

2019

**ICE**  
EXCHANGE

# San Diego

**Monday, November 18 -  
Thursday, November 21, 2019**  
Hilton San Diego Bayfront

**#ICEEXCHANGE19**

# Item Bank Hygiene – is your item bank squeaky clean or is there dirt in the crevices?

Presenters:

Alpine: Susan Cooley & Laura Brooks

NCARB: Michelle Cohn & Bill Johnson



# Item Bank Hygiene

What is a pool review?

# Overview of pool review

- Systematic review of all the items in the bank
- Establish guidelines to ensure consistent and repeatable reviews
- Recruit multiple reviewers to ensure consensus
- Establish parameters to save items

# Why conduct a pool review?

- Reviewers ensure items are still viable and accurate
- Reviewers analyze statistics of item performance



# Timelines and Triggers

Determine when to  
conduct a pool  
review on your items

Industry Driven

Triggers

Timing

Availability

# NCARB

- Facilitates licensure and credentialing of architects
- Engages with 55 jurisdictional boards
- Develops and administers the exam and other programs



# ARE 5.0

- Six separate divisions
- Pass all within five years
- Administered at Prometric
- All include:
  - Discrete items
  - Case studies
  - Multiple item types





# Overview of NCARB's pool review

- Goal: Consistency in item bank
- Assume: It's okay to lose items!
- Need to determine:
  1. Who
  2. When
  3. How

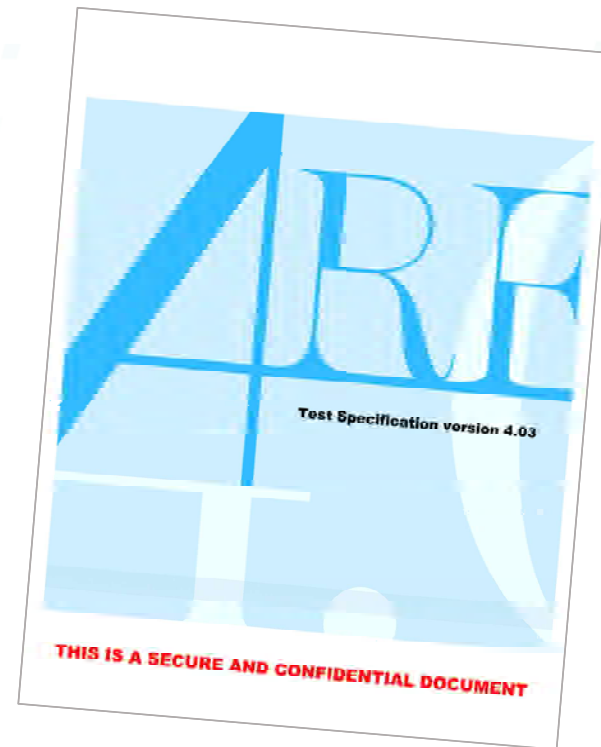


# Why does NCARB conduct pool reviews?



# Why does NCARB conduct pool reviews?

- 2013-14:
  - New Test Specification
  - Updated technology
  - Quality Control check
  - Content updates



# Why does NCARB conduct pool reviews?

- 2018-19:
  - New Test Specification
  - Recheck item mapping
  - Technology transition
  - Content updates





# Item Bank Hygiene

What is the process involved?

# Process Details

- How will items be reviewed?
  - Live? Distributed?
  - Virtual? In-person? Combination?
- How many reviewers/remediators?

# Process Details

- Which items should be reviewed?
  - Full bank review?
  - All items written before a certain date?
  - Keyword flags?

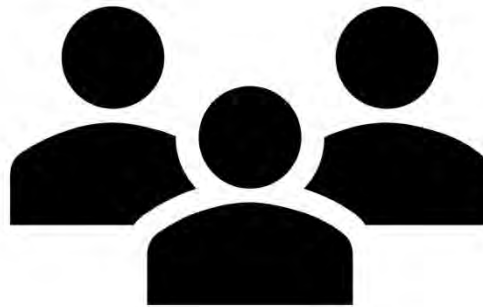
# Process Details

- What will you review for?
- General recommendations
  - Content relevance
  - Key and distractors
  - Blueprint alignment
- Other considerations:
  - Rationale/reference requirements
  - Regulations changes
  - Statistical review



# NCARB Process Details

Existing Item Writing Committee



In-person meetings  
Homework

Extra meeting  
More SMEs

Timeline: 1 year

# NCARB Process Details



# NCARB's Two-Part Review

## Macro Review

High level

Quick decision

Is the item appropriate?

First reduction of item bank

## Micro Review

Detail level

Item mostly works...but needs some edits

Item could work...but needs lots of edits

Second reduction of item bank

# Macro Review

## Macro questions for each item

Does the **content** match the test spec?

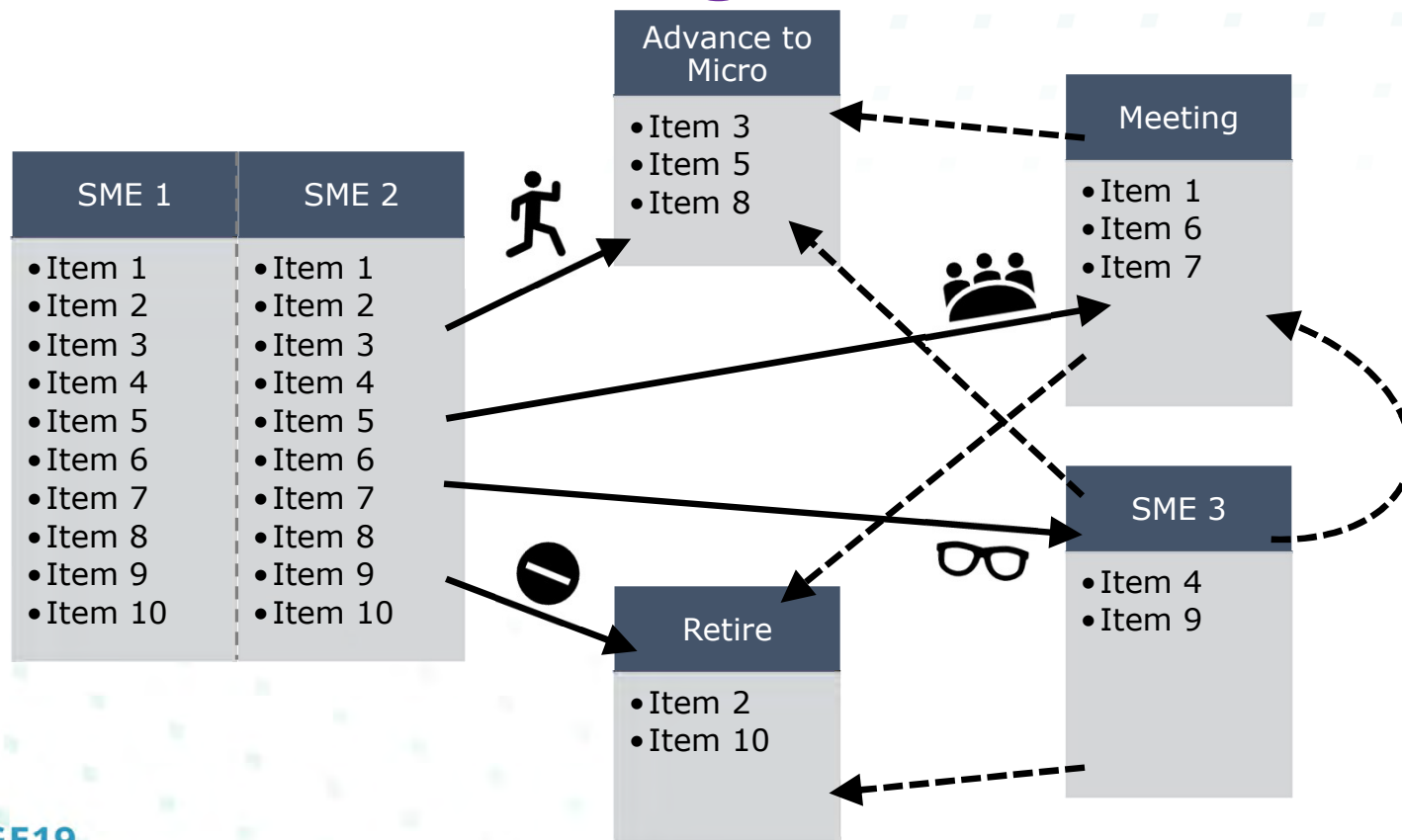
Does the **cognitive complexity** match the test spec?

If not...is there a **better objective**?

Is it **relevant to the current practice** of architecture?



# For each macro assignment...



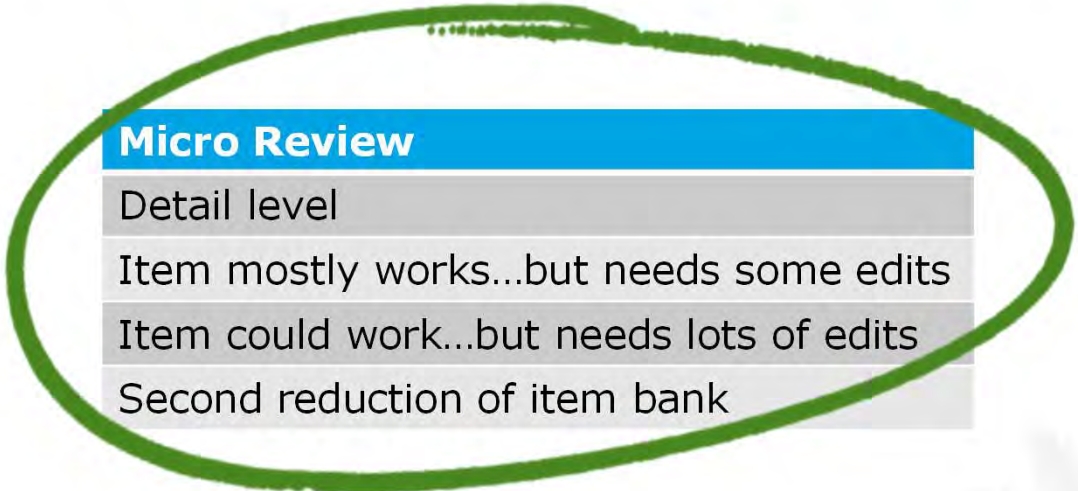
# NCARB's Two-Part Review

## Macro Review



High level
Quick decision
Is the item appropriate?
First reduction of item bank

## Micro Review



Detail level
Item mostly works...but needs some edits
Item could work...but needs lots of edits
Second reduction of item bank

# Micro Review

## What the candidates see

- Stem
- Key
- Distractors
- Graphics, Exhibits, Images

## What the candidates don't see

- Calculation status
- Calculation documentation
- References
- Rationales

# What's a *current* reference?

- AIA Contract Documents
- Building and Accessibility Codes
- Other documents – NCARB, AIA, CSI
- Copyright on/after 2006

## ARE 5.0 Reference Standards to be used for Pool Review

### Codes/Accessibility

International Code Council

- International Building Code (**2015**)
- ICC A117.1-09: Accessible and Usable Buildings and Facilities

National Fire Protection Association

- NFPA 101-15: Life Safety Code
- NFPA 70-14: National Electrical Code

US Department of Justice

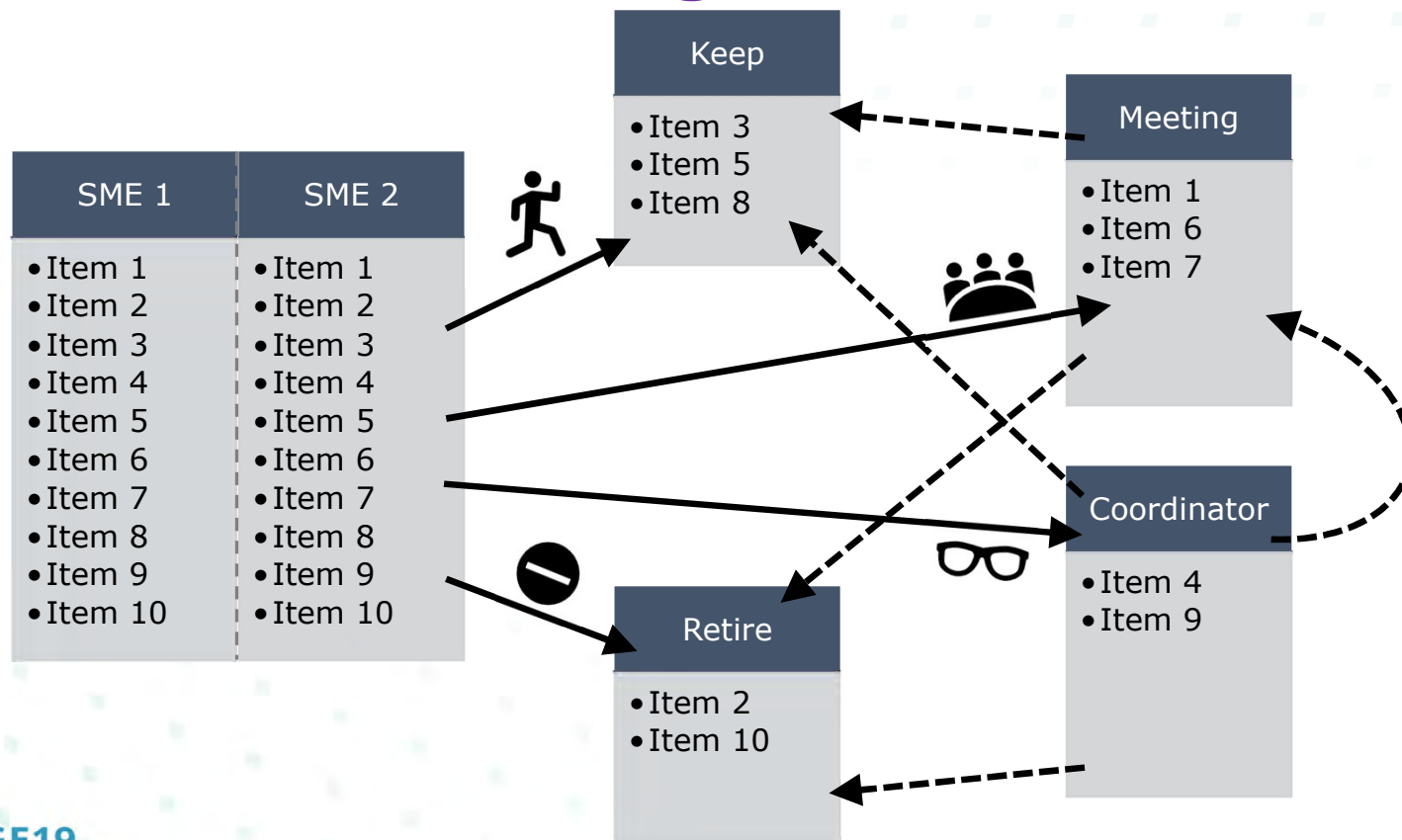
- **2010** ADA Standards for Accessible Design

### Contract Documents

ConsensusDocs 310



# For each micro assignment...




# Process Details

- How will item reviews be recorded?
  - Duplicate item bank
  - In bank? Or outside?
- How will remediation occur?
- How will final decisions be recorded?
- What will be your item update policy (degree of change)?
  - How will you track what needs to be re-pretested, and what doesn't?

# Homework Distribution

- ExamStudio setup
  - Teams/Roles
  - Lists/Permissions
  - Exporting Field data
- Summary spreadsheet tracking the overall effort
- Teamwork updating systems

# ExamStudio



Agency: NCARB  
 Logged in as: michellencarb@gmail.com  
 Last Login was on: 6/28/2018 2:24:23 PM

Dashboard    Authoring
 

Change Password    Logout

Dashboard > ARE 5.0 > Project Planning & Design > Item: PPD-0012 (Multiple Choice)
 

English

Item: PPD-0012 (Multiple Choice) M

Ruler    Mode ▾    View    Edit    Preview    Previous    Jump to It...    Next >    Save

Stem / Distractor    Lists

Item Details

ItemID	PPD-0012	
Item Type	Multiple Choice	
Mapped Objective	1.1 (A/E) Determine location of building and site improvements ba	
Item Status	In Use	

PR-1.1: Content Match  
 PR-1.2: Cognitive Complexity Match  
 PR-1.3: Better Objective Match  
 PR-1.4: Relevance

Does the item content fall within the test spec content area (objective, section, division)? ▾

Is the item at the cognitive complexity level listed in ExamStudio? ▾

Is there a more appropriate objective for this item, within the same division, for both its content and cognitive complexity level? ▾

Is the item relevant to the current practice of architecture? ▾

# Customized Drop-downs

PR-m1.1: Accurate Stem	Yes
PR-m1.2: Accurate Key	Yes
PR-m1.3: Accurate Distractors	N/A - this is a QFIB item.
PR-m1.4: Graphics, Exhibits, Images	N/A - this item does not include graphics, exhibits, or images.
PR-m1.5: Calculation Status	Are all graphics/exhibits/images legible, non-pixelated, coordinated, and understandable?
PR-m1.6: Correct Calculation	Yes
PR-m1.6b: Alternate Calculation	No - select primary reason below.
PR-m1.7: Accurate Reference	Text within the graphics/exhibits/images is very small or otherwise difficult to read.
PR-m1.8: Adequate Rationale	The graphics/exhibits/images are pixelated and fuzzy.
	The graphics/exhibits/images do not coordinate with each other and/or with the item.
	The graphics/exhibits/images are not understandable for a reason not listed above.
	N/A - this item does not include graphics, exhibits, or images.



# Processing Responses in Excel

	A	B	C	D	E	O	P	U	V	X	Y	Z	AC	AD	AE	AO	AP	AQ	AR	AS
	ItemID	Type	Status as of 8/30/19	Mapped Objective as of 8/30/19	CC as of 8/30/19	Forms	Cases	Macro Hmwk	SME pair	Verdict - Macro	New Obj	New CC	Micro Hmwk	SME pair for Micro	Verdict - Micro	Alpine PR Summary v1	Temp			
31	CE-0054	Multiple Ch	Pretested	3.1 (U/A) Det	U/A	CEFY182B	CE-cs-2.a	2	1/2	MoveFwd				5 B (3/4)	Keep	Approved - no additional pretesting required				
32	CE-0044	Check All th	Pretesting	3.1 (U/A) Det	U/A	CEFY193C	CE-cs-2.a	6 1/2		MoveFwd	3.1 (U/A) C		mtg3	group	Keep	Approved - no additional pretesting required				
34	CE-0057	Multiple Ch	In Use	2.2 (A/E) Eval	A/E	CEFY173A	CE-cs-1.a	2	3/4	MoveFwd				5 C (5/6)	Keep	Approved - no additional pretesting required				
35	CE-0067	Check All th	Pretested	1.3 (A/E) Anal	A/E	CEFY183B	CE-cs-2.a	2	1/2	Hold			FA3	A (1/2)	Keep	Approved - no additional pretesting required				
36	CE-0052	Check All th	Retired Due to	3.1 (U/A) Det	A/E	CEFY171A	CE-cs-1.a									Not reviewed				
37	CE-1005	Check All th	Retired Due to	1.1 (U/A) Inte	U/A	CEFY173A, CEFY183A, C		1	3/4	MoveFwd			mini1	group	Retire	Retired due to content				
38	CE-0081	Multiple Ch	Pretested	1.1 (U/A) Inte	U/A	CEFY183A		2	1/2	MoveFwd				4 B (3/4)	Keep	Approved - no additional pretesting required				
39	CE-0055	Multiple Ch	Ready for Pre	3.1 (U/A) Det	U/A		CE-cs-2.a	7 3/4		MoveFwd				9 C (5/6)	Keep	Approved - no additional pretesting required				
40	CE-1009	Multiple Ch	Retired Due to	1.1 (U/A) Inte	U/A	CEFY173A, CEFY183A, C		1	5/6	Retire						Retired due to irrelevance				
41	CE-0060	Multiple Ch	Retired Due to	3.1 (U/A) Det	A/E	CEFY171A	CE-cs-1.a									Not reviewed				
43	CE-0094	Multiple Ch	Pretesting	1.3 (A/E) Anal	A/E	CEFY193A	CE-cs-1.a	6 1/2		MoveFwd			FA2	A (1/2)	Keep	Approved - no additional pretesting required				
44	CE-0063	Fill-in-the-B	Retired Due to	3.3 (A/E) Eval	A/E		CE-cs-2.a	7 3/4		Retire						Retired due to irrelevance				
45	CE-1010	Multiple Ch	In Use	1.1 (U/A) Inte	U/A	CEFY173A, CEFY183A, C		1	5/6	MoveFwd			mini2	A (1/2)	Keep	Approved - no additional pretesting required				
46	CE-0098	Check All th	Pretested	2.1 (A/E) Eval	A/E	CEFY182A	CE-cs-2.a	2	1/2	MoveFwd				5 B (3/4)	Keep	Approved - no additional pretesting required				
47	CE-0072	Check All th	Retired Due to	2.2 (A/E) Eval	A/E	CEFY193A	CE-cs-2.a	6 1/2		MoveFwd			FA2	B (3/4)	Retire	Retired due to content				
48	CE-1012	Multiple Ch	Retired Due to	1.1 (U/A) Inte	U/A	CEFY172A, CEFY182A, C		1	5/6	Retire						Partially reviewed - macro only				
49	CE-1013	Multiple Ch	Retired Due to	1.1 (U/A) Inte	U/A	CEFY173A, CEFY183A, C		1	5/6	MoveFwd			mini2	A (1/2)	Retire	Retired due to content				
51	CE-0100	Check All th	In Use	2.3 (U/A) Det	U/A	CEFY171A, CEFY172A, C		2	1/2	MoveFwd				4 B (3/4)	Keep	Approved - no additional pretesting required				
		Macro Tally	Micro Tally	Mtg-4 Counts	PR-QC	PcM	PjM	PA	PPD	PDD	CE	PcM V5 2019.07.01	PjM V5 2019.07.01	PA V5 2019.07.01	PPD V5					



# Degree of Change

Item Type	Changes that <b>won't</b> require re-pretesting	Changes that <b>will</b> require re-pretesting
All	<p>Code and contract changes: just changing the date, table number, chapter number, page number (no other changes to the content of the reference)</p> <p>Small code- or contract-related terminology changes that don't change the meaning (e.g., supplemental services vs. additional services) – review master list of acceptable word swaps</p> <p>Calculations: Change to the Calculation Required field (but a comment indicating the change is required).</p> <p>Graphics: If graphic quality is being improved, but was legible in its original version as well</p>	<p>Code and contract changes related to changes in code content</p> <p>Cumulative “acceptable” swaps—be aware of degree of change (SME judgment call)</p> <p>Calculations: Any type of wording clarification in stem (e.g., “Round to the nearest whole number.”)</p> <p>Graphics: If graphic is being adjusted because it is unclear and could impact candidates' ability to answer (SME judgment call); any other change to a graphic</p>
SMC		
CATA		
HS	Adding new distractor drop target areas (assuming no other drop target areas are changed)	Any change to existing drop target boundaries (key or distractor areas)
<u>DnP</u>	Adding new distractor drop target areas (assuming no other drop target areas are changed)	Any change to existing drop target boundaries (key or distractor areas)
QFIB		Any change to key, including rounding, number of digits, units, range

# Degree of Change

Updates to info  
candidates see



Re-pilot test the item

Updates to info  
candidates don't see



Maintain current item  
status

Or...?



Compromise

# Item Bank Hygiene

Lessons Learned

# Supporting Pool Review

- Automation is your friend
- Clear expectations and communication

# What's Next for NCARB

- Lessons learned
- Future ideas



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# Questions?



# Thank you!