Manage project-specific procurement process.	1.55	1.07	46.2%	865
87. Establish procedures for building commissioning.	1.32	1.02	30.4%	865
88. Manage post-occupancy issues, e.g., evaluation of building performance, warranty issues.	1.56	1.03	48.8%	865
89. Select design team consultants.	2.62	1.00	78.2%	865
90. Conduct periodic progress meetings with design and project team.	2.69	0.88	88.6%	865
91. Participate in pre-construction, pre-installation and regular progress meetings with design team.	2.51	0.93	84.0%	865
92. Secure insurance policies related to general, automobile, workers' compensation, and professional liability.	1.87	1.24	49.8%	865
93. Develop strategies to control risk and manage liability.	2.33	1.15	65.2%	865
94. Determine billing rates.	2.42	1.09	64.7%	865
95. Develop business plan for firm.	2.29	1.19	50.8%	865
96. Develop and maintain effective and productive relationships with clients.	3.33	0.86	90.5%	865
97. Develop procedures for responding to changes in project scope.	2.50	0.94	78.5%	865
98. Develop procedures for responding to contractor requests (Requests for Information).	2.46	1.00	76.4%	865
99. Develop strategies for responding to Owner requests for proposal (Requests for Proposal, Requests for Qualifications).	2.43	1.04	72.0%	865
100. Review local, state, and federal codes for changes that may impact design and construction.	2.87	0.98	89.0%	865
101. Make staff assignments based on knowledge and skill of staff members.	2.38	1.10	63.2%	865
102. Evaluate staff time and production costs for compliance with established goals.	2.22	1.10	60.9%	865
103. Understand firm's legal structure to comply with jurisdictional rules and regulations.	2.18	1.19	59.3%	865
104. Understand implications of evolving sustainable design strategies and technologies.	1.93	1.06	73.3%	865
105. Understand implications of project delivery methods.	2.20	0.99	78.5%	865
106. Adhere to ethical standards and codes of professional conduct.	3.46	0.84	95.3%	865
107. Comply with laws and regulations governing the practice of architecture.	3.50	0.83	94.6%	865
108. Evaluate appropriateness of building information modeling (BIM) for proposed project.	1.70	1.09	50.5%	865
109. Understand implications of policies and procedures to ensure supervision of design work by architect in responsible charge/control.	2.65	1.13	73.9%	865
110. Monitor performance of design team consultants.	2.76	0.85	89.0%	865
MEAN	2.42	1.02	71.6%	865
MIN	1.32	0.70	30.3%	864
MAX	3.55	1.24	95.3%	865

Total N = number of respondents

Data Table D5. List of all ARE Survey Knowledge/Skill Statements

K/S #	KNOWLEDGE/SKILL STATEMENT
	Knowledge of oral, written, and visual presentation techniques to communicate project information.
	Knowledge of master plans and their impact on building design.
	Knowledge of method for project controls, e.g., scope of services, budget, billing, compensation.
	Knowledge of factors that affect selection of project consultants.
	Knowledge of strategies for delegating and monitoring task assignments, accountability and deadlines for project team.
	Knowledge of client and project characteristics that influence contract agreements.
	Knowledge of types of contracts and their designated use.
	Knowledge of standard forms of architectural service agreements for Owner-Architect, Architect-Consultant and Owner-Contractor.
	Knowledge of effects of specific findings from feasibility studies on building design.
	Knowledge of factors involved in selection of building systems and components.
	Knowledge of effect of environmental factors on site development.
	Knowledge of environmental policies and regulations and their implications for proposed construction.
	Knowledge of processes involved in conducting a survey of existing conditions.
	Knowledge of effects of specific findings from environmental impact studies on building design.
	Skill in designing facility layout and site plan that responds to site constraints.
	Knowledge of methods required to mitigate adverse site conditions.
	Knowledge of elements of and processes for conducting a site analysis.
	Knowledge of codes of professional conduct related to architectural practice.
	Knowledge of protocols and procedures for conducting a code analysis.
	Knowledge of building codes and their impact on building design.
	Knowledge of land use codes and ordinances that govern land use decisions.
	Skill in producing hand drawings of design ideas.
	Knowledge of standards for graphic symbols and units of measurement in technical drawings.
	Skill in producing two-dimensional (2-D) drawings using hand methods.
	Skill in using software to produce two-dimensional (2-D) drawings.
	Skill in using software to produce three-dimensional (3-D) models of building design.

K/S #	KNOWLEDGE/SKILL STATEMENT
	Skill in producing physical scale models.
	Skill in use of building information modeling (BIM) to develop and manage databases of building and construction information.
	Knowledge of protocols and procedures for obtaining community input for proposed design.
	Knowledge of computer aided design and drafting software for producing two-dimensional (2-D) drawings.
	Knowledge of factors involved in selecting computer based design technologies.
	Knowledge of engineering properties of soils and their effect on building foundations and building design.
	Knowledge of factors to be considered in adaptive reuse of existing buildings.
	Knowledge of building technologies which provide solutions for comfort, life safety and energy efficiency.
	Knowledge of effect of thermal envelope in design of building systems.
	Knowledge of principles of integrated project design.
	Knowledge of strategies for anticipating, managing and preventing disputes and conflicts.
	Knowledge of engineering principles and their application to design and construction.
	Knowledge of properties of concrete products, materials, assemblies and their impact on building design and construction.
	Knowledge of properties of stone and masonry products, materials, assemblies and their impact on building design and construction.
	Knowledge of properties of metal products, materials, assemblies and their impact on building design and construction.
	Knowledge of properties of wood and wood products, materials, assemblies and their impact on building design and construction.
	Knowledge of properties of glass products, materials, assemblies and their impact on building design and construction.
	Knowledge of means and methods for building construction.
	Knowledge of benefits and limitations of "fast track" or other forms of construction delivery methods.
	Knowledge of methods and techniques for estimating construction costs.
	Knowledge of structural load and load conditions that affect building design.
	Knowledge of energy codes that impact construction.
	Knowledge of methods and strategies for evidence based design (EBD).
	Knowledge of impact of design on human behavior.
	Knowledge of functional requirements of heating, ventilation and air conditioning (HVAC) systems.

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Data Table D5. List of all ARE Survey Knowledge/Skill Statements

K/S #	KNOWLEDGE/SKILL STATEMENT
	Knowledge of functional requirements of plumbing systems.
	Knowledge of functional requirements of electrical systems.
	Knowledge of functional requirements of special systems.
	Knowledge of functional requirements of conveying systems.
	Knowledge of functional requirements of structural systems.
	Knowledge of functional requirements of roofing systems.
	Knowledge of functional requirements of fire suppression systems.
	Knowledge of functional requirements of communications systems.
	Knowledge of functional requirements of electronic safety and security systems.
	Knowledge of functional requirements of door and window systems.
	Knowledge of functional requirements for thermal and moisture control systems.
	Knowledge of hazardous materials mitigation at building site.
	Knowledge of principles of building operation and function.
	Knowledge of content and format of specifications.
	Knowledge of principles of interior design and their influences on building design.
	Knowledge of principles of landscape design and their influences on building design.
	Knowledge of site design principles and practices.
	Knowledge of techniques for architectural programming to identify functional and operational requirements of scope of work.
	Knowledge of procedures to develop project scheduling, phasing and deliverables for various building types.
	Knowledge of relationship between constructability and aesthetics.
	Knowledge of accepted standards for building materials and methods of construction, e.g., ASTM, ANSI.
	Knowledge of methods to perform a life cycle cost analysis.
	Knowledge of principles of value analysis and value engineering processes.
	Knowledge of procedures and protocols of permit approval process.
	Knowledge of principles of historic preservation.
	Knowledge of processes and procedures for building commissioning.
	Knowledge of design factors to consider in selecting furniture, fixtures and equipment (FFE).
	Knowledge of methods and tools for space planning.

K/S #	KNOWLEDGE/SKILL STATEMENT
	Knowledge of different project delivery methods and their impacts on project schedule, costs and project goals.
	Knowledge of factors that impact construction management services.
	Knowledge of fee structures, their attributes and implications for schedule, scope and profit.
	Knowledge of consultant agreements and fee structures.
	Knowledge of different building and construction types and their implications for design and construction schedules.
	Knowledge of scheduling methods to establish project timeframes based on standard sequences of architectural services in each phase.
	Knowledge of business development strategies.
	Knowledge of relationship between staffing capabilities and hours, and internal project budget to meet established milestones and profitability.
	Knowledge of purposes and types of professional liability insurance related to architectural practice.
	Knowledge of format and protocols for efficient meeting management and information distribution.
	Knowledge of strategies to assess project progress and verify its alignment with project schedule.
	Knowledge of ways to translate project goals into specific tasks and measureable design criteria.
	Knowledge of effective communication techniques to educate client with respect to roles and responsibilities of all parties.
	Knowledge of formats and protocols to produce and distribute field reports to document construction progress.
	Knowledge of site requirements for a specific building type and scope to determine client's site needs.
	Knowledge of site analysis techniques to determine project parameters affecting design.
	Knowledge of methods to prioritize or objectively evaluate design options based on project goals.
	Knowledge of sustainability strategies and/or rating systems.
	Knowledge of sustainability considerations related to building materials and construction processes.
	Knowledge of techniques to integrate renewable energy systems into building design.
	Knowledge of methods to identify scope changes that may require additional services.
	Knowledge of procedures for processing requests for additional services.
	Knowledge of appropriate documentation level required for construction documents.
	Knowledge of close-out document requirements and protocols.

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Data Table D5. List of all ARE Survey Knowledge/Skill Statements

K/S #	KNOWLEDGE/SKILL STATEMENT
	Knowledge of construction document technologies and their standards and applications.
	Knowledge of building information modeling (BIM) and its impact on planning, financial management and construction documentation.
	Knowledge of principles of computer assisted design and drafting (CADD) software and its uses in communicating design ideas.
	Knowledge of American Institute of Architects (AIA) guidelines for contract agreements.
	Knowledge of techniques to integrate model contract forms and documents.
	Knowledge of benefits and limitations of software for construction documentation.
	Knowledge of methods for production of construction documentation and drawings.
	Knowledge of standard methods for production of design development documentation.
	Knowledge of standard methods for production of site plan documentation.
	Knowledge of circumstances warranting further actions based on field reports, third party inspections and test results.
	Knowledge of materials testing processes and protocols to be performed during the construction process.
	Knowledge of building systems testing processes and protocols to be performed during the construction process.
	Knowledge of formats and protocols to process shop drawings and submittals to ensure they meet design intent.
	Knowledge of protocols for responding to Requests for Information (RFI).

K/S #	KNOWLEDGE/SKILL STATEMENT
	Knowledge of roles, responsibilities and authorities of project team members during construction.
	Knowledge of conflict resolution techniques and their applications throughout project.
	Knowledge of bidding processes and protocols for different project delivery methods and their applications.
	Knowledge of requirements for post-occupancy evaluation.
	Knowledge of design decisions and their impact on constructability.
	Knowledge of methods to manage human resources.
	Knowledge of state board guidelines for licensing and professional practice.
	Knowledge of principles of universal design.
	Knowledge of purposes of and legal implications for different types of business entities.
	Knowledge of innovative and evolving technologies and their impact on architectural practice.
	Knowledge of ethical standards relevant to architectural practice.
	Knowledge of methods to facilitate information management in building design and construction.
	Knowledge of factors involved in conducting architectural practice in international markets.
	Knowledge of methods and procedures for risk management.
	Knowledge of financial planning methods to manage revenues, staffing, and overhead expenses.

Data Table D6. Percentage Distribution of Knowledge/Skill Importance Ratings

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	Knowledge/Skill Importance					MEAN IMP.	SD IMP.	PERCENT IMP.	TOTAL N
	0	1	2	3	4				
	OF LITTLE OR NO IMP.	SOMEWHAT IMP.	IMP.	VERY IMP.	CRITICALLY IMP.				
1. Knowledge of oral, written, and visual presentation techniques to communicate project information.	0.1%	Imp.	9.6%	34.1%	54.3%	3.40	0.75	97.9%	822
2. Knowledge of master plans and their impact on building design.	1.3%	10.7%	28.2%	37.1%	22.6%	2.69	0.98	88.0%	822
3. Knowledge of method for project controls, e.g., scope of services, budget, billing, compensation.	0.6%	4.0%	16.8%	34.1%	44.5%	3.18	0.89	95.4%	822
4. Knowledge of factors that affect selection of project consultants.	1.0%	7.9%	30.2%	40.4%	20.6%	2.72	0.91	91.1%	822
5. Knowledge of strategies for delegating and monitoring task assignments, accountability and deadlines for project team.	1.1%	8.8%	26.9%	42.6%	20.7%	2.73	0.92	90.1%	822
6. Knowledge of client and project characteristics that influence contract agreements.	1.1%	6.4%	22.1%	36.1%	34.2%	2.96	0.96	92.5%	822
7. Knowledge of types of contracts and their designated use.	1.0%	10.1%	28.0%	36.1%	24.8%	2.74	0.98	88.9%	822
8. Knowledge of standard forms of architectural service agreements for Owner-Architect, Architect-Consultant and Owner-Contractor.	1.1%	9.5%	27.3%	38.7%	23.5%	2.74	0.96	89.4%	822
9. Knowledge of effects of specific findings from feasibility studies on building design.	2.2%	12.5%	35.8%	34.7%	14.8%	2.47	0.96	85.3%	822
10. Knowledge of factors involved in selection of building systems and components.	0.1%	3.4%	21.2%	45.3%	30.0%	3.02	0.81	96.5%	822
11. Knowledge of effect of environmental factors on site development.	1.0%	5.2%	30.7%	44.3%	18.9%	2.75	0.85	93.8%	822
12. Knowledge of environmental policies and regulations and their implications for proposed construction.	1.6%	9.7%	33.1%	35.3%	20.3%	2.63	0.96	88.7%	822
13. Knowledge of processes involved in conducting a survey of existing conditions.	0.9%	7.2%	32.2%	35.9%	23.8%	2.75	0.93	92.0%	822
14. Knowledge of effects of specific findings from environmental impact studies on building design.	2.9%	12.3%	39.5%	30.8%	14.5%	2.42	0.98	84.8%	822
15. Skill in designing facility layout and site plan that responds to site constraints.	0.2%	2.1%	13.7%	41.1%	42.8%	3.24	0.78	97.7%	822
16. Knowledge of methods required to mitigate adverse site conditions.	0.5%	9.2%	38.8%	36.4%	15.1%	2.56	0.87	90.3%	822
17. Knowledge of elements of and processes for conducting a site analysis.	0.7%	9.2%	38.0%	37.7%	14.4%	2.56	0.87	90.0%	822
18. Knowledge of codes of professional conduct related to architectural practice.	0.4%	7.1%	23.7%	34.8%	34.1%	2.95	0.94	92.6%	822
19. Knowledge of protocols and procedures for conducting a code analysis.	0.2%	3.5%	17.0%	37.5%	41.7%	3.17	0.85	96.2%	822
20. Knowledge of building codes and their impact on building design.	0.0%	0.7%	7.5%	29.9%	61.8%	3.53	0.67	99.3%	822
21. Knowledge of land use codes and ordinances that govern land use decisions.	0.6%	7.8%	26.8%	35.2%	29.7%	2.86	0.95	91.6%	822
22. Skill in producing hand drawings of design ideas.	3.4%	19.2%	34.7%	28.8%	13.9%	2.31	1.04	77.4%	822
23. Knowledge of standards for graphic symbols and units of measurement in technical drawings.	0.2%	7.5%	25.3%	41.6%	25.3%	2.84	0.90	92.2%	822
24. Skill in producing two-dimensional (2-D) drawings using hand methods.	11.8%	22.6%	31.3%	22.3%	12.0%	2.00	1.19	65.6%	822
25. Skill in using software to produce two-dimensional (2-D) drawings.	0.9%	3.6%	22.1%	43.2%	30.2%	2.98	0.86	95.5%	822

Total N = number of respondents

CONTINUED

Data Table D6. Percentage Distribution of Knowledge/Skill Importance Ratings

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	Knowledge/Skill Importance					MEAN IMP.	SD IMP.	PERCENT IMP.	TOTAL N
	0	1	2	3	4				
	OF LITTLE OR NO IMP.	SOMEWHAT IMP.	IMP.	VERY IMP.	CRITICALLY IMP.				
26. Skill in using software to produce three-dimensional (3-D) models of building design.	3.2%	17.5%	31.4%	34.8%	13.1%	2.37	1.02	79.3%	822
27. Skill in producing physical scale models.	22.4%	40.1%	26.8%	8.5%	2.2%	1.28	0.98	37.5%	822
28. Skill in use of building information modeling (BIM) to develop and manage databases of building and construction information.	10.8%	24.3%	32.2%	23.6%	9.0%	1.96	1.13	64.8%	822
29. Knowledge of protocols and procedures for obtaining community input for proposed design.	4.7%	26.2%	38.7%	23.0%	7.4%	2.02	0.99	69.1%	822
30. Knowledge of computer aided design and drafting software for producing two-dimensional (2-D) drawings.	1.1%	6.0%	21.4%	38.9%	32.6%	2.96	0.94	92.9%	822
31. Knowledge of factors involved in selecting computer based design technologies.	4.9%	26.4%	39.2%	23.7%	5.8%	1.99	0.96	68.7%	822
32. Knowledge of engineering properties of soils and their effect on building foundations and building design.	1.7%	21.4%	38.6%	26.3%	12.0%	2.26	0.98	76.9%	822
33. Knowledge of factors to be considered in adaptive reuse of existing buildings.	1.3%	15.1%	39.2%	33.7%	10.7%	2.37	0.91	83.6%	822
34. Knowledge of building technologies which provide solutions for comfort, life safety and energy efficiency.	0.1%	3.6%	23.8%	43.9%	28.5%	2.97	0.82	96.2%	822
35. Knowledge of effect of thermal envelope in design of building systems.	0.2%	4.1%	25.4%	45.7%	24.5%	2.90	0.82	95.6%	822
36. Knowledge of principles of integrated project design.	5.2%	19.5%	38.3%	26.6%	10.3%	2.17	1.03	75.3%	822
37. Knowledge of strategies for anticipating, managing and preventing disputes and conflicts.	2.1%	11.7%	32.6%	35.3%	18.4%	2.56	0.99	86.3%	822
38. Knowledge of engineering principles and their application to design and construction.	0.0%	6.0%	35.5%	39.4%	19.1%	2.72	0.84	94.0%	822
39. Knowledge of properties of concrete products, materials, assemblies and their impact on building design and construction.	0.2%	11.9%	42.8%	34.1%	10.9%	2.44	0.85	87.8%	822
40. Knowledge of properties of stone and masonry products, materials, assemblies and their impact on building design and construction.	0.0%	11.9%	43.1%	33.9%	11.1%	2.44	0.84	88.1%	822
41. Knowledge of properties of metal products, materials, assemblies and their impact on building design and construction.	0.1%	9.5%	42.7%	36.1%	11.6%	2.50	0.82	90.4%	822
42. Knowledge of properties of wood and wood products, materials, assemblies and their impact on building design and construction.	0.1%	7.9%	40.5%	38.3%	13.1%	2.56	0.82	92.0%	822
43. Knowledge of properties of glass products, materials, assemblies and their impact on building design and construction.	0.1%	9.6%	43.6%	35.2%	11.6%	2.48	0.83	90.3%	822
44. Knowledge of means and methods for building construction.	0.6%	8.3%	25.7%	39.8%	25.7%	2.82	0.93	91.1%	822
45. Knowledge of benefits and limitations of "fast track" or other forms of construction delivery methods.	3.6%	22.5%	43.3%	24.2%	6.3%	2.07	0.93	73.8%	822
46. Knowledge of methods and techniques for estimating construction costs.	1.5%	22.6%	39.2%	27.6%	9.1%	2.20	0.94	75.9%	822
47. Knowledge of structural load and load conditions that affect building design.	0.5%	12.8%	35.4%	33.5%	17.9%	2.55	0.94	86.7%	822

Total N = number of respondents

CONTINUED

Data Table D6. Percentage Distribution of Knowledge/Skill Importance Ratings

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	Knowledge/Skill Importance					MEAN IMP.	SD IMP.	PERCENT IMP.	TOTAL N
	0	1	2	3	4				
	OF LITTLE OR NO IMP.	SOMEWHAT IMP.	IMP.	VERY IMP.	CRITICALLY IMP.				
48. Knowledge of energy codes that impact construction.	0.7%	8.2%	32.7%	39.9%	18.5%	2.67	0.89	91.1%	822
49. Knowledge of methods and strategies for evidence based design (EBD).	23.5%	32.5%	32.0%	9.6%	2.4%	1.35	1.02	44.0%	822
50. Knowledge of impact of design on human behavior.	2.3%	17.6%	35.3%	30.5%	14.2%	2.37	1.00	80.0%	822
51. Knowledge of functional requirements of heating, ventilation and air conditioning (HVAC) systems.	0.4%	9.0%	41.6%	37.7%	11.3%	2.51	0.82	90.6%	822
52. Knowledge of functional requirements of plumbing systems.	1.5%	12.3%	48.1%	29.4%	8.8%	2.32	0.85	86.2%	821
53. Knowledge of functional requirements of electrical systems.	1.2%	13.3%	48.5%	28.7%	8.3%	2.30	0.84	85.5%	822
54. Knowledge of functional requirements of special systems.	3.5%	24.6%	49.8%	18.4%	3.8%	1.94	0.85	71.9%	822
55. Knowledge of functional requirements of conveying systems.	8.2%	29.1%	42.0%	17.3%	3.5%	1.79	0.94	62.8%	822
56. Knowledge of functional requirements of structural systems.	0.2%	5.0%	29.0%	44.3%	21.5%	2.82	0.83	94.8%	822
57. Knowledge of functional requirements of roofing systems.	0.1%	3.5%	29.8%	43.2%	23.4%	2.86	0.82	96.4%	822
58. Knowledge of functional requirements of fire suppression systems.	1.6%	16.4%	41.8%	30.5%	9.6%	2.30	0.91	82.0%	822
59. Knowledge of functional requirements of communications systems.	6.2%	32.2%	42.8%	15.5%	3.3%	1.77	0.90	61.6%	822
60. Knowledge of functional requirements of electronic safety and security systems.	6.2%	33.6%	40.3%	16.5%	3.4%	1.77	0.91	60.2%	822
61. Knowledge of functional requirements of door and window systems.	0.2%	5.2%	33.3%	45.1%	16.1%	2.72	0.80	94.5%	822
62. Knowledge of functional requirements for thermal and moisture control systems.	0.1%	3.2%	22.7%	40.9%	33.1%	3.04	0.83	96.7%	822
63. Knowledge of hazardous materials mitigation at building site.	7.1%	29.4%	38.0%	19.6%	6.0%	1.88	1.00	63.5%	822
64. Knowledge of principles of building operation and function.	1.8%	15.5%	37.3%	30.3%	15.1%	2.41	0.98	82.7%	822
65. Knowledge of content and format of specifications.	0.2%	8.8%	33.9%	38.7%	18.4%	2.66	0.88	91.0%	822
66. Knowledge of principles of interior design and their influences on building design.	2.3%	16.3%	42.6%	31.3%	7.5%	2.25	0.90	81.4%	822
67. Knowledge of principles of landscape design and their influences on building design.	2.2%	24.2%	45.5%	24.0%	4.1%	2.04	0.86	73.6%	822
68. Knowledge of site design principles and practices.	0.2%	7.5%	32.4%	43.6%	16.3%	2.68	0.84	92.2%	822
69. Knowledge of techniques for architectural programming to identify functional and operational requirements of scope of work.	0.6%	7.2%	23.7%	40.5%	28.0%	2.88	0.92	92.2%	822
70. Knowledge of procedures to develop project scheduling, phasing and deliverables for various building types.	2.1%	15.5%	36.7%	33.8%	11.9%	2.38	0.95	82.5%	822
71. Knowledge of relationship between constructability and aesthetics.	0.5%	3.4%	18.6%	44.4%	33.1%	3.06	0.83	96.1%	822
72. Knowledge of accepted standards for building materials and methods of construction, e.g., ASTM, ANSI.	1.8%	21.3%	37.7%	29.7%	9.5%	2.24	0.95	76.9%	822
73. Knowledge of methods to perform a life cycle cost analysis.	6.4%	37.8%	38.9%	12.8%	4.0%	1.70	0.91	55.7%	822
74. Knowledge of principles of value analysis and value engineering processes.	2.4%	20.7%	46.0%	25.1%	5.8%	2.11	0.88	76.9%	822
75. Knowledge of procedures and protocols of permit approval process.	0.6%	9.4%	34.3%	36.9%	18.9%	2.64	0.91	90.0%	822
76. Knowledge of principles of historic preservation.	5.7%	34.7%	36.9%	18.1%	4.6%	1.81	0.95	59.6%	822
77. Knowledge of processes and procedures for building commissioning.	7.3%	38.0%	38.9%	12.8%	3.0%	1.66	0.90	54.7%	822

Total N = number of respondents

CONTINUED

Data Table D6. Percentage Distribution of Knowledge/Skill Importance Ratings

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	Knowledge/Skill Importance					MEAN IMP.	SD IMP.	PERCENT IMP.	TOTAL N
	0	1	2	3	4				
	OF LITTLE OR NO IMP.	SOMEWHAT IMP.	IMP.	VERY IMP.	CRITICALLY IMP.				
78. Knowledge of design factors to consider in selecting furniture, fixtures and equipment (FFE).	7.9%	40.8%	35.2%	13.3%	2.9%	1.63	0.91	51.3%	822
79. Knowledge of methods and tools for space planning.	1.7%	14.1%	37.2%	33.6%	13.4%	2.43	0.95	84.2%	822
80. Knowledge of different project delivery methods and their impacts on project schedule, costs and project goals.	2.8%	18.6%	40.4%	27.7%	10.5%	2.24	0.97	78.6%	822
81. Knowledge of factors that impact construction management services.	6.2%	29.3%	39.7%	20.2%	4.6%	1.88	0.96	64.5%	822
82. Knowledge of fee structures, their attributes and implications for schedule, scope and profit.	1.8%	12.0%	27.6%	33.8%	24.7%	2.68	1.03	86.1%	822
83. Knowledge of consultant agreements and fee structures.	2.1%	10.6%	31.0%	35.2%	21.2%	2.63	1.00	87.3%	822
84. Knowledge of different building and construction types and their implications for design and construction schedules.	0.4%	6.6%	28.7%	43.8%	20.6%	2.78	0.86	93.1%	822
85. Knowledge of scheduling methods to establish project timeframes based on standard sequences of architectural services in each phase.	2.3%	15.7%	36.0%	32.4%	13.6%	2.39	0.98	82.0%	822
86. Knowledge of business development strategies.	2.8%	17.3%	32.0%	25.5%	22.4%	2.47	1.10	79.9%	822
87. Knowledge of relationship between staffing capabilities and hours, and internal project budget to meet established milestones and profitability.	3.9%	13.9%	25.4%	31.8%	25.1%	2.60	1.12	82.2%	822
88. Knowledge of purposes and types of professional liability insurance related to architectural practice.	2.4%	12.7%	33.7%	31.9%	19.3%	2.53	1.02	84.9%	822
89. Knowledge of format and protocols for efficient meeting management and information distribution.	3.6%	19.2%	37.6%	30.0%	9.5%	2.23	0.98	77.1%	822
90. Knowledge of strategies to assess project progress and verify its alignment with project schedule.	2.3%	13.6%	40.6%	30.7%	12.8%	2.38	0.95	84.1%	822
91. Knowledge of ways to translate project goals into specific tasks and measureable design criteria.	2.6%	13.5%	36.5%	32.8%	14.6%	2.43	0.98	83.9%	822
92. Knowledge of effective communication techniques to educate client with respect to roles and responsibilities of all parties.	1.1%	6.1%	26.2%	37.6%	29.1%	2.87	0.94	92.8%	822
93. Knowledge of formats and protocols to produce and distribute field reports to document construction progress.	2.9%	14.7%	39.9%	32.7%	9.7%	2.32	0.94	82.4%	822
94. Knowledge of site requirements for a specific building type and scope to determine client's site needs.	0.5%	9.0%	33.1%	38.8%	18.6%	2.66	0.90	90.5%	822
95. Knowledge of site analysis techniques to determine project parameters affecting design.	1.2%	8.4%	34.2%	38.0%	18.2%	2.64	0.92	90.4%	822
96. Knowledge of methods to prioritize or objectively evaluate design options based on project goals.	1.5%	6.4%	30.9%	40.0%	21.2%	2.73	0.92	92.1%	822
97. Knowledge of sustainability strategies and/or rating systems.	2.6%	18.7%	42.5%	28.2%	8.0%	2.20	0.92	78.7%	822
98. Knowledge of sustainability considerations related to building materials and construction processes.	1.3%	18.4%	39.9%	32.2%	8.2%	2.27	0.90	80.3%	822
99. Knowledge of techniques to integrate renewable energy systems into building design.	3.5%	25.5%	41.2%	24.1%	5.6%	2.03	0.93	70.9%	822
100. Knowledge of methods to identify scope changes that may require additional services.	0.9%	7.1%	28.8%	40.9%	22.4%	2.77	0.90	92.1%	822
101. Knowledge of procedures for processing requests for additional services.	1.1%	12.3%	34.8%	34.4%	17.4%	2.55	0.95	86.6%	822

Total N = number of respondents

CONTINUED

Data Table D6. Percentage Distribution of Knowledge/Skill Importance Ratings

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	Knowledge/Skill Importance					MEAN IMP.	SD IMP.	PERCENT IMP.	TOTAL N
	0	1	2	3	4				
	OF LITTLE OR NO IMP.	SOMEWHAT IMP.	IMP.	VERY IMP.	CRITICALLY IMP.				
102. Knowledge of appropriate documentation level required for construction documents.	0.0%	1.0%	11.7%	36.6%	50.7%	3.37	0.73	99.0%	822
103. Knowledge of close-out document requirements and protocols.	1.6%	11.9%	37.2%	36.5%	12.8%	2.47	0.92	86.5%	822
104. Knowledge of construction document technologies and their standards and applications.	0.7%	7.7%	34.1%	37.8%	19.7%	2.68	0.90	91.6%	822
105. Knowledge of building information modeling (BIM) and its impact on planning, financial management and construction documentation.	10.5%	28.5%	34.8%	20.9%	5.4%	1.82	1.05	61.1%	822
106. Knowledge of principles of computer assisted design and drafting (CADD) software and its uses in communicating design ideas.	1.2%	7.2%	28.2%	41.7%	21.7%	2.75	0.91	91.6%	822
107. Knowledge of American Institute of Architects (AIA) guidelines for contract agreements.	2.6%	16.4%	39.1%	31.0%	10.9%	2.31	0.96	81.0%	822
108. Knowledge of techniques to integrate model contract forms and documents.	4.0%	20.4%	41.5%	24.8%	9.2%	2.15	0.98	75.5%	822
109. Knowledge of benefits and limitations of software for construction documentation.	2.8%	16.1%	38.3%	31.1%	11.7%	2.33	0.97	81.1%	822
110. Knowledge of methods for production of construction documentation and drawings.	0.1%	4.4%	22.6%	39.2%	33.7%	3.02	0.87	95.5%	822
111. Knowledge of standard methods for production of design development documentation.	0.5%	7.3%	33.3%	38.2%	20.7%	2.71	0.89	92.2%	822
112. Knowledge of standard methods for production of site plan documentation.	1.0%	13.9%	39.5%	32.6%	13.0%	2.43	0.92	85.2%	822
113. Knowledge of circumstances warranting further actions based on field reports, third party inspections and test results.	0.6%	10.3%	34.2%	35.3%	19.6%	2.63	0.93	89.1%	822
114. Knowledge of materials testing processes and protocols to be performed during the construction process.	2.2%	21.2%	42.0%	27.3%	7.4%	2.17	0.92	76.6%	822
115. Knowledge of building systems testing processes and protocols to be performed during the construction process.	1.7%	24.5%	43.3%	24.1%	6.4%	2.09	0.90	73.8%	822
116. Knowledge of formats and protocols to process shop drawings and submittals to ensure they meet design intent.	0.2%	6.7%	30.3%	40.9%	21.9%	2.77	0.87	93.1%	822
117. Knowledge of protocols for responding to Requests for Information (RFI).	1.3%	8.2%	32.1%	39.7%	18.7%	2.66	0.92	90.5%	822
118. Knowledge of roles, responsibilities and authorities of project team members during construction.	0.4%	5.1%	31.1%	38.4%	24.9%	2.82	0.88	94.5%	822
119. Knowledge of conflict resolution techniques and their applications throughout project.	1.5%	11.2%	35.5%	35.3%	16.5%	2.54	0.94	87.3%	822
120. Knowledge of bidding processes and protocols for different project delivery methods and their applications.	1.3%	11.9%	39.7%	35.4%	11.7%	2.44	0.89	86.7%	822
121. Knowledge of requirements for post-occupancy evaluation.	7.7%	34.7%	38.6%	16.3%	2.8%	1.72	0.92	57.7%	822
122. Knowledge of design decisions and their impact on constructability.	0.1%	2.2%	16.8%	43.1%	37.8%	3.16	0.79	97.7%	822
123. Knowledge of methods to manage human resources.	7.2%	25.5%	39.1%	21.4%	6.8%	1.95	1.01	67.3%	822
124. Knowledge of state board guidelines for licensing and professional practice.	2.7%	13.5%	30.4%	30.0%	23.4%	2.58	1.07	83.8%	822
125. Knowledge of principles of universal design.	6.9%	19.0%	33.5%	30.2%	10.5%	2.18	1.07	74.1%	822
126. Knowledge of purposes of and legal implications for different types of business entities.	6.6%	28.2%	37.7%	18.0%	9.5%	1.96	1.05	65.2%	822

Total N = number of respondents

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Data Table D6. Percentage Distribution of Knowledge/Skill Importance Ratings

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	Knowledge/Skill Importance					MEAN IMP.	SD IMP.	PERCENT IMP.	TOTAL N
	0	1	2	3	4				
	OF LITTLE OR NO IMP.	SOMEWHAT IMP.	IMP.	VERY IMP.	CRITICALLY IMP.				
127. Knowledge of innovative and evolving technologies and their impact on architectural practice.	1.2%	17.8%	43.2%	29.8%	8.0%	2.26	0.88	81.0%	822
128. Knowledge of ethical standards relevant to architectural practice.	0.6%	5.2%	22.9%	39.1%	32.2%	2.97	0.90	94.2%	822
129. Knowledge of methods to facilitate information management in building design and construction.	2.3%	20.9%	43.3%	26.2%	7.3%	2.15	0.91	76.8%	822
130. Knowledge of factors involved in conducting architectural practice in international markets.	38.2%	37.3%	16.7%	5.2%	2.6%	0.97	0.99	24.5%	822
131. Knowledge of methods and procedures for risk management.	3.5%	14.7%	34.8%	32.5%	14.5%	2.40	1.02	81.8%	822
132. Knowledge of financial planning methods to manage revenues, staffing, and overhead expenses.	3.4%	14.4%	32.4%	30.0%	19.8%	2.49	1.07	82.2%	822
MEAN	2.8%	14.5%	33.5%	32.2%	17.1%	2.46	0.92	82.7%	822
MIN	0.0%	0.7%	7.5%	5.2%	2.2%	0.97	0.67	24.5%	821
MAX	38.2%	40.8%	49.8%	45.7%	61.8%	3.53	1.19	99.3%	822

Total N = number of respondents

Data Table D7. Percentage Distribution of Ratings for Level At Which Knowledge/Skills Were Used

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	DO NOT USE	Level at Which Used			PERCENT USED	TOTAL N
		UNDERSTAND	APPLY	EVALUATE		
1. Knowledge of oral, written, and visual presentation techniques to communicate project information.	0.5%	3.6%	45.3%	50.6%	99.5%	822
2. Knowledge of master plans and their impact on building design.	3.8%	18.2%	40.6%	37.3%	96.2%	822
3. Knowledge of method for project controls, e.g., scope of services, budget, billing, compensation.	1.6%	14.6%	45.4%	38.4%	98.4%	822
4. Knowledge of factors that affect selection of project consultants.	3.0%	16.1%	44.3%	36.6%	97.0%	822
5. Knowledge of strategies for delegating and monitoring task assignments, accountability and deadlines for project team.	2.9%	11.1%	53.8%	32.2%	97.1%	822
6. Knowledge of client and project characteristics that influence contract agreements.	2.8%	20.2%	41.6%	35.4%	97.2%	822
7. Knowledge of types of contracts and their designated use.	4.0%	22.7%	44.4%	28.8%	96.0%	822
8. Knowledge of standard forms of architectural service agreements for Owner-Architect, Architect-Consultant and Owner-Contractor.	5.1%	22.6%	47.1%	25.2%	94.9%	822
9. Knowledge of effects of specific findings from feasibility studies on building design.	5.8%	23.6%	43.2%	27.4%	94.2%	822
10. Knowledge of factors involved in selection of building systems and components.	1.2%	11.4%	43.7%	43.7%	98.8%	822
11. Knowledge of effect of environmental factors on site development.	1.9%	19.8%	45.3%	33.0%	98.1%	822
12. Knowledge of environmental policies and regulations and their implications for proposed construction.	3.4%	26.4%	40.8%	29.4%	96.6%	822
13. Knowledge of processes involved in conducting a survey of existing conditions.	1.6%	13.0%	47.9%	37.5%	98.4%	822
14. Knowledge of effects of specific findings from environmental impact studies on building design.	7.5%	29.2%	38.3%	24.9%	92.5%	822
15. Skill in designing facility layout and site plan that responds to site constraints.	2.1%	10.1%	41.1%	46.7%	97.9%	822
16. Knowledge of methods required to mitigate adverse site conditions.	3.9%	26.4%	42.0%	27.7%	96.1%	822
17. Knowledge of elements of and processes for conducting a site analysis.	2.8%	25.4%	43.9%	27.9%	97.2%	822
18. Knowledge of codes of professional conduct related to architectural practice.	1.1%	19.6%	49.1%	30.2%	98.9%	822
19. Knowledge of protocols and procedures for conducting a code analysis.	1.2%	9.7%	44.8%	44.3%	98.8%	822
20. Knowledge of building codes and their impact on building design.	0.6%	4.3%	39.1%	56.1%	99.4%	822
21. Knowledge of land use codes and ordinances that govern land use decisions.	2.7%	20.7%	41.5%	35.2%	97.3%	822
22. Skill in producing hand drawings of design ideas.	3.0%	14.8%	55.2%	26.9%	97.0%	822
23. Knowledge of standards for graphic symbols and units of measurement in technical drawings.	0.9%	10.1%	59.2%	29.8%	99.1%	822
24. Skill in producing two-dimensional (2-D) drawings using hand methods.	8.2%	21.9%	46.6%	23.4%	91.8%	822
25. Skill in using software to produce two-dimensional (2-D) drawings.	5.6%	12.8%	49.6%	32.0%	94.4%	822
26. Skill in using software to produce three-dimensional (3-D) models of building design.	14.4%	28.2%	35.3%	22.1%	85.6%	822
27. Skill in producing physical scale models.	23.5%	42.1%	23.8%	10.6%	76.5%	822
28. Skill in use of building information modeling (BIM) to develop and manage databases of building and construction information.	27.4%	35.2%	24.1%	13.4%	72.6%	822
29. Knowledge of protocols and procedures for obtaining community input for proposed design.	10.3%	35.0%	34.2%	20.4%	89.7%	822
30. Knowledge of computer aided design and drafting software for producing two-dimensional (2-D) drawings.	6.4%	16.3%	45.6%	31.6%	93.6%	822
31. Knowledge of factors involved in selecting computer based design technologies.	10.1%	39.8%	29.4%	20.7%	89.9%	822
32. Knowledge of engineering properties of soils and their effect on building foundations and building design.	7.5%	34.8%	33.8%	23.8%	92.5%	822
33. Knowledge of factors to be considered in adaptive reuse of existing buildings.	3.6%	25.8%	41.2%	29.3%	96.4%	822
34. Knowledge of building technologies which provide solutions for comfort, life safety and energy efficiency.	1.6%	12.5%	47.7%	38.2%	98.4%	822

Total N = number of respondents

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Data Table D7. Percentage Distribution of Ratings for Level At Which Knowledge/Skills Were Used

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	DO NOT USE	Level at Which Used			PERCENT USED	TOTAL N
		UNDERSTAND	APPLY	EVALUATE		
35. Knowledge of effect of thermal envelope in design of building systems.	2.3%	14.7%	44.5%	38.4%	97.7%	822
36. Knowledge of principles of integrated project design.	10.0%	35.9%	35.9%	18.2%	90.0%	822
37. Knowledge of strategies for anticipating, managing and preventing disputes and conflicts.	2.9%	26.3%	44.9%	25.9%	97.1%	822
38. Knowledge of engineering principles and their application to design and construction.	2.1%	21.7%	44.5%	31.8%	97.9%	822
39. Knowledge of properties of concrete products, materials, assemblies and their impact on building design and construction.	1.9%	23.7%	51.0%	23.4%	98.1%	822
40. Knowledge of properties of stone and masonry products, materials, assemblies and their impact on building design and construction.	1.3%	20.0%	52.4%	26.3%	98.7%	822
41. Knowledge of properties of metal products, materials, assemblies and their impact on building design and construction.	1.5%	18.4%	52.6%	27.6%	98.5%	822
42. Knowledge of properties of wood and wood products, materials, assemblies and their impact on building design and construction.	1.0%	15.8%	53.0%	30.2%	99.0%	822
43. Knowledge of properties of glass products, materials, assemblies and their impact on building design and construction.	1.2%	18.4%	52.3%	28.1%	98.8%	822
44. Knowledge of means and methods for building construction.	1.2%	18.2%	44.9%	35.6%	98.8%	822
45. Knowledge of benefits and limitations of “fast track” or other forms of construction delivery methods.	5.8%	38.2%	36.9%	19.1%	94.2%	822
46. Knowledge of methods and techniques for estimating construction costs.	7.3%	33.5%	36.6%	22.6%	92.7%	822
47. Knowledge of structural load and load conditions that affect building design.	4.1%	29.9%	39.4%	26.5%	95.9%	822
48. Knowledge of energy codes that impact construction.	3.8%	22.7%	44.6%	28.8%	96.2%	822
49. Knowledge of methods and strategies for evidence based design (EBD).	40.6%	38.2%	13.1%	8.0%	59.4%	822
50. Knowledge of impact of design on human behavior.	5.2%	30.2%	40.0%	24.6%	94.8%	822
51. Knowledge of functional requirements of heating, ventilation and air conditioning (HVAC) systems.	3.9%	26.6%	45.1%	24.3%	96.1%	822
52. Knowledge of functional requirements of plumbing systems.	3.8%	30.1%	45.2%	21.0%	96.2%	821
53. Knowledge of functional requirements of electrical systems.	4.1%	31.3%	45.4%	19.2%	95.9%	822
54. Knowledge of functional requirements of special systems.	7.1%	42.9%	33.2%	16.8%	92.9%	822
55. Knowledge of functional requirements of conveying systems.	9.7%	36.9%	36.9%	16.5%	90.3%	822
56. Knowledge of functional requirements of structural systems.	2.9%	18.6%	45.6%	32.8%	97.1%	822
57. Knowledge of functional requirements of roofing systems.	1.5%	10.8%	48.3%	39.4%	98.5%	822
58. Knowledge of functional requirements of fire suppression systems.	5.4%	35.2%	39.8%	19.7%	94.6%	822
59. Knowledge of functional requirements of communications systems.	8.6%	45.6%	31.5%	14.2%	91.4%	822
60. Knowledge of functional requirements of electronic safety and security systems.	9.4%	46.1%	30.5%	14.0%	90.6%	822
61. Knowledge of functional requirements of door and window systems.	1.0%	12.5%	50.1%	36.4%	99.0%	822
62. Knowledge of functional requirements for thermal and moisture control systems.	1.6%	10.2%	48.1%	40.1%	98.4%	822
63. Knowledge of hazardous materials mitigation at building site.	13.4%	46.7%	25.8%	14.1%	86.6%	822
64. Knowledge of principles of building operation and function.	3.3%	29.8%	40.8%	26.2%	96.7%	822
65. Knowledge of content and format of specifications.	2.1%	15.6%	54.3%	28.1%	97.9%	822
66. Knowledge of principles of interior design and their influences on building design.	3.3%	21.8%	49.3%	25.7%	96.7%	822
67. Knowledge of principles of landscape design and their influences on building design.	5.7%	34.9%	39.9%	19.5%	94.3%	822
68. Knowledge of site design principles and practices.	1.9%	17.6%	45.9%	34.5%	98.1%	822

Total N = number of respondents

CONTINUED

Data Table D7. Percentage Distribution of Ratings for Level At Which Knowledge/Skills Were Used

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	DO NOT USE	Level at Which Used			PERCENT USED	TOTAL N
		UNDERSTAND	APPLY	EVALUATE		
69. Knowledge of techniques for architectural programming to identify functional and operational requirements of scope of work.	2.6%	16.7%	42.7%	38.1%	97.4%	822
70. Knowledge of procedures to develop project scheduling, phasing and deliverables for various building types.	4.6%	27.7%	43.9%	23.7%	95.4%	822
71. Knowledge of relationship between constructability and aesthetics.	1.0%	10.3%	41.5%	47.2%	99.0%	822
72. Knowledge of accepted standards for building materials and methods of construction, e.g., ASTM, ANSI.	2.4%	30.2%	45.6%	21.8%	97.6%	822
73. Knowledge of methods to perform a life cycle cost analysis.	17.9%	49.8%	20.1%	12.3%	82.1%	822
74. Knowledge of principles of value analysis and value engineering processes.	6.0%	31.3%	40.3%	22.5%	94.0%	822
75. Knowledge of procedures and protocols of permit approval process.	2.2%	17.5%	51.2%	29.1%	97.8%	822
76. Knowledge of principles of historic preservation.	12.2%	40.1%	30.9%	16.8%	87.8%	822
77. Knowledge of processes and procedures for building commissioning.	19.7%	48.3%	24.6%	7.4%	80.3%	822
78. Knowledge of design factors to consider in selecting furniture, fixtures and equipment (FFE).	9.9%	42.5%	32.4%	15.3%	90.1%	822
79. Knowledge of methods and tools for space planning.	3.5%	22.9%	47.1%	26.5%	96.5%	822
80. Knowledge of different project delivery methods and their impacts on project schedule, costs and project goals.	5.7%	31.1%	39.5%	23.6%	94.3%	822
81. Knowledge of factors that impact construction management services.	8.2%	44.9%	30.5%	16.4%	91.8%	822
82. Knowledge of fee structures, their attributes and implications for schedule, scope and profit.	4.6%	25.5%	40.3%	29.6%	95.4%	822
83. Knowledge of consultant agreements and fee structures.	3.6%	24.5%	42.8%	29.1%	96.4%	822
84. Knowledge of different building and construction types and their implications for design and construction schedules.	1.5%	19.5%	45.0%	34.1%	98.5%	822
85. Knowledge of scheduling methods to establish project timeframes based on standard sequences of architectural services in each phase.	5.2%	27.5%	45.4%	21.9%	94.8%	822
86. Knowledge of business development strategies.	10.0%	35.2%	34.9%	20.0%	90.0%	822
87. Knowledge of relationship between staffing capabilities and hours, and internal project budget to meet established milestones and profitability.	8.6%	26.3%	40.6%	24.5%	91.4%	821
88. Knowledge of purposes and types of professional liability insurance related to architectural practice.	10.0%	37.0%	32.2%	20.8%	90.0%	822
89. Knowledge of format and protocols for efficient meeting management and information distribution.	3.0%	24.0%	54.6%	18.4%	97.0%	822
90. Knowledge of strategies to assess project progress and verify its alignment with project schedule.	3.8%	25.1%	50.9%	20.3%	96.2%	822
91. Knowledge of ways to translate project goals into specific tasks and measureable design criteria.	3.9%	23.2%	50.5%	22.4%	96.1%	822
92. Knowledge of effective communication techniques to educate client with respect to roles and responsibilities of all parties.	1.2%	18.1%	52.1%	28.6%	98.8%	822
93. Knowledge of formats and protocols to produce and distribute field reports to document construction progress.	3.8%	20.4%	58.0%	17.8%	96.2%	822
94. Knowledge of site requirements for a specific building type and scope to determine client's site needs.	3.5%	22.5%	42.1%	31.9%	96.5%	822
95. Knowledge of site analysis techniques to determine project parameters affecting design.	3.5%	22.4%	43.4%	30.7%	96.5%	822
96. Knowledge of methods to prioritize or objectively evaluate design options based on project goals.	2.2%	17.0%	46.5%	34.3%	97.8%	822
97. Knowledge of sustainability strategies and/or rating systems.	6.1%	32.1%	39.5%	22.3%	93.9%	822
98. Knowledge of sustainability considerations related to building materials and construction processes.	3.5%	29.2%	42.5%	24.8%	96.5%	822
99. Knowledge of techniques to integrate renewable energy systems into building design.	8.3%	40.1%	33.5%	18.1%	91.7%	822
100. Knowledge of methods to identify scope changes that may require additional services.	1.2%	17.8%	49.6%	31.4%	98.8%	822

Total N = number of respondents

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Data Table D7. Percentage Distribution of Ratings for Level At Which Knowledge/Skills Were Used

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	DO NOT USE	Level at Which Used			PERCENT USED	TOTAL N
		UNDERSTAND	APPLY	EVALUATE		
101. Knowledge of procedures for processing requests for additional services.	2.4%	23.0%	49.0%	25.5%	97.6%	822
102. Knowledge of appropriate documentation level required for construction documents.	0.9%	4.3%	48.2%	46.7%	99.1%	822
103. Knowledge of close-out document requirements and protocols.	3.4%	19.3%	57.7%	19.6%	96.6%	822
104. Knowledge of construction document technologies and their standards and applications.	1.1%	16.9%	54.9%	27.1%	98.9%	822
105. Knowledge of building information modeling (BIM) and its impact on planning, financial management and construction documentation.	27.1%	37.6%	24.0%	11.3%	72.9%	822
106. Knowledge of principles of computer assisted design and drafting (CADD) software and its uses in communicating design ideas.	5.0%	17.0%	49.4%	28.6%	95.0%	822
107. Knowledge of American Institute of Architects (AIA) guidelines for contract agreements.	5.0%	32.2%	44.2%	18.6%	95.0%	822
108. Knowledge of techniques to integrate model contract forms and documents.	9.7%	34.3%	39.4%	16.5%	90.3%	822
109. Knowledge of benefits and limitations of software for construction documentation.	5.5%	33.0%	39.9%	21.7%	94.5%	822
110. Knowledge of methods for production of construction documentation and drawings.	1.8%	12.2%	50.2%	35.8%	98.2%	822
111. Knowledge of standard methods for production of design development documentation.	1.8%	13.9%	55.0%	29.3%	98.2%	822
112. Knowledge of standard methods for production of site plan documentation.	4.3%	22.6%	49.8%	23.4%	95.7%	822
113. Knowledge of circumstances warranting further actions based on field reports, third party inspections and test results.	3.2%	22.5%	47.7%	26.6%	96.8%	822
115. Knowledge of building systems testing processes and protocols to be performed during the construction process.	5.4%	40.6%	38.9%	15.1%	94.6%	822
116. Knowledge of formats and protocols to process shop drawings and submittals to ensure they meet design intent.	1.5%	12.7%	58.0%	27.9%	98.5%	822
117. Knowledge of protocols for responding to Requests for Information (RFI).	2.8%	13.4%	57.7%	26.2%	97.2%	822
118. Knowledge of roles, responsibilities and authorities of project team members during construction.	1.3%	15.1%	54.7%	28.8%	98.7%	822
119. Knowledge of conflict resolution techniques and their applications throughout project.	2.4%	26.6%	49.3%	21.7%	97.6%	822
120. Knowledge of bidding processes and protocols for different project delivery methods and their applications.	3.4%	26.5%	49.6%	20.4%	96.6%	822
121. Knowledge of requirements for post-occupancy evaluation.	13.1%	47.0%	28.3%	11.6%	86.9%	822
122. Knowledge of design decisions and their impact on constructability.	0.9%	8.6%	42.9%	47.6%	99.1%	822
123. Knowledge of methods to manage human resources.	10.9%	39.5%	34.2%	15.3%	89.1%	822
124. Knowledge of state board guidelines for licensing and professional practice.	2.3%	33.0%	47.2%	17.5%	97.7%	822
125. Knowledge of principles of universal design.	10.2%	32.1%	38.3%	19.3%	89.8%	822
126. Knowledge of purposes of and legal implications for different types of business entities.	9.5%	51.6%	26.2%	12.8%	90.5%	822
127. Knowledge of innovative and evolving technologies and their impact on architectural practice.	2.3%	42.0%	34.4%	21.3%	97.7%	822
128. Knowledge of ethical standards relevant to architectural practice.	0.9%	19.7%	52.4%	27.0%	99.1%	822
129. Knowledge of methods to facilitate information management in building design and construction.	4.9%	36.9%	42.3%	15.9%	95.1%	822
130. Knowledge of factors involved in conducting architectural practice in international markets.	51.1%	32.4%	9.1%	7.4%	48.9%	822
131. Knowledge of methods and procedures for risk management.	6.2%	34.1%	39.1%	20.7%	93.8%	822
132. Knowledge of financial planning methods to manage revenues, staffing, and overhead expenses.	10.5%	34.5%	35.9%	19.1%	89.5%	822
MEAN	5.8%	25.7%	42.5%	26.0%	94.2%	822
MIN	0.5%	3.6%	9.1%	7.4%	48.9%	821
MAX	51.1%	51.6%	59.2%	56.1%	99.5%	822

Total N = number of respondents

Data Table D8. Percentage Distribution of Ratings for When Knowledge/Skills Were Acquired

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	When Acquired				TOTAL N
	NOT ACQUIRED	BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM	DURING INTERNSHIP	AFTER LICENSURE	
1. Knowledge of oral, written, and visual presentation techniques to communicate project information.	0.2%	60.4%	26.5%	12.9%	1,008
2. Knowledge of master plans and their impact on building design.	1.9%	42.1%	35.3%	20.7%	1,008
3. Knowledge of method for project controls, e.g., scope of services, budget, billing, compensation.	1.8%	6.8%	43.6%	47.8%	1,008
4. Knowledge of factors that affect selection of project consultants.	2.6%	3.2%	48.9%	45.3%	1,008
5. Knowledge of strategies for delegating and monitoring task assignments, accountability and deadlines for project team.	1.8%	6.5%	48.5%	43.2%	1,008
6. Knowledge of client and project characteristics that influence contract agreements.	3.2%	5.9%	37.3%	53.7%	1,008
7. Knowledge of types of contracts and their designated use.	1.9%	23.1%	37.0%	38.0%	1,008
8. Knowledge of standard forms of architectural service agreements for Owner-Architect, Architect-Consultant and Owner-Contractor.	1.1%	27.7%	39.6%	31.6%	1,008
9. Knowledge of effects of specific findings from feasibility studies on building design.	5.5%	14.8%	47.1%	32.6%	1,008
10. Knowledge of factors involved in selection of building systems and components.	0.5%	41.2%	45.4%	12.9%	1,008
11. Knowledge of effect of environmental factors on site development.	1.4%	58.0%	26.1%	14.5%	1,008
12. Knowledge of environmental policies and regulations and their implications for proposed construction.	3.4%	13.2%	44.3%	39.1%	1,008
13. Knowledge of processes involved in conducting a survey of existing conditions.	1.1%	24.2%	60.5%	14.2%	1,008
14. Knowledge of effects of specific findings from environmental impact studies on building design.	7.6%	14.5%	38.9%	39.0%	1,008
15. Skill in designing facility layout and site plan that responds to site constraints.	0.0%	67.9%	25.2%	6.9%	1,008
16. Knowledge of methods required to mitigate adverse site conditions.	2.9%	26.9%	42.4%	27.9%	1,008
17. Knowledge of elements of and processes for conducting a site analysis.	1.4%	55.7%	30.2%	12.8%	1,008
18. Knowledge of codes of professional conduct related to architectural practice.	0.3%	40.0%	44.9%	14.8%	1,008
19. Knowledge of protocols and procedures for conducting a code analysis.	0.8%	15.9%	65.4%	18.0%	1,008
20. Knowledge of building codes and their impact on building design.	0.0%	26.4%	59.9%	13.7%	1,008
21. Knowledge of land use codes and ordinances that govern land use decisions.	1.9%	17.3%	56.0%	24.9%	1,008
22. Skill in producing hand drawings of design ideas.	2.2%	88.8%	8.1%	0.9%	1,008
23. Knowledge of standards for graphic symbols and units of measurement in technical drawings.	0.1%	68.9%	29.7%	1.3%	1,008
24. Skill in producing two-dimensional (2-D) drawings using hand methods.	0.8%	89.6%	8.9%	0.7%	1,008
25. Skill in using software to produce two-dimensional (2-D) drawings.	13.0%	33.5%	20.5%	32.9%	1,008
26. Skill in using software to produce three-dimensional (3-D) models of building design.	35.1%	23.1%	12.7%	29.1%	1,008
27. Skill in producing physical scale models.	2.8%	91.0%	5.7%	0.6%	1,008
28. Skill in use of building information modeling (BIM) to develop and manage databases of building and construction information.	54.1%	4.4%	12.6%	29.0%	1,008
29. Knowledge of protocols and procedures for obtaining community input for proposed design.	10.1%	17.3%	38.0%	34.6%	1,008
30. Knowledge of computer aided design and drafting software for producing two-dimensional (2-D) drawings.	14.5%	28.3%	21.3%	35.9%	1,008
31. Knowledge of factors involved in selecting computer based design technologies.	20.6%	13.4%	22.8%	43.2%	1,008
32. Knowledge of engineering properties of soils and their effect on building foundations and building design.	3.4%	43.2%	35.4%	18.1%	1,008
33. Knowledge of factors to be considered in adaptive reuse of existing buildings.	4.4%	27.3%	41.5%	26.9%	1,008

Total N = number of respondents

CONTINUED

Data Table D8. Percentage Distribution of Ratings for When Knowledge/Skills Were Acquired

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	When Acquired				TOTAL N
	NOT ACQUIRED	BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM	DURING INTERNSHIP	AFTER LICENSURE	
34. Knowledge of building technologies which provide solutions for comfort, life safety and energy efficiency.	0.8%	49.0%	35.3%	14.9%	1,008
35. Knowledge of effect of thermal envelope in design of building systems.	1.6%	58.8%	24.0%	15.6%	1,008
36. Knowledge of principles of integrated project design.	12.0%	23.3%	26.2%	38.5%	1,008
37. Knowledge of strategies for anticipating, managing and preventing disputes and conflicts.	4.7%	8.1%	34.2%	53.0%	1,008
38. Knowledge of engineering principles and their application to design and construction.	0.5%	71.8%	23.5%	4.2%	1,008
39. Knowledge of properties of concrete products, materials, assemblies and their impact on building design and construction.	1.2%	69.7%	23.3%	5.8%	1,008
40. Knowledge of properties of stone and masonry products, materials, assemblies and their impact on building design and construction.	1.2%	61.5%	30.0%	7.3%	1,008
41. Knowledge of properties of metal products, materials, assemblies and their impact on building design and construction.	1.2%	63.2%	28.4%	7.2%	1,008
42. Knowledge of properties of wood and wood products, materials, assemblies and their impact on building design and construction.	0.8%	68.5%	25.5%	5.3%	1,008
43. Knowledge of properties of glass products, materials, assemblies and their impact on building design and construction.	1.6%	51.2%	35.2%	12.0%	1,008
44. Knowledge of means and methods for building construction.	1.4%	45.0%	42.9%	10.7%	1,008
45. Knowledge of benefits and limitations of "fast track" or other forms of construction delivery methods.	2.7%	17.4%	44.5%	35.4%	1,008
46. Knowledge of methods and techniques for estimating construction costs.	5.4%	16.6%	45.9%	32.1%	1,008
47. Knowledge of structural load and load conditions that affect building design.	1.0%	81.2%	15.4%	2.5%	1,008
48. Knowledge of energy codes that impact construction.	2.8%	24.4%	39.8%	33.0%	1,008
49. Knowledge of methods and strategies for evidence based design (EBD).	51.8%	7.6%	12.6%	28.0%	1,008
50. Knowledge of impact of design on human behavior.	5.9%	68.6%	11.3%	14.3%	1,008
51. Knowledge of functional requirements of heating, ventilation and air conditioning (HVAC) systems.	0.8%	67.4%	26.0%	5.9%	1,008
52. Knowledge of functional requirements of plumbing systems.	1.5%	61.5%	30.3%	6.7%	1,008
53. Knowledge of functional requirements of electrical systems.	1.8%	57.9%	31.7%	8.5%	1,008
54. Knowledge of functional requirements of special systems.	6.0%	31.0%	42.8%	20.3%	1,008
55. Knowledge of functional requirements of conveying systems.	7.1%	30.5%	45.0%	17.4%	1,008
56. Knowledge of functional requirements of structural systems.	0.7%	76.6%	19.9%	2.8%	1,008
57. Knowledge of functional requirements of roofing systems.	0.8%	41.0%	47.2%	11.0%	1,008
58. Knowledge of functional requirements of fire suppression systems.	1.8%	26.8%	51.0%	20.4%	1,008
59. Knowledge of functional requirements of communications systems.	6.1%	16.8%	48.4%	28.8%	1,008
60. Knowledge of functional requirements of electronic safety and security systems.	8.6%	11.5%	43.2%	36.7%	1,008
61. Knowledge of functional requirements of door and window systems.	0.4%	39.4%	50.0%	10.2%	1,008
62. Knowledge of functional requirements for thermal and moisture control systems.	0.9%	44.2%	41.6%	13.3%	1,008
63. Knowledge of hazardous materials mitigation at building site.	11.0%	6.3%	37.3%	45.3%	1,008
64. Knowledge of principles of building operation and function.	4.1%	36.0%	34.1%	25.8%	1,008
65. Knowledge of content and format of specifications.	1.0%	25.7%	58.4%	14.9%	1,008

Total N = number of respondents

CONTINUED

Data Table D8. Percentage Distribution of Ratings for When Knowledge/Skills Were Acquired

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	When Acquired				TOTAL N
	NOT ACQUIRED	BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM	DURING INTERNSHIP	AFTER LICENSURE	
66. Knowledge of principles of interior design and their influences on building design.	5.1%	49.7%	30.9%	14.4%	1,008
67. Knowledge of principles of landscape design and their influences on building design.	4.7%	55.3%	26.0%	14.1%	1,008
68. Knowledge of site design principles and practices.	0.7%	75.9%	19.3%	4.1%	1,008
69. Knowledge of techniques for architectural programming to identify functional and operational requirements of scope of work.	1.7%	56.4%	30.0%	11.9%	1,008
70. Knowledge of procedures to develop project scheduling, phasing and deliverables for various building types.	3.4%	8.8%	51.0%	36.7%	1,007
71. Knowledge of relationship between constructability and aesthetics.	1.2%	40.7%	39.6%	18.6%	1,008
72. Knowledge of accepted standards for building materials and methods of construction, e.g., ASTM, ANSI.	1.6%	25.4%	50.2%	22.8%	1,008
73. Knowledge of methods to perform a life cycle cost analysis.	21.1%	12.2%	25.6%	41.1%	1,008
74. Knowledge of principles of value analysis and value engineering processes.	6.2%	7.2%	43.5%	43.2%	1,008
75. Knowledge of procedures and protocols of permit approval process.	0.8%	4.6%	68.9%	25.7%	1,008
76. Knowledge of principles of historic preservation.	13.0%	31.8%	28.1%	27.1%	1,008
77. Knowledge of processes and procedures for building commissioning.	20.1%	3.8%	25.8%	50.3%	1,008
78. Knowledge of design factors to consider in selecting furniture, fixtures and equipment (FFE).	10.8%	13.5%	44.1%	31.5%	1,008
79. Knowledge of methods and tools for space planning.	1.7%	57.7%	28.8%	11.8%	1,008
80. Knowledge of different project delivery methods and their impacts on project schedule, costs and project goals.	3.2%	15.3%	43.0%	38.6%	1,008
81. Knowledge of factors that impact construction management services.	7.7%	8.1%	35.7%	48.4%	1,008
82. Knowledge of fee structures, their attributes and implications for schedule, scope and profit.	5.3%	7.5%	36.1%	51.1%	1,008
83. Knowledge of consultant agreements and fee structures.	4.1%	7.0%	39.1%	49.8%	1,008
84. Knowledge of different building and construction types and their implications for design and construction schedules.	2.0%	29.7%	44.6%	23.7%	1,008
85. Knowledge of scheduling methods to establish project timeframes based on standard sequences of architectural services in each phase.	5.1%	7.1%	49.5%	38.3%	1,008
86. Knowledge of business development strategies.	12.2%	3.9%	24.0%	59.9%	1,008
87. Knowledge of relationship between staffing capabilities and hours, and internal project budget to meet established milestones and profitability.	9.4%	1.8%	29.1%	59.7%	1,008
88. Knowledge of purposes and types of professional liability insurance related to architectural practice.	8.4%	9.2%	24.3%	58.0%	1,008
89. Knowledge of format and protocols for efficient meeting management and information distribution.	5.6%	3.9%	46.4%	44.1%	1,008
90. Knowledge of strategies to assess project progress and verify its alignment with project schedule.	4.9%	2.6%	44.0%	48.5%	1,008
91. Knowledge of ways to translate project goals into specific tasks and measureable design criteria.	6.9%	12.3%	39.5%	41.3%	1,008
92. Knowledge of effective communication techniques to educate client with respect to roles and responsibilities of all parties.	3.7%	7.0%	41.5%	47.8%	1,008
93. Knowledge of formats and protocols to produce and distribute field reports to document construction progress.	2.6%	3.4%	65.3%	28.8%	1,008
94. Knowledge of site requirements for a specific building type and scope to determine client's site needs.	2.4%	27.4%	48.0%	22.2%	1,008
95. Knowledge of site analysis techniques to determine project parameters affecting design.	2.3%	52.1%	31.5%	14.1%	1,008

Total N = number of respondents

CONTINUED

Data Table D8. Percentage Distribution of Ratings for When Knowledge/Skills Were Acquired

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	When Acquired				TOTAL N
	NOT ACQUIRED	BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM	DURING INTERNSHIP	AFTER LICENSURE	
96. Knowledge of methods to prioritize or objectively evaluate design options based on project goals.	3.2%	35.9%	39.3%	21.6%	1,008
97. Knowledge of sustainability strategies and/or rating systems.	10.9%	16.1%	20.8%	52.2%	1,008
98. Knowledge of sustainability considerations related to building materials and construction processes.	7.0%	19.2%	22.5%	51.2%	1,008
99. Knowledge of techniques to integrate renewable energy systems into building design.	9.2%	22.2%	18.8%	49.7%	1,008
100. Knowledge of methods to identify scope changes that may require additional services.	1.4%	3.0%	45.2%	50.4%	1,008
101. Knowledge of procedures for processing requests for additional services.	4.0%	2.3%	40.1%	53.7%	1,008
102. Knowledge of appropriate documentation level required for construction documents.	0.3%	9.8%	71.9%	18.0%	1,008
103. Knowledge of close-out document requirements and protocols.	5.1%	3.7%	53.0%	38.3%	1,008
104. Knowledge of construction document technologies and their standards and applications.	2.9%	14.6%	62.2%	20.3%	1,008
105. Knowledge of building information modeling (BIM) and its impact on planning, financial management and construction documentation.	42.4%	3.1%	12.2%	42.4%	1,008
106. Knowledge of principles of computer assisted design and drafting (CADD) software and its uses in communicating design ideas.	11.2%	23.0%	24.6%	41.2%	1,008
107. Knowledge of American Institute of Architects (AIA) guidelines for contract agreements.	1.7%	31.9%	43.7%	22.7%	1,008
108. Knowledge of techniques to integrate model contract forms and documents.	10.4%	11.6%	38.6%	39.4%	1,008
109. Knowledge of benefits and limitations of software for construction documentation.	11.1%	6.6%	36.3%	45.9%	1,008
110. Knowledge of methods for production of construction documentation and drawings.	0.5%	23.7%	65.0%	10.8%	1,008
111. Knowledge of standard methods for production of design development documentation.	0.3%	26.2%	64.0%	9.5%	1,008
112. Knowledge of standard methods for production of site plan documentation.	1.4%	27.6%	61.0%	10.0%	1,008
113. Knowledge of circumstances warranting further actions based on field reports, third party inspections and test results.	2.3%	2.5%	50.6%	44.6%	1,008
114. Knowledge of materials testing processes and protocols to be performed during the construction process.	4.3%	13.3%	52.0%	30.5%	1,008
115. Knowledge of building systems testing processes and protocols to be performed during the construction process.	5.9%	8.5%	50.6%	35.0%	1,008
116. Knowledge of formats and protocols to process shop drawings and submittals to ensure they meet design intent.	0.5%	3.1%	79.5%	17.0%	1,008
117. Knowledge of protocols for responding to Requests for Information (RFI).	2.0%	2.7%	69.1%	26.2%	1,008
118. Knowledge of roles, responsibilities and authorities of project team members during construction.	0.8%	9.5%	68.5%	21.2%	1,008
119. Knowledge of conflict resolution techniques and their applications throughout project.	5.8%	6.2%	40.0%	48.1%	1,008
120. Knowledge of bidding processes and protocols for different project delivery methods and their applications.	1.8%	8.9%	60.5%	28.8%	1,008
121. Knowledge of requirements for post-occupancy evaluation.	15.7%	6.4%	32.8%	45.0%	1,008
122. Knowledge of design decisions and their impact on constructability.	0.2%	33.5%	50.9%	15.4%	1,008
123. Knowledge of methods to manage human resources.	14.7%	3.5%	27.0%	54.9%	1,008
124. Knowledge of state board guidelines for licensing and professional practice.	0.4%	21.9%	66.3%	11.4%	1,008
125. Knowledge of principles of universal design.	17.2%	34.2%	22.9%	25.7%	1,008
126. Knowledge of purposes of and legal implications for different types of business entities.	11.9%	13.9%	20.9%	53.3%	1,008

Total N = number of respondents

CONTINUED

Data Table D8. Percentage Distribution of Ratings for When Knowledge/Skills Were Acquired

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	When Acquired				TOTAL N
	NOT ACQUIRED	BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM	DURING INTERNSHIP	AFTER LICENSURE	
127. Knowledge of innovative and evolving technologies and their impact on architectural practice.	3.2%	19.7%	31.9%	45.1%	1,008
128. Knowledge of ethical standards relevant to architectural practice.	0.6%	47.9%	37.8%	13.7%	1,008
129. Knowledge of methods to facilitate information management in building design and construction.	10.1%	8.3%	45.4%	36.1%	1,008
130. Knowledge of factors involved in conducting architectural practice in international markets.	57.4%	1.3%	9.4%	31.8%	1,008
131. Knowledge of methods and procedures for risk management.	14.0%	5.6%	27.2%	53.3%	1,008
132. Knowledge of financial planning methods to manage revenues, staffing, and overhead expenses.	16.6%	2.5%	17.7%	63.3%	1,008
MEAN	6.3%	27.7%	37.9%	28.1%	1,008
MIN	0.0%	1.3%	5.7%	0.6%	1,007
MAX	57.4%	91.0%	79.5%	63.3%	1,008

Total N = number of respondents

Data Table D9. Percentage Distribution of Ratings for When Knowledge/Skills Should be Acquired

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	When Should Be Acquired				TOTAL N
	NOT RELEVANT	BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM	DURING INTERNSHIP	AFTER LICENSURE	
1. Knowledge of oral, written, and visual presentation techniques to communicate project information.	0.8%	70.5%	25.6%	3.1%	1,008
2. Knowledge of master plans and their impact on building design.	1.1%	60.5%	32.8%	5.6%	1,008
3. Knowledge of method for project controls, e.g., scope of services, budget, billing, compensation.	0.5%	23.9%	58.5%	17.1%	1,008
4. Knowledge of factors that affect selection of project consultants.	0.8%	11.8%	64.0%	23.4%	1,008
5. Knowledge of strategies for delegating and monitoring task assignments, accountability and deadlines for project team.	0.6%	13.2%	60.8%	25.4%	1,008
6. Knowledge of client and project characteristics that influence contract agreements.	0.9%	14.5%	54.1%	30.6%	1,008
7. Knowledge of types of contracts and their designated use.	0.4%	37.7%	44.9%	17.0%	1,008
8. Knowledge of standard forms of architectural service agreements for Owner-Architect, Architect-Consultant and Owner-Contractor.	0.3%	39.9%	44.5%	15.3%	1,008
9. Knowledge of effects of specific findings from feasibility studies on building design.	2.3%	28.2%	53.7%	15.9%	1,008
10. Knowledge of factors involved in selection of building systems and components.	0.3%	58.0%	36.4%	5.3%	1,008
11. Knowledge of effect of environmental factors on site development.	0.4%	73.8%	21.7%	4.1%	1,008
12. Knowledge of environmental policies and regulations and their implications for proposed construction.	0.8%	31.9%	52.5%	14.8%	1,008
13. Knowledge of processes involved in conducting a survey of existing conditions.	0.8%	35.5%	58.4%	5.3%	1,008
14. Knowledge of effects of specific findings from environmental impact studies on building design.	2.1%	31.1%	49.7%	17.2%	1,008
15. Skill in designing facility layout and site plan that responds to site constraints.	0.2%	77.5%	19.3%	3.0%	1,008
16. Knowledge of methods required to mitigate adverse site conditions.	0.8%	41.7%	42.9%	14.7%	1,008
17. Knowledge of elements of and processes for conducting a site analysis.	0.5%	68.3%	26.4%	4.9%	1,008
18. Knowledge of codes of professional conduct related to architectural practice.	0.1%	56.7%	38.7%	4.5%	1,008
19. Knowledge of protocols and procedures for conducting a code analysis.	0.3%	42.8%	52.3%	4.7%	1,008
20. Knowledge of building codes and their impact on building design.	0.1%	55.5%	41.1%	3.4%	1,008
21. Knowledge of land use codes and ordinances that govern land use decisions.	0.6%	39.6%	48.8%	11.0%	1,008
22. Skill in producing hand drawings of design ideas.	3.2%	92.7%	3.8%	0.4%	1,008
23. Knowledge of standards for graphic symbols and units of measurement in technical drawings.	0.2%	81.2%	18.4%	0.3%	1,008
24. Skill in producing two-dimensional (2-D) drawings using hand methods.	7.2%	88.3%	4.3%	0.2%	1,008
25. Skill in using software to produce two-dimensional (2-D) drawings.	2.4%	85.6%	10.0%	2.0%	1,008
26. Skill in using software to produce three-dimensional (3-D) models of building design.	2.9%	82.2%	11.9%	3.0%	1,008
27. Skill in producing physical scale models.	7.2%	89.0%	3.8%	0.0%	1,008
28. Skill in use of building information modeling (BIM) to develop and manage databases of building and construction information.	6.4%	44.2%	41.6%	7.7%	1,008
29. Knowledge of protocols and procedures for obtaining community input for proposed design.	2.3%	25.0%	54.8%	18.0%	1,008
30. Knowledge of computer aided design and drafting software for producing two-dimensional (2-D) drawings.	1.4%	86.6%	10.8%	1.2%	1,008
31. Knowledge of factors involved in selecting computer based design technologies.	7.0%	45.7%	33.9%	13.3%	1,008
32. Knowledge of engineering properties of soils and their effect on building foundations and building design.	2.0%	59.3%	32.2%	6.4%	1,008

Total N = number of respondents

CONTINUED

Data Table D9. Percentage Distribution of Ratings for When Knowledge/Skills Should be Acquired

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	When Should Be Acquired				TOTAL N
	NOT RELEVANT	BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM	DURING INTERNSHIP	AFTER LICENSURE	
33. Knowledge of factors to be considered in adaptive reuse of existing buildings.	1.1%	48.4%	40.2%	10.3%	1,008
34. Knowledge of building technologies which provide solutions for comfort, life safety and energy efficiency.	0.2%	70.0%	26.3%	3.5%	1,008
35. Knowledge of effect of thermal envelope in design of building systems.	0.2%	80.3%	16.8%	2.8%	1,008
36. Knowledge of principles of integrated project design.	2.8%	47.7%	38.7%	10.8%	1,008
37. Knowledge of strategies for anticipating, managing and preventing disputes and conflicts.	1.3%	18.8%	52.9%	27.0%	1,008
38. Knowledge of engineering principles and their application to design and construction.	0.2%	81.8%	16.0%	2.0%	1,008
39. Knowledge of properties of concrete products, materials, assemblies and their impact on building design and construction.	0.3%	77.6%	19.6%	2.5%	1,008
40. Knowledge of properties of stone and masonry products, materials, assemblies and their impact on building design and construction.	0.3%	74.9%	21.8%	3.0%	1,008
41. Knowledge of properties of metal products, materials, assemblies and their impact on building design and construction.	0.3%	75.7%	21.4%	2.6%	1,008
42. Knowledge of properties of wood and wood products, materials, assemblies and their impact on building design and construction.	0.2%	77.5%	20.3%	2.0%	1,008
43. Knowledge of properties of glass products, materials, assemblies and their impact on building design and construction.	0.1%	72.8%	24.0%	3.1%	1,008
44. Knowledge of means and methods for building construction.	1.2%	57.3%	36.4%	5.1%	1,008
45. Knowledge of benefits and limitations of "fast track" or other forms of construction delivery methods.	1.6%	32.2%	50.3%	15.9%	1,008
46. Knowledge of methods and techniques for estimating construction costs.	1.7%	36.8%	48.2%	13.3%	1,008
47. Knowledge of structural load and load conditions that affect building design.	1.1%	85.5%	11.6%	1.8%	1,008
48. Knowledge of energy codes that impact construction.	0.5%	59.8%	35.7%	4.0%	1,008
49. Knowledge of methods and strategies for evidence based design (EBD).	20.0%	32.7%	33.6%	13.6%	1,008
50. Knowledge of impact of design on human behavior.	2.6%	83.6%	9.0%	4.8%	1,008
51. Knowledge of functional requirements of heating, ventilation and air conditioning (HVAC) systems.	0.4%	79.2%	18.3%	2.2%	1,008
52. Knowledge of functional requirements of plumbing systems.	1.0%	74.9%	21.5%	2.6%	1,008
53. Knowledge of functional requirements of electrical systems.	1.1%	73.1%	22.8%	3.0%	1,008
54. Knowledge of functional requirements of special systems.	3.8%	46.9%	39.4%	9.9%	1,008
55. Knowledge of functional requirements of conveying systems.	3.6%	47.2%	39.3%	9.9%	1,008
56. Knowledge of functional requirements of structural systems.	0.8%	83.3%	14.3%	1.6%	1,008
57. Knowledge of functional requirements of roofing systems.	0.2%	62.5%	33.8%	3.5%	1,008
58. Knowledge of functional requirements of fire suppression systems.	0.8%	51.0%	42.4%	5.9%	1,008
59. Knowledge of functional requirements of communications systems.	4.2%	38.0%	47.2%	10.6%	1,008
60. Knowledge of functional requirements of electronic safety and security systems.	4.7%	30.0%	50.1%	15.3%	1,008
61. Knowledge of functional requirements of door and window systems.	0.2%	55.6%	40.5%	3.8%	1,008
62. Knowledge of functional requirements for thermal and moisture control systems.	0.2%	65.2%	31.6%	3.0%	1,008
63. Knowledge of hazardous materials mitigation at building site.	5.6%	23.9%	50.8%	19.7%	1,008

Total N = number of respondents

CONTINUED

Data Table D9. Percentage Distribution of Ratings for When Knowledge/Skills Should be Acquired

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	When Should Be Acquired				TOTAL N
	NOT RELEVANT	BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM	DURING INTERNSHIP	AFTER LICENSURE	
64. Knowledge of principles of building operation and function.	2.7%	50.5%	34.5%	12.3%	1,008
65. Knowledge of content and format of specifications.	0.5%	48.8%	45.9%	4.8%	1,008
66. Knowledge of principles of interior design and their influences on building design.	2.9%	70.0%	22.4%	4.7%	1,008
67. Knowledge of principles of landscape design and their influences on building design.	2.3%	74.3%	18.8%	4.6%	1,008
68. Knowledge of site design principles and practices.	0.2%	87.7%	11.0%	1.1%	1,008
69. Knowledge of techniques for architectural programming to identify functional and operational requirements of scope of work.	0.7%	72.0%	23.3%	4.0%	1,008
70. Knowledge of procedures to develop project scheduling, phasing and deliverables for various building types.	1.3%	21.6%	58.5%	18.6%	1,008
71. Knowledge of relationship between constructability and aesthetics.	0.8%	64.1%	29.0%	6.2%	1,008
72. Knowledge of accepted standards for building materials and methods of construction, e.g., ASTM, ANSI.	0.8%	43.6%	46.7%	8.9%	1,008
73. Knowledge of methods to perform a life cycle cost analysis.	4.2%	34.1%	40.5%	21.2%	1,008
74. Knowledge of principles of value analysis and value engineering processes.	2.7%	24.0%	52.6%	20.7%	1,008
75. Knowledge of procedures and protocols of permit approval process.	0.3%	13.4%	74.7%	11.6%	1,008
76. Knowledge of principles of historic preservation.	5.1%	51.7%	30.7%	12.6%	1,008
77. Knowledge of processes and procedures for building commissioning.	6.2%	18.4%	51.0%	24.5%	1,008
78. Knowledge of design factors to consider in selecting furniture, fixtures and equipment (FFE).	8.4%	24.6%	50.2%	16.8%	1,008
79. Knowledge of methods and tools for space planning.	1.2%	74.8%	21.1%	2.9%	1,008
80. Knowledge of different project delivery methods and their impacts on project schedule, costs and project goals.	1.4%	34.2%	48.8%	15.6%	1,008
81. Knowledge of factors that impact construction management services.	3.0%	21.3%	50.8%	24.9%	1,008
82. Knowledge of fee structures, their attributes and implications for schedule, scope and profit.	0.7%	22.1%	51.3%	25.9%	1,008
83. Knowledge of consultant agreements and fee structures.	0.7%	18.6%	52.8%	28.0%	1,008
84. Knowledge of different building and construction types and their implications for design and construction schedules.	0.2%	47.5%	40.1%	12.2%	1,008
85. Knowledge of scheduling methods to establish project timeframes based on standard sequences of architectural services in each phase.	1.1%	19.6%	58.3%	20.9%	1,008
86. Knowledge of business development strategies.	2.4%	24.0%	37.1%	36.5%	1,008
87. Knowledge of relationship between staffing capabilities and hours, and internal project budget to meet established milestones and profitability.	2.1%	12.6%	45.8%	39.5%	1,008
88. Knowledge of purposes and types of professional liability insurance related to architectural practice.	1.3%	24.1%	39.7%	34.9%	1,008
89. Knowledge of format and protocols for efficient meeting management and information distribution.	2.6%	16.5%	60.0%	20.9%	1,008
90. Knowledge of strategies to assess project progress and verify its alignment with project schedule.	1.1%	11.1%	63.8%	24.0%	1,008
91. Knowledge of ways to translate project goals into specific tasks and measureable design criteria.	2.0%	21.9%	54.2%	21.9%	1,008
92. Knowledge of effective communication techniques to educate client with respect to roles and responsibilities of all parties.	0.6%	20.4%	55.5%	23.5%	1,008
93. Knowledge of formats and protocols to produce and distribute field reports to document construction progress.	1.1%	11.7%	75.6%	11.6%	1,008

Total N = number of respondents

CONTINUED

Data Table D9. Percentage Distribution of Ratings for When Knowledge/Skills Should be Acquired

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	When Should Be Acquired				TOTAL N
	NOT RELEVANT	BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM	DURING INTERNSHIP	AFTER LICENSURE	
94. Knowledge of site requirements for a specific building type and scope to determine client's site needs.	0.7%	39.2%	47.3%	12.8%	1,008
95. Knowledge of site analysis techniques to determine project parameters affecting design.	0.4%	64.2%	28.4%	7.0%	1,008
96. Knowledge of methods to prioritize or objectively evaluate design options based on project goals.	0.8%	51.0%	37.4%	10.8%	1,008
97. Knowledge of sustainability strategies and/or rating systems.	3.3%	57.6%	31.0%	8.1%	1,008
98. Knowledge of sustainability considerations related to building materials and construction processes.	2.2%	60.2%	30.3%	7.3%	1,008
99. Knowledge of techniques to integrate renewable energy systems into building design.	2.4%	64.3%	25.1%	8.2%	1,008
100. Knowledge of methods to identify scope changes that may require additional services.	0.4%	10.0%	66.8%	22.8%	1,008
101. Knowledge of procedures for processing requests for additional services.	0.7%	9.6%	60.4%	29.3%	1,008
102. Knowledge of appropriate documentation level required for construction documents.	0.2%	23.7%	70.2%	5.9%	1,008
103. Knowledge of close-out document requirements and protocols.	0.9%	12.3%	70.2%	16.6%	1,008
104. Knowledge of construction document technologies and their standards and applications.	1.4%	31.0%	60.8%	6.8%	1,008
105. Knowledge of building information modeling (BIM) and its impact on planning, financial management and construction documentation.	6.3%	34.6%	44.4%	14.7%	1,008
106. Knowledge of principles of computer assisted design and drafting (CADD) software and its uses in communicating design ideas.	2.0%	80.2%	16.1%	1.8%	1,008
107. Knowledge of American Institute of Architects (AIA) guidelines for contract agreements.	1.8%	43.7%	45.7%	8.8%	1,008
108. Knowledge of techniques to integrate model contract forms and documents.	2.9%	22.4%	52.8%	21.9%	1,008
109. Knowledge of benefits and limitations of software for construction documentation.	2.2%	32.8%	54.6%	10.4%	1,008
110. Knowledge of methods for production of construction documentation and drawings.	0.4%	44.0%	53.1%	2.5%	1,008
111. Knowledge of standard methods for production of design development documentation.	0.7%	43.4%	53.9%	2.1%	1,008
112. Knowledge of standard methods for production of site plan documentation.	1.0%	44.6%	51.7%	2.7%	1,008
113. Knowledge of circumstances warranting further actions based on field reports, third party inspections and test results.	0.5%	9.1%	66.6%	23.8%	1,008
114. Knowledge of materials testing processes and protocols to be performed during the construction process.	0.9%	22.1%	59.8%	17.2%	1,008
115. Knowledge of building systems testing processes and protocols to be performed during the construction process.	1.7%	18.8%	61.0%	18.6%	1,008
116. Knowledge of formats and protocols to process shop drawings and submittals to ensure they meet design intent.	0.2%	11.7%	81.5%	6.5%	1,008
117. Knowledge of protocols for responding to Requests for Information (RFI).	0.6%	10.7%	79.7%	9.0%	1,008
118. Knowledge of roles, responsibilities and authorities of project team members during construction.	0.2%	23.6%	68.0%	8.2%	1,008
119. Knowledge of conflict resolution techniques and their applications throughout project.	1.5%	18.7%	54.3%	25.6%	1,008
120. Knowledge of bidding processes and protocols for different project delivery methods and their applications.	0.8%	22.7%	63.7%	12.8%	1,008
121. Knowledge of requirements for post-occupancy evaluation.	4.9%	15.2%	56.3%	23.6%	1,008
122. Knowledge of design decisions and their impact on constructability.	0.3%	55.5%	39.1%	5.2%	1,008
123. Knowledge of methods to manage human resources.	6.1%	10.9%	41.3%	41.8%	1,008
124. Knowledge of state board guidelines for licensing and professional practice.	0.3%	37.6%	56.5%	5.6%	1,008

Total N = number of respondents

CONTINUED

Data Table D9. Percentage Distribution of Ratings for When Knowledge/Skills Should be Acquired

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	When Should Be Acquired				TOTAL N
	NOT RELEVANT	BY COMPLETION OF ACCREDITED ARCH. DEGREE PROGRAM	DURING INTERNSHIP	AFTER LICENSURE	
125. Knowledge of principles of universal design.	9.2%	65.1%	19.7%	6.0%	1,008
126. Knowledge of purposes of and legal implications for different types of business entities.	6.0%	28.4%	30.5%	35.2%	1,008
127. Knowledge of innovative and evolving technologies and their impact on architectural practice.	1.6%	36.7%	36.7%	25.0%	1,008
128. Knowledge of ethical standards relevant to architectural practice.	0.4%	67.3%	28.4%	4.0%	1,008
129. Knowledge of methods to facilitate information management in building design and construction.	3.7%	26.0%	57.1%	13.2%	1,008
130. Knowledge of factors involved in conducting architectural practice in international markets.	19.3%	10.6%	21.9%	48.1%	1,008
131. Knowledge of methods and procedures for risk management.	3.8%	19.3%	45.3%	31.5%	1,008
132. Knowledge of financial planning methods to manage revenues, staffing, and overhead expenses.	3.0%	15.7%	32.2%	49.1%	1,008
MEAN	2.1%	44.8%	40.7%	12.4%	1,008
MIN	0.1%	9.1%	3.8%	0.0%	1,008
MAX	20.0%	92.7%	81.5%	49.1%	1,008

Total N = number of respondents

Data Table D10. Percentage Distribution of Ratings for Reason(s) a Knowledge/Skill Was Not Used

Survey Population: All Licensed Architects

KNOWLEDGE/SKILL STATEMENT	Reason(s) Not Used						N – TOTAL REASONS NOT USED[1] OTHER	N INDIVIDUALS NOT USED[2]
	NOT USED IN PRACTICE	NOT ALLOWED BY JURIS.	NOT REC. BY LEGAL COUNSEL OR INSURANCE CARRIER	PROVIDED BY CONSULTANT(S)	LACK OF EXP.	OTHER		
1. Knowledge of oral, written, and visual presentation techniques to communicate project information.	0	0	0	0	0	5	5	4
2. Knowledge of master plans and their impact on building design.	20	0	0	2	3	7	32	31
3. Knowledge of method for project controls, e.g., scope of services, budget, billing, compensation.	3	0	0	0	5	5	13	13
4. Knowledge of factors that affect selection of project consultants.	7	1	1	0	8	12	29	25
5. Knowledge of strategies for delegating and monitoring task assignments, accountability and deadlines for project team.	18	0	0	1	2	5	26	24
6. Knowledge of client and project characteristics that influence contract agreements.	3	0	0	0	11	11	25	23
7. Knowledge of types of contracts and their designated use.	10	0	0	1	7	16	34	33
8. Knowledge of standard forms of architectural service agreements for Owner-Architect, Architect-Consultant and Owner-Contractor.	18	0	0	0	6	18	42	42
9. Knowledge of effects of specific findings from feasibility studies on building design.	33	0	0	6	8	4	51	48
10. Knowledge of factors involved in selection of building systems and components.	4	0	0	2	0	4	10	10
11. Knowledge of effect of environmental factors on site development.	8	0	0	2	1	5	16	16
12. Knowledge of environmental policies and regulations and their implications for proposed construction.	11	0	0	9	3	7	30	28
13. Knowledge of processes involved in conducting a survey of existing conditions.	5	0	0	4	1	3	13	13
14. Knowledge of effects of specific findings from environmental impact studies on building design.	39	0	2	12	6	6	65	62
15. Skill in designing facility layout and site plan that responds to site constraints.	13	0	0	1	0	3	17	17
16. Knowledge of methods required to mitigate adverse site conditions.	14	0	2	10	7	2	35	32
17. Knowledge of elements of and processes for conducting a site analysis.	9	0	0	11	2	3	25	23
18. Knowledge of codes of professional conduct related to architectural practice.	4	0	0	0	1	5	10	9
19. Knowledge of protocols and procedures for conducting a code analysis.	4	0	0	3	1	3	11	10

CONTINUED

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Survey Population: All Licensed Architects

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	NOT USED IN PRACTICE	NOT ALLOWED BY JURIS.	NOT REC. BY LEGAL COUNSEL OR INSURANCE CARRIER	PROVIDED BY CONSULTANT(S)	LACK OF EXP.	OTHER		
20. Knowledge of building codes and their impact on building design.	2	0	0	1	0	2	5	5
21. Knowledge of land use codes and ordinances that govern land use decisions.	13	0	0	4	3	4	24	22
22. Skill in producing hand drawings of design ideas.	15	0	0	4	3	7	29	25
23. Knowledge of standards for graphic symbols and units of measurement in technical drawings.	4	0	0	2	0	3	9	7
24. Skill in producing two-dimensional (2-D) drawings using hand methods.	50	0	0	4	2	15	71	67
25. Skill in using software to produce two-dimensional (2-D) drawings.	19	0	0	8	13	12	52	46
26. Skill in using software to produce three-dimensional (3-D) models of building design.	49	0	0	14	60	20	143	118
27. Skill in producing physical scale models.	145	0	1	31	10	30	217	193
28. Skill in use of building information modeling (BIM) to develop and manage databases of building and construction information.	150	0	2	9	87	27	275	225
29. Knowledge of protocols and procedures for obtaining community input for proposed design.	59	1	1	6	9	15	91	85
30. Knowledge of computer aided design and drafting software for producing two-dimensional (2-D) drawings.	24	0	0	12	13	9	58	53
31. Knowledge of factors involved in selecting computer based design technologies.	36	0	0	12	23	22	93	83
32. Knowledge of engineering properties of soils and their effect on building foundations and building design.	12	0	3	48	1	4	68	62
33. Knowledge of factors to be considered in adaptive reuse of existing buildings.	22	0	0	2	3	3	30	30
34. Knowledge of building technologies which provide solutions for comfort, life safety and energy efficiency.	5	0	0	6	0	2	13	13
35. Knowledge of effect of thermal envelope in design of building systems.	8	0	0	7	2	3	20	19
36. Knowledge of principles of integrated project design.	56	0	0	3	17	14	90	82
37. Knowledge of strategies for anticipating, managing and preventing disputes and conflicts.	12	0	1	4	6	4	27	24
38. Knowledge of engineering principles and their application to design and construction.	4	0	0	12	0	2	18	17
39. Knowledge of properties of concrete products, materials, assemblies and their impact on building design and construction.	5	0	0	10	0	2	17	16

CONTINUED

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	NOT USED IN PRACTICE	NOT ALLOWED BY JURIS.	NOT REC. BY LEGAL COUNSEL OR INSURANCE CARRIER	PROVIDED BY CONSULTANT(S)	LACK OF EXP.	OTHER		
40. Knowledge of properties of stone and masonry products, materials, assemblies and their impact on building design and construction.	4	0	0	5	0	3	12	11
41. Knowledge of properties of metal products, materials, assemblies and their impact on building design and construction.	5	0	0	6	0	2	13	12
42. Knowledge of properties of wood and wood products, materials, assemblies and their impact on building design and construction.	4	0	0	2	0	2	8	8
43. Knowledge of properties of glass products, materials, assemblies and their impact on building design and construction.	5	0	0	3	0	2	10	10
44. Knowledge of means and methods for building construction.	4	1	2	2	1	2	12	10
45. Knowledge of benefits and limitations of "fast track" or other forms of construction delivery methods.	40	0	1	1	7	6	55	48
46. Knowledge of methods and techniques for estimating construction costs.	20	0	3	29	15	5	72	60
47. Knowledge of structural load and load conditions that affect building design.	9	0	0	25	0	3	37	34
48. Knowledge of energy codes that impact construction.	10	0	0	15	4	3	32	31
49. Knowledge of methods and strategies for evidence based design (EBD).	205	0	0	12	117	41	375	334
50. Knowledge of impact of design on human behavior.	29	0	0	4	11	4	48	43
51. Knowledge of functional requirements of heating, ventilation and air conditioning (HVAC) systems.	6	0	0	25	1	2	34	32
52. Knowledge of functional requirements of plumbing systems.	6	0	0	23	2	3	34	31
53. Knowledge of functional requirements of electrical systems.	7	0	0	25	2	4	38	34
54. Knowledge of functional requirements of special systems.	13	0	0	35	3	10	61	58
55. Knowledge of functional requirements of conveying systems.	54	0	0	21	3	4	82	80
56. Knowledge of functional requirements of structural systems.	3	0	0	19	0	2	24	24
57. Knowledge of functional requirements of roofing systems.	6	0	0	5	0	3	14	12
58. Knowledge of functional requirements of fire suppression systems.	10	1	0	30	3	6	50	44
59. Knowledge of functional requirements of communications systems.	26	0	0	40	4	5	75	71
60. Knowledge of functional requirements of electronic safety and security systems.	23	0	0	52	4	3	82	77

CONTINUED

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	NOT USED IN PRACTICE	NOT ALLOWED BY JURIS.	NOT REC. BY LEGAL COUNSEL OR INSURANCE CARRIER	PROVIDED BY CONSULTANT(S)	LACK OF EXP.	OTHER		
61. Knowledge of functional requirements of door and window systems.	4	0	0	2	0	2	8	8
62. Knowledge of functional requirements for thermal and moisture control systems.	7	0	0	4	0	2	13	13
63. Knowledge of hazardous materials mitigation at building site.	43	2	23	49	15	8	140	110
64. Knowledge of principles of building operation and function.	15	0	0	5	3	4	27	27
65. Knowledge of content and format of specifications.	9	0	0	4	2	3	18	17
66. Knowledge of principles of interior design and their influences on building design.	14	0	1	11	3	2	31	27
67. Knowledge of principles of landscape design and their influences on building design.	14	0	0	33	2	3	52	47
68. Knowledge of site design principles and practices.	8	0	0	7	0	2	17	16
69. Knowledge of techniques for architectural programming to identify functional and operational requirements of scope of work.	12	0	0	3	2	4	21	21
70. Knowledge of procedures to develop project scheduling, phasing and deliverables for various building types.	16	0	0	10	13	7	46	38
71. Knowledge of relationship between constructability and aesthetics.	4	0	0	3	0	2	9	8
72. Knowledge of accepted standards for building materials and methods of construction, e.g., ASTM, ANSI.	10	0	0	2	6	2	20	20
73. Knowledge of methods to perform a life cycle cost analysis.	83	0	1	40	45	7	176	147
74. Knowledge of principles of value analysis and value engineering processes.	26	0	1	14	11	4	56	49
75. Knowledge of procedures and protocols of permit approval process.	7	0	0	6	2	4	19	18
76. Knowledge of principles of historic preservation.	75	0	0	11	14	4	104	100
77. Knowledge of processes and procedures for building commissioning.	88	0	0	59	33	8	188	162
78. Knowledge of design factors to consider in selecting furniture, fixtures and equipment (FFE).	43	0	0	38	12	4	97	81
79. Knowledge of methods and tools for space planning.	14	0	0	7	5	5	31	29
80. Knowledge of different project delivery methods and their impacts on project schedule, costs and project goals.	30	0	0	10	9	7	56	47
81. Knowledge of factors that impact construction management services.	37	0	2	16	11	10	76	67
82. Knowledge of fee structures, their attributes and implications for schedule, scope and profit.	16	0	0	3	10	11	40	38
83. Knowledge of consultant agreements and fee structures.	8	0	0	1	13	10	32	30

CONTINUED

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	NOT USED IN PRACTICE	NOT ALLOWED BY JURIS.	NOT REC. BY LEGAL COUNSEL OR INSURANCE CARRIER	PROVIDED BY CONSULTANT(S)	LACK OF EXP.	OTHER		
84. Knowledge of different building and construction types and their implications for design and construction schedules.	6	0	0	2	2	3	13	12
85. Knowledge of scheduling methods to establish project timeframes based on standard sequences of architectural services in each phase.	22	0	0	9	11	7	49	43
86. Knowledge of business development strategies.	34	0	0	6	33	17	90	82
87. Knowledge of relationship between staffing capabilities and hours, and internal project budget to meet established milestones and profitability.	37	0	0	8	21	13	79	71
88. Knowledge of purposes and types of professional liability insurance related to architectural practice.	23	0	2	14	33	15	87	82
89. Knowledge of format and protocols for efficient meeting management and information distribution.	17	0	0	1	5	4	27	25
90. Knowledge of strategies to assess project progress and verify its alignment with project schedule.	17	0	0	5	6	6	34	31
91. Knowledge of ways to translate project goals into specific tasks and measureable design criteria.	21	0	0	1	5	5	32	32
92. Knowledge of effective communication techniques to educate client with respect to roles and responsibilities of all parties.	4	0	0	1	2	3	10	10
93. Knowledge of formats and protocols to produce and distribute field reports to document construction progress.	19	0	0	6	3	3	31	31
94. Knowledge of site requirements for a specific building type and scope to determine client's site needs.	13	0	0	11	3	3	30	29
95. Knowledge of site analysis techniques to determine project parameters affecting design.	14	0	0	11	4	4	33	29
96. Knowledge of methods to prioritize or objectively evaluate design options based on project goals.	9	0	0	3	3	5	20	19
97. Knowledge of sustainability strategies and/or rating systems.	34	0	0	7	13	6	60	49
98. Knowledge of sustainability considerations related to building materials and construction processes.	19	0	0	4	8	2	33	29
99. Knowledge of techniques to integrate renewable energy systems into building design.	40	0	1	18	19	7	85	68
100. Knowledge of methods to identify scope changes that may require additional services.	3	0	0	1	3	3	10	10
101. Knowledge of procedures for processing requests for additional services.	4	0	0	3	9	5	21	20
102. Knowledge of appropriate documentation level required for construction documents.	3	0	0	1	0	3	7	7
103. Knowledge of close-out document requirements and protocols.	14	0	0	3	5	9	31	29

CONTINUED

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104. Knowledge of construction document technologies and their standards and applications.	3	0	0	3	0	3	9	9
105. Knowledge of building information modeling (BIM) and its impact on planning, financial management and construction documentation.	160	0	2	12	82	22	278	223
106. Knowledge of principles of computer assisted design and drafting (CADD) software and its uses in communicating design ideas.	21	0	0	11	10	7	49	41
107. Knowledge of American Institute of Architects (AIA) guidelines for contract agreements.	26	2	1	3	4	8	44	40
108. Knowledge of techniques to integrate model contract forms and documents.	39	1	3	4	28	9	84	80
109. Knowledge of benefits and limitations of software for construction documentation.	23	0	0	10	12	5	50	45
110. Knowledge of methods for production of construction documentation and drawings.	8	0	0	5	0	2	15	15
111. Knowledge of standard methods for production of design development documentation.	7	0	0	4	0	5	16	14
112. Knowledge of standard methods for production of site plan documentation.	9	0	0	23	1	5	38	35
113. Knowledge of circumstances warranting further actions based on field reports, third party inspections and test results.	12	0	1	6	6	2	27	26
114. Knowledge of materials testing processes and protocols to be performed during the construction process.	17	0	1	22	10	3	53	48
115. Knowledge of building systems testing processes and protocols to be performed during the construction process.	14	0	0	24	10	3	51	44
116. Knowledge of formats and protocols to process shop drawings and submittals to ensure they meet design intent.	6	0	0	3	0	4	13	13
117. Knowledge of protocols for responding to Requests for Information (RFI).	17	0	0	2	3	4	26	23
118. Knowledge of roles, responsibilities and authorities of project team members during construction.	7	0	0	1	1	3	12	11
119. Knowledge of conflict resolution techniques and their applications throughout project.	6	0	0	1	12	2	21	20
120. Knowledge of bidding processes and protocols for different project delivery methods and their applications.	15	0	0	5	7	5	32	27
121. Knowledge of requirements for post-occupancy evaluation.	80	0	0	11	23	11	125	108
122. Knowledge of design decisions and their impact on constructability.	2	0	0	3	0	4	9	9

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123. Knowledge of methods to manage human resources.	51	0	0	5	19	21	96	90
124. Knowledge of state board guidelines for licensing and professional practice.	7	0	0	3	1	8	19	18
125. Knowledge of principles of universal design.	53	1	0	6	20	14	94	84
126. Knowledge of purposes of and legal implications for different types of business entities.	34	0	0	8	30	12	84	78
127. Knowledge of innovative and evolving technologies and their impact on architectural practice.	8	0	0	5	3	4	20	18
128. Knowledge of ethical standards relevant to architectural practice.	4	0	0	0	1	2	7	7
129. Knowledge of methods to facilitate information management in building design and construction.	25	0	0	6	9	5	45	41
130. Knowledge of factors involved in conducting architectural practice in international markets.	369	2	4	5	72	17	469	419
131. Knowledge of methods and procedures for risk management.	27	0	0	6	18	6	57	51
132. Knowledge of financial planning methods to manage revenues, staffing, and overhead expenses.	27	0	0	12	34	17	90	86
MEAN	25.87	0.09	0.47	9.88	9.97	6.74	53.02	-
MIN	0	0	0	0	0	2	5	-
MAX	369	2	23	59	117	41	469	-

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APPENDICES

APPENDIX A: **OVERALL SURVEY DEVELOPMENT**

The primary goal of previous NCARB practice analysis studies was to gather data for purposes of maintaining a current and valid ARE test specification. The Council expanded the scope of the 2012 study so that all Council programs could directly benefit from the Practice Analysis findings. As a result, the survey design, data collection, data analysis, and application processes were significantly revamped.

As in the past, the *2012 NCARB Practice Analysis of Architecture* was designed to be consistent with the Standards for Educational and Psychological Testing (1999) set forth by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (the Standards). The Standards serve as the universally recognized benchmark for design, construction, standard setting/cut score, test administration, score reporting, and test scoring of all examinations, including those related to education, personnel selection, licensure, and certification. The three key Standards that served as foundational references for NCARB's 2012 Practice Analysis are:

Standard 14.8 "Evidence of validity based on test content requires a thorough and explicit definition of the content domain of interest." (p. 160)

Standard 14.10 "When evidence of validity based on test content is presented, the rationale for defining and describing a specific job content domain in a particular way (e.g., in terms of tasks to be performed or knowledge, skills, abilities, and other personal characteristics) should be stated clearly." (p. 160)

Standard 14.14 "The content domain to be covered by a credentialing test should be defined clearly and justified in terms of the importance of content for credential-worthy performance in an occupation or profession. A rationale should be provided to support a claim that the knowledge or skills being assessed are required for credential-worthy performance in an occupation and are consistent with the purpose for which the licensing or certification program was instituted." (p. 161)

SURVEY DESIGN

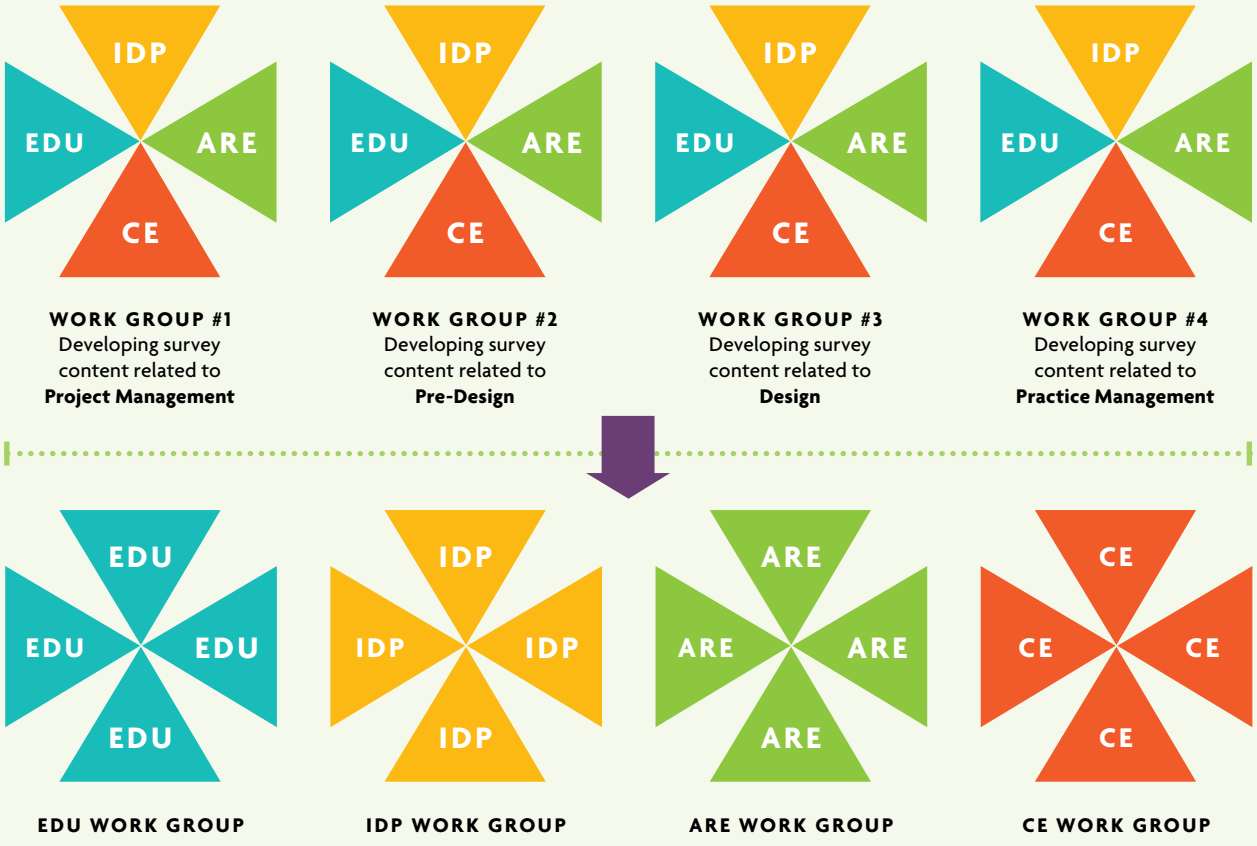
The 2012 Practice Analysis was designed under the guidance and review of the Practice Analysis Steering Committee (PASC), which served as the oversight body responsible for planning and implementing the new multi-disciplinary approach. The 11-member PASC included representatives from NCARB's Education Committee, Internship Committee, Examination Committee, Continuing Education Committee, Board of Directors, and staff. Additionally, for the first time, the PASC included leaders from the ACSA, AIA, AIAS, and the NAAB, in order to gain their input and foster support of the survey and its findings.

A larger working group, the Practice Analysis Task Force (PATF), consisting of over 40 architects and subject-matter experts from across NCARB's Member Boards, was convened to assemble a comprehensive list of tasks and knowledge/skills (K/S) representing the competencies necessary to practice architecture. Those competencies were categorized into four main program areas of interest—education (EDU), internship (IDP), examination (ARE), and continuing education (CE)—and combined with extensive ratings scales to serve as the Practice Analysis survey.

The PATF was separated into four work groups in order to gain diverse perspectives on the types of tasks and K/S that architects utilize. Each work group consisted of eight subject-matter experts (SMEs) representing the Education, Internship, Examination, and Continuing Education Committees. An NCARB staff member managed the process, with discussions facilitated by the survey consultant, PSI Services, LLC. Each group was charged with developing task and K/S statements for one of four domains: pre-design, design, project management, and practice management.

After the initial list of task and K/S statements was developed, facilitators compared the new list of statements to the statements from the 2007 practice analysis. The work groups reviewed the comparative data and incorporated appropriate revisions.

Next, the four multi-program work groups were re-organized into four program-specific work groups as illustrated below. Multiple webinars were scheduled in order for the EDU, IDP, ARE, and CE work groups to review the lists of task and K/S statements and ensure the statements holistically represented the needs of each specific program area.



With the comprehensive lists of tasks and K/S compiled, the work of the task force was returned to the steering committee. The PASC then finalized the list of task and K/S statements, reviewed the multiple ratings scales, and finalized the background information questions. The chart to the right indicates the total number of task and K/S statements identified for each of the four program area surveys.

The four program surveys were then subdivided into a total of 11 separate surveys in order to decrease the amount of time required to complete the survey and to help ensure that a sufficient number of responses would be obtained. A master sampling plan was developed to direct each of the segmented surveys to the appropriate target audience and to allow for the best response rates possible.

PROGRAM AREA	SURVEY	STATEMENT TYPE	NUMBER OF STATEMENTS
Education	**EDU**	Task	104
		Knowledge/Skill	122
Internship	**IDP**	Task	136
Examination	**ARE**	Task	110
		Knowledge/Skill	132
Continuing Education	**CE**	Knowledge/Skill	127

PROGRAM AREA	NUMBER OF SURVEYS
Education (EDU)	4
Internship (IDP)	3
Examination (ARE)	3
Continuing Education (CE)	1

New rating scales were also introduced in the 2012 Practice Analysis. These scales were developed to answer various research questions pertinent to NCARB's four key program areas, and went beyond the traditional importance and acquisition scales typically used in a practice analysis.

Pilot Survey

Prior to releasing the main survey, a pilot survey was launched to gather feedback regarding the comprehensive nature of the task and K/S statements as well as the functionality and design of the survey. A total of 1,338 e-mail invitations was sent and 218 individuals participated. Several refinements to the surveys, the background information questions (BIQs), and the survey instructions were made based on the pilot survey results.

Supplemental Studies

In addition to the main survey, three supplemental studies were conducted in order to support the Practice Analysis: a multi-faceted focus group study, a survey of students, and a crosswalk study.

Nine focus groups were conducted with individuals who regularly work with architects. These groups participated through surveys, individual telephone interviews, and facilitated web conferences to identify their perception regarding current issues, challenges, and future opportunities for the Council. The focus group participants included:

- Clients of architects
- Civil/geotechnical consultants and landscape architects
- Structural, mechanical, and electrical engineers
- Interior designers and other specialty consultants
- General contractors and construction managers
- Senior building officials
- CAD technology delivery groups and product manufacturers
- Liability carriers, lending institutions, and attorneys
- Futurists and visionaries

Students attending the December 2011 AIAS Forum were invited to take part in a modified practice analysis survey to further inform the development of the final survey. These surveys were developed using the same task and K/S statements along with slightly different rating scales. The primary focus of the student survey was to provide supplemental information in support of the Council's education and internship programs; the survey data also helped inform the development of the Practice Analysis survey.

The Crosswalk Study compared the tasks and K/S identified in NCARB's *2007 Practice Analysis of Architecture* with those identified for the 2012 Practice Analysis Survey prior to its national administration. Approximately half of the tasks and K/S in the 2012 Practice Analysis Survey were found to be aligned with the tasks and K/S included in the 2007 survey.

DATA COLLECTION

The best source for identifying the requisite body of knowledge for any profession is practitioners themselves. Active practitioners serve as the most reliable resource to establish the current trends of practice and identify the future needs of the profession. Three groups of architects were the primary contributors of the data collected for the *2012 NCARB Practice Analysis of Architecture*:

- architects licensed in the past year (who completed the IDP in the past two years),
- architects who have been licensed between two and 10 years, and
- architects licensed more than 10 years.

Another group of architects—those who recently served as IDP supervisors and/or mentors—were specifically identified to participate in the Internship (IDP) survey to better inform the future of the IDP.

NCARB also engaged other important constituencies in order to gain as much insight as possible. Educators were once again invited to participate in the Practice Analysis survey. A select group of interns was also invited to complete the survey—those who completed the IDP within the past year and those who completed the IDP within the past two years but not the ARE. Even though educators and interns represented a small part of the overall survey sample, the important input they provided will be used to guide and inform the Council's education and internship perspectives.

In order to reach as many practitioners, educators, and interns as possible, a substantial e-mail database was compiled from various NCARB, ACSA, AIA, and AIA component databases. Two separate e-mail campaigns were conducted and a supplemental open link to the survey was placed on NCARB's website to promote participation. Several additional communications were issued to describe the study and its importance to the profession. NCARB's Member Boards, each collateral organization, and the AIA's components were successfully encouraged to disseminate the information as well.

The survey was launched on 2 April 2012 and closed on 6 May 2012. Reminder e-mails were sent on a weekly basis to encourage completion of the survey. As an incentive to participate, 100 respondents who completed the survey were randomly selected to receive a $50 gift card.

Collectively, NCARB drew upon a wide spectrum of those engaged with the practice of architecture—both directly and indirectly—to ensure that the data collected will have both an immediate and long-term impact on the Council's education, internship, examination, and continuing education programs and policies.

DATA ANALYSIS

Complete files that included both the background information question (BIQ) response data and the task and K/S statement data were compiled for each of the surveys and extensively examined for quality control purposes prior to data analysis. New matrix sampling technologies were employed to improve the representativeness of survey results. By using matrix-sampling methods, the size of the samples better represents the population at large.

Participants who responded to at least 90 percent of the items in the survey were included in the final analysis; however, if a participant completed the same survey twice, their second response was not included. Duplicate responses by the same participants were detected by a repeating BIQ ID number. Also, anomalies in a participant's response patterns were identified and their responses to the open-ended questions were examined. In a small number of cases, respondents' data was excluded for the following possible reasons: based on response patterns and comments stating that respondents had randomly selected any answer; that they did not belong to the particular survey population; or that they had been mistakenly routed to the wrong survey.

APPENDIX B: **OVERALL RESPONSE RATE AND STATISTICS**

SURVEY RESPONSE RATE

A total of 15,620 surveys were returned (21.0 percent) from the 74,387 surveys that were successfully delivered via e-mail plus those submitted through a link on NCARB's website. These responses were screened to ensure that the respondents met the study criteria with respect to population segment and experience level, as well as survey completeness. After applying rigorous quality control standards, a total of 7,867 surveys were retained in the final analysis sample, comprising a 10.6 percent response rate. NCARB's Practice Analysis consultant, PSI Services LLC, indicates that the data resulting from the survey sample provides a substantive basis for summarizing professional practice through its representativeness, precision, and breadth of information.

Representativeness of the Sample

Overall, the analysis sample represents a wide range of experience levels, employment settings, organization sizes, and geographic regions, thereby supporting the validity of the survey data. It reflects a diverse and representative sample of architects, interns, and educators.

Precision of the Survey Statistics

The survey sample size is sufficiently large to support the calculation of summary descriptive statistics, such as the mean rating and percentage of respondents choosing a rating scale category. Overall, there is a good degree of precision in the statistics for their intended use. In most cases of interest where the number of respondents exceeds 100, the Standard Error (SE) of the task and K/S ratings is less than 5 percent. The EDU, IDP, ARE, and CE survey sub-samples ranged from 147 to 1,152; therefore, the precision of the statistics was higher (i.e., SE was lower).

Breadth of Information

The breadth of the information provided by the survey participants is unprecedented for a survey yielding information germane to architecture education, training, and assessment. **The respondents used a total of 24 rating scales to provide information regarding the task and K/S statements, generating over 21 million quality-screened data points for analysis.**

Details regarding the derivation of the final analysis sample are summarized below.

- Survey invitations delivered: Of the 82,985 survey invitations sent, 74,387 were successfully delivered to a valid e-mail address.
- Surveys submitted: A total of 15,620 surveys (21.0 percent) were submitted, including those completed through a survey link on NCARB's website.
- Surveys qualified: A total of 2,543 respondents were disqualified from taking the survey because they were not licensed and had participated in the IDP more than two years ago. As a result, 13,077 (17.6 percent) qualified surveys were retained for further quality screening.
- Surveys qualified for analysis: Surveys were retained for analysis if respondents completed 90 percent or more of the survey items. A total of 7,867 (10.6 percent) surveys met this criterion.

Comprised of multiple questions, these surveys yielded over 21 million data points. The table to the right identifies combined response rates for the surveys in each of the four program areas.

PROGRAM AREA	RESPONSES RECEIVED	RESPONSES INCLUDED IN DATA ANALYSIS	PERCENTAGE INCLUDED IN DATA ANALYSIS
Education (EDU)	2,935	2,015	69%
Internship (IDP)	3,438	2,302	67%
Examination (ARE)	3,974	2,695	68%
Continuing Education (CE)	1,232	855	69%

RESPONDENT DEMOGRAPHICS

Nineteen (19) background information questions (BIQs) delivered at the beginning of each survey were designed to collect demographic information about the respondents. Responses to the BIQs were also used to direct the respondent to the most appropriate survey as identified by the master sampling plan. The sampling plan was developed to decrease the amount of time required to complete the survey and to help ensure that a sufficient number of responses would be obtained.

Profile

The profile of the typical survey respondent is an individual who:

- Received a Bachelor of Architecture degree (B. Arch) in the United States
- Has been licensed for more than 20 years in the United States or Canada
- Is a white male
- Works full-time as a principal in an equity position
- Has not served as an IDP supervisor/mentor

Optional demographic questions included gender, age, and ethnicity.

GENDER	
Male	80%
Female	20%

AGE	
20-29	4%
30-39	19%
40-49	19%
50-59	28%
60-69	23%
70+	7%

Over 83 percent of the respondents described themselves as "white."

SELF REPORTED ETHNICITY	NUMBER OF RESPONSES (N)	PERCENT
White	6,015	83.93%
Black or African American	117	1.63%
American Indian or Alaskan Native	8	0.11%
Asian Indian	38	0.53%
Japanese	42	0.59%
Native Hawaiian	4	0.06%
Chinese	116	1.62%
Korean	37	0.52%
Guamanian or Chamorro	4	0.06%
Filipino	26	0.36%
Vietnamese	5	0.07%
Samoan	0	0.00%
Other Asian	29	0.40%
Other Pacific Islander	0	0.00%
Other race	163	2.27%
Multiple Selected	120	1.67%
None Selected	443	6.18%
TOTAL	7,167	100.00%

Approximately 95 percent of the respondents who responded to the ethnicity question indicated that they were not of Hispanic, Latino, or Spanish origin.

HISPANIC, LATINO, OR SPANISH ORIGIN	NUMBER OF RESPONSES (N)	PERCENT
No, not of Hispanic, Latino, or Spanish origin	6,408	94.65%
Yes, Mexican, Mexican American, Chicano	90	1.33%
Yes, Puerto Rican	52	0.77%
Yes, Cuban	65	0.96%
Yes, another Hispanic, Latino, or Spanish origin	155	2.29%
TOTAL	6,770	100.00%

Additional data points regarding the overall Practice Analysis survey respondents include:

EDUCATION

96% educated in the United States

47% completed a B. Arch

71% graduated from a NAAB-accredited program (B. Arch, M. Arch, or D. Arch)

INTERNSHIP

50% completed IDP

41% served as an IDP supervisor and/or mentor

LICENSURE

92% are currently licensed in a U.S. or Canadian jurisdiction

21% of respondents have been licensed 2-10 years

14% of respondents have been licensed 11-19 years

56% of respondents have been licensed 20 or more years

82% are employed full time

63% work in an architecture firm

39% serve as a principal in an equity position

31% serve as project architects + project managers

Job and Firm Type

The survey respondents included practitioners from a wide range of professional settings, including:

- Architecture firms
- Architecture/engineering firms
- University/academic institutions
- Government/public sectors
- Construction and Design/build firms
- Specialty consulting firms

Organizational sizes ranged from sole practitioner to more than 100 employees. The respondents ranged in experience (two-thirds were licensed for more than 10 years while nearly 10 percent had been licensed for a year or less) and included a variety of job titles such as:

- Principal
- Project architect
- Design architect
- Production architect
- Project manager
- Facilities manager/owner's representative
- Intern
- Educator

Regional Representation

The sample of respondents represented all geographic regions in the United States, with a small percentage received from Canada and other international locations.

NCARB REGION OR INTERNATIONAL LOCATION	PERCENT
REGION 1: NEW ENGLAND Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	6%
REGION 2: MIDDLE-ATLANTIC Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia	20%
REGION 3: SOUTHERN Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Texas, U.S. Virgin Islands	24%
REGION 4: MID-CENTRAL Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Ohio, Wisconsin	18%
REGION 5: CENTRAL STATES Kansas, Montana, Nebraska, North Dakota, Oklahoma, South Dakota, Wyoming	4%
REGION 6: WESTERN Alaska, Arizona, California, Colorado, Guam, Hawaii, Idaho, Nevada, New Mexico, Oregon, Utah, Washington	26%
Canada	1%
Other International	1%
TOTAL	100%

APPENDIX C: **GLOSSARY**

ACSA

The Association of Collegiate Schools of Architecture is a nonprofit, membership association comprised of over 250 member schools for all accredited programs in the United States and government-sanctioned schools in Canada. The ACSA provides a forum for leading edge ideas and issues that affect the architectural profession.

AIA

The American Institute of Architects is a leading professional membership association for licensed architects, emerging professionals, and allied partners. The AIA maintains a number of programs, initiatives, and resources, including continuing education experiences and standard contract documents.

AIAS

The American Institute of Architect Students is an independent, nonprofit student-run organization whose mission is to promote excellence in architectural education, training and practice, and advance the art and science of architecture.

BIM

Building Information Modeling, or BIM, is a process that entails generation and management of digital representations of the physical and functional characteristics of a building or facility. BIM provides a database resource and virtual three-dimensional (3-D) model for making decisions about a building throughout its life cycle. Information can be tracked for the cost management, construction management, project management, and facility operation purposes.

BRANCHING

The term branching, or conditional skip logic, refers to dynamic system logic in online survey software that permits the respondent to be directed to a question based on his/her responses to a previous question. In this survey, respondents were asked, "to what extent is the task covered in architecture education?" If they answered "*yes*", they were asked, "to what extent do students perform the task by completion of their architecture program?" If they answered "*no*", they were asked, "why is the task not covered in your architecture program?"

COMPETENCY

The term competency refers to the set of behaviors identified in the practice analysis through interviews and focus groups of subject-matter experts. See practice analysis.

CONTENT VALIDITY

The term content validity refers to the extent to which a measure represents what it is intended to measure. In order to produce valid survey content or test questions, psychometricians will collaborate with persons in the profession who understand the nuances and technical aspects of the subject matter. Here, the practice analysis was based on a content validation approach whereby persons with technical subject-matter knowledge were consulted in the design and implementation of the survey instrument.

CORRELATION

A series of statistical measures that describes the relationship, positive or negative, between two variables on a continuum. For example, if there is a strong positive correlation between years of experience and number of hours worked per week (0.80), one could conclude that people who have many years of experience tend to work more hours per week. If the correlation were negative, one could conclude that people with many years of experience tend to work fewer hours per week.

CRITERION

This term refers to a standard on which a judgment or decision is based. For example, the numeric of a mean importance rating for a knowledge/skill statement must equal or exceed 1.5 to be included in the content outline.

CROSSWALK

A crosswalk analysis involves mapping elements of one source with another source according to standards, semantic equivalents, or conceptual equivalents. Typically, the concepts and attributes in one source are compared side by side with similar concepts and attributes of another source to identify similarities and differences across time periods. Here, a crosswalk analysis was conducted to compare tasks and knowledge/skills from the 2007 and the 2012 practice analyses to identify similarities and differences between them.

DEFENSIBILITY

A research study, particularly a practice analysis, can be considered legally defensible if the methodology for the study abided by specific standards, procedures, and guidelines. Here, the practice analysis relied on a content validation approach cited in the Standards for Educational and Psychological Testing whereby the survey content was developed in collaboration with many subject-matter experts and validated by responses of thousands of subject-matter experts. Generally speaking, if the methodology was performed correctly, the study can withstand legal scrutiny.

DESCRIPTIVE STATISTICS

Statistics that summarize the main features of a dataset in order to understand its properties. Descriptive statistics can be summarized in tables or graphical displays such as graphs and charts). Examples of descriptive statistics include overall sample size (N), percent/proportion of subjects for different variables, measures of central tendency (mean, median, mode), and measures of spread (range, quartiles, variance, standard deviation).

DISTRIBUTION

In statistics, a distribution can represent discrete categories of variables or continuous variables, e.g., frequency of use. For example, a histogram might illustrate how many respondents answered "*yes*" and "*no*" to the question ("Is this concept important?") vs. how many respondents answered yearly, quarterly, monthly, weekly, daily to a question ("how frequently have you performed this task?").

EBD

Evidence-based design is a process that emphasizes the importance of using data to make decisions about the design process. Typically, existing research literature is reviewed to identify significant findings and recommendations; data is gathered from multiple sources, e.g., site visits, surveys and subject-matter experts, predicting outcomes of design decisions, and tracking positive outcomes for design implementation. For example, the design of healthcare facilities may be based on data from environmental psychologists, clinicians, administration, and evidence-based tools and methods.

FFE

This term refers to movable furniture, fixtures, and equipment that have no permanent connection to a building structure.

FOCUS GROUP

A qualitative technique that uses a representative group of subject-matter experts to provide information and/or critically evaluate the merits of a work product. In the present study, face-to-face and webinar focus groups were used to ensure that the content of the practice analysis surveys (e.g., task and knowledge/skill statements) were comprehensive and related to the current practice of architecture. The focus groups also elicited information regarding recent developments in the profession and future trends.

FREQUENCY DISTRIBUTION

This term refers to an arrangement of values taken from a sample. For example, the number of cases could be arranged along a continuum according to a rating scale, e.g., 1-of never, 2-rarely, 3-sometimes, 4-often, and 5-constantly. So the distribution might show there were 20 respondents with a rating of 1, 40 respondents with a rating of 2, and so on.

FREQUENCY RATING

Frequency ratings on survey instruments typically assign numeric ratings to scale points along a continuum. For example, the scale points could be: 1-of little or minor importance, 2-somewhat important, 3-important, 4-very important, and 5-critically important.

HSW

This term refers to health, safety, and welfare guidelines. Examples of health guidelines include those for accessibility, energy efficiency, mechanical, plumbing, and electrical systems. Examples of safety guidelines include codes, regulations, provision of fire-rated egress enclosures, and correct rise-to-run proportions for stairs. Examples of welfare include adaptive reuse, environmental issues, and building design and materials.

IBC

This term refers to International Building Codes, which are model building codes developed by the International Code Council.

IMPORTANCE RATING

Importance ratings on survey instruments typically assign numeric ratings to scale points along a continuum. Here, the following scale points could be: 1-of little or minor importance, 2-somewhat important, 3-important, 4-very important, and 5-critically important.

INFERENTIAL STATISTICS

Statistics based on probability theory that allow the use of samples to make generalization, estimates, predictions of decisions about the populations from which they are drawn. For example, if there were 100 randomly selected cases, inferential statistics could be used to determine the probability that those cases would occur according to specific limits, e.g., 95 percent, 99 percent.

IPD

Integrated Project Delivery (IPD) refers to the process used in construction projects and is typically conceptualized in terms of eight main phases: conceptualization, criteria design, detailed design, implementation documents phase, agency review, buyout, construction, closeout, and facilities management. The IPD process involves contractual arrangements between the owner, contractor, and design professionals such as architects.

KNOWLEDGE

Job knowledge is a measurable, organized body of information related to specific aspects of a job. Examples of job knowledge include principles, protocols, procedures, systems, methods, procedures, techniques, standards, codes, and laws that apply to specific job tasks.

LEED

The Leadership in Energy and Environmental Design, or LEED, is a set of rating systems developed by the U. S. Green Building Council as a framework for identifying and implementing practical and measurable solutions for design, construction, operation, and sustainability of high-performance buildings, homes, and neighborhoods.

MAPPING (SEE CROSSWALK)

MATRIX SAMPLING

The term matrix sampling refers to specific procedures that are employed to improve the representativeness of survey results. So, instead of obtaining a random sample from a population of prospective respondents, a researcher may select a subset of cases from different strata, e.g., interns with two years of experience, or architects licensed in the past year who completed the IDP in the past two years. By using matrix sampling methods, the size of the samples will better represent the population at large.

MEAN

A type of descriptive statistic commonly known as the average. It is calculated by summing the values of a variable and dividing by the number of cases. For example, if the sum of ratings from 5 individuals is 20, then the mean is 20 divided by 5, or 4.

MEDIAN

A type of descriptive statistic commonly known as a midpoint of a dataset. After the data is rank ordered, the median is calculated by the formula (n +1)/2. For example, if there are 60 values, the midpoint of the dataset is (60 + 1) divided by 2, or 30.5.

N

N refers to the size of the sample, or number of cases in a sample. For example, if N = 171, there are 171 cases that were used in the calculation of statistics for that sample.

NAAB

The National Architectural Accrediting Board (NAAB) is the sole agency authorized to accredit U. S. professional degree programs in architecture. The curriculum of a NAAB-accredited program includes general studies, professional studies, and electives. The intent is to provide students with a range of skills that enables them to solve architectural design problems and understand the historical, socio-cultural, and environmental context of architecture.

NCARB

The National Council of Architectural Registration Boards' membership is comprised of the architectural registration boards of all 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands. These boards formed NCARB in order to provide a common approach to protecting the public health, safety, and welfare. NCARB leads the regulation of the practice of architecture through the development and application of standards for licensure and credentialing of architects. These range from the Intern Development Program (IDP) and Architectural Registration Examination® (ARE®) to certification for the purposes of reciprocal licensing and record keeping.

PASC

A steering committee appointed by NCARB to carry out strategic planning and assist in the implementation of the practice analysis.

PATF

A task force appointed by NCARB to provide the majority of subject-matter expertise in survey task and knowledge/skill development for the practice analysis.

PRACTICE ANALYSIS

A practice analysis defines professional practice in terms of the actual tasks that practitioners must be able to perform safely and competently at the time of licensure or certification. The process is an essential step in validating test programs so that they comply with professional testing standards such as the Standards for Educational and Psychological Testing. The Standards are the universally recognized benchmark for design, construction, standard setting/cut score, test administration, score reporting, and test score for all examinations.

REVIT

A type of Building Information Modeling software that allows the user to draft 3-D and two-dimensional (2-D) elements. The 3-D elements are represented as physical building components such as doors and walls. The Revit environment allows the user to render realistic images of buildings and rooms.

ROUTING

The term routing refers to dynamic system logic in online survey software that permits respondents to complete a specific set of questions. Here, if a respondent was a licensed architect, he/she could be directed to ARE, IDP, EDU, or CE surveys.

SAMPLE PARAMETERS

(See discussion of stratified random sampling under "Sampling plan")

SAMPLING PLAN

This term refers to the approach taken to ensure adequate representation from all of the populations of interest. If a researcher wanted to obtain survey responses, he/she could identify strata/parameters of interest (stratified random sampling), e.g., geographic region or years of experience, which he/she would target to obtain representative data from different populations, and select a percentage of names of prospective respondents that is equal to that population's occurrence in a large population. For example, a specific state represents 15 percent of the total population of licensed architects; the researcher would select 15 percent of the individuals from that state to solicit survey responses. A simpler, but less effective, procedure is random sampling. Random sampling assumes that all individuals in the population are equal, and a specific number of cases are selected from the pool of individuals without regard for any strata of interest.

SKILL

A job skill is a specific, observable, measurable competence required to perform one or more job tasks. Examples of job skills include skill in using software to produce 3-D models and skill in producing freehand sketches.

SME

Subject-matter experts are individuals who possess technical knowledge of their field. When tests are developed, the process is typically facilitated by persons knowledgeable in the design of tests (psychometricians), who work with SMEs who understand the technical content of the test questions.

STAKEHOLDERS

The term stakeholder refers to persons, groups, or organizations with an interest in a project. For example, the results of the practice analysis will affect stakeholders such as students, educators, and licensed architects.

STANDARDS FOR EDUCATIONAL AND PSYCHOLOGICAL TESTING ("STANDARDS")

The Standards for Educational and Psychological Testing were developed jointly by the American Educational Research Association, the American Psychological Association, and the National Council for Measurement in Education. The Standards are the universally recognized benchmark for design, construction, standard setting/cut score, test administration, score reporting, and test score for all examinations, including those related to education, personnel selection, licensure, and certification.

TASK

A job task is a stand-alone unit of work with a definite beginning and end, which results in a product or service. For example, a job task is "perform building code analysis."

TAXONOMY

The term taxonomy refers to the development of categories to classify objects, properties, or relationships. For example, Bloom and Depth of Knowledge taxonomies have identified different levels of cognitive processing such as recall, comprehension/understanding, application, analysis, and synthesis/evaluation.

TEST

The term test, or examination, can be used broadly and refer to any measurement procedure including surveys, tests, and structured interviews.

VALIDITY

The term validity refers to the degree to which evidence supports the interpretation of test score or proposed use of tests. If a test is valid and includes questions with technically correct subject-matter, one can make inferences about the test taker's scores.

VALIDITY EVIDENCE

There are three types of validity evidence from which conclusions may be drawn. In content validity, the issue is representativeness ("does the content to be measured represent the intended body of knowledge?"). In criterion related validity, one can infer from a test score how an examinee will perform on some external criterion ("how well does performance on a test predict future performance?"). In construct validity, one can classify individuals based on test scores according to a theoretical trait (how well do test scores assess a theoretical concept of interest?). For example, if a student scores well on a test, one could infer that students had verbal reasoning.

UPDATE ON 2013 CHANGES TO THE NCARB ARCHITECT REGISTRATION EXAMINATION PROCESS

NCARB announced in September 2011 it had signed a long-term contract with Alpine Testing Solutions, Inc. (Alpine) to assume the role of content and candidate management consultant for the Architect Registration Examination (ARE). It was also announced that Prometric would continue as a long-term partner in the sole role of managing the examination administration sites. NCARB stated that partnering with these two vendors would enable it to build, maintain, and continuously improve its testing program. The effective date for the contract and transition was July 1, 2013.

In the December 2012 issue of the ARE e-News (attached), NCARB announced that commencing late-August 2013 it would launch a new portal within My NCARB called My Examination, which would essentially link together the Prometric and NCARB records for a candidate into a one-stop service. My Examination will allow ARE candidates to access their examination information (i.e., exam history, eligibility to test information, rolling clock dates, score reports, etc.) and schedule appointments. Consequently, all candidates (including those previously exempt from completing the Intern Development Program) will now be required to possess an active NCARB Record in order to access the new portal and test.

NCARB also announced in the same ARE e-News issue that in order to facilitate the transition and transfer of candidate information to Alpine it would be necessary for an approximately eight-week blackout of services, commencing on July 1, 2013. NCARB stated that during the transition between vendors, administration and scheduling will be suspended. Additionally, the Board will not be able to create testing eligibilities during this time. NCARB is granting an automatic 12-week extension to those candidates whose ARE Rolling Clock expires during or after the blackout. Candidates eligible for the 12-week extension will be able to view their new ARE Rolling Clock expiration date(s) by logging into My Examination. Of important note, is that the 12-week extension does not apply to the July 1, 2014 deadline for ARE divisions passed prior to January 1, 2006.

In February 2013 NCARB mailed a postcard to all ARE candidates reminding them of the forthcoming changes later this year and how to prepare for the ARE blackout. The postcard was then followed by the April 2013 issue of the ARE e-News (attached) wherein NCARB answered common candidate questions related to the changes. Throughout the months leading up to the ARE blackout and launch of My Examination, NCARB has routinely updated its website with relevant information, such as the: new fees for rescheduling an ARE; fees associated with establishing an NCARB Record; My Examination Fact Sheet (attached); revised ARE Guidelines; and use of biometric-enabled check-in at Prometric test centers.

Since NCARB first announced the changes in December 2012, staff has provided updated information on the Board's website and links to relevant information on the NCARB website. Staff has also evaluated the impact of changes on internal processes and will be implementing revisions/modifications to provide candidates with a smooth transition. Additionally, in August 2013, the Board mailed an informational letter to 7,384 active and 2,755 inactive candidates regarding the important ARE-related changes. The letter specifically advised candidates of the: 1) My Examination portal; 2) NCARB Record requirement 3) 12-week ARE Rolling Clock; and 4) changes to the ARE Rolling Clock affecting divisions passed prior to 2006. To assist candidates

further, staff will be updating the Board's website with additional information and links to relevant pages on the NCARB website.

On September 3, 2013, NCARB announced the conclusion of the ARE blackout. Accordingly, NCARB has revised its website and is providing additional resources to candidates that will assist them in understanding the process and new services within My Examination.

Staff can address additional questions from the Board members regarding the 2013 changes to the NCARB ARE process.

Attachments:
1. December 2012 ARE e-News
2. April 2013 ARE e-News
3. My Examination Fact Sheet

join the ARE e-news mailing list back to main menu

NCARB to Launch Exam Portal in My NCARB

In late August 2013, the National Council of Architectural Registration Boards (NCARB) will launch a new portal within My NCARB for Architect Registration Examination® (ARE®) candidates to access their examination information and schedule appointments. The new portal will be located within your NCARB Record and will offer several benefits, such as easy access to your:

- Exam history
- Authorization to test information
- Rolling clock dates
- Score reports

The portal will be the place where you schedule exam appointments going forward. You will no longer be able to schedule exams by calling Prometric or through Prometric's website.

More information will be available to you in the months to come regarding the portal, how to use it, how to access it, all of its benefits, and more.

2013 Blackout: Begins 1 July 2013

As announced in September 2011, Alpine Testing Solutions, Inc. will take over content and candidate management for the ARE, and Prometric will continue to be the Council's site management consultant beginning 1 July 2013.

In order to facilitate the migration of data to the new consultant, there will be an **estimated eight-week blackout** for candidates. This means:

- No exam appointments may be scheduled for on or after 1 July 2013 until the blackout ends in late-August 2013.
- There will be no exams administered beginning 1 July 2013 until the blackout ends.
- The last day to take an exam before the blackout will be 30 June 2013.
- The last batch of exams taken on or before 30 June 2013 will be scored by Prometric prior to the data migration to

Changed your name?

Exam security is important, so the name on your Authorization to Test letter must match the name on your identification **exactly**. If you've changed your name, you'll need to update your testing information **prior to scheduling an examination**. If you arrive at the test center and your ID does not match your Authorization to Test, you may not be permitted to test and no refund will be granted.

For states that participate in Direct Registration, you can update your name by contacting NCARB at 202/879-0520. If your state does not participate in Direct Registration, you'll need to contact your state board directly. Once you've changed your name with the proper organization, contact the ARE Helpline at 800/896-2272 to obtain a new Authorization to Test letter.

Need to Reschedule?

If you know in advance that you are going to miss an exam, you can reschedule according to the policies outlined in the *ARE Guidelines*.

What happens if you are unable to reschedule and end up missing an exam?
Call the Prometric Candidate Services Contact Center to schedule a new appointment at 800/479-6215. You will not have to wait six-months to retest, however your payment for the missed exam will not be refunded. In the case of extenuating circumstances, requests for

the new consultant.

- The last day to contact Prometric to receive authorization to test or candidate ID numbers will be 30 June 2013.
- Staff at your state board will not have access to the candidate database during the blackout so it will not be able to enter or create exam eligibilities or update your name or address information during this time.

There will be no changes to exam content post-blackout. However, the process to schedule an exam appointment and receive score reports will be different.

ARE Rolling Clock

For all candidates, NCARB will grant an automatic **12–week extension** to the rolling clock post-blackout. If you are eligible to test through a jurisdiction with its own rolling clock rules, please contact your board to see how the blackout may impact you.

Planning for the Blackout

In spring 2013, NCARB will have several resources available to introduce the new processes for the ARE. In the meantime, here are some things you should do over the next several months:

- Review your ARE plan and see if it will be affected by an eight-week blackout.
- Find your candidate ID and authorization to test numbers. Both are available on your past ARE score reports.
  - If you can't find a past score report, **you will need to contact your state board prior to 30 June 2013 to compile this information.**
  - This information may be required to gain access to your exam information in My NCARB.
- Make sure your NCARB Record is **active.** An NCARB Record has been required for newly eligible candidates to take the ARE since May 2008. Post-blackout, you will only be able to schedule ARE appointments through your NCARB Record. In addition, all future score reports will be distributed electronically in your Record.

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Reminder: ARE Policy Changes

Authorization to Test Policy Change

As of 1 January 2011, **exam candidates must take a division of the ARE (pass or fail) once every five years** to keep their Authorization to Test (ATT) valid.

Authorization will not become inactive if the applicant tests and fails; it will only become inactive if the applicant does not take at least one division every five years. Candidates whose authorizations have become inactive will need to establish new eligibilities under the then current procedures of their registration boards.

extensions will be handled confidentially and on a case-by-case basis.

Stay Informed

To help you stay up-to-date on the latest news and announcements, NCARB is now offering four opions.

ARE Divisions Passed Prior to 2006

When the ARE Rolling Clock was implemented on 1 January 2006, all exam divisions passed prior to 1 January 2006 were exempt from the rolling clock. In June 2009, NCARB's Member Boards voted to have all exempt divisions expire on **1 July 2014** if the candidate hasn't passed all divisions of the ARE.

If you have divisions that are currently exempt because you passed them prior to 1 January 2006, you will need to complete all divisions of the ARE by 1 July 2014 to prevent them from being affected by this policy. If you do not pass all divisions by 1 July 2014, be advised you may be further impacted by the transition to ARE 4.0 and have additional divisions to pass.

Learn more about the rolling clock here, and the transition to ARE 4.0 here.

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Attention Canadian ARE Candidates

For almost 20 years, NCARB has supported the inclusion of Canadian documents, standards, codes, and terms in all divisions of the ARE. Due to the recent creation and administration of the Examination for Architects in Canada (ExAC), the number of Canadian candidates taking the ARE has significantly declined. After analyzing this shift in administrations, the NCARB Board of Directors has determined that effective **July 2013 the ARE will no longer include the references to Canadian content.** The ARE will, however, continue to be delivered in Canada by our testing partner, Prometric, to those Canadian candidates that wish to write the ARE.

If you wish to complete the ARE to satisfy the examination requirement for initial licensure and NCARB certification and prefer to test based on the current examination content (which includes the Canadian references), you still have the opportunity to do so until 30 June 2013. In the event that you fail a division of the ARE, you must still wait a minimum of six months to retest the same division.

If you have any additional questions about this change or how it may impact your licensure process, please contact your provincial or territorial association directly. For a list of contact information, please visit the Canadian Provincial Associations page.

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join the ARE e-news mailing list back to main menu

Last December, the National Council of Architectural Registration Boards (NCARB) announced that changes to the Architect Registration Examination® (ARE®) process were coming this summer. Here's your chance to gain a better understanding of the exciting benefits to come, as we set the record straight and bust a few myths about what these changes mean for candidates.

TRUE: NCARB is launching a new ARE service in 2013, called My Examination.

In late August 2013, NCARB will launch a new service within My NCARB for ARE candidates to access their examination information and schedule appointments. The new service —called *My Examination*—will be located within your online NCARB Record and will offer several new benefits, such as easy access to exam history, authorization to test information, rolling clock dates, score reports, and more.

FALSE: The exam content is changing in July 2013.

Test specifications for each division will remain the same. The only thing changing from a candidate perspective is the process for scheduling a test, receiving a score report, and accessing exam history data.

TRUE: Exam divisions can't be scheduled during the blackout period.

In order to support this new service, there will be an estimated eight-week blackout period for candidates beginning 1 July 2013. During this time, exams cannot be administered or scheduled, and registration boards cannot create eligibilities for exam candidates. The blackout period is expected to end in late August.

FALSE: Prometric will no longer be administering the exam to candidates.

You will continue to take exams at Prometric test centers. When My Examination launches, you will schedule exam appointments through your NCARB Record, but the process will still be managed by Prometric.

Subscribe to *ARE Updates*

Over the next few months, NCARB will have more information about the new ARE system, processes, blackout, and preparation resources. Subscribe to *ARE Updates* to receive notification when new information is available. Subscribe

Practice Programs Beta Test Continues

The Council has **extended** its free trial of the beta version of the ARE Practice Programs service. The cloud-based service lets those with 64-bit Windows operating systems and Macs access the Practice Programs. NCARB will determine the feasibility of offering the service in the future. **For full details, see the frequently asked questions on NCARB.org.**

Authorization to Test Policy Change

As of 1 January 2011, exam candidates must take a division of the ARE (pass or fail) once every five years to keep their Authorization to Test (ATT) valid.

Authorization will not become inactive if the applicant tests and fails; it will only become inactive if the applicant does not take at least one division every five years. Candidates whose authorizations have become inactive will need to establish new eligibilities under the then current procedures of their registration boards.

TRUE: NCARB will automatically grant a 12-week extension to candidates' rolling clocks due to the July 2013 blackout.

NCARB will grant an automatic 12-week extension to the rolling clock and is working with jurisdictions with their own rolling clock rules to ensure all candidates receive the same extension. Candidates will receive the full 12-week extension regardless of the length of the blackout period.

TRUE: The extension to the rolling clock does not apply to the 1 July 2014 deadline for divisions passed prior to 2006.

Candidates who have passed exam divisions prior to 2006 and have not completed the ARE will need to pass all remaining divisions by 1 July 2014 to prevent those divisions from expiring.

TRUE: The rolling clock extension is based on a candidate's current expiration date.

If your rolling clock is scheduled to expire *during* or *after the blackout*, the rolling clock extension will be based on your current expiration date. For example, if your rolling clock is set to expire on 20 July 2013, you will receive a 12-week extension from that date. The new end date of your rolling clock will then be 12 October 2013.

However, if your rolling clock is set to expire *prior to the blackout*, the extension does not apply, so it's recommended that you schedule and take your exams before your rolling clock expiration date.

FALSE: The cost of the ARE is going to increase in 2013.

Fees to take the ARE will not increase in 2013 when My Examination launches—the cost of each division will remain the same. However, the fee to *reschedule* an exam will be based on the following tiered structure when My Examination launches:

- 0-3 days before appointment: Rescheduling not permitted
- 4-15 days before appointment: $80
- 16 or more days before the appointment: $60

FALSE: NCARB Record holders have to pay a fee to use the new My Examination service.

There will be no additional cost to active NCARB Record holders for access to My Examination; it will be included with the current cost of establishing and maintaining a Record. Inactive Record holders will be required to renew their Record. Non-Record holders will need to create an NCARB account and establish access.

TRUE: An NCARB Record is needed to take the ARE.

This has been a requirement for all *new* candidates since May 2008 and will now be a requirement for all candidates in order to

ARE Divisions Passed Prior to 2006

When the ARE Rolling Clock was implemented on 1 January 2006, all exam divisions passed prior to 1 January 2006 were exempt from the rolling clock. In June 2009, NCARB's Member Boards voted to have all exempt divisions expire on 1 July 2014 if the candidate hasn't passed all divisions of the ARE.

If you have divisions that are currently exempt because you passed them prior to 1 January 2006, you will need to complete all divisions of the ARE by 1 July 2014 to prevent them from being affected by this policy. Learn more about the rolling clock here and the transition to ARE 4.0 here.

Metric Measurements

As of 1 July 2013, the ARE will no longer include references to metric measurements. All units will be noted in imperial only.

Attention Canadian ARE Candidates

The NCARB Board of Directors has determined that effective July 2013 the ARE will no longer include the references to Canadian content. The ARE will, however, continue to be delivered in Canada by our testing partner, Prometric, to those Canadian candidates who wish to write the ARE. Learn more

Stay Informed

Follow NCARB online to stay up-to-date on the latest news and announcements:

access My Examination.

FALSE: NCARB makes a profit from the ARE.

NCARB does not make a profit from the exam and has held fees down since 2010. While it is not widely known, the cost of the ARE to candidates is subsidized by fees collected from other NCARB services (e.g., Record transmittals).

For more information, see the related FAQs on NCARB.org.

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National Council of Architectural Registration Boards | 1801 K Street NW | Suite 700K | Washington, DC 20006

MY EXAMINATION: Fact Sheet

My Examination launches in late August—are you ready?

In late August, NCARB will launch a new service within My NCARB called My Examination. In addition to being able to schedule appointments, ARE candidates will have easy access to score reports, exam history, rolling clock dates, authorization to test information, the latest ARE news, and more. We're here to set the record straight and bust a few myths about what these changes mean for candidates.

KEY CHANGES:

- Candidates will only be able to schedule exams through My Examination in My NCARB.
- All ARE candidates will need an active NCARB Record post-blackout.
- Score reports and exam history will be accessed through My Examination.
- Cost of rescheduling an exam will be based on the following tiered structure:
    - 0-3 days before appointment: Rescheduling not permitted
    - 4-15 days before appointment: $80
    - 16 or more days before the appointment: $60
- Candidates will now use biometric-enabled check-in at Prometric test sites.

WHAT'S THE SAME:

- Cost of each ARE division will not change.
- Exam content will not change.
- Candidates will continue to take exams at Prometric test centers.
- The cost of the exam will continue to be subsidized by fees for other NCARB services (NCARB does not make a profit from the exam.).

NCARB RECORD REQUIRED TO ACCESS MY EXAMINATION:

- No additional cost to active NCARB Record holders.
- For a limited time, NCARB will waive the reactivation fee for inactive Record holders post-blackout. To gain access, inactive Record holders will only pay the $75 renewal fee.
- Currently testing non-Record holders will receive one year of free access, but will then be required to pay an annual $75 renewal fee to maintain access.

BLACKOUT:

- To facilitate the migration of data to the new consultant, Alpine Testing Solutions, Inc., there will be an **estimated eight-week blackout starting 1 July 2013**.
- During this time, exams cannot be administered or scheduled, and registration boards cannot create eligibilities for exam candidates.
- No exam appointments may be scheduled for on or after 1 July 2013.
- The blackout period is expected to end in late August.
- Exams may be scheduled immediately following the blackout period.

ROLLING CLOCK:

- NCARB will grant an **automatic 12-week extension to the rolling clock** and is working with jurisdictions to ensure all candidates receive the same extension.
- Candidates will receive the full 12-week extension regardless of the length of the blackout period.
- Candidates who have passed exam divisions prior to 2006 and have not completed the ARE will need to pass all remaining divisions by 1 July 2014 to prevent those divisions from expiring.
- If a candidate's rolling clock is set to expire prior to the blackout, the extension does not apply, so it's recommended that they schedule and take their exams before their rolling clock expiration date.

TOOLS AND RESOURCES:

- My Examination FAQs—explains benefits and blackout rules. **Coming soon!**
- My Examination Tip Sheet—prepares candidates for the My Examination launch.
- ARE e-News—provides the latest exam news.
- Sneak Peak Video—offers tips on preparing for the new service. **Coming soon!**
- My Examination webpage

For the latest information, visit http://ncarb.org/ARE/ARE-Portal.aspx, or contact NCARB customer service at 202/879-0520 or customerservice@ncarb.org.

Agenda Item G

CLOSED SESSION – [CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTIONS 11126(C)(1) and (3)]

1. Review and Approve June 13, 2013 Closed Session Minutes

2. Discuss and Possible Action on the California Supplemental Examination (CSE) Development and Administration

Agenda Item H

DISCUSS AND POSSIBLE ACTION ON PROCESS FOR CONDUCTING AN EXTERNAL REVIEW AND EVALUATION OF CSE DEVELOPMENT

At its June 13, 2013 meeting, the Board discussed several items pertaining to the California Supplemental Examination (CSE). One of the items stemmed from the discussion related to the recent forms of the examination. As a result, the Board expressed an interest in further studying the current examination development process utilized by the Department of Consumer Affairs (DCA) Office of Professional Examination Services (OPES). The Board directed staff to research an internal review of current practices related to CSE development.

In researching this matter, staff determined that a potential review and evaluation of the CSE development process could include, but would not be limited to: 1) a planning meeting with Board staff to acquire additional background information, and establish specific objectives; 2) the acquisition, review, and evaluation of all examination development processes/procedures against national standards for licensing examinations; 3) a review of all applicable technical reports, examination development data, candidate scoring data, and item statistics; 4) a review of any specific examination content/material in question; 5) interviews with examination development staff and Subject Matter Experts (examination development workshop participants); and 6) a findings report.

When considering needed services, a state agency must comply with the state contracting process and the applicable requirements (i.e., statutes, policies, and procedures). A state agency, like the Board, must first try to secure services through a civil service entity (another state agency) rather than a private entity, pursuant to the State Constitution and Government Code section 19130. If the specific services are not available through civil service entities, the Board would then need to seek approval from DCA in order to contract with a private outside vendor [i.e., a certified small business (SB), disabled veteran business enterprise (DVBE), or other private entity via the formal competitive bidding process]. The bidding process, and acquisition of services via that process, could take between six and nine months to finalize.

In researching this matter further, staff also learned from the DCA Contracts Unit of a known civil service entity that has recently provided comparable services for another DCA board. However, it may be necessary to identify other civil service entities that could provide the needed services, should that entity be unavailable. Contracting for services between state agencies is a relatively

straight-forward process exempt from the formal competitive bidding process, and requires an Intra-Agency Contract Agreement (similar to the agreement between the Board and OPES).

Should it be determined that civil service entities cannot (or, are not available to) provide the needed services, then the Board would have the option, according to the DCA Contracts Unit, of considering a Joint Powers Agreement (JPA) entity. However, this is not a required option. A JPA entity is comprised of multiple public agencies that provide services jointly for the purpose of accomplishing specific goals they may have in common. The DCA Contracts Unit informed staff there is one such entity available to state agencies that provides examination development/validation and other consulting services – CPS HR Consulting. Although CPS regularly provides consulting services for DCA entities, the DCA Contracts Unit is not aware of CPS performing examination development/ validation services for a DCA entity in the recent past. According to the DCA Contracts Unit contracting with a JPA entity, like contracting with a civil service entity, is a relatively straight-forward process (also exempt from the formal competitive bidding process).

Staff can address additional questions the Board may have regarding the process for conducting an internal review. Additionally, the Board may provide further direction to staff in researching this matter.

Agenda Item I

LANDSCAPE ARCHITECTS TECHNICAL COMMITTEE (LATC) REPORT

1. Update on August 20, 2013 LATC Meeting

2. Review and Approve Proposed Regulations to Amend CCR, Section 2610 (Application for Examination)

3. Review and Approve Proposed Regulations to Amend CCR, Section 2649 (Fees)

UPDATE ON AUGUST 20, 2013 LATC MEETING

The LATC met on August 20, 2013, in Sacramento. Attached is the meeting notice. Staff will provide an update on the meeting.

NOTICE OF MEETING

August 20, 2013
10:00am – 5:00pm
Landscape Architects Technical Committee
Sequoia Room
2420 Del Paso Road
Sacramento, CA 95834
(916) 575-7230

The Landscape Architects Technical Committee (LATC) will hold a meeting as noted above. The agenda items may not be addressed in the order noted and the meeting will be adjourned upon completion of the agenda which may be at a time earlier than that posted in this notice. The meeting is open to the public and held in a barrier free facility according to the Americans with Disabilities Act. Any person requiring a disability-related modification or accommodation to participate in the meeting may make a request by contacting Ken Miller at (916) 575-7230, emailing latc@dca.ca.gov, or sending a written request to LATC, 2420 Del Paso Road, Suite 105, Sacramento, California, 95834. Providing your request at least five business days before the meeting will help to ensure availability of the requested accommodation.

A. Call to Order – Roll Call – Establishment of a Quorum
Chair's Remarks
Public Comment Session

B. Approve May 22, 2013 LATC Summary Report

C. Program Manager's Report

D. Update on Occupational Analysis from Office of Professional Examination Services

E. Report on Council of Landscape Architectural Registration Boards (CLARB)
1. Review of CLARB Annual Meeting Agenda, Policies, and Procedures
2. Update on CLARB's Committee on Nominations Election
3. Review and Approve Recommended Position on Resolutions and Board of Directors Election Ballot

F. Update on Proposed Regulations to Amend California Code of Regulations (CCR) Section 2620.5 (Requirements for an Approved Extension Certificate Program)
1. Review Office of Administrative Law (OAL) Disapproval Decision for CCR Section 2620.5
2. Action to Address OAL Disapproval Decision for CCR Section 2620.5

G. Review and Possible Action on Proposed Regulations to Amend CCR Section 2610 (Application for Examination)

H. Review and Possible Action on Proposed Regulations to Amend CCR Section 2649 (Fees)

I. Review and Approve Exceptions and Exemptions Task Force Recommendations Regarding Business and Professions Code Section 5641 (Chapter Exceptions, Exemptions)

J. Review Tentative Schedule and Confirm Future LATC Meeting Dates

K. Adjourn

Please contact Ken Miller at (916) 575-7230 for additional information related to the meeting. Notices and agendas for LATC meetings can be found at *www.latc.ca.gov*.

REVIEW AND APPROVE PROPOSED REGULATIONS TO AMEND CALIFORNIA CODE OF REGULATIONS (CCR) SECTION 2610 (APPLICATION FOR EXAMINATION)

CCR section 2610 (Application for Examination) requires candidates who wish to register for the Landscape Architect Registration Examination (LARE) to file their application with the LATC 70 days prior to their requested examination date. This requirement was established in 1998 when the licensing examination was partially administered by the LATC and it allowed the LATC preparation time for the administration. In August 2004, the Council of Landscape Architectural Registration Boards (CLARB) began administering sections A, B, and D of the five-section LARE; however, LATC continued to administer sections C and E.

In December 2009, CLARB began administering all five sections of the LARE, and in 2012 eliminated the graphic portion of the examination, reducing the lead time for applications to be reviewed by LATC prior to the examination date. Currently, LATC needs approximately four to six weeks to process an application for eligibility.

At the August 20, 2013 LATC meeting, the Committee was presented with proposed language to amend CCR section 2610 that will change the 70-day registration requirement to 45 days, allowing candidates more time to register for sections of the LARE. The LATC reviewed the proposed language and recommended that the Board proceed with the proposed regulatory change.

The Board is asked to review and approve the proposed regulation to amend CCR, Title 16, Division 26, section 2610, provided no adverse comments are received during the public comment period, and delegate authority to the Executive Officer to adopt the regulations and make minor technical changes to the language, if needed.

Attachment:
1. Proposed Language to Amend CCR Section 2610

CALIFORNIA ARCHITECTS BOARD
LANDSCAPE ARCHITECTS TECHNICAL COMMITTEE
PROPOSED LANGUAGE

Amend Section 2610 of Division 26 of Title 16 of the California Code of Regulations to read as follows:

§ 2610. Application for Examination.

(a) Application for examination shall be made upon the form provided by the Board, accompanied by such evidence, statements, or documents as therein required.

(b) The application shall be filed with the Board at its office in Sacramento, California at least ~~seventy~~forty-five (~~70~~45) days prior to the date of the examination which the applicant wishes to take and shall be accompanied by the fee required by Section 5681(a) of the Code. Refunds of fees to applicants who are found to be ineligible to take the examination shall be made in accordance with Section 158 of the Code.

NOTE: Authority cited: Section 5630, Business and Professions Code. References cited: Sections 5650 and 5651 Business and Professions Code.

REVIEW AND APPROVE PROPOSED REGULATIONS TO AMEND CCR SECTION 2649 (FEES)

At the January 24-25, 2013 Landscape Architects Technical Committee (LATC) meeting, Department of Consumer Affairs (DCA) Budget Office staff provided a budget presentation to the LATC. In this presentation, the LATC fund balance of 19.5 months in reserve was discussed in context with Business and Professions Code (BPC) section 128.5 (Reduction of License Fees in Event of Surplus Funds), which requires funds to be reduced if an agency has 24 months of funds. As a result of this discussion, LATC asked staff to consult with DCA to determine if license fees could be reduced for one renewal cycle and to explore additional ways of addressing the fund balance to comply with BPC 128.5.

Staff met with DCA Budget Office staff and legal counsel to explore options and a license renewal fee reduction from $400 to $220 was recommended in addition to a negative budget change proposal to reduce LATC's spending authority by $200,000. These recommendations take into consideration the increased expenses for the California Supplemental Examination development cycle, occupational analysis, University of California Extension Certificate Program reviews, and a fully staffed program with an additional position (Office Technician). In order to reduce the license renewal fees for one renewal cycle, a regulatory change proposal to amend CCR section 2649 (Fees) is necessary.

At the May 22, 2013 LATC meeting, the members approved the proposed temporary fee reduction, reducing license renewal fees for one renewal cycle beginning in fiscal year 2015/2016 from $400 to $220. At the August 20, 2013 LATC meeting, the Committee reviewed the proposed language to amend CCR section 2649 and recommended the Board proceed with the proposed regulatory change.

The Board is asked to review and approve the proposed regulation to amend CCR, Title 16, Division 26, section 2649, provided no adverse comments are received during the public comment period, and delegate authority to the Executive Officer to adopt the regulations and make minor technical changes to the language, if needed.

Attachment:
1. Proposed Language to Amend CCR Section 2649

CALIFORNIA ARCHITECTS BOARD
LANDSCAPE ARCHITECTS TECHNICAL COMMITTEE

California Code of Regulations § 2649 (Fees)

The fees for landscape architect applicants and landscape architect licensees shall be fixed by the Board as follows:

(a) The fee for reviewing an eligibility application or an application to take the California Supplemental Examination is $35.

(b) ~~The fee for the California Supplemental Examination is $225. On or after July 1, 2009, t~~The fee for the California Supplemental Examination is $275.

(c) The fee for a duplicate license is $15.

(d) The penalty for late notification of a change of address is $50.

(e) The fee for an original license is ~~$300. For licenses issued on or after July 1, 2009, the fee for original license shall be~~ $400.

(f) ~~The fee for a biennial renewal is $300.~~ For licenses expiring on or after July 1, 2009, the fee for biennial renewal shall be $400. For licenses expiring on or after July 1, 2015, the fee for biennial renewal shall be $220. For licenses expiring on or after July 1, 2017, the fee for biennial renewal shall be $400.

Note: Authority cited: Section 5630, Business and Professions Code. Reference cited: Section 5681, Business and Professions Code.

Agenda Item J

REVIEW OF SCHEDULE

<u>September</u>		
2	*Labor Day*	*Office Closed*
12	Board Meeting	Burbank
26-28	Council of Landscape Architectural Registration Boards Annual Meeting	Minneapolis, MN
October		
1	Communications Committee Meeting (Teleconference)	Sacramento/Various
23	Professional Qualifications Committee Meeting (Teleconference)	Sacramento/Various
<u>November</u>		
TBD	Executive Committee Meeting (Teleconference)	Sacramento/Various
7	Landscape Architects Technical Committee Meeting	Ontario
11	*Veteran's Day*	*Office Closed*
28-29	*Thanksgiving Holiday*	*Office Closed*
<u>December</u>		
5-6	Board Meeting	TBD
25	*Christmas*	*Office Closed*

Agenda Item K

ADJOURNMENT

Time: _____