Public Proposals Report

On the Development of the

2020 National Green Building Standard

September 28, 2018

FOREWORD

This is the Public Proposals Report (PPR) on the development of the 2020 edition of the National Green Building Standard (NGBS). This report summarizes the steps of the Proposed Change phase of the development of the Draft Standard for the purpose of receiving public comments on the changes made to the 2015 edition of the NGBS. The roster of the Consensus Committee at the time of the acceptance of the Proposed Changes is included.

A formal "Call for Proposals" was released on January 5, 2017. The 66-day period for submitting Proposed Changes closed on March 12, 2017. A second "Call for Proposals" was released on October 6, 2017 resulting for the expanded scope of the NGBS; the 30-day period for submitting Proposed Changes pertinent with the scope change closed on November 6, 2017. It is noted that the NGBS is always open for comment, and Proposed Changes can by submitted at any time via web-based form posted at www.homeinnovation.com/ngbs.

After the close of the "Call for Proposals" periods, the Proposed Changes were grouped for review and recommendation by the eight task groups assembled to assist the Consensus Committee in advisory function. The task groups met in person and by conference call from April 2017 through March 2018. In all, 422 Proposed Changes were received from the public and 118 Proposed Changes were developed by the task groups.

The Consensus Committee held an orientation meeting on April 18-19, 2017 at the National Housing Center in Washington, DC to review the schedule and other business matter for the development of the 2020 NGBS, and for the task groups to formally meet and begin their work. Coordination Task Group and Mixed-Use/Commercial Spaces Task Group held a joint meeting on February 6-7, 2018 at the National Housing Center in Washington, DC. On May 15-17, 2018 public hearings were held at the National Housing Center in Washington, DC. The full Consensus Committee heard public testimony, reviewed the task group recommendations, and took Formal Actions on each Proposed Change.

The Ballot Period on the Formal Actions taken at the May meeting started on July 3, 2018 and ended on August 5, 2018. All ballot comments were circulated to the committee from September 6, 2018 through September 17, 2018 to afford the voting members of the Consensus Committee an opportunity to respond, reaffirm, or change their vote. All Committee Actions taken at the May meeting were upheld through the ballot as shown in this PPR. A total of 40 ballots (out of 45) were returned. Members not returning their ballot: Lee Brammeier, Charles Cottrell, Robert Ross, Eric Schlegel, Steve White.

This PPR includes the following information on each Proposed Change considered by the Consensus Committee:

1) The name of the submitter of the Proposed Change;
2) The entity represented by Submitter;
3) The text of the Proposed Change;
4) The Formal Action taken by the Consensus Committee at the November 6-8 meeting;
5) The Final Formal Action taken by the Consensus Committee as a result of the formal letter ballot;
6) Any Consensus Committee reason for Formal Action;
7) Number of Consensus Committee members eligible to vote;
8) Number voting Agree and any stated reasons for their vote;
9) Number and identification of Disagree voters and stated reasons for each Disagree vote;
10) Number and identification of those who have abstained, and reasons for each abstention; and
11) Number and identification of those who have not returned ballots.

Release of Draft Standard. Those Proposed Changes that were Approved or Approved as Modified by the Consensus Committee have been incorporated in the Draft Standard posted at www.homeinnovation.com/ngbs. The changes shown in the Draft Standard are now open for public comment. Public comments are accepted through November 12,

2018 via a web-based form available at www.homeinnovation.com/ngbs. Instructions for submitting public comments are included with the web-based form.

Notification of Committee Action. The release of this PPR is considered notification to a submitter of a Proposed Change or related ballot comment as to the committee action on the Proposed Change. Any objection contained in a Proposed Changed is considered resolved unless a public comment is submitted in accordance with Section 4.4.5 of the Home Innovation Research Labs "Procedures for Consensus Development Standards" (Procedures – available at www.homeinnovation.com/ngbs), or an appeal is filed in accordance with Section 5 of the Procedures.

Appeals. Persons who have directly and materially affected interests and who have been or will be adversely affected by any procedural action or inaction by the Secretariat with regard to the development of a proposed standard or the revision, reaffirmation or withdrawal of an existing standard, have the right to appeal. Appeals shall be based on compliance with or interpretation of the Home Innovation Research Labs procedures. An appeal shall be submitted by registered mail to the Standards Coordinator no later than October 28, 2018. The appeal shall identify and address the original source of the objection. The appeal shall specify the cause of the appeal, the applicable section(s) of these procedures related to the appeal, and a proposed corrective action. The appeal shall be accompanied by a filing fee of $500.00. This fee may be waived or reduced upon sufficient evidence of hardship. Appeals will be considered by the Appeals Panel at a hearing on the premises of the Home Innovation Research Labs and shall be scheduled within 90 calendar days of receipt of the appeal by the Standards Coordinator. Please see the Home Innovation Research Labs' Procedures for further information.

September 28, 2018

The following were the members of the Consensus Committee on the National Green Building Standard at the time of voting on the Proposed Changes shown in this Public Proposals Report.

Chair: Robert D. Ross

Vice Chair: Paula Cino

Vice Chair: Amy Schmidt

Committee Staff: Luis Escobar

Vladimir Kochkin

ICC Staff Liaison Allan Bilka

ACCA (U)
Primary Rep: Donald Prather

Air-Conditioning, Heating, and Refrigeration Institute (P)
Primary Rep: Laura Petrillo-Groh

Alliance for Water Efficiency (G)
Primary Rep: Thomas Pape

Aluminum Extruders Council, Glass Association of North America (P)
Primary Rep: Thomas Culp

American Gas Association (P)
Primary Rep: Paul W. Cabot Alternate Rep: Ted Williams

American Wood Council (P)
Primary Rep: Loren Ross Alternate Rep: Sam Francis

BOMA International (U)
Primary Rep: Andrew Klein

Building Quality (U)
Primary Rep: Craig Conner

Charles R. Foster (P)
Primary Rep: Charles R. Foster, III

Cherry Hills Village (G)
Primary Rep: Hope Medina

City of Des Moines (G)
Primary Rep: Sean S. Devlin

City of Winter Park (G)
Primary Rep: Kristopher R. Stenger

Coconino County (G)
Primary Rep: Steven White

Crescent Communities (U)
Primary Rep: Gregory Curtis Coolidge

DuPont Building Innovations (P)
Primary Rep: Theresa A. Weston

Edison Electric Institute (P)
Primary Rep: Steven Rosenstock

G&R Construction Services (U)
Primary Rep: Robert D. Ross – Chair

Gas Technology Institute/Carbon Management Information Center (P)
Primary Rep: Neil P. Leslie

Greenscapes Alliance (P)
Primary Rep: Greg Johnson

Knez Construction (U)
Primary Rep: William A. Sanderson

Kohler Company (P)
Primary Rep: Cambria McLeod

Los Alamos County (G)
Primary Rep: Lee Brammeier

Lutron Electronics (P)
Primary Rep: Michael Jouaneh

Mathis Consulting Company (U)
Primary Rep: R. Christopher Mathis

National Multifamily Housing Council (U)
Primary Rep: Paula Cino – Vice Chair

North American Insulation Manufacturers Association (P)
Primary Rep: Charles C Cottrell Alternate Rep: Merle McBride

P3 Builder Group (U)
Primary Rep: John Barrows

PEG (U)
Primary Rep: Matthew Cooper

Plastic Pipe and Fittings Association (P)
Primary Rep: Michael Cudahy

Plumbing Manufacturers International (P)
Primary Rep: Matt Sigler

Portland Cement Association (P)
Primary Rep: Marc Allen Nard

Red Tree Builders (U)
Primary Rep: Brandon Bryant

Steinberg Dickey Collaborative LLP (U)
Primary Rep: Sanford Steinberg

Steven Winter Associates (U)
Primary Rep: Karla Butterfield

Tempo Partners (U)
Primary Rep: Aaron Gary

The Dow Chemical Company (P)
Primary Rep: Amy Schmidt – Vice Chair Alternate Rep: Lorraine Ross

Town of Truckee (G)
Primary Rep: Johnny Goetz

UL (P)
Primary Rep: Josh Jacobs

Urban Northwest Homes (U)
Primary Rep: Jerud Martin

U.S. Department of Energy (G)
Primary Rep: Jeremiah Williams

U.S. Dept of Housing and Urban Development (G)
Primary Rep: Dana Bres

U.S. Environmental Protection Agency (G)
Primary Rep: Bob Thompson Alternate Rep: Robert L. Goo

Vinyl Siding Institute (P)
Primary Rep: Matthew Dobson

WDG Architecture (U)
Primary Rep: Eric Schlegel

Window & Door Manufacturers Association (P)
Primary Rep: Jeff Inks

Total	**45**
General	10
Producer	19
User	16

Producer Interest (P): Individuals assigned to the Producer Interest Category are those who represent the interests of an entity, including an association of such entities, which produces, installs or maintains a product, assembly or system subject to the provisions within the scope of the Consensus Committee. These entities included Distributor, Labor, Manufacturer, Material Association, Standards Promulgator, Testing Laboratory, and Utility.

User Interest (U): Individuals assigned to the User Interest Category are those who represent the interests of an entity, including an association of such entities, which is subject to the provisions or voluntarily utilize the provisions within the scope of the Consensus Committee. These entities include Builder, Contractor, Consultant, Applied Research Laboratory, Building Owner, Design Professional, Insurance Company, Private Inspection Agency, and Product Certification/Evaluation Agency.

General Interest (G): Individuals assigned to the General Interest Category are those who represent the interests of an entity, including an association of such entities, representing the general public or entities which promulgate or enforce the provisions within the scope of the Consensus Committee. These entities include Academia, Consumers, and Government Agencies.

Ballot Results Summary

Proposal Number	LogID	Final Formal Action	Ballot Results
P001	17-063	Disapprove	40-0-0
P002	6227	Disapprove	40-0-0
P003	6590	Disapprove	40-0-0
P004	6583	Disapprove	37-3-0
P005	6584	Withdrawn	40-0-0
P006	6499	Disapprove	40-0-0
P007	6497	Disapprove	40-0-0
P008	17-003	Approve as Submitted	38-1-1
P009	17-088	Disapprove	40-0-0
P010	17-059	Approve as Modified	40-0-0
P011	6383	Disapprove	39-1-0
P012	6336	Disapprove	37-3-0
P013	17-021	Disapprove	40-0-0
P014	6335	Disapprove	25-15-0
P015	17-067	Approve as Modified	40-0-0
P016	6170	Approve as Submitted	40-0-0
P017	6585	Approve as Modified	37-3-0
P018	17-002	Approve as Submitted	40-0-0
P019	6277	Disapprove	40-0-0
P020	6446	Disapprove	40-0-0
P021	6579	Disapprove	40-0-0
P022	6580	Disapprove	40-0-0
P023	6281	Disapprove	40-0-0
P024	6581	Disapprove	39-1-0
P025	6489	Disapprove	40-0-0
P026	6439	Disapprove	40-0-0
P027	6278	Disapprove	40-0-0
P028	17-055	Disapprove	40-0-0
P029	6171	Approve as Submitted	35-4-1
P030	6149	Disapprove	40-0-0
P031	6464	Disapprove	40-0-0
P032	6279	Disapprove	40-0-0
P033	6280	Disapprove	40-0-0
P034	17-029	Approve as Modified	40-0-0
P035	6438	Disapprove	40-0-0
P036	17-015	Disapprove	40-0-0
P037	6426	Disapprove	40-0-0
P038	6586	Approve as Modified	37-2-1
P039	17-064	Approve as Modified	40-0-0
P040	17-085	Disapprove	40-0-0
P041	17-023	Disapprove	40-0-0
P042	17-069	Approve as Modified	35-4-1

Proposal Number	LogID	Final Formal Action	Ballot Results
P043	6592	Disapprove	40-0-0
P044	6592A	Approve as Submitted	34-5-1
P045	6593	Disapprove	40-0-0
P046	6286	Disapprove	40-0-0
P047	6287	Disapprove	40-0-0
P048	6250	Disapprove	40-0-0
P049	17-086	Disapprove	40-0-0
P050	1501	Disapprove	37-3-0
P051	6460	Disapprove	32-8-0
P052	6147	Disapprove	40-0-0
P053	6462	Disapprove	39-0-1
P054	1514	Disapprove	40-0-0
P055	6547	Disapprove	39-1-0
P056	6571	Approve as Modified	39-1-0
P057	6165	Disapprove	40-0-0
P058	6163	Disapprove	40-0-0
P059	6347	Disapprove	40-0-0
P060	17-025	Withdrawn	40-0-0
P061	17-026	Approve as Modified	40-0-0
P062	6465	Approve as Modified	40-0-0
P063	6296	Approve as Modified	40-0-0
P064	6297	Disapprove	40-0-0
P065	6145	Disapprove	40-0-0
P066	17-079	Approve as Modified	39-1-0
P067	6452	Disapprove	40-0-0
P068	17-006	Approve as Submitted	40-0-0
P069	17-007	Approve as Submitted	40-0-0
P070	17-011	Disapprove	39-1-0
P071	6158	Approve as Submitted	39-1-0
P072	17-027	Approve as Modified	40-0-0
P073	17-071	Approve as Modified	40-0-0
P074	6453	Approve as Submitted	40-0-0
P075	6458	Disapprove	40-0-0
P076	6551	Disapprove	40-0-0
P077	17-073	Disapprove	40-0-0
P078	17-077	Approve as Modified	36-4-0
P079	17-078	Approve as Modified	39-1-0
P080	6461	Disapprove	34-6-0
P081	6454	Approve as Submitted	40-0-0
P082	6320	Approve as Modified	40-0-0
P083	6323	Approve as Modified	40-0-0
P084	6173	Disapprove	39-1-0
P085	17-008	Disapprove	35-4-1
P086	17-009	Disapprove	34-5-1

Proposal Number	LogID	Final Formal Action	Ballot Results
P087	17-010	Approve as Modified	39-1-0
P088	17-012	Disapprove	39-1-0
P089	6148	Disapprove	40-0-0
P090	6463	Approve as Submitted	39-1-0
P091	6546	Disapprove	39-1-0
P092	6223	Disapprove	40-0-0
P093	6322	Approve as Modified	39-1-0
P094	1515	Disapprove	40-0-0
P095	17-080	Approve as Modified	40-0-0
P096	6164	Disapprove	40-0-0
P097	6342	Disapprove	40-0-0
P098	6222	Disapprove	40-0-0
P099	6240	Disapprove	39-1-0
P100	6572	Approve as Modified	39-1-0
P101	6484	Disapprove	40-0-0
P102	6565	Approve as Modified	40-0-0
P103	6466	Approve as Modified	40-0-0
P104	6146	Disapprove	40-0-0
P105	6174	Approve as Modified	38-2-0
P106	17-072	Approve as Modified	40-0-0
P107	6192	Approve as Modified	40-0-0
P108	6455	Disapprove	40-0-0
P109	6151	Approve as Modified	40-0-0
P110	6156	Approve as Modified	40-0-0
P111	6535	Disapprove	40-0-0
P112	6537	Disapprove	40-0-0
P113	6552	Disapprove	40-0-0
P114	6241	Disapprove	38-2-0
P115	6162	Disapprove	40-0-0
P116	6482	Disapprove	40-0-0
P117	6459	Disapprove	40-0-0
P118	6324	Disapprove	40-0-0
P119	6321	Disapprove	40-0-0
P120	6345	Approve as Submitted	39-1-0
P121	6350	Disapprove	40-0-0
P122	6326	Disapprove	40-0-0
P123	6247	Disapprove	40-0-0
P124	6178	Disapprove	40-0-0
P125	6179	Disapprove	40-0-0
P126	6177	Disapprove	40-0-0
P127	6154	Disapprove	40-0-0
P128	17-028	Withdrawn	40-0-0
P129	17-060	Approve as Modified	40-0-0
P130	17-070	Disapprove	40-0-0

Proposal Number	LogID	Final Formal Action	Ballot Results
P131	17-074	Disapprove	40-0-0
P132	17-075	Approve as Modified	40-0-0
P133	17-076	Disapprove	26-14-0
P134	17-045	Approve as Modified	40-0-0
P135	6457	Approve as Submitted	40-0-0
P136	6214	Disapprove	39-1-0
P137	17-001	Approve as Modified	40-0-0
P138	17-043	Disapprove	40-0-0
P139	6226	Disapprove	40-0-0
P140	6449	Disapprove	40-0-0
P141	6298	Disapprove	40-0-0
P142	6346	Disapprove	39-1-0
P143	6299	Approve as Modified	40-0-0
P144	6300	Approve as Modified	40-0-0
P145	17-034	Approve as Submitted	40-0-0
P146	6327	Approve as Modified	40-0-0
P147	6348	Disapprove	40-0-0
P148	1502	Disapprove	40-0-0
P149	6301	Approve as Modified	40-0-0
P150	6234	Approve as Modified	40-0-0
P151	6303	Disapprove	40-0-0
P152	6337	Disapprove	39-1-0
P153	6304	Disapprove	40-0-0
P154	6357	Disapprove	40-0-0
P155	6358	Disapprove	40-0-0
P156	6360	Disapprove	39-1-0
P157	6318	Approve as Modified	40-0-0
P158	17-013	Approve as Modified	40-0-0
P159	6195	Disapprove	40-0-0
P160	6363	Approve as Modified	39-0-1
P161	17-089	Approve as Modified	40-0-0
P162	6228	Approve as Modified	40-0-0
P163	6302	Disapprove	40-0-0
P164	6351	Disapprove	40-0-0
P165	6442	Disapprove	40-0-0
P166	6229	Disapprove	40-0-0
P167	6225	Disapprove	40-0-0
P168	6243	Disapprove	40-0-0
P169	6553	Disapprove	40-0-0
P170	17-004	Approve as Submitted	40-0-0
P171	6588	Disapprove	40-0-0
P172	6587	Approve as Modified	39-1-0
P173	6503	Disapprove	40-0-0
P174	6393	Disapprove	37-3-0

Proposal Number	LogID	Final Formal Action	Ballot Results
P175	6501	Disapprove	40-0-0
P176	6157	Approve as Modified	40-0-0
P177	6159	Approve as Modified	40-0-0
P178	6404	Disapprove	38-1-1
P179	6160	Approve as Modified	40-0-0
P180	6292	Approve as Submitted	40-0-0
P181	6451	Approve as Modified	38-2-0
P182	6392	Disapprove	40-0-0
P183	6502	Disapprove	40-0-0
P184	6504	Approve as Modified	40-0-0
P185	6573	Disapprove	40-0-0
P186	6068	Disapprove	40-0-0
P187	6394	Disapprove	37-3-0
P188	6505	Approve as Submitted	40-0-0
P189	6507	Approve as Modified	40-0-0
P190	6506	Approve as Submitted	40-0-0
P191	1517	Disapprove	40-0-0
P192	6396	Disapprove	40-0-0
P193	1503	Approve as Modified	40-0-0
P194	1504	Approve as Modified	38-2-0
P195	6508	Approve as Modified	40-0-0
P196	6509	Approve as Modified	40-0-0
P197	6395	Disapprove	40-0-0
P198	6485	Disapprove	40-0-0
P199	6470	Disapprove	40-0-0
P200	6172	Approve as Submitted	35-4-1
P201	6150	Disapprove	40-0-0
P202	6329	Disapprove	38-2-0
P203	17-068	Disapprove	40-0-0
P204	6510	Disapprove	40-0-0
P205	6533	Approve as Submitted	37-2-1
P206	6512	Approve as Submitted	40-0-0
P207	6398	Approve as Submitted	40-0-0
P208	6399	Approve as Submitted	40-0-0
P209	6511	Approve as Submitted	40-0-0
P210	1518	Disapprove	40-0-0
P211	6513	Approve as Modified	40-0-0
P212	6514	Disapprove	40-0-0
P213	1519	Approve as Modified	40-0-0
P214	6066	Disapprove	25-15-0
P215	6400	Approve as Submitted	40-0-0
P216	6401	Approve as Modified	40-0-0
P217	6402	Approve as Submitted	39-0-1
P218	6067	Disapprove	40-0-0

Proposal Number	LogID	Final Formal Action	Ballot Results
P219	6589	Disapprove	40-0-0
P220	17-081	Disapprove	40-0-0
P221	6161	Disapprove	40-0-0
P222	6168	Disapprove	40-0-0
P223	17-051	Approve as Modified	40-0-0
P224	17-052	Disapprove	40-0-0
P225	17-053	Approve as Modified	40-0-0
P226	17-054	Approve as Modified	40-0-0
P227	6065	Approve as Submitted	40-0-0
P228	6064	Approve as Submitted	40-0-0
P229	17-031	Disapprove	40-0-0
P230	17-032	Disapprove	40-0-0
P231	17-033	Disapprove	40-0-0
P232	17-030	Disapprove	40-0-0
P233	6468	Disapprove	40-0-0
P234	6166	Approve as Modified	40-0-0
P235	6167	Approve as Modified	40-0-0
P236	6447	Approve as Submitted	40-0-0
P237	6169	Approve as Modified	40-0-0
P238	6216	Disapprove	40-0-0
P239	17-065	Approve as Submitted	40-0-0
P240	6403	Approve as Submitted	40-0-0
P241	6448	Disapprove	40-0-0
P242	1505	Approve as Submitted	40-0-0
P243	1506	Disapprove	38-1-1
P244	6290	Approve as Modified	40-0-0
P245	17-024	Approve as Submitted	40-0-0
P246	6217	Disapprove	40-0-0
P247	17-090	Disapprove	40-0-0
P248	6295	Approve as Modified	40-0-0
P249	6251	Disapprove	40-0-0
P250	6333	Approve as Submitted	40-0-0
P251	6306	Approve as Modified	40-0-0
P252	6456	Disapprove	40-0-0
P253	6284	Disapprove	40-0-0
P254	1507	Approve as Modified	40-0-0
P255	6481	Disapprove	40-0-0
P256	6254	Disapprove	37-2-1
P257	6153	Approve as Modified	40-0-0
P258	6471	Disapprove	33-7-0
P259	6534	Disapprove	40-0-0
P260	6554	Disapprove	40-0-0
P261	6539	Disapprove	40-0-0
P262	6515	Disapprove	40-0-0

Proposal Number	LogID	Final Formal Action	Ballot Results
P263	6516	Disapprove	40-0-0
P264	6185	Approve as Modified	40-0-0
P265	6293	Approve as Modified	40-0-0
P266	6220	Approve as Modified	39-1-0
P267	6574	Disapprove	40-0-0
P268	6334	Approve as Modified	40-0-0
P269	6199	Approve as Modified	40-0-0
P270	6198	Disapprove	39-1-0
P271	6352	Disapprove	40-0-0
P272	17-016	Disapprove	40-0-0
P273	17-017	Disapprove	40-0-0
P274	17-018	Approve as Modified	40-0-0
P275	17-061	Approve as Modified	40-0-0
P276	17-082	Disapprove	40-0-0
P277	17-084	Disapprove	40-0-0
P278	6575	Disapprove	40-0-0
P279	17-035	Disapprove	40-0-0
P280	17-038	Approve as Modified	40-0-0
P281	6483	Approve as Modified	40-0-0
P282	17-092	Approve as Modified	40-0-0
P283	17-093	Approve as Submitted	40-0-0
P284	17-094	Approve as Submitted	40-0-0
P285	17-095	Approve as Submitted	40-0-0
P286	17-096	Approve as Submitted	40-0-0
P287	17-097	Approve as Submitted	40-0-0
P288	17-098	Approve as Modified	40-0-0
P289	17-099	Approve as Modified	40-0-0
P290	6367	Approve as Submitted	40-0-0
P291	17-100	Approve as Submitted	40-0-0
P292	6372	Approve as Modified	39-1-0
P293	6380	Approve as Modified	40-0-0
P294	6378	Approve as Submitted	40-0-0
P295	6377	Approve as Modified	38-1-1
P296	17-101	Disapprove	40-0-0
P297	6366	Approve as Modified	40-0-0
P298	6354	Approve as Submitted	40-0-0
P299	6486	Disapprove	40-0-0
P300	6201	Disapprove	40-0-0
P301	6550	Approve as Modified	40-0-0
P302	6562	Disapprove	40-0-0
P303	17-104	Approve as Submitted	40-0-0
P304	6549	Disapprove	40-0-0
P305	17-111	Approve as Submitted	40-0-0
P306	1512	Disapprove	40-0-0

Proposal Number	LogID	Final Formal Action	Ballot Results
P307	6200	Approve as Modified	40-0-0
P308	6200A	Approve as Submitted	40-0-0
P309	6200B	Approve as Submitted	40-0-0
P310	6289	Disapprove	40-0-0
P311	6491	Disapprove	39-1-0
P312	6488	Disapprove	40-0-0
P313	6492	Disapprove	40-0-0
P314	6353	Disapprove	40-0-0
P315	6500	Disapprove	40-0-0
P316	6555	Disapprove	40-0-0
P317	6568	Disapprove	40-0-0
P318	17-087	Approve as Modified	38-1-1
P319	17-102	Approve as Modified	40-0-0
P320	17-103	Approve as Modified	40-0-0
P321	17-105	Approve as Modified	40-0-0
P322	17-106	Approve as Modified	40-0-0
P323	17-107	Disapprove	40-0-0
P324	17-108	Approve as Modified	40-0-0
P325	17-109	Approve as Submitted	40-0-0
P326	17-110	Approve as Submitted	40-0-0
P327	17-112	Approve as Modified	40-0-0
P328	17-113	Withdrawn	40-0-0
P329	6215	Disapprove	40-0-0
P330	6570	Approve as Submitted	40-0-0
P331	17-050	Disapprove	36-4-0
P332	17-058	Disapprove	34-6-0
P333	6561	Disapprove	40-0-0
P334	6203	Approve as Modified	40-0-0
P335	6270	Disapprove	40-0-0
P336	6275	Disapprove	40-0-0
P337	17-049	Disapprove	33-7-0
P338	6496	Approve as Modified	40-0-0
P339	6206	Disapprove	40-0-0
P340	6207	Disapprove	40-0-0
P341	17-056	Approve as Modified	40-0-0
P342	6205	Approve as Submitted	40-0-0
P343	6541	Approve as Submitted	39-1-0
P344	6540	Approve as Modified	40-0-0
P345	6542	Disapprove	40-0-0
P346	6543	Withdrawn	40-0-0
P347	17-037	Approve as Modified	40-0-0
P348	6209	Disapprove	40-0-0
P349	6268	Disapprove	40-0-0
P350	6294	Disapprove	40-0-0

Proposal Number	LogID	Final Formal Action	Ballot Results
P351	6556	Disapprove	40-0-0
P352	6479	Disapprove	40-0-0
P353	6473	Approve as Modified	40-0-0
P354	6474	Disapprove	40-0-0
P355	6475	Disapprove	40-0-0
P356	6576	Withdrawn	40-0-0
P357	6418	Disapprove	40-0-0
P358	6355	Disapprove	40-0-0
P359	6477	Disapprove	40-0-0
P360	6478	Approve as Modified	40-0-0
P361	6427	Disapprove	40-0-0
P362	6476	Disapprove	40-0-0
P363	6419	Disapprove	40-0-0
P364	6429	Disapprove	40-0-0
P365	6397	Disapprove	40-0-0
P366	6424	Disapprove	40-0-0
P367	6356	Disapprove	40-0-0
P368	17-057	Approve as Modified	40-0-0
P369	17-036	Disapprove	40-0-0
P370	17-040	Disapprove	40-0-0
P371	17-041	Approve as Modified	40-0-0
P372	17-042	Disapprove	40-0-0
P373	17-046	Approve as Modified	40-0-0
P374	17-047	Disapprove	40-0-0
P375	17-048	Approve as Modified	40-0-0
P376	17-117	Disapprove	40-0-0
P377	6432	Approve as Submitted	40-0-0
P378	6559	Approve as Submitted	40-0-0
P379	17-066	Approve as Modified	40-0-0
P380	17-116	Disapprove	40-0-0
P381	6232	Disapprove	40-0-0
P382	17-114	Disapprove	40-0-0
P383	1508	Disapprove	40-0-0
P384	17-039	Approve as Modified	40-0-0
P385	6433	Approve as Submitted	40-0-0
P386	6560	Approve as Submitted	40-0-0
P387	17-115	Disapprove	40-0-0
P388	17-005	Disapprove	40-0-0
P389	6291	Disapprove	40-0-0
P390	6359	Disapprove	40-0-0
P391	6557	Disapprove	40-0-0
P392	6307	Disapprove	40-0-0
P393	6308	Disapprove	40-0-0
P394	6480	Disapprove	40-0-0

Proposal Number	LogID	Final Formal Action	Ballot Results
P395	1513	Approve as Modified	40-0-0
P396	17-019	Approve as Submitted	40-0-0
P397	1509	Disapprove	40-0-0
P398	1510	Disapprove	40-0-0
P399	6564	Approve as Modified	40-0-0
P400	6434	Disapprove	40-0-0
P401	6233	Disapprove	40-0-0
P402	6487	Disapprove	40-0-0
P403	6436	Disapprove	40-0-0
P404	6389	Approve as Modified	40-0-0
P405	6548	Approve as Modified	40-0-0
P406	6390	Approve as Submitted	40-0-0
P407	1516	Disapprove	40-0-0
P408	6239	Disapprove	40-0-0
P409	6248	Disapprove	40-0-0
P410	6382	Disapprove	40-0-0
P411	6391	Disapprove	40-0-0
P412	6536	Disapprove	40-0-0
P413	6538	Disapprove	40-0-0
P414	6152	Approve as Modified	40-0-0
P415	6155	Approve as Modified	40-0-0
P416	6231	Disapprove	40-0-0
P417	6309	Approve as Modified	40-0-0
P418	6235	Approve as Modified	40-0-0
P419	6349	Disapprove	40-0-0
P420	1511	Disapprove	40-0-0
P421	6311	Disapprove	40-0-0
P422	6338	Disapprove	34-6-0
P423	6312	Disapprove	40-0-0
P424	6365	Approve as Modified	39-0-1
P425	6412	Disapprove	40-0-0
P426	17-091	Disapprove	40-0-0
P427	6519	Approve as Modified	40-0-0
P428	6450	Approve as Submitted	40-0-0
P429	6520	Approve as Submitted	40-0-0
P430	6522	Approve as Modified	40-0-0
P431	6521	Approve as Submitted	40-0-0
P432	6364	Approve as Submitted	40-0-0
P433	6523	Approve as Modified	40-0-0
P434	6362	Approve as Modified	40-0-0
P435	6524	Approve as Modified	40-0-0
P436	6369	Approve as Modified	40-0-0
P437	6566	Disapprove	40-0-0
P438	6269	Disapprove	40-0-0

Proposal Number	LogID	Final Formal Action	Ballot Results
P439	6273	Disapprove	40-0-0
P440	6371	Disapprove	40-0-0
P441	6413	Disapprove	40-0-0
P442	6414	Disapprove	40-0-0
P443	6415	Approve as Submitted	40-0-0
P444	6416	Disapprove	40-0-0
P445	6425	Disapprove	40-0-0
P446	6493	Disapprove	40-0-0
P447	6422	Disapprove	40-0-0
P448	6430	Disapprove	40-0-0
P449	6421	Disapprove	40-0-0
P450	6423	Disapprove	40-0-0
P451	6409	Disapprove	40-0-0
P452	6411	Disapprove	40-0-0
P453	6406	Disapprove	40-0-0
P454	6407	Disapprove	40-0-0
P455	6408	Disapprove	39-1-0
P456	6410	Disapprove	40-0-0
P457	6435	Approve as Modified	40-0-0
P458	6441	Disapprove	40-0-0
P459	6525	Disapprove	40-0-0
P460	6375	Approve as Modified	40-0-0
P461	6428	Approve as Modified	40-0-0
P462	6417	Disapprove	40-0-0
P463	6310	Disapprove	40-0-0
P464	6331	Disapprove	40-0-0
P465	6332	Disapprove	40-0-0
P466	6313	Disapprove	40-0-0
P467	6314	Disapprove	40-0-0
P468	6263	Disapprove	40-0-0
P469	6267	Disapprove	40-0-0
P470	6259	Disapprove	40-0-0
P471	6262	Disapprove	40-0-0
P472	6245	Disapprove	40-0-0
P473	6558	Disapprove	40-0-0
P474	6569	Disapprove	40-0-0
P475	6494	Approve as Modified	40-0-0
P476	6498	Disapprove	40-0-0
P477	6249	Disapprove	40-0-0
P478	6242	Disapprove	33-6-1
P479	6236	Disapprove	40-0-0
P480	6230	Disapprove	40-0-0
P481	6244	Disapprove	40-0-0
P482	6221	Approve as Modified	40-0-0

Proposal Number	LogID	Final Formal Action	Ballot Results
P483	17-062	Approve as Submitted	40-0-0
P484	17-020	Approve as Modified	40-0-0
P485	17-044	Disapprove	40-0-0
P486	6330	Disapprove	40-0-0
P487	6260	Disapprove	40-0-0
P488	6340	Disapprove	40-0-0
P489	6328	Approve as Modified	40-0-0
P490	6316	Disapprove	40-0-0
P491	6341	Disapprove	40-0-0
P492	6343	Disapprove	40-0-0
P493	6317	Disapprove	40-0-0
P494	6224	Approve as Submitted	40-0-0
P495	6361	Disapprove	40-0-0
P496	6257	Disapprove	40-0-0
P497	6526	Disapprove	40-0-0
P498	6443	Disapprove	40-0-0
P499	6265	Disapprove	40-0-0
P500	6527	Approve as Submitted	40-0-0
P501	6529	Approve as Modified	40-0-0
P502	6528	Approve as Submitted	40-0-0
P503	6530	Approve as Modified	40-0-0
P504	6384	Approve as Modified	40-0-0
P505	6531	Approve as Modified	40-0-0
P506	6385	Disapprove	40-0-0
P507	6272	Disapprove	40-0-0
P508	6276	Disapprove	40-0-0
P509	6444	Disapprove	40-0-0
P510	6282	Disapprove	40-0-0
P511	6283	Disapprove	40-0-0
P512	6374	Disapprove	40-0-0
P513	6370	Approve as Submitted	40-0-0
P514	6376	Approve as Modified	39-1-0
P515	6381	Approve as Modified	39-0-1
P516	6256	Disapprove	40-0-0
P517	6246	Disapprove	40-0-0
P518	6255	Disapprove	40-0-0
P519	6495	Approve as Modified	40-0-0
P520	6532	Disapprove	40-0-0
P521	6253	Disapprove	40-0-0
P522	6271	Disapprove	40-0-0
P523	6261	Disapprove	40-0-0
P524	6274	Disapprove	40-0-0
P525	6266	Disapprove	40-0-0
P526	6258	Disapprove	40-0-0

Proposal Number	LogID	Final Formal Action	Ballot Results
P527	6315	Disapprove	40-0-0
P528	6387	Disapprove	40-0-0
P529	6388	Disapprove	40-0-0
P530	6386	Disapprove	40-0-0
P531	6373	Disapprove	40-0-0
P532	6445	Approve as Submitted	39-1-0
P533	6517	Approve as Submitted	39-1-0
P534	6472	Approve as Submitted	39-1-0
P535	6582	Disapprove	40-0-0
P536	6467	Disapprove	39-0-1
P537	6405	Approve as Submitted	39-1-0
P538	6563	Disapprove	40-0-0
P539	6518	Approve as Modified	40-0-0
P540	17-014	Disapprove	40-0-0

Proposed Changes with Final Formal Actions

P001 LogID 17-063	Chapter 1	*Final Formal Action:* **Disapprove**
Submitter:	Amy Schmidt, The Dow Chemical Company	
Requested Action:	Modify Chapter 1 language	
Proposed Change:	***Modify as follows:*** **101.3 Intent.** The purpose of this Standard is to establish criteria for rating the environmental impact of design and construction practices to achieve conformance with specified performance levels for green residential buildings, renovation thereof, accessory structures, building sites, and subdivisions. This Standard is intended to provide flexibility to permit the use of innovative approaches and techniques. This Standard is not intended to abridge safety, health, or environmental requirements contained in other applicable laws, codes, or ordinances. This Standard is intended for use by an Adopting Entity as a mandatory or permissive green building standard or as a stand-alone program for use by private parties seeking green building certification. **. . .** **101.5 Appendices.** Where specifically required by a provision in this Standard, that appendix shall apply. Appendices not specifically adopted by an Adopting Entity or required by a provision of this Standard shall not apply ~~unless specifically adopted~~. **102 CONFORMANCE** **. . .** **102.2 Conformance language.** ~~The green building provisions are~~ This Standard contains provisions written in mandatory language by way of using the verbs "to be", "is", "are", etc. . . . **102.3 Documentation.** Verification of conformance to ~~green building practices~~ the provisions in this Standard shall be the appropriate construction documents, architectural plans, site plans, specifications, builder certification and sign-off, inspection reports, test reports, or other data that demonstrates conformances to the as determined by the Adopting Entity and/or program certifier. Where specific documentation is required by a provision of ~~the~~ this Standard, that documentation is noted with that provision. . . . **103.1 Administration.** ~~The~~ An Adopting Entity shall specify minimum performance level(s) to be achieved as identified in Chapter 3 and shall provide a verification process to ensure compliance with this Standard.	
Reason:	1. It needs to be clear that this Standard can be used as a mandatory/permissive Standard when an adopting entity adopts it as well as by individuals voluntarily seeking green building certification via this Standard. Language is added to make this clarification. 2. It is clear per 101.1 that the term "this Standard" is to be used when referring to this document. The term "green building practices" found in several locations is not defined nor does it describe the true intent of the section. "Provisions of this Standard" has been used to replace this ambiguity. 3. Added "test reports" to Section 102.3 as it seems like an important omission to be corrected. Section 103.2 specifically addresses situations where this Standard is adopted by an Adopting Entity. Therefore, minimum compliance level(s) should be specified. This is standard practice when adopting a standard, code, etc.	
Committee Formal Action from Meeting from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	This could limit the use of the standard by organizations that are not adopting entities or AHJs. Could be more appropriate in another section of the standard.	

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P002 LogID 6227	**101.2 Scope**	***Final Formal Action:*** **Disapprove**
Submitter:	Josh Jacobs, UL	
Requested Action:	Revise as follows	
Proposed Change:	This change is a whole document change or addition. While this change is not to this specific section, it seemed to be the best section to propose it. NAHB should put a task group together that can take the new document and develop a truly code level document for use by authorities having jurisdiction. They should not create new requirements, but simply take appropriate existing requirements, turn them into code language, and publish as a true residential green code. NAHB would then have a rating system that can be utilized by anyone that wants to communicate the sustainable qualifications of a residential project and a code that could be given to jurisdictions that are looking to develop a baseline.	
Reason:	While the NAHB National Green Building Standard is a good document, it is not a code. Authorities having jurisdiction have shown a willingness to work with existing green codes in the marketplace, but have done a lot of editing. Taking a rating system with a point system such as this, is probably asking too much for a local jurisdiction to take on. Let's make it easier for them so that we can get more local adoptions of what could be a different transformative document.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	No language proposed. The rating system provides the flexibility needed for various jurisdictional situations.	
Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P003 LogID 6590	**101.2 Scope**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, self	
Requested Action:	Add new as follows	
Proposed Change:	<u>101.2.1 Non-residential options. Non-residential portions of buildings shall comply with either the ANSI/ASHRAE/USGBC/IES Standard 189.1 or this standard.</u>	

	101.2.2 The authority having jurisdiction shall be permitted to deem another program, standard or code as an alternative for the non-residential portion of a specific building.
Reason:	Some users may prefer to comply with, or already have experience complying with, ASHRAE 189.1 for commercial. This allows the ASHRAE 189.1 without requiring all users to deal with complexity of ASHRAE 189.1. For 101.2.1- A possible option for this change would be to specify that for items outside the building compliance shall be the same as for the residential. The parking lot, landscaping, ... will likely be used by both the residential and commercial portions of the building. For 101.2.2- There may be a few unusual types of non-residential spaces in a specific building where another criteria could better define green. For example an open air cafe, a small laboratory or a hot dog stand that was built into an outside wall. The ASHRAE 189.1 standard can be viewed at https://www.ashrae.org/standards-research--technology/standards--guidelines click on "Standard 189.1-2014"
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P017. The proponent agreed with TG-1 recommendation for disapproval.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P004 LogID 6583	**101.2 Scope** ***Final Formal Action:*** **Disapprove**
Submitter:	Steve Ferguson, ASHRAE
Requested Action:	Revise as follows
Proposed Change:	101.2 Scope. The provisions of this Standard shall apply to ~~the~~ design, and construction~~, alteration, enlargement, and renovation~~ of ~~(1) all residential buildings, (2) residential portions of mixed-use buildings, or (3) mixed-use buildings here the residential portion is greater than 50 percent of the gross floor area~~ the residential portion(s) of any building, not classified as an institutional use, in all climate zones. This Standard shall also apply to subdivisions, building sites, building lots, ~~and~~ accessory structures, and the residential portions of alternations, additions, renovations, mixed-use buildings, and historic buildings.
Reason:	ASHRAE is opposed to the revised and expanded scope of ICC 700, and also filed a PINS comment related to how the expanded scope is duplicative with ANSI/ASHRAE/USGBC/ICC/IES Standard 189.1, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings. Previously only residential spaces were in the scope of this standard. As currently written, if 51% of the building is residential and 49% of the building is commercial, the entire building is within the scope of this standard. In accordance with ANSI Essential Requirements 2.4 and 2.4.2, HI and the consensus body responsible for ICC 700 are responsible for making good faith efforts to to resolve potential conflicts between and among existing American National Standards (ANS). HI and the consensus body responsible for writing ICC 700 are also responsible for making thorough and comprehensive efforts to harmonize a candidate ANS and existing ANSs. In our PINS comment, we requested " that the revised scope not be approved". Alternatively, ASHRAE would also be resolved, when the expanded scope applies, "if provisions be included in the standard to reference the appropriate technical content in ANSI/ASHRAE/USGBC/ICC/IES Standard 189.1."
Committee Formal Action from Meeting:	**Disapprove**

Modification of Proposed Change:	
Committee Reason:	The Consensus Committee does not have the authority to change the scope. The Consensus Committee has agreed to recommend inclusion of IgCC/189.1 as an option in the technical requirements for the non-residential spaces. See P038. ***Secretariat Note:*** The proposed change to the scope of the standard is in the purview of the Secretariat. It is included in this document for the benefit of transparency. Home Innovation is engaged with ASHRAE through the PINS deliberations process afforded by the ANSI Essential Requirements. Based on the deliberations at the May 15-17, 2018 meeting, the Consensus Committee decided to take a formal action of disapproval on this proposed change. Home Innovation procedures address this situation as follows: ***4.4.1.2.3 Consensus Committee Action.*** *A consensus committee cannot change the scope, intent or purpose of a standard. A consensus committee may request of the ESC changes to, or clarification on, the scope, intent or purpose of a standard. The ESC shall respond to the consensus committee within 30 calendar days after receiving such request.*
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **37** Disagree with committee action: **3** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Theresa Weston:*** As stated in the secretariat note, the consensus committee does not have jurisdiction on the issue, but I believe this proposal should be considered during the PINS deliberations. ***Secretariat Note:*** *The PINS deliberations with ASHRAE are now complete and deliberations reports have been submitted to ANSI. No further actions are required on PINS deliberations until the filing of BSR-9 upon the completion of the 2020 NGBS development process.* ***Amy Schmidt:*** Commercial portions of mixed occupancy buildings are covered by other green standards such as ICC/ASHRAE IgCC/1891. It would be inappropriate to include commercial portions of buildings in this standard. ***Secretariat Note:*** *The concern raised in this comment is in the purview of the Executive Standards Committee and has been considered during the PINS deliberations with ASHRAE. The PINS deliberations are now complete and deliberations reports have been submitted to ANSI. No further actions are required on PINS deliberations until the filing of BSR-9 upon completion of the 2020 NGBS development process.* ***R. Christopher Mathis:*** Secretariat Note notwithstanding, the conflict created by the scope change was known during this development cycle. All proposals and consensus committee action would have been unnecessary – as would be this comment – if the issue had been addressed when first noted. This document should be on hold until resolved. ***Secretariat Note:*** *The concern raised in this comment is in the purview of the Executive Standards Committee and has been considered during the PINS deliberations with ASHRAE. The PINS deliberations are now complete and deliberations reports have been submitted to ANSI. No further actions are required on PINS deliberations until the filing of BSR-9 upon the completion of the 2020 NGBS development process.*
Abstain:	

P005 LogID 6584	**101.2 Scope**	***Final Formal Action:*** **Withdrawn**

Submitter:	Thomas Culp, Aluminum Extruders Council
Requested Action:	Revise as follows
Proposed Change:	**101.2.1 Residential Designation.** For the purpose of this standard, all Group R occupancies as defined by the International Building Code and all buildings within the scope of the International Residential Code shall be considered residential. Dwelling units in a ~~A~~ssisted living facilities, residential board and care facilities, and group homes classified as an I-1occupancy as defined by the International Building Code shall also be considered residential.
Reason:	With the expansion to include assisted living facilities, care facilities, and group homes, the residential designation should not include spaces such as patient examination rooms, cafeterias, industrial kitchens, industrial laundry facilities, recreation facilities, lobbies, assembly areas, and offices. This proposal clarifies that it is the dwelling units that should be considered residential spaces within these building types. Alternately, a list of excluded spaces could be added.
Committee Formal Action from Meeting:	**Withdrawn**
Modification of Proposed Change:	
Committee Reason:	Withdrawn by proponent at TG-1 meeting on February 7, 2018.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P006 LogID 6499	**102.4 Alternative compliance methods**	***Final Formal Action:***	**Disapprove**
Submitter:	John Barrows, self		
Requested Action:	Add new as follows		
Proposed Change:	**Green Practice Area Recognition-** Offer recognition for meeting specific areas of NGBS without receiving certification to the NGBS as a whole. 1. Energy 2. Water Efficiency 3. Indoor Environmental Quality/ Wellness		
Reason:	Comment: Given the rise of focused programs, such as Energy Star and the Water Efficiency Rating Score (WERS), it may be valuable to consider allowing projects to earn recognition in specific green practice areas (such as energy efficiency or water efficiency), without requiring them to achieve entire NGBS certification.		
Committee Formal Action from Meeting:	**Disapprove**		
Modification of Proposed Change:			
Committee Reason:	Waters down the program and introduces confusion in the market. Not sufficient for a green building that requires balance.		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**		

Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P007 LogID 6497	**102.4 Alternative compliance methods**	***Final Formal Action:*** **Disapprove**
Submitter:	John Barrows, self	
Requested Action:	Add new as follows	
Proposed Change:	Medallion of Recognition: along with the certification to NGBS a recognition of performance that corresponds with another program can be awarded. 1. Resiliency 2. Wellness	
Reason:	Comment: It may be beneficial in the current marketplace to award a "Medallion of Recognition" (or similar) for projects going above and beyond by achieving practices related to a specific topic, such a "resiliency" and "wellness". Practices within the 2018 NGBS related to resiliency, as identified by Consensus Committee, would be denoted with a symbol. Achievement of a certain percentage of those specific practices could award a project added recognition in "resiliency", in addition to achieving NGBS certification. Additional practices currently not identified within the 2015 NGBS related to resiliency for respective climate zones/locations (Examples: flood-plain avoidance, forest-fire vegetation setback, etc.) could be added as mandatory or optional practices for achievement of the "Resiliency Medallion." Practices currently within the 2015 NGBS identified as having the possibility of being resiliency related are attached.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Resiliency or wellness are not defined.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P008 LogID 17-003	**202 Definitions and Entire Standard**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Michelle Foster, Home Innovation Research Labs	
Requested Action:	Add new definition "sleeping unit"	
Proposed Change:	**Sleeping Unit:** A room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units. ***Secretariat Note: See Ballot Attachments document for the proposed change language.***	
Reason:	Allows for the NGBS to be relevant for certain R-3 uses and institutional uses that are residential in nature as defined by the revised NGBS scope.	

Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **38** Disagree with committee action: **1** Abstain: **1** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** Modify by adding the underlined language in the text above as to remain consistent with the current scope of the standard: **Sleeping Unit:** A room or space <u>in a building which is 3 stories or less in height above grade</u> in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.
Abstain:	***Theresa Weston:*** It is not clear to me whether the comment we are voting on is just the definition as shown in the original monograph or the definition and the changes shown in the ballot attachment. Each of the document changes shown in the ballot attachment should be evaluated individually (or at least by section) for appropriateness. ***Secretariat Note:*** *As a point of clarification, the Proposed Change includes all changes shown in the Attachment provided with the ballot.*

P009 LogID 17-088	**202 Definitions and New for Chapter 9** ***Final Formal Action:*** **Disapprove**
Submitter:	Michael Jouaneh, Lutron Electronics
Requested Action:	Add new provision as follows
Proposed Change:	**<u>Definitions</u>** **<u>Living spaces:</u>** <u>conditioned spaces intended for people to occupy including but not limited to living rooms, breakfast/dining rooms, family rooms, studies, kitchens, bedrooms, hallways, dressing rooms, finished basements, recreation rooms, exercise rooms, play rooms, home theater/AV rooms and other spaces that are not used for storage or mechanical or electrical equipment.</u>

<u>Nighttime (sleep-time) Light Control</u>	<u>Points</u>
<u>Lighting that has:</u> • <u>For bedrooms and connected bathrooms include at least one preset lighting level set to a maximum of 10% of full light output; OR</u> • <u>For bedrooms and connected bathrooms include a time-of-day based control that sets the light output to a maximum of 10% of full light output during typical sleeping hours with override capability that allows users to reach full light output; OR</u> • <u>For all living spaces include a time-of-day based control that sets the light output to a maximum of 10% of full light output during typical sleeping hours with override capability that allows users to reach full light output.</u>	<u>1</u> <u>2</u> <u>3</u>
<u>All bedroom windows shall have manually operable shading devised (e.g., shades, blinds, or other window treatments)</u>	<u>Mandatory</u> <u>1 additional</u>

	• These shading devise shall have a maximum visible light transmittance of 20% or shall be opaque blinds. • These shading devices shall utilize a time-of-day based control that closes the shades during nighttime (sleep-time) hours with override capability that allows users to open them.	2 additional
Reason:	Improve lighting in homes to minimize sleep disruption when using light at night. Light dramatically affects sleep-wake cycles. Bright lights promote alertness, while dimmed lights signal the body to reduce energy expenditure and prepare for rest. Viewing bright lights during sleeping hours, causes sleep disruption and adverse health effects.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	More substantiation is needed to justify this practice. Mandatory installation of blinds may be out of contractors' scope of work and compliance cannot be verified.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P010 LogID 17-059	**202 Definitions**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Paul Cabot, American Gas Association	
Requested Action:	Add new definition to section 202 as follows:	
Proposed Change:	CNG vehicle residential fueling appliance. A residential appliance that supplies compressed natural gas into a CNG vehicle.	
Reason:	Add recognition for CNG residential fueling appliances as a green building practice. The new standard ANSI/CSA NGV 5.1 has been approved and all major model fuel gas installation codes have been updated to require that residential CNG fueling appliances be listed to that standard and installed in accordance with the manufacturer's installation instructions. Home fueling using natural gas is a green practice since it taps into the efficient natural gas transmission and distribution system and avoids the systemic losses from converting crude oil into refined gasoline and diesel. Fueling at home also reduces vehicle mileage by reducing trips to gasoline stations for fueling. The proposed text is structured similar to coverage for electric vehicle charging stations.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	Compressed Natural Gas (CNG) vehicle residential fueling appliance. A residential appliance that supplies compressed natural gas into a CNG vehicle	
Committee Reason:	Editorial revision	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P011 LogID 6383	**202 Definitions**	***Final Formal Action:*** **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	LCA (Life Cycle Analysis/Assessment). A~~n accounting and evaluation of~~ process to evaluate the potential environmental ~~aspects and potential impacts~~ burdens of ~~materials~~, products, ~~assemblies~~, services or buildings throughout their life(from raw material acquisition through manufacturing, construction, use, operation, demolition, and disposal).	
Reason:	LCA is about understanding the burdens and burden differences between different methods to achieve the same useful outcome. It is not the product that is the most important focus but rather the benefit that results from the evaluations. The terms aspects and impacts are difficult for many to differentiate and should be replaced with the word 'burden' which is clear and also used by the SETAC (Society of Environmental Toxicology and Chemistry) in their definition. The term 'assemblies' is not defined and could have multiple meanings. Utilizing products and services covers the intent and industry use of LCA processes.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Matt Sigler:*** I agree with the submitter's original proposed change as the term "assemblies" could lead to errors in application and enforcement.	
Abstain:		

P012 LogID 6336	**202 Definitions**	***Final Formal Action:*** **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete without substitution	
Proposed Change:	~~REGIONAL MATERIAL. Material that originates, is produced, grows naturally, or occurs naturally within: (1) 500 miles (804.7 km) of the construction site if transported by truck, or (2) 1,500 miles (2,414 km) of the construction site if transported for not less than 80 percent of the total transport distance by rain or water. Products that are assembled or produced from multiple raw materials are considered regional materials if the weighted average (by weight or volume) of the distance the raw materials have been transported meet the distance criteria.~~	
Reason:	To increase use of the standard, reduce the complexity, remove these calculations from the body of the Standard and therefore there is no need for the definition. Regional material impacts are captured through EPDs, which are easier for the end user to locate and provide a much better indicator as they focus on the outcome of the various inputs. Individually, single-attributes have little bearing on the final	

	impact so they are being replaced with EPDs. Because EPDs are already a part of this standard, any points removed with this section could be reconfigured into the Product Declarations, Section 611.4.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	These two credits (regional materials and EPDs) are two separate credits. The proposal does not offer a new definition for regional materials, which are covered in section 609.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **37** Disagree with committee action: **3** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Michael Cudahy:*** The definition really should not contain the calculations. ***Matt Sigler:*** The committee reason for rejecting the proposed change does not align with the context of P012, but instead with that of P011 that deals with the definition of LCA. ***Secretariat Note:*** *Clerical error. The reason statement for P011 was accidentally copied into the reason statement for P012. See the corrected committee reason for disapproval above.* ***Cambria McLeod:*** The committee reason does not discuss the proposed change but rather a previous proposed item. ***Secretariat Note:*** *Clerical error. The reason statement for P011 was accidentally copied into the reason statement for P012. See the corrected committee reason for disapproval above.*
Abstain:	

P013 LogID 17-021	**202 Definitions** ***Final Formal Action:*** **Disapprove**
Submitter:	James M Williams, AE Urbia
Requested Action:	Add a definition for Resilient Construction
Proposed Change:	SECTION 202 DEFINITIONS **RESILIENT CONSTRUCTION.** Resilient Construction is a structure, component, or system that has been designed and constructed in accordance with applicable adopted building codes and standards to withstand forces generated by; flooding, snow, wind or seismic (or other natural or manmade disasters as applicable) for a given site.
Reason:	A new section **11.1101 Resilient Construction** has been proposed. If adopted, the term, "Resilient Construction," should be defined.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	This definition is unnecessary as it simply says that the building must meet code. Consistent with action on P041.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P014 LogID 6335	**202 Definitions** ***Final Formal Action:*** **Disapprove**
Submitter:	Cambria McLeod, Kohler
Requested Action:	Revise as follows
Proposed Change:	**Plumbing Fixture:** A receptor or device that requires ~~both~~ a water-supply connection ~~and~~ or a discharge to the drainage system or both, such as water closets, lavatories, bathtubs, and sinks.
Reason:	The current definition excludes non-water urinals although they are considered a plumbing fixture by both the industry and recognized codes and standards. Note the definition in the International Plumbing code and Uniform Plumbing Codes - IPC: A receptacle or device that is connected to a water supply system or discharges to a drainage system or both. Such receptacles or devices require a supply of water; or discharge liquid waste or liquid-borne solid waste; or require a supply of water and discharge waste to a drainage system. UPC: An approved-type installed receptacle, device, or appliance that is supplied with water or that receives liquid or liquid-borne wastes and discharges such wastes into the drainage system to which it may be directly or indirectly connected. Industrial or commercial tanks, vats, and similar processing equipment are not plumbing fixtures, but may be connected to or discharged into approved traps or plumbing fixtures where and as otherwise provided for elsewhere in this code.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Current definition suffices.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **25** Disagree with committee action: **15** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Michael Cudahy:*** Definition should be updated. ***Matt Sigler:*** The current definition would exclude non-water urinals that do not utilize water and are considered as a plumbing fixture throughout the industry and by codes and standards. Furthermore, the current definition is not consistent with any of the plumbing codes adopted throughout the U.S. or industry standards for plumbing fixtures such as ASME A112.19.2/CSA B45.1 that defines a fixture as, "a device that receives water, waste matter, or both and directs these substances into a drainage system." ***Thomas Pape:*** Non water urinals and non-water toilets (composting toilets) are awarded points 801.5 (4c) Neither of these fixtures have a water supply connection. This is a grave conflict within the standard. ***Cambria McLeod:*** Disapprove of the committee action. The task group actually did approve and there was an editorial error (see Patti Gunderson for details). The current definition excludes non-water urinals although they are considered a plumbing fixture by both the industry and recognized codes and standards. More importantly, they are referenced in the NGBS document in 801.5 (4c). The current standard gives 6 points for using this type of fixture. Proposal P282, which was passed by the committee, gives 12 additional points for one or more compositing or waterless toilet and/or urinal. If the standard is going to define a plumbing fixture, we should properly

	define the fixtures being used. (Note the definition in the International Plumbing code and Uniform Plumbing Codes - IPC: A receptacle or device that is connected to a water supply system or discharges to a drainage system or both. Such receptacles or devices require a supply of water; or discharge liquid waste or liquid-borne solid waste; or require a supply of water and discharge waste to a drainage system. UPC: An approved-type installed receptacle, device, or appliance that is supplied with water or that receives liquid or liquid-borne wastes and discharges such wastes into the drainage system to which it may be directly or indirectly connected. Industrial or commercial tanks, vats, and similar processing equipment are not plumbing fixtures, but may be connected to or discharged into approved traps or plumbing fixtures where and as otherwise provided for elsewhere in this code.) ***Bob Thompson:*** The submitter identified a gap in the current definition and supplied a reasonable way to address it. ***Neil Leslie:*** The revised definition is needed to include waterless urinals as qualifying plumbing fixtures. ***Paul W Cabot:*** I revise my vote based on based on circulated ballot comments. ***Sean S. Devlin:*** based on circulated ballot comments. ***Aaron Gary:*** based on circulated ballot comments. ***Greg Johnson:*** Based on circulated ballot comments. ***Thomas Culp:*** based on circulated ballot comments. ***Kristopher Stenger:*** align with TG 4 recommendation to comment. ***Theresa Weston:*** based on circulated ballot comments. ***William A. Sanderson:*** it appears as though there was a clerical error- the TG agreed with the comments and recommended acceptance. ***Gregory Curtis Coolidge:*** Agree with ballot comments offered.
Abstain:	

P015 LogID 17-067	**202 Definitions** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Thomas Pape AWE, Michael Cudahy
Requested Action:	Define “Reclaimed water”
Proposed Change:	Reclaimed water is non-potable water provided by a wastewater utility that is used more than one time before it passes back into the natural water cycle. Treated and sanitized to meet requirements of AHJ.
Reason:	Not defined in the NGBS but used in practice
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**RECLAIMED WATER.** ~~eclaimed water is n~~ Non-potable water provided by a wastewater utility, ~~that is used more than one time before it passes back into the natural water cycle. T~~ treated ~~and sanitized~~ to meet requirements of AHJ for the intended uses. The water may be sanitized to allow for above ground landscape irrigation or flush sanitary fixtures. May also be known as Recycled Water in some areas.
Committee Reason:	Align with industry standard definition.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0**

	Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P016 LogID 6170	**202 Definitions** *Final Formal Action:* **Approve as Submitted**
Submitter:	Steven Rosenstock, self
Requested Action:	Revise as follows
Proposed Change:	**GROUND SOURCE HEAT PUMP.** ~~Where the earth is used as a heat sink in air conditioning or heat source in heating systems. This also applies to systems utilizing subsurface water.~~ A system that uses the earth or subsurface water as a heat sink for air conditioning and as a heat source for heating.
Reason:	This is a suggested editorial change to clarify and shorten the definition.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P017 LogID 6585	**301.1 Environmental rating levels (Compliance Method; general)** *Final Formal Action:* **Approve as Modified**
Submitter:	Thomas Culp, Aluminum Extruders Council
Requested Action:	Revise as follows
Proposed Change:	**301.1 Environmental rating levels.** The building, project, site, and/or development environmental rating level shall consist of all mandatory requirements plus points assessed using the point system specified within this chapter. Threating level shall be in accordance with Section 302, 303, 304, or 305.3, as applicable. The designation for remodeled functional areas shall be in accordance with Section 305.4. The designation for accessory structures shall be in accordance with Section 306. Spaces in mixed-use buildings not designated as residential in Section 101.2.1 shall comply with Chapters 6-10 of the ICC International Green Construction Code (IgCC). (Add reference to 2018 International Green Construction Code in Chapter 13)
Reason:	With the scope expansion for multi-use buildings, this provides the appropriate pointer to use the 2018 International Green Construction Code for those nonresidential spaces not covered by the residential designation in Section 101.2.1. The 2018 IgCC is being combined with the technical content of ASHRAE 189.1-2017 with the cooperation of ICC, ASHRAE, USGBC, AIA, and IES. Chapters 6-10 refer to water use; energy efficiency; indoor environmental quality; impact on atmosphere, materials, and resources; and

	construction and plans for operation, respectively. Chapter 5 on site sustainability has not been included as ICC-700 / NGBS already addresses the overall project site
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**Add new definition to Section 202:** **NON-RESIDENTIAL SPACES.** Spaces not designated as residential in Section 101.2.1. ***[Secretariat note: The new section number is consistent with the Standard scope change as posted on*** *www.homeinnovation.com/ngbs* ***]*** **301.1 Environmental rating levels.** The building, project, site, and/or development environmental rating level shall consist of all mandatory requirements plus points assessed using the point system specified within this chapter. The rating level shall be in accordance with Section 302, 303, 304, or 305.3, as applicable. The designation for remodeled functional areas shall be in accordance with Section 305.4. The designation for accessory structures shall be in accordance with Section 306. **301.1.1 Non-Residential Spaces.** Non-residential s~~S~~paces in mixed-use buildings ~~not designated as residential in Section 101.2.1~~ shall comply with Chapter **X (Commercial Spaces New Construction)** of this Standard or Chapters 6-10 of the ICC International Green Construction Code (IgCC), excluding §6.3.1. ***[Secretariat note: The new chapter number will be assigned during the development of the Draft Standard]*** *(Add reference to 2018 International Green Construction Code in Chapter 13)* **304.1 Multifamily buildings.** All residential portions of a building shall meet the requirements of this Standard. Partial compliance shall not be allowed. Unless specifically addressed in other portions of this standard, all dwelling and sleeping units and residential common areas within a multifamily building shall meet all mandatory requirements. Where features similar to dwelling and sleeping unit features are installed in the common area, those features shall meet the standard of the dwelling unit and sleeping unit. Green building practices for residential common areas may differ from requirements for dwelling and sleeping units. Points for the green building practices that apply to multiple dwelling and sleeping units shall be credited once for the entire building. Where points are credited, including where a weighted average is used, practices shall be implemented in all dwelling and sleeping units, as applicable. Where application of a prescribed practice allows for a different number of points for different dwelling and sleeping units in a multifamily building, the fewer number of points shall be awarded, unless noted that a weighted average is used.
Committee Reason:	To clarify compliance options for non-residential spaces.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **37** Disagree with committee action: **3** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Theresa Weston:*** I am uncomfortable with the exclusion of a specific section of referenced standard (IgCC 6.3.1) without justification. No specific justification was provided in the committee reason statement. ***Amy Schmidt:*** I disagree with the scope creep into commercial spaces that this proposal addresses and therefore suggest the Disapproval of this proposal. If commercial spaces are included the proper reference to IgCC/1891 should be inserted ***R. Christopher Mathis:*** Secretariat note on P004 notwithstanding, the conflict created by the scope change was known during this development cycle. All proposals and consensus committee action would

	have been unnecessary – as would be this comment – if the issue had been addressed when first noted. This document should be on hold until resolved.
Abstain:	

P018 LogID 17-002	**301.2 Awarding of points**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Michelle Foster, Home Innovation Research Labs	
Requested Action:	Revise 301.2 Awarding of points	
Proposed Change:	Points shall be awarded as follows: **(1)** The maximum number of points that can be awarded for each practice is noted with that practice. **(2)** Point allocation for multifamily buildings shall be as prescribed in Section 304. **(3)** The Adopting Entity shall allow the use of new and innovative products and practices deemed to meet the intent of this Standard. Points assigned for any new product or practice shall be determined by the Adopting Entity. A maximum of 20 points may be awarded at the discretion of the Adopting Entity. Innovative practices and products shall fall under Chapters 5-10 (Categories 1-6 in Table 303~~); however, these points shall only be assigned under Category 7~~. Point values shall be determined by comparing the innovative product or practice to a practice or product already described in the Standard. The applicant shall supply demonstrable, quantified data to support the innovative product or practice and to determine the practice's functional equivalent in the Standard for the points to be awarded.	
Reason:	Points for new innovative practices should be awarded in the relevant category for the practice and not be relegated to Category 7.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P019 LogID 6277	**303.1 Green buildings**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**Table 303** **Threshold Point Ratings for Green Buildings**	

Green Building Categories	**Rating Level Points [(a)] [(b)]**			
	~~BRONZE~~ CERTIFIED	**SILVER**	**GOLD**	**EMERALD**

1.	**Chapter 5**	Lot Design, Preparation, and Development	**50**	**64**	**93**	**121**
2.	**Chapter 6**	Resource Efficiency	**43**	**59**	**89**	**119**
3.	**Chapter 7**	Energy Efficiency	**30**	**45**	**60**	**70**
4.	**Chapter 8**	Water Efficiency	**25**	**39**	**67**	**92**
5.	**Chapter 9**	Indoor Environmental Quality	**25**	**42**	**69**	**97**
6.	**Chapter 10**	Operation, Maintenance, and Building Owner Education	**8**	**10**	**11**	**12**
7.		Additional Points from Any Category	**50**	**75**	**100**	**100**
		Total Points:	**231**	**334**	**489**	**611**

Reason:	"Bronze" Certification is not as effective as it Could or should be as a "mark of distinction" for a green home or apartment. For many reasons, the marketplace has come to value silver and gold. Emerald is a rare distinction. Bronze, when awarded often feels to recipients like third place rather than the rarified Olympian step up on the platform. This proposal suggest that our protocol switch to "certified " as the entry level of performance for green certification. This is a subtle but important step to improve the acceptance and marketplace support for the program.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Bronze should be included because they are all certified.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P020 LogID 6446	**303.1 Green buildings** *Final Formal Action:* **Disapprove**
Submitter:	Craig Conner, self
Requested Action:	Add new as follows
Proposed Change:	303.2 Compliance with some of the categories, but not all of the categories shall be permitted. Energy Efficiency, Water Efficiency and Additional Points from Any Category shall still be required. Signage and certification shall promptly indicate which categories complied and differentiate these residences from residences that comply will all categories. The lowest level achieved in categories compiled with shall determine the rating level achieved.

Reason:	This proposed change is meant to start a discussion. Does it make sense to allow some homes to meet most of the categories, but not all of them? For example, should a house that otherwise meets NGBS, but was too far along to meet Lot Design, Preparation and Development be allowed to be certified to meet the rest of NGBS? Or does the "mostly green" house damage the NGBS brand? Most consider Energy and Water to be the core of green, so these categories would always apply.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Waters down the program and introduces confusion in the market. Not sufficient for a green building that requires balance.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P021 LogID 6579	**303.1 Green buildings** *Final Formal Action:* **Disapprove**
Submitter:	Steven Rosenstock, Edison Electric Institute
Requested Action:	Revise as follows
Proposed Change:	**303.1.1 Commercial Spaces.** Commercial spaces or areas within green buildings shall comply with ASHRAE Standard 189.1. All actions and practices taken within commercial spaces or areas shall not be eligible for points in Table 303 or points within Chapters 5 through 12.
Reason:	This addition will allow the standard to adapt to the new scope, and ensure that the original intent of the standard (for residential buildings) remains the primary focus of the standard. ASHRAE 189.1 is a consensus-based ANSI standard for green commercial buildings that is on continuous maintenance and updated every 3 years. The web site link to the standard is: https://www.ashrae.org/resources--publications/bookstore/standard-189-1
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P017. The proponent agreed with TG-1 recommendation for disapproval. With modification it is clear that practices in the non-residential portion are not applicable for points in the residential portion.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P022 LogID 6580	303.1 Green buildings	*Final Formal Action:* **Disapprove**
Submitter:	Steven Rosenstock, Edison Electric Institute	
Requested Action:	Revise as follows	
Proposed Change:	**Table 303** **...Rating Level Points (a) (b) <u>(c)</u>** ..... <u>(c) Commercial Spaces or Areas within green buildings are not eligible for points in this Table.</u>	
Reason:	This new footnote will correspond to a proposed change for Section 303.1, and will help to clarify that commercial sections of green buildings have to meet a separate standard (ASHRAE 189.1).	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P017. The proponent agreed with TG-1 recommendation for disapproval. With modification it is clear that practices in the non-residential portion are not applicable for points in the residential portion.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P023 LogID 6281	303.1 Green buildings	*Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**Table 303** **Threshold Point Ratings for Green Buildings**	

Green Building Categories			Rating Level Points (a) (b)			
			BRONZE	SILVER	GOLD	EMERALD
1.	Chapter 5	Lot Design, Preparation, and Development	50	64	93	121
2.	Chapter 6	Resource Efficiency	43	59	89	119
3.	Chapter 7	Energy Efficiency	~~30~~33	~~45~~48	60	70
4.	Chapter 8	Water Efficiency	25	39	67	92
5.	Chapter 9	Indoor Environmental Quality	25	42	69	97

6.	**Chapter 10**	Operation, Maintenance, and Building Owner Education	**8**	**10**	**11**	**12**
7.		Additional Points from Any Category	**50**	**75**	**100**	**100**
		Total Points:	**231**	**334**	**489**	**611**

(a) In addition to the threshold number of points in each category, all mandatory provisions of each category shall be implemented.

(b) For dwelling units greater than 4,000 square feet (372 m^2), the number of points in Category 7 (Additional Points from Any Category) shall be increased in accordance with Section 601.1. The "Total Points" shall be increased by the same number of points.

Reason:	Due to the delay in implementation of NGBS 2015 by HIRL and the slow rate of adoption of the 2015 IECC around the country the 2018 NGBS Standard should not adjust the baseline in Chapter 7 to anything beyond the 2015 IECC but instead adjust the required points up for Certification by 10%. This strategy has the virtue of pushing projects to adopt additional energy related practices while not increasing the already high barrier of entry. I believe the same adjustment does not need to be implemented at the highest levels of certification (Gold and Emerald) as projects who are performing at that level are already well beyond the baseline.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The proponent requested disapproval as a result of the recommendation to change the baseline to 2018 IECC.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P024 LogID 6581	**303.1 Green buildings** *Final Formal Action:* **Disapprove**
Submitter:	Steven Rosenstock, Edison Electric Institute
Requested Action:	Add new as follows
Proposed Change:	**304.1.1 Commercial Spaces.** Commercial spaces or areas within green multifamily buildings shall comply with ASHRAE Standard 189.1. All actions and practices taken within commercial spaces or areas shall not be eligible for points in Table 303 or points within Chapters 5 through 12.
Reason:	This addition allows the standard to adapt to the new scope, and ensure that the original intent of the standard (for residential buildings) remains the primary focus of the standard. ASHRAE 189.1 is a consensus-based ANSI standard for green commercial buildings that is on continuous maintenance and updated every 3 years. The web site link to the standard is: https://www.ashrae.org/resources--publications/bookstore/standard-189-1.
Committee Formal Action from Meeting:	**Disapprove**

Modification of Proposed Change:	
Committee Reason:	Consistent with action on P017. The proponent agreed with TG-1 recommendation for disapproval. With modification it is clear that practices in the non-residential portion are not applicable for points in the residential portion.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Theresa Weston:*** I believe a straightforward reference to 189.1 would be preferable, although it should be modified to IgCC.
Abstain:	

P025 LogID 6489	**303.1 Green buildings**	***Final Formal Action:*** **Disapprove**
Submitter:	Steven Armstrong, self	
Requested Action:	Add new as follows	
Proposed Change:	Consider a separate multifamily path for scoring tool	
Reason:	Many of the single family practices found in the current scoring tool do not apply to multifamily thus allowing for confusion when presenting to multifamily contractors, engineers and architects.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The existing scoring tool is sufficient and Home Innovation can continue to modify as needed.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P026 LogID 6439	**303.1 Green buildings**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**305.3.3 Mandatory practices.** The building, including any additions and common areas, shall satisfy all practices designated as mandatory in Chapter 11 <u>for One- and Two- Family Dwellings and Chapter X for Multifamily Buildings</u> . **305.3.4 NO CHANGE** **305.3.5 NO CHANGE**	

	305.3.6 NO CHANGE **305.3.7 Prescriptive practices.** The point thresholds for the environmental rating levels based on compliance with the Chapter 11 <u>for One- and Two- Family Dwellings and Chapter X for Multifamily Buildings</u> prescriptive practices shall be in accordance with Table 305.3.7. Any practice listed in Chapter 11 <u>for One- and Two- Family Dwellings and Chapter X for Multifamily Buildings</u> shall be eligible for contributing points to the prescriptive threshold ratings. The attributes of the existing building that were in compliance with the prescriptive practices of Chapter 11 <u>for One- and Two- Family Dwellings and Chapter X for Multifamily Buildings</u> prior to the remodel and remain in compliance after the remodel shall be eligible for contributing points to the prescriptive threshold ratings.
Reason:	The remodeling of single family homes and multifamily buildings are endeavors of very different scope. Chapter 11 currently does a so-so job of responding to the difference but this could be greatly improved by creating a standalone chapter.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	No separate chapter is needed. The current structure is adequate.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P027 LogID 6278	**303.1 Green buildings**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**305.3.5Energy efficiency.** The energy efficiency rating level shall be based on the reduction in energy consumption resulting from the remodel in accordance with Table 305.3.5. **Table 305.3.5** **Energy Rating Level Thresholds**	

	Rating Level			
	~~BRONZE~~ <u>CERTIFIED</u>	**SILVER**	**GOLD**	**EMERALD**
Reduction in energy consumption	**15%**	**25%**	**35%**	**45%**

Reason:	"Bronze" Certification is not as effective as it Could or should be as a "mark of distinction" for a green home or apartment. For many reasons, the marketplace has come to value silver and gold. Emerald is a rare distinction. Bronze, when awarded often feels to recipients like third place rather than the rarified Olympian step up on the platform. This proposal suggest that our protocol switch to "certified " as the entry level of performance for green certification. This is a subtle but important step to improve the acceptance and marketplace support for the program.
Committee Formal Action from Meeting:	**Disapprove**

Modification of Proposed Change:	
Committee Reason:	Bronze should be included because they are all certified.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P028 LogID 17-055	**305.3.5 Energy Efficiency** ***Final Formal Action:*** **Disapprove**
Submitter:	Chris Schwarzkopf, Energy Diagnostics
Requested Action:	Modify as follows
Proposed Change:	Modify Section 305.3 to create a path for Remodel Certification that does not penalize properties that have recently been renovated. For instance, if a MF property recently upgraded all the fixtures to water-efficient fixtures, then it will be extremely difficult, if not economically unfeasible, to reach an incremental 20% improvement. 305.3.5 Energy efficiency. <u>The project must meet one of the following options from 305.3.5.1 or 305.3.5.2:</u> <u>305.3.5.1 Energy Consumption Reduction. The energy efficiency rating level shall be based on the reduction in energy consumption resulting from the remodel in accordance with Table 305.3.5.</u> [Table 305.3.5 – No Change] [no change to existing text from 1 --- The reduction in energy consumption resulting from the remodel shall be based … entire building including all dwelling units and common areas.] <u>If project can demonstrate through invoices and/or permits that the renovation started earlier and has been a phased investment, the energy baseline can be measured up to 3 years before project registration</u>. <u>305.3.5.2 Alternative Performance Paths: Project must select option a or b</u> <u>a. Bronze/Silver Path: Follow the 704.1 HERS index target compliance. Worst case units must achieve HERS [70] or lower</u> <u>b. Exceed the minimum building code requirement at the time of last substantial remodel by +15%, +25%, +35%, 45%? (Verify by permit date the time of, if any, last substantial remodel) (Adaptive reuse projects must use as designed units to the minimum 1980 code defaults)</u> 305.3.6 Water efficiency. <u>The project must meet one of the following options from 305.3.6.1 or 305.3.6.2:</u> <u>305.3.6.1 Water Consumption Reduction. The water efficiency rating level shall be based on the reduction in water consumption resulting from the remodel in accordance with Table 305.3.6.</u> [Table 305.3.6 – No Change] [no change to existing text from 305.3.6.1 --- Water consumption shall be based on the estimated annual use … entire building including all dwelling units and common areas.] <u>If project can demonstrate through invoices and/or permits that the renovation started earlier and has been a phased investment, the water baseline can be measured up to 3 years before project registration</u>. <u>305.3.6.2 b. Alternative Prescriptive-based: (Bronze Only) Must meet requirements from</u> • <u>801.2 At least one appliance meets (1) (2) or (3)</u> • <u>801.3 (1) and 801.3 (2) a or b</u> • <u>801.4 (1) and (2)</u>

	• 801.5 (2) and (3) • If property has newly installed irrigation system, the irrigation system must be installed and designed by a certified professional per 801.6.3 (Mandatory Practice) No change to section 305.3.7
Reason:	We believe this proposal will expand the market of project that may pursue the Remodel certification. In Chapter 11's original form properties that have recently upgraded energy or water systems may find achieving the energy or water reductions extremely difficult. For instance, if a Multifamily project upgraded the water fixtures to the latest flow rates two years ago, they would find it especially difficult to generate an additional 20% savings. By offering two new paths, we can make the program more accessible while still maintaining a high bar. The first option would be to recognize WEM that were installed within 3 years of the project registration. The second option (305.6.2) offers a prescriptive path to demonstrate that the building is already above code and meeting NGBS water requirements.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The language is vague and unenforceable. In favor of action on P034.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P029 LogID 6171	**305.3.5.1 Energy consumption reduction** *Final Formal Action:* **Approve as Submitted**
Submitter:	Keith Dennis, NRECA
Requested Action:	Revise as follows
Proposed Change:	The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings or site energy savings or source energy savings as determined by
Reason:	The source energy calculations contain flaws, which is why DOE recently underwent a process to adjust them. Some of the issues are that source energy for renewable energy treat that energy as if it were from a fossil fuel plant and multiplies it by about 3, creating a counterproductive result. Similarly, nuclear energy, which makes up 20% of our national fuel mix and generates no emissions is treated worse than fossil fuel because nuclear reactions are hot. This has little to do with CO2 emissions goals or energy efficiency. Using site and source energy provides flexibility.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **35** Disagree with committee action: **4** Abstain: **1** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** I request Disapproval as this proposal sets up the standard for gaming When not having to consider the significant transmission losses that occur between source and site the consumption of the building is significant under represented ***R. Christopher Mathis:*** From the reason statement: "Using site and source energy provides flexibility." Unfortunately, it also undermines any consistent baseline. A fundamental point of differentiation between just energy efficiency and "green" is the inclusion of a wider scope of sustainability. That same expansion justifies building site selection and management, as it does the calculation of all energy as primary/source energy. A location's appropriate fuel mix multipliers readily are available. ***Neil Leslie:*** Adding this option under the guise of "flexibility" creates a new, technically flawed path to electrification of options in a mixed fuel building that are neither cost-justified nor justified on a source energy savings basis. The site energy option is not needed in an all-electric building calculation as site energy, energy cost, and source energy calculations would lead to the same answer in an all-electric building. The impact of this change is limited to mixed fuel buildings, providing the opportunity to use the standard to unfairly encourage substituting electric options for natural gas or propane options. The "flaw" in the source energy conversion factor noted in the justification may ultimately be a good proxy for marginal source energy impacts, which would send reasonable and fair market and decision-making signals in the standard. In any event, the "counterproductive result" does not materially impact the result when using a source energy performance calculation and should not be used as the key rationale for substituting site energy for either energy cost or source energy calculations. Site energy calculations will introduce an unnecessary and technically unsupportable inconsistency with IECC calculations that are based either on energy cost or source energy. This change is not in the best interests of the standard, nor is it fair to the natural gas ratepayers or propane consumers adversely impacted by flawed results using site energy savings as the basis of the certification level. ***Paul W Cabot:*** I revise my vote based on circulated ballot comments
Abstain:	***Theresa Weston:*** based on circulated ballot comments

P030 LogID 6149	**305.3.5.1 Energy consumption reduction** ***Final Formal Action:*** **Disapprove**
Submitter:	Steven Rosenstock, self
Requested Action:	Revise as follows
Proposed Change:	305.3.5.1 Energy consumption reduction. The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings or ~~source~~ site energy savings as determined by....
Reason:	Site energy is measurable, verifiable, and is directly correlated to energy costs in a remodeled building. Source energy estimates are widely variable and can be easily used to "game" the system. In addition, source energy proponents claim that grid-based renewables have the highest "source" factors, penalizing builders and customers that use renewable forms of electricity. Site energy is also consistent with the equipment energy efficiency metrics shown in Chapter 7. ASHRAE has also stated that site energy is the preferred choice when looking at "net zero" energy buildings or energy comparisons.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with IECC that allows for the use of source energy as an option for compliance
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P031 LogID 6464	**305.3.5.1 Energy consumption reduction**	***Final Formal Action:*** **Disapprove**
Submitter:	Chuck Foster, self	
Requested Action:	Revise as follows	
Proposed Change:	The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings~~ or source energy savings~~ as determined by a third-party energy audit and analysis or utility consumption data.	
Reason:	Source energy is an unstable metric for estimating energy performance, especially in a time of rapidly changing electric generation fleets. In addition, source energy overtly discriminates against the use of renewable energy sources, thereby putting it at tension with the goals and purpose of the NGBS.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with IECC that allow the use of source energy as a option for compliance.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P032 LogID 6279	**305.3.6 Water efficiency**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**305.3.6 Water efficiency.** The water efficiency rating level shall be based on the reduction in water consumption resulting from the remodel in accordance with Table 305.3.6.	

Table 305.3.6
Water Rating Level Thresholds

	Rating Level			
	~~BRONZE~~ CERTIFIED	**SILVER**	**GOLD**	**EMERALD**
Reduction in energy consumption	**20%**	**30%**	**40%**	**50%**

Reason:	"Bronze" Certification is not as effective as it Could or should be as a "mark of distinction" for a green home or apartment. For many reasons, the marketplace has come to value silver and gold. Emerald is a rare distinction. Bronze, when awarded often feels to recipients like third place rather than the rarified Olympian step up on the platform. This proposal suggest that our protocol switch to "certified " as the entry level of performance for green certification. This is a subtle but important step to improve the acceptance and marketplace support for the program.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Bronze should be included because they are all certified.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P033 LogID 6280	**305.3.7 Prescriptive practices** ***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self
Requested Action:	Revise as follows
Proposed Change:	**305.3.7 Prescriptive practices**. The point thresholds for the environmental rating levels based on compliance with the Chapter 11 prescriptive practices shall be in accordance with Table 305.3.7. Any practice listed in Chapter 11 shall be eligible for contributing points to the prescriptive threshold ratings. The attributes of the existing building that were in compliance with the prescriptive practices of Chapter 11 prior to the remodel and remain incompliance after the remodel shall be eligible for contributing points to the prescriptive threshold ratings. **Table 305.3.6** **Prescriptive Threshold Point Ratings**

	Rating Level			
	~~**BRONZE**~~ **CERTIFIED**	**SILVER**	**GOLD**	**EMERALD**
Reduction in energy consumption	**88**	**125**	**181**	**225**

Reason:	"Bronze" Certification is not as effective as it Could or should be as a "mark of distinction" for a green home or apartment. For many reasons, the marketplace has come to value silver and gold. Emerald is a rare distinction. Bronze, when awarded often feels to recipients like third place rather than the rarified Olympian step up on the platform. This proposal suggest that our protocol switch to "certified " as the entry level of performance for green certification. This is a subtle but important step to improve the acceptance and marketplace support for the program.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Bronze should be included because they are all certified.

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P034 LogID 17-029	**305.4 Criteria for remodeled functional areas of buildings** *Final Formal Action:* **Approve as Modified**
Submitter:	Paul Gay, US-EcoLogic (with John Barrows, Chris Schwarzkopf, Stephen Evanko)
Requested Action:	Modify as follows
Proposed Change:	~~**305.4 Criteria for remodeled functional areas of buildings**~~ ~~**305.4.1 Applicability.** The provisions of Section 305.4 shall apply to remodeling of one or more of the following functional areas of the existing building as follows:~~ ~~1. Addition, kitchen, bathroom, or basement in buildings other than multifamily buildings.~~ ~~2. Kitchen or bathroom of an individual dwelling unit in a multifamily building.~~ ~~**305.4.1.1 Additions.** The total above-grade conditioned area added during a remodel shall not exceed 400 square feet.~~ ~~**305.4.2 Compliant**. Projects that meet all applicable requirements of Chapter 12 for that functional area shall be designated as *compliant*.~~ ~~**305.4.3 Designation.** The designation achieved under Section 305.4 applies only to the specific functional area of the existing building. The existing building may have more than one *compliant* functional area.~~ ~~**305.4.4 Additions**. A bathroom(s), kitchen, or finished basement included in an addition shall comply with all criteria specifically applicable to those functional areas in accordance with the provisions of Chapter 12.~~ ~~**305.4.5 Mandatory.** Projects shall satisfy all applicable practices designated as mandatory in Chapter 12.~~ ~~**305.4.6 Existing attributes**. The attributes of the existing building that were in compliance with the applicable provisions of Chapter 12 prior to the remodel and remain in compliance after the remodel shall be eligible for contributing to demonstration of compliance under Section 305.4.~~ **Delete entire Chapter 12** Replace with: **305.4 Criteria for Phased Remodeling of Apartment Units and or Functional Areas, and Building Systems** **305.4.1 Applicability:** Provide for a phased remodeling path that leads to certification for the whole single family residence or multi-family building. 305.4.1.1 Remodeling of **Apartment Units and or** functional areas (or rooms) such as kitchens, baths, individual rooms, additions of less than 400 SF. 305.4.1.2 Remodeling of building systems such as building envelope, individual HVAC components centralized systems , indoor environment, and water conservation practices 305.4.2 Compliance: Functional areas and systems are provided with a certification of compliance when the applicable Chapter 11 prescriptive practices are achieved. **305.4.2.1 Single Family Compliance**: (a) Single Family functional areas are provided with certification of compliance (b) Single Family building systems are provided with a certification of compliance when practices as outlined in a pre-project evaluation are met. Pre-project evaluation can take the form of a NGBS pre-

	score, Energy Audit, or other recognized program that provides recommended and prioritized list of practices (c) Full certification to NGBS Chapter 11 is provided when point threshold levels of all certifications total the target level for certification to Chapter 11 **305.4.2.2 Multifamily Compliance** 305.4.2.2.1 Individual Multifamily Units: ~~Individual multifamily units with their own and separate energy source and water source:~~ (a) Single Unit functional areas are provided with certification of compliance (b) Single unit building systems are provided with a certification of compliance when practices as outlined in a pre-project evaluation are met. Pre-project evaluation can take the form of a NGBS pre-score, Energy Audit, or other recognized program that provides recommended and prioritized list of practices (c) Full certification to NGBS Chapter 11 is provided when point threshold levels of all certifications total the target level for certification to Chapter 11 305.4.2.2.1 Centralized Multifamily Units: Multifamily units with their centralized energy source and water source: (a) Single Unit functional areas are provided with certification of compliance (b) Single unit building systems are provided with a certification of compliance when practices as outlined in a pre-project evaluation are met. Pre-project evaluation can take the form of a NGBS pre-score, Energy Audit, or other recognized program that provides recommended and prioritized list of practices (c) Full certification to NGBS Chapter 11 is provided for the entire building when point threshold levels of all certifications total the target level for certification to Chapter 11 for the entire building.
Reason:	The existing Functional Area Remodeling Certification is a starting point and NGBS should promote and recognize practices that lead to full building certification. Many remodeling projects start with a goal in mind and are phased in over time for budget or convenience reasons. Providing certification to functional areas and building systems will promote such efforts if accomplished within ___ yrs. Remodeling of Functional Areas will require a minimum of points from the applicable practices in Chapter 11. Remodeling and upgrading building systems will require a pre-project evaluation to determine the priorities that ensure that upon completion all systems comply with the practices of Chapter 11
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**Guide to Edits:** In order to simplify review, only Section number and titles are shown unless modifications are made within the section. If only the section number and title are shown, no edits were performed to that section. If a new section was added to Chapter 11 and only the section number and title are shown, then that section was copied verbatim from corresponding section in previous chapter and shown in black underline. All other edits shown in red. **Edits to Chapter 3:** **304 GREEN MULTIFAMILY BUILDINGS** **304.1 Multifamily buildings.** **305 GREEN REMODELING** **305.1 Compliance.** ~~**305.2 Compliance options.** The criteria for existing buildings shall be in accordance with Section 305.3 for whole-building ratings or Section 305.4 for compliance designations of building functional areas.~~ ~~**305.3 Whole-building rating criteria**~~ **305.3.1 Applicability.** The provisions of Section 305.3 shall apply to remodeling of existing buildings. In addition to the foundation, at least 50 percent of the structural systems of the existing building shall remain in place after the remodel for the building to be eligible for compliance under Section 305.3. Recent new construction projects are not eligible for verification under the remodel path. The Certificate of Occupancy date must be at least five years prior to the registration of a remodel project. **305.3.1.1 Additions.**

305.3.2 Rating scope.

305.3.3 Mandatory practices. ~~The building, including any additions and common areas, shall satisfy all practices designated as mandatory in Chapter 11.~~ Additions, alterations or repairs to an existing building, building system or portion thereof shall comply with the Mandatory requirements in Chapter 11. Unaltered portions of the existing building or building supply system shall not be required to meet Mandatory requirements except when life safety or apparent moisture issues exist.

305.3.4 Rating level

305.3.5 Energy Efficiency. ~~The energy efficiency rating level shall be based on the reduction in energy consumption resulting from the remodel in accordance with Table 305.3.5.~~ The building shall comply with Section 11.305.3.5.1 or 11.305.3.5.2:

305.3.5.1 Energy Consumption Reduction Path: The energy efficiency rating level shall be based on the reduction in energy consumption resulting from the remodel in accordance with Table 305.3.5.1

Table 305.3.5.1
Energy Rating Reduction Level Thresholds

	Rating Level			
	BRONZE	**SILVER**	**GOLD**	**EMERALD**
Reduction in energy consumption	15%	25%	35%	45%

The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings or source energy savings as determined by a third-party energy audit and analysis or utility consumption data. The reduction shall be the percentage difference between the consumption per square foot before and after the remodel calculated as follows:

[(consumption per square foot before remodel – consumption per square foot after remodel)/consumption per square foot before remodel]∗100

The occupancy and lifestyle assumed and the method of making the energy consumption estimates shall be the same for estimates before and after the remodel. The building configuration for the after-remodel estimate shall include any additions to the building or other changes to the configuration of the conditioned space. For multifamily buildings, the energy consumption shall be based on the entire building including all dwelling units and common areas.

If a building can demonstrate through documentation approved by the Adopting Entity that the remodel activities started prior to project registration, the energy baseline (consumption per square foot before remodel) can be calculated based on data and building systems that existed in the building up to 3 years prior project registration.

305.3.5.2 Prescriptive Path: The building shall comply with Table 305.3.5.2 (Energy Rating Prescriptive Point Thresholds). Any practice listed in Section.11.703 shall be eligible for contributing points toward Table 305.3.5.2 (Energy Rating Prescriptive Point Thresholds). The attributes of the existing building that were in compliance with the prescriptive practices of in Section.11.703 prior to the remodel and remain in compliance after the remodel shall be eligible for contributing points to this section.

Table 305.3.5.2
Energy Rating Prescriptive Point Thresholds

	Rating Level			
	BRONZE	**SILVER**	**GOLD**	**EMERALD**
Section 11.703 prescriptive thresholds	30	45	60	70

Points from Section 11.703 and 11.705 do not count towards the total points for section 11.305.3.7

305.3.6 Water efficiency. ~~The water efficiency rating level shall be based on the reduction in water consumption resulting from the remodel in accordance with Table 305.3.6.~~ The building shall comply with Section 11.305.3.6.1 or 11.305.3.6.2:

305.3.6.1 Water Consumption Reduction Path: The water efficiency rating level shall be based on the reduction in water consumption resulting from the remodel in accordance with Table 305.3.6.1

Table 305.3.6.1
Water Rating Reduction Level Thresholds

	Rating Level

	BRONZE	SILVER	GOLD	EMERALD
Reduction in water consumption	20%	30%	40%	50%

Water consumption shall be based on the estimated annual use as determined by a third-party audit and analysis or use of utility consumption data. The reduction shall be the percentage difference between the consumption before and after the remodel calculated as follows:

[(consumption before remodel − consumption after remodel)/consumption before remodel]∗100%

The occupancy and lifestyle assumed and the method of making the water consumption estimates shall be the same for estimates before and after the remodel. The building configuration for the after-remodel estimate shall include any changes to the configuration of the building such as additions or new points of water use. For multifamily buildings, the water consumption shall be based on the entire building including all dwelling units and common areas.

If a building can demonstrate through documentation approved by the Adopting Entity that the remodel activities started prior to project registration, the water baseline (consumption before remodel) can be calculated based on data and building systems that existed in the building up to 3 years prior project registration

305.3.6.2. Prescriptive Path: The building shall comply with Table 305.3.6.2 (Water Rating Prescriptive Point Thresholds). Any practice listed in Section.11.801 shall be eligible for contributing points toward Table 305.3.6.2 (Water Rating Prescriptive Point Thresholds). The attributes of the existing building that were in compliance with the prescriptive practices of in Section.11.801 prior to the remodel and remain in compliance after the remodel shall be eligible for contributing points to this section.

Table 305.3.6.2
Water Rating Prescriptive Point Thresholds

	Rating Level			
	BRONZE	SILVER	GOLD	EMERALD
Section 11.800 prescriptive thresholds	25	39	67	92

305.3.7 Prescriptive practices. The point thresholds for the environmental rating levels based on compliance with the Chapter 11 prescriptive practices shall be in accordance with Table 305.3.7. Any practice listed in Chapter 11, except for 11.700 and 11.800, shall be eligible for contributing points to the prescriptive threshold ratings. The attributes of the existing building that were in compliance with the prescriptive practices of Chapter 11 prior to the remodel and remain in compliance after the remodel shall be eligible for contributing points to the prescriptive threshold ratings.

Table 305.3.7
Prescriptive Threshold Point Ratings

	Rating Level			
	BRONZE	SILVER	GOLD	EMERALD
Chapter 11 prescriptive thresholds	88	125	181	225

Delete Section 305.4 entirely

~~**305.4.1 Applicability.**~~

~~**305.4.1.1 Additions.**~~

~~**305.4.2 Compliant.**~~

~~**305.4.3 Designation.**~~

~~**305.4.4 Additions.**~~

~~**305.4.5 Mandatory**~~

~~**305.4.6 Existing attributes.**~~

306 GREEN ACCESSORY STRUCTURES

306.1 Applicability.

306.2 Compliance

	Edits to Chapter 11: **CHAPTER 11 REMODELING** **11.500 LOT DESIGN, PREPARATION, AND DEVELOPMENT** **11.500.0 Intent** **11.501 LOT SELECTION** **11.501.2 Multi-modal transportation** **11.502 PROJECT TEAM, MISSION STATEMENT, AND GOALS** **11.502.1 Project team, mission statement, and goals** **11.503 LOT DESIGN** **11.503.0 Intent** **11.503.1 Natural resources** **11.503.2 Slope disturbance** **11.503.3 Soil disturbance and erosion** **11.503.4 Stormwater Management** **11.503.5 Landscape plan** **11.503.6 Wildlife habitat** **11.503.7 Environmentally sensitive areas** **11.504 LOT CONSTRUCTION** **11.504.0 Intent** **11.504.1 On-site supervision and coordination** **11.504.2 Trees and vegetation** **11.504.3 Soil disturbance and erosion implementation** **11.505 INNOVATIVE PRACTICES** **11.505.0 Intent** **11.505.1 Driveways and parking areas** **11.505.2 Heat island mitigation** **11.505.3 Density** **11.505.4 Mixed-use development** **11.505.5 Community Garden(s)** **11.505.6 Multi-unit plug-in electric vehicle charging** **11.601 QUALITY OF CONSTRUCTION MATERIALS AND WASTE** **11.601.0 Intent** **11.601.1 Conditioned floor area** **11.601.2 Material usage** **11.601.3 Building dimensions and layouts** **11.601.4 Framing and structural plans** **11.601.5 Prefabricated components** **11.601.6 Stacked stories** **11.601.7 Prefinished materials** **11.601.8 Foundations** **11.602 ENHANCED DURABILITY AND REDUCED MAINTENANCE** **11.602.0 Intent** **11.602.1 Moisture management – building envelope** **11.602.2 Roof surfaces** **11.602.3 Roof water discharge** **11.602.4 Finished grade** **11.603 REUSED OR SALVAGED MATERIALS** **11.603.0 Intent** **11.603.1 Reuse of existing building** **11.603.2 Salvaged materials** **11.603.3 Scrap materials** **11.604 RECYCLED-CONTENT BUILDING MATERIALS** **11.604.1 Recycled content**

	11.605 RECYCLED CONSTRUCTION WASTE **11.605.0 Intent** **11.605.1 Hazardous waste** **11.605.2 Construction waste management plan** **11.605.3 On-site recycling** **11.605.4 Recycled construction materials** **11.606 RENEWABLE MATERIALS** **11.606.0 Intent** **11.606.1 Biobased products** **11.606.2 Wood-based products** **11.606.3 Manufacturing energy** **11.607 RECYCLING AND WASTE REDUCTION** **11.607.1 Recycling and composting** **11.607.2 Food waste disposers** **11.608 RESOURCE-EFFICIENT MATERIALS** **11.608.1 Resource-efficient materials** **11.609 REGIONAL MATERIALS** **11.609.1 Regional materials** **11.610 LIFE CYCLE ASSESSMENT** **11.610.1 Life cycle assessment** **11.610.1.1 Whole-building life cycle assessment** **11.610.1.2 Life cycle assessment for a product or assembly** **11.611 INNOVATIVE PRACTICES** **11.611.1 Manufacturer's environmental management system concepts** **11.611.2 Sustainable products** **11.611.3 Universal design elements** **11.611.4 Product declarations** **11.701 MINIMUM ENERGY EFFICIENCY REQUIREMENTS** **11.701.4 Mandatory practices** **11.701.4.0 Minimum energy efficiency requirements** **11.701.4.1 HVAC systems** **11.701.4.2 Duct systems** **11.701.4.3 Insulation and air sealing** 11.701.4.4 High-efficacy lighting Lighting efficacy in dwelling units is in accordance with one of the following: 1) A minimum of ~~75~~90 percent of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent 2) Lighting power density, measured in watts/square foot, is 1.1 or less. **11.701.4.5 Boiler supply piping** **11.701.4.6 Fenestration specifications** **11.701.4.7 Replacement fenestration** **11.703.1 Mandatory Practices** **11.703.1.1 UA Compliance** The building thermal envelope is in compliance with Section 11.703.1.1.1 or 11.703.1.1.2. **Exception:** Section 11.703.1.1 is not required for Tropical Climate Zone. **11.703.1.1.1 Maximum UA.** For IECC residential, the total building UA is less than or equal to the total maximum UA as computed by ~~2015~~ 2018 IECC Section R402.1.5. For IECC commercial, the total UA is less than or equal to the sum of the UA for ~~2015~~ 2018 IECC Tables C402.1.4 and C402.4, including the U-factor times the area and C-factor or F-factor times the perimeter. The total UA proposed and baseline calculations are documented. REScheck or COMcheck is deemed to provide UA calculation documentation. **11.703.1.1.2 Prescriptive R-value and fenestration requirements.** The building thermal envelope is in accordance with the insulation and fenestration requirements of ~~2015~~ 2018 IECC R502.1.1.1~~Table R402.1.1 or Tables C402.1.3 and C402.4~~. The SHGC is in accordance with the ~~2015~~ 2018 IECC requirements.

	11.703.1.2 Building Envelope Leakage. The building thermal envelope is in accordance with ~~2015~~ 2018 IECC ~~R402.4.1.2 or C402.5~~ R502.1.1.1 or R503.1.1 as applicable. **Exception:** Section 11.703.1.2 is not required for Tropical Climate Zone. **11.703.1.3 Duct Testing.** The duct system is in accordance with ~~2015~~ 2018 IECC R403.3.2 through R403.3.5 as applicable. **11.703.2 Building envelope** **11.703.2.1 UA improvement** **11.703.2.2 Mass walls** **11.702.3** **11.703.2.4 Building envelope leakage** **11.703.2.5 Fenestration** **11.703.2.5.1** **11.703.2.5.1.1 Dynamic Glazing** **11.703.2.5.2** **11.703.2.5.2.1 Dynamic glazing** **11.703.3 HVAC equipment efficiency** **11.703.3.0 Multiple heating and cooling systems** **11.703.3.1** **11.703.3.2** **11.703.3.3** **11.703.3.4** **11.703.3.5** **11.703.3.6** **11.703.3.7** **11.703.3.8** **11.703.4 Duct Systems** **11.703.4.1** **11.703.4.2** **11.703.4.3** **11.703.4.4 Duct Leakage** **11.703.5 Water Heating System** **11.703.5.1** **11.703.5.2** **11.703.5.3** **11.703.5.4** **11.703.5.5 Solar water heater** **11.703.6 Lighting and appliances** **11.703.6.1 Hard-wired lighting** **11.703.6.2 appliances** **11.703.7 Passive Solar Design** **11.703.7.1 Sun tempered design** **11.703.7.2 window shading** **11.703.7.3 passive cooling design** **11.703.7.4 passive solar heating design** **11.705 Additional practices** **11.705.1 Application of additional practice points. Points from Section 11.705 can be added to points earned in ~~Section 702 (Performance Path),~~ Section 11.703 (Prescriptive Path)~~,~~ ~~Section 704 (HERS Index Target Path), or Section 701.1.4 (alternative bronze and silver level compliance)~~.** **11.705.2 Lighting** **11.705.2.1 Lighting controls** **11.705.2.1.1 Interior lighting** **11.705.2.1.2 Exterior lighting** **11.705.2.1.3 multifamily common areas**

	11.705.2.1.4 **11.705.2.2 TDDs and skylights** **11.705.2.3 lighting outlets** **11.705.2.4 recessed luminaries** **11.705.3 induction cooktop** **11.705.4 return ducts and transfer grilles** **11.705.5 HVAC design and installation** **11.705.5.1** **11.705.5.2** **11.705.6 installation and performance verification** **11.705.6.1** **11.705.6.2 Testing** **11.705.6.2.1 air leakage validation of building or dwelling units** **11.705.6.2.2 HVAC airflow testing** **11.705.6.2.3 HVAC duct leakage testing** **11.705.6.3 insulating hot water pipes** **11.705.6.4 potable hot water demand re-circulation system** **11.705.6.4.1** **11.705.6.4.2** **11.705.7 submetering system** **11.706 innovation practices** **11.706.1 energy consumption control** **11.706.2 renewable energy service plan** **11.706.3 smart appliance and systems** **11.706.4 pumps** **11.706.4.1** **11.706.4.2** **11.706.5 on-site renewable energy system** **11.706.6 parking garage efficiency** **11.706.7 grid-interactive electric thermal storage system** **11.706.8 electrical vehicle charging station** **11.706.9 automatic demand response** **11.801 Indoor and outdoor water use** **11.801.0 intent** **11.801.1 indoor hot water usage** **11.801.2 water-conserving appliances** **11.801.3 showerheads** **11.801.4 lavatory faucets** **11.801.4.1** **11.801.4.2** **11.801.5 water closets and urinals** **11.801.6 irrigation systems** **11.801.6.1** **11.801.6.2** **11.801.6.3** **11.801.6.4** **11.801.6.5** **11.801.7 rainwater collection and distribution** **11.801.7.1** **11.801.7.2** **11.801.8 sediment filters** **11.802 innovation practices** **11.802.1 reclaimed gray, or recycled water** **11.802.2 reclaimed water, greywater or rainwater pre-piping** **11.802.3 automatic shutoff water devices**

	<u>11.802.4 engineered biological system or intensive bioremediation system</u> **<u>11.802.5 recirculating humidifier</u>** **<u>11.802.6 advanced wastewater treatment system</u>** **11.901 POLLUTANT SOURCE CONTROL** **11.901.0 Intent** **11.901.1 Space and water heating options** **11.901.2 Solid fuel-burning appliances** **11.901.3 Garages** **11.901.4 Wood materials** **11.901.5 Cabinets** **11.901.6 Carpets** **11.901.7 Floor materials** **11.901.8 Wall coverings** **11.901.9 Interior architectural coatings** **11.901.10 Interior Adhesives and sealants** **11.901.11 Insulation** **11.901.12 Carbon monoxide (CO) alarms** **11.901.13 Building entrance pollutants control** **11.901.14 Non-smoking areas** **11.901.15 Lead-safe work practices** **11.902 POLLUTANT CONTROL** **11.902.0 Intent** **11.902.1 Spot ventilation** **11.902.2 Building ventilation systems** **11.902.3 Radon control** **11.902.4 HVAC system protection** **11.902.5 Central vacuum systems** **11.902.6 Living space contaminants** **11.903 MOISTURE MANAGEMENT: VAPOR, RAINWATER, PLUMBING, HVAC** **11.903.0 Intent** **11.903.1 Plumbing** **11.903.2 Duct insulation** **11.903.3 Relative humidity** **11.904 INDOOR AIR QUALITY** **11.904.0 Intent** **11.904.1 Indoor Air Quality (IAQ) during construction** **11.904.2 Indoor Air Quality (IAQ) post completion** **11.905 INNOVATIVE PRACTICES** **11.905.1 Humidity monitoring system** **11.905.2 Kitchen exhaust** **11.1001 HOMEOWNER'S MANUAL AND TRAINING GUIDELINES FOR ONE- AND TWO-FAMILY DWELLINGS** **11.1001.0 Intent** **11.1001.1 Homeowner's manual** **11.1001.2 Training of initial building owners** **11.1002 CONSTRUCTION, OPERATION, AND MAINTENANCE MANUALS AND TRAINING FOR MULTIFAMILY BUILDINGS** **11.1002.0 Intent** **11.1002.1 Building construction manual** **11.1002.2 Operations manual** **11.1002.3 Maintenance manual** **11.1002.4 Training of building owners** **11.1003 PUBLIC EDUCATION** **11.1003.0 Intent** **11.1003.1 Public Education**

	11.1005 INNOVATIVE PRACTICES **Edits to Chapter 12** Delete Chapter 12 entirely ~~**CHAPTER 12 Remodeling of Functional Areas**~~
Committee Reason:	We believe this proposal will expand the market of projects that may pursue the Remodel certification. In Chapter 11's current form, properties that have recently upgraded energy or water systems may find achieving the minimum energy or water reductions extremely difficult relative to their already high-performance starting points. Renovation in Multifamily properties is often undertaken through staged investments spanning many years. Many of the improvements in these renovations cover green, energy-efficiency and water-efficiency practices in the NGBS standard. Unfortunately, as the standard is currently written, we are missing the opportunity to support green certification for these properties. This proposal lays out several alternatives to the energy reduction in Table 305.3.5 (15%, 25%, 35%, 45%) and water reduction in Table 305.3.6 (20%, 30%, 40%, 50%). We propose including options to: (a) Improvement-based: Use the current energy reduction and water reduction tables but grant a look-back period of up to 3 years for investments that can be substantiated with invoices, etc. (b) Prescriptive-based: Leverage the Chapter 7 Energy Practices and Chapter 8 Water Practices to ensure that the project meets similar minimum point thresholds for each category In each of these alternative paths, we are maintaining a high bar to ensure that only green, energy-efficient and water-efficient properties can earn the NGBS certification. To highlight this opportunity, we offer several scenarios: For instance, if a Multifamily project upgraded the water fixtures to the latest flow rates two years ago, they would find it especially difficult to generate an additional 20% savings. By offering two new paths, we can make the program more accessible while still maintaining a high bar. The first option would be to recognize WEM that were installed within 3 years of the project registration. The second option (305.6.2) offers a prescriptive path to demonstrate that the building is already leveraging water-efficient practices and meets NGBS water practices.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P035 LogID 6438	**305.4.1 Applicability (Criteria for remodeled function areas of buildings)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	

Proposed Change:	**305.4.1 Applicability.** The provisions of Section 305.4 shall apply to remodeling of one or more of the following functional areas of the existing building as follows: 1. Addition, kitchen, bathroom, or basement in buildings other than multifamily buildings. 2.~~Kitchen or bathroom of a~~ An individual dwelling unit or residential common area in a multifamily building. **305.4.1.1 Additions.** The total above-grade conditioned area added during a remodel shall not exceed 400 square feet per functional area. **305.4.2 NO CHANGE** **305.4.3 NO CHANGE** **305.4.5 NO CHANGE** **305.4.6Existing attributes**. The attributes of the existing building that were in compliance with the applicable provisions of Chapter 12 for One- and Two-family Dwellings and Chapter X for Multifamily Buildings prior to the remodel and remain incompliance after the remodel shall be eligible for contributing to demonstration of compliance under Section 305.4.
Reason:	The remodeling of single family homes and multifamily buildings are endeavors of vastly different proportions. The functional areas of importance in multifamily buildings are not bathrooms or kitchens but whole dwelling units and common spaces. Creating a new Chapter of the Standard to address this would greatly strengthen the use-case for existing multifamily buildings
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	No separate chapter is needed. The current structure is adequate.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P036 LogID 17-015	**305.4.1.1 Additions** ***Final Formal Action:*** **Disapprove**
Submitter:	James M Williams, AE URBIA
Requested Action:	Delete section 305.4.1.1
Proposed Change:	~~305.4.1.1 Additions. The total above-grade conditioned area added during a remodel shall not exceed 400 square feet.~~
Reason:	It does not make any sense to limit the size of an addition to 400 square feet.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of action on P034
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P037 LogID 6426	**Other for Chapter 3 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Kat Benner, self / TexEnergy	
Requested Action:	Add new as follows	
Proposed Change:	307 HEALTH AND WELL BEING OPTIONAL DESIGNATION (see each chapter as relevant)	
Reason:	To include a new sub-section and Designation within the Protocol to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health. Proposing each Chapter would include a new section for "Health and Well Being", as relevant. Suggest including new subsection at end of each chapter, immediately preceding Innovative Practices.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Wellness is not defined. No language provided.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P038 LogID 6586	**Other for Chapter 3**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Thomas Culp, Aluminum Extruders Council	
Requested Action:	Add new as follows	
Proposed Change:	**304.2 Alternative IgCC Compliance.** As an alternative, any multifamily or mixed-use building that complies with the ICC International Green Construction Code (IgCC) shall be designated as achieving the gold rating level. (Add reference to 2018 International Green Construction Code in Chapter 13)	
Reason:	With the scope expansion to include multi-use buildings that combine nonresidential and multifamily spaces, there will be more overlap with projects that fall under the scope of the 2018 International Green Construction Code, which is now a joint development with the technical content of ASHRAE 189.1-2017 under cooperation of ICC, ASHRAE, USGBC, AIA, and IES. Separate proposals clarify how to use the IgCC for just those nonresidential spaces not covered by the residential designation in Section 101.2.1. In addition, if the project owner decides to use the 2018 IgCC for the entire building project, it should be provided the appropriate rating level under ICC-700 / NGBS.	
Committee Formal Action from Meeting:	**Approve as modified**	
Modification of Proposed Change:	**304.2 Alternative IgCC Compliance.** As an alternative, any multifamily or mixed-use building that complies with the ICC International Green Construction Code (IgCC) shall be designated as achieving the	

	gold rating level. Additionally, acceptable air tightness of individual residential units shall be demonstrated by a blower door test. The testing and sampling procedure shall be in accordance with the ENERGY STAR Multifamily High Rise Program Testing and Verification Protocols, Version 1.0, Revision 03 - 2015, with an allowable maximum leakage of 0.3 cfm/sf of enclosure bounding the apartment at an induced pressure difference of 50 pascals. (Add reference to 2018 International Green Construction Code in Chapter 13)
Committee Reason:	Adds a compliance path for a preexisting code level multiuse document. The lack of compartmentalized blower door testing in IgCC has been addressed. The level of compliance is based on an analysis performed by members of the committee. Additionally, the proposal is viewed as a compromise in light of the comment from Mr. Ferguson in P004: Alternatively, ASHRAE would also be resolved, when the expanded scope applies, "if provisions be included in the standard to reference the appropriate technical content in ANSI/ASHRAE/USGBC/ICC/IES Standard 189.1."
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **37** Disagree with committee action: **2** Abstain: **1** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** I disagree with the scope creep into commercial spaces that this proposal addresses and therefore I request Disapproval However should this proposal move forward additional modification of the language is in order Sampling of air leakage is no more appropriate than sampling plumbing or fire provisions as it is critical to the performance of the building over its useful life It is an injustice to the public to not verify air leakage and potentially mislead them into thinking they have a well performing unit Additionally, acceptable air tightness of individual residential units shall be demonstrated by a blower door test~~. The testing and sampling procedure shall be in accordance with the ENERGY STAR Multifamily High Rise Program Testing and Verification Protocols, Version 1.0, Revision 03 - 2015,~~ with an allowable maximum leakage of 0.3 cfm/sf of enclosure bounding the apartment at an induced pressure difference of 50 pascals. ***R. Christopher Mathis:*** Secretariat note on P004 notwithstanding, the conflict created by the scope change was known during this development cycle. All proposals and consensus committee action would have been unnecessary – as would be this comment – if the issue had been addressed when first noted. This document should be on hold until resolved. Further, to the modification, sampling is not inspection.
Abstain:	***Theresa Weston:*** based on circulated ballot comments.

P039 LogID 17-064	**Chapter 3 Compliance Method**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Matthew Dobson, Vinyl Siding Institute, TG3 Member	
Requested Action:	Add new as follows	
Proposed Change:	301.1.2 Site design and development obtaining thresholds in Table 302 may be verified, certified, and marketed as such prior to the verification of green buildings. 301.1.2.1 Developments may market green subdivision, Developer must provide clear explanation that the rating only applies to the development and not buildings. 303	

	Exception: Where the builder is unable control a majority of items in Chapter 5 due to timing and lack of relationship to the Lot Design, Preparation, and Development, green ratings on the home maybe still be obtained by eliminating rating requirements and points from Chapter 5. Rating thresholds requirements may be adjusted accordingly. Builder must provide evidence of this impossibility and provide disclaimer statement on marketing materials when this occurs. *Should the designations in Table 302 be the same as Table 303, instead of stars use bronze, silver, gold, emerald?*
Reason:	Ultimately we want developments to be built and certified from beginning to end, but we know this is not always practical. In some cases developers will sell off developed lots that have reached certain Green Subdivision levels in Section 302 of the standard but the builder may or may not build homes certified green at that point. We should give developers a better ability to certify those lots and encourage the builder to also go for certification to the standard. In other cases a builder may buy lots that the developer did not develop green but we should still enable the builder to be able to at least certify the homes are green even if the development was not. Although we don't want to encourage this practice, and I think the language provided is clear on that, we should at least try to address and allow it when necessary.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	3021.1.2 Site design and development obtaining thresholds in Table 302 may are permitted to be verified, certified, and marketed as such prior to the verification of green buildings. 3021.1.2.1 Developments may are permitted to be marketed as a green subdivision. Developer must shall provide clear explanation that the rating only applies to the development and not buildings. 303 Exception: Where the builder is unable control a majority of items in Chapter 5 due to timing and lack of relationship to the Lot Design, Preparation, and Development, green ratings on the home may are permitted to be still be obtained by eliminating rating requirements and points from Chapter 5. Rating thresholds requirements may are permitted to be adjusted accordingly. Builder must shall provide evidence of this impossibility to the Adopting Entity and provide disclaimer statement on marketing materials when this occurs.
Committee Reason:	To comply with ICC CP28, and clarifies permissive language.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P040 LogID 17-085	**Chapter 3 Compliance Method**	***Final Formal Action:***	**Disapprove**

Submitter:	Craig Conner, Building Quality
Requested Action:	Revise as follows
Proposed Change:	For all levels, add all of the required points for site development into the "other" category. Retain the same number of total points for the building.
Reason:	Some builders don't get to design their site. Let them get the same number of points in other categories that they control. Usage of the NGBS has shown site development to be a problem for some builders.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Not enough specificity.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P041 LogID 17-023	**New Section** *Final Formal Action:* **Disapprove**
Submitter:	James M Williams, AE URBIA
Requested Action:	Add a new Section **13.1101 RESILIENT CONSTRUCTION** (for new construction). Move current **CHAPTER 13, Referenced Documents** to new chapter 14.
Proposed Change:	**13.1101** **RESILIENT CONSTRUCTION** **13.1101.0 Intent.** Design and construction practices are implemented that enhance the resilience and durability of the structure (above building code minimum design loads) so the structure can better withstand forces generated by; flooding, snow, wind or seismic (as applicable) and reduce the potential for the loss of life and property. **13.1101.1 Minimum structural requirements (base design).** The design and construction of the structure, components and systems shall comply with the minimum; structural requirements, loads, and forces, as described in the applicable adopted ICC IRC and ICC IBC for a given site. (Mandatory) **13.1101.2 Enhanced resilience – 10% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 10% higher than the base design. (3 points) **13.1101.2 Enhanced resilience – 20% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 20% higher than the base design. (5 points) **13.1101.2 Enhanced resilience – 30% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 30% higher than the base design. (10 points)

	13.1101.2 Enhanced resilience – 40% above base design. Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 40% higher than the base design. (12 points) **13.1101.2 Enhanced resilience – 50% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 50% higher than the base design. (15 points)
Reason:	Resilient and durable design and construction of the structure reduce the potential for the loss of life and property which result from natural (and manmade) disasters and are sustainable practices which should be recognized and rewarded. Future subsections could include emergency power, emergency water, etc
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	It would be difficult to determine how much of an improvement could be calculated. The baseline would be dependent on the locality. The proposal is outside of the scope of the green building code. Resilience, as described by the proponent, is inadequate and incomplete – for example, a generator would not be included in this description despite it being part of a resiliency plan.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P042 LogID 17-069	**New Chapter – Certified Compliance Path for SF Homes, Townhomes, and Duplexes**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Michelle Foster, Aaron Gary, Bill Sanderson, Matt Dobson, Jerud Martin, Matt Cooper	
Requested Action:	Add new chapter as follows	
Proposed Change:	***Secretariat Note: Original submission was posted at www.homeinnovation.com/ngbs on June 8, 2017. The modified proposal approved by the Consensus Committee is included in the Ballot Attachments document.***	
Reason:	Add new chapter that provides a fifth path for compliance ("certified") that can be used by larger volume production builders that generally don't control land development (and therefore can't earn many points for Lot Design), have a limited ability to incorporate many green practices, and have a need to streamline compliance over a wide range of home types and plans. This compliance path doesn't have levels or points – all requirements within the Chapter must be met for compliance. This compliance path would be considered below Bronze, however, given that it has a broad applicability and desirability for the large production builders it has the potential to impart a far greater environmental benefit than even the higher certification levels.	
Committee Formal Action from Meeting:	**Approve as Modified**	

Modification of Proposed Change:	***Secretariat Note: See Ballot Attachments document for the proposed change language***.
Committee Reason:	To address the issues and concerns brought up by the original proposal; e.g., name of certification, water heater efficiencies, details in site provisions.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **35** Disagree with committee action: **4** Abstain: **1** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** I disagree with the watering down of the standard in order to gain market share of single family certifications It is not that the standard is out of line with constructible reasonable green provisions in fact it is already on of the least onerous green standards/programs on the market Similar to other performance criteria in the code like structural requirements We don't change the requirement so lesser performing products can enter the market as it would be disingenuous and irresponsible for us to do so to the public ***Bob Thompson:*** This dramatically lowers the bar for the standard. Although the proposal originally was intended to increase production builders' participation in the program, this language creates a new level of certification for ALL single-family homes, townhomes, and duplexes. As most builders are likely to be just as satisfied with achieving a "certified" level as they would be with a bronze level, this effectively lowers the environmental benefits that NGBS users will achieve. In particular, this proposal allows all standard users to bypass myriad site criteria that are known to be highly correlated with the environmental performance of a building over its life time. ***R. Christopher Mathis:*** How many compliance options are necessary? At what point does a standard become construction guide? Reducing requirements for market penetration is textbook green-washing. From the reason statement: "This compliance path would be considered below Bronze..." ***Laura Petrillo-Groh:*** AHRI votes no. A fifth path for compliance dilutes the green building standard.
Abstain:	***Theresa Weston:*** I believe the limitations on when the new pathway can be used should be in the standard. The intention is that it is for large production builders who "generally don't control land development" and the justification for the below Bronze certification is the environmental benefits from broader adoption. But I did not see any limitations that would require this path to only be used by a certain size of builder or that they are not in control of the land development.

P043 LogID 6592	**New Section**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, self	
Requested Action:	Add new as follows	
Proposed Change:	**CHAPTER 13** **NON-RESIDENTIAL NEW CONSTRUCTION** **1301.1 Intent.** This chapter provides green requirements for the non-residential portion of a building. **1301.2 Scope.** This chapter shall apply to the non-residential portions of buildings. Unless specifically stated otherwise, references to the "building" shall mean the part of a building that is within the scope of this chapter. Occupancy classifications shall be determined in accordance with the *International Building Code*.	

	1301.2.1 Exempt buildings and systems. This chapter shall not apply to temporary structures approved under Section 108 or Section 3103 of the *International Building Code*. **1301.3 Incomplete spaces.** Specific requirements inside the building envelope shall be satisfied if the requirements that are stated in the construction documents, even if the non-residential inside construction is not complete provided: 1) The residential space in the building has received occupancy permit(s) or has progressed to the point to receive an ICC 700 certification, 2) The authority having jurisdiction deems it impractical to implement that specific requirement prior to the residential building receiving occupancy permit(s) or ICC 700 certification. 3) There is adequate space to meet the possible requirements at a future date. A specific requirement applying to some, but not all, the non-residential occupancies that could be in the incomplete spaces is a valid reason for that specific requirement being listed in the construction documents but not completed. The requirements for the thermal envelop and items outside the building shall be met before certification of the building. **1301.4 Approved programs and standards.** The authority having jurisdiction shall be permitted to deem a national, state or local program or standard to meet or exceed this chapter. Approval for a specified application, limited scope or specific locale shall be permitted. Buildings approved in writing under such a program or standard shall be considered in compliance with this chapter. **1302 SITE DEVELOPMENT AND LAND USE** **1302.1 Intent.** Develop building sites to minimize negative environmental impacts and to protect, restore and enhance the natural features and environmental quality of the site. **1302.2 Protected areas.** Construction shall comply with jurisdictional, state and Federal regulation concerning park lands, agricultural lands, flood hazard areas, conservation areas, greenfields, brownfields, sites adjacent to surface water bodies and wetlands. Construction documents shall show the location of the protected areas on, or adjacent to the building site. Construction documents shall show required buffer zones around protected areas. **1302.2.1 Flood hazard areas.** New construction shall not be permitted in *flood hazard areas.* Where the authority having jurisdiction makes an exception, this chapter shall apply. **1302.2.2 Surface water protection.** Construction and site improvements shall not occur within the ordinary high-water mark of seas, lakes, rivers and streams. **Exceptions:** 1. Construction and site improvements related to the use of the associated body of water. 2. Construction and site improvements permitted under an approved wetlands permitting program. **1302.3 Vegetation and soil protection.** *Construction documents* shall identify existing vegetation and soils on a *building site* to be preserved and protected. Protected areas and plants with undisturbed soils shall be provided a physical barrier, such as temporary fencing or other physical barrier. Perimeters around trees shall be a circle with a radius of not less than 1 foot (305 mm) for every inch (25.4 mm) of tree diameter, with a minimum radius of 5 feet (1524 mm). Perimeters around shrubs shall be not less than twice the radius of the shrub. **Exception:** *Approved* alternative perimeters appropriate to the location and the species of the trees and shrubs shall be permitted.

	1302.4. Topsoil protection. *Topsoil* that could be damaged by construction or equipment shall be removed and stockpiled for future reuse. *Topsoil* stockpiles shall be protected with temporary or permanent soil stabilization measures to prevent erosion or compaction. **1302.5 Soil reuse and restoration.** Soils that are being reused shall be prepared, amended and placed to establish or restore the ability of the soil to support the planned vegetation. **1302.6 Pervious and permeable pavement.** Pervious and permeable pavements including open grid paving systems and open-graded aggregate systems shall be permitted where they do not interfere with access and egress of fire and emergency vehicles or personnel; utilities; or telecommunications lines. **1302.6 Stormwater.** Stormwater management for the *building site* shall address the potential increase in runoff that would occur resulting from construction. Stormwater shall be permitted to be managed for a group of *building sites*, such as the *building sites* within a development or the development as a whole. Where approved, stormwater shall be permitted to flow into adjunct areas designed to accept the stormwater. Stormwater management shall either: 1. Manage rainfall on-site to retain, use or infiltrate at a minimum, the volume of a single storm which is equal to the *95th percentile rainfall event*; or 2. Improve, maintain or restore the pre-development stable runoff of the site in an approved manner. Runoff rate and volume shall not exceed predevelopment rates. **1302.6.1. Rainwater catchment.** Where allowed by the jurisdiction, rainwater catchment shall be permitted to be used as part of stormwater management. **1302.6.2. Site infiltration.** Infiltration into the site or development shall be permitted to be used as part of stormwater management. Site infiltration includes drainage of impermeable surfaces onto vegetated areas, rain gardens, permeable hardscapes, swales, ponds, or other approved areas. **1302.6.3. Adjoining lots.** The stormwater management system shall not cause increased erosion or other drainage related damage to adjoining areas or public property. **1302.8 Building site waste management.** Land-clearing debris shall be reused or otherwise diverted from landfill or other disposal. Land-clearing debris includes rock, trees, stumps and associated vegetation. Land-clearing debris may be temporarily stockpiled on the site until reused. Storage of site waste shall be in compliance with the combustible waste material requirements of Section 304 of the International Fire Code. **Exception:** Section 1302.8 shall not be required where it is in conflict with jurisdictional, state or Federal regulation. **1303.1 Walkways and bicycle paths.** Walkways and bicycle paths shall connect to existing paths or sidewalks, or shall be designed to connect to planned future paths, or both. Walkways and bicycle paths shall be designed to support stormwater management. Walkways and bicycle paths shall not interfere with fire and emergency apparatus, vehicle or personnel access. **1303.2 Bicycle parking.** *Bicycle parking* shall comply with 1303.2.1 through 1303.2.3. **1303.2.1 Minimum number of spaces.** Bicycle parking spaces shall be at least four per hundred-occupant load, with a minimum of four bicycle parking spaces. Occupant load shall be determined based on Section 1004 of the *International Building Code*. Accessory occupancy areas shall be included in the calculation of primary occupancy area. **Exceptions:** 1. *Bicycle parking* shall not be required where the total non-residential conditioned space in the building is less than 1,000 square feet (232 m^2). 2. The minimum number of spaces shall be permitted to be reduced by the authority having jurisdiction based on the occupants expected use of public transit or walking to the building.

	Bicycle parking spaces for multiple buildings shall be permitted to be combined, provided that the spaces are sufficient for the combined occupant load of the buildings. **1303.2.2 Description of spaces.** *Bicycle parking* spaces shall comply with the following: 1. shall be provided with illumination of not less than 1 footcandle at the parking surface, 2. shall have an area of not less than 18 inches (457 mm) by 60 inches (1524 mm) per bicycle, and 3. shall be provided with a rack or other facility for locking or securing each bicycle. **1303.2.3 Location of spaces.** The location of bicycle parking shall be designated on the site plan. Vehicle parking spaces, other than those required for local zoning requirements and the accessible parking required by the *International Building Code*, shall be permitted to be used for the installation of *bicycle parking* spaces. Bicycle parking shall comply with both of the following: 1. Bicycle parking spaces shall be located within 100 feet of the main building entrance and visible from the main entrance. 2. Bicycle parking shall be located at the same grade as the sidewalk, or at a location reachable by ramp or accessible route. **Exception:** Provided there is signage at the main *building* entrances giving the location of bicycle parking, *bicycle parking* shall be permitted to be located inside a *building* or other locations on the site that are not visible from the main entrance. **1304.1 Site Hardscape.** In climate zones 1 through 4 not less than 50 percent of the site *hardscape* shall have a minimum initial *Solar Reflectance* of 0.30 when determined in accordance with the *CRRC-1 Standard*. Alternately shading shall be provided by structures or trees based on the projected peak sun angle on the summer solstice. Construction documents shall show solar reflectance and shading used to comply with this section. **1304.2.2 Shading structures.** Shading shall be permitted to be provided by elements of a building or structure. Shading includes areas covered by *solar photovoltaic* arrays, *solar thermal* or solar water heating collectors. Open trellis-type freestanding structures with vegetation shall be permitted to provide shading based on the coverage of mature vegetation. **1304.2.3 Shade by trees.** Where trees provide shading, *construction documents* shall show the planting location and anticipated ten-year canopy growth of the trees. Shading by existing trees to be retained shall be permitted to be included in the shading provided by trees. The contribution to hardscape shading by trees shall include only the *hardscape* areas beneath the tree canopy. **1303 MATERIAL RESOURCE CONSERVATION AND EFFICIENCY** **1303.1 Intent.** Martials are conserved, resources are used efficiently and negative environmental impacts are reduced. **1303.2 Construction waste amount.** Construction waste shall meet one of the following criteria: 1) Construction waste sent to disposal shall not exceed 3 lb/ft^2 of *gross floor area*. The materials sent to disposal shall be documented. 2) Not less than fifty percent of the construction waste shall be diverted from disposal by reuse, recycle, salvage, donation, or sale. The fifty percent shall be determined by weight or volume, but not both. The materials diverted from disposal and the materials sent to disposal shall be documented. Both sorting and diversion on site and storage of waste materials for sorting and diversion at another location shall be permitted. **1303.3 Hazardous waste.** Hazardous waste shall be handled in accordance with laws, rules and ordinances applicable in the *jurisdiction*. **1303.4 Waste storage.** Storage of construction waste shall be in compliance with the combustible waste material requirements of Section 304 of the *International Fire Code*. **1303.5 Used materials and components.** Salvaged or reused materials and components shall comply with the provisions for such materials in accordance with the applicable code, or shall be approved.

Reuse of materials and components from other projects shall be treated as a reduction in the construction waste of this project.

1303.5.1 Concrete, asphalt and base materials. The use of aggregate, fly ash, slag, and the like in concrete; reuse of asphalt and aggregate to make asphalt; and the reuse of recovered materials as base materials shall be treated as a reduction in the construction waste of this project.

1303.5.2 Materials and components from other sources. Salvage and reuse of materials and components from other projects shall be treated as a reduction in the construction waste of this project.

1303.6 Construction phase moisture control. Porous or fibrous materials and other materials subject to moisture damage shall be protected from moisture during the construction. Material damaged by moisture or visibly colonized by fungi either prior to delivery or during the construction shall be cleaned and dried, or where damage cannot be corrected, shall be removed and replaced.

1304 ENERGY EFFICIENCY AND RENEWABLES

1304.1 Intent. This section promotes the effective use of energy and on-site renewable generation.

1304.2 Energy calculations. Energy costs shall be calculated in accordance with Section C407 of the *International Energy Conservation Code.*

1304.2.1 Alternative energy calculations. The energy costs shall be permitted to be calculated in accordance with Appendix G to ASHRAE Standard 90.1. Energy costs shall not include plug loads.

1304.2.2 End uses and renewables. The energy costs shall include only the following specific end uses: heating, cooling, service water heating, ventilation including fans, and lighting. On-site energy production from renewable, waste, and recovered energy shall be permitted to be included as a reduction in energy use. On-site energy production from renewable, waste, and recovered energy for the residential portion of the building shall not be also included as a reduction in the non-residential building energy use.

1304.4 Electric vehicle charging. Plug-in electric vehicle charging capability shall be provided for at least 4 percent of the parking stalls. The number of charging stations shall be rounded to the nearest even number. A post with multiple charging outlets shall be counted as the number of charging outlets. Electrical capacity in main electric panels shall support Level 2 charging (208/240V-40 amp).

A level 3 charger with 208V with 3 phase AC shall be permitted to substitute for 4 Level 2 chargers.

1304 Energy compliance alternatives.

1304.1 Compliance options. Buildings shall comply with Section 1304.2, prescriptive options; Section 1304.3, 15% energy savings; or Section 1304.4, prescriptive.

1304.2 Prescriptive options. Buildings in compliance with at least 3 items in Table 1304.2 shall be deemed to be in compliance with this section. Items used to comply with the International Energy Conservation Code shall not be counted towards the 3 required items.

TABLE 1304.2 PRESCRIPTIVE OPTIONS

Measure	Description
Heating and cooling equipment efficiency	-heating equipment rated with an AFUE shall be at least an AFUE of 95 in zones 5 through 8; at least an AFUE of 92 in zones 1 through 4; at least an AFUE of 85 if oil. If rated with an HSPF shall be at least an HSPF of 9. -cooling equipment rated with a SEER shall be at least a SEER 18 in zones 1 through 4; at least a SEER 15 in zones 5 through 8. Or -Exceed the equipment efficiency requirements listed in Tables C403.2.3(1) through C403.2.3(7) of the IECC by 10%.

	-Equipment shall be sized. HVAC design loads shall be determined in accordance with ANSI/ASHRAE/ACCA Standard 183 or by an approved equivalent procedure. -Equipment shall be commissioned.
Lighting efficiency	Meet lighting power density (LPD) maximum of 90 percent of the lighting power values specified in IECC Table C405.4.2(1). Or 90% of lighting fixtures or lamps over 15w have an efficacy of at least 70 lumens/watt.
Renewable energy	Provide at least 0.5 watts per ft^2 (5.4 W/m^2) of conditioned floor area.as renewable energy. Renewables shall be assigned to residential or non-residential, but not both.
UA reduction	Reduce the total building UA by 15% from that specified in the IECC. The total building UA shall be computed as sum of the U-factor times the area for each building thermal envelope component for which a U-factor is specified in IECC Tables C402.1.2 and C402.3. The areas of the envelope components, including windows, shall be as in the building constructed.
Day lighting	Provide day lighting with automated controls for at least 70% of the floor area.
Increased water heating efficiency	For buildings in the *water intensive use group*, water heating efficiency that complies with Sections 1304.5 and 1304.6. Hot water supply is within 10 feet of hot water use, or pipes are insulated with at least R6.
Other energy savings	Decrease energy costs by 4% using any approved energy saving measure(s) beyond IECC compliance. The additional 4% shall not count other items selected from this table, or any mandatory requirements in this chapter.

1304.3 Compliance based on 15% energy savings. Buildings with projected energy costs at least 15% less than a building complying with the International Energy Conservation Code shall deemed to be in compliance with this section.

1304.4 Prescriptive.

1304.4.1 HVAC Equipment efficiency. HVAC equipment shall meet the following:
1 a) heating equipment shall
if rated with an AFUE be at least an AFUE of 95 in zones 5 through 8; at least an AFUE of 92 in zones 1 through 4; at least an AFUE of 85 if oil.
If rated with an HSPF shall be at least an HSPF of 9.
Or
exceed the efficiency requirements in IECC Tables C403.2.3(1) through C403.2.3(7) by at least 10%.
Or
be ground source heat pump shall meet this requirement.
b) cooling equipment rated with a SEER shall be at least a SEER 18 in zones 1 through 4; at least a SEER 15 in zones 5 through 8.

2) Equipment shall be sized based on HVAC design loads determined in accordance with ANSI/ASHRAE/ACCA Standard 183 or by an approved equivalent computational procedure.

3) Heating, cooling and ventilation equipment shall be commissioned.

1304.4.2 Air barriers. The air barrier requirements in IECC Section C402.5.1 shall be met.

1304.4.3 Lighting. 90% of the lighting fixtures or lamps over 15w shall have an efficacy of at least 70 lumens/watt. Alternately, the building shall meet the lighting power density (LPD) maximum of 90 percent of the lighting power values specified in IECC Section C405.3.2.

	1304.5 Service water heating equipment efficiency. Service water heating for *water intensive use group* shall be provided by one of the following: 1. Natural gas, propane, or oil water heater with a minimum of an 0.80 energy factor, or with a minimum of an 0.90 thermal efficiency; 2. Electric water heater with a minimum of a 2.0 energy factor; 3. Ground source heat pump; 4. Desuperheater on a vapor compression air conditioner, heat pump, or ground source heat pump projected to supply a minimum of 30% of the energy required for service hot water. 5. On-site renewable energy water-heating systems projected to supply a minimum of 30% of the service hot water energy use. 6. Tankless coil with a boiler with a minimum of 85 AFUE. 7. Waste heat recovery projected to provide a minimum of 30% of the energy required by water heating. 8. Any combination of the above projected to provide at least 30% of the service water heating energy. **1304.6 Drain water heat exchangers.** The specified functions shall be provided with drain water heat exchangers that are projected to recover at least 25 percent of the temperature difference between the incoming cold water and the drain water. 1. Group F, Laundries, washing machines; 2. Group A-3, Health Clubs and Spas; showers, washing machines that use both hot and cold water, 3. Group I-2, Hospitals, Mental hospitals and Nursing homes; washing machines that use both hot and cold water, staff showers, patient showers if long-term care **Exceptions:** The following shall not require drain water heat exchangers: 1. Where the functions are located on the lowest floor of the building and the authority having jurisdiction determines it is not practical to install a drain water heat exchanger. 2. Where washing machines are piped only with cold water and space is provided to add a future drain water heat exchanger. 3. In applications that produce *grease-laden waste* or are required to have grease or oil separators in accordance with Section 1003 of the *International Plumbing Code*. 4. Where the function is located in a private area. **1304.7 Circulating hot water system controls.** Controls that allow continuous, timer, or water temperature-initiated (aquastat) operation of a circulating pump are prohibited. Gravity or thermosyphon circulation loops are prohibited. Pumps on circulating hot and tempered water systems shall be activated on demand by either a hard-wired or wireless activation control of one of the following types: A normally-open, momentary contact switch. Motion sensors that make contact when motion is sensed. After the signal is sent, the sensor shall go into a lock out mode for not less than 5 minutes to prevent sending a signal to the electronic controls while the circulation loop is still hot. A flow switch. A door switch. The controls for the pump shall shut off the pump with a rise in temperature. The controls shall have a lock-out to prevent operation exceeding 105ºF degrees in the event of failure of the device that senses temperature rise. The controls shall have a lock out mode for not more than 5 minutes that prevents extended operation of the pump if the sensor fails or is damaged. **1305 WATER CONSERVATION AND EFFICIENCY** **1305.1 Intent.** This section is intended to conserve water, protect water quality, provide for safe water consumption and protect water resources.

1305.1 Fitting and fixture consumption. Plumbing fixtures and fixture fittings shall comply with the maximum flow rates specified in Table 1305.1. Plumbing fixtures and fixture fittings in Table 1305.1 shall have a manufacturer's designation for flow rate.

Exceptions: The following fixtures and devices shall not be required to comply with the reduced flow rates in Table 1305.1.

Clinical sinks having a maximum water consumption of 4.5 gallons (17 L) per flush.

Service sinks, bath valves, pot fillers, laboratory faucets, utility faucets, and other fittings designed primarily for filling operations.

Fixtures, fittings, and devices whose primary purpose is safety.

TABLE 1305.1 MAXIMUM FLOW RATES AND FLUSH VOLUMES

FIXTURE OR FIXTURE FITTING TYPE	MAXIMUM FLOW RATE OR FLUSH VOLU
Showerhead[a]	2.0 gpm at 80 psi
Lavatory faucet and bar sink-private	1.5 gpm at 60 psi
Lavatory faucet-public (metering)	0.25 gpc[b] at 60 psi
Lavatory faucet-public (non-metering)	0.5 gpm at 60 psi
Kitchen faucet-private	1.8 gpm at 60 psi[f]
Kitchen and bar sink faucets in other than dwelling units and guest rooms	2.2 gpm at 60 psi
Urinal	0.5 gpf or nonwater urinal
Water closet	1.28 gpf[c,d]
Prerinse Spray Valves	1.3 gpm
Drinking Fountains (manual)	0.7 gpm[e]
Drinking Fountains (metered)	0.25 gpc[b,e]

a. Includes hand showers, body sprays, rainfall panels and jets.

b. Gallons per cycle.

c. Dual flush water closets in public bathrooms shall have a maximum full flush of 1.28.

d. The flush volume for water closets that are located at least 30 feet upstream of other drain line connections or fixtures and having less than 1.5 fixture units upstream of the water closet's connection to the drain line shall be not more than 1.5 gpf.

e. Bottle filling stations associated with drinking fountains shall not have limitations for flow rate.

f. Where a faucet has a pot filler mode, the flow shall not exceed 2.2 gpm at 60 psi. Such faucets shall automatically return to 1.8 gpm when the pot filler mode activation mechanism is released or when the faucet flow is turned off.

1305.2 Multiple water outlet showers. For showers with multiple water outlets, the maximum shower flow rate shall apply to the combined flow of all water outlets that are capable of being operated simultaneously. Multiple water outlet showers shall comply with at least one of the following flow rate limits:

Shower compartment - 2.0 gpm, or 2.0 gpm per 2600 in^2 of shower compartment floor area.

Gang shower - 2.0 gpm per shower position

Shower compartment complying with Chapter 11 of *International Building Code* - 4.0 gpm or 4.0 gpm / 2600 in^2 of shower compartment floor area.

1305.6.1 Once-through cooling for appliances and equipment. Once-through or single-pass cooling with potable or municipal reclaimed water is prohibited.

1305.6.2 Clothes washers. Clothes washers rated with an IWF (integrated water factor), MEF (modified energy factor), or IMEF (integrated modified energy factor), shall be rated as follows:

Residential Clothes Washers, Front-loading, > 2.5 cu-ft

maximum IWF 3.2 minimum IMEF 2.76

Residential Clothes Washers, T op-loading, > 2.5 cu-ft

maximum 4.3 IWF, minimum IMEF 2.06

	Residential Clothes Washers (≤ 2.5 cu-ft) maximum 4.2 IWF, minimum IMEF 2.07 Commercial Clothes Washers maximum 4.0 IWF, minimum MEF 2.20 **1305.6.3 Food Service.** **1305.6.3.1 Dipper wells.** The water supply to a dipper well shall have a shutoff valve and flow control valve. The maximum flow shall not exceed 1 gpm (3.78 lpm) at a supply pressure of 60 psi (413.7 kPa). The dipper well shall have a manufacturer's designation of flow rate. **1305.6.3.2 Food waste disposal.** The disposal of food wastes that are collected as part of preparing ware for one or more of the following shall accomplish washing: A food strainer (scrapper) basket that is emptied into a trash can. A garbage grinder where the water flow into the food waste disposer is controlled by a load sensing device such that the water flow does not exceed 1 gpm under no-load operating conditions and 8 gpm under full-load operating conditions A pulper or mechanical strainer that uses not more than 2 gpm of potable water. **1305.6.3.3 Pre-rinse spray heads.** Food service pre-rinse spray heads shall have a manufacturers designation of flow rate, shall comply with the maximum flow rate in Table 1305.1, and shall shut off *automatically* when released. **1305.6.3.4 Hand washing faucets.** Faucets for hand washing sinks in food service preparation and serving areas shall be of the self-closing type. **1305.1 Heat exchangers.** Once-through or single-pass cooling with potable or municipal reclaimed water is prohibited. Heat exchangers shall be connected to a recirculating water system such as a chilled water loop, cooling tower loop, or similar recirculating system. **1305.2 Humidification systems.** Except where greater humidity is required for medical, agricultural, archival or scientific research purposes, humidification systems shall be capable of limiting humidification to times when the relative humidity in the space is less than 55 percent. **1305.1 Water softeners.** Water softeners shall comply with Sections 1305.1.1 through 1305.1.3. **1305.1.1 Demand initiated regeneration**. Water softeners shall be equipped with demand- initiated regeneration control systems. Such control systems shall automatically initiate the regeneration cycle after determining the depletion, or impending depletion of softening capacity. **1305.1.2 Water consumption**. Water softeners shall have a maximum water consumption during regeneration of 5 gal (18.9 L) per 1000 grains of hardness removed as measured in accordance with NSF 44. **1305.1.3 Waste connections.** Waste water from water softener regeneration shall not discharge to *reclaimed, gray water* or rainwater *water* collection systems and shall discharge in accordance with the *International Plumbing Code*. **1306 INDOOR ENVIRONMENTAL QUALITY AND COMFORT** **1306.1 Intent.** Improve the interior environment's impact on human health and well-being. **1306.2 Duct protection during construction.** Duct and other air distribution component openings shall be covered with tape, plastic, sheet metal or by another *approved* method from the time of rough-in installation until startup of the heating and cooling equipment. Dust and debris shall be cleaned from duct openings prior to *building* occupancy. **1306.3 Sealed air handler.** Air handlers with a flow rate less than 3000 cfm shall have a manufacturer's designation of air leakage. The air handler air leakage shall be not more than 2 percent of the design air flow rate when tested in accordance with ASHRAE 193.

	1306.4 Air handling system access. Air handlers, air filters, fans, coils and condensate pans shall be provided with access for purposes of cleaning, *repair*, and replacement. **1306.5 Filters.** Filters for air conditioning systems shall be rated at MERV 11 or higher and system equipment shall be designed to be compatible. The air handling system design shall account for the pressure drop across the filter. The pressure drop across clean MERV 11 filters shall be not greater than 0.45 in. wc. at 500 FPM filter face velocity. Filter performance shall be shown on the filter manufacturer's data sheet. **1306.6 Venting and combustion air**. *Fireplaces* and fuel-burning appliances shall be vented to the outdoors and shall be provided with combustion air from the outdoors in accordance with the *International Mechanical Code and the International Fuel Gas Code*. Solid-fuel-burning *fireplaces* shall be provided with combustion air directly from the outdoors and shall be provided with a means to tightly close off the chimney flue and combustion air outlets when the *fireplace* is not in use. **1306.7 Unvented combustion.** Permanently installed unvented combustion devices fueled by gas, alcohol or kerosene shall be prohibited. **1306.3.1 Radon testing.** Radon testing is Mandatory for Zone 1. **Exceptions:** 1) testing is not mandatory where the authority having jurisdiction has defined the radon zone as Zone 2 or 3. 2) testing is not mandatory where the occupied space is located above an open space **1306.3.1.1 Testing specification.** Testing is performed as specified in (a) though (k). (a) Testing is performed after the building passes its airtightness test. (b) Testing is performed after the radon control system installation is complete and operating (if an active system) (c) Testing is performed at the lowest level which will be occupied, even if the space is not finished. Spaces that are physically separated and severed by different HVAC systems shall be tested separately. (d) Testing is not performed in a closet, hallway, stairway, laundry room, furnace room or bathroom or kitchen. (e) Testing is performed with a commercially available test kit or with a continuous radon monitor that can be calibrated. Testing with test kits shall include two tests, which are averaged. Testing shall be in accordance with the manufacturer's instructions. (f) Testing can be performed by the builder or a third party. (g) Testing shall extend at least 48 hours or to the minimum specified by the manufacturer, which ever is longer. This initial testing can extend past occupancy. (h) Test results shall be provided directly to the owner by the test lab or testing party. The test results may be delivered before or after occupancy. (i) An additional pre-paid test kit shall be provided to the owner to use when they choose. The test kit shall include mailing, or emailing the results from the testing lab to the owner. The builder may also receive the test results. (j) This section does not require a specific test result, rather it requires the test be performed and the results provided to the owner. (k) The owner shall be informed prior to occupancy and in writing that "A radon test result of 4 pCi/L or above is the 'action level' set by EPA." EPA suggests radon reduction measures to lower radon levels below 4 pCi/L." Or "For a radon test result of 4 pCi/L or above [name of builder or jurisdiction having authority] suggests radon reduction measures to lower radon levels below 4 pCi/L." **202 Definitions** **WATER INTENSIVE USE GROUPS.** 1. Group R-1: Boarding houses, hotels or motels. 2. Group I-2: Hospitals, psychiatric hospitals and nursing homes.

	3. Group A-2: Restaurants and banquet halls or buildings containing food preparation areas. 4. Group F: Laundries. 5. Group R-2 6. Group A-3: Health clubs and spas.
Reason:	This new chapter would apply to the new non-residential portion of a building. The non-residential portion of the building would inherit the rating of the residential portion. Taken in total, these items have substance and will produce a better building. What has the most impact in a particular building will vary greatly with the type of business. If during the NGBS consideration of this proposal an item or two on this list is deemed impractical then that item should simply be removed. There is likely plenty of substance in the remaining requirements. NGBS non-residential needs to be practical and straightforward to use. NGBS will retain its focus on residential. NGBS needs requirements that the verifies can use and enforce. Green opportunities will vary greatly with business type. For example, the opportunities in a health club are much different from a jewelry store. The non-residential section should be a leap forward in green, but should not try to balance the areas to match the residential NGBS. Lets take the "green" where we can get it. Should NGBS have a point system for non-residential? No, separate points for non-residential would be too complex. What if the non-residential space was tiny? Or if it is big? Calculating points for residential and non-residential and merging the two based on floor area? Not practical. Being outside the envelope, the site requirements could be removed based on the argument that the residential NGBS has covered them. However, I'd suggest retaining these, which will become a way to differentiate the NGBS from other programs. This means things outside the building would have both residential and non-residential requirements to meet. The definition for "water intensive use groups" names the groups named in IECC Section C406.7. The clothes washer criteria are from Energy Star Version 8, which will be required beginning February 2018. I am not silly enough to suggest this will be taken as written. This is only one proposal. I look forward to working towards an NGBS that can accommodate multifamily buildings that have non-residential spaces on the ground floor(s).
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	At the request of the proponent and in favor of P044.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P044 LogID 6592A	New Section	*Final Formal Action:* **Approve as Modified**
Submitter:	Hope Medina, Aaron Gary, Craig Conner	
Requested Action:	Add new as follows	
Proposed Change:	***Secretariat Note: See Ballot Attachments document for the proposed change language.***	
Reason:	Replace Craig's 6592 for non-residential new construction.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:		
Committee Reason:	Compiled multiple proposed changes into one to address the new scope	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **34** Disagree with committee action: **5** Abstain: **1** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action	***Thomas Culp:*** I agree with the committee action to approve. Just an editorial note for staff -- a few items are shown as strikeout, but those should be removed and just not included since this is an entirely new section. Those were items that were changed from earlier drafts of this addendum.	
Disagree with Committee Action:	***Matt Sigler:*** For Table 106.1, there are a couple of errors that need to be addressed. For one, kitchen faucets (private) should be allowed to temporarily increase to 2.2 gpm to account for models that include a pull down spout, pull out spout or side spray to assist in the cleaning of pots and pans or filling operations. This allowance would also be consistent with the approved modification made by the committee for proposed change P307. Additionally, in footnote d, water closets in accordance with federal regulations have a flush volume that does not exceed 1.6 gpf and not 1.5 gpf. I know of no manufacturer of 1.5 gpf water closets, and my organization is the trade association that represents over 90% of toilet manufacturers in the U.S. This error should be corrected. ***Amy Schmidt:*** I disagree with the scope creep into commercial spaces that this proposal addresses and therefore I request Disapproval. Furthermore the UA in the energy section should be based on the 2018 IECC and not 2015 per previous committee action recognizing 2018 IECC as the base energy code This would also then align the standard to the correct version of ASHRAE 901 ***Theresa Weston:*** I do not believe tested air leakage should be an option, but should be required. If an alternative to whole building testing is required, it should be an option for tested assemblies or materials. ***R. Christopher Mathis:*** Secretariat note on P004 notwithstanding, the conflict created by the scope change was known during this development cycle. All proposals and consensus committee action would have been unnecessary – as would be this comment – if the issue had been addressed when first noted. This document should be on hold until resolved. ***Paul W Cabot:*** I revise my vote based on circulated ballot comments.	
Abstain:	***Neil Leslie:*** I disagree with the prohibition on unvented heaters and decorative appliances, and would strongly urge the use of constraints rather than strict prohibition. I also have concerns about other elements of this significant change in scope and content. I am not interested in disapproving it in its entirety based on these concerns, but I cannot vote in favor of this major addition at this time.	

P045 LogID 6593	New Section	*Final Formal Action:* **Disapprove**
Submitter:	Craig Conner, self	

Requested Action:	Add new as follows
Proposed Change:	**Chapter 14** **NON-RESIDENTIAL EXISTING BUILDINGS** **1401.1 Scope.** This chapter shall apply to the *alteration*, *addition,* and *change of occupancy* of non-residential portion of existing *buildings* and *structures*. Existing relocatable modular buildings shall comply with this chapter. **1401.2 Building materials, assemblies and systems.** *Building* materials shall comply with the requirements of this Chapter. **1401.2.1 Existing systems.** Except where specifically noted in this chapter, materials, assemblies, and systems already in use in a *building* in conformance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined to be dangerous to life, health or safety. Where determined to be dangerous, existing systems shall be mitigated or made safe. **1401.2.2 New and replacement systems.** Except as otherwise required or permitted by code, materials, assemblies and systems permitted by the applicable code for new construction shall be used. Like materials shall be permitted for *repairs* and *alterations* provided that a hazard to life, health or property is not created. Hazardous materials shall not be used where the code for new construction would not *permit* their use in a similar occupancy, purpose and location. **1401.3 Waste.** Site development and construction waste shall be as specified in Sections 1303.2 through 1303.5 of Chapter 13, Non-residential New Construction. **1401.4 Approved programs and standards.** The authority having jurisdiction shall be permitted to deem a national, state or local program or standard to meet or exceed this chapter. Approval for a specified application, limited scope or specific locale shall be permitted. Buildings approved in writing under such a program or standard shall be considered in compliance with this chapter. **1402.1 Flood hazard areas.** *Additions* shall not be permitted to *buildings* and *structures* that are located in *flood hazard areas.* **Exception:** Where an existing *building* or *structure* is located such that all habitable space is located not less than 1 foot above the flood elevation, *additions* located not less than 1 foot above the flood elevation shall be permitted. **1403.1 Energy, HVAC and water equipment.** Energy, HVAC and water equipment shall comply with the following: **Exception:** Where the requirements are determined by the *AHJ* to be infeasible based upon the existing configuration of spaces, unless those spaces will be reconfigured as part of the alteration project. Non-functioning thermostats shall be repaired or replaced. Leaking accessible supply air and return ducts shall be sealed. Although existing duct tape shall not be deemed in noncompliance where a duct is not leaking, duct tape shall not be an acceptable seal. Outside air dampers, damper controls and linkages controlled by HVAC units shall be in good repair and adjustment. Leaks of hot water and steam leaks, defective steam traps and radiator control, relief, and vent valves in accessible piping shall be repaired or replaced. Leaking accessible chilled water lines and equipment shall be repaired or replaced. Furnace combustion units shall have been cleaned and tuned within one year prior to the alteration, or shall be cleaned and tuned. Filters shall be replaced in accordance with the furnace manufacturer's recommendations. Chiller and boiler systems shall have been cleaned and tuned within one year prior to the alteration, or shall be cleaned and tuned. For motor-driven systems and equipment, filters shall be cleaned or replaced, and belts and other coupling systems shall be repaired.

	HVAC piping and ducts outside conditioned space or located above suspended ceilings, shall be insulated to *R-values* in accordance with the IECC. **Exceptions:** Additional insulation shall not be required: 1) for piping that is already insulated provided the insulation is in good condition 2) where the insulation cannot be installed without structural *alteration*. 10. Replacement cooling or heat pump equipment rated with a SEER shall be at least a SEER 18 in zones 1 through 4; at least a SEER 15 in zones 5 through 8. 11. Replacement heating equipment rated with an AFUE shall be at least an AFUE of 95 in zones 5 through 8; at least an AFUE of 92 in zones 1 through 4; at least an AFUE of 85 if oil. 12. Replacement heating equipment rated with an HSPF shall be at least an HSPF of 9. 13. Heating and cooling equipment replaced with a ground source heat pump meets the heating and cooling efficiency requirements. Where a building cavity or framing space is too small to accommodate the duct or pipe insulation, the minimum insulation thickness shall be the thickness that cavity or framing can accommodate, but shall not be less than 1⁄2-inch thick. **1403.2 Service water systems.** Defective hot- and cold-water piping and equipment within service water systems shall be repaired or replaced. **1403.3 Motor-driven equipment.** Leaks in compressed air or pumped water systems shall be repaired or the equipment replaced. **1403.4 Energy audit.** An approved party shall conduct a building energy audit. The energy audit shall indicate the improvements that the auditor recommends. The audit report shall be completed prior to certification of the building. **Exception:** An energy audit and report shall not be required where an energy audit and report was completed within 24 months prior to the *alteration.* **1403.5 Energy upgrade.** The energy used by the building shall be reduced by 15%. Alternately the energy recommendations of a verifier or an approved energy auditor shall be implemented. **1403.6 Water audit.** For buildings in the *water intensive use group* a water audit shall be performed. The water audit shall indicate the improvements that the auditor recommends. The report shall be completed prior to certification of the building. **Exception:** A water audit and report shall not be required where a water audit and report was done within 24 months prior to the *alteration* **1403.7 Water upgrade.** The potable water used by buildings in the *water intensive use group* shall be reduced by 20%. Alternately, the water recommendations of a verifier or an approved water auditor shall be implemented. **1403.8 Service water systems.** Service water systems and equipment shall be in accordance with the following: 1. Accessible hot supply and *distribution pipes* shall be insulated to *R-values* as specified in the IECC. 2. In Seismic Design Categories D, E and F, as established in accordance with the *International Building Code*, water heater and water *storage tanks* with a tank capacity of thirty gallons or greater shall be strapped or otherwise secured to a wall, floor, ceiling, or other object that itself is secured to a wall, floor, or ceiling. Water, gas and overflow pipes connected to water tanks shall be similarly secured. 3. Gas water heaters shall have a flexible gas line entering the appliance. 4. Showerhead and faucet flow rates shall be in accordance with Table 1305.1 of Chapter 13. 5. Replacement toilet and urinal flow rates shall be in accordance with Table 1305.1 of Chapter 13. 6. Replacement water heaters with an EF rating shall be at least a 2.0 EF if electric and 0.77 EF if gas.

	1403.9 Replacement lighting. 90% of the replacement lighting fixtures or lamps over 15w shall have an efficacy of at least 70 lumens/watt. Alternately, the building shall meet the lighting power density (LPD) maximum specified in IECC Table C405.3.2(1) or C405.3.2(2). **1403.10 Commercial refrigeration equipment.** Commercial refrigeration equipment shall be cleaned and tuned for efficiency, including, but not limited to, cleaning of condenser coils and evaporators, and replacement of defective or worn door gaskets and seals. **1403.11 Swimming pools and spas.** Swimming pools and spas and their equipment shall be in accordance with the following: Heated swimming pools and spas shall be equipped with a cover for unoccupied hours. Swimming pools shall have an automated mechanical cover. Pool and spa recirculation pumps shall be under time clock control. **Exception**: Filtration pumps where the public health standard requires 24-hour pump operation. Heaters shall be cleaned and tuned for efficiency, or such cleaning shall have occurred within one year prior to certification. **1404.1 Change of occupancy.** Where a change in occupancy of a *building* or tenant space places it in a different division of the same group of occupancy or in a different group of occupancies, as determined in accordance with the *International Building Code*, compliance with this chapter shall be required. **1405.1 Historic buildings.** Individual provisions of this chapter shall not be mandatory for *historic buildings* for the following conditions: Where a provision requires a visible change not consistent with the *building's* historic nature, or 2. Where a provision conflicts with a function fundamental with the historic nature of the *building*. **1406.1 Changes to hardscapes and parking.** Where existing *hardscapes* and outdoor parking is altered, the *alterations* shall comply with the applicable provisions of Section 1303 in Chapter 13, New Non-residential construction. **Exception:** Where less than 20% of the hardscape and surface parking is altered, materials and assemblies shall be at least the equivalent of those being replaced. **1407.1 Deconstruction and demolition.** Where *buildings*, *structures* or portions thereof are *deconstructed* or demolished, a minimum of 50 percent of materials shall be diverted from disposal and incineration. Documentation of the total materials in *buildings, structures* and portions thereof to be *deconstructed* or demolished and materials to be diverted, and evidence of diversion, shall be provided. Material quantities shall be indicated and calculated by weight or volume, but not by both. **Exception:** As an alternative to Section 1407.1, an approved deconstruction plan shall be implemented.
Reason:	This chapter covers requirements for improvement to the non-residential portion of existing buildings. The existing non-residential portion of a building would inherit the same rating as the residential portion. The principle is to require maintenance and improvements where it is practical and straightforward, but not require things that are difficult and probably not cost effective. The goal is to make substantive and real improvements, but not break the bank. This is primarily a list of tune-ups, fixes and a few practical improvements. Existing non-residential spaces vary considerably. Where a specific item did not exist in a building, that item would not apply for that specific building. Greening needs to consider energy and water. There is a requirement for an energy audit and upgrade. There is also a requirement for a water audit and upgrade for the water intensive use groups. New heating, cooling and water heating equipment is required to be efficient.

	This proposed Chapter 14 makes a few references to Chapter 13 (Non-Residential New Construction). Chapter 13 was submitted as a separate proposal. Chapter 13 does not reference this chapter.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Concept was liked but not all items were ready; lack of information on commercial equipment.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P046 LogID 6286	**New Section**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	CHAPTER 14 REMODELING OF FUNCTIONAL AREAS OF MULTIFAMILY BUILDINGS Bring forward Chapter 12 sections and modify as needed.	
Reason:	The remodeling of single family homes and multifamily buildings are endeavors of vastly different proportions. The functional areas of importance in multifamily buildings are not bathrooms or kitchens but whole dwelling units and common spaces. Creating a new Chapter of the Standard to address this would greatly strengthen the use-case for existing multifamily buildings.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Existing chapters are adequate for remodeling multifamily projects with input from Home Innovation.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P047 LogID 6287	**New Section**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	

Proposed Change:	Chapter 12 Multifamily Remodeling **Copy and edit Chapter 11 sections to be multifamily specific.**
Reason:	The remodeling of single family homes and multifamily buildings are endeavors of very different scope. Chapter 11 currently does a so-so job of responding to the difference but this could be greatly improved by creating a standalone chapter
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Existing chapters are adequate for remodeling multifamily projects with input from Home Innovation. Home Innovation is considering administrative changes to provide more clarity through the multifamily remodeling verification process.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P048 LogID 6250	**New Section**	***Final Formal Action:*** **Disapprove**
Submitter:	Carl Seville, SK Collaborative	
Requested Action:	Add new as follows	
Proposed Change:	Create new chapter or chapters exclusively for multifamily new construction, separate from core standard.	
Reason:	The standard was originally designed for single family construction, and as a significant portion of the certifications under the program are multifamily projects, there are many measures that are distinctly single family that rarely if ever apply to a multifamily project. Creating a separate path for multifamily projects, both new and renovation, would streamline the process and allow for there to be a path that is more directly related to this construction type	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Submitter asked to withdraw	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P049 LogID 17-086	Entire Standard	*Final Formal Action:* **Disapprove**
Submitter:	Craig Conner, Building Quality	
Requested Action:	Incorporate requirements for non-residential buildings into the NGBS.	
Proposed Change:	Include the attached text as a new two new chapters for non-residential portion of an NGBS building. ***Secretariat Note: See Ballot Attachments document for the proposed change language.***	
Reason:	NGBS needs some criteria that address non-residential spaces. Attached is a draft for both new and existing non-residential which is no more than 50% of a project. Some constraints as I see it. The non-res requirements need to fit the needs of ICC 700. It should not add special experts. It should recognize the ICC 700 verifiers are residential experts, but not commercial experts. If it required verifiers to become familiar with all aspects of commercial buildings that would be a non-starter. I think using points for the non-res maybe too complex. The non-res is usually a smaller part of the bigger building. The non-res should be produce a building that is better than most and just inherit the green level (bronze, silver, ...) of the residential. This should be focused on what will be the most common situation, non-res space at the street level. With such a restricted scope most of the complexities of commercial green programs are not needed and would needlessly complicate ICC 700. Simply referencing existing programs or standards might take only one or two sentences in ICC 700, but brings in all the complexity of the reference programs/standards. There are many special situations that it needs to handle. The commercial space is not finished, but there are people living in the residential space. The specific use of the non-res space may be unknown for years, and could change every few years as the businesses change. Both the res and non-res may share the same parking, landscaping, bike parking, ... I am not silly enough to think the attached would survive unchanged by the committee or task groups or working groups. Maybe it will be a source of ideas, in which case it is useful.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of P044 as requested by the proponent.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P050 LogID 1501	400.0 Intent (Site Design and Development)	*Final Formal Action:* **Disapprove**

Submitter:	David S. Collins, FAIA
Requested Action:	Revise as follows
Proposed Change:	Sites located within 100-year floor plains shall not be permitted to use this rating system.
Reason:	What about eliminating eligibility of sites located within 100-year flood plains? Add the following text. Disagreement with previous committee action: Committee should reconsider and vote for approval. Rationale: Construction in a flood plain may undermine the performance of the building altogether and place the ability to meet other site and community resource credits, among many other credits, at risk. Consider the risk associated with the life of the building. Responsible site selection should be a precursor to every green building program.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Many areas of the country, including the majority of certain jurisdictions, exist within the 100-year floodplain. We do not want to discourage use of the standard in these areas where its use could be very beneficial. Could award points for not building in the floodplain on a voluntary basis or incentivize mitigation through foundations, raising structures, allowing water to flow through, etc. but making this mandatory is too rigid.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **37** Disagree with committee action: **3** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Bob Thompson:*** We support the proposer's reason statement, but also agree with the Committee's concerns. The Committee's response indicates that is in favor of supporting the general idea behind the proposal and even offers suggestions that would move the proposal forward, but rather than modifying the proposal, it disapproved it. If the Committee's formal action remains as is, this proposal will not benefit from further public consideration, i.e., it dies. We therefore recommend accepting a modified proposal as follows: Floodplains. A site is selected that is not in a 100-year floodplain. (Points are only awarded for building projects in jurisdictions for which a minimum of 50% of the land area is in a 100-year floodplain.) 10 points. ***Sean S. Devlin:*** based on circulated ballot comments. ***Kristopher Stenger:*** align with TG2 recommendation to proposed comment.
Abstain:	

P051 LogID 6460	**401.0 Intent (Site Selection)**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Add new as follows	
Proposed Change:	**401.4 Wildland-Urban Area Site Avoided.** A site in the wildland-urban interface is not selected.	6

	(Only applicable where the legislative Authority Having Jurisdiction has declared a wildland-urban interface area in accordance with the International Wildland-Urban Interface Code).
Reason:	There are seriously negative environmental impacts from the spread of fire between buildings and wildlands. If it is known that a site is in a wildland-urban interface area (declared by the AHJ, avoiding building on that site mitigates an environmental risk.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Relevancy of construction urban wildlife interface was not clearly stated.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **32** Disagree with committee action: **8** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Greg Johnson:*** This change can serve as a vehicle for public comment to create a 'resilient sites' section if passed, per the task group recommendation ***Sean S. Devlin:*** based on circulated ballot comments. ***Thomas Culp:*** based on circulated ballot comments. ***Kristopher Stenger:*** to follow recommendation of TG-2 response to comment. ***Steven Rosenstock:*** Based on circulated ballot comments and TG-2 response. ***Theresa Weston:*** based on circulated ballot comments --I believe the modiication provided by TG2 should be considered. ***William A. Sanderson:*** TG 2 agreed with this and previous item as a matter of resiliency and modified them and voted unanimously to accept the modification as an modification to this item. ***Gregory Curtis Coolidge:*** Agree with ballot comments offered.
Abstain:	

P052 LogID 6147	**403.0 Intent (Site Design)** ***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute
Requested Action:	Revise as follows
Proposed Change:	**403.0 Intent.** The project is designed to avoid detrimental environmental impacts, minimize any unavoidable impacts, and mitigate for those impacts that do occur. The project is designed to minimize environmental impacts and to protect, restore, and enhance the natural features and environmental quality of the site. <u>The project is designed to increase human health and well-being.</u>
Reason:	"Urban green spaces provide environmental benefits through their effects on negating urban heat, offsetting greenhouse gas emissions, and attenuating storm water. They also have direct health benefits by providing urban residents spaces for physical activity and social interaction, and allowing psychological restoration to take place." Abstract: Value of urban green spaces in promoting healthy living and wellbeing: prospects for planning; Lee, Jordan, & Horsley; Risk Management and Healthcare

	Policy 2015:8 131-137 Obesity and mental illness are increasing in developed countries around the world. Our built exterior environments; our green spaces and public open spaces, can and should help mitigate these threats to human well-being. The standard already recognizes the value of open space in Sec. 405.9. The intent of Section 403 should explicitly state that human health and well-being benefits are goals of the standard.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Health and well-being is currently outside the scope of the standard.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P053 LogID 6462	**403.1 Natural resources** *Final Formal Action:* **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute
Requested Action:	Add new as follows
Proposed Change:	**(7)** Developer has a plan to design and construct the site in accordance with the International Wildland-Urban Interface Code (IWUIC). **(Only applicable where the AHJ has not declared a wildland-urban interface area, but a fire protection engineer, certified fire marshal, or other qualified party has determined and documented the site as hazarded per the IWUIC).** 6
Reason:	It is unrealistic to believe that building will not occur on sites that could qualify as hazarded by the International Wildland-Urban Interface Code, but that have not been legally identified as such by the AHJ. Good environmental policy on those sites is to develop according to the provisions of the IWUIC to mitigate the negative consequences of fire spread between wildlands and buildings. (see documentation- a letter from the International Association of Fire Chiefs Life Safety Section). Requiring a qualified party to establish whether a site qualifies as hazarded keeps this provision from being a points giveaway.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Point value subject to gaming and or potential conflicts created by referencing an outside standard.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **0** Abstain: **1** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	***Greg Johnson:*** Builders should be rewarded for responsible site development. Where a site is subject to wildfire hazard because of a wildland-urban interface condition, site development to mitigate the hazard **is** responsible development. The committee reason asserts the potential for gaming, which is extraordinarily unlikely given the proposal's requirement to hire a fire protection engineer, certified fire marshal, or other qualified party to establish the hazard. Believing that the developer will make the effort to hire and ask licensed or certified professionals to falsify a report regarding the wildland-interface condition for a relatively minimal point award is illogical. Stating that the International Wildland-Urban Interface Code is an "outside standard" is similarly illogical. The IWUIC is part of the International family of codes as is ICC-700, the National Green Building Standard. Further, the NGBS does not address wildland-urban interface design; how are conflicts even possible unless the NGBS decides to create its own wui provisions? There are 16 active wildfires burning in CA as this ballot is drafted, which have so far burned 320,000 acres, causing incalculable environmental damage, not the least of which are the contaminants like persistent organic pollutants associated with the combustion of buildings in the wildland-urban interface and the water wasted trying to protect buildings from burning. Responsible developers have the opportunity to mitigate wildland interface fire hazards. The NGBS should support that effort.

P054 LogID 1514	**403.5 Stormwater management** ***Final Formal Action:*** **Disapprove**
Submitter:	Heather Dylla, National Asphalt Pavement Association
Requested Action:	Delete without substitution
Proposed Change:	~~Permeable materials are used for driveways, parking areas, walkways and patios according to the following percentages:~~ ~~(a) less than 25 percent 2~~ ~~(b) 25 – 50 percent 5~~ ~~(c) Greater than 50 percent 10~~
Reason:	Giving points specifically to permeable materials may encourage their use where they are not practical or not even the best solution for stormwater management. Their efficacy depends on site limitations such as soil permeability, depth to impermeable layers and water table, and topography. It is recommended that permeable materials are evaluated together with all other low impact development practices (question 2) to encourage the best stormwater management solution.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Permeable materials are a valuable tool for stormwater management in certain applications. Engineers will not advocate for their use in areas where they will not work.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P055 LogID 6547	403.4 Soil disturbance and erosion	*Final Formal Action:* **Disapprove**
Submitter:	Ben Edwards, self	
Requested Action:	Delete without substitution	
Proposed Change:	Delete only item (3) from section 403.4 ~~Limits of clearing and grading are staked out prior to construction.~~	
Reason:	This comment is intended to highlight a larger issue in this document: double counting. 404.3(1) awards 5 points for flagging the site under Site Development and Construction. 403.4(3) awards 4 points for the same action under Site Design (points are awarded when "the intent of the design is implemented." While flagging a site is important, does the committee believe 9 points should be awarded for a fundamental construction practice? Further, 5 more points are awarded in 404.1 On-site Supervision and Coordination if someone watches the flagged clearing and grading. The potential for 14 points for a standard practice is not appropriate in an above-code document. Points should be awarded based on outcome, and should clearly indicate the relative weight in compliance. Note: Similar issues are found in Chapters 5 and 11, and the topic of soil disturbance is illustrative. Philosophically, if points are to be awarded for planning, construction, and verification, the greatest weight should be on verification.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Reject idea of double counting because planning can be as important as the execution.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***R. Christopher Mathis:*** The committee's reason for disapproval is not consistent with a results-driven paradigm, especially for a practice as requisite for modern construction as staking the site.	
Abstain:		

P056 LogID 6571	403.6 Landscape plan	*Final Formal Action:* **Approve as Modified**
Submitter:	Jack Karlin, Turfgrass Water Conservation Alliance	
Requested Action:	Revise as follows	
Proposed Change:		

GREEN BUILDING PRACTICES	*POINTS*
403.6 Landscape plan. A landscape plan is developed to limit water and energy use in common areas while preserving or enhancing the natural environment utilizing one or more of the following:	
(4) EPA WaterSense Water Budget Tool or equivalent is used when implementing ~~the maximum~~ <u>any</u> percentage of turf areas.	*~~2~~ <u>5</u>*
(5) For landscaped vegetated areas <u>in landscape areas receiving less than twelve (12) inches precipitation per year</u>, the maximum percentage of all turf areas is:	
(a) 0 percent	*5*
(b) Greater than 0 percent to less than 20 percent	*4*
<u>(c) Greater than 0 percent to less than 20 percent using third party qualified water efficient grasses</u>	*<u>3</u>*
(d) 20 percent to less than 40 percent	*3*
<u>(e) 20 percent to less than 40 percent using third party qualified water efficient grasses</u>	*<u>3</u>*
(f) 40 percent to 60 percent	*2*

	(g) 40 percent to 60 percent using third party qualified water efficient grasses	*3*
Reason:	The Turfgrass Water Conservation Alliance® (TWCA®) is a 501c3 nonprofit committed to water conservation and preserving the ecological services provided by turfgrass in the managed environment. Representing 93 members around the world in academia, government, and private sector, TWCA's coalition reaches beyond our industry members. TWCA® provides education based on scientific information which contradicts many of the opinions and much of the misinformation about turfgrass. Further, the TWCA® recognizes that water and plants are necessary to sustain life, and strive to protect the environment in which we live. Destruction of the environment by the removal of plant materials, including turfgrass is detrimental to the health and wellbeing of our society. Turf serves as an important sink for Carbon; nationwide, single family detached homes with yards sequester enough carbon to take 44,000 cars off the road each year1. That is the same as every person in Coachella CA not driving for a year. Turf filters fine particulate and dust out of the air2 improving air quality, reduces noise and glare3 and cools the air to help mitigate the heat island effect caused by the ever-expanding blanket of hard, impervious surfaces covering large swathes of the United States. Green spaces in general, and turf in particular, are linked to large scale improvements in the physical and mental health of the population4 as well as attenuating the health gaps between the richest and poorest citizens of communities5. The removal of plant matter from any environment, managed or natural, should be considered long and with great care. Decisions made today to remove or limit turf may conserve water in the short term. It may take years or decades, even, for the long term negative consequences to be felt. However, when the consequences are felt it will be in the form of higher cooling costs, louder, dirtier cities, and shorter, less healthy, less happy lives. Further, to treat turf as a monolith is to ignore the broad spectrum of genetic diversity represented by this classification of plants and discounts decades of research that have gone into reducing the water needs of turfgrasses6,7. TWCA's third party, peer review process has identified over 80 varieties that have demonstrated statistically significant water efficiencies over conventional varieties of the same species. The key to long term outdoor water savings in residential development is education and engagement. Awarding points for the use of a Water Budgeting Tools (WBT) encourages contractors and end-users to learn more about their landscapes and engage with both the design and maintenance processes. TWCA proposes raising the awarded points for using a Water Budgeting Tool to incentivize engagement with and understanding of the landscaped areas surrounding houses. We believe this engagement and understanding will significantly contribute to water savings over the life of the development. Incentivizing the use of literally any other landscape plant for vegetated areas does not ensure responsible landscaping or water conservation and could result in an increase of the water requirements for a landscape depending on the landscape plants used. This system also ignores the broad range of demonstrated water efficiencies available in turfgrasses today. Finally, given the significant advances made in the development of drought tolerant, rewarding the elimination of turf is rewarding the elimination of well adapted plants through most of climates in the United States. TWCA believes it is most prudent to limit the award of points for prescriptive turf limits to those areas receiving less than twelve (12) inches or precipitation per year. An alternative point system endorsed by the TWCA uses the following scheme: For vegetated areas in landscape areas receiving less than twelve (12) inches precipitation per year, the maximum percentage of all turf areas is: GREEN BUILDING PRACTICES POINTS 403.6 Landscape plan. A landscape plan is developed to limit water and energy use in common areas while preserving or enhancing the natural environment utilizing one or more of the following: (4) EPA WaterSense Water Budget Tool or equivalent is used when implementing the maximum any percentage of turf areas. 2 5 (5) For landscaped vegetated areas in landscape areas receiving less than twelve (12) inches precipitation per year, the maximum percentage of all turf areas is: (a) 0 percent 5 (b) Greater than 0 percent to less than 20 percent 4 (c) Greater than 0 percent to less than 20 percent using third party qualified water efficient grasses 3 (d) 20 percent to less than 40 percent 3 (e) 20 percent to less than 40 percent using third party qualified water efficient grasses 3 (f) 40 percent to 60 percent 2 (g) 40 percent to 60 percent using third party qualified water efficient grasses 3 Using such a point award scheme maintains the incentive to use turf in landscapes responsibly while incentivizing the selection of improved water efficient varieties and encouraging a real engagement with the plant selection process. This point system also eliminates the unfounded demonization of turf. References: 1) R. Lal and B. Augustin (eds.) Carbon Sequestration in Urban Ecosystems, DOI 10.1007/978-94-007-2366-5_14 © Springer Science+Business Media B.V. 2012 2) Water Quality and Quantity Issues for Turfgrasses in Urban Landscapes, Council for Agricultural Science	

<table>
<tr><td></td><td>and Technology (CAST), Special Publication 27, 2006,Ch2. 3) Beard, J. B. and R. L. Green. 1994. The role of turfgrasses in environmental protection and their benefits to humans. J Environ Qual 23(9):452–460. 4) Jolanda Maas, Robert A Verheij, Sjerp de Vries, Peter Spreeuwenberg, Francois G Schellevis, Peter P Groenewegen. "Morbidity is related to a green living environment." J Epidemial Community Health. Published Online 15 October 2009. DOI:10.1136/jech.2008.079038 5) Richard Mitchell, Frank Popham “Effect of exposure to natural environment on health inequalities: an observational population study” Lancet 2008; 372: 1655-60 6) Karcher, D.E., Richardson, M.D., Hignight, K., and Rush, D. “Drought Tolerance of Tall Fescue Populations Selected for High Root/Shoot Ratios and Summer Survival” Crop Science 2008; v48 n2: 771-777 7) Karcher, D., M. Richardson and J. Landreth. 2008. Drought tolerance of tall fescue and bluegrass cultivars. Arkansas Turfgrass Report 2007, Ark. Ag. Exp. Stn. Res. Ser. 557:17-20.</td></tr>
<tr><td>Committee Formal Action from Meeting:</td><td>Approve as Modified</td></tr>
<tr><td>Modification of Proposed Change:</td><td>
<table>
<tr><td>GREEN BUILDING PRACTICES</td><td>POINTS</td></tr>
<tr><td colspan="2">403.6 Landscape plan. A landscape plan is developed to limit water and energy use in common areas while preserving or enhancing the natural environment utilizing one or more of the following:</td></tr>
<tr><td>(4) EPA WaterSense Water Budget Tool or equivalent is used when implementing up to the maximum ~~any~~ percentage of turf areas.</td><td>~~2~~ 10</td></tr>
<tr><td>(5) Where turf is being planted, Turfgrass Water Conservation Alliance (TWCA) or equivalent third party qualified water efficient grasses are used</td><td>6</td></tr>
<tr><td>~~(5)~~ (6) For landscaped vegetated areas ~~in landscape areas receiving less than twelve (12) inches precipitation per year~~, the maximum percentage of all turf areas is:</td><td></td></tr>
<tr><td>(a) 0 percent</td><td>10</td></tr>
<tr><td>(b) Greater than 0 percent to less than 20 percent</td><td>8</td></tr>
<tr><td>~~(c) Greater than 0 percent to less than 20 percent using third party qualified water efficient grasses~~</td><td>~~3~~</td></tr>
<tr><td>(~~d~~ c) 20 percent to less than 40 percent</td><td>~~3~~ 6</td></tr>
<tr><td>~~(e) 20 percent to less than 40 percent using third party qualified water efficient grasses~~</td><td>~~3~~</td></tr>
<tr><td>(~~f~~ d) 40 percent to 60 percent</td><td>~~3~~ 4</td></tr>
<tr><td>~~(g) 40 percent to 60 percent using third party qualified water efficient grasses~~</td><td>~~3~~</td></tr>
</table>
</td></tr>
<tr><td>Committee Reason:</td><td>Do not want to eliminate access to these points for areas that have more than 12 inches of annual precipitation but are limiting turf for other reasons. Want to reward the use of water tolerant turf but it was pulled out as a separate line item.</td></tr>
<tr><td>Ballot Results on Committee Action:</td><td>Eligible to vote: 45
Agree with committee action: 39
Disagree with committee action: 1
Abstain: 0
Non-voting: 5</td></tr>
<tr><td colspan="2">Ballot Comments</td></tr>
<tr><td>Agree with Committee Action</td><td></td></tr>
<tr><td>Disagree with Committee Action:</td><td>Thomas Pape: There is no measurable means in a definition of "water efficient turf"; thus the only purpose of this proposal is to allow users to scam the standards. Anyone can claim the turf is "water efficient" and there is no way to refute such claims. Also, the committee reason includes the term "water tolerant turf, which displays the lack of technical acumen of the committee and its decision.</td></tr>
</table>

Abstain:	

P057 LogID 6165	**403.6 Landscape plan**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Revise as follows	
Proposed Change:	(4) EPA WaterSense Water Budget Tool or equivalent is used when implementing the maximum percentage of turf areas. ~~2~~ 10 ~~(5) For landscaped vegetated areas, the maximum percentage of all turf areas is:~~ ~~(a) 0 percent 5~~ ~~(b) Greater than 0 percent to less than 20 percent 4~~ ~~(c) 20 percent to less than 40 percent 3~~ ~~(d) 40 percent to 60 percent 2~~	
Reason:	Turf area limits make no sense at the master community or subdevelopment scale, particularly given the many low water using native and improved species of turfgrass. Given the complexity of large scale landscape water budgeting it is proposed that a more significant point award be given for use of a WBT to match turf area to water availability.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P056 and chose to keep the graduated point system.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P058 LogID 6163	**403.6 Landscape plan**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Revise as follows	
Proposed Change:	**(5)** For landscaped vegetated areas <u>in locations with less than 12 inches of annual precipitation</u>, the maximum percentage of all turf areas is:	
Reason:	Where water supplies are sufficient, turf disincentives are disincentives to healthy communities. See the separate technical substantiation.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Do not want to eliminate access to these points for areas that have more than 12 inches of annual precipitation but are limiting turf for other reasons.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0**	

	Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P059 LogID 6347	**403.6 Landscape plan**	***Final Formal Action:*** **Disapprove**
Submitter:	Brent Mecham, Irrigation Association	
Requested Action:	Revise as follows	
Proposed Change:	4) EPA WaterSense Water Budget Tool or ANSI/ASABE S623.1 Jan2017 Determining Landscape Plant Water Demands standard or equivalent is used when ~~implementing~~ determining the ~~maximum~~ percentage of turf areas.	
Reason:	As a published document, this ANSI standard provides the necessary equations, plant factors and instructions to create a landscape water budget and determine the water requirement to maintain the landscape. As a national standard it is equivalent to EPA WaterSense Water Budget Tool but perhaps has an advantage in the fact that the plant factors take into account the climate.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P056	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P060 LogID 17-025	**403.6 and 503.5 Landscape plan**	***Final Formal Action:*** **Withdrawn**
Submitter:	Kent Sovocool	
Requested Action:	Revise as Follows	
Proposed Change:	(6) For landscaped vegetated areas ~~t~~he maximum percentage of all turf areas is: (a) 0 percent ~~5~~ 30 (b) Greater than 0 percent to less than 20 percent ~~4~~ 20 (c) 20 percent to less than 40 percent ~~3~~ 10	
Reason:	Limitation of turf is perhaps the most effective site-related green consideration and one of the greatest modifications to standard practices that can be asked of a builder. Yet the reward is unconscionably weak. Even complete exclusion of turf from a home site results in merely 5 points. A builder than pursues this credit should be appropriately rewarded. The suggested modification puts turf limitation on more even footing with major measures in other parts of the standard.	
Committee Formal Action from Meeting:	**Withdrawn**	
Modification of Proposed Change:		

Committee Reason:	Withdrawn by proponent on TG-2 conference call October 2, 2017.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P061 LogID 17-026	**403.6 and 503.5 Landscape plan**	***Final Formal Action:***	**Approve as Modified**
Submitter:	Kent Sovocool		
Requested Action:	Add New as Follows		
Proposed Change:	**(18)** Spray Irrigation: *Submitter's note: would also appear as (13) under 503.5* **(a)** Is not present on slopes steeper than 25% (i.e. where the land rises more than a foot vertically for every 4 feet horizontally). - **2pts** **(b)** Has been tested in accordance with the ASABE/ICC 802, "Landscape Irrigation Sprinkler and Emitter Standard" protocol currently in effect and there is documentation of the sprinklers achieving a lower quarter distribution uniformity of at least 0.65. – **2 pts** **(c)** Is installed in such a way as to eliminate low head/point drainage and runoff. - **2pts** **(d)** Is not used. – **8 pts**		
Reason:	These types of provisions are common in various green codes and standards already and it is sensible to adapt these as credit opportunities here. Option (d) is to mitigate the common challenge in points-based standards to inadvertently promote more water using technologies by the nature of having provisions and thus points opportunities covering and trying to improve less efficient options.		
Committee Formal Action from Meeting:	**Approve as Modified**		
Modification of Proposed Change:	*Add new item to Section 403.6 Landscape Plan as follows:* **(18)** Spray Irrigation: **(a)** Is not present on slopes steeper than 25% (i.e. where the land rises more than a foot vertically for every 4 feet horizontally). - **2pts** **(b)** Has been tested in accordance with the ASABE/ICC 802, "Landscape Irrigation Sprinkler and Emitter Standard" ~~protocol currently in effect~~ and there is documentation of the sprinklers achieving a lower quarter distribution uniformity of at least 0.65. – **2 pts** **(c)** Is installed ~~in such a way as~~ to eliminate low head/point drainage and runoff. - **2pts** **(d)** spray irrigation Is not used. – ~~**8 pts**~~ **6 pts** *Section 503.5 remains unchanged.*		
Committee Reason:	Additional point availability in land development only, and appropriate for land only.		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**		
Ballot Comments			
Agree with Committee Action			
Disagree with Committee Action:			
Abstain:			

P062 LogID 6465	403.7 Wildlife habitat	*Final Formal Action:* **Approve as Modified**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Revise as follows	
Proposed Change:	**403.7 Wildlife habitat.** **(1)** Measures are planned that will support wildlife habitat.	**6**
	(2) The site is adjacent to a wildlife corridor, fish and game park, or preserved areas and is designed with regard for this relationship.	**3**
	(3) Outdoor lighting techniques are utilized with regard for wildlife.	**3**
	(4) Areas of lawn are integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 20% of the groundcover. Plants should typically flower at less than 4 inches in height. Signs are provided indicating the purpose of the flowering lawn for habitat and prohibiting treatment with pesticides. **(Consult a local agricultural extension service or university or for appropriate plants)**	**3**
Reason:	Items 2 & 3 are duplicated from Chapter 5; benefits provided there are equally applicable at the site scale. Item 4 provides a method of supporting habitat in areas of lawn. Significant research has identified the potential of lawns to serve as bee habitat when integrated with flowering plants.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**403.7 Wildlife habitat.** **(1)** Measures are planned that will support wildlife habitat.	**6**
	(2) The site is adjacent to a wildlife corridor, fish and game park, or preserved areas and is designed with regard for this relationship.	**3**
	(3) Outdoor lighting techniques are utilized with regard for wildlife.	**3**
	~~**(4)** Areas of lawn are integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 20% of the groundcover. Plants should typically flower at less than 4 inches in height. Signs are provided indicating the purpose of the flowering lawn for habitat and prohibiting treatment with pesticides.~~ ~~**(Consult a local agricultural extension service or university or for appropriate plants)**~~ 403.6 (6) To improve pollinator habitat, at least 10 percent of planted areas are composed of flowering and nectar producing plant species. Invasive plant species shall not be utilized.	~~**3**~~ ~~**3**~~ **6**
Committee Reason:	Item 4 was rejected because the modifications that were proposed are unacceptable to the group due to concerns about the plant height and the word herbaceous. The group decided that a similar practice in section 403.6(6) warranted additional points because of its value as a practice.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P063 LogID 6296	403.9 Existing buildings *Final Formal Action:* **Approve as Modified**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	Following mitigation of any harmful materials, ~~E~~ existing building(s) and structure(s) is/are preserved and reused,~~ modified~~ adapted, or disassembled for reuse or recycling of building materials. 1. Building reuse. 12 2. Adaptation for building reuse preserving more than 75% of major components, OR, disassembly for reuse/recycling of more than 85% of major components. 10 3. Building reuse preserving not less than 50% of major components. 6 4. Adaptation for building reuse preserving more than 40% of major components, OR, disassembly for reuse/recycling of more than 50% of major components. 5
Reason:	Building reuse avoids expenditure of resources for new construction and prevents waste generation. Building disassembly maximizes the recovery of construction and demolition (C&D) materials and creates economic opportunities in local communities. These non-trivial efforts are of the highest priority on the waste management hierarchy, and their implementation requires a meaningful incentive. Building reuse, adaptation and disassembly are all high on the waste management hierarchy, but building reuse is a source reduction measure that has the potential to carry the greatest overall benefit. The credit, as written, makes no mention of the need to mitigate any harmful materials prior to building reuse or adaptation. As written, the credit does not distinguish between partial and full-building reuse, adaptation or disassembly. To address these issues, we recommend the following: ? Increase the maximum number of points available for building reuse, adaptation and disassembly from 8 to 12. ? Allocate the maximum points to the reuse of a building, and a slightly lesser number of points to adaptation and disassembly. ? Bring attention to the need to mitigate any harmful materials prior to building reuse or adaptation. ? Allocate partial number of points to partial building reuse, adaptation or disassembly.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Following mitigation of any harmful materials, ~~E~~ existing building(s) and structure(s) is/are preserved and reused,~~ modified~~ adapted, or disassembled for reuse or recycling of building materials. 1. Building reuse or adaptation. 12 2. Disassemble for reuse or recycling of building materials 10 ~~2. Adaptation for building reuse preserving more than 75% of major components, OR, disassembly for reuse/recycling of more than 85% of major components. 10~~ ~~3. Building reuse preserving not less than 50% of major components. 6~~ ~~4. Adaptation for building reuse preserving more than 40% of major components, OR, disassembly for reuse/recycling of more than 50% of major components. 5~~
Committee Reason:	Hard for verifier to measure what percentage was achieved so the percentage portion of the proposal was eliminated. Do agree on the need to raise point value due to the expense of this process.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P064 LogID 6297	403.10 Existing and recycled materials *Final Formal Action:* **Disapprove**

Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	Existing pavements, curbs, and aggregates are salvaged and reincorporated into the development or recycled asphalt or concrete materials are used ~~as follows~~. (~~Points awarded for every 10 percent of total materials used for pavement, curb and aggregate that met the criteria of this practice.~~ One point is awarded for every 10% of existing pavements, curbs or aggregates reincorporated into the development above the threshold amount of50%. Additional point is awarded for every 10% of recycled asphalt or concrete with at least 50% recycled content utilized in the project above the threshold amount of 50%. The percentage is consistently calculated on a weight, volume, or cost basis.) 50%of ~~E~~ existing pavements, curbs, and aggregates are reincorporated into the development. 3 2. 50%of ~~R~~ recycled asphalt or concrete with at least 50 percent recycled content is utilized in the project. 2
Reason:	If some threshold amount is not established and a number of points for that threshold amount limited, even practices that achieve a relatively modest reuse of asphalt and concrete road materials and aggregates will be awarded a considerable number of points. For example, reincorporating 50% of existing pavements, curbs and aggregates into the development will achieve the maximum 15 points, or incorporating 30% of existing existing pavements, curbs and aggregates into the development and utilizing recycled-content asphalt or concrete for 30% of the new materials will achieve the maximum 15 points. High reuse rates for asphalt, concrete and aggregates are readily achievable, and the point system should at this time, foremost incentivize practices that yield benefits beyond those commonly attained. Maintain the 15-point maximum, but clarify that the available 3+2 points are awarded to projects that incorporate: a) some threshold amount of existing pavements (3 points); and, b) some threshold amount of pavement materials with recycled content (2 points); while additional points are awarded for incremental increases above those threshold amounts.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Do not want to reduce the incentive to get these points. This is an Important environmental area that needs sufficient incentives to overcome the cost burden of implementing this.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P065 LogID 6145	**405.1 Driveways and parking areas**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Revise as follows	
Proposed Change:	**(4)** ~~Water permeable surfaces, including v~~ Vegetative paving systems, are utilized to reduce the footprint of impervious surface driveways, fire lanes, streets or parking areas.	
Reason:	Sec. 403.5 (4) already awards points for stormwater management by using permeable materials for driveways and parking areas. Accepting any water permeable surface to earn points for 405.1 (4) allows	

	double counting for the same material installation. It robs the standard of credibility, particularly when the point awards are relatively high. Is using concrete pavers, with the associated carbon impacts, really worth up to 16 points? More importantly, allowing any permeable material to be awarded the same points as a vegetative paving system (VPS) implies that they have equivalent environmental benefit which is simply not true. A VPS sequesters carbon and produces oxygen. A VPS supports bacteria and other micro-organisms that mitigate hydrocarbon pollution; a likely problem on driving and parking surfaces. A VPS evapotranspires, returning moisture to the air and providing much more cooling than permeable hardscapes. A VPS filters dust and pollutants from the air. The trimmings from managed VPSs improve soil quality, either in situ or when removed for composting. A VPS is not subject to clogging while permeable hard surfaces are. The carbon impacts alone of installing vegetation in an open cell grid or over a recycled plastic matrix are orders of magnitude less harmful than those of producing and providing concrete, asphalt, mined and crushed stone, mined and washed pea rock, or other inorganic materials. The committee is encouraged to return to the language originally proposed in the previous cycle of the NGBS and reserve these innovative practice points for enhanced environmental performance as intended in Sec. 405.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Need to be consistent between two sections, no reason to single out vegetative pavers as they are included in both sections.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P066 LogID 17-079	**405.1(4) Driveways and parking areas** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Greg Johnson for the Greenscapes Alliance
Requested Action:	Delete Section 405.1 (4) and revise as follows
Proposed Change:	Delete Section 405.1 (4) as follows ~~(4) Water permeable surfaces, including vegetative paving systems, are utilized to reduce the footprint of impervious surface driveways, fire lanes, streets or parking areas.~~ ~~(a) 10 % to less than 25% 2~~ ~~(b) 25% to 75% 4~~ ~~(c) greater than 75% 6~~ and revise Section 403.5 as follows

403.5 Stormwater management.	
(4) Permeable materials are used for driveways, parking areas, walkways and patios according to the following percentages:	
(a) 10 percent to less than 25 percent (add 2 points for use of vegetative paving system)	2
(b) 25-50 percent (add 4 points for use of vegetative paving system)	5
(c) greater than 50 percent (add 6 points for use of vegetative paving system)	10

Reason:	The point awards from Sec. 405.1 (4) are relocated here to eliminate double counting but also to reward the use of vegetative paving systems, which are environmentally superior durable surfaces. A VPS sequesters carbon and produces oxygen. A VPS supports bacteria and other micro-organisms that mitigate hydrocarbon pollution; a likely problem on driving and parking surfaces. A VPS evapotranspires, returning moisture to the air and providing much more cooling than permeable hardscapes. A VPS filters dust and pollutants from the air. The trimmings from managed VPSs improve soil quality, either in situ or when removed for composting. A VPS is not subject to clogging where permeable hard surfaces are. The carbon impacts alone of installing vegetation in an open cell grid or over a recycled plastic matrix are orders of magnitude less harmful than those of producing and providing concrete, asphalt, mined and crushed stone, mined and washed pea rock, or other inorganic materials. A lower limit on qualifying area is added to respond to verifier concerns identified in TG discussions.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Add the following parenthetical for 403.5(4): (Points for vegetative paving systems are only awarded for locations receiving more than 20 inches per year of annual average precipitation)
Committee Reason:	Vegetative paving systems provide additional environmental benefits and new language added for areas of higher precipitation
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Thomas Pape:*** There is no known standard or definition of vegetative paving. There is no restrictions on the percentage of vegetative versus paving. As such placing one paver stone every 24" i a turf area could be claimed to be vegetative paving, and there is no measurable means to refute such claims. This makes the Standard look silly.
Abstain:	

P067 LogID 6452	**405.5 Wetlands**	***Final Formal Action:*** **Disapprove**
Submitter:	Michael Cudahy	
Requested Action:	Revise as follows	
Proposed Change:	405.5 Wetlands. Constructed or natural wetlands or other natural innovative wastewater or stormwater treatment technologies are used on site.	
Reason:	Rewording for clarity, allowing for constructed or natural wetlands to be used on site. Alternatively, if the intent is only constructed wetlands, the committee can modify.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Intent was not to include existing wetland areas, EPA discourages natural wetlands from being used for stormwater	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	

Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P068 LogID 17-006	**405.6 Multi-modal transportation**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Robert Goo	
Requested Action:	Add new language	
Proposed Change:	A site is selected within a census block group that, compared to its region, has above-average transit access to employment as calculated using the Transit Access Measures within the USEPA's Smart Location Database: (a) Access is within the top quartile for the region -- 10 points (b) Access is within the second quartile for the region – 4 points	
Reason:	The likelihood that a household will use transit is correlated with the number of jobs accessible by public transit. The Smart Location Database, https://www.epa.gov/smartgrowth/smart-location-mapping#SLD, is a geographic data resource for measuring location efficiency. It includes more than 90 attributes summarizing characteristics such as housing density, diversity of land use, neighborhood design, destination accessibility, transit service, employment, and demographics. If this database would be useful to Home Innovation as for the purposes of measuring components of location efficiency for any given building site, EPA can work with its partners to develop a simple interface that NGBS users could use to quickly gain feedback for any given address related to its transit access to employment, walkability, access to transit, or other factors known to reduce vehicle miles traveled and the environmental impacts of the use of private vehicles.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P069 LogID 17-007	**405.6 Multi-modal transportation**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Robert Goo	
Requested Action:	Add new language	
Proposed Change:	A site is selected within a census block group that, compared to its region, has above-average access to employment within a 45-minute drive as calculated using USEPA's Smart Location Database: (a) Access is within the top quartile for the region -- 6 points (b) Access is within the second quartile for the region – 2 points	
Reason:	Proximity to a total number of destinations, including jobs, is correlated with lower total driving by households. The Smart Location Database, https://www.epa.gov/smartgrowth/smart-location-	

	mapping#SLD, is a geographic data resource for measuring location efficiency. It includes more than 90 attributes summarizing characteristics such as housing density, diversity of land use, neighborhood design, destination accessibility, transit service, employment, and demographics. If this database would be useful to Home Innovation as for the purposes of measuring components of location efficiency for any given building site, EPA can work with its partners to develop a simple interface that NGBS users could use to quickly gain feedback for any given address related to its transit access to employment, walkability, access to transit, or other factors known to reduce vehicle miles traveled and the environmental impacts of the use of private vehicles.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P070 LogID 17-011	**Section 405.6 Multi-modal transportation** ***Final Formal Action:*** **Disapprove**
Submitter:	Robert Goo
Requested Action:	Revise 405.6(1) as follows
Proposed Change:	405.6(1) A site is selected with a boundary within one-half mile of pedestrian access to a mass transit system ~~or within five miles of a mass transit station with available parking~~.
Reason:	Urban planning research does not indicate that this metric is environmentally effective. It not only is unclear that the residents of the subdivision would be likely to use the mass transit to any significant degree if it were located 5 miles from the border of the subdivision, but much of the air quality benefits of using transit are due to the avoidance of starting an automobile in the first place. Much of the air pollution associated with driving a vehicle occurs with the ignition and first several minutes of the drive.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Current language provides an incentive for locating closer to transit, which is better than not having this in the standard at all.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Bob Thompson:*** There is no evidence that the second half of this credit is of benefit to the environment. Better approaches to awarding multi-modal transportation were approved by the Committee (see P068) and will be available to users.

Abstain:	

P071 LogID 6158	**405.9 Open space**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Revise as follows	
Proposed Change:	**405.9 Open space.** A portion of the grossarea of the community is set aside as open space. ~~1~~ 2 **(Points awarded for every 10 percent of thecommunity set aside as open space**	
Reason:	1 point per 10% of gross community area is far too low. The World Health Organization recommends a minimum of 9 square meters (roughly 100 square feet) of green space per person for a healthy city. Given the multiple environmental and human health benefits that open green space can offer it only makes sense to create strong incentives for open design.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Bob Thompson:*** The suggested increase is too large. The proposed point value is for EACH 10% of open space, which could mean that a development with, say, a golf course, might get 16 points (when the golf course and private yards are considered). Moreover, the standard already provides rewards for open space under other credits. Finally, the commenter inaccurately states that the World Health Organization recommends a minimum of 9 acres of green space per person; the WHO has not made such a recommendation.	
Abstain:		

P072 LogID 17-027	**405.9 Open space**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Kent Sovocool	
Requested Action:	Revise as Follows	
Proposed Change:	**Open space.** The community is situated within two miles of an area of accessible open space or ~~A~~a portion of the gross area of the community is set aside as open space. **Points awarded for every 10 percent of the community set aside as open space or equivalencies.**	
Reason:	The definition of community is vague and may restrict use of the credit. It would be silly to have a developer set aside open space in "their" community when the jurisdiction already has (or will have) open space that developers and builders have or will contribute to. In such progressive communities the credit should be available.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**Open space.** The community is situated within ½ mile ~~two miles~~ of an area of ~~accessible~~ open space available to the public or ~~A~~a portion of the gross area of the community is set aside as open space. **Points awarded for every 10 percent of the community set aside as open space ~~or equivalencies~~. If open space outside of the community is included, a maximum of 3 points are awarded.**	

Committee Reason:	It is more likely that at ½ mile the open space would be accessed by the public, taking out "or equivalencies" clarifies the language", and open space available to the public avoids misunderstanding with ADA.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P073 LogID 17-071	**405.10 Community garden(s)** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Greg Johnson for the Greenscapes Alliance
Requested Action:	Revise as follows
Proposed Change:	**405.10 Community garden(s).** ~~A portion of the lot is established as a community garden(s) for the residents of the site to provide local~~ Local food production for residents or area consumers. ~~3~> (a) A portion of the lot is established as community garden(s) for the residents of the site 3 (b) Composting area and physical provisions are provided for accumulating compost 1 (c) Signs designating the garden area are posted. 1
Reason:	The proposed additional measures will make community gardening more effective.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**405.10 Community garden(s).** ~~A portion of the lot is established as a community garden(s) for the residents of the site to provide local~~ Local food production for residents or area consumers. ~~3~> (a) A portion of the ~~lot~~ site is established as community garden(s) for the residents of the site 3 (b) Areas ~~Composting area~~ and physical provisions are provided for ~~accumulating compost~~ composting 1 (c) Signs designating the garden area are posted. 1
Committee Reason:	This comment is in the site chapter and should reference the site, not the lot.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P074 LogID 6453	405.10 Community garden(s)	*Final Formal Action:* **Approve as Submitted**
Submitter:	Michael Cudahy, PPFA	
Requested Action:	Revise as follows	
Proposed Change:	Community garden(s). ~~A~~ portions of the site of at least 250 sq feet ~~is~~ are established as a community garden(s) for the residents of the site to provide local food production for residents or area consumers. One point awarded per 250 sq feet. Maximum 3 points.	
Reason:	To establish a minimum size for the gardens and allow for point tier discussion. The committee or task group can discuss and determine if a minimum size is necessary. Some regions may use vertical gardens and not need much land area, but some regions my best be served by multiple fruit trees, or even palms. Also allows for a discussion of tiered points. A project would have more flexibility with a point tier allocation.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P075 LogID 6458	Other for Chapter 4 (include section number and title below)	*Final Formal Action:* **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Add new as follows	
Proposed Change:	406 Human Health and Wellbeing 406.0Intent. Site design, preparation and development practices are used to foster human health and wellbeing.	

406.1. The site is designed to encourage physical activity	
(1) A system of walkways, bikeways, street crossings, or pathways designed to promote walking, jogging, skating, and biking is provided.	
(a) All streets have sidewalks on each side of the street and marked crosswalks on each side of street intersections.	5
(b) All streets have a dedicated and marked bicycle lane in each direction of travel.	5
(c) Trails or pathways through natural areas of not less than 20 acres (80,940 m^2) and which are protected by conservation easement are provided.	8
(d) Multi-station fitness trails are provided.	1 point for 2 stations 6 points max

(e) Mileage or progress markers are posted on trails	1
(2) Facilities for active outdoor recreation are provided	-
(a) A community swimming pool with an automatic pool cover is provided.	7
(b) A community golf course is provided.	7
(c) Community tennis or basketball courts are provided.	I point for each 3 points max
(d) Community pickleball or handball courts are provided.	I point for each 3 points max
(e) Community softball/baseball or multi-sports fields are provided.	5 points each 15 points max
(f) Community playgrounds and equipment or open play area are provided.	3 points each 9 points max
(3) A fenced community off-leash dog park is provided.	5
406.2 The site is designed to promote social interaction or outdoor respite	-
(1) Outdoor communal gathering places are provided	-
(a) Park space with seating and tables for picnicking is provided.	2 points per acre 10 points max
(b) A band-shell or stage for outdoor performance is provided	5
(c) Picnic areas (2 tables and 1 barbecue grill)	1 point for each
(2) Bench seating oriented toward scenic views or vistas such as mountains, skylines, or bodies of water is provided.	1 point per bench 7 points max
(3) A community lawn or town square is provided	5
406.3 Community garden(s). A portion of the site is established as a community garden(s) for the residents of the site to provide local food production for residents or area consumers.	5
Composting area and physical provisions are provided for accumulating compost	1
Signs designating the garden area are posted.	1
406.4. Tick-borne disease. The site is designed to mitigate hazards from tick-borne disease **(To acquire points the site must be documented to be at risk by an epidemiologist or qualified professional)**	**Points**
(1) Dense plant beds, shrubbery and woody plants are not planted within 5 feet (1.5 m) of occupied buildings	5 -
(2) A minimum of a 5 foot (1.5 m) border of paving, mulch, bare earth, or turfgrass is provided between woods or weedy areas and people trafficked or occupied areas, including playgrounds and dog parks.	5
(3) Vegetation that is attractive to deer, as documented by a qualified professional, is not planted within 20 feet (6 m) of buildings	3
(4) Paths or trails maintained through natural or non-maintained areas are a minimum of 5 feet wide (1.5 m)	3
406.5 Outdoor smoking prohibition.	**Points**

	Signs are provided prohibiting smoking at the following locations:	-
	(a) Smoking is prohibited within 25 feet (7.5 m) of all building exterior doors and operable windows or building air intakes within 15 (4.5 m) vertical feet of grade or a walking surface.	5
	(b) Smoking is prohibited on decks, balconies, patios and other occupied exterior spaces.	5
	(c) Smoking is prohibited at all parks, playgrounds, and community activity or recreational spaces.	5
Reason:	Human health and wellness considerations are an important part of green and sustainable design and building. LEED addresses this subject matter as does the WELL Building Standard (submitted as substantiation). Much of health and wellness design for exteriors is best done at the development scale. There some elements of overlap with existing provisions for multimodal travel, but those provisions focus on whether a function is provided, not how it is provided for healthy intent.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	P077, P078 are more complete.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P076 LogID 6551	**Other for Chapter 4 (include section number and title below)** *Final Formal Action:* **Disapprove**
Submitter:	Kat Benner, self / TexEnergy
Requested Action:	Add new as follows
Proposed Change:	405 HEALTH AND WELL BEING (...prior to INNOVATIVE PRACTICES)
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	There is not a specific activity here and there is another proposal that will be forthcoming.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P077 LogID 17-073	**New for Chapter 4**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson for the Greenscapes Alliance	
Requested Action:	Add new as follows	
Proposed Change:	**405.XX Access to Community Amenities**. The site is developed to minimize environmental impacts by offering one or more of the following:	
	(1) A system of walkways, bikeways, street crossings, or pathways designed to promote walking, jogging, skating, and biking is provided.	
	(a) All streets have sidewalks on each side of the street and marked crosswalks on each side of street intersections.	5
	(b) All streets have a dedicated and marked bicycle lane in each direction of travel.	5
	(c) Trails or pathways through natural areas of not less than 20 acres (80,940 m^2) and which are protected by conservation easement are provided.	8
	(d) Multi-station fitness trails are provided.	1 point for 2 stations 6 points max
	(e) Mileage or progress markers are posted on trails	1
	(2) Facilities for active outdoor recreation are provided	
	(a) A community swimming pool with an ~~automatic~~ automated motorized non-permeable pool cover is provided.	7
	(b) A community golf course is provided.	7
	(c) Community athletic courts, such as tennis, basketball, volleyball, pickleball or similar are provided.	I point for each 3 points max
	(d) Community softball/baseball or multi-sports fields are provided.	5 points each 15 points max
	(e) Community playgrounds and equipment or open play area are provided.	3 points each 9 points max
	(3) A fenced community off-leash dog park is provided.	5
	(4) Outdoor communal gathering places are provided	
	(a) Park space with seating and tables for picnicking is provided.	2 points per acre 10 points max
	(b) A band-shell or stage for outdoor performance is provided	5
	(c) Picnic areas (2 tables and 1 barbecue grill)	1 point for each
	(5) Bench seating oriented toward scenic views or vistas such as mountains, skylines, or bodies of water is provided.	1 point per bench 7 points max
	(6) A community lawn or town square is provided	5
Reason:	Having nearby access to social and recreational amenities in a community not only supports good health, but it can save considerable transportation energy. It is preferable that members of a community	

	be able to access these amenities without traveling by automobile or at worst by limited automobile travel. Additionally, these amenities are often associated with outdoor greenspaces which have many environmental benefits, such as stormwater control, atmospheric cleansing and cooling, oxygen production, and the capacity to support increased density in livable, desirable communities.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Unclear environmental implications and covered in other credits
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P078 LogID 17-077	**New for Chapter 4**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Greg Johnson for the Greenscapes Alliance	
Requested Action:	Add new as follows	
Proposed Change:	406.XX The site is designed to mitigate hazards from tick-borne disease **(To acquire points the site must be documented to be at risk by an epidemiologist or qualified professional)**	**Points**
	(a) Dense plant beds, shrubbery and woody plants are not planted within 5 feet (1.5 m) of occupied buildings	5
	(b) A minimum of a 5 foot (1.5 m) border of paving, mulch, bare earth, or turfgrass is provided between woods or weedy areas and people trafficked or occupied areas, including playgrounds and dog parks.	5
	(a) Vegetation that is attractive to deer, as documented by a qualified professional, is not planted within 20 feet (6 m) of buildings	3
	(b) Paths or trails maintained through natural or non-maintained areas are a minimum of 5 feet wide (1.5 m)	3
Reason:	In addition to the obvious health benefits, there are a number of environmental benefits associated with preventing the spread of the fifteen U.S tick borne diseases identified by the Centers for Disease Control and Prevention. Smart landscape design can forestall the use of pesticides to control ticks near human occupied area. Less obvious, but perhaps more significant, a report by the Johns Hopkins Bloomberg School of Public Health found that, on average, people with Lyme disease had 87 percent more visits to the doctor and 71 percent more visits to the emergency room within the year following diagnosis. This represents a tremendous cost in energy for transportation and for the share of materials and energy life cycle costs embodied in treatment facilities, operationally and within the infrastructure. These environmental impacts can in part be avoided through site design.	
Committee Formal Action from Meeting:	**Approve as Modified**	

Modification of Proposed Change:	406.XX The site is designed to mitigate hazards from ~~tick~~ insect borne disease **(To acquire points the site must be documented to be at risk by an epidemiologist or qualified professional)**	**Points**
	(a) Dense plant beds, shrubbery and woody plants are not planted within 5 feet (1.5 m) of occupied buildings	~~5~~ 6
	(b) A minimum of a 5 foot (1.5 m) border of paving, mulch, bare earth, or turfgrass is provided between woods or weedy areas and people trafficked or occupied areas, including playgrounds and dog parks.	5
	(c) Vegetation that is attractive to deer, as documented by a qualified professional, is not planted within 20 feet (6 m) of buildings	3
	(d) Paths or trails maintained through natural or non-maintained areas are a minimum of 5 feet wide (1.5 m)	3
	(e) Conditions that are favorable to mosquito breeding, such as standing water, are not present on site	2
Committee Reason:	Written to include mosquitos in addition to ticks.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **36** Disagree with committee action: **4** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Thomas Pape:*** Ticks are as likely to reach human contact from grass as from shrubbery, and it is unlikely a person will walk under a shrub for the tick to fall on them. Trees and grass are much more likely to induce contact with ticks. Proposal provided no evidence that eliminating deer edible plants would allow for adequate variety of native species. There is no scientific rationale for this except to provide additional loopholes for unfettered turf installations. The standing water issue is contrary to many jurisdictional requirements that storm water be retained on site. This clause eliminates all ponds, lakes, rainwater capture and storm water retention or detention schemes. There are natural methods to deter mosquito infestations. ***Bob Thompson:*** Disapproval of this proposal would be consistent with Committee action taken on P133. The proposed actions to control ticks and prevent Lyme Disease are inconsistent with the measures recommended by the CDC and experts in the state of Connecticut. The practices proposed here are not supported by scientific evidence. The proposed measure for mosquito prevention is not under the control of the designer or builder but rather is dependent on the activities of the homeowner, e.g., keeping wheelbarrows turned over, cleaning out gutters, etc. ***John Barrows:*** Tick and insect control goes beyond the initial steps taken during construction. Tick and insects can get on site from pets and wild animals. It is misleading to the public that tick and insect problems can be controlled by construction practices. ***Laura Petrillo-Groh:*** AHRI votes no. This proposal goes beyond the scope of the standard. Issue of tick-borne diseases is not "green building" issue.	
Abstain:		

P079 LogID 17-078	**New for Chapter 4**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Greg Johnson for the Greenscapes Alliance	

Requested Action:	Add new as follows
Proposed Change:	**406.XX Smoking prohibitions.** Signs are provided prohibiting smoking at the following locations: - (a) Smoking is prohibited within 25 feet (7.5 m) of all building exterior doors and operable windows or building air intakes within 15 (4.5 m) vertical feet of grade or a walking surface. 3 (b) Smoking is prohibited on decks, balconies, patios and other occupied exterior spaces. 3 (c) Smoking is prohibited at all parks, playgrounds, and community activity or recreational spaces. 3
Reason:	Significant resources, with associated life cycle costs, are used to treat smoking related diseases. Similarly, discarded smoking materials are frequently to blame for exterior and structure fires which also need significant resources to control and which are sources of air pollution. Besides being an important health consideration, discouraging the outdoor air pollution related to smoking should be incentivized.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**406.XX Smoking prohibitions.** Signs are provided prohibiting smoking at the following locations: - (a) Smoking is prohibited within 25 feet (7.5 m) of all building exterior doors and operable windows or building air intakes within 15 (4.5 m) vertical feet of grade or a walking surface. 3 (b) Smoking is prohibited in common areas unless otherwise designated as smoking areas ~~on decks, balconies, patios and other occupied exterior spaces~~. 3 ~~(c) Smoking is prohibited at all parks, playgrounds, and community activity or recreational spaces.~~ ~~3~~
Committee Reason:	To address concerns brought up during discussion about application
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Laura Petrillo-Groh:*** AHRI votes no. Do not agree that points need to be awarded.
Abstain:	

P080 LogID 6461	**501.1 Lot (Lot selection)** ***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Power Equipment Institute
Requested Action:	Add new as follows
Proposed Change:	**(4) Wildland-Urban Area Site Avoided.** A site in the wildland-urban interface is not selected. 6 -

	(Only applicable where the Authority Having Jurisdiction has declared a wildland-urban interface area in accordance with the International Wildland-Urban Interface Code).
Reason:	There are seriously negative environmental impacts from the spread of fire between buildings and wildlands. If it is known that a lot is in a wildland-urban interface area (declared by the AHJ, avoiding building on that site mitigates an environmental risk.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The Wildland Urban Interface should not be in the NGBS.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **34** Disagree with committee action: **6** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Greg Johnson:*** This proposal, if approved, can serve as a vehicle for public comments to create a 'resilient sites' section. ***Sean S. Devlin:*** based on circulated ballot comments. ***Thomas Culp:*** based on circulated ballot comments. ***Kristopher Stenger:*** to follow TG-2 recommendation to comment. ***Theresa Weston:*** based on circulated ballot comments - TG2 modification should be considered. ***William A. Sanderson:*** This is the companion to P#051/chapter 4 regarding lot selection in chapter 5. the TG feels the modified language is valuable and promotes resiliency within the standard.
Abstain:	

P081 LogID 6454	**501.2 Multi-modal transportation**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Michael Cudahy, PPFA	
Requested Action:	Add new as follows	
Proposed Change:	(6) (d) Bicycle enclosed storage is provided or parking spaces are covered or otherwise protected from the elements. 2 Additional points per (a)-(c)	
Reason:	Providing protection from the weather of a parked bicycle is an additional cost to the builder and should be rewarded as it makes the use of bicycles more likely. It's also not inconceivable that a builder could provide a small enclosed space with a door for residents which should also be rewarded.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P082 LogID 6320	**501.2 Multi-modal transportation**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**(7)** Provide infrastructure to facilitate shared vehicle usage such as carpool drop-off areas, car-share services, and shuttle services to mass transit. - 5 **POINTS**	
Reason:	Communities that provide for share vehicle usage should be rewarded as this reduces the production of green-house gases in the same way as mass transit or bicycle use.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**(7)** Select a lot in a community where there is access to ~~Provide infrastructure to facilitate~~ shared vehicle usage such as carpool drop-off areas, car-share services, and shuttle services to mass transit - 5 **POINTS**	
Committee Reason:	Need clarification that this does not apply to single-family lots	
Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P083 LogID 6323	**501.2 Multi-modal transportation**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW IN 501.2 (8) Lot is within a community that has a Bike sharing program and where facilities for bike sharing are planned for and constructed. **- 5 points** (9) Lot is within a community that has a Car sharing program and where facilities for car sharing are planned for and constructed. **- 5 points**	
Reason:	Based on existing practice in NGBS 2015 (405.6) and applied to a single lot versus entire land development.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	ADD NEW IN 501.2 (8) Lot is within 1/2 mile walking distance of ~~a community that has a~~ where a bike sharing program is provided ~~Bike sharing program and where facilities for bike sharing are planned for and constructed~~. **- 5**	

	points ~~(9) Lot is within a community that has a Car sharing program and where facilities for car sharing are planned for and constructed. - **5 points**~~
Committee Reason:	Bike share program has value and distance of a half mile is a reasonable distance. Item 9 is already a component of a comment accepted earlier.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P084 LogID 6173	**501.2 Multi-modal transportation**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW OPTION TO 501.2 (7) Employment Access: A site is selected in an area with a measured Jobs per Sq. Mi. of: a) 10,000 - less than 25,000 - 3 POINTS b) 25,000 to less than 50,000 - 4 POINTS c) 50,000 to less than 100,000 - 5 POINTS d) 100,000 or more - 6 POINTS	
Reason:	Travel to and from work is a major source of carbon emissions. Locating housing near employment will significantly reduce the vehicle miles traveled of the average occupant. The Proposed metric can be easily found using http://htaindex.cnt.org/	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Difficulty determining actual job density	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Aaron Gary:*** Committee Reason does not make sense as it is very easy to determine the Employment Access metric using the tool referenced.	
Abstain:		

P085 LogID 17-008	**501.2 Multi-modal transportation**	***Final Formal Action:*** **Disapprove**
Submitter:	Robert Goo, US EPA	
Requested Action:	Add new language	

Proposed Change:	A lot is selected within a census block group that, compared to its region, has above-average transit access to employment as calculated using the Transit Access Measures within the USEPA's Smart Location Database: (a) Access is within the top quartile for the region -- 10 points (b) Access is within the second quartile for the region – 4 points
Reason:	The likelihood that a household will use transit is correlated with the number of jobs accessible by public transit. The Smart Location Database, https://www.epa.gov/smartgrowth/smart-location-mapping#SLD, is a geographic data resource for measuring location efficiency. It includes more than 90 attributes summarizing characteristics such as housing density, diversity of land use, neighborhood design, destination accessibility, transit service, employment, and demographics. If this database would be useful to Home Innovation as for the purposes of measuring components of location efficiency for any given building site, EPA can work with its partners to develop a simple interface that NGBS users could use to quickly gain feedback for any given address related to its transit access to employment, walkability, access to transit, or other factors known to reduce vehicle miles traveled and the environmental impacts of the use of private vehicles.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Lack of a tool, uncertainty that concentrating people in dense areas reduces car use
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **35** Disagree with committee action: **4** Abstain: **1** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Bob Thompson:*** EPA proposed a trio of credits (P085, P086, and P087) that, taken as a package, allow NGBS users to easily determine the number of points that they can get for the transportation attributes of their lot's location. The level of transportation-related energy use and air emissions are compared to other locations in the same region. The basis for these credits lies in more than a decade of transportation and urban planning research. See, for example, a meta-analysis at https://www.tandfonline.com/doi/full/10.1080/01944361003766766?scroll=top&needAccess=true&. The Committee voted to approve the walkability credit, but voted against the two credits that offer points for access to employment and transit. This means that a builder that selects a lot with above-average access will not be able to avail him- or herself of some easy points. Also, the allowance of the one credit but not the other two means that NGBS is not using the full spectrum of data available for analyzing the transportation-related benefits of any given location. Please note that all three credits will be highly achievable by projects in urban areas, and two of the three will be achievable in rural areas. (Public transit is not likely to be available in rural areas.) The tool will be available for the public to test when the next version of the standard goes out for public review. In the meantime, please see some screen shots of the tool at https://www.dropbox.com/s/fru75q4xdcsd330/NGBS%20SLD%20tool%2002aug18.pdf?dl=0. [These examples only show access to employment ("overall access") and transit access; walkability scores will appear on the actual tool when the next NGBS draft goes out for public review.] ***Sean S. Devlin:*** based on circulated ballot comments. ***Aaron Gary:*** based on circulated ballot comments. ***William A. Sanderson:*** the tool referenced in the proposed language will be up and operational by the time the standard is approved and it will be valuable to users and raters.
Abstain:	***Thomas Culp:*** following recirculation of ballot comments, I am abstaining.

P086 LogID 17-009	501.2 Multi-modal transportation	*Final Formal Action:* **Disapprove**
Submitter:	Robert Goo, US EPA	
Requested Action:	Add new language	
Proposed Change:	A lot is selected within a census block group that, compared to its region, has above-average access to employment within a 45-minute drive as calculated using USEPA's Smart Location Database: (a) Access is within the top quartile for the region -- 6 points (b) Access is within the second quartile for the region – 2 points	
Reason:	Proximity to a total number of destinations, including jobs, is correlated with lower total driving by households. The Smart Location Database, https://www.epa.gov/smartgrowth/smart-location-mapping#SLD, is a geographic data resource for measuring location efficiency. It includes more than 90 attributes summarizing characteristics such as housing density, diversity of land use, neighborhood design, destination accessibility, transit service, employment, and demographics. If this database would be useful to Home Innovation as for the purposes of measuring components of location efficiency for any given building site, EPA can work with its partners to develop a simple interface that NGBS users could use to quickly gain feedback for any given address related to its transit access to employment, walkability, access to transit, or other factors known to reduce vehicle miles traveled and the environmental impacts of the use of private vehicles.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Uncertainty about the metric (45 minute drive)	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **34** Disagree with committee action: **5** Abstain: **1** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Bob Thompson:*** EPA proposed a trio of credits (P085, P086, and P087) that, taken as a package, allow NGBS users to easily determine the number of points that they can get for the transportation attributes of their lot's location. The level of transportation-related energy use and air emissions are compared to other locations in the same region. The basis for these credits lies in more than a decade of transportation and urban planning research. See, for example, a meta-analysis at https://www.tandfonline.com/doi/full/10.1080/01944361003766766?scroll=top&needAccess=true&. The Committee voted to approve the walkability credit, but voted against the two credits that offer points for access to employment and transit. This means that a builder that selects a lot with above-average access will not be able to avail him- or herself of some easy points. Also, the allowance of the one credit but not the other two means that NGBS is not using the full spectrum of data available for analyzing the transportation-related benefits of any given location. Please note that all three credits will be highly achievable for projects in urban areas, and two of the three will be achievable in rural areas. (Public transit is not likely to be available in rural areas.) The tool will be available for the public to test when the next version of the standard goes out for public review. In the meantime, please see some screen shots of the tool at https://www.dropbox.com/s/fru75q4xdcsd330/NGBS%20SLD%20tool%2002aug18.pdf?dl=0. [These examples only show access to employment ("overall access") and transit access; walkability scores wil lappear on the actual tool when the next NGBS draft goes out for public review.] ***Sean S. Devlin:*** based on circulated ballot comments.	

	Aaron Gary: based on circulated ballot comments. ***Kristopher Stenger:*** follow task groups recommendation based on comment. ***William A. Sanderson:*** the tool referenced in the original submission is now operational and available and will be useful to users and raters.
Abstain:	***Thomas Culp:*** following recirculation of ballot comments, I am abstaining.

P087 LogID 17-010	**501.2 Multi-modal transportation**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Robert Goo, US EPA	
Requested Action:	Add as an alternative to 501.2(4):	
Proposed Change:	OR A lot is selected within a census block group that, compared to its region, has above-average neighborhood walkability using an index within the USEPA's Smart Location Database: (a) Walkability is within the top quartile for the region -- 10 points (b) Access is within the second quartile for the region – 4 points	
Reason:	The walkability index is based on an algorithm developed from a meta-analysis of neighborhood walking research. The Smart Location Database, https://www.epa.gov/smartgrowth/smart-location-mapping#SLD, is a geographic data resource for measuring location efficiency. It includes more than 90 attributes summarizing characteristics such as housing density, diversity of land use, neighborhood design, destination accessibility, transit service, employment, and demographics. If this database would be useful to Home Innovation as for the purposes of measuring components of location efficiency for any given building site, EPA can work with its partners to develop a simple interface that NGBS users could use to quickly gain feedback for any given address related to its transit access to employment, walkability, access to transit, or other factors known to reduce vehicle miles traveled and the environmental impacts of the use of private vehicles.	
Committee Formal Action from Meeting:	**Approve as modified**	
Modification of Proposed Change:	OR A lot is selected within a census block group that, compared to its region, has above-average neighborhood walkability using an index within the USEPA's Smart Location Database: (c) Walkability is within the top quartile for the region -- ~~10~~ 5 points (d) ~~Access~~ Walkability is within the second quartile for the region – ~~4~~ 2 points	
Committee Reason:	Modifications to make point values more in line with current measures and make terminology more consistent to prevent confusion	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Laura Petrillo-Groh:*** AHRI votes no. This proposal is too complex and has too many points.	
Abstain:		

P088 LogID 17-012	**501.2 Multi-modal transportation**	***Final Formal Action:*** **Disapprove**

Submitter:	Robert Goo, US EPA
Requested Action:	Delete as follows:
Proposed Change:	~~(2) A lot is selected within five miles of a mass transit station with provisions for parking.~~
Reason:	Urban planning research does not indicate that this metric is environmentally effective. It not only is unclear that the residents of the lot would be likely to use the mass transit to any significant degree if the lot were located 5 miles from the transit station, but much of the air quality benefits of using transit are due to the avoidance of starting an automobile in the first place. Much of the air pollution associated with driving a vehicle occurs with the ignition and first several minutes of the drive.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Current language provides an incentive for locating closer to transit which is better than not having this in the standard at all.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Bob Thompson:*** EPA disagrees with the Committee's reason statement. There is no evidence to suggest that locating any individual home within five miles of transit is good for the environment. The current language misleads the building community into believing that this is an environmentally friendly approach. Other credits provide incentives that reduce the emissions associated with driving, and they are much better than this one.
Abstain:	

P089 LogID 6148	**503.0 Intent (Lot Design)** ***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute
Requested Action:	Revise as follows
Proposed Change:	**503.0 Intent.** The lot is designed to avoid detrimental environmental impacts first, to minimize any unavoidable impacts, and to mitigate for those impacts that do occur. The project is designed to minimize environmental impacts and to protect, restore, and enhance the natural features and environmental quality of the lot. <u>The lot is designed to enhance human health and well-being.</u>
Reason:	People's living environments should support healthy lifestyles. Sec. 505.5 recognizes this by awarding points for community gardens; a healthy outdoor activity, providing both exercise and better nutrition.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Health and well-being is currently outside the scope of the standard.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	

Disagree with Committee Action:	
Abstain:	

P090 LogID 6463	**503.1 Natural resources**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Add new as follows	
Proposed Change:	**(8)** Developer has a plan to design and construct the lot in accordance with the International Wildland-Urban Interface Code (IWUIC). **(Only applicable where the AHJ has not declared a wildland-urban interface area, but a fire protection engineer, certified fire marshal, or other qualified party has determined and documented the site as hazarded per the IWUIC).**	6
Reason:	It is unrealistic to believe that building will not occur on lots that could qualify as hazarded by the International Wildland-Urban Interface Code, but that have not been legally identified as such by the AHJ. Good environmental policy on those sites is to develop according to the provisions of the IWUIC to mitigate the negative consequences of fire spread between wildlands and buildings. (see documentation- a letter from the International Association of Fire Chiefs Life Safety Section). Requiring a qualified party to establish whether a lot qualifies as hazarded keeps this provision from being a points giveaway.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Bob Thompson:*** See the Committee's response to P080: "The Wildland Urban Interface [Code] should not be in the NGBS." Yet, the Committee has approved this proposal to provide points for complying with the Wildland Urban Interface Code! This proposal rewards builders for building in a risky area, which is at odds with the goals of this standard.	
Abstain:		

P091 LogID 6546	**503.3 Soil disturbance and erosion**	***Final Formal Action:*** **Disapprove**
Submitter:	Ben Edwards, self	
Requested Action:	Delete without substitution	
Proposed Change:	Delete on item (3) from section 503.3 ~~Limits of clearing and grading are demarcated on the lot plan.~~	
Reason:	This comment is intended to bring attention a larger issue in this document: double counting. 504.3(2) awards 5 points for flagging the site under Lot Construction. 503.3(3) awards 5 points for planning the same action under Lot Design (points are awarded when "the intent of the design is implemented." While flagging a site is important, the potential for 10 points for a standard practice is not appropriate in an above-code document. Points should be awarded based on outcome, and should clearly indicate the relative weight in compliance. Note: Similar issues are found in Chapters 4 and 11, and the topic of soil	

	disturbance is illustrative. Philosophically, if points are to be awarded for planning, construction, and verification, the greatest weight should be in verification.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	View planning and execution as two discrete operations and therefore is not double counting.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***R. Christopher Mathis:*** The committee's reason for disapproval is not consistent with a results-driven paradigm, especially for a practice as requisite for modern construction as staking the site.
Abstain:	

P092 LogID 6223	**503.4 Stormwater management**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	Instal Permanent or Maintained/Managed Post Construction Sewer/Street drain protection	
Reason:	protect sewer system and water ways from ongoing post construction pollutants	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Like the concept but there is not enough specific information	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P093 LogID 6322	**503.4 Stormwater management**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**(5)** Complete gutter and downspout system directs storm water away from foundation to landscaping or catchment system – **8 points**	
Reason:	To direct rainwater away from the structure to prevent erosion and to protect the structure itself, and/or for rainwater capture	
Committee Formal Action from Meeting:	**Approve as Modified**	

Modification of Proposed Change:	**(5)** Complete gutter and downspout system directs storm water away from foundation to landscaping or catchment system – ~~8~~ **3 points**
Committee Reason:	To cap points for the section.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Thomas Pape:*** This is a free points give-away. No reasonable builder would have downspouts directed towards the foundation. The proposal does not include a requirement for the water to be retained by the landscape. Thus; a downspout directed at an area turf, where the water flows across 3 feet of turf before reaching to storm sewer would be eligible for these points. This proposal makes a mockery of this Standard.
Abstain:	

P094 LogID 1515	**503.4 Stormwater management** ***Final Formal Action:*** **Disapprove**
Submitter:	Heather Dylla, National Asphalt Pavement Association
Requested Action:	Delete without substitution
Proposed Change:	~~Permeable materials are used for driveways, parking areas, walkways and patios according to the following percentages:~~ ~~(a) less than 25 percent 2~~ ~~(b) 25 – 50 percent 5~~ ~~(c) Greater than 50 percent 10~~
Reason:	Giving points specifically to permeable materials may encourage their use where they are not practical or not even the best solution for Stormwater management. Their efficacy depends on site limitations such as soil permeability, depth to impermeable layers and water table, and topography. It is recommended that permeable materials are evaluated together with all other low impact development practices (question 3) to encourage the best stormwater management solution.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Permeable materials are an important tool for maintaining post construction hydrology.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P095 LogID 17-080	**503.4 Stormwater management** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Greg Johnson for the Greenscapes Alliance

Requested Action:	Delete Section 505.1 (4) and revise as follows
Proposed Change:	~~(4) Water permeable surfaces, including vegetative paving systems, are utilized to reduce the footprint of impervious surface driveways, fire lanes, streets or parking areas.~~ ~~(a) 10 percent to less than 25 percent 1~~ ~~(b) 25 percent to 75 percent 2~~ ~~(c) greater than 75 percent 3~~

503.4	
503.5 <u>Stormwater management.</u>	
4) Permeable materials are used for driveways, parking areas, walkways and patios according to the following percentages:	
(d) <u>10 percent to</u> less than 25 percent <u>(add 2 points for use of vegetative paving system)</u>	2
(e) 25-50 percent <u>(add 4 points for use of vegetative paving system)</u>	5
(f) greater than 50 percent <u>(add 6 points for use of vegetative paving system)</u>	10

Reason:	The point awards from Sec. 405.1 (4) are relocated here to eliminate double counting but also to reward the use of vegetative paving systems, which are environmentally superior durable surfaces. A VPS sequesters carbon and produces oxygen. A VPS supports bacteria and other micro-organisms that mitigate hydrocarbon pollution; a likely problem on driving and parking surfaces. A VPS evapotranspires, returning moisture to the air and providing much more cooling than permeable hardscapes. A VPS filters dust and pollutants from the air. The trimmings from managed VPSs improve soil quality, either in situ or when removed for composting. A VPS is not subject to clogging where permeable hard surfaces are. The carbon impacts alone of installing vegetation in an open cell grid or over a recycled plastic matrix are orders of magnitude less harmful than those of producing and providing concrete, asphalt, mined and crushed stone, mined and washed pea rock, or other inorganic materials. A lower limit on qualifying area is added to respond to verifier concerns identified in TG discussions.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Parenthetical at the end of section 503.4: <u>(Points for vegetative paving systems are only awarded for locations receiving more than 20 inches per year of annual average precipitation)</u>
Committee Reason:	Vegetative paving systems provide additional environmental benefits and new language added for areas of higher precipitation
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P096 LogID 6164	**503.5 Landscape plan**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Revise as follows	

Proposed Change:	(4) For sites receiving more than 12 inches of average annual precipitation the EPA WaterSense Water Budget Tool or equivalent is used when implementing the maximum percentage of turf areas.	~~2~~ 5
	(5) For landscaped vegetated areas on sites receiving 12 or less inches of average annual precipitation, the maximum percentage of turf area is:	
Reason:	To address concerns with water use for turfgrass in arid climates, where there is no existing turf limitation ordinance, it is proposed that points for turf limitations be awarded only where annual precipitation averages 12 or less inches per year and that the use of a WBT be used to establish turf limits for sites that average more than 12 inches of precipitation per year. It is also also proposed that the maximum points for a 100% turf limitation be equal to the points awarded for use of a WBT. See the additional substantiation for the complete reason	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Do not want to eliminate access to these points for areas that have more than 12 inches of annual precipitation but are limiting turf for other reasons.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P097 LogID 6342	**503.5 Landscape plan**	***Final Formal Action:*** **Disapprove**
Submitter:	Brent Mecham, Irrigation Association	
Requested Action:	Revise as follows	
Proposed Change:	4) EPA WaterSense Water Budget Tool or ANSI/ASABE S623.1 Jan2017 Determining Landscape Plant Water Demands standard or equivalent is used when ~~implementing the maximum~~ determining the percentage of turf areas.	
Reason:	As a published document, this ANSI standard provides the necessary equations, plant factors and instructions to create a landscape water budget and determine the water requirement to maintain the landscape. As a national standard it is equivalent to EPA WaterSense Water Budget Tool but perhaps has an advantage in the fact that the plant factors take into account the climate.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Valuable concept but should move somewhere else that talks about the overall landscape design generically and not specifically related to turf grass.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		

Disagree with Committee Action:	
Abstain:	

P098 LogID 6222	**503.5 Landscape plan**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Revise as follows	
Proposed Change:	503.5 Landscape plan. A plan for the lot is developed to limit water and energy use while preserving or enhancing the natural environment or human health and well-being.	
Reason:	Human health and well-being are key objectives of green, high-performing buildings and sites. "Our nation is in the midst of a lively public policy debate on how best to enable individuals and communities to make healthier choices. In recent years, with the rapid advance of green building practices, the connection between green building and its promotion of human health has become increasingly clear: Done right, the built environment can have profound positive effects on health, both human and environmental. At their worst, our building materials and designs, and our choices about location, building construction, operation and maintenance, contribute to some of the key public health concerns of modern society, from asthma to cancer to obesity. At their best, our buildings and communities can be powerful protectors and promoters of health and well-being. We must shift practice such that our definitions of sustainable building include the well-being of the people in the buildings and the community around them as a matter of course – not an incidental byproduct. In the new paradigm, human performance must be seen as important as energy performance; health conservation equal to water conservation; health management on par with waste management." Health is a Human Right, Green Building Can Help; USGBC January 2013	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Health and well-being is currently outside the scope of the standard.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P099 LogID 6240	**503.5 Landscape plan**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**503.5 Landscape ~~plan.~~** A plan for ~~t~~The lot is developed to limit water and energy use while preserving or enhancing the natural environment. (Where "front" only or "rear" only ~~plan~~ is implemented, only half of the points (rounding down to a whole number) are awarded for Items (1)-(8)	
Reason:	For projects that use a design/build methodology which often skips the development of a formal plan during design credit should still be available. While this may not be best practice, the resulting verified installation can still achieve many of the goals of this credit without the currently stipulated plan. As such, giving a project full credit for the items they can accomplish (i.e. 2-3,5-9) while not awarding points for the items they can't only makes sense.	

Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	View planning and execution as two discrete operations.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Aaron Gary:*** Committee reason statement that they "View planning and execution as two discrete operations." does not support the vote of disapproval. Currently within the Standard points are only awarded for the planning part. No points are awarded for the actual execution phase of the Landscape Plan. If the two operations are discrete as the committee maintains then preference should be given to the awarding of points based on execution of the lot being developed to limit water and energy use while preserving or enhancing the natural environment, not for the planning of such. The proposal that was disapproved tried to do just that.
Abstain:	

P100 LogID 6572	**503.5 Landscape plan** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Jack Karlin, Turfgrass Water Conservation Alliance
Requested Action:	Revise as follows
Proposed Change:	

GREEN BUILDING PRACTICES	*POINTS*
503.5 Landscape plan. A landscape plan is developed to limit water and energy use in common areas while preserving or enhancing the natural environment utilizing one or more of the following:	
(4) EPA WaterSense Water Budget Tool or equivalent is used when implementing ~~the maximum~~ <u>any</u> percentage of turf areas.	~~2~~ <u>5</u>
(5) For landscaped vegetated areas <u>in landscape areas receiving less than twelve (12) inches precipitation per year</u>, the maximum percentage of all turf areas is:	
(a) 0 percent	*5*
(b) Greater than 0 percent to less than 20 percent	*4*
<u>(c) Greater than 0 percent to less than 20 percent using third party qualified water efficient grasses</u>	*<u>3</u>*
(d) 20 percent to less than 40 percent	*3*
~~(d)~~ <u>20 percent to less than 40 percent using third party qualified water efficient grasses</u>	*<u>3</u>*
(f) 40 percent to 60 percent	*2*
<u>(g) 40 percent to 60 percent using third party qualified water efficient grasses</u>	*<u>3</u>*

Reason:	The Turfgrass Water Conservation Alliance® (TWCA®) is a 501c3 nonprofit committed to water conservation and preserving the ecological services provided by turfgrass in the managed environment. Representing 93 members around the world in academia, government, and private sector, TWCA's coalition reaches beyond our industry members. TWCA® provides education based on scientific information which contradicts many of the opinions and much of the misinformation about turfgrass. Further, the TWCA® recognizes that water and plants are necessary to sustain life, and strive to protect the environment in which we live. Destruction of the environment by the removal of plant materials, including turfgrass is detrimental to the health and wellbeing of our society. Turf serves as an important sink for Carbon; nationwide, single family detached homes with yards sequester enough carbon to take 44,000 cars off the road each year1. That is the same as every person in Coachella CA not driving for a

	year. Turf filters fine particulate and dust out of the air2 improving air quality, reduces noise and glare3 and cools the air to help mitigate the heat island effect caused by the ever-expanding blanket of hard, impervious surfaces covering large swathes of the United States. Green spaces in general, and turf in particular, are linked to large scale improvements in the physical and mental health of the population4 as well as attenuating the health gaps between the richest and poorest citizens of communities5. The removal of plant matter from any environment, managed or natural, should be considered long and with great care. Decisions made today to remove or limit turf may conserve water in the short term. It may take years or decades, even, for the long term negative consequences to be felt. However, when the consequences are felt it will be in the form of higher cooling costs, louder, dirtier cities, and shorter, less healthy, less happy lives. Further, to treat turf as a monolith is to ignore the broad spectrum of genetic diversity represented by this classification of plants and discounts decades of research that have gone into reducing the water needs of turfgrasses6,7. TWCA's third party, peer review process has identified over 80 varieties that have demonstrated statistically significant water efficiencies over conventional varieties of the same species. The key to long term outdoor water savings in residential development is education and engagement. Awarding points for the use of a Water Budgeting Tools (WBT) encourages contractors and end-users to learn more about their landscapes and engage with both the design and maintenance processes. TWCA proposes raising the awarded points for using a Water Budgeting Tool to incentivize engagement with and understanding of the landscaped areas surrounding houses. We believe this engagement and understanding will significantly contribute to water savings over the life of the development. Incentivizing the use of literally any other landscape plant for vegetated areas does not ensure responsible landscaping or water conservation and could result in an increase of the water requirements for a landscape depending on the landscape plants used. This system also ignores the broad range of demonstrated water efficiencies available in turfgrasses today. Finally, given the significant advances made in the development of drought tolerant, rewarding the elimination of turf is rewarding the elimination of well adapted plants through most of climates in the United States. TWCA believes it is most prudent to limit the award of points for prescriptive turf limits to those areas receiving less than twelve (12) inches or precipitation per year. An alternative point system endorsed by the TWCA uses the following scheme: For vegetated areas in landscape areas receiving less than twelve (12) inches precipitation per year, the maximum percentage of all turf areas is: GREEN BUILDING PRACTICES POINTS 403.6 Landscape plan. A landscape plan is developed to limit water and energy use in common areas while preserving or enhancing the natural environment utilizing one or more of the following: (4) EPA WaterSense Water Budget Tool or equivalent is used when implementing the maximum any percentage of turf areas. 2 5 (5) For landscaped vegetated areas in landscape areas receiving less than twelve (12) inches precipitation per year, the maximum percentage of all turf areas is: (a) 0 percent 5 (b) Greater than 0 percent to less than 20 percent 4 (c) Greater than 0 percent to less than 20 percent using third party qualified water efficient grasses 3 (d) 20 percent to less than 40 percent 3 (e) 20 percent to less than 40 percent using third party qualified water efficient grasses 3 (f) 40 percent to 60 percent 2 (g) 40 percent to 60 percent using third party qualified water efficient grasses 3 Using such a point award scheme maintains the incentive to use turf in landscapes responsibly while incentivizing the selection of improved water efficient varieties and encouraging a real engagement with the plant selection process. This point system also eliminates the unfounded demonization of turf. References: 1) R. Lal and B. Augustin (eds.) Carbon Sequestration in Urban Ecosystems, DOI 10.1007/978-94-007-2366-5_14 © Springer Science+Business Media B.V. 2012 2) Water Quality and Quantity Issues for Turfgrasses in Urban Landscapes, Council for Agricultural Science and Technology (CAST), Special Publication 27, 2006,Ch2. 3) Beard, J. B. and R. L. Green. 1994. The role of turfgrasses in environmental protection and their benefits to humans. J Environ Qual 23(9):452–460. 4) Jolanda Maas, Robert A Verheij, Sjerp de Vries, Peter Spreeuwenberg, Francois G Schellevis, Peter P Groenewegen. "Morbidity is related to a green living environment." J Epidemial Community Health. Published Online 15 October 2009. DOI:10.1136/jech.2008.079038 5) Richard Mitchell, Frank Popham "Effect of exposure to natural environment on health inequalities: an observational population study" Lancet 2008; 372: 1655-60 6) Karcher, D.E., Richardson, M.D., Hignight, K., and Rush, D. "Drought Tolerance of Tall Fescue Populations Selected for High Root/Shoot Ratios and Summer Survival" Crop Science 2008; v48 n2: 771-777 7) Karcher, D., M. Richardson and J. Landreth. 2008. Drought tolerance of tall fescue and bluegrass cultivars. Arkansas Turfgrass Report 2007, Ark. Ag. Exp. Stn. Res. Ser. 557:17-20.

Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	

GREEN BUILDING PRACTICES	POINTS
503.5 Landscape plan. A landscape plan is developed to limit water and energy use in common areas while preserving or enhancing the natural environment utilizing one or more of the following:	
(4) EPA WaterSense Water Budget Tool or equivalent is used when implementing up to the maximum ~~any~~ percentage of turf areas.	~~2~~ 5
(5) Where turf is being planted, Turfgrass Water Conservation Alliance (TWCA) or equivalent third party qualified water efficient grasses are used	3
~~(5)~~ (6) For landscaped vegetated areas ~~in landscape areas receiving less than twelve (12) inches precipitation per year~~, the maximum percentage of all turf areas is:	
(a) 0 percent	5
(b) Greater than 0 percent to less than 20 percent	4
~~(c) Greater than 0 percent to less than 20 percent using third party qualified water efficient grasses~~	~~3~~
(c ~~d~~) 20 percent to less than 40 percent	3
~~(e) 20 percent to less than 40 percent using third party qualified water efficient grasses~~	~~3~~
(d ~~f~~) 40 percent to 60 percent	2
~~(g) 40 percent to 60 percent using third party qualified water efficient grasses~~	~~3~~

Committee Reason:	Worked out language in chapter 4 (see item P056) and carried through to chapter 5
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Thomas Pape:*** There is no measurable means in a definition of "water efficient turf"; thus the only purpose of this proposal is to allow users to scam the standards. Anyone can claim the turf is "water efficient" and there is no way to refute such claims. This makes a mockery of the Standard.
Abstain:	

P101 LogID 6484	**503.5 Landscape plan** ***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions
Requested Action:	Add new as follows
Proposed Change:	Add: Alternative compliance path for design & build landscapes: Points would only be allowed to be taken if the landscaping contractor is made aware of the requirements in 503.5 before installation & the measures are installed & verified to comply with the various options in 503.5.
Reason:	Based on various factors, some residential developments do not have the opportunity for a landscape architect to design all of the landscaping and submit plans to the contractor. Some landscaping contractors are capable of installing efficient landscape without printed plans as long as the verifier can communicate the intent of the design ahead of time.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	

Committee Reason:	Language is unclear
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P102 LogID 6565	**503.6 Wildlife habitat**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Craig Conner, self	
Requested Action:	Add new as follows	
Proposed Change:	503.7 Bee friendly habitat is provided by landscaping. A minimum of 500 sq ft of landscaping provides bees with a food source in spring, summer and fall. Water is available. The landscape is planned such that no pesticides will be used. Points 10	
Reason:	Natural bee habitat is being destroyed. Native bee populations are in decline. Landscape can help provide for native bees.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	*Replace proposal in its entirety with the following:* 503.6 (2) To improve pollinator habitat, at least 10 percent of planted areas are composed of flowering and nectar producing plant species. Invasive plant species shall not be utilized. Points 3	
Committee Reason:	Point levels are consistent with the other items in the category and the change is consistent with similar language in Chapter 4.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P103 LogID 6466	**503.6 Wildlife habitat**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Add new as follows	
Proposed Change:	**(5)** Areas of lawn are integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 20% of the groundcover. Plants should typically flower at less than 4 inches in height. **(Consult a local agricultural extension service or university or for appropriate plants)**	**3**
Reason:	Ample evidence exists that incorporating maintenance tolerant flowering plants in lawns supports bee and other arthropod habitat. Encouraging new ways of providing and maintaining landscaping in	

	managed environments can reconcile human needs for durable groundcovers and habitat needs for bees.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**(5)** ~~Areas of lawn are integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 20% of the groundcover. Plants should typically flower at less than 4 inches in height~~. To improve pollinator habitat, at least 10 percent of planted areas are composed of flowering and nectar producing plant species. Invasive plant species shall not be utilized. ~~**(Consult a local agricultural extension service or university or for appropriate plants)**~~ **3**
Committee Reason:	Point levels are consistent with the other items in the category and the change is consistent with similar language in Chapter 4.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P104 LogID 6146	**505.1 Driveways and parking areas** ***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute
Requested Action:	Revise as follows
Proposed Change:	**(4)** ~~Water permeable surfaces, including v~~ Vegetative paving systems, are utilized to reduce the footprint of impervious surface driveways, fire lanes, streets or parking areas.
Reason:	Sec. 503.4 (4) already awards points for stormwater management by using permeable materials for driveways and parking areas. Accepting any water permeable surface to earn points for 505.1 (4) allows double counting for the same material installation. It robs the standard of credibility, particularly when the point awards are relatively high. Is using concrete pavers, with the associated carbon impacts, really worth up to 16 points? This question is particularly true at lot scale, where a driveway could easily represent more than 75% of impervious area. More importantly, allowing any permeable material to be awarded the same points as a vegetative paving system (VPS) implies that they have equivalent environmental benefit which is simply not true. A VPS sequesters carbon and produces oxygen. A VPS supports bacteria and other micro-organisms that mitigate hydrocarbon pollution; a likely problem on driving and parking surfaces. A VPS evapotranspires, returning moisture to the air and providing much more cooling than permeable hardscapes. A VPS filters dust and pollutants from the air. The trimmings from managed VPSs improve soil quality, either in situ or when removed for composting. A VPS is not subject to clogging where permeable hard surfaces are. The carbon impacts alone of installing vegetation in an open cell grid or over a recycled plastic matrix are orders of magnitude less harmful than those of producing and providing concrete, asphalt, mined and crushed stone, mined and washed pea rock, or other inorganic materials. The committee is encouraged to return to the language originally proposed in the previous cycle of the NGBS and reserve these innovative practice points for enhanced environmental performance as intended in Sec. 505.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Need to be consistent between two sections, no reason to single out vegetative pavers as they are included in both sections.

Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P105 LogID 6174	**505.4 Mixed-use development**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	Mixed Use Development: (1) The lot contains a mixed use building (2) Lot is part of a residential community that contains a mixed use building.	
Reason:	Allows single family mixed use communities to be recognized for achieving the same goal.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	Mixed Use Development: (1) The lot contains a mixed use building (2) ~~Lot is part of a residential community that contains a mixed use building.~~ Lot is within ½ mile of a mixed-use building(s) 4 points	
Committee Reason:	Appropriate to encourage locating residential near mixed-use opportunities.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **38** Disagree with committee action: **2** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Thomas Pape:*** This is a points give-away. There is no requirements for what the "mixed use" is in the building. The mixed use could be a toxic chemical storage unit and qualify for these points. ***Bob Thompson:*** The existence of a mixed use building does not mean that in and of itself it has sufficient community assets (restaurants, stores, recreation ops, etc.) to sufficiently encourage nearby residents to walk to it. Walking is encouraged by the existence of a wide range of assets within walking distance, and that is already covered by 501.2(4).	
Abstain:		

P106 LogID 17-072	**505.5 Community garden(s)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Greg Johnson for the Greenscapes Alliance	
Requested Action:	Revise as follows	
Proposed Change:	**505.5 Community garden(s).** ~~A portion of the lot is established as a community garden(s) for the residents of the site to provide local~~ Local food production for residents or area consumers.	~~3~~

	(a) A portion of the lot is established as community garden(s) for the residents of the site	3
	(b) Composting area and physical provisions are provided for accumulating compost	1
	(c) Signs designating the garden area are posted.	1
Reason:	The proposed additional measures will make community gardening more effective.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**505.5 Multifamily or Mixed-Use Community garden(s).** ~~A portion of the lot is established as a community garden(s) for the residents of the site to provide local~~ Local food production for residents or area consumers.	~~3~~
	(a) A portion of the lot is established as community garden(s) for the residents of the site	3
	(b) Areas ~~Composting area~~ and physical provisions are provided for ~~accumulating compost~~ composting	1
	(c) Signs designating the garden area are posted.	1
Committee Reason:	Applicable to multifamily and mixed-use projects but not single-family lots	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P107 LogID 6192	**505.5 Community garden(s)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**505.5 Community garden(s).** Provide local food production for residents or area consumers through one of the following: (1) A portion of the lot is established as a community garden(s), available to residents of the lot~~, to provide for local food production to residents or area consumers~~. (2) Locate the project within a 0.5-mile walk distance of an existing or planned farmers market that is open or will operate at least once a week for at least five months of the year.	
Reason:	Access to fresh produce offers healthy food options for residents, and purchase of fresh produce directly from farmers demystifies the cycle of food production. This measure also supports local economic development that increases the economic value and production of farmlands and community gardens. This revision creates a path for sites where the community garden is not feasible but the end-goal can still be met through site-selection.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**505.5 Community garden(s).** Provide local food production for residents or area consumers through one of the following: (1) A portion of the lot of at least 250 sq feet is established as a community garden(s), available to residents of the lot~~, to provide for local food production to residents or area consumers~~. Three point awarded per 250 sq feet. Maximum 9 points. (2) Locate the project within a 0.5-mile walk distance of an existing or planned farmers market/farm stand that is open or will operate at least once a week for at least five months of the year. 3 points	

Committee Reason:	Incentivize community gardens on site and use of local produce/support for local farmers.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P108 LogID 6455	**505.5 Community garden(s)**	***Final Formal Action:*** **Disapprove**
Submitter:	Michael Cudahy, PPFA	
Requested Action:	Revise as follows	
Proposed Change:	Community garden(s). ~~A~~ portions of the site of at least 250 sq feet ~~is~~ are established as a community garden(s) for the residents of the site to provide local food production for residents or area consumers. One point awarded per 250 sq feet. Maximum 3 points.	
Reason:	To establish a minimum size for the gardens and allow for point tier discussion. The committee or task group can discuss and determine if a minimum size is necessary. Some regions may use vertical gardens and not need much land area, but some regions my best be served by multiple fruit trees, or even palms. Also allows for a discussion of tiered points. A project would have more flexibility with a point tier allocation.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Redundant; consistent with action on P107.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P109 LogID 6151	**505.6 Multi-unit plug-in electric vehicle charging**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, self	
Requested Action:	Revise as follows	
Proposed Change:	**505.6 Multi-unit plug-in electric vehicle charging.** Plug-in electric vehicle charging capability is provided for at least ~~1~~ 2 percent of parking stalls. Fractional values shall be rounded up to the nearest whole number. Electrical capacity....	
Reason:	There are now over 577,000 plug-in electric vehicles (plug-in hybrids or battery electric vehicles) being driven in the US. All major manufacturers offer the vehicles for sale, and there are federal tax incentives, as well as state incentives, for their use. As of early 2016, there were over 12,200 public EV charging	

	stations in the US. This proposal increases the percentage requirement from 1 to 2 percent (the original proposal that was discussed during the last NGBS revision was 5 percent), and adds clarify language if the calculation yields a value like 1.4 (in which case, they would have to install 2 EV charging stations).
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**505.6 Multifamily plug-in electric vehicle charging.** Plug-in electric vehicle charging capability is provided for not fewer than ~~1~~ 2 percent of parking stalls, 4 points. An additional two points can be earned for each percentage point above 2% for a maximum of 10 points. Fractional values shall be rounded up to the nearest whole number.
Committee Reason:	The committee modification combined aspects of both TGs recommended changes.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P110 LogID 6156	**505.6 Multi-unit plug-in electric vehicle charging**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, self	
Requested Action:	Revise as follows	
Proposed Change:	...(208/240V-~~40~~ 80 amp).... (208-240V/~~40~~ 80A)	
Reason:	This proposal updates the specification match the current SAE information, as shown on the following web site and below: http://www.sae.org/smartgrid/chargingprimer.pdf "AC Level 2 Charging* – 208 – 240 AC charging up to 80 amps, on-board vehicle charger (~19kw)"	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	"(208/240V - up to 80 amps or in accordance with SAE J1772)" add full title and 2017 is included in referenced standards table	
Committee Reason:	Consolidates the language from both recommendations and provides full standard information from the website	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P111 LogID 6535	**505.6 Multi-unit plug-in electric vehicle charging**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, self	

Requested Action:	Revise as follows
Proposed Change:	505.6 Multi-unit plug-in electric vehicle charging. Plug-in electric vehicle charging capability is provided for at least ~~1~~ 2 percent of parking stalls. The number of charging stations is rounded to the nearest even number, with no points for zero chargers and odd number rounded up. Electrical capacity in main electric panels supports Level 2 charging (208/240V-40 amp). Each stall is provided with conduit and wiring infrastructure from the electric panel to support Level 2 charging (208/240V-40 amp) service to the designated stalls, and stalls are equipped with either Level 2 charging AC grounded outlets (208/240V-40 amp) or Level 2 charging stations (240V/40A) by a third party charging station. Charging stations and electrical service is in accordance with the NEC Article 625.
Reason:	More economical chargers have two chargers on one post. Rounding simply allows the use of these chargers. The National Electric Code (NEC) specifies how chargers and electrical supply are connected in Article 625.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P109.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P112 LogID 6537	**505.6 Multi-unit plug-in electric vehicle charging**	***Final Formal Action:*** **Disapprove**
Submitter:	Chuck Foster, self	
Requested Action:	Revise as follows	
Proposed Change:	Plug-in electric vehicle charging capability is provided for at least ~~1~~ 3 percent of parking stalls.	
Reason:	There are now over 577,000 plug-in electric vehicles (plug-in hybrids or battery electric vehicles) being driven in the US. All major manufacturers offer the vehicles for sale, and there are federal tax incentives, as well as state incentives, for their use. As of early 2016, there were over 12,200 public EV charging stations in the US. This proposal increases the percentage requirement from 1 to 3 percent (the original proposal that was discussed during the last NGBS revision was 5 percent), and adds clarify language if the calculation yields a value like 1.4 (in which case, they would have to install 2 EV charging stations).	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P109.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		

Disagree with Committee Action:	
Abstain:	

P113 LogID 6552	**Other for Chapter 5 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Kat Benner, self / TexEnergy	
Requested Action:	Add new as follows	
Proposed Change:	505 HEALTH AND WELL BEING (…prior to INNOVATIVE PRACTICES)	
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Lacks specificity	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P114 LogID 6241	**Other for Chapter 5 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	505.X Pre Construction Durability Assessment Assess Project lot and Building risks associated with lot location, develop strategies to address specified risks. Include measures in plans	
Reason:	assess and address site / location specific risks eg Pests/UV/Excessive thermal considerations (Hot/Cold/ Humidity) Moisture/Soil/Terrain/Landscape and include measures to address in plans	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Does not have enough specificity for the group to take action.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **38** Disagree with committee action: **2** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		

Disagree with Committee Action:	***Theresa Weston:*** I believe a pre-construction durability assessment would be beneficial and is suitable to be recognized within the standard. May fit better in into the material resouces durability section. ***Greg Johnson:*** The TG 7 response to the Weston ballot on the parallel proposal (P478) is persuasive.
Abstain:	

P115 LogID 6162	**Other for Chapter 5 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Add new as follows	
Proposed Change:	**505.7 Open green open space.** Provide not less than 150 square feet (14 m^2) of open green space per sleeping room on the lot. **3 points**	
Reason:	The World Health Organization (WHO) has suggested that every city should have a minimum of 9 square meters (100 ft2) of green space per person. 1.5 people per sleeping room is a common metric used for municipal zoning and planning purposes, so providing 150 sf2 approximates the WHO recommendation. http://www.baharash.com/liveable-cities-how-much-green-space-does-your-city-have/	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	No definition of what an open / green space is. There is no indication that this criteria adds anything to the green building code. WHO recommendation was based on population as a whole, not individual units.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P116 LogID 6482	**Other for Chapter 5 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section **Section 506.1** - Exterior Activity Space - Provide an exterior space as part of the overall development that is intended for physical activity to promote health and wellness.	
Reason:	Many subdivisions and multifamily projects lack a dedicated space outside where people can exercise or participate in other physical activities.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Lack of specificity as to how to achieve.	

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P117 LogID 6459	**Other for Chapter 5 (include section number and title below)** *Final Formal Action:* **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute
Requested Action:	Add new as follows
Proposed Change:	**506** **Human Health and Wellbeing** **506.0 Intent. Site design, preparation and development practices are used to foster human health and wellbeing.**

506.1. The site is designed to encourage physical activity	**Points**
(1) Facilities for active outdoor recreation are provided	
(a) A swimming pool with an automatic pool cover is provided.	3
(b) A tennis, pickleball, basketball or handball court is provided.	1 point per court 3 points max
(c) A playground and equipment are provided.	3
(d) An informal play area is provided for children and pets.	3
(2) The building is located within .5 mile (.8 km) of parks with playgrounds, exercise facilities, parks, trails, an accessible body of water, or other physical activity facilities open to the public.	5
506.2 The site is designed to promote social interaction or outdoor respite	**Points**
(1) Outdoor gathering places are provided	
(a) Outdoor space with seating and tables for picnicking or socializing is provided.	1 point per space 5 points max
(b) Outdoor seating oriented toward scenic views or vistas such as mountains, skylines, or bodies of water is provided.	1 point per seating area 5 points max
(2) A community lawn or town square is provided	5
506.3 Community garden(s). A portion of the site is established as a community garden(s) for the residents of the site to provide local food production for residents or area consumers.	3
Composting area and physical provisions are provided for accumulating compost	1
Signs designating the garden area are posted.	1
506.4. Tick-borne disease. The site is designed to mitigate hazards from tick-borne disease **(To acquire points the site must be documented to be at risk by an epidemiologist or qualified professional)**	**Points**
(1) Dense plant beds, shrubbery and woody plants are not planted within 5 feet (1.5 m) of occupied buildings	2 points per building

	(2) A minimum of a 5 foot (1.5 m) border of paving, mulch, gravel, or turfgrass is provided between woods or weedy areas and people trafficked or occupied areas.	3
	(3) Vegetation that is attractive to deer, as documented by a qualified professional, is not planted within 20 (6 m) feet of buildings.	3
	406.5 Outdoor smoking prohibition.	**Points**
	Signs are provided prohibiting smoking at the following locations:	
	(a) Smoking is prohibited within 25 feet (7.5 m) of all building exterior doors and operable windows or building air intakes within 15 (4.5 m) vertical feet of grade or a walking surface.	5
	(b) Smoking is prohibited on decks, balconies, patios and other occupied exterior spaces.	5
	(c) Smoking is prohibited at all parks, playgrounds, and community activity or recreational spaces.	5
Reason:	Human health and wellness are important considerations in green and sustainable design and building. Outdoor areas offer important health and wellness benefits when designed and installed appropriately. General substantiation for health and wellness was submitted with a parallel proposal to Chapter 4. This proposal is accompanied by substantiation of the need for design to mitigate tick hazards to human health. Tick-borne diseases are at epidemic levels in North America and much of the world, are expanding rapidly, and are projected to worsen with climate change. Managed landscape are an important tool to mitigate tick hazards.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	P132, P134 better align with the intent.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P118 LogID 6324	**Other for Chapter 5 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**505.X Building Orientation.** Lot is part of a community where a minimum if 75% of the building sites are designed with the longer dimension of the structure to face within 20 degrees of south. - **6 points**	
Reason:	Takes existing NGBS 2015 practice, 403.2, and applies it to a lot.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Lacks specificity	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**	

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P119 LogID 6321	**Other for Chapter 5 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW SECTION **505.13 Community Design for Cross Ventilation:** Lot is within a community located in a hot, humid climate where 75% of streets are within 20-30 degrees wither direction of parallel to the prevailing wind - **5 POINTS**	
Reason:	In hot, humid climate good ventilation is necessary to remove excess heat from streets and open spaces and to provide cross-ventilation in buildings. Streets parallel to the prevailing wind have the highest velocity while streets perpendicular to the prevailing wind yield lower velocity and more turbulent wind in the streets.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Conceptually a good idea but regionally specific and lacks specificity similar to the proposal above.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P120 LogID 6345	**Other for Chapter 5 (include section number and title below)**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**505.X Street Network:** Locate the project in an area of high intersection density. - **5 POINTS** **INSERT definition in Section 201.** Area of High Intersection Density. An area whose existing streets and sidewalks create at least 90 intersections per square mile (35 intersections per square kilometer).	
Reason:	This credit encourages health and well being of home owners and tenants on by encouraging daily physical activity. It has the added benefits of promoting projects that are well connected to the	

	community at large as well as encourage development within existing communities that minimizes vehicle miles traveled. **INSERT into Verifier Resource Guide…** When determining the number of intersections, include the following: intersections within a ¼ mile (400 meter) radius of project boundary; streets and sidewalks that are available for general public use and not gated; sidewalk intersections provided they are a unique right of way (i.e., a sidewalk through a city park); and publicly accessible alleys
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Laura Petrillo-Groh:*** AHRI votes no. This proposal is outside the scope and purpose of a green building standard.
Abstain:	

P121 LogID 6350	**Other for Chapter 5 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**Section 506** - Add a new section as relevant for Health and Well-being credits.	
Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P134. Anticipating a more detailed proposals addressing this topic	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P122 LogID 6326	**Other for Chapter 5 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	

Requested Action:	Add new as follows
Proposed Change:	ADD NEW SECTION **505.9 Community Recycling Program:** Lot is within a community that has a recycling program. - **5 POINTS**
Reason:	Promotes recycling on a community level as a means to align with practice 607 which does the same on the house level. Being able to collect recycling in a homes when you have no place to take it is aspirational but not particularly effective.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Very common practice, but when it's not available, it's outside of the builder or developers ability to control
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P123 LogID 6247	**Other for Chapter 5 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	505.XX Project has emergency plan in place to address relevant Natural Disasters	
Reason:	to ensure project is protected against relevant potential impact from natural hazards e.g.Floods/Earthquakes/Landslides/Hurricanes/Tornadoes/Dust Storms/Wildfires	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	This proposal puts the building/homeowner in jeopardy of going against safety protocols	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P124 LogID 6178	Other for Chapter 5 (include section number and title below) *Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, self
Requested Action:	Add new as follows
Proposed Change:	ADD NEW SECTION **505.10 District Heating and Cooling:** Lot is within a community that has a district heating and/or cooling system.
Reason:	District cooling and heating can be very efficient as it removes the need for building specific space heating systems, space cooling systems, and/or domestic water heating systems.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	More of a building attribute than a lot attribute
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P125 LogID 6179	Other for Chapter 5 (include section number and title below) *Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, self
Requested Action:	Add new as follows
Proposed Change:	ADD NEW SECTION **505.12 Local Economic Development and Community Wealth Creation:** (1) Demonstrate that local preference for construction employment and subcontractor hiring was part of your bidding process **- 3 POINTS** (2) Demonstrate that you achieved at least 20% local employment - **4 POINTS** (3) Provide physical space for small business, nonprofits, and/or skills and workforce education. **- 5 POINTS**
Reason:	Housing often has the opportunity to act as an economic catalyst within a neighborhood and community. Housing projects offer opportunities to directly enhance the lives of residents when they include physical space that can accommodate various programs for learning, job skill development and other social interactions. Numerous studies have documented the ways in which affordable housing projects have positive economic impacts on their surrounding neighborhoods.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Community development proposal and not directly related to the lot/green development.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0**

	Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P126 LogID 6177	**Other for Chapter 5 (include section number and title below)** ***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self
Requested Action:	Add new as follows
Proposed Change:	ADD NEW SECTION **505.8 Open Space:** Lot is within a community that has 1 acre or greater set aside as open space
Reason:	Based on NGBS 2015 405.9 and applied to a single lot versus entire land development
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Addressed in a previous action and not specific enough about definition of community and distance to open space.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P127 LogID 6154	**Other for Chapter 5 (include section number and title below)** ***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson
Requested Action:	Add new as follows
Proposed Change:	**505.7 Community activity(s).** A portion of the lot is established for physical activity or social interaction, available to residents of the lot for community recreation and interaction. 3 points
Reason:	Increased density is a worthwhile goal of the standard, but denser residential conditions drive a corresponding need for open space, preferably vegetated, suitable for physical activity or social gathering to enhance human health and well-being. Children in particular can benefit from healthy play area close to their residences.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Wellness working on updated proposal (P134).
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P128 LogID 17-028	**New for Chapter 5**	***Final Formal Action:*** **Withdrawn**
Submitter:	Kent Sovocool	
Requested Action:	Add new as follows	
Proposed Change:	**505.7 Reconnecting Humans with the Environment** **(1) Setting.** A portion of the lot of at least 400 square feet is set aside or developed as native or adapted landscaping for purposes of quiet contemplation, communing, or meditation. The Setting must be environmentally consistent with the region in which the community is located. **– 4pts** **(2) Creatures and Habitat.** At least one creature and habitat consistent with the native environment are present in the Setting or viewable from the Setting. **– 2pts** **(3) Interpretation.** Signs or other media are used to identify and explain the organic and inorganic elements in the Setting and how they relate to the environment. **– 2pts** **(4). The Human at Rest.** A bench, nook, "sitting rock", or similar sitting area is provided to encourage and facilitate use of the Setting. The sitting place(s) shall blend with the Setting **– 2pts.** **(a)** The area for resting is shaded **– 2 pts.** **(b)** The area provides a water fountain or bottle filling station **– 2 pts.** **(c)** Signage is present explaining smoking is prohibited **– 2 pts.**	
Reason:	Landscapes can act to relax and recharge while providing a connection to the environment. While visiting natural settings provides an ideal path to achieve this state, built environments can offer a degree of similar benefits. The key here is to weave in both organic and inorganic elements and thus the term "landscaping" rather than just plants. Additional points opportunities exist for adding appropriate creatures of interest, educational benefits, and resting areas.	
Committee Formal Action from Meeting:	**Withdrawn**	
Modification of Proposed Change:		
Committee Reason:	Withdrawn by proponent on TG-2 conference call October 2, 2017.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P129 LogID 17-060	**New for Chapter 5**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Paul Cabot, American Gas Association	
Requested Action:	Add new section 505.7 as follows:	

Proposed Change:	505.7 Multi-unit residential CNG vehicle fueling. CNG vehicle residential fueling appliances are provided for at least 1 percent of the parking stalls. The CNG fueling appliances shall be listed in accordance with ANSI/CSA NGV 5.1 and installed in accordance to the appliance manufacturer's installation instructions.
Reason:	Add recognition for CNG residential fueling appliances as a green building practice. The new standard ANSI/CSA NGV 5.1 has been approved and all major model fuel gas installation codes have been updated to require that residential CNG fueling appliances be listed to that standard and installed in accordance with the manufacturer's installation instructions. Home fueling using natural gas is a green practice since it taps into the efficient natural gas transmission and distribution system and avoids the systemic losses from converting crude oil into refined gasoline and diesel. Fueling at home also reduces vehicle mileage by reducing trips to gasoline stations for fueling. The proposed text is structured similar to coverage for electric vehicle charging stations.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Assign 4 points to this new practice
Committee Reason:	Same rubric used for electric vehicle charging
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P130 LogID 17-070	**New for Chapter 5**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson for the Greenscapes Alliance	
Requested Action:	Add new as follows	
Proposed Change:	**505.7 Community activity (s).** A portion of the lot is established for physical activity or social interaction, available to residents of the lot for community recreation and interaction. 3 points	
Reason:	Increased density is a worthwhile goal of the standard, but denser residential conditions drive a corresponding need for open space, preferably vegetated, suitable for physical activity or social gathering to enhance human health and well-being. Children in particular can benefit from healthy play area close to their residences. Regardless of the age of the occupants, having these facilities onsite saves energy by mitigating the need for travel, likely by motor vehicle, to the desired amenity.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Language is vague and unclear as to compliance	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		

Abstain:	

P131 LogID 17-074	**New for Chapter 5**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson for the Greenscapes Alliance	
Requested Action:	Add new as follows	
Proposed Change:		

505.X. The lot provides access to amenities	**Points**
(1) Facilities for active outdoor recreation are provided	
(a) A swimming pool with an automatic pool cover is provided.	3
(b) A tennis, pickleball, basketball, volleyball, handball, or similar court is provided.	1 point per court 3 points max
(c) A playground and equipment are provided.	3
(d) An informal play area is provided for children and pets.	3
(2) The building is located within .5 mile (.8 km) of parks with playgrounds, exercise facilities, parks, trails, an accessible body of water, or other physical activity facilities open to the public.	5
(3) Outdoor gathering places are provided	
(a) Outdoor space with seating and tables for picnicking or socializing is provided.	1 point per space 5 points max
(b) Outdoor seating oriented toward scenic views or vistas such as mountains, skylines, or bodies of water is provided.	1 point per seating area 5 points max
(c) A community lawn or town square is provided	5

Reason:	Having nearby access to social and recreational amenities in a community not only supports good health, but it can save considerable transportation energy. It is preferable that members of a community be able to access these amenities without traveling by automobile or at worst by limited automobile travel. Additionally, these amenities are often associated with outdoor greenspaces which have many environmental benefits, such as stormwater control, atmospheric cleansing and cooling, oxygen production, and the capacity to support increased density in livable, desirable communities.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Concerns about assigned point values; some of the items do not seem to have a long window of value throughout the year.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P132 LogID 17-075	**New for Chapter 5**	***Final Formal Action:*** **Approve as Modified**

Submitter:	Greg Johnson for the Greenscapes Alliance
Requested Action:	Add new as follows
Proposed Change:	**505.X Smoking prohibitions.** Signs are provided prohibiting smoking at the following locations: (a) Smoking is prohibited within 25 feet (7.5 m) of all building exterior doors and operable windows or building air intakes within 15 (4.5 m) vertical feet of grade or a walking surface. 3 (b) Smoking is prohibited on decks, balconies, patios and other occupied exterior spaces. 3 (c) Smoking is prohibited at all parks, playgrounds, and community activity or recreational spaces. 3
Reason:	Significant resources, with associated life cycle costs, are used to treat smoking related diseases. Similarly, discarded smoking materials are frequently to blame for exterior and structure fires which also need significant resources to control and which are sources of air pollution. Besides being an important health consideration, discouraging the outdoor air pollution related to smoking should be incentivized.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**505.X Smoking prohibitions.** Signs are provided on multifamily and mixed-use lots prohibiting smoking at the following locations: (a) Smoking is prohibited within 25 feet (7.5 m) of all building exterior doors and operable windows or building air intakes within 15 (4.5 m) vertical feet of grade or a walking surface. 3 (b) Smoking is prohibited on decks, balconies, patios and other occupied exterior spaces. 3 (c) Smoking is prohibited at all parks, playgrounds, and community activity or recreational spaces. 3
Committee Reason:	Does not apply to single-family lots.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P133 LogID 17-076	**New for Chapter 5** ***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson for the Greenscapes Alliance
Requested Action:	Add new as follows
Proposed Change:	505.X The site is designed to mitigate hazards from tick-borne disease **(To acquire points the site must be documented to be at risk by an epidemiologist or qualified professional)** **Points** (c) Dense plant beds, shrubbery and woody plants are not planted within 5 feet (1.5 m) of occupied buildings 5 (d) A minimum of a 5 foot (1.5 m) border of paving, mulch, bare earth, or turfgrass is provided between woods or weedy areas and people trafficked or occupied areas, including playgrounds and dog parks. 5

	(d) Vegetation that is attractive to deer, as documented by a qualified professional, is not planted within 20 feet (6 m) of buildings — 3 (e) Paths or trails maintained through natural or non-maintained areas are a minimum of 5 feet wide (1.5 m) — 3
Reason:	In addition to the obvious health benefits, there are a number of environmental benefits associated with preventing the spread of the fifteen U.S tick borne diseases identified by the Centers for Disease Control and Prevention. Smart landscape design can forestall the use of pesticides to control ticks near human occupied area. Less obvious, but perhaps more significant, a report by the Johns Hopkins Bloomberg School of Public Health found that, on average, people with Lyme disease had 87 percent more visits to the doctor and 71 percent more visits to the emergency room within the year following diagnosis. This represents a tremendous cost in energy for transportation and for the share of materials and energy life cycle costs embodied in treatment facilities, operationally and within the infrastructure. These environmental impacts can in part be avoided through site design.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The strategies require clarification for merit. It puts the builder in the position that they are providing mitigation which may or may not be effective depending on the occupant's action.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **26** Disagree with committee action: **14** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Greg Johnson:*** This proposal specifies an integrated pest management approach that can reduce or eliminate the use of pesticides in outdoor residential environments. It is an opportunity for the NGBS to provide environmental leadership while helping to mitigate a public health crisis whose explosive growth in geographic range and number of cases has been documented by the Centers for Disease Control (CDC). Since 1993 the number of "high incidence" counties in the US, which are defined as counties where the reported cases of Lyme disease are more than twice the epidemiologists' expected case count, has increased by 300 percent. Note that Task Group 2, including the EPA representative, voted 8-0 with 1 abstention to support these very practical and easily achieved design strategies; strategies that were taken directly from CDC recommendations and recommendations made by the Connecticut Agricultural Experiment Station (CAES), the nation's leading authority on these issues. A different EPA representative, in the audience at the last consensus committee meeting, falsely claimed that the proposal wasn't consistent with CDC and CAES recommendations for site design and management. In rebuttal, the proposal is compared to the following copied and pasted recommendations from those authorities. Proposal: a) Dense plant beds, shrubbery and woody plants are not planted within 5 feet(1.5 m) of occupied buildings; (b) A minimum of a 5 foot (1.5 m) border of paving, mulch, bare earth, or turfgrass is provided between woods or weedy areas and people trafficked or occupied areas, including playgrounds and dog parks; (c) Vegetation that is attractive to deer, as documented by a qualified professional, is not planted within 20 feet (6 m) of buildings; (d) Paths or trails maintained through natural or non-maintained areas are a minimum of 5 feet wide (1.5 m). CDC: Clear tall grasses and brush around homes and at the edge of lawns. Place a 3-ft wide barrier of wood chips or gravel between lawns and wooded areas to restrict tick migration into recreational areas. Mow the lawn frequently. Walk in the center of trails. CAES: Keep grass mowed. Use plantings that do not attract deer or exclude deer through various types of fencing. Adopt hardscape and xeriscape (dryer or less water demanding) landscaping techniques with gravel pathways and mulches. Create a 3-foot or wider wood chip, mulch, or gravel border between lawn and woods or stonewalls. Widen woodland trails.

	Open lawns harbor fewer ticks and wildlife that carry potentially infected ticks. There is some evidence that increased animal diversity can actually reduce the rate of transmission of tick-associated disease, resulting in fewer infected ticks, although ticks are still present. The fragmented woodland and ecotone environment of suburbia favors the deer, mice, and chipmunks most involved in the maintenance and transmission of ticks and tick-associated diseases. Mixed ecotone with uncut grass, wildflower and shrubby vegetation, especially adjacent to woodlands is good deer, mouse and tick habitat. Additionally, EPA recommends tick management practices consistent with the proposal: EPA 04-2014 blog: You can also reduce the number of ticks on your property by: Removing leaf litter, brush, and weeds at the edge of the lawn; Keeping grass mowed shorter than 3"; Creating a nine foot buffer zone on trails frequented by deer; Trying to keep deer and other animals that carry ticks from areas frequented by people; See Tick Distribution and Creating a Tick Safe Zone in the Residential Landscape, (refers reader to CAES practices documented above). EPA, in *Tick Safety in Schools: Integrated Pest Management for Protecting Children from Tick-Borne Diseases,* June 2014, says: Keep grass mowed (less than 3") on all school grounds …. Clear and widen woodland trails to avoid exposure to questing ticks. Adopt hardscape and xeriscape landscaping techniques with gravel pathways and mulches. Create a 3-foot or wider wood chip, mulch, or gravel pathway surrounding landscaped areas. Exclude deer ….. The selection of plants for developing and/or maintaining school gardens and landscape can directly impact the attractiveness to deer. Those living near deer habitat can take advantage of this fact by using deer-resistant plants in their landscapes. EPA audience testimony at the consensus committee meeting is not consistent with EPA's published materials. This testimony apparently reflects an individual, personal opinion versus established EPA policy. This is more than disappointing given the public health consequences of failing to manage tick hazards appropriately. Finally, the committee's reason, stating that the proposal "puts the builder in the position that they are providing mitigation which may or may not be effective depending on the occupant's action," is not persuasive. Virtually all mitigation implemented in codes and standards can be defeated by building occupants. Occupants can slide down bannisters intended to be handrails and guards against falling, or prop open fire doors, or disable smoke detectors, or install double keyed locks, or on, and on, and on. The responsibility for occupant action lies with the occupants; all a builder can reasonably do is provide appropriate mitigation, recognizing that most occupants will act in their own self-interest and not disable systems intended to protect them. ***Sean S. Devlin:*** based on circulated ballot comments. ***Hope Medina:*** There is merit with this concept. ***Neil P. Leslie:*** The proposed change and related comment have merit. ***Andrew Klein:*** The task group voted to recommend the practice and, if approved, it would then be consistent with the action on P078. ***Loren Ross:*** I agree with the task group and the comment that disagree with the committee action. ***Aaron Gary:*** based on circulated ballot comments. ***Thomas Culp:*** based on circulated ballot comments. ***Kristopher Stenger:*** to be consistent with P078. ***Steven Rosenstock:*** Based on circulated ballot comments. ***Theresa Weston:*** based on circulated ballot comments. ***Matthew Dobson:*** I think this is a valid issue for human health and warrants inclusion in the NGBS.

	William A. Sanderson: this is a best practice item- i believe the committee did not understand the issue and proposal and their disapproval was based on false information provided by public comment. ***Gregory Curtis Coolidge:*** Agree with ballot comments offered.
Abstain:	

P134 LogID 17-045	**New for Chapter 5**	***Final Formal Action:*** **Accept as Modified**
Submitter:	Michelle Foster, Home Innovation Research Labs	
Requested Action:	Add new as follows:	
Proposed Change:	For multifamily buildings, on-site dedicated recreation space for exercise or play opportunities for adults and/or children open and accessible to residents is provided. (1) A dedicated area of at least 400 square feet is provided inside the building with adult exercise and/or children's play equipment. [XX points] (2) A courtyard, garden, terrace, or roof space at least 10% of the lot area that can serve as outdoor space for children's play and /or adult activities is provided. [XX points] (3) Active play/recreation areas are illuminated at night to extend opportunities for physical activity into the evening. [XX points] For single family homes, outdoor recreation space for adults and/or children is provided within 1 mile. [3 points]	
Reason:		
Committee Formal Action from Meeting:	**Accept as Modified**	
Modification of Proposed Change:	For multifamily buildings, on-site dedicated recreation space for exercise or play opportunities for adults and/or children open and accessible to residents is provided. (1) A dedicated area of at least 400 square feet is provided inside the building with adult exercise and/or children's play equipment. [3 points] (2) A courtyard, garden, terrace, or roof space at least 10% of the lot area that can serve as outdoor space for children's play and /or adult activities is provided. [3 points] (3) Active play/recreation areas are illuminated at night to extend opportunities for physical activity into the evening. [3 points] ~~For single family homes, outdoor recreation space for adults and/or children is provided within 1 mile. [3 points]~~	
Committee Reason:	To provide points and incorporate the two TGs recommendations into one change	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P135 LogID 6457	**601.9 Above-grade wall systems**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Ben Edwards, self	
Requested Action:	Delete without substitution	
Proposed Change:	~~601.9~~	

Reason:	A green building standard should not promote the use of carbon-/energy-dense building materials without more guidance. Sections 610 (LCA) and 611.4 (EPD) already are the appropriate locations for the many benefits of mass walls to be considered in a holistic context.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P136 LogID 6214	**602.0 Intent (Enhanced Durability and Reduced Maintenance)**	***Final Formal Action:*** **Disapprove**
Submitter:	Eric Skare, self	
Requested Action:	Add new as follows	
Proposed Change:	602.5 Fire Sprinkler Systems. An automatic fire sprinkler system is installed in accordance with NFPA or ICC installation standards, or equivalent. 4 points	
Reason:	Fire sprinkler systems provide significant benefits from a building durability standpoint, and drastically reduce the environmental impact of a fire in several ways. The primary justification for adding credit for fire sprinkler systems comes from the FM Global Research Technical Report titled Environmental Impact of Automatic Fire Sprinkler Systems. A link to this document is provided (http://www.iccsafe.org/gr/Documents/AdoptionToolkit/FM-Global-EnvironmenmtalImpactAutomaticFireSprinklers.pdf) and the document will be e-mailed as well.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The i-codes address fire sprinklers sufficiently, doesn't make sense to give points in the green standard, there are other first safety equipment that could be introduced to the NGBS, and the report provided doesn't provide LCA or product declarations on this system. If anything, there should be a referral back to the IRC or IBC for specificity. The IRC has Section 2904 on residential fire sprinkler systems.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Michael Cudahy:*** Fire sprinklers are not required in all residential buildings and do protect materials, water, buildings and occupants. Committee reason for rejection is very weak. It actually makes a good	

	deal of sense to give a few points for their use, and other safety devices should be introduced where possible.
Abstain:	

P137 LogID 17-001	**602 Enhanced durability and reduced maintenance**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Chuck Arnold, KCMA	
Requested Action:	Add new as follows	
Proposed Change:	602.1.15 – Kitchen and vanity cabinets. All kitchen and vanity cabinets are certified in accordance with the ANSI/KCMA A161.1 performance standard. 2 points.	
Reason:	Certification of kitchen and bathroom cabinets is not mandated by the model building codes, it is voluntary. Cabinets that are certified in accordance with the ANSI/KCMA A161.1 performance standard are more durable compared to cabinets that are not certified, and therefore will need repair/replacing on a less frequent basis. Section 602 is titled Enhanced Durability and Reduced Maintenance and the stated intent is: design and construction practices are implemented that enhance the durability of materials and reduce in-service maintenance. ANSI/KCMA A161.1 certified cabinets meet this intent.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	… in accordance with the ANSI/KCMA A161.1 performance standard or equivalent. 2 points. Add ANSI/KCMA A161.1 to referenced standards section	
Committee Reason:	The addition is appropriate for improving the durability of cabinetry, and adding "or equivalent" allows the addition of other programs or standards. The addition of this practice requires adding the standard to the referenced standards section of the NGBS.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P138 LogID 17-043	**Section 602.1.7 Moisture Control Measures**	***Final Formal Action:*** **Disapprove**
Submitter:	Michelle Foster, Home Innovation Research Labs	
Requested Action:	Add new as follows:	
Proposed Change:	WATER DAMAGE MANAGEMENT. To prevent building materials from being damaged by water during construction, store and protect susceptible materials and finishes. [XX points]	
Reason:	Protecting building materials from water and moisture can prevent the growth of mold and other water damage.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	This proposal is a normal practice, and the language of the proposal is too vague – including where the language would be place. The mold provision is already covered in the standard.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**	

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P139 LogID 6226	**602.1.8 Water-resistive barrier**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	Have 3rd Party Water Barrier / Window Leakage Test conducted and Passed per Industry standards	
Reason:	passing a performance test will help ensure weather barrier is installed as intended /per design.....potentially heading off potential moisture /intrusion problems and associated costs	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	For windows, testing per ASTM E331 is in IRC and IBC. Some wall claddings do have E331 testing and must include a fenestration product. No specificity on which industry standards and which tests are included. As written, it can be interpreted that the testing need be done on every window in the building. And without points, it appears to be mandatory.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P140 LogID 6449	**602.3 Roof water discharge**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, self	
Requested Action:	Revise as follows	
Proposed Change:	602.3 Roof water discharge. A gutter and downspout system or splash blocks and effective grading are provided to carry water a minimum of 5feet (1524 mm) away from perimeter foundation walls and directed onto landscaping or other permeable surface.	
Reason:	This change more clearly states how roof water discharge should be directed. This change should be under only the name of “Howard C. Wiig, State of Hawaii, representing self”	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	For multifamily it is not reasonable to assume landscaping or permeable surface is available on all side of the building, and this proposal is out of the scope of this chapter (better in site chapter).	

Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P141 LogID 6298	**603.1 Reuse of existing building** ***Final Formal Action:*** **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	Major elements or components of existing buildings and structures are reused, modified, or deconstructed for later use. (A~~P~~ point~~s~~ is awarded for every ~~200 square feet (18.5m^2) of floor area.~~8% of major elements or components of existing building reused and every 10% of major elements or components of existing building adapted or deconstructed. The percentage is consistently calculated on a weight, volume, or cost basis.)
Reason:	Depending on the floor plan and floor height, the reuse of the same 200 square-foot floor area may result in a reuse of different amounts of materials. A 200 square-foot floor area in one case may be unfinished and support a limited number of short, interior-type partitions. In another case, a 200 square-foot floor area may be fully finished and fully surrounded by heavier, exterior and/or load-bearing walls, while also incorporating tall interior partitions. The amount of material reused in the two cases would be distinctly different. While building reuse, adaptation and disassembly are all high on the waste management hierarchy, building reuse is a source reduction measure that has the potential to carry the greatest overall benefit. Award points based on comparable amounts of material reused; to that end, use percentages of materials affected, based on the weight, volume or cost of materials, and not the floor area. To reflect the greater benefit afforded by building reuse, allocate the maximum number of points to the reuse of major elements or components by awarding a point to every 8% reused, amounting to the total of 12 available points for this credit in the case of the reuse of 96% of major elements. Allocate a slightly lesser number of points to adaptation and disassembly of major elements or components by awarding a point to every 10% adapted or disassembled, amounting to the total of 10 points for the adaptation or disassembly of a 100% of major elements.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Proponent may have miss-read the section. It's simply a convenient way to count points. The proposed language makes calculating the points extremely complex.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P142 LogID 6346	604.1 Recycled content (Recycled-content building materials) *Final Formal Action:* **Disapprove**
Submitter:	Cambria McLeod, Kohler
Requested Action:	Delete without substitution
Proposed Change:	~~604.1 Recycled content. Building materials with recycled content are used for two minor and/or two major components of the buildings.~~
Reason:	To increase use of the standard, reduce the complexity and remove these calculations. Recycled content is captured through EPDs, which are easier for the end user to locate and provide a much better indicator as they focus on the outcome of the various inputs. Individually, single-attributes have little bearing on the final impact and are becoming antiquated, so they are being replaced with EPDs. Because EPDs are already a part of this standard, the available points that would be removed with this section could be added into the Product Declarations, Section 611.4, if the Standard was to keep the same number of threshold points.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	EPDs are not a one-size fits all solution and are not widely available. Maintaining the recycled content option is appropriate at this time.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Michael Cudahy:*** Agree with proponent.
Abstain:	

P143 LogID 6299	605.1 Construction waste management plan *Final Formal Action:* **Approve as Modified**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**605.0 Intent.** Waste generated during construction is recycled. All waste classified as hazardous is properly handled and disposed of. **~~(Points not awarded for hazardous waste removal.)~~** **605.1 Hazardous Waste.** The construction and waste management plan shall include information on the proper handling and disposal of hazardous waste. All hazardous waste is properly handled. **Mandatory** **605.~~1~~2 Construction waste management plan.** **605.~~2~~3 On-site recycling.** **605.~~3~~4 Recycled construction materials.**
Reason:	The text that states points are not awarded for hazardous waste removal is ambiguous and can be misunderstood. An important subsection with the mandatory requirement that the construction waste management plan include information on the proper handling and disposal of hazardous waste is missing. (Do note that correcting the above issues in Chapter 6 will make the chapter consistent with the

	corresponding Chapter 11, Section 11.605.) To address these issues, delete from Subsection 605.0 Intent, the ambiguous text stating points are not awarded for hazardous waste removal. Add Subsection 605.1 Hazardous Waste. Reorder the current subsections of Section 605.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**605.0 Intent.** Waste generated during construction is recycled. ~~All waste classified as hazardous is properly handled and disposed of~~. **605.1 Hazardous Waste.** The construction and waste management plan shall include information on the proper handling and disposal of hazardous waste. All hazardous waste is properly handled and disposed. **Mandatory** **605.~~1~~2 Construction waste management plan.** **605.~~2~~3 On-site recycling.** **605.~~3~~4 Recycled construction materials.** Make the same changes to section 11.605
Committee Reason:	For consistency with Section 11.605 and to add provisions for hazardous waste to the waste management plan.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P144 LogID 6300	**605.1 Construction waste management plan** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**605.~~1~~2Construction waste management plan.** …diverting, through methods such as reuse, salvage, recycling or manufacturer reclamation, a minimum of 50 percent (by weight) of nonhazardous construction and demolition ~~waste~~ materials from disposal in landfills and combustion, excluding energy and material recovery. For this practice, land clearing debris is not considered a construction and demolition material and is excluded from the calculation ~~waste~~. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging. For remodeling projects or demolition of an existing facility, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) by ~~an EPA~~ third-party certified E-Waste recycling facility. **Exceptions:** ~~Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations.~~ A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.

Reason:	The section instructs stakeholders to divert construction and demolition materials from disposal. Commonly, such language would clarify that the materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. (note that we are referring to "combustion" rather than "incineration;" although frequently misunderstood, combustion is a broader activity that does include energy and material recovery, but incineration is done so as to treat or resize waste for the purpose of disposal and does not include energy or material recovery; because of the common misunderstanding, we do recommend acknowledging energy recovery, but including it under the broader, correct activity, i.e., combustion.) The C&D debris that gets diverted is a resource (material) and not waste and should be referred to accordingly. It is unclear what is intended by an "EPA-certified" e-waste recycling facility; EPA does not "certify" e-waste recycling facilities. Currently, the Responsible Recycling Standard (R2) and the e-Stewards standard are the two available e-waste certification programs to which facilities may be certified. See: http://www.sustainableelectronics.org/ and http://e-stewards.org/ Finally, if the intent of the "Exceptions" section is to indicate specific circumstances when the practice does not apply, or to acknowledge situations when it cannot be met by the project team seeking the points, then it is unclear why the first item is listed. How is stating "Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations," an Exception? (We would argue this is an exclusion from the calculation, not an exception from the practice - due to some imposed practical difficulties - and as such, it is most appropriately addressed in the language of the credit.) To address these issues, introduce that materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. Refer to construction and demolition materials and not waste. Replace "EPA-certified" e-waste recycling facility with "third-party certified" e-waste recycling facility. Delete the first item listed under Exceptions.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	*Replace proposal in its entirety with the following:* **605.~~1~~2Construction waste management plan.** …diverting, through methods such as reuse, salvage, recycling or manufacturer reclamation, a minimum of 50 percent (by weight) of nonhazardous construction and demolition waste from disposal. For this practice, land clearing debris is not considered a construction waste. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging. For remodeling projects or demolition of an existing facility, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) by an ~~EPA certified~~ E-Waste recycling facility. **Exceptions:** (1) Waste materials generated from land clearing, soil and sub-grade excavation and ~~all manner of~~ vegetative debris shall not be in the calculations. (2) A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.
Committee Reason:	The changes to the first paragraph and the removal of the exceptions were complicating rather than clarifying; they were also limiting. However, the TG did agree with the removal of "EPA certified" as appropriate.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	

Disagree with Committee Action:	
Abstain:	

P145 LogID 17-034	**Section 605.1 Construction waste management plan**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Chris Schwarzkopf, Energy Diagnostics	
Requested Action:	Change language for 605.1 (Construction waste management plan paragraph number 2)	
Proposed Change:	~~For remodeling projects or demolition of an existing facility~~ For buildings following the new construction path that also have a renovation component, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security boards) by an EPA certified E-Waste recycling facility.	
Reason:	Chapter 6 is for new construction, remodel and renovation projects have Chapter 11	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P146 LogID 6327	**606.2 Wood-based products**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Rob Brooks, self	
Requested Action:	Delete and substitute as follows	
Proposed Change:	**606.2 Wood-based products.** Wood or wood-based products shall be derived from a manufacturers' fiber procurement system that has been audited by an *approved agency* as compliant with the provisions of: (a) ASTM D7612 as a responsible or certified source. Government or tribal forestlands whose water protection programs have been evaluated by an *approved agency* as compliant with the responsible source designation of ASTM D7612 are exempt from auditing in the manufacturers' fiber procurement system. (b) National Wood Flooring Association's Responsible Procurement Program (RPP)	
Reason:	• This proposed change related to the acceptance of forest products is vital to the use of ICC-700 in states where forest product production is an important source of revenue, such as Oregon. Neighboring states, such as Washington, Idaho and California also rely upon forest product production and support the use of sustainable forestry and best management practices to maintain (among other objectives) water quality. • The IgCC, USGBC Pilot Credit and the USDA BioPreferred Program currently recognize ASTM D7612 responsible and certified sources. The 2012 ICC-700 recognizes responsible sources through the SFI Fiber Sourcing program. Alternatively, SFI Chain of Custody is a certified source. (see attached table). All of the existing forest certification programs listing in ICC-700 are recognized by ASTM D7612. • ASTM D7612 provides a means to specify sustainable forestry via the certified sources designation without the reference to proprietary standards such as SFI, FSC, ATFS, etc. The American	

	National Standards Institute's (ANSI) Essential Requirements for Due Process, excludes specifying ecolabels—FSC, PEFC, SFI—that is, their brand name—because that would run afoul of ANSI's prohibition on the use of commercial terms. It says in part, "[t]he appearance that a standard endorses any particular products, services or companies must be avoided." Previously, there was no method to generically specify these ecolabels, but with the advent of the ASTM D7612, the generic reference is available, which should replace the proprietary ecolabel. The USGBC Pilot Credit recognizes this advantage and avoids comparison between proprietary systems to avoid improper commercial endorsement. • ASTM D7612 provides a means to specify enforcement of best management practices by governmental agencies that have authority to protect water quality on both certified and non-certified forestlands via the responsible source designation. For Oregon, enforcement is achieved through the Oregon Forest Practices Act (OFPA), regardless of whether the forestland is certified to sustainable forestry standards, or not. o Enforcement is defined as having authority, staffing, budget, proof of citations and the ability to adapt the rules to improve the system. Oregon forestlands subject to the OFPA have been independently audited and found compliant to the responsible source designation by PFS Corporation. o The emphasis on water quality for government or tribal forestlands is due to the existing rules already in place tp protect forests (see https://cfpub.epa.gov/watertrain/moduleFrame.cfm?parent_object_id=1517 The degree to which these rules are enforced by each state has been evaluation by the National Association of State Foresters http://www.stateforesters.org/state-forestry-agency-best-management-practices-protecting-water#sthash.7VDEx3y6.dpbs The three tiers of enforcement are non-regulatory, quasi-regulatory and regulatory in order of increasing compliance. ASTM D76712 recognizes those states having quasi-regulatory and regulatory compliance under the responsible source designation. o The strength of the responsible sources program is the ability to issue citations (fines) for noncompliance to water quality rules and to reward states/jurisdictions that fund enforcement. Citations are issued to operators on both certified and non-certified forests. In some states, such as Oregon, the OFPA rules extend beyond water quality. Oregon producers want recognition of their compliance to OFPA, but not at the same tier as certified sources to avoid market confusion that responsible and certified sources are equivalent. o Manufacturers are required to trace fiber procurement under both the responsible and certified sources designation. Further information can be provided to the ICC-700 committee upon request. o The strength of the certified sources program is to write rules that extend beyond issues related to water quality. When damage to the forest happens from non-compliance, certified source programs can de-certify clients, they cannot issue citations or stop-work orders to remediate damage. o Thus, the responsible source program is an important enforcement component (and partner) to a certified source program. It will provide recognition for those states who actively monitor, enforce and punish offenders not in compliance with the law. It encourages states to enforce their water quality rules through inspection, documentation and citation, which is complementary to the voluntary sustainable forestry standards, or certified sources. It supports the "boots on the ground", actively monitoring harvest operations on both public and private lands. o ASTM D7612 not only supports the expanded enforcement of existing water quality rules (aka best management practices), but also recognizes voluntary compliance to those sustainable forestry practices above and beyond state water quality rules. • In Oregon, the OFPA applies to approximately 10 million acres; of which approximately 4 million acres are certified forests. If the responsible source designation were also applied to federal and tribal lands, the designation would apply to approximately 30 million acres of forestland in Oregon. The fiscal implication of the responsible source designation is significant to the increased value of building products derived from private and public lands, which is why the state of Oregon is presenting this request. The responsible source designation provides states recognition of best management practice enforcement on public lands without the controversial decision and cost to convert to the certified source designation. Further information about ASTM D7612 is found at https://www.astm.org/standardization-news/?q=features/green-greener-greenest-ma17.html.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	*Replace proposal in its entirety with the following:* 606.2 Wood-based products. Wood or wood-based products are certified to the requirements of one of the following ~~recognized product programs~~:

	[a-g remains unchanged]; (h) A manufacturers' fiber procurement system that has been audited by an approved agency as compliant with the provisions of ASTM D7612 as a responsible or certified source. Government or tribal forestlands whose water protection programs have been evaluated by an approved agency as compliant with the responsible source designation of ASTM D7612 are exempt from auditing in the manufacturers' fiber procurement system. 1) A minimum of two responsible or certified wood-based products are used for minor components of the building. 3 points 2) A minimum of two responsible or certified wood-based products are used in major components of the building 4 points
Committee Reason:	Agreed with the proponent's concept, but wanted to keep items a-g to maintain the usability of the NGBS.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P147 LogID 6348	**606.3 Manufacturing energy**	***Final Formal Action:*** **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete without substitution	
Proposed Change:	Delete without substitution.	
Reason:	Use of the word 'materials' is does not promote use of this section for final products which could have multiple materials or assemblies and could be from various locations. An effective way to capture this information for products, or materials, would be through EPDs. EPDs are more widely recognized in the industry and easier for Standard user to obtain. Individually, these single-attributes have little bearing on the final impact and are becoming antiquated, so they are being replaced with EPDs. Because EPDs are already a part of this standard, the available 6 points that would be removed with this section could be added into the Product Declarations, Section 611.4, if the Standard was to keep the same number of threshold points.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P142 to keep single attributes to avoid solely relying on EPDs.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		

Disagree with Committee Action:	
Abstain:	

P148 LogID 1502	**606.3 Manufacturing energy**	***Final Formal Action:*** **Disapprove**
Submitter:	Todd Jones, Center for Resource Solutions	
Requested Action:	Revise as follows	
Proposed Change:	Materials manufactured using <u>renewable energy for</u> a minimum of 33 percent of the primary manufacturing process energy<u>. Non-electric energy used in manufacturing materials must be</u> derived from (1) renewable sources, or (2) combustible waste sources~~, or (3) renewable energy credits (RECs) are used for major components of the building.~~ <u>Electricity used in manufacturing materials must be paired with renewable energy certificates (RECs), which must be retired. The building may purchase RECs on behalf of the building material supplier where the supplier has not purchased/used renewable electricity, with RECs, for manufacturing of building materials.</u> <u>Green-e certification (or equivalent) is required [or recommended] for renewable electricity purchases and materials manufactured using renewable electricity.</u>	
Reason:	This requirement refers to renewable energy use in manufacturing of building materials, and therefore may refer to use of both electricity and non-electric energy in manufacturing. Currently, the options 1-3 are not differentiated as apply to either electricity or non-electric energy use. However, since RECs are required to claim use of renewable electricity in all cases, including from on-site renewable generation equipment, we suggest differentiating between electricity used in manufacturing, in which case RECs are required, and non-electricity energy used in manufacturing. It is also not clear that in option 3, RECs are being purchased by the building to be applied to the building materials, i.e. its supply chain, and not to the building's own electricity usage, and that RECs/RE may also be purchased or used by the supplier of the building materials. Finally, we recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The proponent include non-mandatory language and some of the language is technically incorrect ("the building may purchase RECs"). The proposal over-complicates the current REC system.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P149 LogID 6301	**607.1 Recycling and composting (Recycling and waste reduction)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Revise as follows	
Proposed Change:	The section instructs stakeholders to divert construction and demolition materials from disposal. Commonly, such language would clarify that the materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. (note that we are referring to "combustion"	

	rather than "incineration;" although frequently misunderstood, combustion is a broader activity that *does* include energy and material recovery, but incineration is done so as to treat or resize waste for the purpose of disposal and *does not* include energy or material recovery; because of the common misunderstanding, we do recommend acknowledging energy recovery, but including it under the broader, correct activity, i.e., combustion.) The C&D debris that gets diverted is a resource (material) and not waste and should be referred to accordingly. It is unclear what is intended by an "EPA-certified" e-waste recycling facility; EPA does not "certify" e-waste recycling facilities. Currently, the Responsible Recycling Standard (R2) and the e-Stewards standard are the two available e-waste certification programs to which facilities may be certified. See: http://www.sustainableelectronics.org/ and http://e-stewards.org/ Finally, if the intent of the "Exceptions" section is to indicate specific circumstances when the practice does not apply, or to acknowledge situations when it cannot be met by the project team seeking the points, then it is unclear why the first item is listed. How is stating "Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations," an Exception? (We would argue this is an *exclusion from the calculation*, not an *exception from the practice*- due to some imposed practical difficulties - and as such, it is most appropriately addressed in the language of the credit.) To address these issues, introduce that materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. Refer to construction and demolition *materials* and not *waste.* Replace "EPA-certified" e-waste recycling facility with "third-party certified" e-waste recycling facility. Delete the first item listed under Exceptions.
Reason:	The spatial requirements to facilitate the recycling and composting of operational waste are vague. Typically, they would include the following criteria: • The dedicated spaces for the collection and storage of recyclables are accessible to both waste haulers and building occupants. • The dedicated spaces are of appropriate size and capacity to accommodate the collection and storage of recyclables and compostables for the entire building. • The recyclables and compostables for which to plan the collection and storage at a minimum include mixed paper, corrugated cardboard, glass, plastics, metals, green waste, food, and food soiled paper. • Food recovery is a top EPA priority. Organic materials make up the largest protion of the municipal solid waste stream and collection programs are expanding across the nation. Even if programs do not currently exist to manage these materials streams, dedicated collection space for future collection should be allocated. We therefore recommend clarifying the spatial requirements to facilitate the recycling and composting of operational waste.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**607.1 Recycling and composting.** Recycling and composting by the occupants are facilitated by one of the following methods: *Remove current items (1) and (2) and replace with:* (1) A readily accessible space(s) for recyclable and compostable material containers is provided and identified on the floorplan of the house. A readily accessible area(s) outside the living space is provided for recyclable and compostable material containers and identified on the site plan for the house or building. (3 pts) The area outside the living space shall: a) Accommodate recycling bin(s) for recyclable materials accepted in local recycling programs. b) Where a local composting program exists, accommodate composting container(s) for locally accepted materials OR where the lot has a space for gardening, accommodate a composting bin(s) for on-site composting. (2) In multifamily building, Management provides recycling container and has designated recycling dumpsters onsite and /or contract with offsite sorting Recycling Facility (3 pts)
Committee Reason:	Additional clarity, and greater flexibility; concerns about composting indoors.

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P150 LogID 6234	**607.1 Recycling and composting (Recycling and waste reduction)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	Multi Family Alternative to built in collection space - Management provides "blue box" recycling container or "blue Bins" and has designated recycling dumpsters onsite and /or contract with offsite sorting Recycling Facility	
Reason:	provide alternative opportunity to encourage recycling to projects/tenants where space will prevent the built in option	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	*Add as option 3 to 607.1:* 3) Management provides ~~"blue box"~~ recycling container ~~or "blue Bins"~~ and has designated recycling dumpsters onsite and /or contract with offsite sorting Recycling Facility (3 pts)	
Committee Reason:	Modified to make it general language.	
Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P151 LogID 6303	**608.1 Resource-efficient materials**	***Final Formal Action:*** **Disapprove**
Submitter:	Susan Gitlan, US Environmental Protection Agency	
Requested Action:	Revise as follows	
Proposed Change:	**608.1Resource-efficient materials.** Products containing fewer materials are used to achieve same end-use requirements as conventional products, including but not limited to: ~~(1) Lighter, thinner brick with depth less than 3 inches and/or brick with coring of more that 25 percent~~ ~~(2)~~ (1) Engineered wood or engineered steel products ~~(3)~~ (2) Roof or floor trusses	
Reason:	Since engineered wood, engineered steel products and roof or floor trusses are incorporated intermittently in the façade, and/or entirely in the interior, their dematerialization is not likely to	

	jeopardize the structure's overall energy efficiency. In fact, filling with insulation those spots in the exterior walls where the unneeded mass of structural elements would otherwise have been, reduces the thermal bridging associated with structural elements in exterior walls and improves the structure's energy efficiency. Conversely, the continuous dematerialization of a façade material, such as brick, may require an addition of more insulation to compensate for the loss of volume all along the perimeter, just to achieve comparable energy efficiency. A more accurate assessment of the benefits of the dematerialization of façade materials can possibly be made and if there are benefits, points can be captured through Life Cycle Assessments (610.1.1 and 610.1.2) that apply a material consumption impact category in addition to categories measuring energy-consumption impacts through the manufacturing, construction and use life-cycle stages.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Lighter thinner brick is a resource efficient material, and it reduces the structure needed to support it.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P152 LogID 6337	**609.1 Regional materials** *Final Formal Action:* **Disapprove**
Submitter:	Cambria McLeod, Kohler
Requested Action:	Delete without substitution
Proposed Change:	~~Regional materials. Regional materials are used for major and/or minor components of the building. For a component to comply with this practice, a minimum of 75% of all products in that component category must be sourced regionally, e.g.; stone veneer category – 75 percent or more of the stone veneer on a project must be sourced regionally.~~
Reason:	To increase use of the standard, reduce the complexity and remove these calculations. Regional material impacts are captured through EPDs, which are easier for the end user to locate and provide a much better indicator as they focus on the outcome of the various inputs. Individually, single-attributes have little bearing on the final impact so they are being replaced with EPDs. Because EPDs are already a part of this standard, the 10 points removed with this section could be added into the Product Declarations, Section 611.4, if the Standard was to keep the same number of threshold points.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Single attributes materials are still useful for the industry, can't solely rely on EPDs.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	

Disagree with Committee Action:	***Michael Cudahy:*** Agree with proponent. Locally sourced is a single issue metric that might encourage use of the worst performing material.
Abstain:	

P153 LogID 6304	**610.1 Life cycle assessment** ***Final Formal Action:*** **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**610.1.1Whole-building life cycle assessment.** A whole-building LCA is performed in conformance with ASTM E2921 using ISO14044compliant life cycle assessment. Execute LCA at the whole-building level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E2921. The assessment criteria includes the following environmental impact categories: a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste i. Water Use j. Pollution Discharges to Water … Execute full LCA, including resource extraction or harvesting, manufacturing, construction, use and end-of-life phases~~,~~. For the use phase, calculate ~~through calculation of~~ operating energy impacts (c) – (f) using local or regional emissions factors from energy supplier, utility or EPA. For the use phase, also include impacts associated with material replacements. **610.1.2.1Product LCA.** A product with improved environmental impact measures compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment are selected from the following: a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste i. Water Use j. Pollution Discharges to water **610.1.2.2 Building Assembly LCA.** Abuilding assembly with improved environmental impact measures compared to an alternative assembly of the same function is selected… **…**The environmental impact measures used in the assessment are selected from the following: a. Primary energy use b. Global warming potential c. Acidification potential

	d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste i. Water Use j. Pollution Discharges to Water
Reason:	Using less material and recovering more is crucial to our economic and environmental future. Material use and waste generation over the life cycle of a building should be modeled. In addition, the "full" life cycle assessment should include all life cycle phases, including extraction and harvesting, manufacturing, construction, use and end-of-life phases. While the NGBS-proposed language for whole-building life cycle assessment emphasizes that the assessment should include the use phase, it omits mentioning the other important phases. Finally, the language for the whole-building use phase indicates that impacts related to energy use should be evaluated, but remains silent on the need to evaluate impacts associated with the replacement of materials. To address these issues, we recommend adding the material use and waste impact categories to the assessment criteria. Emphasize that the boundary of the assessment should include the manufacturing, construction and end-of-life phases. Emphasize that the assessment of the use phase should include the analysis of impacts associated with the replacement of materials.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The material replacement addition is problematic and can contradict the referenced standard. A second concern is the categorization of additional impact measures; the current ones are optional but it's not sure how they compare to a base building. The new categories may not coincide with the tools that are currently available such as NIST's BEES (Building for Environmental and Economic Sustainability).
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P154 LogID 6357	**610.1.2 Life cycle analysis for a product or assembly**	***Final Formal Action:*** **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete without substitution	
Proposed Change:	~~610.1.2 Life cycle assessment for a product or assembly. An environmentally preferable product or assembly is selected for an application based upon the sue of an LCA tool that incorporates data methods compliant with ISO 14044 or other recognized standards that compare the environmental impact of products or assemblies.~~	
Reason:	This is one of two removals of this grouping: 610.1.2 and 610.1.2.1. Asking a contractor or other Standard user to find an LCA tool and use it to select various inputs is not user-friendly, nor is it an effective way to understand the burden of that product. Essentially they would be guessing as to the inputs whereas the use of an EPD allows the manufacturer to utilize specific inputs, removing the guesswork. In general, many EPD's reference LCA so the Standard is essentially giving points twice for this category.	

Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	These are useful practices that are used. We don't want to solely rely on building LCAs.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P155 LogID 6358	**610.1.2.1 Product LCA**	***Final Formal Action:*** **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete without substitution	
Proposed Change:	~~610.1.2.1 Product LCA. A product with improved environmental impact measure compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment are selected from the following:~~ ~~(a) primary energy use~~ ~~(b) Global warming potential~~ ~~(c) Acidification potential~~ ~~(d) Eutrophication potential~~ ~~(e) Ozone depletion potential~~ ~~(f) Smog Potential~~	
Reason:	This is one of two removals of this grouping: 610.1.2 and 610.1.2.1. Asking a contractor or other Standard user to find an LCA tool and use it to select various inputs is not user-friendly, nor is it an effective way to understand the burden of that product. Essentially they would be guessing as to the inputs whereas the use of an EPD allows the manufacturer to utilize specific inputs, removing the guesswork. In general, many EPD's reference LCA so the Standard is essentially giving points twice for this category.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	These are useful practices that are used. We don't want to solely rely on building LCAs.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P156 LogID 6360	611.1 Manufacturer's environmental management system concepts (Innovative Practices)	*Final Formal Action:* **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	~~Manufacturer's environmental management system concepts. Product manufacturer's operations and business practices include environmental management system concepts, and the production facility is registered to ISO 14001 or equivalent. The aggregate value of building products from registered ISO 14001 or equivalent production facilities is 1percent or more of the estimated total building materials cost.~~ Product Specific Declaration Improvements. Utilizing aType III environmental product declaration (EPD), demonstrate an improvement over prior EPDs for the same product. (1 point awarded per improved product.)	
Reason:	The use of ISO 14001 adds minimal value and is not widely used because a facility could be ISO 14001 compliant and have negative impacts. Proving that a product's impacts, throughout its lifecycle, are improving over time is a more effective way to demonstrate innovation. Comparing a product's EPD from one year to the next can demonstrate improvement in environmental management systems, regardless of the type of facility registration.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The current innovative practice is to improve the manufacturing process and is not the same as EPDs. EPDs were previously covered, and they could contain more or less than the manufacturer's environmental management system would cover.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Cambria McLeod:*** If the goal of this is to improve the manufacturing process, then why use something that does not measure improvement? As stated previously, the use of ISO 14001 adds minimal value and is not widely used because a facility could be ISO 14001 compliant and have negative impacts.	
Abstain:		

P157 LogID 6318	611.2 Sustainable products	*Final Formal Action:* **Approve as Modified**
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Revise as follows	
Proposed Change:	**611.2 Sustainable Products.** One or more of the following products are used for at least 30% of the floor or wall area of the entire dwelling unit, as applicable. Products are certified by a third-party agency accredited to ISO 17065. (1) 50% or more of carpet installed (by square feet) is certified to NSF 140 or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels. (2) 50% or more of resilient flooring installed (by square feet) is certified to NSF332 or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels. (3) 50% or more of the insulation installed (by square feet) is certified to EcoLogoCCD-016 or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels. (4) 50% or more of interior wall coverings installed (by square feet) is certified to NSF 342.	

	(5) 50% or more of the gypsum board installed (by square feet) is certified to UL 100 or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels. (6) 50% or more of the door leafs installed (by number of door leafs) is certified to UL 102. (7) 50% or more of the tile installed (by square feet) is certified to ANSI ~~TCNA~~A138.1 Specifications for Sustainable Ceramic Tiles, Glass Tiles and Tile Installation Materials or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels.
Reason:	We would like to suggest NGBS to expand their list to include other standards and ecolabels recommended by EPA for use in federal purchasing. EPA conducted an assessment of Ecolabels and Standards for federal procurement in the furniture, flooring, and paints & coatings categories. The assessment focuses on four sections: The process for developing standards, environmental effectiveness of the standard, conformity assessment, and management of ecolabeling programs. See EPA's Recommendations of Standards and Ecolabels (https://www.epa.gov/greenerproducts/recommendations-specifications-standards-and-ecolabels-federal-purchasing) for applicable standards/ ecolabels in construction product category. Please note, (4) and (6) are not product categories covered in the EPA Recommendations and therefore the additional language around using EPA Recommended Standards and Ecolabels was not added here. NSF 140, NSF 332, and TCNA A38.1 are currently included in the EPA Recommendations so the inclusion of the other applicable EPA Recommended standards and ecolabels into the NGBS standard would provide a wider range of sustainability standards that can be used for purchasing sustainable products. Also, please note that the correct title of the standard A138.1 is ANSI A138.1-2011 Green Squared Sustainable Tile and Installation Materials Specifications.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	(1) 50% or more of carpet installed (by square feet) is certified to NSF 140 or applicable multi-attribute standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels. (2) 50% or more of resilient flooring installed (by square feet) is certified to NSF332 or applicable multi-attribute standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels. (3) 50% or more of the insulation installed (by square feet) is certified to EcoLogoCCD-016 or applicable multi-attribute standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels. (4) 50% or more of interior wall coverings installed (by square feet) is certified to NSF 342 or applicable multi-attribute standards. (5) 50% or more of the gypsum board installed (by square feet) is certified to UL 100 or applicable multi-attribute standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels. (6) 50% or more of the door leafs installed (by number of door leafs) is certified to UL 102 or applicable multi-attribute standards. (7) 50% or more of the tile installed (by square feet) is certified to ANSI ~~TCNA~~A138.1 Specifications for Sustainable Ceramic Tiles, Glass Tiles and Tile Installation Materials or applicable multi-attribute standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels.
Committee Reason:	This adds another option to quantify sustainable products through the EPAs program. REASON FOR MODIFICATION: to specify that this is an additional item for multi-attribute standards; single attribute standards are dealt with separately; and it provides flexibility and clarity.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P158 LogID 17-013	611.2 Sustainable products	*Final Formal Action:* **Approve as Modified**
Submitter:	Robert De Vries, Nu Wool Co	
Requested Action:	Remove reference to a proprietary certification program	
Proposed Change:	Remove reference to a proprietary certification program	
Reason:	Codes and Standards should not be using proprietary, non ANSI supported certification bodies to substantiate products that already have had the required testing done by third party lab following ANSI standards and test methods. In this case, specifically the EcoLogo document hasn't been revised since 2005	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	(3) 50% or more of the insulation installed (by square feet) is certified to ~~EcoLogoCCD-016~~ UL 2985	
Committee Reason:	EcoLogo is no longer valid	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P159 LogID 6195	611.3 Universal design elements	*Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	611.3 Universal design elements. Dwelling incorporates one or more of the following universal design elements. Conventional industry construction tolerances are permitted. (1) High visibility address numbers at entrance to dwelling unit (2) Movement sensor light at entrance into dwelling unit (3) A sidelight or a peephole at 42 and 60 inches above the floor at entrance to dwelling unit **RENUMBER SUBSEQUENT ITEMS**	
Reason:	Provide good overall lighting and house number for nighttime security and ease-of-use. Additional lowered peephole for seated or short adults and children. (Based on NC State University publication of universal design elements for residences.)	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Contradicts requirements within the building codes, and concern for proper heights for peep holes.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		

Abstain:	

P160 LogID 6363	**611.3 Universal design elements**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	(6) All sink ~~faucet controls are single-handle controls of both volume and temperature,~~ lavatory and showering controls shall have cross or lever handles.	
Reason:	The current language is design-limiting and also excludes other functional areas which could utilize universal design elements such as lavatories and showering areas. Cross and lever controls for all faucets and bathing/showering trim provide greater accessibility than controls with knob shapes. ADA and A117.1 allow center set, widespread and single handle controls.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	6) All sink ~~faucet controls are single-handle controls of both volume and temperature,~~ lavatory and showering controls that comply with ICC A117.1 ~~shall have cross or lever handles~~. *Add ICC A117.1 to Referenced Standards chapter with latest year (2009)*	
Committee Reason:	Cannot utilize a cross, which is considered grasping and wrist twisting, which is not allowed by ANSI A117.1 standards	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **0** Abstain: **1** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:	***Cambria McLeod:*** *ICC A117.1 2009 is not the latest version. There is a 2017 version.*	

P161 LogID 17-089	**611.3 and 11.611.3 Universal design elements**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Michael Jouaneh, Lutron Electronics	
Requested Action:	Add and modify as follows	
Proposed Change:	Modify number 9 so that for lighting at least permanently installed luminaires can be controlled with a wireless device or occupancy/vacancy sensors. And add all window treatments (e.g. shades, blinds, drapes) to the list of systems that can controlled with wireless device or are automated based on time schedule or sky conditions. Lastly, the home should get an additional points for each system that complies. So, they can get 1 point for lighting, an additional point for HVAC, and additional one for controllable shades. Add a number 10 for an additional point if the same systems/products in number 9 plus window treatments that can be controlled from voice-activated assistants such as Alexa or Google Home. And additional points for each system that can be controlled with voice assistants like mentioned above	
Reason:	The modification is so that it is clear and not gameable to get the point if a home simply has one light fixture controlled with a wireless device. Adding window treatments as controllable window treatments or automated ones are a key universal design feature just as controllable or automated lighting is. Adding additional points for each item that complies provide incentive to have more universal design elements in the home.	

	The addition of number 10 brings the Standard up to date with the latest tech which helps with universal design.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	(9) Any of the following systems are automated and can be controlled with a ~~(~~wireless~~)~~ device ~~mobile~~ or voice-activated device ~~such as a smartphone, tablet, or laptop computer~~: HVAC, all permanently-installed lighting, alarm system, window treatments, or door locks. 1 point per system with max 5 points
Committee Reason:	To clarify that it applies to each system, that each system must be automated and controlled, and to cap the points
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P162 LogID 6228	**611.4 Product declarations**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Josh Jacobs, UL	
Requested Action:	Revise as follows	
Proposed Change:	611~~.4~~ Product declarations	
Reason:	The Innovative Practices section should be for things that are new to the marketplace. There are thousands of products in the marketplace that have Environmental Product Declarations. From bathroom products, ceiling systems, doors, flooring, hardware, HVAC, insulation, paints, to many more. While this concept may be new concept to some, it is not new to the marketplace in general, therefore it should be moved from the innovative practices section and into its own stand alone section of the Resource Efficiency Chapter.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	Clarification 611 ~~Innovative Practices~~ Product Declarations 611.1 ~~611,4~~ Product Declarations 611.1.1 ~~611.4.1~~ Industry wide declaration 611.1.2 ~~611.4.2~~ Product specific declaration ~~611~~ 612 Innovative Practices ~~611.1~~ 612.1 Manufacturer's environmental management system concepts ~~611.2~~ 612.2 Sustainable Products ~~611.3~~ 612.3 Universal design elements	
Committee Reason:	The modification brings clarity to the proposed change	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P163 LogID 6302	**Other for Chapter 6 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Add new as follows	
Proposed Change:	**608.2Design for Adaptation and Disassembly.** For siding, windows, mechanical/electrical/plumbing (MEP) systems, wall paneling and flooring materials, incorporate three or more of the following measures, as applicable: • Use reusable/recyclable materials. For example: o Use materials and fixtures for which take-back or reuse/recycling programs are established. o Use high-quality materials that exceed minimum performance standards. o Avoid use of coatings or adhesives that prevent reuse and recycling. • Promote disentanglement of building components. For example: o To limit the destruction of the surrounding materials, incorporate installation details that permit easy removal and replacement of components. o Consolidate placement of MEP components in building floorplans and cross-sections. • Provide access to and use reversible connections, such as screws, bolts, or clips. • Provide disassembly and reuse information to owner.	
Reason:	Section 608 currently includes a single subsection encouraging the dematerialization of building components. Design for Adaptation and Disassembly is similarly an upstream strategy to improve resource efficiency and therefore, fits with the upstream, resource-efficiency focus of this section. Design for Adaptation and Disassembly involves the utilization of recyclable/reusable building materials and preserves resources by maximizing their recovery and ensuring their continuous reutilization.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The updated proposal still needs more specific/measureable guidance.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P164 LogID 6351	**Other for Chapter 6 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**Section 612** - Add a new section as relevant for Health and Well-being credits.	

Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	A working group is looking at issues of health and wellness. This proposal does not have substance/specificity.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P165 LogID 6442	**Other for Chapter 6 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW SECTION **611.X Resilient Construction.** Buildings are designed to withstand sever weather per Table 611.X Table 611.3 Fortified Home Technical Requirements Level	

	Points for Bronze	Points for Silver	Points for Gold
(1) Fortified Home Hurricane Technical Requirements	X	X	X
(2) Fortified Home High Wind Technical Requirements	X	X	X
(3) Fortified Home High Wind & Hail Bronze Technical Requirements	X	X	X

Reason:	Rebuilding homes after severe weather is costly in terms of time, money, and materials. This green building standard should recognize projects that build resiliently.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Not sure that it applies to green construction outside of these hurricane areas. This is an illustration of the potential conflict between resiliency and resource efficiency.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	

Disagree with Committee Action:	
Abstain:	

P166 LogID 6229	**Other for Chapter 6 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Josh Jacobs, UL	
Requested Action:	Add new as follows	
Proposed Change:	611.5 Chemical Transparency. A minimum of 10 different products installed in the building project, at the time of certificate of occupancy, comply with one of the following programs down to at least 0.1% (1000ppm) of the stated product: GreenScreen v1.2, Health Product Declaration, Cradle to Cradle v2 Basic level (or greater), Declare, or UL Product Lens.	
Reason:	With more and more of the public becoming interested in the chemicals around them, designers, architects, and builders are choosing products based on the chemical contents within it. This optional credit language will allow a residence that has taken this valuable information into account to get credit for taking this extra step in its transparency and product selection.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Some of the programs being proposed are not put through a broad enough consensus development process and may have some biases. Additionally, it is not clear how some of the lists that come out of these programs are used, and there are lack of science applications by some of the red lists currently in the marketplace.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P167 LogID 6225	**Other for Chapter 6 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	Conduct "TBD" hours of documented onsite trades training. Documentation shows date /duration /trade and reason	
Reason:	setting / showing expectations of the credit requirement is an ongoing process....one and done = none. Verifier and Contractor teamwork is the trick,with visual and hands on learning the best way to ensure thing pass early and often	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The proposal is incomplete and vague, and is not attached to any subsection of Chapter 6. This chapter does not typically deal with labor issues.	

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P168 LogID 6243	**Other for Chapter 6 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	611.XX Conduct 3rd party Air Seal/ Compartmentalization Plan evaluation with pre and during construction Trades training.	
Reason:	ensure air seal /compartmentalize measures are in plans and in scope of work. conduct training and provide guidance for correct/timely install practices early and as often as necessary	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The proposal is incomplete and vague. This chapter does not typically deal with labor issues. This concept is dealt with more thoroughly in the Energy Chapter.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P169 LogID 6553	**Other for Chapter 6 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Kat Benner, self / TexEnergy	
Requested Action:	Add new as follows	
Proposed Change:	611 HEALTH AND WELL BEING (…prior to INNOVATIVE PRACTICES)	
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.	
Committee Formal Action from Meeting:	Disapprove	
Modification of Proposed Change:		

Committee Reason:	There is no specific language to consider.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P170 LogID 17-004	**Index**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	John Forbes, National Wood Flooring Association	
Requested Action:	Revise as Follows	
Proposed Change:	Floor Material……606.2, 901.7, 11.901.7, 12.1.901.7	
Reason:	Revision would help specifiers find flooring products made by participants of NWFA's RPP, as well as encourage the exploration of wood flooring products certified by others on the list.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P171 LogID 6588	**701.1.4 Alternative bronze and silver level compliance**	***Final Formal Action:*** **Disapprove**
Submitter:	Thomas Culp, Aluminum Extruders Council	
Requested Action:	Add new as follows	
Proposed Change:	**701.1.4 Alternative bronze and silver level compliance**. As an alternative, any building that qualifies as an ENERGY STAR Version 3.0 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. 02 03 building achieves the bronze level for Chapter 7. As an alternative, any building that qualifies as an ENERGY STAR Version 3.1 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0Rev. 02 03 (with the baseline at ASHRAE 90.1-2010) building achieves the silver level for Chapter 7. As an alternative in the Tropical Climate Zone, any building that meets all of the requirements in IECC Section R401.2.1 (Tropical Zone) achieves the silver level for Chapter 7. As an alternative, any multifamily building that complies with the base level Requirements section of the NBI Multifamily Guide achieves the silver level for Chapter 7. The buildings achieving compliance uder Section 701.1.4 are not eligible for achieving a rating level above silver.	

	701.1.5 Alternative gold level compliance. As an alternative, any multifamily building that complies with both the base level and Additional Efficiency Package Requirements of the Requirements section of the NBI Multifamily Guide achieves the gold level for Chapter 7. Add under Chapter 13: NBI — New Buildings Institute. 503-761-7339. 623 SW Oak St., 3rd Floor Portland, OR 97205 www.newbuildings.org Multifamily Guide | 2017 | Building Innovation – Multifamily. | 701.1.4, 701.1.5
Reason:	The New Buildings Institute has published a new guide for advanced energy efficiency in multifamily buildings of all heights, providing 15-25% energy savings above the 2015 IECC. The guide may be downloaded for free from https://newbuildings.org/product/multifamily-guide/ . Although titled as a guide, it includes a requirements section intended for use by standards with both base level requirements and additional efficiency package requirements for higher tier performance. Similar to the other advanced energy efficiency options listed for compliance, this proposal adds the NBI Multifamily Guide as an alternative for silver rating with base level compliance, and gold rating for higher tier compliance. With the scope expansion to include mixed-use buildings with both nonresidential and multifamily spaces, more multifamily buildings of all heights will be looking to use of ICC-700 / NGBS, so inclusion of this alternative is appropriate and beneficial.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	There are issues with the guideline; it's written poorly and might not be ready to be used as an enforceable reference document.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P172 LogID 6587	**Other for Chapter 7** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Thomas Culp, Aluminum Extruders Council
Requested Action:	Add new as follows
Proposed Change:	**701.1.5 Alternative gold level compliance.** As an alternative, any building that complies with Chapter 7 of the ICC International Green Construction Code (IgCC) achieves the gold level for Chapter 7. (Add reference to 2018 International Green Construction Code to Chapter 13)
Reason:	With the scope expansion to include multi-use buildings that combine nonresidential and multifamily spaces, there will be more overlap with projects that fall under the scope of the 2018 International Green Construction Code, which is now a joint development with the technical content of ASHRAE 189.1-2017 under cooperation of ICC, ASHRAE, USGBC, AIA, and IES. A separate proposal clarifies in chapter 3 that the IgCC shall be used for just those nonresidential spaces not covered by the residential

	designation in Section 101.2.1. In addition, if the project owner decides to use the energy efficiency provisions of the 2018 IgCC for the entire building, it should be provided the appropriate rating level under ICC-700 / NGBS for chapter 7.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**701.1.5 Alternative gold level compliance.** As an alternative, any building within the scope of the NGBS that complies with Chapter 7 of the ICC International Green Construction Code (IgCC) achieves the gold level for Chapter 7. Additionally, acceptable air tightness of individual residential units shall be demonstrated by a blower door test. The testing and sampling procedure shall be in accordance with the ENERGY STAR Multifamily High Rise Program Testing and Verification Protocols, Version 1.0, Revision 03 - 2015, with an allowable maximum leakage of 0.3 cfm/sf of enclosure bounding the apartment at an induced pressure difference of 50 pascals. (Add reference to 2018 International Green Construction Code to Reference Standards Chapter)
Committee Reason:	The level of compliance is based on an analysis performed by members of the committee. Additionally, the proposal is viewed as a compromise in light of the comment from Mr. Ferguson in P004: Alternatively, ASHRAE would also be resolved, when the expanded scope applies, "if provisions be included in the standard to reference the appropriate technical content in ANSI/ASHRAE/USGBC/ICC/IES Standard 189.1." To address energy efficiency and air quality in line with what exists currently in NGBS. Consistent with action on P038.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** Should this proposal move forward additional modification of the language is in order Sampling of air leakage is no more appropriate than sampling plumbing or fire provisions as it is critical to the performance of the building over its useful life It is an injustice to the public to not verify air leakage and potentially mislead them into thinking they have a well performing unit Additionally, acceptable air tightness of individual residential units shall be demonstrated by a blower door test. ~~The testing and sampling procedure shall be in accordance with the ENERGY STAR Multifamily High Rise Program Testing and Verification Protocols, Version 1.0, Revision 03- 2015,~~ with an allowable maximum leakage of 0.3 cfm/sf of enclosure bounding the apartment at an induced pressure difference of 50 pascals.
Abstain:	

P173 LogID 6503	**701.1 Mandatory requirements (Energy Efficiency)**	***Final Formal Action:*** **Disapprove**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**701.1 Mandatory requirements.** The building shall comply with Section 702 (Performance Path), Section 703(Prescriptive Path), or Section 704 (HERS Index Target Path). Items listed as “mandatory” in Section 701.4 apply to all Paths. Unless otherwise noted, buildings in the Tropical Climate Zone shall comply with Climate Zone 1 requirements. Exceptions:	

	A building that qualifies as an ENERGY STAR Version 3.0 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0Rev. 03 building achieves the bronze level for Chapter 7. A building that qualifies as an ENERGY STAR Version3.1 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. 03(with the baseline at ASHRAE 90.1-2010) building achieves the silver level for Chapter 7. In the Tropical Climate Zone, a building that meets all of the requirements in IECC Section R401.2.1 (Tropical Zone) achieves the silver level for Chapter 7. A building achieving compliance under Section701.1.4 is not eligible for achieving a rating level above silver. ~~**701.1.4 Alternative bronze and silver level compliance**. As an alternative, any building that qualifies as an ENERGY STAR Version 3.0 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. 03 building achieves the bronze level for Chapter 7. As an alternative, any building that qualifies as an ENERGY STAR Version 3.1 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0Rev. 03 (with the baseline at ASHRAE 90.1-2010) building achieves the silver level for Chapter 7. As an alternative in the Tropical Climate Zone, any building that meets all of the requirements in IECC Section R401.2.1 (Tropical Zone) achieves the silver level for Chapter 7. The buildings achieving compliance under Section 701.1.4 are not eligible for achieving a rating level above silver.~~
Reason:	If analysis shows these alternatives are equivalent or more conservative compared to the requirements in 701.1.1, 701.1.2, and 701.1.3, then revise the charging language of 701.1 to include these "alternatives" as compliance paths.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Does not add clarity. The language does not belong in an exception section.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P174 LogID 6393	**701.1 Mandatory requirements (Energy Efficiency)**	***Final Formal Action:*** **Disapprove**
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	
Proposed Change:	**701.1 Mandatory requirements.** The building shall comply with Section 702 (Performance Path), Section 703 (Prescriptive Path), or Section 704 (HERS Index Target Path). The building shall also comply with all provisions ~~Items~~ listed as "mandatory" in the 2018 IECC and in Section 701.4 ~~apply to all Paths~~. Unless otherwise noted, buildings in the Tropical Climate Zone shall comply with Climate Zone 1 requirements.	
Reason:	This proposal is intended to revise and clarify the requirements regarding mandatory requirements/measures. As revised, this section will improve the quality and consistency of homes built to ICC-700 by requiring compliance, under all compliance options, with: • all mandatory requirements in ICC-700; and • all mandatory provisions of the 2018 IECC. First, ICC-700 includes a set of minimum mandatory requirements for prescriptive-based compliance. These are carefully-selected requirements that should be met irrespective of the number of points achieved for other efficiency measures.	

	Minimum requirements for components and assemblies in a building – such as the air barrier, HVAC system sizing, and minimal thermal envelope efficiencies – should be met whether the home complies via prescriptive, performance, or the HERS Index Target path. Second, the vast majority of states have adopted the IECC for residential and commercial construction. Like ICC-700, the IECC contains its own limited list of mandatory requirements, most of which are similar to the mandatory requirements of ICC-700. In the IECC, the mandatory requirements already apply across all compliance paths – prescriptive, performance, and ERI, and they apply to all "above code" programs under IECC Section R102.1.1. Because of this, a home cannot be built in these states without complying with at least this shortlist of minimum features. If these mandatory measures are mandatory for all homes to comply with the ICC's minimum energy efficiency code, they should also be mandatory for the ICC's green construction code. In order for ICC-700 to continue to gain market acceptance and be recognized as a legitimate green code, it is important that ICC-700 not be seen as a "workaround" to avoid the IECC's requirements. While we would prefer that every home that complies with ICC-700 to first demonstrate compliance with the complete IECC, we recommend at least establishing compliance with the mandatory requirements of the IECC. This will help builders avoid the pitfall of designing a home that meets ICC-700, but fails the minimum energy code requirements in that state or jurisdiction. The 2018 IECC mandatory requirements are an appropriate reference point. We expect that the 2018 ICC-700 will build upon the efficiencies of the 2018 IECC, and by the time ICC-700 is published, the compliance software available (such as DOE's REScheck) will be based on the 2018 IECC.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	NGBS already captures the important mandatory items. Sending the user back to the code, particularly the commercial part of the IECC, would be confusing.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **37** Disagree with committee action: **3** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** I disagree with the committee action If ICC 700 is to be a valid above code program the mandatory requirements of the code are essential to its credibility This could be one of the reasons it has not gained traction with the single family market ***R. Christopher Mathis:*** How can an "above code" standard support that claim, if it doesn't even require the absolute minimum of the base code? The NGBS's points system already makes an assured minimum level of performance questionable. If there is no true baseline - better than minimum code - the standard will have no market value. This issue becomes compounded with the scope change highlighted in P004. ***Theresa Weston:*** based on circulated ballot comments.
Abstain:	

P175 LogID 6501	**701.1.1 Minimum Performance Path requirements**	***Final Formal Action:*** **Disapprove**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**701.1.1 Minimum Performance Path requirements.** A building complying with Section 70 shall ~~include a minimum of two practices~~ obtain a minimum of 4 points from Section 705.	

	701.1.2 Minimum Prescriptive Path requirements. A building complying with Section 703 shall obtain a minimum of 30points from Section 703 and shall ~~include a minimum of two practices~~ obtaina minimum of 4 points from Section 705. **701.1.3 HERS Index Target Path requirements.** A building complying with Section 704 shall obtain a minimum of 30points from Section 704 and shall ~~include a minimum of two practices~~ obtain minimum of 4 points from Section 705.
Reason:	The term "two practices" is ambiguous. Suggest the term be revised to specify a minimum number of points to be attained from Section 705.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The term "practice" has been established over several revision cycles and has been used in the field without issues. No justification for a point increase from 2 minimum to 4 points
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P176 LogID 6157	**701.1.1 Minimum Performance Path requirements** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, self
Requested Action:	Revise as follows
Proposed Change:	701.1.1 Minimum Performance Path Requirements. A building complying with Section 702 shall include a minimum of ~~two~~ three practices from Section 705, or a minimum of two practices from Section 705 and a minimum of one practice from Section 706.
Reason:	This revision will allow for more flexibility to choose more options, while requiring three instead of two practices.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	701.1.1 Minimum Performance Path Requirements. A building complying with Section 702 shall include a minimum of two ~~three~~ practices from Section 705, or a minimum of ~~two~~ one practice~~s~~ from Section 705 and a minimum of one practice from Section 706.
Committee Reason:	To remain consistent with the current standard and provide flexibility with selection.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	

Abstain:	

P177 LogID 6159	**701.1.2 Minimum Prescriptive Path requirements**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, self	
Requested Action:	Revise as follows	
Proposed Change:	**701.1.2 Minimum Prescriptive Path requirements.** A building complying with Section 703 shall obtain a minimum of 30 points from Section 703 and shall include a minimum of ~~two~~ three practices from Section 705, or a minimum of two practices from Section 705 and a minimum of one practice from Section 706.	
Reason:	This revision will allow for more flexibility to choose more options, while requiring three instead of two practices.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	701.1.2 Minimum Prescriptive Path Requirements. A building complying with Section 702 shall include a minimum of two ~~three~~ practices from Section 705, or a minimum of ~~two~~ one practice~~s~~ from Section 705 and a minimum of one practice from Section 706.	
Committee Reason:	To remain consistent with the current standard and provide flexibility with selection.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P178 LogID 6404	**701.1.3 HERS Index Target Path requirements**	***Final Formal Action:*** **Disapprove**
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	
Proposed Change:	**701.1.3 Energy Rating ~~HERS~~ Index ~~Target~~ Path requirements.** A building complying with Section 704 shall meet the requirements of ~~obtain a minimum of 30 points from~~ Section 704 and shall include a minimum of two practices from Section 705. **704 ENERGY RATING ~~HERS~~ INDEX ~~TARGET~~ PATH** **704.1 ERI ~~HERS index target~~ compliance.** The project complies with Section R406 of the 2018 IECC, and the ERI for the project is less than or equal to the Energy Rating Index Scores as detailed in Table 704.2 for the corresponding climate zone and rating level. ~~Compliance with the energy chapter shall be permitted to be based on the EPA HERS Index Target Procedure for Energy Star Qualified Homes. Points from Section 704 (HERS Index Target) shall not be combined with points from Section 702 (Performance Path) or Section 703 (Prescriptive Path).~~ **Table 704.2 ERI ~~Point calculation~~ score thresholds[a].** ~~Points for Section 704 shall be computed based on Steps "1a" through "1d" of the EPA HERS Index Target Procedure. Points shall be computed individually for each building as follows:~~ ~~30 + (percent less than EnergyStar HERS Index Target for that building) * 2.~~	

	<table><tr><th>Climate Zone</th><th>Bronze</th><th>Silver</th><th>Gold</th><th>Emerald</th></tr><tr><td>1</td><td>57</td><td>52</td><td>47</td><td>42</td></tr><tr><td>2</td><td>57</td><td>52</td><td>47</td><td>42</td></tr><tr><td>3</td><td>57</td><td>52</td><td>47</td><td>42</td></tr><tr><td>4</td><td>62</td><td>57</td><td>52</td><td>47</td></tr><tr><td>5</td><td>61</td><td>56</td><td>51</td><td>46</td></tr><tr><td>6</td><td>61</td><td>56</td><td>51</td><td>46</td></tr><tr><td>7</td><td>58</td><td>53</td><td>48</td><td>43</td></tr><tr><td>8</td><td>58</td><td>53</td><td>48</td><td>43</td></tr></table> a. When on-site renewable energy is included for compliance using the ERI analysis per Section 704.1, the building shall meet the mandatory requirements in 2018 IECC Section R406.2 and the building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in Table R402.1.2 or Table R402.1.4 of the 2015 IECC.
Reason:	This proposal revises the HERS Index-based compliance option in Section 704 to be more consistent with the IECC's Energy Rating Index. The current Section 704 uses only part of the Energy Star HERS Index Target Procedure, even though Section 701.1.4 already provides a compliance alternative for homes rated to Energy Star. Given the number of states that have now adopted the IECC Energy Rating Index, we see an opportunity to increase the usability and reach of ICC-700 by incorporating an ERI-based compliance option directly in ICC-700. We believe this will greatly benefit builders and energy raters who are trying to certify new homes and multifamily dwellings to multiple code and above-code programs, while providing a good testing ground for future improvements to the IECC ERI. As revised, ICC-700 Section 704 would require compliance with the Energy Rating Index section of the 2018 IECC for a bronze rating. For each rating above bronze, we have proposed an additional 5 point ERI index improvement. As an alternative, we could support a reasonable percentage improvement for each level instead of the 5-point increments, or a reference to another outside standard (such as the draft ASHRAE Standard 90.2, which is very close to the Emerald level numbers). In any case, this approach is intended to serve at least as a starting point for discussion. The 2018 IECC slightly increased the required ERI scores (making them less stringent than the 2015 IECC) as part of a broader compromise that included more stringent thermal envelope requirements for homes that incorporate renewable on-site power production into the ERI calculation. Consistent with that compromise, this proposal includes the higher 2018 ERI scores, along with the new footnote "a" in Table 704.2 as we believe it will appear in the 2018 IECC.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The footnote (a) would have to apply to all path to be consistent. The standard should encourage both energy efficiency and renewable energy. A static ERI number incentivizes larger homes vs smaller homes. The proposal can drive construction away from the most cost-effective solutions and make renewables a less attractive options for the ERI path. There was concern about how ERI is calculated in the field.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **38** Disagree with committee action: **1** Abstain: **1** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Hope Medina:*** The information that was provided at the committee meeting from the floor in opposition was incorrect information. This is a valid proposal to correct this section of the Standard for several reasons. The path listed currently is a proprietary program, and should not be listed as such. It

	limits the use of the path from other programs that could comply, but is not the HERS Index program. This section is based off of the 2018 IECC, and should reference the pathway listed in the IECC which is the Energy Rating Index path. This proposal also addresses some of the concerns from the industry when solar is installed on the home. Solar, while important to our independence from fossil fuel, is not a permanent component of the building. The thermal envelope of the building that is a more permanent component of the building, and is a reason for the return on the investment for utilizing the energy and green codes and standards. The concern from others about solar allowing for lesser values to be utilized for the thermal envelope by installing solar would be addressed with this proposal. This proposal should be re-evaluated, and approved.
Abstain:	***Theresa Weston:*** based on circulated ballot comments.

P179 LogID 6160	**701.1.3 HERS Index Target Path requirements** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, self
Requested Action:	Revise as follows
Proposed Change:	**701.1.3 HERS Index Target Path requirements.** A building complying with Section 704 shall obtain a minimum of 30 points from Section 704 and shall include a minimum of ~~two~~ three practices from Section 705, or a minimum of two practices from Section 705 and a minimum of one practice from Section 706.
Reason:	This revision will allow for more flexibility to choose more options, while requiring three instead of two practices.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**701.1.3 HERS Index Target Path requirements.** A building complying with Section 704 shall obtain a minimum of 30 points from Section 704 and shall include a minimum of two ~~three~~ practices from Section 705, or a minimum of one ~~two~~ practice~~s~~ from Section 705 and a minimum of one practice from Section 706.
Committee Reason:	To provide more flexibility and consistent with action on P177.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P180 LogID 6292	**701.1.4 Alternative bronze and silver level compliance** ***Final Formal Action:*** **Approve as Submitted**
Submitter:	Aaron Gary, self
Requested Action:	Revise as follows
Proposed Change:	**701.1.4 Alternative bronze and silver level compliance**. As an alternative, any building that qualifies as an ENERGY STAR Version 3.0 Certified Home or ENERGY STAR Multifamily High Rise Version1.0 Rev. 03 building or demonstrates compliance with the 2018 IECC or Chapter 11 of the 2018 IRC achieves the bronze level for Chapter 7. As an alternative, any building that qualifies as an ENERGY STAR Version 3.1Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. 03 (with the baseline at ASHRAE 90.1-2010) building achieves the silver level for Chapter 7. As an alternative in the Tropical Climate Zone, any building that meets all of the requirements in IECC Section R401.2.1 (Tropical Zone)

	achieves the silver level for Chapter 7. The buildings achieving compliance under Section 701.1.4 are not eligible for achieving a rating level above silver.
Reason:	Recognizing the 2018 IECC as an alternative makes sense.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P181 LogID 6451	**701.1.4 Alternative bronze and silver level compliance** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Craig Conner, self
Requested Action:	Revise as follows
Proposed Change:	701.1.4 Alternative ~~bronze and silver l~~levels of compliance. As an alternative, any building that qualifies as an ENERGY STAR Version 3.0Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. 03building achieves the bronze level for Chapter 7. As an alternative, any building that qualifies as an ENERGY STAR Version 3.1 Certified Home or ENERGYSTAR Multifamily High Rise Version 1.0 Rev. 03 (with the baseline at ASHRAE90.1-2010) building achieves the silver level for Chapter 7. As an alternative in the Tropical Climate Zone, any building that meets all of the requirements in IECC Section R401.2.1 (Tropical Zone) achieves the ~~silver~~ gold level for Chapter 7. ~~The~~ Buildings achieving compliance under Section 701.1.4 are not eligible for achieving ~~a~~ rating levels above ~~silver~~ those in this section.
Reason:	This change gives the Tropical Home a Gold level of compliance based on energy savings well above Gold. Each point in energy is a 1/2 % of the energy savings. The difference between Bronze and Gold is 30 points or 15% of the energy cost. The PNNL report on the impact of the 2018 IECC (link below) gives the costs by energy end use for 2018 IECC (Table 11 of the PNNL report). The costs for each end use are below with last column giving the Tropical home impact on the end uses. End Use $$ 2018 IECC & % Tropical Home Impact Heating $7.09
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	*Replace proposal in its entirety with the following:* 701.1.5 Alternative gold level compliance. One- or two-family dwelling in the tropical zone at an elevation less than 2,400 feet (731.5 m) above sea level that complies with the following shall achieve the gold level for chapter 7: 1. The residence complies with IECC Tropical Zone than section R401.2.1. 2. The residence includes a minimum of 2 kW of PV and a minimum of 6 kWh of battery storage. 3. Any air conditioning has a minimum of 18 SEER. 4. Solar, wind or other renewable energy source supplies not less than 90 percent of the energy for service water heating. 5. Glazing in conditioned spaces has a solar heat gain coefficient of less than or equal to 0.25, or has an overhang with a projection factor equal to or greater than 0.30.

	6. The exterior roof/ceiling complies with at least two of the following Minimum roof reflectance and emittance in IECC Table C402.3 Roof or ceiling has insulation with an R-value of R-15 or greater. Includes a radiant barrier. 7. Walls comply with at least one of the following: Walls have an overhang with a projection factor equal to or greater than 0.30. Walls have insulation with an R-value of R-13 or greater. Walls have a solar reflectance of 0.64 8. A ceiling fan is provided for bedrooms and the largest space that is not used as a bedroom; alternately a whole house fan is provided. 9. Wiring sufficient for a Level 2 (208/240V 40-80 amp) electric vehicle charging station is installed on the building site.
Committee Reason:	In response to comments from Task Group, the objective of the amendments is to make the provisions above code. Provides a path to net-zero energy homes in tropical climates.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **38** Disagree with committee action: **2** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** I disagree with the addition of this alternative compliance path for tropical locations. No data was presented to justify it as equivalent to the standard and no evidence was presented at all that this is a viable package in the field There are significant energy savings features that are not included Short of additional data it is irresponsible to approve this option ***R. Christopher Mathis:*** How many more compliance paths do we add until this standard becomes a construction guide? A standard must have uniformity.
Abstain:	

P182 LogID 6392	**701.1.4 Alternative bronze and silver level compliance** ***Final Formal Action:*** **Disapprove**
Submitter:	Eric Lacey, RECA
Requested Action:	Revise as follows
Proposed Change:	**701.1.4 Alternative ~~bronze and~~ silver level compliance**. As an alternative, any building that qualifies as an ~~ENERGY STAR Version 3.0 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. 03 building achieves the bronze level for Chapter 7. As an alternative, any building that qualifies as an~~ ENERGY STAR Version 3.1 Rev. 08 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. 03 (with the baseline at ASHRAE ~~90.1-2010~~ 90.1-2013) building achieves the silver level for Chapter 7. ~~As an alternative in the Tropical Climate Zone, any building that meets all of the requirements in IECC Section R401.2.1 (Tropical Zone) achieves the silver level for Chapter 7.~~ The buildings achieving compliance under Section 701.1.4 are not eligible for achieving a rating level above silver.
Reason:	This proposal is intended to update the Energy Star compliance option for single-family and multifamily buildings. For single-family homes (and low-rise multifamily homes), the proposal retains and updates (by citing the most recent version) the option to demonstrate silver-level compliance using Energy Star Version 3.1, but eliminates Energy Star Version 3.0 for bronze-level compliance. For mid- and high-rise multifamily buildings, the proposal updates the reference baseline from ASHRAE 90.1-2010 to 90.1-2013. We believe that the 2018 ICC-700 should build upon the efficiency of the most recent edition of the IECC and ASHRAE. For single-family and low-rise multifamily buildings, Energy Star Version 3.0 was developed to correspond with the 2009 IECC, but is now outdated, since a good number of efficiency improvements have been incorporated into the IECC since then. It does not make sense to continue to

	allow alternative compliance with Version 3.0 in the national model green code, even for bronze-level compliance. We support an Energy Star alternative, but ICC-700 should require the most recent version of the Energy Star program that most closely corresponds with the 2018 IECC. This proposal is consistent with U.S. EPA's policy of rolling out Energy Star Version 3.1. Simply put, where a state adopts the 2012 or 2015 IECC as its mandatory statewide code, EPA updates the state's Energy Star program requirements to Version 3.1, twelve months after the effective date. As such, Energy Star Version 3.0 is phased out and is no longer available in such states. Likewise, for mid- and high-rise multifamily homes in states that have adopted the 2012 or 2015 IECC or ASHRAE 90.1-2010 or 2013, U.S. EPA has also updated the baseline that applies to the multifamily standard to a 15% improvement over a baseline of ASHRAE 90.1-2013. More and more states are adopting the 2012 IECC or more recent versions; since ICC-700 is the national model green code, it should reflect this fact. Similarly, given that the ICC has published a 2015 IECC (and will soon publish a 2018 version) and ASHRAE has published Standard 90.1-2013, it makes sense that the newest version of ICC-700 reflect the version of Energy Star that most closely corresponds with the most recent version of the IECC and ASHRAE 90.1. Allowing compliance with Version 3.0 or Standard 90.1-2010 may result in buildings that would not even comply with the version of the IECC or ASHRAE 90.1 that applies for statewide construction. This is particularly important when it is considered that the version of ICC-700 that will be published as a result of this process will be in effect more than a decade after the 2009 IECC and ASHRAE 90.1-2010 were published and after they has been superseded by two or three more recent editions. As a result, we recommend setting a single Energy Star standard – the most recent standard, and the one that most closely corresponds with the most recently published IECC or ASHRAE – as the single option for alternative compliance under Section 701.1.4.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Energy Star V3.0 is still a valid path available for achieving compliance in a majority of the country and should remain in the NGBS. Energy star alignment also makes multifamily provisions of the standard more usable. No justification for deleting provisions for tropical zone provided and the tropical zone will be addressed under P181.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P183 LogID 6502	**701.1.4 Alternative Bronze and silver level compliance**	***Final Formal Action:*** **Disapprove**
Submitter:	John Woestman	
Requested Action:	Delete without substitution	
Proposed Change:	~~**701.1.4 Alternative bronze and silver level compliance**. As an alternative, any building that qualifies as an ENERGY STAR Version 3.0 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. 03 building achieves the bronze level for Chapter 7. As an alternative, any building that qualifies as an ENERGY STAR Version 3.1 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0Rev. 03 (with the baseline at ASHRAE 90.1-2010) building achieves the silver level for Chapter 7. As an alternative in the Tropical Climate Zone, any building that meets all of the requirements in IECC Section~~	

	~~R401.2.1 (Tropical Zone) achieves the silver level for Chapter 7. The buildings achieving compliance under Section 701.1.4 are not eligible for achieving a rating level above silver.~~
Reason:	Recommend deleting these alternatives unless analysis is available which indicates these defined alternatives are equivalent or more conservative compared to the requirements of this standard.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	No compelling reason or analysis why the provisions are no longer valid/equivalent have been provided. The alignment with Energy Star is a strong market position for the NGBS.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P184 LogID 6504	**701.2 Emerald level points**	***Final Formal Action:*** **Approve as Modified**
Submitter:	John Woestman	
Requested Action:	Revise as follows	
Proposed Change:	**701.2 Emerald level points.** The Performance Path shall be <u>the only path</u> used to achieve the emerald level.	
Reason:	We think this is consistent with the intent. If so, this may help with understanding.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**701.2 Emerald level points.** The Performance Path (Section 702) or the HERS Index Target Path (Section 704) shall be ~~the only path~~ used to achieve the emerald level.	
Committee Reason:	The HERS path is also an energy model path and should be recognized as a means to achieve emerald compliance.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P185 LogID 6573	**701.2 Emerald level points**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, self	
Requested Action:	Add new as follows	
Proposed Change:	701.3 **<u>Simplified Equivalent Compliance Alternative.</u>**	

	701.3.1 Equivalent building option. Dwellings that meet both of the following criteria shall be deemed in compliance with the thermal envelop requirements of this chapter. 1. The ratio of the air-conditioning capacity to conditioned space is less than or equal to 1.5 tons per 1000square feet. 2. The ratio of the heating system capacity to floor area of conditioned space is less than or equal to 10,000 Bth/h per 1000 square feet for zone 2 15,000 Bth/h per 1000 square feet for zone 3 18,000 Bth/h per 1000 square feet for zone 4 5 20,000 Bth/h per 1000 square feet for zone 6 & 7. 25,000 Bth/h per 1000 square feet for zone 8 701.3.2 Equivalent hot water. The horizontal distance from the hot water supply outlet to the hot water entry to a room where hot water is used shall be no more than 10ft. This shall apply to the kitchens, bathrooms with showers or tub, and rooms with a clothes washer. 701.3.3 Equivalent lighting. Dwellings in compliance with at least one of the following requirements shall be deemed in compliance with the lighting requirements: 1. Lamps over 15 watts shall be CFL, LED, or have an efficacy not less than 70 lumens per watt, or. 2. At least 90% of the lamps or fixtures shall have an efficacy not less than 75 lumens per watt. Where compliance is based on efficacy the efficacy shall be on a manufacturer designation of efficacy on the lamp or fixture; or the lighting efficacy shall be on the construction plans. 701.3.4 Compliance with all three items above plus the mandatory portion of this chapter shall be deemed compliance with the NGBS energy requirements at the silver level.
Reason:	This prescribes a simple way to show NGBS energy compliance
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The proposal is incomplete; needs revision and justification.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P186 LogID 6068	**701.4 Mandatory practices**	***Final Formal Action:*** **Disapprove**
Submitter:	Michelle Foster, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	Clarify that the mandatory items are applicable to the method of construction being verified.	
Reason:	The mandatory items are designed to ensure that the code provisions are complied with, however, code varies if the building is SF or MF. The proposed change would clarify that the mandatory practices are relevant depending on the specific method of construction.	
Committee Formal Action from Meeting:	**Disapprove**	

Modification of Proposed Change:	
Committee Reason:	Proposed change is unclear and no specific language is proposed.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P187 LogID 6394	**701.4.3.1 Building Thermal Envelop Air Sealing** *Final Formal Action:* **Disapprove**
Submitter:	Eric Lacey, RECA
Requested Action:	Add new as follows
Proposed Change:	**701.4.3.X Minimum Thermal Envelope Efficiency.** For all compliance paths, the minimum R-values, maximum U-factors, and maximum SHGC meet or exceed the efficiency level specified in Table 701.4.3.X.

Table 701.4.3.X
Minimum Thermal Envelope Efficiency

CLIMATE ZONE	FENES-TRATION U-FACTOR	SKY-LIGHT U-FACTOR	GLAZED FENEST-RATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE & DEPTH	CRAWL SPACE WALL R-VALUE
1	1.20	0.75	0.30	30	13	3/4	13	0	0	0
2	0.65	0.75	0.30	30	13	4/6	13	0	0	0
3	0.50	0.65	0.30	30	13	5/8	19	5 / 13	0	5 / 13
4 except Marine	0.35	0.60	NR	38	13	5/10	19	10 / 13	10, 2ft	10 / 13
5 and Marine 4	0.35	0.60	NR	38	20 or 13+5	13/17	30	10 / 13	10, 2ft	10 / 13
6	0.35	0.60	NR	49	20 or 13+5	15/19	30	15 / 19	10, 4ft	10 / 13
7 and 8	0.35	0.60	NR	49	21	19/21	38	15 / 19	10, 4ft	10 / 13

Reason:	This proposal would require that, for all projects, the efficiency levels of the building thermal envelope components meet or exceed the prescriptive thermal envelope efficiency required by the 2009 IECC. There are several reasons why this backstop should be implemented in the 2018 ICC-700: • The 2009 IECC already serves as the trade-off backstop for the 2015 and 2018 IECC Energy Rating Index. Every state that has adopted the 2015 IECC ERI so far has maintained or improved upon this backstop. • The 2009 IECC (or more stringent code) has been adopted in over three-quarters of the states. • The 2009 IECC is the foundation for the 2009 American Recovery and Reinvestment Act (ARRA), which distributed $3.4 billion in incentive funding to states that committed to adopt the 2009 IECC for residential construction. • Nationwide, new homes must show compliance with the 2009 IECC in order to be

	eligible for federally-insured mortgages. Effective building trade-off options need reasonable minimum-level mandatory backstops. It would strain the credibility of the 2018 ICC-700 as an "above-code program" to allow homes to be built with extremely weak thermal envelopes with an efficiency level below the 2009 IECC. The proposed backstop still permits significant trade-off flexibility, considering the improvements made to the IECC between 2009 and 2018, as well as additional efficiency requirements imposed by ICC-700. But this proposal helps builders avoid a scenario in which the green building's thermal envelope may fail compliance with a state or local code (or a federal requirement) based on the 2009 IECC. We do not expect that this will be any burden to today's green builders.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Applies to all energy compliance paths. Limits flexibility beyond the prescriptive path. NGBS is supposed to be innovative. The table is not appropriate for the tropical zone. Can be redundant or conflicting with local energy code requirements.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **37** Disagree with committee action: **3** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** I disagree with the committee action Envelope performance is critical to the performance of the building and basis for other good green design decisions Envelope insulation has a service life equivalent to the building life and therefore needs to be done right from the start It is simply too pricey for many renovation projects to redo later ***Theresa Weston:*** I believe having a minimum building envelope threshold limits are needed to ensure durability and proper functioning of the building envelope ***R. Christopher Mathis:*** How can an "above code" standard support that claim, if it doesn't even meet the requirements of a decade-old base code? The NGBS's points system already makes an assured minimum level of performance questionable. If there is no true baseline - better than minimum code - the standard will have no market value. This issue becomes compounded with the scope change highlighted in P004.
Abstain:	

P188 LogID 6505	**701.4.3.1 Building Thermal Envelope Air Sealing**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**701.4.3.1 Building Thermal Envelope Air Sealing.** The building thermal envelope is durably sealed to limit infiltration. The sealing methods between dissimilar materials allow for differential expansion and contraction. The following are caulked, gasketed, weather-stripped or otherwise sealed with an air barrier material, suitable film, or solid material: **(g)** Walls, ~~and~~ ceilings, and floors separating ~~a garage from~~ conditioned space~~s~~ from unconditioned space. **(k)** ~~Rim joist junction.~~ Joints of framing members at rim joists. **(l)** Top and bottom plates.	

	(m) Other sources of infiltration.
Reason:	Suggest revising several of the items in the list to more thoroughly identify the locations where air sealing is required.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P189 LogID 6507	**701.4.3.2 Air sealing and insulation** ***Final Formal Action:*** **Approve as Modified**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)
Requested Action:	Revise as follows
Proposed Change:	**701.4.3.2 Air barrier, air sealing, building envelope testing, and insulation.** ~~Grade II and III insulation installation is not permitted.~~ Building envelope air barrier, air sealing, envelope tightness, and insulation installation is verified to be in accordance with this Section ~~701.4.3.2(1) and 701.4.3.2(2)~~ and Section 701.4.3.2.1. **701.4.3.2.1** ~~Grade I insulation installations are~~ **Insulation installation.** Field-installed insulation products to ceilings, walls, floors, band joists, rim joists, conditioned attics, basements, and crawlspaces, except as specifically noted, are verified by a third-party in accordance with the following: ~~**(1)** Grading applies to field-installed insulation products.~~ ~~**(2)** Grading applies to ceilings, walls, floors, band joists, rim joists, conditioned attics basements and crawlspaces, except as specifically noted.~~ Re-number items(3) through (11), and revise item (11) **(11)** Where properly installed, ICFs, SIPs, and other wall systems that provide integral insulation are deemed incompliance with ~~the Grade 1 insulation installation requirements~~ this section. **703.2.1 UA improvement.** The total building thermal envelope UA is less than or equal to the total UA resulting from the U-factors provided in Table 703.2.1(a) or IECC Tables C402.1.4 and C402.4, as applicable. Where insulation is used to achieve the UA improvement, the insulation installation is in accordance ~~with Grade1 requirements as graded~~ Section 701.4.3.2.1 as verified by a third-party. Total UA is documented using a RESCheck, COMCheck, or equivalent report to verify the baseline and the UA improvement.
Reason:	Removing all mentions of “Grade” pertaining to insulation installation, as Grade is not defined or described in the standard. Also revising 701.4.3.2.1 to move the “what” and “where” specifics of the first two items into the charging language. Also, adding requirement insulation installation is verified by a third-party consistent either requirement in 703.2.1.
Committee Formal Action from Meeting:	**Approve as Modified**

Modification of Proposed Change:	Retain reference to "Grade I" as follows. ~~**701.4.3.2 Air barrier, air sealing, building envelope testing, and insulation.** Grade II and III insulation installation is not permitted. Building envelope air barrier, air sealing, envelope tightness, and insulation installation is verified to be in accordance with this Section 701.4.3.2(1) and 701.4.3.2(2) and Section 701.4.3.2.1.~~ **701.4.3.2.1 Grade I** ~~insulation installations are~~ **Insulation installation.** Field-installed insulation products to ceilings, walls, floors, band joists, rim joists, conditioned attics, basements, and crawlspaces, except as specifically noted, are verified as Grade I by a third-party in accordance with the following: ~~**(1)** Grading applies to field-installed insulation products.~~ ~~**(2)** Grading applies to ceilings, walls, floors, band joists, rim joists, conditioned attics basements and crawlspaces, except as specifically noted.~~ Re-number items (3) through (11), and revise item (11) **(11)** Where properly installed, ICFs, SIPs, and other wall systems that provide integral insulation are deemed in compliance with ~~the Grade 1 insulation installation requirements~~ this section. **703.2.1 UA improvement.** The total building thermal envelope UA is less than or equal to the total UA resulting from the U-factors provided in Table 703.2.1(a) or IECC Tables C402.1.4 and C402.4, as applicable. Where insulation is used to achieve the UA improvement, the insulation installation is in accordance with Grade I requirements in ~~as graded~~ Section 701.4.3.2.1 as verified by a third-party. Total UA is documented using a RESCheck, COMCheck, or equivalent report to verify the baseline and the UA improvement.
Committee Reason:	Section 701.4.3.2 is removed from this proposed change due to prior action P190. Grade I was retained to further clarify and emphasize for need for the installation to meet Grade I requirement and to provide clarity to verifiers.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P190 LogID 6506	**701.4.3.2 Air sealing and insulation** ***Final Formal Action:*** **Approve as Submitted**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)
Requested Action:	Revise as follows
Proposed Change:	**701.4.3.2 Air barrier, air sealing, building envelope testing, and insulation.** ~~Grade II and III insulation installation is not permitted.~~ Building envelope air barrier, air sealing, envelope tightness, and insulation installation is verified to be in accordance with this Section ~~701.4.3.2(1) and 701.4.3.2(2)~~ and Section 701.4.3.2.1. Insulation installation other than Grade 1 is not permitted. **701.4.3.2.1** ~~Grade I i~~ Insulation installations are in accordance with the following:
Reason:	Removing the phrase regarding "Grade II and III" insulation installation as these are not defined, described, or referenced in the standard, and instead refer to "Grade I" which has requirements described in the standard. Revising the text to add explicit requirement to comply with the insulation installation requirements in Section 701.4.3.2.1.

Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P191 LogID 1517	**701.4.3.2 Air sealing and insulation**	***Final Formal Action:*** **Disapprove**
Submitter:	Rachel Della Valle, Southern Energy Management	
Requested Action:	Revise as follows	
Proposed Change:	I suggest using the language: "Air sealing and insulation. Grade II and III insulation installation is not permitted. Building envelope air tightness and insulation installation is verified to be in accordance with Section 701.4.3.2(1) ~~and~~ or 701.4.3.2(2)."	
Reason:	701.4.3.2: "Air sealing and insulation. Grade II and III insulation installation is not permitted. Building envelope air tightness and insulation installation is verified to be in accordance with Section 701.4.3.2(1) and 701.4.3.2(2)." I noticed this item requires 701.4.3.2(1) and 701.4.3.2(2) whereas the 2012 Standard required 701.4.3.2(1) or 701.4.3.2(2). Is this accurate? I believe the first draft had the 'or'. The 2012 NGBS was definitely 'or'.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	This is a significant reduction in the requirements of the standard and inconsistent with the 2015 IECC.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P192 LogID 6396	**701.4.3.4 Fenestration air leakage**	***Final Formal Action:*** **Disapprove**
Submitter:	Eric Lacey, RECA	
Requested Action:	Add new as follows	
Proposed Change:	**701.4.3.X Fenestration U-factor and SHGC.** U-factors of fenestration products (windows, doors and skylights) are determined in accordance with NFRC 100 by an accredited,	**Mandatory**

	independent laboratory, and labeled and certified by the manufacturer. The solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors, and skylights) are determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer. **703.2.5.1** NFRC-certified ~~(or equivalent)~~ U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis do not exceed the values in Table 703.2.5.1. Area weighted averages are calculated separately for the categories of 1) windows and exterior doors and 2) skylights and tubular daylighting devices (TDDs). Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.
Reason:	This proposal clarifies that fenestration U-factors and SHGCs should be determined in accordance with NFRC certified ratings, consistent with the requirements of the IECC and the Energy Star Windows program. This has been a requirement in the IECC since the mid-1990s, and it is a requirement in nearly every state for residential construction. The vast majority of residential windows, doors, and skylights are already certified and labeled according to NFRC standards, so we do not expect this requirement to create any issues or any added cost. Requiring uniform, objectively-determined ratings for fenestration will help to ensure the expected performance and quality of green homes and will simplify certification for green raters.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	For commercial window systems, this language excludes AAMA 507.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P193 LogID 1503	**701.4.3.4 Fenestration air leakage** *Final Formal Action:* **Approve as Modified**
Submitter:	Roger LeBrun, VELUX America Inc.
Requested Action:	Revise as follows
Proposed Change:	701.4.3 701.4.3.4 Fenestration air leakage. Windows, skylights and sliding glass doors have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m2), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m2), when tested in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled. ~~This practice does not apply to site built windows, skylights, and doors.~~
Reason:	A green code should not leave a gaping hole by exempting “site-built” windows, skylights and doors. Only rated products meeting the mandatory requirements are acceptable, no matter how they are built, otherwise what does mandatory really mean?
Committee Formal Action from Meeting:	**Approve as Modified**

Modification of Proposed Change:	**701.4.3.4 Fenestration air leakage.** Windows, skylights and sliding glass doors have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m2), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m2), when tested in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled. Site-built fenestration products have a certificate of compliance. This practice does not apply to ~~site built~~ field-fabricated fenestration products ~~windows, skylights, and doors~~. *Add definitions:* **FENESTRATION.** Products classified as either vertical fenestration or skylights. **Skylight.** Glass or other transparent or translucent glazing material installed at a slope of less than 60 degrees (1.05 rad) from horizontal. **Vertical fenestration.** Windows (fixed or movable), opaque doors, glazed doors, glazed block and combination opaque/glazed doors composed of glass or other transparent or translucent glazing materials and installed at a slope of at least 60 degrees (1.05 rad) from horizontal. **FENESTRATION PRODUCT, FIELD-FABRICATED.** A fenestration product whose frame is made at the construction site of standard dimensional lumber or other materials that were not previously cut, or otherwise formed with the specific intention of being used to fabricate a fenestration product or exterior door. Field fabricated does not include site-built fenestration. **FENESTRATION PRODUCT, SITE-BUILT.** A fenestration designed to be made up of field-glazed or field-assembled units using specific factory cut or otherwise factory-formed framing and glazing units. Examples of site-built fenestration include storefront systems, curtain walls, and atrium roof systems.
Committee Reason:	Site built products can get a certificate of compliance from the manufacturer as issued by a certification agencies. Field fabricated was not included in the 2015 NGBS and needed to be added for consistency with IECC and field practices. Definitions are added for clarity and consistency.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	***Thomas Culp:*** I agree with the intent of the modified proposal, as site-built products such as stick-built storefront and curtain wall can obtain lab tested air leakage values just like factory-built products. The exception should have been directed towards field-fabricated products, which has been corrected in the modified proposal. However, the wording about "certificate of compliance" is not really right for all labs/programs. I suggest the clarification as follows: "Site-built fenestration products ~~have a certificate of compliance~~ shall also comply with this practice. This practice does not apply to field-fabricated fenestration products." This just then makes it clear that site-built products must comply and use the same core requirements / language as for normal fenestration.
Disagree with Committee Action:	
Abstain:	

P194 LogID 1504	**701.4.3.4 Fenestration air leakage**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Craig Conner, Building Quality	
Requested Action:	Revise as follows	
Proposed Change:	701.4.3.4 Fenestration air leakage.	

	Jalousie windows shall have an air infiltration rate of no more than 1.3 cfm per square foot.
Reason:	Jalousie windows are tropical windows made to admit breezes. Sealing them tight is expensive and nonsensical.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	*Limit the exception for the tropical zone only:* 701.4.3.4 Fenestration air leakage. Jalousie windows shall have an air infiltration rate of no more than 1.3 cfm per square foot. Exception: For Tropical Zones Only, Jalousie windows are permitted to be used as a conditioned space boundary and shall have an air infiltration rate of not more than 1.3 cfm per square foot. *Add Definition of Jalousie:* **Jalousie window** — a window consisting of a series of overlapping horizontal frameless louvers which pivot simultaneously in a common frame and are actuated by one or more operating devices so that the bottom edge of each louver swings outward and the top edge swings inward during operation
Committee Reason:	To make sure that it's used only for tropical zones in this application. And to add a definition for clarity of compliance.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **38** Disagree with committee action: **2** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** I disagree with allowing this type of window It is inconsistent with base code requirements and does not even seem to be limited to tropical zones Other types of operable windows with code compliant air infiltration rates are better options ***R. Christopher Mathis:*** 1.3 cfm/ft2, over 3 times conventional windows? Firstly, at what pressure? Secondly, to be used in the envelope in any humid zone, the additional latent load and moisture control issues would be tremendous. Such fenestration belongs in unconditioned spaces, where admitting breezes is the primary method for maintaining comfort.
Abstain:	

P195 LogID 6508	**701.4.3.5 Recessed lighting**	***Final Formal Action:*** **Approve as Modified**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**701.4.3.5 ~~Recessed lighting~~ Lighting in building thermal envelope.** ~~Recessed l~~Luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All ~~recessed~~ luminaires in the building thermal envelope are IC-rated and labeled as meeting ASTM E283when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm(0.944 L/s) of air movement from the conditioned space to the ceiling cavity. All ~~recessed~~ luminaires in the building thermal envelope are sealed with a gasket or caulk between the housing and the interior of the wall or ceiling covering.	
Reason:	The vast majority of lighting luminaires are recessed in the building thermal envelope. However, the scope of the requirements of this section should apply to all lighting luminaires in the building thermal envelope, not just recessed lighting. With fast changing lighting technology, it's possible lighting luminaires will penetrate the building thermal envelope but not be considered recessed lighting. The revisions would apply to all lighting luminaires "in" the building thermal envelope, but would not apply to luminaires "on" the building thermal envelope. Consider, for example, ½" thick LED lighting panels	

	which are installed in place of ½" drywall on the ceiling. These panels may not be considered recessed but clearly should be included in the requirements of this section.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**701.4.3.5 ~~Recessed lighting~~ Lighting in building thermal envelope.** ~~Recessed l~~Luminaires installed in the building thermal envelope which penetrate the air barrier are sealed to limit air leakage between conditioned and unconditioned spaces. All ~~recessed~~ luminaires installed in the building thermal envelope which penetrate the air barrier are IC-rated and labeled as meeting ASTM E283 when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm (0.944 L/s) of air movement from the conditioned space to the ceiling cavity. All ~~recessed~~ luminaires installed in the building thermal envelope which penetrate the air barrier are sealed with a gasket or caulk between the housing and the interior of the wall or ceiling covering.
Committee Reason:	The modification addresses all types of luminaire that may penetrate the air barrier whether they are recessed or not.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P196 LogID 6509	**701.4.5 Boiler supply piping** ***Final Formal Action:*** **Approve as Modified**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)
Requested Action:	Revise as follows
Proposed Change:	**701.4.5 Boiler supply piping.** Boiler ~~supply~~ piping in unconditioned space supplying or returning heated water or steam is insulated.
Reason:	It seems this more clearly describes the intent of the requirements of this section.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**701.4.5 Boiler ~~supply~~ piping.** Boiler ~~supply~~ piping in unconditioned space supplying ~~or~~ and returning heated water or steam is insulated. **11.701.4.5 Boiler ~~supply~~ piping.** Boiler ~~supply~~ piping in unconditioned space supplying ~~or~~ and returning heated water or steam is insulated. Exception: where condensing boilers are installed, insulation is not required for return piping.
Committee Reason:	Improve energy savings of boiler systems and to account for condensing boilers.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P197 LogID 6395	702.2.1 ICC IECC analysis (Energy performance levels) *Final Formal Action:* **Disapprove**
Submitter:	Eric Lacey, RECA
Requested Action:	Revise as follows
Proposed Change:	**702.2.1 ICC IECC analysis.** The building complies with Section R405 or Section C407 of the 2018 IECC, the IECC Simulated Performance Alternative, using either the ~~Energy efficiency features are implemented to achieve~~ energy cost or source energy performance option. ~~that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC, Section R405, or ICC IECC Section C407.2 through C407.5, applied as defined in the ICC IECC, is required~~.
Reason:	This proposal will simplify and clean up the language for the performance compliance option in Section 702.2.1, but should not materially change the requirements of that section. While 702.2.1 already requires compliance with the IECC's Simulated Performance Alternative, it does so in an ambiguous and confusing way. We propose a very simple solution: clarify that compliance with the IECC performance path is required to comply under this option. This could easily be accomplished by deleting the confusing language and replacing it with simple references to Sections R405 and C407. These two sections contain all of the assumptions, references, and documentation requirements necessary to complete a full simulated performance analysis. This would also eliminate the separate requirement for documentation in the second sentence, since that documentation is included in Sections R405.4 and C407.4.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The proposal significantly changes the meaning of the section. The change limits the ability to show compliance using non-envelope measures because R405 essentially allows trade-offs only on the envelope.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P198 LogID 6485	702.2.1 ICC IECC analysis (Energy performance levels) *Final Formal Action:* **Disapprove**
Submitter:	Steven Armstrong, self
Requested Action:	Add new as follows
Proposed Change:	Leave current IECC code as is for 2018 Standard
Reason:	Need to consider not changing the current IECC code level for the 2018 Standard. Fear is that we are going to code ourselves out of work. At present many areas do not subscribe to the 2015 IECC and or some derivation of the code.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Keep up with the model codes to provide options for jurisdictions who are early adopters of codes.

	Note: revisit when the code is available
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P199 LogID 6470	**702.2.1 ICC IECC analysis (Energy performance levels)**	***Final Formal Action:*** **Disapprove**
Submitter:	Chuck Foster, self	
Requested Action:	Revise as follows	
Proposed Change:	Energy efficiency features are implemented to achieve energy cost ~~or source energy~~ performance that meets the ICC IECC.	
Reason:	Source energy is an unstable metric for estimating energy performance, especially in a time of rapidly changing electric generation fleets. In addition, source energy overtly discriminates against the use of renewable energy sources, thereby putting it at tension with the goals and purpose of the NGBS.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	To provide consistency with IECC where source energy is included.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P200 LogID 6172	**702.2.1 ICC IECC analysis (Energy performance levels)**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Keith Dennis, NRECA	
Requested Action:	Revise as follows	
Proposed Change:	**702.2.1 ICC IECC Analysis.** Energy efficiency features are implemented to achieve energy cost or <u>site energy or</u> source energy performance that meets the ICC IECC.	
Reason:	The source energy calculations contain flaws, which is why DOE recently underwent a process to adjust them. Some of the issues are that source energy for renewable energy treats that energy as if it were from a fossil fuel plant and multiplies it by about 3, creating a counterproductive result. Similarly, nuclear energy, which makes up 20% of our national fuel mix and generates no emissions, is treated worse than fossil fuel because nuclear reactions are hot. This has little to do with CO2 emissions goals or energy efficiency. Using site and source energy provides flexibility.	

Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **35** Disagree with committee action: **4** Abstain: **1** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** I request Disapproval of this proposal as it sets up the standard for gaming. When not having to consider the significant transmission losses that occur between source and site the consumption of the building is significantly under represented ***R. Christopher Mathis:*** See P029. From the reason statement: "Using site and source energy provides flexibility." Unfortunately, it also undermines any consistent baseline. A fundamental point of differentiation between just energy efficiency and "green" is the inclusion of a wider scope of sustainability. That same expansion justifies building site selection and management, as it does the calculation of all energy as primary/source energy. A location's appropriate fuel mix multipliers readily are available. ***Neil Leslie:*** Adding this option under the guise of "flexibility" creates a new, technically flawed path to electrification of options in a mixed fuel building that are neither cost-justified nor justified on a source energy savings basis. The site energy option is not needed in an all-electric building calculation as site energy, energy cost, and source energy calculations would lead to the same answer in an all-electric building. The impact of this change is limited to mixed fuel buildings, providing the opportunity to use the standard to unfairly encourage substituting electric options for natural gas or propane options. The "flaw" in the source energy conversion factor noted in the justification may ultimately be a good proxy for marginal source energy impacts, which would send reasonable and fair market and decision making signals in the standard. In any event, the "counterproductive result" does not materially impact the result when using a source energy performance calculation and should not be used as the key rationale for substituting site energy for either energy cost or source energy calculations. Site energy calculations will introduce an unnecessary and technically unsupportable inconsistency with IECC calculations that are based either on energy cost or source energy. This change is not in the best interests of the standard, nor is it fair to the natural gas ratepayers or propane consumers adversely impacted by flawed results using site energy savings as the basis of the certification level. ***Paul W Cabot:*** I revise my vote based on circulated ballot comments.
Abstain:	***Theresa Weston:*** based on circulated ballot comments.

P201 LogID 6150	**702.2.1 ICC IECC analysis (Energy performance levels)**	***Final Formal Action:*** **Disapprove**
Submitter:	Steven Rosenstock, self	
Requested Action:	Revise as follows	
Proposed Change:	702.2.1 ICC IECC Analysis. Energy efficiency features are implemented to achieve energy cost or ~~source~~ site energy performance that meets the ICC IECC.	
Reason:	Site energy is measurable, verifiable, and is directly correlated to energy costs in a remodeled building. Source energy estimates are widely variable and can be easily used to "game" the system. In addition,	

	source energy proponents claim that grid-based renewables have the highest "source" factors, penalizing builders and customers that use renewable forms of electricity. Site energy is also consistent with the equipment energy efficiency metrics shown in this chapter. ASHRAE has also stated that site energy is the preferred choice when looking at "net zero" energy buildings or energy comparisons.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with actions on P200 and P199
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P202 LogID 6329	**702.2.1 ICC IECC analysis (Energy performance levels)** ***Final Formal Action:*** **Disapprove**
Submitter:	Neil Leslie, self
Requested Action:	Revise as follows
Proposed Change:	**702.2.1 ICC IECC analysis.** Energy efficiency features are implemented to achieve energy cost or source energy performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC, Section R405~~, or ICC IECC Section C407.2 throughC407.5,~~ applied as defined in the ICC IECC, is required. <u>For heating systems, the standard reference design shall be an air source heat pump. For service water heating, the standard reference design shall be an electric resistance storage water heater. For cooling systems, the standard reference design shall be an air cooled split system air conditioner.</u>
Reason:	A single technology-blind baseline performance requirement is critical for a uniform and consistent implementation of the Standard 700 primary intent. Shifting to a single baseline design provides an equitable credit to all technologies that have lower annual costs compared to the single baseline level irrespective of energy form or technology design. It establishes fixed reference home performance requirements BEFORE making the technology and energy choices for the rated home. A single reference design methodology creates a level playing field for all technology and energy forms and provides equitable treatment of advanced renewable, waste heat recovery, hybrid, and multi-fuel technology options. It is especially important for equitable and consistent evaluation of on-site power generation and combined heat and power systems.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Inconsistent with IECC that allows choice of baseline technologies and systems
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **38** Disagree with committee action: **2** Abstain: **0** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	***Paul W Cabot:*** I agree with the proponent that a single reference design methodology creates a level field for all technology and energy forms and would make the standard the leading green standard. ***Neil Leslie:*** With the tighter linkage to ASHRAE Standard 189.1/IgCC based on the scope change to ICC 700, it is even more important to be consistent with that green code/standard which uses a single baseline for its performance path in Standard 189.1 Appendix C. The "inconsistency" with IECC noted in the committee reasoning is not a meaningful inconsistency since IECC is silent on heating and water heating options through its "as proposed" approach to these technologies, and ICC 700 is already inconsistent with IECC provisions in its assignment of points for higher efficiency options. However, the remaining inconsistency with IgCC is significant if the single baseline approach is not adopted in ICC 700. Proposed change P202 provides the needed consistency for more equitable implementation of the performance path in ICC 700. Note that it will be critical to reject the proposed site energy option (P200 and P029) as well to avoid unfair electrification of mixed fuel homes to improve their site energy performance while worsening their energy cost or source energy performance.
Abstain:	

P203 LogID 17-068	**702.2.1 ICC IECC analysis** ***Final Formal Action:*** **Disapprove**
Submitter:	Jerry Phelan, Covestro
Requested Action:	Revise as follows
Proposed Change:	**702.2.1 ~~ICC IECC analysis~~ Total Building Energy Performance Paths.** Energy efficiency features are implemented to achieve energy cost or source energy performance ~~that meets the ICC IECC~~ using a simulation program in accordance with one of the following established compliance criteria: 1. For a residential building, as defined in the ICC IECC Section R202, in accordance with ICC IECC Section R405. 2. For a commercial building, as defined in the ICC IECC Section C202, in accordance with ICC IECC Section C407. 3. For a new building not excluded by ASHRAE 90.1-2016 Section 2.2, in accordance with the Performance Rating Method of Normative Appendix G and demonstrating a Performance Cost Index that is less than or equal to the Performance Cost Index Target as calculated in Section 4.2.1 (Strike the second sentence in 702.2.1 in its entirety.) Where a building of 3 stories or less includes residential occupancy and less than or equal to 10% of the floor area is commercial occupancy, Path 1 must be utilized for the Total Building Energy Performance analysis. Where a building of 3 stories or less includes residential occupancy and greater than 10% of the floor area is commercial occupancy, Path 1 must be utilized for the Total Building Energy Performance analysis of the residential portion of the building and Path 2 must be utilized for the Total Building Energy Performance analysis of the commercial portion of the building. Where a building of more than 3 stories includes both residential and commercial occupancy either Path 2 or 3 must be utilized for the Total Building Energy Performance analysis of the whole building. **702.2.2 Energy performance analysis.** Energy savings levels ~~above the ICC IECC~~ are determined through ~~an~~ the building performance analysis ~~that includes improvements…~~of the energy efficiency measures associated with the systems and loads specified in the ICC IECC Section R405.1 for Path 1 and the ICC IECC C407.1 for Path 2 and with the regulated energy used for building systems and components as defined in Section 3.2 of ASHRAE 90.1-2016 for Path 3. Points are assigned using the following formulas: **~~Points = 30 + (percent above ICC IECC 2015) * 2~~** **1. Points = 30 + (percent energy savings versus the annual energy cost of the standard reference design) * 3.**

	2. Points = 30 + (percent energy savings versus the annual energy cost of the standard reference design) * 2. **3. Points = 30 + (Performance Cost Index points below the Performance Cost Index Target) * 3.** Where both Path 1 and Path 2 are utilized in the analysis the points shall be combined.
Reason:	The current provision language does not recognize the drastic differences between the residential and commercial performance path in the IECC. These differences include the system performance and loads that are used for the analysis, the specifications or rule sets established for the proposed and reference buildings, the calculation software tool requirements and more. Therefore, the current language does not insure uniformity in deriving meaningful results. The proposed language provides explicit instructions for establishing consistent execution of performance path analysis. It also provides the user synergistic use of established performance paths for demonstration of minimum compliance as well as conformance with specified green building performance levels of the NGBS. In addition, where the current language is particularly problematic given the proposed scope change in the NGBS, the proposed language incorporates the definition needed to facilitate this scope expansion. Lastly, the addition of 90.1 Appendix G provides the user with additional flexibility for conformance with NGBS as well as provide potential market expansion for the use of the NGBS given both the broad use of Appendix G and the expanded scope of the NGBS. Given the various scales associated with the 3 paths, I have developed the proposed point formulas for consideration.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The proposal does not explain how to combine points for commercial and residential. Some of the assumption of IECC commercial are not the same as 90.1. It is preferable to keep all calculations within the IECC as in the current standard to provide a single consistent basis for compliance.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P204 LogID 6510	**702.2.2 Energy performance analysis** ***Final Formal Action:*** **Disapprove**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)
Requested Action:	Revise as follows
Proposed Change:	**702.2.2 Energy performance analysis.** Energy savings levels above the ICC IECC are determined through an analysis that includes improvements in building envelope, air infiltration, heating system efficiencies, cooling system efficiencies, duct sealing, water heating system efficiencies, lighting, and appliances. Points are assigned using the following formula: **Points = 30 + (percent above ICC IECC 2015)* 2** ~~**Multifamily Building Note:** Modeling~~ **702.2.2.1 Multifamily buildings.** Multifamily building energy performance analysis is completed building-wide using one of the following methods: whole building energy modeling, a unit-by-unit energy modeling approach, or a building average of a unit-by-unit energy modeling approach.

Reason:	This non-mandatory Note appears to be a mandatory requirement. Revising the language as such. Also, the requirements may be better stated with "Modeling" revised out of the first part of the sentence.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	This clarification is not needed. The current language is adequately clear and is consistent with the use of multifamily notes throughout the document.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P205 LogID 6533	**702.2.2 Energy performance analysis**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Craig Conner, self	
Requested Action:	Revise as follows	
Proposed Change:	2.2.2 Energy performance analysis. Energy savings levels above the ICC IECC are determined through an analysis that includes improvements in building envelope, air infiltration, heating system efficiencies, cooling system efficiencies, duct sealing, water heating system efficiencies, lighting, ~~and~~ appliances, and on-site renewable energy. Points are assigned using the following formula:	
Reason:	On-site renewable energy reduces the net energy used by the residence. Use of on-site renewables lowers the use of non-renewable fossil fuels. On-site renewables are almost essential to highly efficient homes and sometimes the only practical way to get to zero or near zero energy homes.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **37** Disagree with committee action: **2** Abstain: **1** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Amy Schmidt:*** I support the use of renewable energy however it must be recognized and incorporated for what it is It is an alternative fuel for generation not energy efficiency It should be calculated separately and applied appropriately The reasoning statement saying that on-site renewable are almost essential to highly efficient homes is not correct you can have a highly efficient home regardless of renewable energy It is the offset to fossil fuel consumption that is critical when incorporating renewables ***R. Christopher Mathis:*** Generation is not conservation. It is incorrect to apply on-site generation as if it were a reduction in load. If included, generation should have its own section or, at least, considerably	

	more guidance about when and how it is to be counted.
Abstain:	***Theresa Weston:*** based on circulated ballot comments.

P206 LogID 6512	**703.1.1 UA Compliance** ***Final Formal Action:*** **Approve as Submitted**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)
Requested Action:	Revise as follows
Proposed Change:	**703.1.1 ~~UA~~ Building thermal envelope ~~C~~ compliance.** The building thermal envelope is incompliance with Section 703.1.1.1 or 703.1.1.2. **Exception:** Section 703.1.1 is not required for Tropical Climate Zone.
Reason:	UA is one of the two options for compliance required by 703.1.1. The other is compliance via prescriptive R-values and prescriptive fenestration requirements – but no UA calculation is required.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P207 LogID 6398	**703.1.1.1 Maximum UA** ***Final Formal Action:*** **Approve as Submitted**
Submitter:	Eric Lacey, RECA
Requested Action:	Revise as follows
Proposed Change:	**703.1.1.1 Maximum UA and SHGC.** For IECC residential buildings, the total building UA is less than or equal to the total maximum UA as computed by 2018 ~~2015~~ IECC Section R402.1.5. The SHGC requirements for fenestration in Table R402.1.2 are also met. For IECC commercial buildings, the total UA is less than or equal to the sum of the UA for 2018 ~~2015~~ IECC Tables C402.1.4 and C402.4, including the U-factor times the area and C-factor or F-factor times the perimeter. The SHGC requirements for fenestration in Table C402.4 are also met. The total UA proposed and baseline calculations are documented. REScheck or COMcheck is deemed to provide UA calculation documentation.
Reason:	This proposal clarifies that the fenestration SHGC requirements from the IECC have to be met whether the user chooses the UA compliance method (section 703.1.1.1) or the prescriptive-components compliance method (section 703.1.1.2). It also updates the referenced IECC from the 2015 to the 2018 Edition. The current prescriptive component compliance option (section 703.1.1.2) already recognizes that SHGC requirements also need to be met, but this requirement was inadvertently not mentioned in the Maximum UA option (section 703.1.1.1), potentially creating confusion. This proposal corrects this issue. SHGC requirements are a critical part of the thermal envelope and must be met regardless of how U-factor compliance is determined.
Committee Formal Action from Meeting:	**Approve as Submitted**

Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P208 LogID 6399	**703.1.1.2 Prescriptive R-values and fenestration requirements**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	
Proposed Change:	**703.1.1.2 Prescriptive R-values and fenestration requirements.** The building thermal envelope is in accordance with the insulation ~~and fenestration~~ requirements of 2018 ~~2015~~ IECC Table R402.1.2 ~~R402.1.1~~ or Table~~s~~ C402.1.3. The fenestration U-factors and SHGCs are in accordance with Table 703.2.5.1 ~~and~~ or 2018 IECC Table C402.4. ~~The SHGC is in accordance with the 2015 IECC requirements.~~	
Reason:	The next Edition of ICC-700 should correspond with, and build upon the efficiency of, the 2018 IECC. While we expect that generic references to the IECC will be updated to the 2018 Edition in the Chapter 13 Referenced Standards, wherever there is a reference to a specific IECC Edition in the text (and particularly where there is a citation to a specific table or section), we generally support updating the reference to the 2018 IECC. This proposal applies the 2018 IECC prescriptive table as the prescriptive baseline for insulation requirements in the 2018 ICC-700. It also references ICC-700 Table 703.2.5.1 for fenestration U-factor and SHGC, which we expect will be updated to correspond with the 2018 IECC in a separate proposal. Not only will this replace an external reference with an internal reference, but it will also eliminate any conflicts between fenestration requirements in ICC-700 and the IECC. The combination of this proposal and a separate proposal to adopt the 2018 IECC fenestration requirements will result in a small improvement in efficiency in most climate zones because of improvements to fenestration U-factors, and will not result in any rollbacks in efficiency in ICC-700. We also note that the section reference in the 2015 ICC-700 to the 2015 IECC prescriptive table is incorrect – it should be Table R402.1.2. (We recommend that Staff correct this in the 2015 ICC-700 in future printings.) However, because we do not yet have a published version of the 2018 IECC, we ask that Staff ensure that the section numbers are consistent for the 2018 editions of the IECC and ICC-700.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		

Disagree with Committee Action:	
Abstain:	

P209 LogID 6511	**703.1.1.2 Prescriptive R-values and fenestration requirements**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**703.1.1.2 Prescriptive R-values and fenestration requirements.** The building thermal envelope is in accordance with the insulation and fenestration requirements of ~~2015~~ ICC IECC Table R402.1.1 or Tables C402.1.3 and C402.4. The SHGC is in accordance with the~~2015~~ ICC IECC requirements. **703.1.2 Building Envelope Leakage.** The building thermal envelope is in accordance with ~~2015~~ ICC IECC R402.4.1.2or C402.5 as applicable. **Exception:** Section 703.1.2 is not required for Tropical Climate Zone. **703.1.3 Duct Testing.** The duct system is in accordance with ~~2015~~ ICC IECC R403.3.2 through R403.3.5 as applicable. **705.6.2.1 Air leakage validation of building or dwelling units.** A visual inspection is performed as described in701.4.3.2(2) and air leakage testing is performed in accordance with ASTM E779or ASTM E1827. **(Points awarded only for buildings where building envelope leakage testing is not required by ~~2015~~ICC IECC.)** **(Points not awarded if points are taken under Section 703.2.4)**	
Reason:	Suggesting the reference to ICC IECC be consistent throughout the document. There are currently references to “International Energy Conservation Code”, “IECC”, “2015 IECC”, and “ICC IECC”. Our recommendation is “ICC IECC” should be used consistently in the standard.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P210 LogID 1518	**703.1.3 Duct Testing**	***Final Formal Action:*** **Disapprove**
Submitter:	Rachel Della Valle, Southern Energy Management	
Requested Action:		
Proposed Change:		
Reason:	703.1.3 Duct Testing. Requires duct testing per 2015 IECC unless ducts and hvac system are within the building thermal envelope. Correct?	

Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	No specific language proposed
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P211 LogID 6513	**703.2.1 UA improvement**	***Final Formal Action:*** **Approve as Modified**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**703.2.1 UA improvement.** The total building thermal envelope UA is less than or equal to the baseline total UA resulting from the U-factors provided in Table 703.2.1(a) or ICC IECC Tables C402.1.4 Group R and C402.4, as applicable. Where insulation is used to achieve the UA improvement, the insulation installation is in accordance with ~~Grade 1 requirements as graded~~ Section 701.4.3.2.1 as verified by a third-party. Total UA is documented using a RESCheck, COMCheck, or equivalent report to verify the baseline and the UA improvement. **Table 703.2.1(a)** **~~Equivalent~~ Baseline U-Factors[a]** **Table 703.2.1(b)** **Points for Improvement in Total Building Thermal Envelope UA Compared to Baseline UA** Exception: For the Tropical Climate Zone~~,~~: crawl space, basement, and floor u-factors are ~~not applicable~~ excluded from the total building thermal envelope UA improvement calculation.	
Reason:	Primarily, attempting to clarify the baseline UA and that the points attained for improving the total building thermal envelope UA are compared to the baseline determined from the U-factors in Table 703.2.1(a). Also, replacing the reference to Grade I with reference to Section 701.4.3.2.1, as the term "Grade 1" is based on requirements not defined, described, or referenced in the standard. And, revising the text of the Exception to Table 703.2.1(b) to what we surmise is the intent of the exception.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**703.2.1 UA improvement.** The total building thermal envelope UA is less than or equal to the baseline total UA resulting from the U-factors provided in Table 703.2.1(a) or ICC IECC Tables C402.1.4 ~~Group R~~ and C402.4, as applicable. Where insulation is used to achieve the UA improvement, the insulation installation is in accordance with Grade 1 meeting ~~requirements as graded~~ Section 701.4.3.2.1 as verified by a third-party. Total UA is documented using a RESCheck, COMCheck, or equivalent report to verify the baseline and the UA improvement. **Table 703.2.1(a)** **~~Equivalent~~ Baseline U-Factors[a]** **Table 703.2.1(b)**	

	Points for Improvement in Total Building Thermal Envelope UA Compared to Baseline UA Exception: For the Tropical Climate Zone~~,~~: crawl space, basement, and floor u-factors are ~~not applicable~~ excluded from the total building thermal envelope UA improvement calculation.
Committee Reason:	Retaining Grade 1 for usability of the standard and removing Group R for applicability and consistency reasons.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P212 LogID 6514	**703.2.4 Building envelope leakage**	***Final Formal Action:*** **Disapprove**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**703.2.4 Building envelope leakage**. The maximum building envelope leakage rate is verified by a third-party in accordance with Table 703.2.4 and whole building ventilation is provided in accordance with Section 902.2.1.	
Reason:	Considering points are being awarded for this practice, it is important the building envelope leakage is verified by a third-party.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The clarification is not needed	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P213 LogID 1519	**703.2.5 Building envelope leakage**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Carl Seville, SK Collaborative	
Requested Action:	Revise as follows	
Proposed Change:	Add an alternative leakage measurement of CFM per Square foot of building envelope at 50 PA (ELR50) in addition to ACH50 for points in this section. I recommend adding an additional column to table 703.2.4 as noted below: Max Env Leakage Climate Zone Rate ELR50 ACH50 Balance of table remains the same .28 4 .23 3 .18 2 .13 1	

Reason:	A recent study by CARB has determined that ACH50 is an inaccurate measurement for small multifamily apartment and unfairly penalizes units that are only measured via ACH50.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Add an alternative leakage measurement of CFM per square foot of building envelope at 50 PA (ELR50) in addition to ACH50 for points in this section as follows:

Climate Zone								
	1	2	3	4	5	6	7	8
ELR50	Points Awarded							
4 (0.28)	1	2	-	-	-	-	-	-
3 (0.23)	2	4	-	-	-	-	-	-
2 (0.18)	3	5	3	4	4	6	8	7
1 (0.13)	4	7	5	7	7	10	15	11

Committee Reason:	Modified the language to add a second table and match existing formatting in the NGBS
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P214 LogID 6066	**703.2.5.1 Fenestration Specifications**	***Final Formal Action:*** **Disapprove**
Submitter:	Thomas Culp, Aluminum Extruders Council	
Requested Action:	Revise as follows	
Proposed Change:	**703.2.5.1** NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis do not exceed the values in Table 703.2.6.1 or IECC Table C402.4 where applicable. (rest of section unchanged)	
Reason:	While sections 703.2.6.1 and 703.2.6.2 are very appropriate for low-rise residential, they are still incorrect for high-rise residential. In fact, by referring to U-factors that originate from the residential chapter of the IECC and the Energy Star program for Windows, they are already inconsistent with Sections 703.1.1.1, 703.1.1.2, and 703.2.1 which properly refer to 2015 IECC able C402.4 as the baseline for windows in buildings that fall under the commercial IECC, including multifamily four stories and above. (Note: The Energy Star program for Windows is applicable only to windows in residential buildings three stories or less in height, and specifically excludes windows intended to be installed in buildings four stories or higher – see attached "Energy Star Product Specification Residential Windows, Doors, and Skylights, Eligibility Criteria Version 6.0", sections 2A, 2B, and 1M.) Corrections have been made to other parts of Section 703 to accommodate high-rise multifamily, but not here yet. To avoid a technical inconsistency with 703.1.1.2, Section 703.2.5.1 also needs to be revised as shown with the reference to IECC Table C402.4, either using the phrase "as applicable" or specifically stating for residential buildings four stories or higher above grade. Additionally, the main criteria in sections 703.2.5.1 and enhanced criteria in 703.2.5.2 will presumably be reviewed in accordance with changes to the 2018 IECC. As such, this would be an appropriate time to establish new fenestration criteria for buildings four stories and higher based on the correct baseline from the commercial IECC, similar to how requirements for mid and high-rise multifamily buildings were addressed in other sections last cycle (air leakage, radiant barriers, HVAC efficiency, water heating). I will gladly assist in this process. Not only will this improve technical consistency and usability of the NGBS for high-rise residential (think 10, 20, 30	

	stories, not just 4), but it will also make it more attractive for adoption into standards such as ASHRAE 189.1.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The proposed change is far too broad in its applicability to MF construction for fenestration with respect to building height.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **25** Disagree with committee action: **15** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Thomas Culp:*** I withdrew or agreed with the committee to disapprove other proposals related to the prescriptive fenestration requirements because we have now improved how the standard addresses nonresidential and high-rise multifamily spaces. However, I continue to believe this proposal is needed, and respectively disagree with the committee vote to disapprove P214. It was a very close vote (10-8with lots of abstentions), and I believe there continues to be misunderstanding about what this proposal does. This does not involve points (which would be under the enhanced fenestration provisions and/or the UA improvement – not this proposal) but simply opens up the section 703 prescriptive path to high-rise residential projects that would fall under the commercial base energy code, rather than only projects that can meet the low-rise residential base energy code or go through the section 702 performance path. They still have to meet the other improvements in 703 to achieve the required energy efficiency and points. In fact, not approving this proposal would create an inconsistency with P208 and P211 which were approved and reference the appropriate commercial energy code for sections 703.1.1.2 and703.2.1 respectively. This just does the same thing, making sure the appropriate reference to the commercial energy code is there for those applicable spaces. ***Sean S. Devlin:*** based on circulated ballot comments. ***Loren Ross:*** I agree with the comment and the Task Group recommendation. I have faith that the certifiers will understand when IECC Table C402.4 is applicable. ***Aaron Gary:*** based on circulated ballot comments. ***Greg Johnson:*** I concur with the TG 5 support for the Culp comment. ***Andrew Klein:*** P214 needs to be approved in order to avoid an internal inconsistency in the standard. Otherwise, this would be inconsistent with P208 and P211 which were approved on the consent agenda and reference the appropriate commercial energy code for sections 703.1.1.2 and703.2.1 respectively. P214 does the same thing, making sure the appropriate reference to the commercial energy code is also in 703.2.5.1 for those applicable spaces. ***Hope Medina:*** I e. ***Josh Jacobs:*** I agree with the ballot comment that this language should be added. ***Karla Butterfield:*** based upon circulated ballot comments. ***Michael Jouaneh:*** Based on circulated ballot comments.

	Kristopher Stenger: follow task group recommendation to disapprove action based on comment. ***Steven Rosenstock:*** Based on circulated ballot comments. ***Laura Petrillo-Groh:*** P214 needs to be approved in order to avoid an internal inconsistency in the standard. Otherwise, this would be inconsistent with P208 and P211 which were approved on the consent agenda and reference the appropriate commercial energy code for sections 703.1.1.2and 703.2.1 respectively. P214 does the same thing, making sure the appropriate reference to the commercial energy code is also in 703.2.5.1for those applicable spaces. ***William A. Sanderson:*** agree with the language in the original proposal and the task group's recomendation. ***Gregory Curtis Coolidge:*** Agree with ballot comments offered.
Abstain:	

P215 LogID 6400	**703.2.5.1 Fenestration Specifications** ***Final Formal Action:*** **Approve as Submitted**	
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	
Proposed Change:	**703.2.5 Fenestration**	
	703.2.5.1 NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis do not exceed the values in Table 703.2.5.1. Area weighted averages are calculated separately for the categories of 1) windows and exterior doors and 2) skylights and tubular daylighting devices (TDDs). Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.	**Mandatory for Section 703**
	~~**703.2.5.1.1 Dynamic glazing.** Dynamic glazing is permitted to satisfy the SHGC requirements of Table 703.2.5.1 provided the ratio of the higher to lower labeled SHGC is greater than or equal to 2.4 and the dynamic glazing is automatically controlled to modulate the amount of solar gain into the space in multiple steps. Fenestration with dynamic glazing is considered separately from other fenestration and area-weighted averaging with fenestration that does not use dynamic glazing is not permitted. Dynamic glazing is not required to be automatically controlled or comply with minimum SHGC ratio when both the lower and higher labeled SHGC already comply with the requirements of Table 703.2.5.1.~~ **Table 703.2.5.1** **Fenestration Specifications** **[No Change to Table]**	**Mandatory for Section 703**
	703.2.5.1.1 Dynamic glazing. Dynamic glazing is permitted to satisfy the SHGC requirements of Table 703.2.5.1 provided the ratio of the higher to lower labeled SHGC is greater than or equal to 2.4 and the dynamic glazing is automatically controlled to modulate the amount of solar gain into the space in multiple steps. Fenestration with dynamic glazing is considered separately from other fenestration and area-weighted averaging with fenestration that does not use dynamic glazing is not permitted. Dynamic glazing is not required to be automatically controlled or comply with minimum SHGC ratio when both the lower and higher labeled SHGC already comply with the requirements of Table 703.2.5.1.	

	703.2.5.2 The NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) are in accordance with Table 703.2.5.2(a), (b), or (c). Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice. **Per Table 703.2.5.2(a) or Table 703.2.5.2(b) or Table 703.2.5.2(c)** ~~**703.2.5.2.1 Dynamic glazing.** Dynamic glazing is permitted to satisfy the SHGC requirements of Tables 703.2.5.2(a), 703.2.5.2(b), and 703.2.5.2(c) provided the ratio of the higher to lower labeled SHGC is greater than or equal to 2.4, and the dynamic glazing is automatically controlled to modulate the amount of solar gain into the space in multiple steps. Fenestration with dynamic glazing is considered separately from other fenestration, and area-weighted averaging with fenestration that does not use dynamic glazing is not permitted. Dynamic glazing is not required to be automatically controlled or comply with minimum SHGC ratio when both the lower and higher labeled SHGC already comply with the requirements of Tables 703.2.5.2(a), 703.2.5.2(b), and 703.2.5.2(c).~~ **703.2.5.2(a) and (b) and (c) [No changes to tables]** **<u>703.2.5.2.1 Dynamic glazing.</u>** <u>Dynamic glazing is permitted to satisfy the SHGC requirements of Tables 703.2.5.2(a), 703.2.5.2(b), and 703.2.5.2(c) provided the ratio of the higher to lower labeled SHGC is greater than or equal to 2.4, and the dynamic glazing is automatically controlled to modulate the amount of solar gain into the space in multiple steps. Fenestration with dynamic glazing is considered separately from other fenestration, and area-weighted averaging with fenestration that does not use dynamic glazing is not permitted. Dynamic glazing is not required to be automatically controlled or comply with minimum SHGC ratio when both the lower and higher labeled SHGC already comply with the requirements of Tables 703.2.5.2(a), 703.2.5.2(b), and 703.2.5.2(c).</u>
Reason:	This proposal is purely editorial, but critical for proper application of the fenestration requirements of ICC-700. As Section 703.2.5.1 is currently presented in the published ICC-700, it is confusing, and we are concerned that code users may misinterpret the requirements. Likewise, Section 703.2.5.2 and its accompanying tables are similarly formatted and should also be fixed to better match the intent of the sections. Section 703.2.5.1 is the charging section that implements mandatory requirements for fenestration in the prescriptive path. These requirements are pulled directly from the 2015 IECC prescriptive table, which is reproduced in part as Table 703.2.5.1. An exception that applies only to dynamic glazing was added in the 2015 Edition, but it is just that – an exception to the table requirements. However, because of a page break and text formatting, Table 703.2.5.1 (mandatory fenestration requirements) appears to be a subsection of the dynamic glazing exception (Section 703.2.5.1.1). In addition, the designation of "mandatory" appears on page 58 with the charging language, but does not appear on page 59 alongside the fenestration requirements. It should be clearer to the user that both the charging language and table are mandatory for the prescriptive path. This proposal presents the fenestration table as intended: Table 703.2.5.1 should directly follow the charging language of Section 703.2.5.1, and it should be clearly noted as "mandatory." This section and table should be followed by the exception dealing with dynamic glazing. We ask Staff to make this very clear through formatting and numbering. Similarly, we recommend moving Tables 703.2.5.2(a) through (c) to directly follow the charging language, Section 703.2.5.2. The dynamic glazing exception to the tables should be placed at the end of the tables so that the user is not confused about the application of these options.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	

Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P216 LogID 6401	**703.2.5.1 Fenestration Specifications**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	

Proposed Change:

Table 703.2.5.1
Fenestration Specifications

Climate Zone	U-factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	.50	.25
2	.40	.25
3	~~.35~~ 0.32	.25
4	~~.35~~ 0.32	.40
5 to 8	~~.32~~ 0.30*	Any
	Skylights and TDDs (maximum certified ratings)	
1	.75	.30
2	.65	.30
3	.55	.30
4	.55	.40
5 to 8	.55	Any

*** Exception**: A maximum U-factor of 0.32 shall apply in climate zones 5 – 8 to vertical fenestration products installed in buildings located: (i) above 4000 feet in elevation above sea level or (ii) in windborne debris regions where protection of openings is required under IRC section R301.2.1.2.

Reason:

This proposal does two things. First, it incorporates the improvements to fenestration U-factors in climate zones 3-8 approved for the 2018 IECC. Second, it adopts a limited exception to these U-factors for climate zones 5-8 for fenestration products installed in buildings located in high-altitude areas or windborne debris regions, and permits fenestration in those locations to comply with the current U-factor requirement for the 2015 ICC-700 (0.32). To be clear, we support improving fenestration U-factors in the 2018 ICC-700 consistent with improvements in the 2018 IECC, with or without the limited exception that we propose. The lower 2018 U-factors will bring about a significant improvement in comfort and energy performance in buildings from climate zones 3-8. This improvement was widely supported in the process that established the 2018 IECC by homebuilders, energy efficiency advocates, and the U.S. DOE. As noted in the supporting documents for several of these proposals, the vast majority of residential fenestration available in these climate zones meets or exceeds these efficiency levels, and U.S. DOE has found these improved U-factors to be clearly cost-effective. We also believe, however, that there are certain efficiency disadvantages for fenestration installed in high-altitude or wind-borne debris regions. In high-altitude areas, a breather tube is often installed in the insulating unit, which eliminates the use of argon fill and slightly increases the overall U-factor. In wind-borne debris regions, the use of laminated glass can reduce the gap width in an insulating unit, again resulting in a slight U-factor increase. In climate zones 5-8 (where the updated U-factor requirement would be 0.30),

	for fenestration installed in high-altitude regions (over 4,000 feet) or where fenestration is required to be impact-resistant, we recommend an exception that would continue to allow a 0.32 U-factor, which is the current requirement in the 2015 IECC and the 2015 ICC-700 for these climate zones. We note that this exception, which was contained in Proposal RE19-16 for the 2018 IECC, had more than 2/3 support among Governmental Member Voting Representatives at the Public Comment Hearing for the 2018 IECC, but it narrowly missed the required 2/3 majority in the online CDPAccess voting. Regardless, we believe this exception will be welcomed by builders and developers in both coastal and high-altitude regions, and it should be a part of ICC-700.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	*Modify exception:* *** Exception**: A maximum U-factor of 0.32 shall apply in climate zones 5 – 8 to vertical fenestration products installed in buildings located: (i) above 4000 feet in elevation above sea level or (ii) in windborne debris regions where protection of openings is provided by fenestration as required under IRC section R301.2.1.2.
Committee Reason:	The u-factor adjustments are in alignment with the 2018 IECC, the exception was widely supported by those present at the code development hearings, the modification clarifies that shutters are not allowed to provide the protection
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P217 LogID 6402	**703.2.5.2 Enhanced Fenestration Specifications** *Final Formal Action:* **Approve as Submitted**
Submitter:	Eric Lacey, RECA
Requested Action:	Revise as follows
Proposed Change:	**Table 703.2.5.2(a)** **Enhanced Fenestration Specifications**

Climate Zones	U-Factor Windows & Exterior Doors	SHGC Windows & Exterior Doors	U-factor Skylights & TDDs	SHGC Skylights & TDDs	POINTS
1	0.40	0.25	0.60	0.28	1
2	0.40	0.25	0.60	0.28	1
3	0.30	0.25	0.53	0.28	2
4	0.30	0.40	0.53	0.35	3
5	0.27~~[a]~~	Any	0.50	Any	3
6	0.27~~[a]~~	Any	0.50	Any	4
7	0.27~~[a]~~	Any	0.50	Any	4
8	0.27~~[a]~~	Any	0.50	Any	4

Exception: For Sun-tempered designs meeting the requirements of Section 703.7.1, the SHGC is permitted to be
0.40 or higher on south facing glass.
~~a. An equivalent energy performance is permitted based on fenestration meeting the requirements of Section B.~~

	~~Equivalent Energy Performance in ENERGY STAR Product Specification Residential Windows, Doors, and Skylights, Eligibility Criteria Version 6.0.~~
Reason:	This proposal is intended to remove a high SHGC trade-off (footnote a) from this prescriptive option as unnecessary and potentially inefficient in this context. This type of trade-off is not permitted by the IECC and has been rejected many times. Whether high SHGC fenestration can be beneficial in some northern climates is very dependent on window orientation, overhangs and other factors. Typically, high SHGC is problematic particularly on eastern and western orientations, where it causes problems with comfort, cooling system design and other issues, but it may be beneficial on southern orientations, particularly with overhangs. This fact is already recognized in the sun-tempered design section of ICC-700 (Section 703.7.1), which establishes a specific compliance option for this type of design tailored to these considerations. By contrast, the trade-off in footnote a allows a less efficient U-factor without any regard to these issues. Section 703.7.1 is the appropriate approach to this issue. A continued exception (in footnote a) that does not reflect these important considerations is a bad idea. The exception trades a lower U-factor (which guarantees energy savings) for a higher SHGC (which may or may not produce savings, or could even raise costs), which illustrates why it has been consistently rejected for the IECC. The current SHGC exception is particularly problematic now that the IECC prescriptive U-factor requirements for 2018 are already set at 0.30 for climate zones 5-8. Table 703.2.5.2(a) should represent at least a small step in U-factor above the prescriptive requirements that will apply in states adopting the 2018 IECC.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **0** Abstain: **1** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	***Thomas Culp:*** I don't agree - this has been carefully vetted by DOE and EPA for Energy Star. Nonetheless, I will just abstain here.

P218 LogID 6067	**703.2.5.2 Enhanced Fenestration Specifications**	***Final Formal Action:*** **Disapprove**
Submitter:	Thomas Culp, Aluminum Extruders Council	
Requested Action:	Add new as follows	
Proposed Change:	Also see comment ID 6066 on Section 703.2.5.1. Need to add parallel fenestration criteria for multifamily buildings four stories and higher based on the correct commercial IECC baseline. Alternately, it could simply reference the 2018 IgCC as follows (proper section number to be added following development of 2018 IgCC): **703.2.5.2** The NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) are in accordance with Table 703.2.5.2(a), (b), or (c). Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice. <u>Fenestration in multifamily buildings four or more stories in height shall be considered incompliance with Table 703.2.5.2(a) if the U-factor and SHGC are in accordance with the prescriptive fenestration requirements of the *International Green Construction Code*.</u>	

Reason:	Also see comment #6066 on Section 703.2.5.1. While sections 703.2.6.1 and 703.2.6.2 are very appropriate for low-rise residential, they are still incorrect for high-rise residential. In fact, by referring to U-factors that originate from the residential chapter of the IECC and the Energy Star program for Windows, they are already inconsistent with Sections 703.1.1.1, 703.1.1.2, and 703.2.1 which properly refer to 2015 IECC able C402.4 as the baseline for windows in buildings that fall under the commercial IECC, including multifamily four stories and above. (Note: The Energy Star program for Windows is applicable only to windows in residential buildings three stories or less in height, and specifically excludes windows intended to be installed in buildings four stories or higher – see attached "Energy Star Product Specification Residential Windows, Doors, and Skylights, Eligibility Criteria Version 6.0", sections 2A, 2B, and 1M.) Corrections have been made to other sections to accommodate high-rise multifamily (air leakage, radiant barriers, HVAC efficiency, water heating), but not here yet. The main criteria in sections 703.2.5.1 and enhanced criteria in 703.2.5.2 will presumably be reviewed in accordance with changes to the 2018 IECC. As such, this would be an appropriate time to establish new fenestration criteria for buildings four stories and higher based on the correct baseline from the commercial IECC, similar to how requirements for mid and high-rise multifamily buildings were addressed in other sections last cycle. I will gladly assist in this process. Not only will this improve technical consistency and usability of the NGBS for high-rise residential (think 10, 20, 30 stories, not just 4), but it will also make it more attractive for adoption into standards such as ASHRAE 189.1.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P214.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P219 LogID 6589	**703.2.5.2 Enhanced Fenestration Specifications**	***Final Formal Action:*** **Disapprove**
Submitter:	Thomas Culp, Aluminum Extruders Council	
Requested Action:	Add new as follows	
Proposed Change:	**703.2.5.2** The NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) are in accordance with Table 703.2.5.2(a), (b), or (c). Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m2)or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice. Fenestration in multifamily buildings shall be considered in compliance with Table 703.2.5.2(a) if the U-factor and SHGC are in accordance with the prescriptive fenestration requirements of the NBI Multifamily Guide. Curtain wall, window wall, and storefront fenestration shall comply with the U-factor and SHGC requirements for Class AW fixed windows. Add to Chapter 13: NBI — New Buildings Institute. 503-761-7339. 623 SW Oak St., 3rd Floor Portland, OR 97205 www.newbuildings.org	

	Multifamily Guide	2017	Building Innovation – Multifamily.	703.2.5.2	

Reason:	The New Buildings Institute has published a new guide for advanced energy efficiency in multifamily buildings of all heights, providing 15-25% energy savings above the 2015 IECC. The guide may be downloaded for free from https://newbuildings.org/product/multifamily-guide/ . Although titled as a guide, it includes a requirements section intended for use by standards. Previously, the committee has not separated window requirements for multifamily buildings by height (<= 3 stories, 4+ stories) like IECC, IgCC, ASHRAE 90.1, ASHRAE 189.1, and Energy Star do. This provides an alternative approach as the NBI Multifamily Guide is specifically written to cover buildings of all heights, including recognition of the need for architectural grade (AW) windows in certain applications (highrise, high wind load, high use / durability). The window requirements are generally 3-16% more stringent than the base energy codes, match the U-factors of Table 703.2.5.2(a) for the main window requirement, exceed the SHGC requirements of Table 703.2.5.2(a), and match or exceed the U-factors of the 2018 IgCC for AW class windows. An additional clarification is added for curtain wall, window wall, and storefront fenestration which is sometimes used in highrise residential buildings. The NBI performance levels for AW fixed windows are also appropriate for these products, although they technically do not fall under the AW classification of AAMA/WDMA/CSA 101/I.S.2/A440. With the scope expansion to include mixed-use buildings with both nonresidential and multifamily spaces, more multifamily buildings of all heights will be looking to use of ICC-700 / NGBS, so inclusion of this alternative is appropriate and beneficial. NBI Multifamily Guide Window Requirements: CZ 1 CZ 2 CZ 3 CZ 4 CZ 5 CZ 6 CZ 7 CZ 8 U-factor 0.40 0.40 0.30 0.30 0.27 0.27 0.27 0.27 SHGC 0.25 0.25 0.25 0.35 0.35 0.35 NR NR For Class AW windows rated in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 Fixed Window U-factor 0.48 0.48 0.44 0.36 0.36 0.34 0.28 0.28 Operable Window U-factor 0.62 0.62 0.57 0.43 0.43 0.41 0.35 0.35
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Performance path can be used for compliance. The proposal provides an unnecessary break on energy performance. The scope of the proposal goes beyond the limitations imposed by the additional structural requirements for various types of multifamily buildings.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P220 LogID 17-081	**703.3 HVAC equipment efficiency**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, Building Quality	
Requested Action:	Update equipment efficiency ranges in the energy chapter to reflect the range of efficiency in the current market.	
Proposed Change:	Update the current points tables on the high end to reflect the improving equipment efficiencies in the market. Consider adding ductless mini splits.	
Reason:	To give points for the exceptionally efficient equipment.	
Committee Formal Action from Meeting:	**Disapprove**	

Modification of Proposed Change:	
Committee Reason:	The proposal was addressed in multiple other proposals
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P221 LogID 6161	**703.3.3 Heat pump heating efficiency** ***Final Formal Action:*** **Disapprove**
Submitter:	Steven Rosenstock, self
Requested Action:	Delete without substitution
Proposed Change:	~~a. Equipment designed to operate in cold climates is recommended to minimize use of resistance heat when installing a heat pump in Zones 6-8.~~
Reason:	This footnote is not needed, as the minimum code requires heat pump supplemental heating control in all climate zones, not just 6-8. See IECC Section R403.1.2 "Heat Pump supplementary heat (Mandatory)". Also, the language discusses the installation of the heat pump, not the operation. The installation may be for one day, while the operation is going to be for 15+ years.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The provision serves a purpose of encouraging proper use of heat pumps in colder climates.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P222 LogID 6168	**703.3.3 Heat pump heating efficiency** ***Final Formal Action:*** **Disapprove**
Submitter:	Steven Rosenstock, self
Requested Action:	Revise as follows
Proposed Change:	Table 703.3.3(3) Gas Engine-Driven Heat Pump Heating Efficiency Climate Zone 1 2 3 4 5 6-8 > 1.3 COP at 47F ~~2~~ 0 ~~7~~ 1 ~~11~~ 1 ~~14~~ 2 ~~16~~ 2 ~~18~~ 2

Reason:	Gas engine-driven heat pumps have much lower efficiency than electric heat pumps at 47 F (2-3 times less efficient), yet are given more points. They are even given points in climate zone 1 when electric products get no points. This revision equalizes the points, so that the standard does not promote the use of very low efficiency products. In addition, field performance shows even lower efficiency. See http://www.sciencedirect.com/science/article/pii/S0140700716300603. Here is a quote from the abstract: "The average COP unit of these systems varied from 0.15 to 0.85 during field operation. The gas engines were found to operate at significantly lower loads than their design capacity, and therefore, produced overall lower efficiencies." In addition, research by ORNL shows the drop-off in efficiency at lower temperatures. See Table 3 in the report that can be found at http://info.ornl.gov/sites/publications/files/Pub60271.pdf
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The prescriptive points in Chapter 7 are based on energy modeling. Retaining the point levels will maintain consistency throughout the Chapter.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P223 LogID 17-051	**703.3.3 Heat Pump Heating Efficiency**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, Edison Electric Institute	
Requested Action:	Revise as follows	
Proposed Change:	Tables 703.3.3(1) and 703.3.3(2), Footnote a: Equipment <u>shall be</u> designed to operate in cold climates ~~is recommended to minimize use of resistance heat~~ when <u>installed</u> ~~installing a heat pump~~ in Zones 6-8.	
Reason:	The current language with the phrase “is recommended” is vague and not enforceable. The modified language improves the footnote and removes unnecessary language.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	Delete footnote a from Tables 703.3.3(1) and 703.3.3(2): ~~Footnote a:~~ ~~Equipment designed to operate in cold climates is recommended to minimize use of resistance heat when installing a heat pump in Zones 6-8~~	
Committee Reason:	Clarity and retaining the intent statement “to minimize use of resistance heat”. Agree with the proponent on removing the word “recommended”. It leaves the verifier in a position of not knowing how it is minimized Heat pump is designed to reduce the use of resistance heat, therefore the footnote is redundant	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0**	

	Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P224 LogID 17-052	**703.3.3 Heat Pump Heating Efficiency**	***Final Formal Action:*** **Disapprove**
Submitter:	Steven Rosenstock, Edison Electric Institute	
Requested Action:	Add new as follows	
Proposed Change:	Tables 703.3.3(3) **Climate Zone** 1 2 3 4 5 6-8[a] a. Equipment shall be designed to operate in cold climates when installed in Zones 6-8.	
Reason:	As shown in the attached ORNL report, the efficiency of gas engine-driven heat pumps drops off significantly at lower temperatures (see Table 3 in the attached report located at http://info.ornl.gov/sites/publications/files/Pub60271.pdf). Also, other reports show the same trend. See http://www.sciencedirect.com/science/article/pii/S0140700716300603. Here is a quote from the abstract: "The average COP unit of these systems varied from 0.15 to 0.85 during field operation. The gas engines were found to operate at significantly lower loads than their design capacity, and therefore, produced overall lower efficiencies." The new footnote will ensure higher efficiency at lower temperatures, and is consistent with the footnotes for other air-source heat pump systems.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P223	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P225 LogID 17-053	**703.3.3 Heat Pump Heating Efficiency**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, Edison Electric Institute	
Requested Action:	Revise as follows	
Proposed Change:	Add new rows (and point values) for higher HSPF units in Table 703.3.3(2) ➢ 9.5 HSPF ➢ 10.0 HSPF	

	➢ 11.0 HSPF ➢ 12.0 HSPF ➢ 13.0 HSPF
Reason:	According to the CEE/AHRI Directory of Certified Products for variable-speed min-split and multi-split heat pumps, located at https://www.ahridirectory.org/ahridirectory/pages/vsmshp/cee/defaultSearch.aspx, there are many models that have heating efficiencies higher than 8.5 HSPF (over 1700 that are ≥ 10.0 HSPF, for example). As with other tables in Chapter 7, there should be a tiered approach for assigning points, based on the efficiency. Higher efficiency units will save more energy and should be awarded more points. In addition, in multi-family units, these products provide zoned heating, which enables further savings during periods of no occupancy.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	703.3.3 Heat Pump Heating Efficiency Efficiency / Climate Zone 1: ≥ 8.5 HSPF (≥11.5 EER) 0; ≥ 9.0 HSPF (≥12.5 EER) 0; ≥ 9.5 HSPF 0; ≥ 10.0 HSPF 1; **≥ 12.0 HSPF 1** 2: ≥ 8.5 HSPF 1; ≥ 9.0 HSPF 2; ≥ 9.5 HSPF 3; ≥ 10.0 HSPF 5; **≥ 12.0 HSPF 6** 3: ≥ 8.5 HSPF 1; ≥ 9.0 HSPF 4; ≥ 9.5 HSPF 7; ≥ 10.0 HSPF 10; **≥ 12.0 HSPF 11** 4: ≥ 8.5 HSPF 2; ≥ 9.0 HSPF 5; ≥ 9.5 HSPF 7; ≥ 10.0 HSPF 10; **≥ 12.0 HSPF 11** 5: ≥ 8.5 HSPF 2; ≥ 9.0 HSPF 6; ≥ 9.5 HSPF 11; ≥ 10.0 HSPF 15; **≥ 12.0 HSPF 17** 6-8[a]: ≥ 8.5 HSPF 2; ≥ 9.0 HSPF 10; ≥ 9.5 HSPF 18; ≥ 10.0 HSPF 26; **≥ 12.0 HSPF 28**
Committee Reason:	The proposed points account for heat pumps with higher efficiency as available in the market
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P226 LogID 17-054	**703.3.4 Cooling Efficiency**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, Edison Electric Institute	
Requested Action:	Revise as follows	
Proposed Change:	Add new rows (and point values) for higher SEER units in Table 703.3.4(1), or a separate table for variable speed mini-split and multi-split heat pumps. ➢ 23.0 SEER ➢ 25.0 SEER ➢ 27.0 SEER 29.0 SEER	
Reason:	According to the CEE/AHRI Directory of Certified Products for variable-speed min-split and multi-split heat pumps, located at	

<table>
<tr><td></td><td>https://www.ahridirectory.org/ahridirectory/pages/vsmshp/cee/defaultSearch.aspx, there are many models that have cooling efficiencies higher than 23.0 SEER (over 160 models that are ≥ 25.0 SEER, for example). As with other tables in Chapter 7, there should be a tiered approach for assigning points, based on the efficiency. Higher efficiency units will save more energy and should be awarded more points. In addition, in multi-family units, these products provide zoned cooling, which enables further savings during periods of no occupancy.</td></tr>
<tr><td>Committee Formal Action from Meeting:</td><td>Approve as Modified</td></tr>
<tr><td>Modification of Proposed Change:</td><td>
Table 703.3.4(1)
Electric Air Conditioner and Heat Pump Cooling[a]
<table>
<tr><th rowspan="2">Efficiency</th><th colspan="8">Climate Zone</th></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr>
<tr><td></td><td colspan="8">POINTS</td></tr>
<tr><td>≥15 SEER (12.5 EER)</td><td>~~96~~</td><td>~~64~~</td><td>~~32~~</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td></tr>
<tr><td>≥17 SEER (12.5 EER)</td><td>11</td><td>9</td><td>7</td><td>3</td><td>3</td><td>2</td><td>2</td><td>0</td></tr>
<tr><td>≥19 SEER (12.5 EER)</td><td>19</td><td>12</td><td>10</td><td>6</td><td>4</td><td>4</td><td>4</td><td>0</td></tr>
<tr><td>≥21 SEER</td><td>26</td><td>15</td><td>14</td><td>8</td><td>6</td><td>6</td><td>5</td><td>0</td></tr>
<tr><td>≥25 SEER</td><td>29</td><td>18</td><td>17</td><td>10</td><td>8</td><td>8</td><td>6</td><td>0</td></tr>
<tr><td colspan="9">a. Tropical Climate Zone: where none of the occupied space is air conditioned and where ceiling fans are provided for bedrooms and the largest space which is not used as a bedroom, 20 points is awarded.</td></tr>
</table>
</td></tr>
<tr><td>Committee Reason:</td><td>The new provisions are intended to provide points for heat pumps with higher efficiency available in the market. Values for SEER 15 are modified to account for new minimum federal standards.</td></tr>
<tr><td>Ballot Results on Committee Action:</td><td>Eligible to vote: 45
Agree with committee action: 40
Disagree with committee action: 0
Abstain: 0
Non-voting: 5</td></tr>
<tr><td colspan="2">Ballot Comments</td></tr>
<tr><td>Agree with Committee Action</td><td></td></tr>
<tr><td>Disagree with Committee Action:</td><td></td></tr>
<tr><td>Abstain:</td><td></td></tr>
</table>

<table>
<tr><td>P227 LogID 6065</td><td>703.3.6 Ground source heat pump installation Final Formal Action: Approve as Submitted</td></tr>
<tr><td>Submitter:</td><td>Steven Rosenstock, self</td></tr>
<tr><td>Requested Action:</td><td>Revise as follows</td></tr>
<tr><td>Proposed Change:</td><td>Table 703.3.6
Ground Source Heat Pump
Climate Zone

5-~~6~~8</td></tr>
<tr><td>Reason:</td><td>Ground Source Heat Pump have been installed and used successfully in Alaska and Sweden and should receive credit in a green building code. It is estimated that 20% of homes in Sweden use ground source heat pumps. See the following links for information: http://www.adn.com/energy/article/habitat-humanitys-geothermal-home-paying/2013/07/22/
http://www.cchrc.org/sites/default/files/docs/GSHP_YearTwoUpdate_0.pdf
https://pangea.stanford.edu/ERE/db/WGC/papers/WGC/2015/01021.pdf</td></tr>
<tr><td>Committee Formal Action from Meeting:</td><td>Approve as Submitted</td></tr>
</table>

Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P228 LogID 6064	**703.3.6 Ground source heat pump installation**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Steven Rosenstock, self	
Requested Action:	Revise as follows	
Proposed Change:	Table 703.3.6 Ground Source Heat Pump Efficiency ≥ 16.0 EER, ≥ 3.6 COP ≥ 24.0 EER, ≥ 4.3 COP ≥ 28.0 EER, ≥ 4.8 COP	
Reason:	This will make the requirements for the minimum efficiency consistent with other tables (such as 703.3.4 and 703.3.5, which include the > symbol). Please note that the symbols to be used are "greater than or equal to", not "greater than".	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P229 LogID 17-031	**703.4.3 Ductwork**	***Final Formal Action:*** **Disapprove**
Submitter:	Rachel Della Valle, Southern Energy Management	
Requested Action:	Revise as follows.	
Proposed Change:	Add a column showing the percentage of ducts/mechanical equipment that are in compliance with 703.4.3. In the upper points row, add an option for 100% ducts/mechanical equipment in compliance	

	which would utilize the current point allocation. In the lower points row add an option for 75%+ ducts/mechanical equipment in compliance which would utilize half of the current point allocation (IE: 4 points for climate zone 4).

% of Ducts in Compliance	Climate Zone					
	1	2	3	4	5	6-8
	Points					
100%	8	10	8	8	8	4
75%	4	5	4	4	4	2

Reason:	Give credit where credit is due for projects that can put most of the ductwork/equipment inside the building envelope. Many single family homes and multifamily buildings can't get 100% inside the thermal envelope but can do the majority (more than 50% but not 100%).
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Less than 100% is common practice and should not be awarded points. No clear definition or metrics on how to calculate exact percentages.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P230 LogID 17-032	**703.4.3 Ductwork** ***Final Formal Action:*** **Disapprove**
Submitter:	Rachel Della Valle, Southern Energy Management
Requested Action:	Revise as follows.
Proposed Change:	Award the same amount of points for all climate zones in credit 703.4.3. "8" points should be awarded no matter the climate zone, be it one extreme or another (Climate Zone 1 or Climate Zone 8).

Climate Zone					
1	2	3	4	5	6-8
Points					
8	~~10~~ 8	8	8	8	~~4~~ 8

Reason:	Why would hvac equipment inside the thermal envelope in Climate Zone 2 be awarded 10 points but hvac equipment inside the thermal envelope in Climate Zone 6 be awarded 4 points? Both are fairly extreme climate zones: 2 is a cooling climate and 6 is a heating climate. I suggest we level the playing field here by awarding the same amount of points no matter the climate zone (IE: 8 points).
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The current points are based on modeling. No substantiation provided for the proposed change.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0**

	Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P231 LogID 17-033	**703.4.3 Ductwork** ***Final Formal Action:*** **Disapprove**
Submitter:	Rachel Della Valle, Southern Energy Management
Requested Action:	Delete without substitution
Proposed Change:	Remove note in parentheses under Table 703.4.3: "~~(No points awarded for multifamily buildings four or more stories in height.)~~"
Reason:	Not all buildings four or more stories high with flat roofs will automatically comply with 703.4.3. Some buildings four or more stories have vented 'attics', some have batts at the ceiling level (drywall), some have pitched roofs and are more garden style. There are many different situations/building types and I think we should incentivize all buildings/homes to put mechanical equipment within the thermal envelope.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Based on 4 or more story buildings, most of these types of buildings will have nearly 100% of ducts in conditioned space as standard practice.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P232 LogID 17-030	**703.4.3 Ductwork** ***Final Formal Action:*** **Disapprove**
Submitter:	Rachel Della Valle, Southern Energy Management
Requested Action:	Revise as follows.
Proposed Change:	Heating and cooling ducts and mechanical equipment are installed within the ~~conditioned building space~~ <u>building thermal envelope</u>.
Reason:	Currently 703.4.3 (2) awards credit to the hvac ducts and equipment within the conditioned building space. This has been interpreted by the Home Innovation Research Labs to mean 'directly or indirectly conditioned building space'. I suggest a language update in 703.4.3 (2) to better describe the current conditions. I believe it is more descriptive of what is actually happening in the program to award credit for hvac ducts and equipment within the building thermal envelope.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	

Committee Reason:	The term “conditioned space” is a defined term. “Building thermal envelope” is not a defined term.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P233 LogID 6468	**703.4.4 Duct Leakage**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Revise as follows	
Proposed Change:	**703.4.4 <u>Aboveground</u> Duct Leakage.** The entire central HVAC duct system, including air handlers and register boots, is tested by a third party for total leakage at a pressure differential of 0.1 inches w.g. (25 Pa) and maximum air leakage is equal to or less than 6 percent of the system design flow rate or 4 cubic feet per minute per 100 square feet of conditioned floor area. **<u>703.4.5 Buried Duct Leakage</u>**<u>. Prior to backfill the entire central HVAC buried duct system and register boots, is tested by a third party for total leakage at a pressure differential of 2 inches w.g. (500 Pa) and maximum air leakage is equal to or less than 0.1 percent of the system design flow rate or 0.5 cubic feet per minute per 100 square feet of conditioned floor area.</u>	
Reason:	Buried ducts are capable of much better performance than above grade ducts, particularly with regard to leakage. It is also important for buried ducts to be water tight. In addition to there being lower temperature differentials between the interior and exterior sides of buried ducts versus above ground ducts, buried duct systems with smooth interiors provide less friction in air handling which reduces fan power requirements. Providing a superior ducting system merits a high point award.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	This practice is not aligned with IECC. The proposal does not show why this practice should get additional points. Further, the current practice does not differentiate such ducts and the current table can be used to assign points. In addition, there may be moisture issues with in ground buried ducts. Also the proposed language is confusing.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P234 LogID 6166	**703.5.1 Water heater Energy Factor (Water heating system)**	***Final Formal Action:*** **Approve as Modified**

Submitter:	Steven Rosenstock, self
Requested Action:	Revise as follows
Proposed Change:	All tables and point values need to be revised to account for the different standards for storage water heaters (≤ 55 gallons or above 55 gallons) as well as the Uniform Energy Factors which are based on 4 draw patterns.
Reason:	Below is the table of Uniform Energy Factors from the Code of Federal Regulations: (d) Water heaters. The uniform energy factor of water heaters shall not be less than the following: Product class Rated storage volume and input rating (if applicable) Draw pattern Uniform energy factor Gas-fired Storage Water Heater =20 gal and =55 gal Very Small 0.3456 - (0.0020 × Vr) Low 0.5982 - (0.0019 × Vr) Medium 0.6483 - (0.0017 × Vr) High 0.6920 - (0.0013 × Vr) >55 gal and =100 gal Very Small 0.6470 - (0.0006 × Vr) Low 0.7689 - (0.0005 × Vr) Medium 0.7897 - (0.0004 × Vr) High 0.8072 - (0.0003 × Vr) Oil-fired Storage Water Heater =50 gal Very Small 0.2509 - (0.0012 × Vr) Low 0.5330 - (0.0016 × Vr) Medium 0.6078 - (0.0016 × Vr) High 0.6815 - (0.0014 × Vr) Electric Storage Water Heaters =20 gal and =55 gal Very Small 0.8808 - (0.0008 × Vr) Low 0.9254 - (0.0003 × Vr) Medium 0.9307 - (0.0002 × Vr) High 0.9349 - (0.0001 × Vr) >55 gal and =120 gal Very Small 1.9236 - (0.0011 × Vr) Low 2.0440 - (0.0011 × Vr) Medium 2.1171 - (0.0011 × Vr) High 2.2418 - (0.0011 × Vr) Tabletop Water Heater =20 gal and =120 gal Very Small 0.6323 - (0.0058 × Vr) Low 0.9188 - (0.0031 × Vr) Medium 0.9577 - (0.0023 × Vr) High 0.9884 - (0.0016 × Vr) Instantaneous Gas-fired Water Heater 50,000 Btu/h Very Small Low 0.80 0.81 Medium 0.81 High 0.81 Instantaneous Electric Water Heater 75 gal Very Small 1.0136 - (0.0028 × Vr) Low 0.9984 - (0.0014 × Vr) Medium 0.9853 - (0.0010 × Vr) High 0.9720 - (0.0007 × Vr) *Vr is the Rated Storage Volume (in gallons), as determined pursuant to 10 CFR 429.17. Information organized via a table: (d) Water heaters. The uniform energy factor of water heaters shall not be less than the following:

Product class	Rated storage volume and input rating (if applicable)	Draw pattern	Uniform energy factor
Gas-fired Storage Water Heater	≥20 gal and ≤55 gal	Very Small	$0.3456 - (0.0020 \times V_r)$
		Low	$0.5982 - (0.0019 \times V_r)$
		Medium	$0.6483 - (0.0017 \times V_r)$
		High	$0.6920 - (0.0013 \times V_r)$
	>55 gal and ≤100 gal	Very Small	$0.6470 - (0.0006 \times V_r)$
		Low	$0.7689 - (0.0005 \times V_r)$
		Medium	$0.7897 - (0.0004 \times V_r)$
		High	$0.8072 - (0.0003 \times V_r)$
Oil-fired Storage Water Heater	≤50 gal	Very Small	$0.2509 - (0.0012 \times V_r)$
		Low	$0.5330 - (0.0016 \times V_r)$
		Medium	$0.6078 - (0.0016 \times V_r)$
		High	$0.6815 - (0.0014 \times V_r)$
Electric Storage Water Heaters	≥20 gal and ≤55 gal	Very Small	$0.8808 - (0.0008 \times V_r)$
		Low	$0.9254 - (0.0003 \times V_r)$
		Medium	$0.9307 - (0.0002 \times V_r)$

				High	0.9349 – (0.0001 × V_r)
			>55 gal and ≤120 gal	Very Small	1.9236 – (0.0011 × V_r)
				Low	2.0440 – (0.0011 × V_r)
				Medium	2.1171 – (0.0011 × V_r)
				High	2.2418 – (0.0011 × V_r)
		Tabletop Water Heater	≥20 gal and ≤120 gal	Very Small	0.6323 – (0.0058 × V_r)
				Low	0.9188 – (0.0031 × V_r)
				Medium	0.9577 – (0.0023 × V_r)
				High	0.9884 – (0.0016 × V_r)
		Instantaneous Gas-fired Water Heater	<2 gal and >50,000 Btu/h	Very Small Low	0.80 0.81
				Medium	0.81
				High	0.81
		Instantaneous Electric Water Heater	<2 gal	Very Small	0.91
				Low	0.91
				Medium	0.91
				High	0.92
		Grid-Enabled Water Heater	>75 gal	Very Small	1.0136 – (0.0028 × V_r)
				Low	0.9984 – (0.0014 × V_r)
				Medium	0.9853 – (0.0010 × V_r)
				High	0.9720 – (0.0007 × V_r)

*Vr is the Rated Storage Volume (in gallons), as determined pursuant to 10 CFR 429.17.

Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**Delete current tables/language and replace with the following:** 703.5.1 Water heater Uniform Energy Factor (UEF) is in accordance with the following: Water heater design is based on only 1 (one) water heater per dwelling unit, based on approved methods from IPC or ASPE or manufacturer specifications. All table values are based on water heaters with medium daily water draws as defined by the US DOE test procedures (55 gallons per day) (1) Gas Water Heating a) Storage water heater, rated storage volume ≥ 20 gallons and ≤ 55 gallons, Medium water draw

Table 703.5.1(1)(a)

Uniform Energy Factor	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
≥ 0.65 to < 0.78	~~3~~ 2	~~3~~ 2	2	2	2	2	2	1
≥0.78	~~4~~ 3	~~4~~ 3	3	3	3	3	3	2

b) Storage water heater, rated storage volume > 55 gallons and ≤ 100 gallons, Medium water draw

Table 703.5.1(1)(b)

Uniform Energy Factor	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
>0.78	1	1	1	1	1	1	1	1

c) Storage water heater with input rate greater than 75,000 Btu/h (commercial)

Table 703.5.1(1)(c)

Thermal Efficiency	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
≥ 0.90 to < 0.95	6	6	5	3	3	3	3	2
≥0.95	7	7	5	4	4	4	4	2

[Substantiation:

Commercial water heater efficiency standards are set by ASHRAE 90.1 (and then reviewed / approved by DOE). The baseline efficiency for commercial water heaters is the same in ASHRAE 90.1-2013 ASHRAE 90.1-2016, at 80% E_t (0.80 thermal efficiency).]

d) Storage water heater with input rate greater than 75,000 Btu/h (commercial), in Buildings with high-capacity service water-heating systems (1,000,000 Btu/h or greater)

Table 703.5.1(1)(d)

Thermal Efficiency	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
≥ 0.92 to < 0.95	1	1	1	1	1	1	1	1
≥0.95	2	2	2	2	2	2	2	1

[Substantiation:

In ASHRAE 90.1-2016, for large buildings with high capacity service hot water heating systems, the thermal efficiency E_t is required to be ≥ 90% (0.90). Commercial water heater efficiency standards are set by ASHRAE 90.1 (and then reviewed / approved by DOE).

In this case, the baseline is significantly higher, leading to less energy savings.]

e) Instantaneous water heater, rated storage volume < 2 gallons and input rate of > 50,000 Btu/h, Medium water draw

Table 703.5.1(1)(e)

Uniform Energy Factor	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
≥ 0.89 to < 0.94	~~6~~ 2	~~6~~ 2	~~5~~ 2	~~3~~ 1	~~3~~ 1	~~3~~ 1	~~3~~ 1	~~2~~ 1
≥0.94	~~7~~ 3	~~7~~ 3	~~5~~ 2	~~4~~ 2	~~4~~ 2	~~4~~ 2	~~4~~ 2	~~2~~ 1

[Substantiation:

Under the 2004-2015 standards, the minimum Energy Factor for a 1-gallon instantaneous gas water heater (64.3 gallons / day water draw) was 0.62 EF. Under the post April 2015 standard, the minimum Energy Factor for the same 1-gallon instantaneous water heater was 0.82 EF. Using the equivalent UEF for a water heater with a medium daily hot water draw (55 gallons / day), the value is 0.81 UEF.

Since the baseline efficiency is significantly higher, along with higher water efficient appliance standards (clothes washers and dishwashers), the energy savings are less than before.]

(2) Electric Water Heating

a) Storage water heater, rated storage volume ≥ 20 gallons and ≤ 55 gallons, Medium water draw

Table 703.5.1(2)(a)

Uniform Energy Factor	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
≥0.94 to < 1.0	1	1	1	1	1	1	1	1
≥1.0 to < 1.5	4	2	2	2	1	1	1	1
≥1.5 to < 2.0	~~8~~ 7	~~5~~ 4	~~4~~ 3	~~3~~ 2	2	2	1	1
≥2.0 to < 2.2	~~16~~ 14	~~9~~ 8	~~8~~ 7	~~6~~ 5	~~5~~ 4	4	2	2
≥2.2	~~19~~ 17	~~10~~ 9	~~9~~ 8	~~7~~ 6	~~6~~ 5	~~5~~ 4	3	3
≥2.5 to < 3.0	18	12	10	8	6	6	3	3
≥3.0	22	16	13	11	8	8	4	3

[Substantiation:

Under the 2004-2015 standards, the minimum Energy Factor for a 50 gallon electric water heater (64.3 gallons / day water draw) was 0.90 EF. Under the post April 2015 standard, the minimum Energy Factor for the same 50 gallon water heater was 0.95 EF. Using the equivalent UEF for a water heater with a medium daily hot water draw (55 gallons / day), the value is 0.92 UEF.

Since the baseline efficiency is higher, along with higher water efficient appliance standards (clothes washers and dishwashers), the energy savings are less than before.

In addition, according to the CEE/AHRI directory (http://www.ceedirectory.org/site/1/Home), there are 50 gallon heat pump water heaters with Energy Factors (it is not clear if they are Uniform Energy Factors) as high as 3.50. At a recent RESNET conference, I did see manufacturers with UEF values of 3.55 for a 50-gallon heat pump water heater.]

b) Storage water heater, rated storage volume ≥ 55 gallons and ≤ 120 gallons, Medium water draw

Table 703.5.1(2)(b)

Uniform Energy Factor	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
≥2.2 to < 2.5	6	4	3	3	2	2	1	1
≥2.5 to < 3.0	7	5	4	3	3	3	2	2
≥3.0 to < 3.5	8	5	5	4	3	3	3	2
≥3.5	9	6	6	5	4	4	3	2

[Substantiation:

Under the 2004-2015 standards, the minimum Energy Factor for a 80 gallon electric water heater (64.3 gallons / day water draw) was 0.86 EF. Under the post April 2015 standard, the minimum Energy Factor for the same 80 gallon water heater was 1.97 EF. Using the equivalent UEF for a water heater with a medium daily hot water draw (55 gallons / day), the value is 2.03 UEF.

Since the baseline efficiency is significantly (more than 100% higher), along with higher water efficient appliance standards (clothes washers and dishwashers), the energy savings are less than before with this size of water heater.

In addition, according to the CEE/AHRI directory (http://www.ceedirectory.org/site/1/Home), there are 65, 66, and 80 gallon heat pump water heaters with Energy Factors (it is not clear if they are Uniform Energy Factors) as high as 3.50. At a recent RESNET conference, I did see manufacturers with UEF values of 3.70 for a 65 and 80-gallon heat pump water heater.]

c) Tabletop water heater, rated storage volume ≥ 20 gallons and ≤ 120 gallons, Medium water draw

Table 703.5.1(2)(c)

Electric Tabletop Water Heating

Uniform Energy Factor	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
≥0.91	1	1	1	1	1	1	1	1

[Substantiation:

Under the 2004-2015 standards, the minimum Energy Factor for a 40 gallon electric tabletop water heater (64.3 gallons / day water draw) was 0.88 EF. Under the post April 2015 standard, the minimum Energy Factor for the same 40 gallon tabletop water heater stayed the same at 0.88 EF. Using the equivalent UEF for a water heater with a medium daily hot water draw (55 gallons / day), the value is 0.87 UEF.

For this product, the required efficiency did not change under the most recent rulemaking. In addition, since they are typically located under counters or in containers or in other space limited applications, heat pump water heaters are not a design option, due to their requirements for air flow and/or space clearance. See the following for photographs and/or specifications:

http://www.rheem.com/product/residential-electric-water-heaters-table-top
https://www.ruud.com/product/ruud-residential-electric-water-heaters-table-top/
https://www.kenmore.com/products/kenmore-38-gallon-tabletop-electric-water-heater]

d) Instantaneous electric water heater, rated storage volume < 2 gallons, Medium water draw

Table 703.5.1(2)(~~b~~ d)
Electric Instantaneous Water Heating[a]

Uniform Energy Factor or Thermal Efficiency	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
≥ 0.97	2	2	2	2	2	2	2	2

a. Applies to any size water heater.
b. Electric instantaneous water heaters have either a~~n~~ Uniform Energy Factor (capacity less than or equal to 12 kW) or a Thermal Efficiency (capacity greater than 12 kW).

[Substantiation:

Under the 2004-2015 standards, the minimum Energy Factor for a 1 gallon instantaneous electric water heater (64.3 gallons / day water draw) was 0.92 EF. Under the post April 2015 standard, the minimum Energy Factor for the same 1 gallon instantaneous water heater stayed the same at 0.92 EF. Using the equivalent UEF for a water heater with a medium daily hot water draw (55 gallons / day), the value is 0.91 UEF.

Since the baseline efficiency has not changed, the current table 703.5.1(2)(b) can be used with minor changes for the updated NGBS.]

e) Grid enabled storage water heater, rated storage volume ≥ 75 gallons, Medium water draw

Table 703.5.1(2)(e)

Electric Grid Enabled Water Heating

Uniform Energy Factor	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
≥0.95	1	1	1	1	1	1	1	1

[Substantiation:

Under the Energy Efficiency Improvement Act of 2015, minimum energy conservation standards were established for grid-enabled water heaters. Under the law, the formula for efficiency was:

Energy Factor = 1.061 – (0.00168 * Vr), where Vr is the rates storage volume of the water heater tank. For an 80 gallon unit, the minimum Energy Factor is 0.93 EF. Using the equivalent UEF for a water heater with a medium daily hot water draw (55 gallons / day), the value is 0.91 UEF.]

(3) Oil Water Heating, < 50 gallons, Medium water draw

Table 703.5.1(3)

Uniform Energy Factor	CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
≥0.62	1	1	1	1	1	1	1	1

[Substantiation:

Under the 2004-2015 standards, the minimum Energy Factor for a 32 gallon oil-fired water heater (64.3 gallons / day water draw) was 0.53 EF. Under the post April 2015 standard, the minimum Energy Factor

	for the same 32 gallon water heater was 0.62 EF. Using the equivalent UEF for a water heater with a medium daily hot water draw (55 gallons / day), the value is 0.56 UEF. Since the baseline efficiency is higher, along with higher water efficient appliance standards (clothes washers and dishwashers), the energy savings are less than before.]
Committee Reason:	[Substantiation: Under the 2004-2015 standards, the minimum Energy Factor for a 40 gallon gas water heater (64.3 gallons / day water draw) was 0.59 EF. Under the post April 2015 standard, the minimum Energy Factor for the same 40 gallon water heater was 0.62 EF. Using the equivalent UEF for a water heater with a medium daily hot water draw (55 gallons / day), the value is 0.58 UEF. Since the baseline efficiency is higher, along with higher water efficient appliance standards (clothes washers and dishwashers), the energy savings are less than before.] Under the 2004-2015 standards, the minimum Energy Factor for an 80 gallon gas water heater (64.3 gallons / day water draw) was 0.52 EF. Under the post April 2015 standard, the minimum Energy Factor for the same 80 gallon water heater was 0.74 EF. Using the equivalent UEF for a water heater with a medium daily hot water draw (55 gallons / day), the value is 0.76 UEF. Since the baseline efficiency is significantly higher, along with higher water efficient appliance standards (clothes washers and dishwashers), the energy savings are less than before.]
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P235 LogID 6167	**703.5.5 Solar water heater**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, self	
Requested Action:	Revise as follows	
Proposed Change:	The table and point values need to be revised to account for the different standards for storage water heaters (≤ 55 gallons or above 55 gallons) as well as the Uniform Energy Factors which are based on 4 draw patterns.	
Reason:	Below is the table of Uniform Energy Factors from the Code of Federal Regulations: (d) Water heaters. The uniform energy factor of water heaters shall not be less than the following: Product class Rated storage volume and input rating (if applicable) Draw pattern Uniform energy factor Gas-fired Storage Water Heater =20 gal and =55 gal Very Small 0.3456 - (0.0020 × Vr) Low 0.5982 - (0.0019 × Vr) Medium 0.6483 - (0.0017 × Vr) High 0.6920 - (0.0013 × Vr) >55 gal and =100 gal Very Small 0.6470 - (0.0006 × Vr) Low 0.7689 - (0.0005 × Vr) Medium 0.7897 - (0.0004 × Vr) High 0.8072 - (0.0003 × Vr) Oil-fired Storage Water Heater =50 gal Very Small 0.2509 - (0.0012 × Vr) Low 0.5330 - (0.0016 × Vr) Medium 0.6078 - (0.0016 × Vr) High 0.6815 - (0.0014 × Vr) Electric Storage Water Heaters =20 gal and =55 gal Very Small 0.8808 - (0.0008 × Vr) Low 0.9254 - (0.0003 × Vr) Medium 0.9307 - (0.0002 × Vr) High 0.9349 - (0.0001 × Vr) >55 gal and =120 gal Very Small 1.9236 - (0.0011 × Vr) Low 2.0440 - (0.0011 × Vr) Medium 2.1171 - (0.0011 × Vr) High 2.2418 - (0.0011 × Vr) Tabletop Water Heater =20 gal and =120 gal Very Small 0.6323 - (0.0058 × Vr) Low 0.9188 - (0.0031 × Vr) Medium 0.9577 - (0.0023 × Vr) High 0.9884 - (0.0016 × Vr) Instantaneous Gas-fired Water Heater 50,000 Btu/h Very Small Low 0.80 0.81 Medium 0.81 High 0.81 Instantaneous Electric Water Heater 75 gal Very Small 1.0136 - (0.0028 × Vr) Low 0.9984 - (0.0014 × Vr)	

Medium 0.9853 - (0.0010 × Vr) High 0.9720 - (0.0007 × Vr) *Vr is the Rated Storage Volume (in gallons), as determined pursuant to 10 CFR 429.17.

Information organized via a table:
(d) Water heaters. The uniform energy factor of water heaters shall not be less than the following:

Product class	Rated storage volume and input rating (if applicable)	Draw pattern	Uniform energy factor
Gas-fired Storage Water Heater	≥20 gal and ≤55 gal	Very Small	$0.3456 - (0.0020 \times V_r)$
		Low	$0.5982 - (0.0019 \times V_r)$
		Medium	$0.6483 - (0.0017 \times V_r)$
		High	$0.6920 - (0.0013 \times V_r)$
	>55 gal and ≤100 gal	Very Small	$0.6470 - (0.0006 \times V_r)$
		Low	$0.7689 - (0.0005 \times V_r)$
		Medium	$0.7897 - (0.0004 \times V_r)$
		High	$0.8072 - (0.0003 \times V_r)$
Oil-fired Storage Water Heater	≤50 gal	Very Small	$0.2509 - (0.0012 \times V_r)$
		Low	$0.5330 - (0.0016 \times V_r)$
		Medium	$0.6078 - (0.0016 \times V_r)$
		High	$0.6815 - (0.0014 \times V_r)$
Electric Storage Water Heaters	≥20 gal and ≤55 gal	Very Small	$0.8808 - (0.0008 \times V_r)$
		Low	$0.9254 - (0.0003 \times V_r)$
		Medium	$0.9307 - (0.0002 \times V_r)$
		High	$0.9349 - (0.0001 \times V_r)$
	>55 gal and ≤120 gal	Very Small	$1.9236 - (0.0011 \times V_r)$
		Low	$2.0440 - (0.0011 \times V_r)$
		Medium	$2.1171 - (0.0011 \times V_r)$
		High	$2.2418 - (0.0011 \times V_r)$
Tabletop Water Heater	≥20 gal and ≤120 gal	Very Small	$0.6323 - (0.0058 \times V_r)$
		Low	$0.9188 - (0.0031 \times V_r)$
		Medium	$0.9577 - (0.0023 \times V_r)$
		High	$0.9884 - (0.0016 \times V_r)$
Instantaneous Gas-fired Water Heater	<2 gal and >50,000 Btu/h	Very Small Low	0.80 0.81
		Medium	0.81

			High	0.81
Instantaneous Electric Water Heater	<2 gal	Very Small	0.91
		Low	0.91
		Medium	0.91
		High	0.92
Grid-Enabled Water Heater	>75 gal	Very Small	1.0136 − (0.0028 × V_r)
		Low	0.9984 − (0.0014 × V_r)
		Medium	0.9853 − (0.0010 × V_r)
		High	0.9720 − (0.0007 × V_r)

*Vr is the Rated Storage Volume (in gallons), as determined pursuant to 10 CFR 429.17.

Committee Formal Action from Meeting: **Approve as Modified**

Modification of Proposed Change:

Delete current Table 703.5.5 and replace with the following:

a) Storage water heater, rated storage volume of backup water heater is ≥ 0.1 gallon and ≤ 55 gallons, Medium water draw

Table 703.5.5(a)

SEF	Tropical and CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7-8
SEF ≥1.3	1	2	3	5	~~7~~ 6	~~8~~ 7	~~7~~ 6
SEF ≥1.51	2	2	4	~~7~~ 6	~~10~~ 9	~~11~~ 10	~~11~~ 10
SEF ≥1.81	2	3	~~6~~ 5	~~10~~ 9	~~14~~ 13	~~16~~ 14	~~15~~ 14
SEF ≥2.31	4	5	~~9~~ 8	~~16~~ 14	~~21~~ 19	~~23~~ 21	~~22~~ 20
SEF ≥3.01	~~6~~ 5	~~8~~ 7	~~12~~ 11	~~23~~ 21	~~30~~ 27	~~34~~ 31	~~33~~ 30

b) Storage water heater, rated storage volume of backup water heater is >55 gallons, Medium water draw

Table 703.5.5(b)

SEF	Tropical and CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7-8
SEF ≥1.3	1	~~2~~ 1	~~3~~ 2	~~5~~ 3	~~7~~ 4	~~8~~ 5	~~7~~ 4
SEF ≥1.51	~~2~~ 1	~~2~~ 1	~~4~~ 2	~~7~~ 4	~~10~~ 6	~~11~~ 7	~~11~~ 7
SEF ≥1.81	~~2~~ 1	~~3~~ 2	~~6~~ 4	~~10~~ 6	~~14~~ 8	~~16~~ 10	~~15~~ 9
SEF ≥2.31	~~4~~ 2	~~5~~ 3	~~9~~ 5	~~16~~ 10	~~21~~ 13	~~23~~ 14	~~22~~ 13
SEF ≥3.01	~~6~~ 4	~~8~~ 5	~~12~~ 7	~~23~~ 14	~~30~~ 18	~~34~~ 20	~~33~~ 20

Committee Reason: Federal requirements have changes and changed differently based on the size of the tank (55 gal threshold) and the new proposal addresses the new baseline.

	Under the federal water heater standards that went into effect in April 2015, the efficiency standards for residential water heaters with rated storage volumes that are ≤ 55 gallons increased by 5% to 30% (based on previous Energy Factor test procedures). In addition, there are savings from higher water efficient appliance standards that took effect in 2014, 2015, and 2018 (clothes washers and dishwashers). Therefore, savings from using solar water heaters are lowered by the similar percentages. The revisions to the table are based on average reductions of 10% in point values in all climate zones, rounded off to the nearest integer.] Under the federal water heater standards that went into effect in April 2015, the efficiency standards for residential gas and electric storage water heaters with rated volumes that are > 55 gallons increased by 42% to 129% (based on previous Energy Factor test procedures). In addition, there are savings from higher water efficient appliance standards (clothes washers and dishwashers). Therefore, savings from using solar water heaters are lowered by the similar percentages. The revisions are based on average reductions of 40% in point values in all climate zones, rounded off to the nearest integer. Note: if the table was separated for electric versus gas water heaters, the reduction would be ~30% for baseline gas water heaters and ~56% for electric water heaters.] Water heater efficiency standards increased significantly in 2015, based on a DOE final rule that was published in 2010. In addition, DOE developed a new metric for water heaters, which manufacturers must use as of this year. https://www.aspe.org/sites/default/files/webfm/ContinuingEd/CEU_221_Mar15.pdf https://www.aspe.org/content/domestic-water-heating-design-manual-2nd-edition-electronic-download http://www.hotwater.com/resources/product-literature/sizing-diagrams/ http://www.hotwater.com/lit/sizing/aossg88150.pdf Storage tank size selection: NOTE: The draw efficiency of a gas or electric water storage tank is considered to be 70%. • 30 gallon size (21 gallon draw) for one bath residence. • 40 gallon size (28 gallon draw) for two bath residence or one bath with an automatic clothes washer. • 50 gallon size (35 gallon draw) for three bath residence or two baths with an automatic clothes washer. http://www.hotwatersizing.com/ http://www.statewaterheaters.com/literature/sizing-guide/ http://www.rheem.com/products/water_heating/tank/how_to_size_a_water_heater/ http://www.homedepot.com/c/water_heater_buying_guide_HT_BG_PL
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P236 LogID 6447	703.5.5 Solar water heater	*Final Formal Action:* **Approve as Submitted**
Submitter:	Craig Conner, self	
Requested Action:	Revise as follows	
Proposed Change:	703.5.5 Solar water heater. SRCC (Solar Rating &Certification Corporation) OG 300 rated, or equivalent, solar domestic waterheating system is installed. Solar Energy Factor (SEF) as defined by SRCC is inaccordance with Table ~~703.4.5~~ 703.5.5.	
Reason:	Correct the reference to the table. It is editorial. Change should be only under the name of Howard C. Wiig, State of Hawaii, representing self	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P237 LogID 6169	703.6.1 Hard-wired lighting (Lighting and appliances)	*Final Formal Action:* **Approve as Modified**
Submitter:	Steven Rosenstock, self	
Requested Action:	Revise as follows	
Proposed Change:	**(2)** A minimum of 80 percent of the exterior lighting wattage has a minimum efficiency ~~40~~ 45 lumens per watt or is solar-powered.	
Reason:	Lighting technologies continue to advance in terms of efficacy, and certain interior lighting has to have an efficacy of 50 or 60 lumens per watt. In addition, at this level, there is a choice of multiple technologies that can be used (LED, compact fluorescent, or metal halide).	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**(2)** A minimum of 80 percent of the exterior lighting wattage has a minimum efficiency ~~40~~ 61 lumens per watt or is solar-powered.	
Committee Reason:	To match the lowest value in Energy Star for Lamps v.2.0.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P238 LogID 6216	703.6.1 Hard-wired lighting (Lighting and appliances)	*Final Formal Action:* **Disapprove**
Submitter:	Steven Rosenstock, self	
Requested Action:	Revise as follows	
Proposed Change:	**703.6.1 Hard-wired lighting.** Hard-wired lighting is in accordance with one of the following: **(Points shall not be awarded if at least one gas lighting fixture is used)**	
Reason:	In many codes, gas lighting is exempt from any requirements and is extremely inefficient. A typical gas lighting fixture uses 2,500 Btu's (733 Watts) to put out the same amount of light as a 43-Watt halogen lamp, a 13-Watt CFL, or a 9-Watt LED lamp. In other words, a gas lamp will use 81 times more energy than an LED lamp. In addition, many gas lamps have continuously burning pilot lights, so they use 2,500 Btu's even when no light is produced. As a result, one gas lamp rated at 2,500 Btu/hour with a continuously burning pilot light will use more energy than a gas water heater.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Language is inconsistent with hard-wired fixtures and gas lighting	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P239 LogID 17-065	703.6.1 Hard-wired lighting	*Final Formal Action:* **Approve as Submitted**
Submitter:	Lynn Nacewicz, Home Innovation Research Labs	
Requested Action:	703.6.1 Hard Wired Lighting – Add DesignLights Consortium (DLC) as an equivalent to Energy Star (ES) for lighting fixtures.	
Proposed Change:	(1) A minimum percent of the total hard-wired interior luminaires or lamps qualify as Energy Star (ES), DesignLights Consortium (DLC) or applicable equivalent.	
Reason:	As the scope of NGBS has changed to include a portion of the building can be used as Commercial space, we need a commercial lighting product rating equivalent to ES for residential lighting. See DLC Technical Requirements Version 4.2	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		

Disagree with Committee Action:	
Abstain:	

P240 LogID 6403	**703.7.1 Sun-tempered design (Passive solar design)**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	
Proposed Change:	**703.7.1 Sun-tempered design.** Building orientation, sizing of glazing, and design of overhangs are in accordance with all of the following: **(1)** The long side (or one side if of equal length) of the building faces within 20 degrees of true south. **(2)** Vertical glazing area is between 5 and 7 percent of the gross conditioned floor area on the south face [also see Section 703.7.1(8)] and glazing U-factors meet Table 703.2.5.2(a). **(3)** Vertical glazing area is less than 2 percent of the gross conditioned floor area on the west face, and glazing meets Table 703.2.5.2(a) ~~is ENERGY STAR compliant or equivalent~~. **(4)** Vertical glazing area is less than 4 percent of the gross conditioned floor area on the east face, and glazing meets Table 703.2.5.2(a) ~~is ENERGY STAR compliant or equivalent~~. **(5)** Vertical glazing area is less than 8 percent of the gross conditioned floor area on the north face, and glazing meets Table 703.2.5.2(a) ~~is ENERGY STAR compliant or equivalent~~. **(6)** Skylights, where installed, are in accordance with the following: **(a)** shades and insulated wells are used, and all glazing meets Table 703.2.5.2(a) **(b)** horizontal skylights are less than 0.5 percent of finished ceiling area **(c)** sloped skylights on slopes facing within 45 degrees of true south, east, or west are less than 1.5 percent of the finished ceiling area **(7)** Overhangs or adjustable canopies or awnings or trellises provide shading on south-facing glass for the appropriate climate zone in accordance with Table 703.6.1(7): **Table 703.7.1(7)** **South-Facing Window Overhang Depth** **[No Change to Table]** **(8)** The south face windows have a SHGC of 0.40 or higher. **(9)** Return air or transfer grilles/ducts are in accordance with Section 705.4.	
Reason:	This proposal corrects what appears to be an oversight in the current ICC-700 language as it relates to fenestration requirements in the sun-tempered design option of Section 703.7.1. An exception to ICC-700's low-SHGC requirement was carved out for south-facing glazing in a passive-solar designed home, but the U-factor requirement was inadvertently omitted. Low U-factor windows will not interfere with passive solar design – in fact, a passive solar home should have an extremely efficient thermal envelope in order to work properly, and that would include low U-factor windows. We do not believe it was the intent of ICC-700 to allow unrestricted U-factors on south-facing glazing, since that would more than reverse all of the benefits of a passive-solar designed home. This proposal simply applies the same U-factor requirement that applies to all other fenestration used in the passive solar home, while preserving the SHGC exception in item #8. In addition, for glazing under this option, we propose to substitute compliance with Table 703.2.5.2(a) for "Energy Star compliant or equivalent." Since the values in Table 703.2.5.2(a) are similar to current Energy Star requirements, we believe that it would be better for ICC 700 to reference an internal table rather than external Energy Star requirements, which may change in the future.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P241 LogID 6448	**703.7.3 Passive cooling design**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, self	
Requested Action:	Revise as follows	
Proposed Change:	(c) covered porches and lanais	
Reason:	As evinced by the attached article, lanais are incorporated into Florida's (and perhaps beyond) architecture. The word "lanai" evokes a more comfortable and desirable setting than "covered porch" and encourages spaces designed for prolonged, leisurely outdoor living. Lanais may be equipped with lighting and ceiling fans to accommodate gatherings while using very little energy. This change should be under only the name of “Howard C. Wiig, State of Hawaii, representing self”	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The addition is redundant.	
Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P242 LogID 1505	**703.7.3 Passive cooling design**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Roger L. LeBrun, VELUX America Inc.	
Requested Action:	Revise as follows	
Proposed Change:	703.7.3(3) Windows and/or venting skylights are located to facilitate cross and stack effect ventilation.	
Reason:	The Standard should mention stack effect ventilation. It is more efficient than a whole house fan, particularly in two story dwellings.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		

Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P243 LogID 1506	**703.7.4 Passive solar heating design**	***Final Formal Action:*** **Disapprove**
Submitter:	Roger L. LeBrun, VELUX America Inc.	
Requested Action:	Revise as follows	
Proposed Change:	Additional glazing, no greater than 12 percent, is permitted on the south wall. This additional glazing is in accordance with the requirements of Section 703.7.1. <u>For every square foot of roof glazing on the south-facing roof slope, three square feet of allowed wall glazing is omitted.</u>	
Reason:	Skylights are more efficient solar heaters than windows.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	No sufficient substantiation for the proposed ratio or for the overall proposal to demonstrate equivalent solar heating performance.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **38** Disagree with committee action: **1** Abstain: **1** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Theresa Weston:*** based on circulated ballot comments.	
Abstain:	***Jeff Inks:*** Consideration should also be given to the use of skylights.	

P244 LogID 6290	**704.2 Point calculation**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**NOTE:** <u>Dwellings must use Confirmed Ratings uploaded to the RESNET National Registry, or equivalent as approved by the Adopting Entity, for calculating points under this Section.</u>	
Reason:	Requiring Confirmed Ratings ensures that homes following the HERS Path actually go through the full RESNET Quality Assurance Process. ENERGY STAR does not explicitly require confirmed ratings and thus some Raters exploit this loophole to submit unconfirmed, unsubstantiated energy models with no oversight.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	*Add to 704.1 instead:*	

	~~**NOTE:**~~ Dwellings ~~must use Confirmed R~~ ratings ~~uploaded to the RESNET National Registry, or equivalent as~~ shall be submitted to a quality control registry approved by the Adopting Entity, for calculating points under this Section.
Committee Reason:	It has a requirement, so it should be moved out of a note and into the text of the standard. Put in a generic description instead of using one industry example to make it more widely applicable.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P245 LogID 17-024	**704.2 Point calculation**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Aaron Gary, Tempo Partners	
Requested Action:	Revise as follows	
Proposed Change:	**704.2 Point Calculation.** Points for Section 704 shall be computed based on Steps "1a" through "11d" of the EPA HERS Index Target Procedure. Points shall be computed individually for each building s follows: 30 + (~~percen~~t Number of HERS Index Points less than ENERGY STAR HERS Index Target for than building) * 2	
Reason:	To clarify and simplify the equation. Once HERS Index Point represents one percentage point under the HERS and ERI methodologies already. Stating the equation this way simplifies the implementation of this practice for project teams and NGBS Verifiers.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P246 LogID 6217	**705.2.1 Lighting controls**	***Final Formal Action:*** **Disapprove**
Submitter:	Steven Rosenstock, self	
Requested Action:	Revise as follows	
Proposed Change:	**705.2.1 Lighting controls (Points shall not be awarded if at least one gas lighting fixture is installed)**	
Reason:	In many codes, gas lighting is exempt from any requirements and is extremely inefficient. A typical gas lighting fixture uses 2,500 Btu's (733 Watts) to put out the same amount of light as a 43-Watt halogen lamp, a 13-Watt CFL, or a 9-Watt LED lamp. In other words, a gas lamp will use 81 times more energy	

	than an LED lamp. In addition, many gas lamps have continuously burning pilot lights, so they use 2,500 Btu's even when no light is produced. As a result, one gas lamp rated at 2,500 Btu/hour with a continuously burning pilot light will use more energy than a gas water heater.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	This section is about lighting controls and the proposal is about lighting efficiency.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P247 LogID 17-090	**705.2.3 Lighting outlets**	***Final Formal Action:*** **Disapprove**
Submitter:	Michael Jouaneh, Lutron Electronics	
Requested Action:	Modify as follows	
Proposed Change:	Add dimmers or fan-speed controls in addition to occupancy sensors.	
Reason:	If the lighting outlet will get a fan with a light, it should be controlled with fan-speed control. And dimmer is another energy-saving lighting control that can be used	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	No information about the level of energy savings; issues with using non-dimmable lamps with these outlets.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P248 LogID 6295	**705.5.1 Installer Certification (HVAC design and installation)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**705.5.1** Meet one of the following: (1) HVAC contractor ~~and service technician are~~ is certified by a nationally or regionally recognized program (e.g., ~~North American Technician Excellence, Inc. (NATE),~~ Air Conditioning Contractors of Americas Quality	

	Assured Program (ACCA/QA), EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO), Building Performance Institute (BPI),Radiant Panel Association, or a manufacturer's training program). - 1 Point (2) HVAC service technician is certified by a nationally or regionally recognized program (e.g., North American Technician Excellence, Inc. (NATE), Air Conditioning Contractors of Americas Quality Assured Program (ACCA/QA), Building Performance Institute (BPI), Radiant Panel Association, or a manufacturer's training program). - 2 Points
Reason:	This aligns with ENERGY STAR for Homes program with the certification of HVAC contractors while preserving and encouraging the direct certification of the installation technician. In practice the certification of the contractor is difficult enough with the certification of the installation technician being rare enough to make this credit its current form next to impossible to legitimately claim.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**705.5.1** Meet one or both of the following: (1) HVAC contractor ~~and service technician are~~ is certified by ~~a nationally or regionally recognized program (e.g., North American Technician Excellence, Inc. (NATE),~~ the Air Conditioning Contractors of Americas Quality Assured Program (ACCA/QA), or by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO) or equivalent, ~~Building Performance Institute (BPI),Radiant Panel Association, or a manufacturer's training program).~~ - 1 Point (2) HVAC ~~service~~ installation technician is certified by ~~a nationally or regionally recognized program (e.g.,~~ North American Technician Excellence, Inc. (NATE) or equivalent ~~, Air Conditioning Contractors of Americas Quality Assured Program (ACCA/QA), Building Performance Institute (BPI), Radiant Panel Association, or a manufacturer's training program).~~ - ~~2~~1 Point~~s~~
Committee Reason:	Improves the language, consistent with reason statement, allows the builder to get two points.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P249 LogID 6251	**705.6.2.1 Air leakage validation of building or dwelling units**	***Final Formal Action:*** **Disapprove**
Submitter:	Carl Seville, SK Collaborative	
Requested Action:	Add new as follows	
Proposed Change:	Provide alternate envelope leakage measurement of ELR (CFM50 per SF of building envelope) in addition to ACH50.	
Reason:	Small home and multifamily units are penalized in regards to ACH50 measurements, which favor larger building volumes. The ELR may vary based on unit/house size per the attached chart.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Disapproved in favor of the action taken on P213	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0**	

	Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P250 LogID 6333	**705.6.2.2 HVAC airflow testing**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**705.6.2.2 HVAC airflow testing.** Balanced HVAC airflows are demonstrated by flow hood or other acceptable flow measurement tool by a third party. Test results are in accordance with ~~both of~~ the following:	~~**5**~~
	Measured flow at each supply and return register meets or exceeds the requirements in ACCA 5 QI-2010, Section 5.2.	**5**
	Total airflow meets or exceeds the requirements in ACCA 5 QI-2010, Section 5.2.	**3**
Reason:	HVAC Airflow can be measured multiple ways and measuring Total airflow doesn't necessarily require measuring airflow at individual registers. California Title 24, arguable the most progressive energy standard being applied today on a mass scale recognizes the value of just doing 3rd party Total Airflow measurement. RESNET and the EPA are also working to recognize the value of this as part of the HVAC Grade 1 initiative. NGBS should similarly recognize its stand-alone value instead of tying to the more problematic airflow verification of individual registers.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:	Aaron Gary, self	
Committee Reason:	Revise as follows	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P251 LogID #####	***Final Formal Action:*** **Approve as Modified**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	Potable hot water demand re-circulation system is installed <u>in a unit within a multifamily building</u> in place of a standard circulation pump and control.
Reason:	Specify that system needs to be present within each unit.
Committee Formal Action from Meeting:	**Approve as Modified**

Modification of Proposed Change:	Potable hot water demand re-circulation system(s) that serves every unit ~~is installed in a unit within~~ in a multifamily building is installed in place of a standard circulation pump and control.
Committee Reason:	To make it clear that a single-unit installation does not qualify for points.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P252 LogID 6456	**705.7 Submetering system**	***Final Formal Action:*** **Disapprove**
Submitter:	Michael Cudahy, PPFA	
Requested Action:	Revise as follows	
Proposed Change:	705.7 Submetering system. In multifamily buildings, and advanced electric ~~and~~ or fossil fuel submetering system is installed to monitor electricity ~~and~~ or fossil fuel consumption for each unit. The device provides consumption information on a minimum monthly ~~or~~ to ~~near~~ real time basis. The information is accessible or available to the occupants at a minimum on a monthly basis.	
Reason:	Some homes are electric only and have no fossil fuel use. Data could be accessed directly by users. The minimum data rate would be monthly, so I suppose any other rate up to real time is acceptable.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The proposed language may cause confusion with implementation and it reduces the requirement. The proposed use of real-time basis is unclear. The existing language is adequate	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P253 LogID 6284	**706.1 Energy consumption control (Innovative Practices)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	

Proposed Change:	**706.1 Energy consumption control.** A whole-building or whole-dwelling unit device or system is installed that controls or monitors energy consumption.		**3 Max**
	(1)	programmable communicating thermostat with the capability to be controlled remotely	**1**
	(2)	energy-monitoring device or system	**1**
	(3)	energy management control system	**3**
	(4)	programmable thermostat with control capability based on occupant presence or usage pattern	**1**
	(5)	lighting control system	**1**
	(6)	ENERGY STAR qualified thermostat	**1**
Reason:	ENERGY STAR has started certifying thermostats again after a several year hiatus as on January 1, 2017. The Standard should recognize this ENERGY STAR product similar to all of the other it already references.		
Committee Formal Action from Meeting:	**Disapprove**		
Modification of Proposed Change:			
Committee Reason:	Already addressed in Item (4). Behavioral studies indicate that they are not used as expected in simulations.		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**		
Ballot Comments			
Agree with Committee Action			
Disagree with Committee Action:			
Abstain:			

P254 LogID 1507	**706.2 Renewable energy service plan**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Todd Jones, Center for Resource Solutions	
Requested Action:	Revise as follows	
Proposed Change:	Builder selects a renewable energy service plan provided by the local electrical utility for interim (temporary) electric service, or purchases renewable energy certificates (RECs) to cover electricity used. The builder's local administrative office has renewable energy service or has otherwise been paired with RECs. Green-ecertified (or equivalent) is required [or recommended] for renewable electricity purchases.	
Reason:	(1) Depending on the location of the building site, the local electric utility may not offer a renewable energy service product/option/plan, or may not offer one for interim (temporary) electric service. Therefore, we suggest allowing the builder to procure renewable energy certificates (RECs), which are available everywhere, to meet this requirement. We also recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified. Utility green power programs/products, competitive electricity products, and stand-alone REC products can all be Green-e certified.	
Committee Formal Action from Meeting:	**Approve as Modified**	

Modification of Proposed Change:	Builder selects a renewable energy service plan provided by the local electrical utility for interim (temporary) electric service, or purchases renewable energy certificates (RECs) to cover electricity used. The builder's local administrative office has renewable energy service or has otherwise been paired with RECs. Green-ecertified (or equivalent) is required ~~[or recommended]~~ for renewable electricity purchases.
Committee Reason:	At the time of building RECs are available to the builder
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P255 LogID 6481	**706.3 Smart appliances and systems**	***Final Formal Action:*** **Disapprove**
Submitter:	Michael Cudahy, PPFA	
Requested Action:	Add new as follows	
Proposed Change:	Smart appliances and systems: add definition/footnote.	
Reason:	This section could use a definition in chapter two, or a footnote, to describe what counts as a Smart appliance or system. Currently, it seems wide open. Is it a Smart appliance if it has internet or blue tooth connectivity only? If it contains programs that help conserve energy or water based on loads? Occupancy sensors?	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	A definition for a smart appliance exists in Chapter 2. No language is proposed	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P256 LogID 6254	**706.5 On-site renewable energy system**	***Final Formal Action:*** **Disapprove**
Submitter:	Todd Jones, Center for Resource Solutions	
Requested Action:	Revise as follows	
Proposed Change:	An on-site renewable energy system(s) is installed on the property, and the renewable energy certificates (RECs) are retained and retired on-site for the building's own consumption.	
Reason:	If the intent of this requirement is that buildings use/consume the renewable electricity from an onsite system (as opposed to installing an onsite system and generating green power for other grid consumers, or which the utility could potentially use to meet a state requirement), then the building must retain	

	and retire the renewable energy certificates (RECs) associated with the electricity generated onsite. The previous response to this comment that this change "may not be available in all areas and would add significant record keeping/administrative burden especially for single family construction" is not accurate. RECs are always required for renewable energy claims in the U.S. and are produced in association with all renewable energy generation in all states. Even where a renewable energy system is not registered in an electronic tracking system, the ownership of RECs or environmental attributes can and should be specified in a contract. Retention of the RECs and environmental attributes at the building adds no significant administrative burden or record keeping. It merely needs to be specified in the ownership, lease, or PPA agreement.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	This level of paperwork and bureaucracy for residential buildings is not needed. In some markets, RECs are not available. Not always possible to verify at the point of certification. The impact of system size vs building size is not addressed.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **37** Disagree with committee action: **2** Abstain: **1** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Amy Schmidt:*** I disagree with the committee action In order to prevent double counting the RECs must be retained or retired if used counted toward certification Furthermore without this statement ICC 700 is misleading to users The FTC requires the disclosure of REC/environmental attribute ownership this is not a heavy lift Without the retirement of these items renewable systems should not be allowed to be recognized in the certification Without this requirement neighbor A could have a system on his house which is certified and neighbor B could purchase the RECs and also be certified This is double counting and should not be allowed. ***R. Christopher Mathis:*** Tracking RECs - which have monetary value - is absolutely critical for responsible renewable generation additions. Not requiring their retention or retirement is likely to cause complication with local ordinances, utility programs, and increases the possibility of double-counting considerably.
Abstain:	***Theresa Weston:*** based on circulated ballot comments.

P257 LogID 6153	**706.8 Electrical vehicle charging station**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, self	
Requested Action:	Revise as follows	
Proposed Change:	**706.8 Electrical~~al~~ vehicle charging station.** A Level 2 (208/240V-80 amp) or Level 3 electric vehicle charging station....	
Reason:	This proposal makes an editorial change and includes the specification for Level 2 charging station based on SAE information. In other parts of NGBS, it says 40 amps for Level 2 charging stations. For some battery electric vehicles, a faster charging rate is possible with Level 2 system. The following link has more information: http://www.sae.org/smartgrid/chargingprimer.pdf	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**706.8 Electrical~~al~~ vehicle charging station.** A Level 2 (208/240V 40-80 amp) or Level 3 electric vehicle charging station....	

Committee Reason:	Add a lower limit of 40 amps to be consistent with SAE standard.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P258 LogID 6471	**706.8 Electrical vehicle charging station**	***Final Formal Action:*** **Disapprove**
Submitter:	Chuck Foster, self	
Requested Action:	Revise as follows	
Proposed Change:	~~2~~ 3 points	
Reason:	Electric vehicles are well recognized as an energy efficient and environmentally friendly means of transportation. An impediment to even greater use for EV's, however, is insufficient charging infrastructure. This proposal attempts to incent builders to install more charging stations.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	No sufficient justification was provided to increase the point value.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **33** Disagree with committee action: **7** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Steven Rosenstock:*** It would be consistent with other areas of the standard to increase the point value from 2 to 3 points, since there are more electric vehicles on the market, and they provide significant transportation energy and environmental savings ***Sean S. Devlin:*** based on circulated ballot comments. ***Greg Johnson:*** I concur with the Rosenstock comment and support the TG 5 recommendation. ***Thomas Culp:*** based on circulated ballot comments. ***Michael Jouaneh:*** Based on circulated ballot comments. ***William A. Sanderson:*** agree with original submitter's reasoning and task group's support. ***Gregory Curtis Coolidge:*** Agree with ballot comments offered.	
Abstain:		

P259 LogID 6534	**706.8 Electrical vehicle charging station**	***Final Formal Action:*** **Disapprove**

Submitter:	Craig Conner, self
Requested Action:	Revise as follows
Proposed Change:	706.8 Electrical vehicle charging station. A Level 2 (208/240V 40 amp) or Level 3 electric vehicle charging station is installed on the building site. The charging station shall be in accordance with the NEC (National Electrical Code) Article 625. (Note: Charging station shall not be included in the building energy consumption.)
Reason:	This more completely specifies an EV charging station. The NEC (National Electric Code) has specifications for connections to EV chargers in Article 625.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of P257 and NEC compliance requirement is redundant.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P260 LogID 6554	**Other for Chapter 7 (include section number and title below)** *Final Formal Action:* **Disapprove**
Submitter:	Kat Benner, self / TexEnergy
Requested Action:	Add new as follows
Proposed Change:	706 HEALTH AND WELL BEING (...prior to INNOVATIVE PRACTICES)
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	No specific language provided.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P261 LogID 6539	Other for Chapter 7 (include section number and title below) *Final Formal Action:* **Disapprove**
Submitter:	Chuck Foster, self
Requested Action:	Add new as follows
Proposed Change:	New section 706.10 as follows: 706.10 Battery storage. A battery storage system is installed with controls to allow charging and discharging in accordance with signals provided by the local serving electric utility. 1 point
Reason:	Energy storage is an important and necessary component of the overall energy infrastructure as renewable energy supplies a larger and larger share of consumer needs. This proposal provides a small incentive to reward those who invest in that infrastructure.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The intent of the provision is not clear. Does not describe the conditions under which the utility will have control over the consumer-owned product.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P262 LogID 6515	Other for Chapter 7 (include section number and title below) *Final Formal Action:* **Disapprove**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)
Requested Action:	Add new as follows
Proposed Change:	**706.X Ducts in conditioned space.** In climate zones1-4, heating system and cooling system ducts are located in conditioned space. Points= TBD
Reason:	In cooling dominated climate zones, where basements or crawl spaces are rarely constructed, moving or placing heating and cooling system ducts within (insulated) conditioned space improves the efficiency of the heating / cooling system.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Duplicative of provisions of Section 703.4.3
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	

Disagree with Committee Action:	
Abstain:	

P263 LogID 6516	**Other for Chapter 7 (include section number and title below)** ***Final Formal Action:*** **Disapprove**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)
Requested Action:	Add new as follows
Proposed Change:	**706.X Ducts in conditioned space.** Heating system and cooling system ducts are located entirely in conditioned space. **Table 706.X** **Ducts in Conditioned Space** Ducts | Climate Zone: 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 Points Ducts entirely in Conditioned Space: 5 | 4 | 3 | 2 | 2 | 1 | 1 | 1
Reason:	Option 2. In all climate zones, ducts in conditioned space improve the efficiency of the heating and cooling systems. In cooling dominated climate zones, where basements or crawl spaces are rarely constructed, moving or placing heating and cooling system ducts within (insulated) conditioned space improves the efficiency of the heating / cooling system.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Duplicative with provisions of Section 703.4.3
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P264 LogID 6185	**Other for Chapter 7 (include section number and title below)** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self
Requested Action:	Add new as follows
Proposed Change:	ADD NEW SECTION **706.10 Solar Ready Design.** (1) PV-ready design. Home shall meet ALL of the following: (i) Location, based on zip code has at least 5 kWh/m2/day average daily solar radiation based on annual solar insolation using PVWatts online tool: http://gisatnrel.nrel.gov/PVWatts_Viewer/index.html AND;

	(ii) Location does not have significant natural shading (e.g., trees, tall buildings on the south-facing roof, AND; (iii) Home as designed has adequate roof area free from obstruction within +/-45° of true south as noted in the table below. Conditioned Floor Area of the House (sq. ft.) Minimum Roof Area within +/- 45? of True South for PV-Ready Checklist to Apply (ft2) < 2000 110 < 4000 220 < 6000 330 > 6000 440 AND; (iv) The structural design loads for roof dead load and roof live load shall be adequate to support an additional 6 lbs./sq.. ft. for future solar system, AND; (v) Install and label a 4' x 4' plywood panel area for mounting an inverter and balance of system components, AND; (vi) Install a 1" metal conduit for the DC wire run from the designated array location to the designated inverter location (cap and label both ends), AND; (vii) Install a 1" metal conduit from designated inverter location to electrical service panel (cap and label both ends), AND; (viii) Install and label a 70-amp dual pole circuit breaker in the electrical service panel for use by the PV system (label the service panel).. - 5 POINTS (2) Solar water heating ready design. Home shall meet ALL of the following: (i) Location, based on zip code has at least 5 kWh/m2/day average daily solar radiation based on annual solar insolation using PVWatts online tool: http://gisatnrel.nrel.gov/PVWatts Viewer/index.html AND; (ii) Location does not have significant natural shading (e.g., trees, tall buildings on the south facing roof, AND; (iii) Home as designed has adequate roof area free from obstructions within +/-45° of true south as noted in the table below. Conditioned Floor Area of the House (sq. ft.) Minimum Roof Area within +/- 45? of True South for Solar Hot Water-Ready Checklist to Apply (ft2) < 2000 40 < 4000 60 < 6000 80 > 6000 100, AND; (iv) The structural design loads for roof dead load and roof live load shall be adequate to support an additional 6 lbs./sq.. ft. for future solar system, AND; (v) 3' x 3' x 7'area in the utility room adjacent to the existing water heater for a solar hot water tank, AND: (vi) 3' x 2' plywood panel area adjacent to the solar hot water tank for the balance of system components/pumping package, AND: (vii) Install an electrical outlet within 6' of the designated wall area, AND: (viii) Install a solar bypass valve on the cold water feed of the water heater (cap and label both ends), AND: (ix) Install a single 4" chase or 2–2"chases from utility room to the attic space below designated array location (cap and label both ends). - 5 POINTS (where points awarded in Section 706.5, points shall not be awarded in 706.10)
Reason:	Projects that can not afford to install an active on-site renewable energy system should still be able to gain recognition for installing the infrastructure for such a system to be installed in the future. The listed requirements are borrowed from the DOE ZERH guidelines.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	*Replace the proposal in its entirety with the following:* 706.5 On-site renewable energy system. ~~An on-site renewable energy system(s) is installed on the property. 2 pts per kW divided by the number of dwellling units.~~ One of the following options is implemented.

	1) Building is Solar-Ready in compliance with IECC Appendix RA, Solar Ready Provisions -- 1 point 2) An on-site renewable energy system(s) is installed on the property -- 2 points per kW 3) An on-site renewable energy system(s) and a battery energy storage system are installed on the property - 2 points per kW of renewable energy system, plus 1 point per each 3 kWh of battery energy storage system. Points awarded in this section shall not be combined with points for renewable energy in another section of this chapter. The solar-ready zone roof area in #1 is area per dwelling unit. Points in item #2 and #3 shall be divided by the number of dwelling units.
Committee Reason:	A straw vote to come back with a 3-tier proposal (Tier 1 – ready; Tier 2 – PV; Tier 3 – PV plus storage) and something for multifamily – 9-0-3
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P265 LogID 6293	**Other for Chapter 7 (include section number and title below)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	706.X Alternative Refrigerant. Use of the following in space cooling systems for dwellings. (1) Use alternative refrigerant with a GWP < 1000 (2) Do not use refrigerants	
Reason:	To recognize newer refrigerant technology with better for the environment.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	706.X Alternative Refrigerant. Use of the following in mechanical space cooling systems for dwellings. (1) Use alternative refrigerant with a GWP < 1000 1 point (2) Do not use refrigerants 2 points	
Committee Reason:	Minimal points are provided based on format for Section in 706. “Mechanical” added to distinguish from fan systems.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P266 LogID 6220	Other for Chapter 7 (include section number and title below)	*Final Formal Action:* **Approve as Modified**
Submitter:	Steven Rosenstock, self	
Requested Action:	Add new as follows	
Proposed Change:	**706.10 Battery Storage System.** A battery storage system is installed that stores electric energy from an on-site renewable electric generation system or is grid-interactive or can perform both functions.	
Reason:	As more electric grids and homes install renewable and variable electric generation systems, there is more need for energy storage. In Hawaii, there are now special electric rates for customers that can store electricity from on-site PV systems. This new section will allow more storage technologies to receive credit in the NGBS. Information on Hawaii rates: https://www.hawaiianelectric.com/clean-energy-hawaii/producing-clean-energy/customer-self-supply-and-grid-supply-programs Information on different battery storage technologies: https://cleantechnica.com/2015/05/07/tesla-powerwall-price-vs-battery-storage-competitor-prices-residential-utility-scale/ https://cleantechnica.com/2015/05/09/tesla-powerwall-powerblocks-per-kwh-lifetime-prices-vs-aquion-energy-eos-energy-imergy/ http://www.solarpowerworldonline.com/2016/05/comparison-residential-solar-batteries/	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**706.10 Battery Storage System.** A battery storage system of not less than 6 kWh of available capacity is installed that stores electric energy from an on-site renewable electric generation system or is grid-interactive or can perform both functions. **2 Points**	
Committee Reason:	It's consistent with language in 706.7 and accommodated a technology that has multiple functions	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Aaron Gary:*** Redundant with points awarded under P264.	
Abstain:		

P267 LogID 6574	Other for Chapter 7 (include section number and title below)	*Final Formal Action:* **Disapprove**
Submitter:	Craig Conner, self	
Requested Action:	Add new as follows	
Proposed Change:	701.1.5 Energy recipe based compliance. Compliance as specified in Appendix F shall be compliance for the climate zone and level indicated in Appendix F. Appendix F This appendix includes complete descriptions for homes that meet the NGBS for the climate zone and level listed. Mandatory items in Chapter 7 still apply. Climate zone 6, silver AFUE 94 or HSPF 9.5 HSPF or greater SEER 17 or greater water heating EF .95 or greater hot water source is no more than 10 ft from entrance to rooms using hot water tested ACH50 2.5 or greater Insulation levels within 90% of those in the IECC	

	Window U-factor no more than 0.28 On site renewables supply at least 4% of the annual energy
Reason:	This will be a series of recipes that will meet the requirements for the zone and level indicated. One example is shown.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Incomplete and not ready for inclusion in the Standard
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P268 LogID 6334	**Other for Chapter 7 (include section number and title below)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	705.5.3 HVAC Design is verified by 3rd Party as follows: (1) The ENERGY STAR HVAC Design and Rater Design Review Checklists are completed without correction needed. - **5 POINTS** (2) HVAC Installation is inspected and conforms to HVAC design documents and plans. - **5 POINTS**	
Reason:	RESNET and the EPA are in the process of developing a ANSI Standard for the design and installation of Grade 1 HVAC systems. The Standard will not complete the ANSI process until 2018. Since the ANSI Standard they are developing will not be approved in time for NGBS 2018 to recognize, we propose recognizing some of the practices it will be proposing.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	705.5.3 HVAC Design is verified by 3rd Party as follows: (1) The ENERGY STAR HVAC Design and Rater Design Review Checklists are completed without correction needed. - **3 POINTS** (2) HVAC Installation is inspected and conforms to HVAC design documents and plans. - **3 POINTS**	
Committee Reason:	Points change consistent with section 705.5.2 as points are already weighted	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P269 LogID 6199	Other for Chapter 7 (include section number and title below) *Final Formal Action:* **Approve as Modified**
Submitter:	Aaron Gary, self
Requested Action:	Add new as follows
Proposed Change:	ADD NEW SECTION **Smart Ventilation.** A whole building ventilation systems is installed with automatic smart ventilation controls to limit ventilation during periods of extreme temperature, extreme humidity, and/or during times of peak utility loads and is in accordance with the specifications of Appendix B.
Reason:	Initial research in this area, funded by the U.S. Department of Energy (U.S. DOE), investigated the proof-of-concept for smart ventilation and estimated typical ventilation energy savings of 40% (Turner and Walker 2012) or about 15% of total heating and cooling load, with savings increasing to more than 50% on average for economizer-equipped homes. Traditional energy modeling software employed by NGBS Verifiers can not account for this energy savings.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**706.10 Smart Ventilation.** A whole-building ventilation systems is installed with automatic ~~smart~~ ventilation controls to limit ventilation during periods of extreme temperature, extreme humidity, and/or during times of peak utility loads and is in accordance with the specifications of Appendix B. 1 point
Committee Reason:	Add a point value; remove word "smart" for clarity.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P270 LogID 6198	Other for Chapter 7 (include section number and title below) *Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, self
Requested Action:	Add new as follows
Proposed Change:	ADD NEW SECTION **706.11 District Heating and Cooling:** Lot is within a community that has a district heating and/or cooling system.
Reason:	District cooling and heating can be very efficient as it removes the need for building specific space heating systems, space cooling systems, and/or domestic water heating systems. This energy can be difficult to model effectively using residential software however.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	It may allow the use of inefficient systems and it will find seldom use.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0**

	Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Paul W Cabot:*** District heating and cooling systems should be recognized and offer the opportunity for shared energy balancing. The committee's reason that inefficient systems may be used is not justified especially since there are minimum appliance and equipment efficiency standards in place.
Abstain:	

P271 LogID 6352	**Other for Chapter 7 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**Section 707** - Add a new section as relevant for Health & Well-being credits.	
Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	No specific language provided.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P272 LogID 17-016	**New for Chapter 7**	***Final Formal Action:*** **Disapprove**
Submitter:	Carl Seville, SK Collaborative	
Requested Action:	Add new as follows:	
Proposed Change:	**Electrical Energy Monitoring System.** For single family homes and townhouses, an electrical energy monitoring system is installed meeting the following requirements: (1) displays energy use in minimum increments of 2 hours (2) separately tracks a minimum of 6 different electricity uses (3) installed in visible location or be accessible via internet (4) allows data to be shared with a third-party energy management program that provides reports of usage on demand or at a minimum of twice monthly of energy use.	
Reason:	Residents that are aware of real-time energy use are more likely to conserve energy and/or take actions to use less energy when possible.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		

Committee Reason:	For single-family, 706.1 already addresses this subject and the proposed language does not offer in improvement. The language is unclear (e.g., 6 energy uses; minimum increments vs maximum).
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P273 LogID 17-017	**New for Chapter 7**	***Final Formal Action:*** **Disapprove**
Submitter:	Carl Seville, SK Collaborative	
Requested Action:	Add new as follow:	
Proposed Change:	**Interval Data Monitoring System**. For multifamily buildings, an interval data monitoring system is installed. (1) A common space or whole building electrical monitoring system that measures use in minimum 2 hour increments is installed in a location visible to management on a display or via internet. [XX POINTS] (2) A common space or whole building gas monitoring system that measures energy use in minimum increments of 2 hours is installed. [XX POINTS] (3) A whole-building monitoring system that measures water use in minimum increments of 2 hours is installed. [XX POINTS] (4) An interval data monitoring system that measures in-unit electricity and/or natural gas use in minimum 2 hour increments is installed in a location visible to occupants or available via internet. [XX POINTS]	
Reason:	Building managers that are aware of real-time energy use are more likely to conserve energy and/or take actions to use less energy when possible.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In principle, this is already covered by Section 706.1 and this level of granularity is not needed. Water belongs in Chapter 8. No recommended point estimates are provided. Common space may only be responsible for 10-15% of the whole building consumption.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P274 LogID 17-018	**New for Chapter 7**	***Final Formal Action:*** **Approve as Modified**

Submitter:	Carl Seville, SK Collaborative
Requested Action:	Add new as follows:
Proposed Change:	**Third-Party Utility Benchmarking Service**. For a multifamily building, the owner has contracted with a third-party utility benchmarking service with at least five (5) years of experience in utility data management and analysis to perform a monthly analysis of whole-building energy and water consumption. [XX POINTS] The building owner commits to reporting energy data using U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager for a minimum of three years [XX POINTS]
Reason:	Building and managers that have better information about energy and water use can make better decisions to reduce consumption as well as try to determine which green practices are most effective in saving energy and water.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	*This is assigned to Section 706*: **Third-Party Utility Benchmarking Service**. For a multifamily building, the owner has contracted with a third-party utility benchmarking service with at least five (5) years of experience in utility data management and analysis to perform a monthly analysis of whole-building energy and water consumption for a minimum of 1 year. 3 points The building owner commits to reporting energy data using U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager for a minimum of three years. 1 point
Committee Reason:	Points were added. Also added minimum duration of monitoring for qualifying for points.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P275 LogID 17-061	**New for Chapter 7**	***Final Formal Action:***	**Approve as Modified**
Submitter:	Paul Cabot, American Gas Association		
Requested Action:	Add new section 706.9 as follows:		
Proposed Change:	706.9 CNG vehicle fueling station. A CNG vehicle residential fueling appliance is installed on the building site. The CNG fueling appliances shall be listed in accordance with ANSI/CSA NGV 5.1 and installed in accordance to the appliance manufacturer's installation instructions. (Note: The fueling appliance shall not be included in the building energy consumption.)		
Reason:	Add recognition for CNG residential fueling appliances as a green building practice. The new standard ANSI/CSA NGV 5.1 has been approved and all major model fuel gas installation codes have been updated to require that residential CNG fueling appliances be listed to that standard and installed in accordance with the manufacturer's installation instructions. Home fueling using natural gas is a green practice since it taps into the efficient natural gas transmission and distribution system and avoids the systemic losses from converting crude oil into refined gasoline and diesel. Fueling at home also reduces vehicle mileage by reducing trips to gasoline stations for fueling. The proposed text is structured similar to coverage for electric vehicle charging stations.		
Committee Formal Action from Meeting:	Approve as Modified		
Modification of Proposed Change:	706.9 CNG vehicle fueling station. A CNG vehicle residential fueling appliance is installed on the building site. The CNG fueling appliances shall be listed in accordance with ANSI/CSA NGV 5.1 and installed in		

	accordance to the appliance manufacturer's installation instructions. (Note: The fueling appliance shall not be included in the building energy consumption.) **1 point**
Committee Reason:	Point added to be analogous to EV. This is a courtesy point.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P276 LogID 17-082	**New for Chapter 7**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, Building Quality	
Requested Action:	Give points for houses that include outdoor living spaces.	
Proposed Change:	Define an outdoor living space and give points when it is a significant part of the living space for a dwelling. Give points for portions of a dwelling that do not have cooling, or do not have heating.	
Reason:	Living outdoors when the climate is favorable means living in an unconditioned space. If part of the conditioned space is replaced by a non-conditioned living space the heating and cooling go almost to zero. Perhaps there will be a fan, shading, .., but this is much less energy use that conditioning a space. In some climates the proper design can mean no need for AC. In moderate climates AC, such as the marine climates, AC is not always even needed. The proponent of this change grew up in a comfortable house in the Seattle area that did not have AC.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Additional space outside the house doesn't offset conditioning inside the house. The effectiveness of the practice highly dependent on the occupancy behavior. In tropical zone, it's common practice already.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P277 LogID 17-084	**New for Chapter 7**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, Building Quality	
Requested Action:	Add new table	
Proposed Change:	Place limited limits on tradeoffs MINIMUM INSULATION R-VALUES FOR ENVELOPE COMPONENTS WHEN TRADE-OFFS ARE USED	

	<table><tr><th>Climate Zone</th><th>Wood framed walls</th><th>Mass wall</th><th>Attic knee wall</th><th>Basement wall</th><th>Crawl wall</th><th>Ceiling with attic space</th><th>Floor over unheated attic space</th><th>Vaulted unvented roofline air impermeable</th><th>Vaulted vented roofline air permeable</th><th>Vaulted unvented roofline air permeable</th></tr><tr><td>2</td><td>13</td><td>4</td><td>18</td><td>0</td><td>0</td><td>13</td><td>30</td><td>20</td><td>20</td><td>20+5</td></tr><tr><td>3</td><td>13</td><td>5</td><td>18</td><td>5</td><td>5</td><td>13</td><td>30</td><td>20</td><td>20</td><td>20+5</td></tr><tr><td>4</td><td>13</td><td>5</td><td>18</td><td>5</td><td>5</td><td>13</td><td>30</td><td>20</td><td>20</td><td>20+15</td></tr><tr><td>5</td><td>13</td><td>8</td><td>18</td><td>5</td><td>5</td><td>13</td><td>30</td><td>20</td><td>20</td><td>20+15</td></tr><tr><td>6</td><td>13</td><td>8</td><td>18</td><td>5</td><td>10</td><td>19</td><td>30</td><td>20</td><td>20</td><td>20+15</td></tr><tr><td>7</td><td>13</td><td>10</td><td>18</td><td>5</td><td>10</td><td>19</td><td>38</td><td>30</td><td>30</td><td>20+15</td></tr><tr><td>8</td><td>13</td><td>10</td><td>18</td><td>5</td><td>10</td><td>19</td><td>38</td><td>30</td><td>30</td><td>20+15</td></tr></table>
Reason:	Some think limits on tradeoffs are needed. Some say they think insulation levels are being traded to near or at zero R-value. I am doubtful that there are tradeoffs down to zero insulation, or even really low R-values. Economics quickly limit the tradeoffs, if the change is must be energy neutral. Proposed limits that are include values ("backstops") that are at current code levels are not least helpful, and look more like attempts to keep competing products from taking market share. Health and safety limits are justified. Energy neutral tradeoffs should otherwise be allow. This table is modeled after what is done in the Georgia Energy Code. These may or may not be the right levels, but saying no tradeoffs, or very limited tradeoffs, is an unreasonable restriction on a designer who may be producing a house that is well above code. Let designers figure out how to get really energy efficient with out artificial restrictions.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The NGBS minimum should not be set at the code minimum. IECC provides a UA compliance path.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P278 LogID 6575	**New for Chapter 7**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, self	
Requested Action:	Revise as follows	
Proposed Change:	Throughout the NGBS Energy Star requirements for devices should be modified to give the key requirements instead of the Energy Star label.	
Reason:	Energy Star is not a consensus program. Energy Star changes over time. The NGBS should use the key measure of the device, not reference the Energy Star name. Some Energy Star requirements have changed and will continue to change.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The alignment with energy star is conducive and simple for verification and they have been updated by EPA within the past 2-3 years.	

Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P279 LogID 17-035	**New for Chapter 7**	***Final Formal Action:*** **Disapprove**
Submitter:	Stephen Evanko, Dominion Due Diligence	
Requested Action:	Add new as follows	
Proposed Change:	**Stairways**. In a multifamily building, a stairway where residents have access to and from all floors is provided. Signage is placed at the building entrance and corridor intersections to promote stairway use. [XX points] (a) Stairway has daylighting. [XX points] (b) Stairway design is welcoming to users and includes but is not limited to, artwork, signage, lighting, sound. [XX points] (c) The stairway is accessible and visible from the main lobby. [XX points]	
Reason:	Reduced elevator use reduces a building's energy use with elevators.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Required by the building code	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P280 LogID 17-038	**New for Chapter 7**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Jeremy Velasquez, US-EcoLogic	
Requested Action:	Add new as follows:	
Proposed Change:	ENTRYWAY AIR SEAL. For multifamily buildings, to slow the movement of unconditioned air from outdoors to indoors at the main building entrance, the following is installed: (1) Building entry vestibule. [XX points] (2) Revolving entrance doors. [XX points]	
Reason:	Reducing the flow of unconditioned air from outside to inside can reduce energy used for the building.	
Committee Formal Action from Meeting:	**Approve as Modified**	

Modification of Proposed Change:	ENTRYWAY AIR SEAL. For multifamily buildings, where not required by the building or energy code, to slow the movement of unconditioned air from outdoors to indoors at the main building entrance, the following is installed: (1) Building entry vestibule. [2 points] (2) Revolving entrance doors. [2 points]
Committee Reason:	To not give free credits where required by code
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P281 LogID 6483	**801.0 Intent (Indoor and Outdoor Water Use)** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Michael Cudahy, PPFA
Requested Action:	Add new as follows
Proposed Change:	801.0 Intent. Measures that reduce indoor and outdoor water usage are implemented, measures that include collection and use of alternative sources of water are implemented, and measures that treat water on site are implemented.
Reason:	Chapter 8 includes saving potable water through a number of items encouraging water efficiency, but also a number; 801.7, 802.1, 802.2 on alternate water collection/usage and several on site water treatment; 802.4, 802.6. The intent should reflect the full content of the chapter.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	801.0 Intent. Implement measures that reduce indoor and outdoor water usage ~~are implemented~~. Implement measures that include collection and use of alternative sources of water ~~are implemented~~. Implement measures that treat water on site ~~are implemented~~.
Committee Reason:	Improve clarity
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P282 LogID 17-092	**Section 801.1 Indoor hot water usage** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Thomas Pape, BMP
Requested Action:	Modify points 801.1 Indoor Hot Water Usage, Item (4)
Proposed Change:	Item (4) Points ~~35~~ 24
Reason:	Points assigned to hot water represent a quantity disproportionate to value of other water efficiency measures.

Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Two additional modifications: **801.4.1** Water-efficient lavatory faucets with flow rates not more than 1.5 gpm (5.68 L/m), tested at 60 psi (414 kPa) in accordance with ASME A112.18.1 and meeting the EPA WaterSense High-Efficiency Lavatory Faucet Specification are installed: (1) Flow rate ≤ 1.5 gpm: 1; 3 MAX (all faucets in a bathroom are in compliance). **(Points awarded for each bathroom. In multifamily buildings, the average of the points assigned to individual dwelling units may be used as the number of points awarded for this practice, rounded to the nearest whole number.)** (2) Flow rate ≤ 1.20 gpm: 2; 6 MAX (all faucets in a bathroom are in compliance). (3) Flow rate ≤ 1.5 gpm for all lavatory faucets in the dwelling unit(s): 6 Additional (4) Flow rate ≤ 1.5 gpm for all lavatory faucets in the dwelling unit(s), and at least one bathroom has faucets with flow rates ≤ 1.20 gpm: 8 Additional (5) Flow rate ≤ 1.20 gpm for all lavatory faucets in the dwelling unit(s): 12 Additional **801.5 Water Closets and urinals.** Water closets and urinals are in accordance with the following: (Points awarded for 801.2(2) of 801.5(3), not both.) (1) Gold and emerald levels: all water closets and urinals are in accordance with Section 801.5. (2) A water closet is installed with an effective flush volume of 1.28 gallons (4.85L) or less and meets the flush performance criteria when tested in accordance with ASME A112.19.2/CSA B45.1 or ASME A112.19.14 as applicable. **(Points awarded per fixture. In multifamily buildings, the average of the points assigned to individual dwelling units may be used as the number of points awarded for this practice, rounded to the nearest whole number.)** 801.5(2) 1.28 gallons (4.85 L) or less …etc. : ~~2~~ 4, ~~6~~ 12 Max; 801.5 (3) All water closets are in accordance with Section 801.5(2): ~~11~~ 17; 801.5 (4) All water closets are in accordance with Section 801.5(2) and one or more of the following are installed: 801.5 (4a) Water closets that have a flush volume of 1.2 gallons or less: ~~1~~ 2 Add'l, ~~3~~ 6 Add'l Max; **(Points awarded per toilet. In multifamily buildings, the average of the points assigned to individual dwelling units may be used as the number of points awarded for this practice, rounded to the nearest whole number.)** 801.5 (4b) One or more urinals with a flush volume of 0.5 gallons (1.9 L) or less when tested in accordance with ASME A112.19.2: ~~1~~ 2 Add'l; 801.5 (4c) One or more composting or waterless toilets and/or urinals: ~~6~~ 12 Add'l.
Committee Reason:	Chapter 8 cannot afford a reduction in total points, so the reduction proposed must be redistributed. Since faucets and toilets are universal features in every dwelling and subject to builder design choice, associated efficiency improvements should command a large number of points. Additional options for even more efficient fixtures should be added. All points for water closets, urinals, and composting/waterless toilets were doubled. A new tier for 801.4.1 Water-efficient Lavatory Faucets was added.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P283 LogID 17-093	Section 801.1 Indoor hot water usage	*Final Formal Action:* **Approve as Submitted**
Submitter:	Thomas Pape, BMP	
Requested Action:	Modify points 801.1 Indoor Hot Water Usage, Item (1)	
Proposed Change:	801.1(1) The maximum volume from the water heater to the termination of the fixture supply at furthest fixture is 129 ounces (1 gallon or 3.78 liters). Points ~~11~~ 8	
Reason:	Points assigned to hot water represent a quantity disproportionate to the value of other water efficiency measures.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P284 LogID 17-094	Section 801.1 Indoor hot water usage	*Final Formal Action:* **Approve as Submitted**
Submitter:	Thomas Pape, BMP	
Requested Action:	Modify points 801.1 Indoor Hot Water Usage, Item (2)	
Proposed Change:	801.1(2) The maximum volume from the water heater to the termination of the fixture supply at furthest fixture is 64 ounces (0.5 gallon or 1.89 liters). Points ~~17~~ 12	
Reason:	Points assigned to hot water represent a quantity disproportionate to value of other water efficiency measures.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P285 LogID 17-095	Section 801.1 Indoor hot water usage	*Final Formal Action:* **Approve as Submitted**

Submitter:	Thomas Pape, BMP
Requested Action:	Modify points 801.1 Indoor Hot Water Usage, Item (3)
Proposed Change:	Item (3) 801.1(3) The maximum volume from the water heater to the termination of the fixture supply at furthest fixture is 32 ounces (0.25 gallon or 0.945 liters). Points ~~29~~ 20
Reason:	Points assigned to hot water represent a quantity disproportionate to the value of other water efficiency measures.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P286 LogID 17-096	**Section 801.1 Indoor hot water usage**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Thomas Pape, BMP	
Requested Action:	Modify points 801.1 Indoor Hot Water Usage, Item (6)	
Proposed Change:	Item (6) 801.1(6) Tankless water heaters with at least 0.5 gallon (1.89 liters) of storage are installed, or a tankless water heater that ramps up to at least 110F within 5 seconds is installed. The storage may be internal or external to the tankless water heater. Points ~~4~~ 1	
Reason:	Points assigned to hot water represent a quantity disproportionate to the value of other water efficiency measures. On-demand water heaters are known through research to increase water use and energy use in a typical home.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P287 LogID 17-097	**Section 801.2 Water conserving appliances**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Thomas Pape, BMP	

Requested Action:	Delete without substitution, re-number remaining subtopics
Proposed Change:	801.2 Water-conserving appliances. ENERGY STAR or equivalent water-conserving appliances are installed. ~~(1) Dishwasher 2 pts~~ ~~(2)~~ (1) washing machine, or 13 pts (2) washing machine with a water factor of 4.0 or less 24 pts
Reason:	There is ample evidence from the Residential End Use Studies there is no water savings when comparing Energy Star (ES) dishwashers with non-ES dishwashers.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P288 LogID 17-098	**Section 801.2 Water conserving appliances**	***Final Formal Action:***	**Approve as Modified**
Submitter:	Thomas Pape, BMP		
Requested Action:	Modify as follows		
Proposed Change:	(2) ~~washing machine~~ clothes washer, or Points ~~13~~ 20		
Reason:	Energy Star uses the term “clothes washer” Energy Star clothes washers are now required to not exceed an Integrated Water Factor of 4.3. This is more proportional to the next proposed change of making the next level an IWF of 3.8 of less.		
Committee Formal Action from Meeting:	**Approve as Modified**		
Modification of Proposed Change:	(2) ~~washing machine~~ clothes washer, or Points 13		
Committee Reason:	Proper terminology and balancing points.		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**		
Ballot Comments			
Agree with Committee Action			
Disagree with Committee Action:			
Abstain:			

P289 LogID 17-099	**Section 801.2 Water conserving appliances**	***Final Formal Action:***	**Approve as Modified**

Submitter:	Thomas Pape, BMP
Requested Action:	Modify as follows
Proposed Change:	(3) ~~washing machine~~ clothes washer with an Integrated Water Factor of ~~4.0~~ 3.8 or less Points 24
Reason:	Energy Star uses the term "clothes washer". Also, ES now uses the term "Integrated Water Factor" (IWF). Energy Star clothes washers are now required to not exceed an Integrated Water Factor of 4.3; suggesting we need to increase the stringency of this tier.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Points ~~24~~ 18
Committee Reason:	Due to increased water efficiency standards that went into effect on January 1, 2018
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P290 LogID 6367	**801.3 Showerheads** ***Final Formal Action:*** **Approve as Submitted**
Submitter:	Cambria McLeod, Kohler
Requested Action:	Revise as follows
Proposed Change:	(1) The total maximum combined flow rate of all showerheads controlled by a single valve at any point in time in a shower compartment is 1.6 to less than 2.5 gpm. Maximum of two valves are installed per shower compartment. ~~The flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1.~~ Showerheads shall comply with ASMEA112.18.1/CSA B125.1. Showerheads are served by an automatic compensating valve that complies with ASSE 1016/ASMEA112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1 and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead.
Reason:	The language needs to be updated to reflect the harmonized standards. Including the pressure values is repetitive because they are included in the product standard requirements.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P291 LogID 17-100	801.3 Showerheads *Final Formal Action:* **Approve as Submitted**
Submitter:	Cambria McLeod, Kohler
Requested Action:	Modify, as follows
Proposed Change:	(1) The total maximum combined flow rate of all showerheads ~~controlled by a single valve at any point in time~~ in a shower compartment with floor area of 1800 sq in or less is ~~1.6 to~~ equal or less than ~~2.5~~ 2.0 gpm. ~~Maximum of two one mixing valves are is installed per shower compartment with a floor area less than 2600 square inches. One additional mixing valve is allowed for every 1300 square inches greater than 2600 square inches of shower compartment floor area. The flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1.~~ For each additional 1300 square inches of shower compartment floor area ~~or increment thereof~~, an additional 2.0 gpm combined showerhead flow rate is allowed. Showerheads shall comply with ASME A112.18.1/CSA B125.1. Showerheads shall be ~~are~~ served by an automatic compensating valve that complies with ASSE 1016/ASME A112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1 and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead. (2) All shower compartments in the dwelling unit(s) and common areas meet the requirements of 801.3(1) and all showerheads are in accordance with one of the following: (a) ~~2.0 to less than 2.5 gpm~~ maximum of 1.8 gpm 6 additional (b) ~~1.6 to less than 2.0 gpm~~ maximum of 1.5 gpm 10 additional ~~(c) Less than 1.6 gpm 14 additional~~
Reason:	
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P292 LogID 6372	801.4.1 Water-efficient (Lavatory faucets) *Final Formal Action:* **Approve as Modified**
Submitter:	Cambria McLeod, Kohler
Requested Action:	Revise as follows
Proposed Change:	801.4.1 Install water efficient lavatory faucets with a maximum flow rate of 1.5 gpm (5.68 L/m)~~, at 60 psi(414 kPa)~~ in ~~accordance~~ compliance with ASME A112.18.1/CSAB125.1, and certified to the performance criteria of the U.S. EPA WaterSense High-Efficiency Lavatory Faucet Specification ~~are installed~~:
Reason:	The ASME and CSA standards are harmonized standards. They are recognized in the industry as ASME A112.18.1/CSA B125.1 and should be referenced as such. The EPA Water Sense program is a well-recognized program and products carrying a WaterSense label demonstrate that they not only save water, but they have been third-party certified to meet performance criteria. This allows consumers to easily identify water-efficient products that also perform. This program has widespread support and there are over 12,000 bathroom faucets/accessories currently labeled with WaterSense.
Committee Formal Action from Meeting:	**Approve as Modified**

Modification of Proposed Change:	801.4.1 Install water efficient lavatory faucets with a maximum flow rate of 1.5 gpm (5.68 L/m), ~~at 60 psi(414 kPa)~~ in accordance ~~compliance~~ with ASME A112.18.1/CSAB125.1, and ~~certified to~~ in accordance with the performance criteria of the U.S. EPA WaterSense High-Efficiency Lavatory Faucet Specification or equivalent ~~are installed~~:
Committee Reason:	"in accordance" rather than "certified" allows flexibility, as does the amendment "or equivalent"
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Cambria McLeod:*** Disapprove of the committee action to add the term 'or equivalent'. There is no way for someone in the field to determine equivalence to the WaterSense specification. The performance measures of the specification include a max flow rate of 1.5gpm at 80psi and a min flow rate of 0.8gpm at 20psi. How will someone in the field be able to confirm this? The EPA WaterSense program continues to be funded. It is heavily supported by over 180 national, regional, and local organizations, from environmental groups, to manufacturers, to utilities and cities. Removing the requirement for a lav faucet to be certified to the performance criteria of the EPA WaterSense Lavatory Faucet Specification is a disservice to the end-user of the faucet and creates a burden on the user of this standard.
Abstain:	

P293 LogID 6380	**801.5 Water closets and urinals**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	801.5 (4)(c) One or more composting or waterless toilets and/or nonwater urinals. Nonwater urinals shall be in tested in accordance with ASME A112.19.19/B45.1.	
Reason:	Waterless urinal is a proprietary name and should not be referenced. Because other standards have been referenced throughout the document, the nonwater urinal standard should also be referenced here	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	801.5 (4)(c) One or more composting or waterless toilets and/or nonwater urinals. Nonwater urinals shall be in tested in accordance with ASME A112.19.19/CSA B45.1.	
Committee Reason:	Editorial	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P294 LogID 6378	**801.5 Water closets and urinals**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Cambria McLeod, Kohler	

Requested Action:	Revise as follows
Proposed Change:	801.5 (4)(b) One or more urinals with a flush volume of 0.5gallons (1.9L) or less when tested in accordance with ASME A112.19.2/CSAB45.1.
Reason:	Update the referenced standard to the correct name.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P295 LogID 6377	**801.5 Water closets and urinals**	***Final Formal Action:***	**Approve as Modified**
Submitter:	Cambria McLeod, Kohler		
Requested Action:	Revise as follows		
Proposed Change:	801.5 (2) A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less ~~and meets the flush performance criteria when tested in accordance~~, in compliance with ASME A112.19.2/CSA B45.1 or ASME A112.19.14 as applicable. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets.		
Reason:	If a product is in compliance with the product standard, it therefore meets the standard's performance criteria and stating such is repetitive. The EPA Water Sense program is a well-recognized program and products carrying a WaterSense label demonstrate that they not only save water, but they have been third-party certified to meet performance criteria. This allows consumers to easily identify water-efficient products that also perform. This program has widespread support and there are over 2,800 tank-type toilets currently labeled with WaterSense.		
Committee Formal Action from Meeting:	**Approve as Modified**		
Modification of Proposed Change:	801.5 (2) A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less ~~and meets the flush performance criteria when tested~~ in accordance~~, in compliance~~ with ASME A112.19.2/CSA B45.1 or ASME A112.19.14 as applicable. Tank-type water closets shall be ~~certified to~~ in accordance with the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets.		
Committee Reason:	Changing to code language and increases flexibility.		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **38** Disagree with committee action: **1** Abstain: **1** Non-voting: **5**		
Ballot Comments			
Agree with Committee Action			
Disagree with Committee Action:	***Thomas Pape:*** The addition of mixed-use buildings presents a new problem with using "effective flush volume". While residential dual flush toilets are known to be used appropriately, commercial settings do not get the same results. It is well documented that people do rarely use the partial flush on dual		

	flush toilets in public settings. Thus, dual flush toilets will average 1.6 GPF rather than 1.28.
Abstain:	***Cambria McLeod:*** Without proper certification to WaterSense, there is no way for the end-user of the product or the user of this standard to know if a product does indeed meet the performance criteria according to the specification. The EPA Water Sense program is a well-recognized program, heavily supported by over 180 national, regional, and local organizations, from environmental groups, to manufacturers, to utilities and cities. Products carrying a WaterSense label demonstrate that they not only save water, but they have been third-party certified to meet performance criteria. This allows consumers to easily identify water-efficient products that also perform. This program has widespread support and there are over 2,800 tank-type toilets currently labeled with WaterSense. Additionally, flushometer tank type toilets are also available with Water Sense certifications and with the expansion of this standard to include commercial properties, it would behoove us to also include these products.

P296 LogID 17-101	**Section 801.6 Irrigation systems**	***Final Formal Action:*** **Disapprove**
Submitter:	Thomas Pape, BMP	
Requested Action:	Modify as follows	
Proposed Change:	801.6.~~3~~ 1 Irrigation sprinkler nozzles ~~have a maximum precipitation rate of 1.20 inches per hour for turf or landscaping.~~ shall have a minimum precipitation rate of 1.80 inches per hour and shall be tested according to ANSI standard ASABE/ICC 802-2014 Landscape Irrigation Sprinkler and Emitter Standard ~~Nozzle performance is tested~~ by an accredited third party laboratory and results are published on manufacturer's ~~posted on Smart Water Application Technologies~~ website or similar.	
Reason:	At the last TG-4 meeting, representatives from irrigation equipment manufacturers testified that low precipitation rate nozzles (1.20 inches/hr or less precipitation rate) cause water waste due to excessive evaporation. While this might be true, excessive runoff is a greater problem for sloped landscapes. The reduced application rate is a prudent choice, and stream rotor sprinklers can minimize evaporation losses. This proposal includes the TG-4 action on prior proposal of LogID 6366.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	There was not consensus on the change by industry and it was not clear what was being done. There is conflicting information about the effectiveness of this proposal.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P297 LogID 6366	**801.6.1 Multi-stream rotating nozzles (Irrigation systems)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Brent Mecham, Irrigation Association	
Requested Action:	Revise as follows	

Proposed Change:	801.6.~~3~~ 1 Sprinkler nozzles ~~have a maximum precipitation rate of 1.20 inches per hour for turf or landscaping.~~ shall be tested according to ANSI standard ASABE/ICC 802-2014 Landscape Irrigation Sprinkler and Emitter Standard ~~Nozzle performance is tested~~ by an accredited third party laboratory and results are published on manufacturer's ~~posted on Smart Water Application Technologies~~ website or similar.
Reason:	This paragraph should renumbered to follow the mandatory requirements of having a plan. Since there is now an ANSI standard for testing and reporting nozzle performance this can replace the maximum precipitation rate requirement. This practice is already being implemented in California where this standard has been adopted into the CalGreen building code and manufacturer's are complying if they are selling their products in California. Adopting this into the NGBS would be used in jurisdictions outside of California.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	801.6.~~3~~ 1 Irrigation sprinkler nozzles ~~have a maximum precipitation rate of 1.20 inches per hour for turf or landscaping.~~ shall be tested according to ANSI standard ASABE/ICC 802-2014 Landscape Irrigation Sprinkler and Emitter Standard ~~Nozzle performance is tested~~ by an accredited third-party laboratory and results are published on manufacturer's ~~posted on Smart Water Application Technologies~~ website or similar.
Committee Reason:	Clarify irrigation sprinklers (to distinguish from fire sprinklers), add dash to "third-party."
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P298 LogID 6354	**801.6.3 Irrigation plan and implementation** ***Final Formal Action:*** **Approve as Submitted**
Submitter:	Brent Mecham, Irrigation Association
Requested Action:	Revise as follows
Proposed Change:	801.6.~~3~~1 Where an irrigation system is installed an irrigation plan.....as approved by Adopting Entity.
Reason:	The language of this paragraph shall remain the same, but renumber this section from 801.6.3 to be the first paragraph 801.6.1 since this is a mandatory requirement. The following paragraphs that award points should then follow that contain the provisions that are part of the irrigation plan
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	

Abstain:	

P299 LogID 6486	**801.6.3 Irrigation plan and implementation**	***Final Formal Action:*** **Disapprove**
Submitter:	Steven Armstrong, self	
Requested Action:	Revise as follows	
Proposed Change:	Remove 'WaterSense labeled program or equivalent program' as a mandatory practice.	
Reason:	Difficult to find these professionals	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Not in proper format.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P300 LogID 6201	**801.6.3 Irrigation plan and implementation**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	When an irrigation system is installed, an irrigation plan and implementation are executed by a qualified professional certified by a WaterSense labeled program or equivalent program as approved by Adopting Entity. - ~~Mandatory~~ **5 POINTS**	
Reason:	While it makes sense for the Standard to incentivize the use of WaterSense certified professionals, there are currently not enough WaterSense professionals in most cities and regions to support this as a mandatory requirement. For example, in Dallas, TX there are zero WaterSense Irrigation System Design professionals and only one WaterSense Irrigation System Installation and Maintenance professional. Returning this to be worth 5 points as in NGBS 2012 only makes sense.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consensus to keep it mandatory.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P301 LogID 6550	801.6.3 Irrigation plan and implementation *Final Formal Action:* **Approve as Modified**
Submitter:	Rachel Della Valle, Southern Energy Management
Requested Action:	Revise as follows
Proposed Change:	Where an irrigation system is installed, an irrigation plan and implementation are executed by a qualified professional ~~certified by a WaterSense labeled program or equivalent program as approved by Adopting Entity~~.
Reason:	1.) In some areas of the country WaterSense irrigation professionals cannot be found. 2.) No other trade/subcontractor have a mandatory requirement of a professional certification. I believe if a the professional certification is recognized it should be recognized in a point credit item, not a mandatory item.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Where an irrigation system is installed, an irrigation plan and implementation are executed by a qualified professional ~~certified by a WaterSense labeled program or equivalent program~~ as approved by Adopting Entity.
Committee Reason:	Lack of sufficient certified professionals.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P302 LogID 6562	801.6.3 Irrigation plan and implementation *Final Formal Action:* **Disapprove**
Submitter:	Kat Benner, self / TexEnergy
Requested Action:	Revise as follows
Proposed Change:	~~Mandatory~~ 6 points
Reason:	Requiring WaterSense labeling, plan, and certified staff to install is impossible in many areas of the country, especially those further from large metropolitan areas, as WaterSense certified professionals are simply not available nor within any range to install or implement materials. Thus, also cost-prohibitive or simply impossible. Additionally, no equivalent program currently exists. Suggest removing Mandatory and instead leave measure, but suggest with 6 points awarded vs. Mandatory.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	With the change made in P301 it would be inconsistent to add points here.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	

Disagree with Committee Action:	
Abstain:	

P303 LogID 17-104	**Section 801.6.4 Irrigation systems** *Final Formal Action:* **Approve as Submitted**
Submitter:	Rob Starr, The Toro Company
Requested Action:	Delete without substitution
Proposed Change:	801.6.4 The irrigation system(s) is controlled by a smart controller or no irrigation is installed (Points are not additive ~~(1) Evapotranspiration (ET) based irrigation controller with a rain sensor or soil moisture sensor based irrigation controller. 8 points~~ (~~2~~ 1) Irrigation controllers are labeled by EPA WaterSense program. 10 points (~~3~~ 2) No irrigation is installed and a landscape plan is developed in accordance with Section 503.5, as applicable.15 points
Reason:	ET based controllers and/or soil moisture sensor systems that **do not** possess the EPA WaterSense label should be not be eligible to receive any NGBS points in this category. Any company can just claim their product is an ET Controller and/or soil moisture system but there needs to be validation by any recognized authority such as the EPA that these type products meet certain industry performance criteria. Re-number items (2) and (3) to (1) and (2), respectively.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P304 LogID 6549	**801.8 Sediment filters** *Final Formal Action:* **Disapprove**
Submitter:	Craig Conner, self
Requested Action:	Add new as follows
Proposed Change:	801.9 Alternative water compliance. Compliance with this chapter based on the WERS computed as in Appendix F is as shown in Table 801.9. WERS Level Points (from NGBS) 80 Bronze 25 70 Silver 39 60 Gold 67 50 Emerald 92 Appendix F This appendix is part of the standard. The WERS calculation shall be in accordance with this appendix. **INDOOR USE** **Indoor Calculations**

Variables:

a. $T_{(x)}$- toilet use in gpd with sub x corresponding to (a) actual/proposed or (e)baseline [$(FF_{(t)}*QTi)*(OCC*UF_{(t)})$]
b. $S_{(x)}$- shower use in gpd with sub x corresponding to (a) actual/proposed or (e)baseline [$(FF_{(s)}*QTi)*(DF_{(s)}*RF)*(OCC*UF_{(s)})$]
c. $B_{(x)}$- bathtub use in gpd with sub x corresponding to (a) actual/proposed or (e)baseline [$(FF_{(b)}*QTi)*(OCC*UF_{(b)})$]
d. $L_{(x)}$ -lavatory use in gpd with sub x corresponding to (a) actual/proposed or (e)baseline [$(FF_{(L)}*QTi)*DF_{(L)}*(OCC*UF_{(L)})$]
e. $F_{(x)}$ -kitchen faucet use in gpd with sub x corresponding to (a) actual/proposed or(e) baseline [$(FF_{(f)}*QTi)*DF_{(f)}*(OCC*UF_{(f)})$]
f. $D_{(x)}$- dishwasher use in gpd with sub x corresponding to (a) actual/proposed or (e)baseline [$(FF_{(d)}*QTi)*(OCC*UF_{(d)})$]
g. $CW_{(x)}$- clothes washer use in gpd with sub x corresponding to (a) actual/proposed or (e) baseline [$(FF_{(cw)}*QTi)*(OCC*UF_{(cw)})*CF_{(cw)}$]
h. $SW_{(x)}$- structural waste in gpd with sub x corresponding to (a) actual/proposed or(e) baseline [$(VOL*QTi)*(OCC*UF_{(sw)})$]
i. $WF_{(x)}$- other water fixture use in gpd with sub x corresponding to (a)actual/proposed or (e) baseline [$(FF_{(wf)}*QTi)$]
j. $Reuse_{(a)}$- sub x corresponding to (a) actual/proposed or (e) baseline of WERS_CAPTURE_INDOOR_USE
k. VOL - Calculated water volume in DHW pipe supplying the furthest fixture worst case scenario. This factor is replaced with the actual field measured volume for a verified rating.

Factors & Multipliers

a. $CF_{(x)}$- Cubic feet with sub x corresponding to the specific water using item
b. $DF_{(x)}$- Duration Factor with sub x corresponding to the specific water using item
c. $FF_{(x)}$- Fixture Factor with sub x corresponding to the specific water using item
d. OCC - Occupancy Factor
e. QTi - Quantity multiplier inclusion
f. RF - reduction factor
g. $UF_{(x)}$- Use Factor with sub x corresponding to the specific water using item

Indoor Use Calculation:

$$WERS\_INDOOR\_USE_{(gpd)} = [T_{(a)} + S_{(a)} + B_{(a)} + L_{(a)} + F_{(a)} + D_{(a)} + CW_{(a)} + SW_{(a)} + WF_{(a)}] - Reuse_{(a)}$$

$$WERS\_INDOOR\_BASELINE_{(gpd)} = [T_{(e)} + S_{(e)} + B_{(e)} + L_{(e)} + F_{(e)} + D_{(e)} + CW_{(e)} + SW_{(e)} + WF_{(e)}]$$

CAPTURE AND USAGE

Reuse Calculations

Variables:

a. $RSF_{(x)}$- Rainwater Square feet with sub x corresponding to the specific capture sf for rainwater with (r) roof or (s) site
b. $SS_{(x)}$- Site surface texture with sub x corresponding to (a) actual/proposed or (e) baseline
c. $RS_{(x)}$- Roof surface texture with sub x corresponding to (a) actual/proposed or (e) baseline
d. $RC_{(x)}$- Rainwater capture in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline [$(RSF_{(r)} * CUr * RS_{(x)}) + (RSF_{(s)} * CUr * SS_{(x)})$]
e. $GC_{(x)}$- Greywater capture in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline [$(S_{(x)} * UF_{(s)} * cUF_{(s)}) + (B_{(x)} * UF_{(b)} * cUF_{(b)}) + (L_{(x)} * UF_{(L)} * cUF_{(L)}) + (CW_{(x)} * UF_{(CW)} * cUF_{(cw)})$]

f. $BC_{(x)}$- Blackwater capture in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline [$(T_{(x)} * UF_{(t)} * cUF_{(t)}) + (F_{(x)} * UF_{(f)} * cUF_{(f)})$]
g. $RT_{(x)}$- Rainwater tank sizing with sub x corresponding to (a) actual/proposed or (e) baseline [$Cs_{(r)}.* (RUi + RUo)*TSF_{(r)}$]
h. $GT_{(x)}$- Greywater tank sizing with sub x corresponding to (a) actual/proposed or (e) baseline [$Cs_{(g)}.* (GUi + GUo)*TSF_{(g)}$]
i. $BT_{(x)}$- Blackwater tank sizing with sub x corresponding to (a) actual/proposed or (e) baseline [$Cs_{(bw)}.* (BUi + BUo)*TSF_{(bw)}$]
j. $RUi_{(x)}$- Rainwater usage INDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline [$(S_{(x)} * UF_{(s)} * cUF_{(s)})+ (B_{(x)} * UF_{(b)} * cUF_{(b)}) + (L_{(x)} * UF_{(L)} * cUF_{(L)}) + (CW_{(x)} * UF_{(CW)} * cUF_{(cw)}) + (T_{(x)} * UF_{(t)} * cUF_{(t)})+ (F_{(x)} * UF_{(f)} * cUF_{(f)}) + (D_{(x)} * UF_{(d)} * cUF_{(d)})$]
k. $GUi_{(x)}$- Greywater usage INDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline [$(S_{(x)} * UF_{(s)} * cUF_{(s)})+ (B_{(x)} * UF_{(b)} * cUF_{(b)}) + (L_{(x)} * UF_{(L)} * cUF_{(L)}) + (CW_{(x)} * UF_{(CW)} * cUF_{(cw)}) + (T_{(x)} * UF_{(t)} * cUF_{(t)})+ (F_{(x)} * UF_{(f)} * cUF_{(f)}) + (D_{(x)} * UF_{(d)} * cUF_{(d)})$]
l. $BUi_{(x)}$- Blackwater usage INDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline [FUTURE]
m. $RUo_{(x)}$- Rainwater usage OUTDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline [$RR_{(x)} - ((OUTRirr_{(x)} * cUF_{(OUTRirr)})+ (OUTRdi_{(x)} * cUF_{(OUTRdi)}))$]
n. $GUo_{(x)}$- Greywater usage OUTDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline [$GR_{(x)} - (OUTGirr_{(x)} * cUF_{(OUTGirr)}) + (OUTGdi_{(x)} * cUF_{(OUTGdi)})$]
o. $BUo_{(x)}$- Blackwater usage OUTDOOR in gpmth with sub x corresponding to (a) actual/proposed or (e) baseline [$BR_{(x)} - (OUTBdi_{(x)} * cUF_{(OUTBdi)})$]
p. $RR_{(x)}$- Rainwater remaining/available for outdoor usage in gpmth with sub x corresponding to (a) actual/proposed or (e)[(RC - RUi)]
q. $GR_{(x)}$- Greywater remaining/available for outdoor usage in gpmth with sub x corresponding to (a) actual/proposed or (e)[(GC - GUi)]
r. $BR_{(x)}$- Blackwater remaining/available for outdoor usage in gpmth with sub x corresponding to (a) actual/proposed or (e)[FUTURE]
s. $T_{(x)}$- toilet use in gpd from the indoor water use calculations
t. $S_{(x)}$- shower use in gpd from the indoor water use calculations
u. $B_{(x)}$- bathtub use in gpd from the indoor water use calculations
v. $L_{(x)}$ -lavatory use in gpd from the indoor water use calculations
w. $F_{(x)}$ -kitchen faucet use in gpd from the indoor water use calculations
x. $CW_{(x)}$- clothes washer use in gpd from the indoor water use calculations
y. $OUTRirr_{(x)}$- Rainwater outdoor use as surface irrigation
z. $OUTRdi_{(x)}$- Rainwater outdoor use as sub-surface irrigation
aa. $OUTGirr_{(x)}$ - Greywater outdoor use as surface irrigation
bb. $OUTGdi_{(x)}$ - Greywater outdoor use as sub-surface irrigation
cc. $OUTBdi_{(x)}$- Blackwater outdoor use as sub-surface irrigation

Factors & Multipliers

a. CUr -Conversion unit for 1" of rainfall volume in one square foot of area
b. QTu - Quantity multiplier for use / inclusion
c. $TSF_{(x)}$ - Tank safety factor with sub x corresponding to (r) rainwater or (g) greywater or (bw) blackwater
d. $UF_{(x)}$- Use Factor with sub x corresponding to the specific water using item from the indoor water calculations
e. $CUF_{(x)}$- Capture Use Factor with sub x corresponding to the specific water using item
f. $Cs_{(x)}$ - Capture Systems (qualified) with sub x corresponding to (r) rainwater or (g) greywater or (bw) blackwater

Capture Calculations:

WERS_CAPTURE_INDOOR_USE = [(((RUi$_{(x)}$ + GUi$_{(x)}$+ BUi$_{(x)}$)*12)/365)]

WERS_CAPTURE_OUTDOOR_USE = [(RUo$_{(x)}$ + GUo$_{(x)}$+ BUo$_{(x)}$)]

The above calculations are limited by the final tank size and qualified capture system for each type of alternative water source system.

EXTERIOR USE

Outdoor Calculations

Variables:

a. MAX_ALLOW_LANDSCAPING $_{(x)}$ - in area with sub x corresponding to (a)actual/proposed or (e) baseline
b. MEM$_{(x)}$- Maximum ETo Monthly with sub x corresponding to month
c. OUTReuse$_{(a)}$- sub x corresponding to (a) actual/proposed or (e) baseline of WERS_CAPTURE_OUTDOOR_USE
d. ZSF $_{(x)}$- zone square footage area with sub x corresponding to (a) actual/proposed or(e) baseline
e. UF$_{(x)}$- Use Factor with sub x corresponding to (a) actual/proposed or (e) baseline
f. LWR$_{(x)}$ - Landscape watering requirement with sub x corresponding to the line item entry

LWR$_{(x)}$ = {[((1/IF$_{(a)}$)*((MEM$_{(jan)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+ [((1/IF$_{(a)}$)*((MEM$_{(feb)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+[((1/IF$_{(a)}$)*((MEM$_{(mar)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+[((1/IF$_{(a)}$)*((MEM$_{(apr)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+[((1/IF$_{(a)}$)*((MEM$_{(may)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+[((1/IF$_{(a)}$)*((MEM$_{(jun)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+[((1/IF$_{(a)}$)*((MEM$_{(jul)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+[((1/IF$_{(a)}$)*((MEM$_{(aug)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+[((1/IF$_{(a)}$)*((MEM$_{(sep)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+[((1/IF$_{(a)}$)*((MEM$_{(oct)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+[((1/IF$_{(a)}$)*((MEM$_{(nov)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]+[((1/IF$_{(a)}$)*((MEM$_{(dec)}$*WD)-ARF$_{(a)}$)* ZSF $_{(a)}$*CU$_{(a)}$) UF$_{(a)}$)]}

Factors & Multipliers

a. CU$_{(x)}$- Conversion unit with sub x corresponding to (a) actual/proposed or(e) baseline
b. IF$_{(x)}$- irrigation factor with sub x corresponding to (a) actual/proposed or (e)baseline
c. WD$_{(x)}$- water demand with sub x corresponding to (a) actual/proposed or (e) baseline
d. QTm - Quantity multiplier for month
e. ARF$_{(x)}$- Average Reduction Factor with sub x corresponding to (a)actual/proposed or (e) baseline

Indoor Use Calculation:

WERS_OUTDOOR_USE $_{(gpy)}$ =[*n=150LWR(n)*]- OUTReuse$_{(a)}$

WERS_OUTDOOR_BASELINE $_{(gpy)}$ = [(MEM$_{(jan)}$* MAX_ALLOW_LANDSCAPING*QTm *CU) + (MEM$_{(feb)}$*MAX_ALLOW_LANDSCAPING* QTm *CU) + (MEM$_{(mar)}$*MAX_ALLOW_LANDSCAPING* QTm *CU) +(MEM$_{(apr)}$*MAX_ALLOW_LANDSCAPING* QTm *CU) +(MEM$_{(may)}$*MAX_ALLOW_LANDSCAPING* QTm *CU) +(MEM$_{(jun)}$*MAX_ALLOW_LANDSCAPING* QTm *CU) +(MEM$_{(jul)}$*MAX_ALLOW_LANDSCAPING* QTm *CU) +(MEM$_{(aug)}$*MAX_ALLOW_LANDSCAPING* QTm *CU) +(MEM$_{(sep)}$*MAX_ALLOW_LANDSCAPING* QTm *CU) +(MEM$_{(oct)}$*MAX_ALLOW_LANDSCAPING* QTm *CU) +(MEM$_{(nov)}$*MAX_ALLOW_LANDSCAPING* QTm *CU) +(MEM$_{(dec)}$*MAX_ALLOW_LANDSCAPING* QTm *CU)]

WERS REPORT

Water Efficiency Rating Score Calculations

Variables:

a. none

	Factors & Multipliers a. QTy - Quantity multiplier for year Calculation: WERS = [((WERS_INDOOR_USE *(gpd)* *QTy) + WERS_OUTDOOR_USE *(gpy)*)/((WERS_INDOOR_BASELINE *(gpd)* *QTy) + WERS_OUTDOOR_BASELINE *(gpy)*)]*100
Reason:	This change proposes an option for meeting the water requirements in the NGBS. Water is a critical element of a green program. We would like the WERS methodology to be in the NGBS and to expose the methodology to the discussion that is inherent in the NGBS development process. Over time, it became clear to us that a method of comparing and promoting water efficiency was needed. This proposal takes advantage of 3 years of dedicated work from a core group of 9 individuals from diverse backgrounds. The Water Efficiency Rating Score (WERS®), the homebuilding industry's first performance-based water efficiency program, is being used in the marketplace. WERS® is a water use modeling tool which creates a score between zero and 100, with a lower score indicating greater efficiency. It takes into account indoor and outdoor water usage, including rainwater, stormwater, greywater and blackwater. This metric allows for the comparison of properties, similar to an energy rating. It also projects the property's daily, monthly and yearly water usage and water costs. Water is one of the greatest limiting factors to growth in the West. In its most extreme form, such as Whatcom County, WA, permits have recently been denied due to uncertain water supply for new development. The Santa Fe Area Home Builders Association foresaw this potential threat over 3 years ago, and set out to create a water rating system that would retain design flexibility and freedom of product choice, while still driving down overall water usage. The WERS® Program is a water efficiency tool that jurisdictions can use, and are already using. In the words of Christine Chavez, Water Conservation Manager for the City of Santa Fe, "The WERS® Program provides another tool to assist the City of Santa Fe Water Conservation Office to meet our goal of managing and reducing customer demands to protect natural resources and to ensure that we can provide the community with a safe, reliable and sustainable water supply." The WERS® Program is also cited as a water efficiency compliance path for the State of New Mexico's Sustainable Building Tax Credit. Add ref to NAHB policy As our discussions on water have reached national levels, we have seen common elements in the water issues across the country. Adding another option to NGBS would strengthen NGBS and allow this tool to see much broader use. Add proponents as follow: Kim Shanahan - Santa Fe Area Home Builders Association Laureen Blissard - LTLB Envirotecture
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Proposal as submitted is incomplete; encourage submitter to write a new proposal for submittal before May 12 which can be addressed individually ad specifically. Provide user-friendly format.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	***Thomas Pape:*** This alternate requirement is not ready for implementation. It does not provide the detailed and algorithms needed to verify compliance. Anyone could load up a spreadsheet and claim compliance. NAHB has no method to verify the claims of the rating are accurate and valid. This should not be implemented until a tool is software is developed, tested in wade geographic areas, and made available to ALL and any users. I have led the development of several water and energy analysis tools, and my experience tells me that NAHB is not ready to implement this compliance path in any verifiable and quality assured manner. In addition there needs to be training sessions developed on how to collect the data and use the tool. I applaud the concept, but it is incomplete.
Disagree with Committee Action:	
Abstain:	

P305 LogID 17-111	Section 802.3 Automatic shutoff water devices *Final Formal Action:* **Approve as Submitted**
Submitter:	Michael Cudahy, PPFA
Requested Action:	Revise as follows
Proposed Change:	802.3 Automatic <u>leak</u> ~~shutoff~~ <u>detection and control</u> ~~water~~ devices. One of the following ~~automatic shutoff water supply~~ devices is installed. Where a fire sprinkler system is present, ~~installer is to ensure~~ the device will <u>be installed to</u> not interfere with the operation of the fire sprinkler system. (1) automatic water leak detection and control devices (2) automatic water leak detection and shut-off devices ~~(1) excess water flow automatic shutoff~~ ~~(2) leak detection system with automatic shutoff~~ 2 points
Reason:	Clarify language – these appear to be the correct terms for the devices.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P306 LogID 1512	802.4 Engineered biological system or intensive bioremediation system *Final Formal Action:* **Disapprove**
Submitter:	Jennifer Cisneros, Bio-Microbics, Inc.
Requested Action:	
Proposed Change:	
Reason:	What/why is the difference between these two sections: 802.4 Engineered biological or intensive bioremediation system. An engineered biological system or intensive bioremediation system is installed and the treated water is used on site. Design and implementation are approved by appropriate regional authority. 802.6 Advanced wastewater treatment system. Advanced wastewater (aerobic) treatment system is installed and treated water is used on site. And, what was the reason to put "a Humidifier" description (802.5 Recirculating humidifier) between these two sections? Seems like an odd place and confusing.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	No formal proposal provided.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P307 LogID 6200	**Other for Chapter 8 (include section number and title below)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW SECTION **801.4.3** Water-efficient kitchen faucets with a maximum flow rate of 1.5 gpm (5.68 L/m), tested as 60 psi (414 kPa) in accordance with ASME A112.18.1, are installed. - **3 POINTS**	
Reason:	Whether kitchen faucets are being used for washing hands or washing dishes, reducing the amount of water used during that activity is as beneficial here as it is in the lavatory.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	*Replace proposal in its entirety with the following:* 801.4.3 Water-efficient kitchen faucets are installed in accordance with ASME A112.18.1/CSA B125.1. Kitchen faucets may temporarily increase the flow above the maximum rate but not to exceed 2.2 gpm. (1) All kitchen faucets have a maximum flow rate of 1.8 gpm – 3 POINTS (2) All residential kitchen faucets have a maximum flow rate of 1.5 gpm – 1 ADDITIONAL POINT For SI: 1 gallon per minute = 3.785 L/m	
Committee Reason:	Gap between codes is too wide. Also, faucets with severely low flow rates which perform poorly will be modified by homeowner later, obviating the savings.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P308 LogID 6200A	**Other for Chapter 8 (include section number and title below)**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	TG4, in response to LogID 6200	
Requested Action:	Change Name from 801.04 Lavatory Faucets to 801.04 Faucets	
Proposed Change:	**801.4 ~~Lavatory~~ Faucets**	
Reason:	To broaden the category to cover all types of faucets	
Committee Formal Action from Meeting:	**Approve as Submitted**	

Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P309 LogID 6200B	**Other for Chapter 8 (include section number and title below)**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	TG4, in response to LogID 6200	
Requested Action:	Re-number and move "801.4.2 Self-closing valve…" to the end of the section,	
Proposed Change:	**801.4.~~2~~3** Self-closing valve…	
Reason:	To allow lavatory faucets and kitchen faucets to be addressed in order.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P310 LogID 6289	**Other for Chapter 8 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**802.1 Water Reduction Calculation.** The water efficiency rating level shall be based on the reduction in water consumption over standard practice in accordance with Table 802.1.1 Table 802.1.1 Water Rating Level Thresholds	

	Rating Level			
	BRONZE	SILVER	GOLD	EMERALD
Reduction in water consumption	10%	20%	30%	40%

Outdoor water use reduction shall be calculated by using the EPA WaterSense Water Budget Tool.

Indoor water use reduction shall be calculated using the Water Reduction Calculator to determine the average flush or flow rate for each fixture type and the estimated daily usage.
The baselines for indoor water consumption are shown in Table 802.1.2.

Table 802.1.2. Indoor water baseline consumption (per person per day)

Fixture	Baseline flush or flowrate		Estimated fixture usage	Estimated water usage	
Shower (per compartment)	2.5 gpm	9.5 lpm	6.15 minutes	15.4 gallons	58.4 liters
Lavatory, kitchen faucet	2.2 gpm	8.3 lpm	5.0 minutes	11 gallons	41.5 liters
Toilet	1.6 gpf	6 lpf	5.05 flushes	8 gallons	30.3 liters
Clothes washer	9.5 WF	9.5 WF	0.37 cycles @ 3.5 ft3 (@0.1m3)	15.1 gallons	57.1 liters
Dishwasher	6.5 gpc	24 lpc	0.1 cycles	0.7 gallons	2.4 liters

gpm = gallons per minute
gpf = gallons per flush
WF = water factor
gpc = gallons per cycle
lpf = liters per flush
lpm = liters per minute
lpc = liters per cycle

802.2 Alternative compliance. Total water reduction that complies with Table 802.1.1 calculated using the WER Index shall be an acceptable alternative.

RENUMBER SUBSEQUENT SECTIONS

Reason:	Adding an alternative performance calculation methodology to water efficiency will make the Standard more flexible and support the adoption of new innovative practices that come to market between Standard development cycles.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	WER index is not yet complete, does not cover all uses, does not adjust uses based on people in home, missing some calculations.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P311 LogID 6491	Other for Chapter 8 (include section number and title below) *Final Formal Action:* **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions
Requested Action:	Add new as follows
Proposed Change:	New Section Section 803.2 - An activated carbon filter is installed to treat all of the water intended for consumption and for showers/baths. 2
Reason:	This measure provides a higher level of assurance for consistent water quality and improves the overall quality of the water.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Lack of evidence that this improves health and safety or water conservation. This credit could inadvertently suggest that municipal water is not safe to drink.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Michael Cudahy:*** I like this proposal in hindsight. Water filters do help with removal of lead and other materials and can make a shower more pleasing, even with lower flow fixtures.
Abstain:	

P312 LogID 6488	Other for Chapter 8 (include section number and title below) *Final Formal Action:* **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions
Requested Action:	Add new as follows
Proposed Change:	New Section **Section 803.1 -** Water Quality Testing. Meet one or more of the following options: (1) Sediment level testing. 1 (2) Microorganisms level testing. 1 (3) Dissolved Metals level testing. 1 (4) Organic Contaminants level testing. 1 (5) Herbicides, Pesticides and Fertilizers level testing. 1 (6) Public Water Additives level testing. 1
Reason:	As we have seen in Michigan and other areas around the country. Testing the quality of the water is important to project residents from harm. Some people are not aware that they could be damaging their health by drinking public water.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	No evidence of benefit, no standard, not enough detail (frequency of test, criteria and levels, interpretation).
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P313 LogID 6492	**Other for Chapter 8 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section **Section 803.3** - Water Sanitation. A UVGI water sanitation device is installed to treat all of the water intended for consumption and for showers/baths. 2	
Reason:	This measure provides a higher level of assurance for consistent water quality and improves the overall quality of the water.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Implies municipal water is not safe; best left to AHJ.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P314 LogID 6353	**Other for Chapter 8 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**Section 803** - Add a new section as relevant for Health & Well-being credits.	
Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Major elements already covered in NGBS, especially CH9 IEQ. No need for a stand-alone section.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0**	

	Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P315 LogID 6500	**Other for Chapter 8 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section Section 801.9 - Water Heater installation quality assurance - Meet all of the following: (1) Proper water pressure is verified per manufacturer's recommendations by the installing contractor. (2) Verify water supply line connections are secure. (3) Verify drain pan and drain line are installed when required by code. (4) For gas water heaters, verify the the flue vent is properly sized and installed properly. (5) For gas water heaters, verify the gas supply line is properly secured and has an accessible shut-off. 2	
Reason:	Having an extra set of eyes to verify that the water heater was installed properly is good practice. This measure may require that the verifier familiarize themselves with proper water heater installation techniques.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Doesn't add value, already addressed in local code. Expertise is in the plumbing inspector, would add unnecessary time and cost to verifier's tasks.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P316 LogID 6555	**Other for Chapter 8 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Kat Benner, self / TexEnergy	
Requested Action:	Add new as follows	
Proposed Change:	802 HEALTH AND WELL BEING (...prior to INNOVATIVE PRACTICES)	
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to	

	the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Major elements already covered in NGBS, especially CH9 IEQ. No need for a stand-alone section. Premature. NGBS/HI staff have indicated they will explore, address, come up with a more holistic recommendation.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P317 LogID 6568	**Other for Chapter 8 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, self	
Requested Action:	Add new as follows	
Proposed Change:	Alternative water requirements. This chapter is met by using all of the following: high MEF and EF Clothes Washer decreased toilet water use water supply within 10 ft of entrance to water using rooms, max pipe diameter 1/2 inch, 3/4 for master bath outdoor plants are low water gray water use does not contribute to water budget outdoor soils are amended and loosened to allow plant roots to go deeper only low water grasses are used. Silver level water.	
Reason:	This recipe provides for minimum use of water is the new home.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Inaccurate, incomplete.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P318 LogID 17-087	New for Chapter 8 *Final Formal Action:* **Approve as Modified**
Submitter:	Craig Conner, Building Quality
Requested Action:	Incorporate a Water Rating Index as an option. Note that WRI as a concept was re-submitted on May 9 in order to retain status as "in-process" (previous proposal number was 4569)
Proposed Change:	Include the attached text as a new appendix for calculating a Water Rating Index. Insert into the water chapter the option of allowing a WRI to equal the specific levels as is shown below. 70 = Bronze 60 = Silver 50 = Gold 30 = Emerald
Reason:	
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	WRI is a compliance option path in the 2018 NGBS with the following point schedule for designation tiers: 70 = Bronze 60 = Silver 50 = Gold ~~30~~ 40 = Emerald For clarification: **801** **INDOOR AND OUTDOOR WATER USE** **801.0 Intent.** ~~Measures that reduce indoor and outdoor water usage are implemented~~. Implement measures that reduce indoor and outdoor water usage. Implement measures that include collection and use of alternative sources of water. Implement measures that treat water on site. **801.1 Mandatory requirements.** The building shall comply with Section 802 (Prescriptive Path) and 803 (Innovative Practices) or Section 804 (Performance Path). Points from Section 804 (Performance Path) shall not be combined with points from Section 802 (Prescriptive Path) or Section 803 (Innovative Practices). The mandatory provisions of Section 802 (Prescriptive Path) and Section 803 (Innovative Practices) are not required when using the Water Rating Index of Section 804 (Performance Path) for Chapter 8 Water Efficiency compliance. *(Re-name all sections hereafter: Section 802 Is for Prescriptive Path Practices, Section 803 is for Innovative Prescriptive Practices, and Section 804 is for Performance Path Provisions.)* **802** **PRESCRIPTIVE PATH** **80~~2~~3** **INNOVATIVE PRACTICES** **804** **PERFORMANCE PATH** **804.1 Water Rating Index.** Water Rating Index (WRI) score is calculated in accordance with Appendix X or equivalent methodology.

804.2 Water Efficiency Rating Levels. In lieu of threshold levels for Chapter 8 in Table 303, rating levels for Section 804.1 are in accordance with Table 804.2.

TABLE 804.2 Maximum WRI Scores for NGBS Certification in Chapter 8

Bronze	Silver	Gold	Emerald
70	60	50	40

804.3 Water Efficiency NGBS Points Equivalency. The additional points for use with Table 303 from the Chapter 8 Water Efficiency Category are determined in accordance with equation 804.3.

Equation 804.3

NGBS = WRI x (-2.29) + 181.7

Previous WRI Appendix attachment (posted June 8, 2017 on www.homeinnovation.com/ngbs) is replaced with the following:

Appendix F Water Rating Index

Intent.

Provide a flexible method to quantify home water use efficiency as a single number.

Scope.

The Water Rating Index (WRI) is a performance calculation for water use efficiency, including both indoor and outdoor water use.

Capabilities.

The WRI calculation shall include the following capabilities:

1. Both new and existing construction.
2. The following building types:
    a. One and two family dwellings
    b. Townhouses not more than three stories above grade in height
    c. Multifamily buildings as a whole building; or individual dwelling units provided each unit has a separate water meter
3. Three types of WRI rating reports shall be available:
    a. Preliminary reports with WRI from plans
    b. Final reports with WRI with field verification. The final reports shall be formatted to be compared side-by-side with the preliminary reports.
    c. Existing dwellings WRI with field-verified existing conditions
4. Building water use shall be reduced based on the water capture and reuse. Where a specific type of water capture and reuse would violate local laws or ordnances, the amount of water capture and reuse for that specific type shall be zero.
    a. The water types for capture and reuse shall be:
        i. Rainwater, which is natural precipitation that falls on a structure.
        ii. Sitewater, which is natural precipitation that falls on the ground, softscapes, and hardscapes.
        iii. Greywater, which is untreated wastewater that has not come into contact with toilet waste, kitchen sink waste, dishwasher waste or similarly contaminated sources:
            1. Only wastewater from bathtubs, showers, lavatories, and clothes washers shall be used in the greywater offset calculation.
            2. If no filtration/purification system and properly sized tank is present, then Greywater shall only be used outdoors as subsurface irrigation.
        iv. Blackwater, which is the liquid and waterborne waste that would be permitted without special treatment into either the public sewer or a private sewage disposal system.

b. Water offset credit for rainwater, sitewater and greywater use indoors shall require filtration, purification and properly sized tanks. Blackwater shall not offset indoor water.

Process.

The following shall be required as part of a WRI implementation:

1. Trained WRI Verifiers shall provide field verifications, ratings and the associated reports
2. At minimum training shall include
   a. Confirmation of contract documents including building drawings, site drawings, landscape drawings, specifications, cut sheets, and approved final submittals.
   b. Visual confirmation of installed site material, fixtures, and equipment.
   c. Physical field testing of installed fixtures and equipment.
   d. Ability to utilize a tool that incorporates this WRI calculation.

Compute Water Rating Index.

The WRI is an overall rating for the home on an annual basis. The WRI shall be computed as a percentage of the combined indoor and outdoor water use in relation to the combined indoor and outdoor water baseline.

$$WRI = 100 * (IndoorUse + OutdoorUse) / (IndoorBaseline + OutdoorBaseline)$$

This Appendix species which parameters input to the WRI shall be verified from plans and/or field inspection. Variables with the subscript "verified" shall be verified.

Indoor water.

1. Indoor water calculations for annual Baseline and annual Use shall be as follows.

$$IndoorBaseline = [ToiletWater_{(baseline)} + ShowerWater_{(baseline)} + BathtubWater_{(baseline)} + LavatoryWater_{(baseline)} + FaucetWater_{(baseline)} + DishWasherWater_{(baseline)} + ClothesWasherWater_{(baseline)} + StructuralWasteWater_{(baseline)} + OtherWaterUse_{(baseline)}] * 365\ days/year$$

$$IndoorUse = [ToiletWater_{(verified)} + ShowerWater_{(verified)} + BathtubWater_{(verified)} + LavatoryWater_{(verified)} + FaucetWater_{(verified)} + DishWasherWater_{(verified)} + ClothesWasherWater_{(verified)} + StructuralWasteWater_{(verified)} + OtherWaterUse_{(verified)}] - IndoorWaterReuseCredit_{(verified)}$$

2. NumOccupants = bedrooms + 1
3. Baseline water for each device in Table 1 shall be:
   a. $Baseline_{(device)} = VolumePerOccupant_{(device)} * NumOccupants$
   b. For dishwasher and clothes washer, if it is verified that there is no hookup $Baseline_{(device)} = 0$
4. Verified use for each device in Table 1 shall be:
   a. $Verified_{(device)} = VerifiedFlowRate_{(device)} * UseFactor * NumOccupants$
   b. A thermostatic control value (TSV) on all showerheads shall be verified, otherwise the shower shall assume no TSV for all showerheads.
   c. For bathtub, dishwasher and clothes washer, if it is verified that there is no hookup $Verified_{(device)} = 0$

TABLE 1. WATER USE FOR BASELINE AND VERIFIED DEVICES

Device	**Baseline VolumePerOccupant** gallons / day / occupant	**Uses for Verified Devices** and units
Toilet	8	5 uses / day / occupant
Shower	13.455	5.382 or 4.7035 with TSVs minutes / day / occupant at device flow rate

Bathtub	1.414	same as the baseline gallons / day / occupant
Lavatory	2.75	1.25 minutes / day / occupant at device flow rate
Faucet	8.8	4 minutes / day / occupant at device flow rate
Dishwasher	1.69	0.26 uses / day / occupant
Clothes Washer	7.41	0.78 uses / day / occupant

5. Structural waste, which is the water volume in the pipe between the hot water source and the plumbing fixture or appliance plus the extra volume needed to heat the pipe as hot water is delivered to its use.
    a. VerifiedStructuralWaste (gallons), shall be field measured as the water volume collected until the temperature of the water equals 100°F at the furthest fixture for a domestic hot water system.
        i. This test shall be performed before any other tests in order to avoid preheating the pipes. This test shall use an apparatus with a thermometer and water container.
        ii. If there is more than one domestic hot water system, all systems shall be tested for structural waste with the worst performing system entered into the calculation.
    b. BaselineStructuralWaste (gallons/day) is approximated based on the house size and configuration. The pipe length is estimated as a horizontal length plus a vertical length.
        i. EstimatedHorizontalPipe = SQRT(HouseFootprint) * 2
        which is the pipe length estimated as the distance between two opposite corners of square with same area as house, assuming the pipe went along the length and width of the square.
        ii. EstimatedVerticalPipe = NumberOfFloors * FloorHeight
        Except:
            1. Add half floor height for one story house with crawlspace and water heater on first floor or in garage
            2. Add half floor height for 1 story with slab
            3. Subtract 1 floor height for 2 story slab on grade
        iii. EstimatedTotalPipe = EstimatedHorizontalPipe + EstimatedVerticalPipe
        iv. BaselineStructuralWaste = EstimatedTotalPipe * WaterVolumePerPipeLength
        Variables
            1. HouseFootprint - sf of the exterior conditioned space on the ground floor.
                a. Exception: the attached garage's sf shall be included if a water heater is located in the garage.
            2. FloorToFloorHeight, average floor to floor height (ft)
            WaterVolumePerPipeLength is gallons per ft pipe from Table 2, based on the predominate type of pipe. For existing homes the value of 0.025 shall be used when the predominant type of pipe is not known.

Table 2. GALLONS OF WATER PER FOOT OF PIPE

Pipe Material	3/8"	1/2"	3/4"	1"
K (fat wall copper)	0.007	0.011	0.023	0.040
L (medium wall copper)	0.008	0.012	0.025	0.043
M (skinny wall copper)	0.008	0.013	0.027	0.045
CPVC	N/A	0.010	0.021	0.035
PEX	0.005	0.009	0.019	0.031

    c. PreliminaryStructuralWaste (gallons) is the estimated structural waste volume for a building when there is no built construction to verify but a preliminary estimate is

necessary to create a comparison to the baseline. This estimate shall be the same as BaselineStructuralWaste, except that the EstimatetedHorizonatalPipe shall be replaced with the PreliminaryHorizontalPipe computed as:

PreliminaryHorizontalPipe = horizontal measurement of the straight-line distance from the water heater to the furthest hot-water-using fixture on the plans.

6. Other types of water use. OtherWaterUse (gallons/day)- other water fixture use for fixtures verified to be present.
    a. The baseline is zero, when device is not present.
    b. OtherWaterUse sums the water use for fixtures that are present.
    c. OtherWaterUse includes:
        i. Water use per manufacturer (gallons/day)
            1. Water softeners
            2. Humidifiers
            3. Evaporative Coolers
            4. Water filters, except reverse osmosis
        ii. Reverse osmosis water use shall be as specified by the manufacturer or shall default to a water waste of 4 times the water consumption
        iii. Fountains and spas – water loss (gallons/day) = pan evaporation rate * area
        iv. VerifiedLeaks shall be included as a direct use item. The baseline is no leaks. Leaks are included in both baseline and actual if verified as present for existing or final ratings.
        v. Where there are multiple fixtures or appliances of the same type, the baseline fixtures and appliances shall be assumed to all be of the same type, flow rate and water use rate.
7. Master bath adjustment. This item shall apply where there is a master bath. If the flow rate of the individual toilet, lavatory, or shower devices varies, then water use in the master bath and outside the master bath shall be computed separately.
    a. For each device type, average the device-type flow rates. Compute two separate device-type-averages, one average for the master bath and one average for outside the master bath.
    b. Device-type uses are divided as follows:
        i. For each device the total number of uses shall be as given in Table 1, with the uses divided between the master bath and outside the master bath.
        ii. For master bath toilets and lavatories assume 2 uses each for 2 occupants, for a total of 4 uses per day. For master bath showers assume 1 use each for 2 occupants for a total of 2 uses per day.
        iii. Assume the remaining uses in Table 1 are outside the master bath.
    c. For both the master bath and outside the master bath compute water use as the device-type average times the number of uses.
    d. Add the device water use to ToiletWater, LavatoryWater and ShowerWater as appropriate in the IndoorUse equation in item #1.

8. Other appliances. For other appliances: If there is more than one of a specific type of appliance, then the worst-case appliance water use shall be used in the ApplianceFlowRate $_{(device)}$.

Defaults - If cut sheets or internet information is available for either dishwashers or clothes washers, that information shall supersede these defaults.

TABLE 4. Defaults for Clothes Washers and Dishwashers

Clothes Washer	9.5 IWF, 4 CF (ft^2)
Dishwasher	6.5 gallons/cycle

Water Capture for Potential Reuse.

This calculates the water available for reuse for each month.

1. RainwaterCapture, GreywaterCapture, and BlackwaterCapture shall be computed for each month.

a. RainwaterCapture$_{(month)}$ - gallons/month, includes roofwater and sitewater.
= [(RoofwaterArea * RoofSurfaceCapture) + (SitewaterArea * SiteSurfaceCapture)] * 0.623 (gallons/sq ft of 1 in of rain) * DaysInMonth$_{(month)}$
   i. RainwaterArea$_{(roof)}$ and RainwaterArea$_{(site)}$ – Verified Rainwater capture areas for the roof and site in sq ft. Where there is no rainwater capture, these areas shall be zero.
   ii. SiteSufaceCapture – Site surface affects water capture as specified in Table 6. Site surface shall be verified. Where there are multiple site surface types, the area-weighted average shall be used.
   iii. RoofSurfaceCapture –Roof surface affects water capture as specified in Table 7. Roof surface shall be verified. Where there are multiple roof surface types, the area-weighted average shall be used.

b. GreywaterCapture$_{(month)}$ - in gallons/month
= (ShowerWater$_{(verified)}$ + BathtubWater$_{(verified)}$ + LavatoryWater$_{(verified)}$ + ClothesWasherWater$_{(verified)}$) * DaysInMonth$_{(month)}$

c. BlackwaterCapture$_{(month)}$ - in gallons/month
= (ToiletWater$_{(verified)}$ + FaucetWater$_{(verified)}$) * DaysInMonth$_{(month)}$

d. To get credit for reuse of captured rainwater, greywater and blackwater
   i. Tank size shall be 90% of nominal size to provide a safety factor.
   ii. Capture systems shall include filtration and purification for reuse indoors or above ground irrigation.
   iii. Captured water credit for each month shall be no more than the tank size or the captured water available - whichever is less.
   iv. Any remaining unused captured water can be carried over to the following month but not in excess of the tank size.
   v. Reuse of rainwater, greywater and blackwater shall not receive credit in violation of ordnances or other regulations.

TABLE 6. Site Surface Fraction Captured

Surface	Capture
Asphalt	0.83
Concrete	0.88
Brick	0.78
Patios, stone or other pavers	0.88
Unknown (also default)	0.50

TABLE 7. Roof Surface Fraction Captured

Surface	Capture
Asphalt / sloped	0.90
Concrete or Tile / sloped	0.90
Metal / sloped	0.95
Tar & Gravel / sloped	0.80
Membrane / sloped	0.90
Concrete or Tile / flat	0.81
Foam & Gravel / flat	0.62
Foam / flat	0.90
Membrane / flat	0.90
Unknown (also default)	0.50

Outdoor Calculations.
The annual outdoor water use shall be calculated as follows.
OutdoorUse = LandscapeWaterUse + NonLandscapeWaterUse
OutdoorBaseline$_{(month)}$ = Evapotraspiration$_{(month)}$ * LandscapeWaterArea$_{(total)}$ * 0.623 (gallons/sq ft of 1 in of rain) where LandscapeWaterArea$_{(total)}$ is the total of all the areas that are planted, irrigated, hand-watered or have a water feature like a pool.

1. LandscapeWaterUse – Is the annual outdoor water use for landscaping. It sums the monthly water use for each landscape zone into the LandscapeWaterUse .
   a. Water use shall be increased for an IrrigationEfficiency of less than 100%, as specified in Table 8.
   b. Water use shall be adjusted based on the irrigation controller, as some controllers conserve water by adjusting for weather or soil conditions.

LandscapeWaterUse =
For each month that is a water month and for each landscape zone sum
([$Evapotraspiration_{(month)}$ * $PlantFractionEvapotranspiration_{(zone)}$] - $EffectiveRainfall_{(month)}$) * $LandscapeArea_{(zone)}$ * (1- $IrrigationControllerReduction)_{(zone)}$ / $IrrigationEfficiency_{(zone)}$

a. Multiple physical zones with the same values for Evapotraspiration, IrrigationEfficiency and IrrigationControllerReduction shall be permitted to be combined into one zone with LandscapeArea being the sum of the areas of those zones.

2. Months shall be water-months as follows based on approved long-term climate data which includes frost days and average last frost.
   a. To define the watering months take the number of frost days in a year, divide by twelve, and round to the nearest whole month.
   b. The month with the average last frost is the beginning of the watering months.
3. If an irrigation system is installed, the verifiers shall verify that the irrigation emitters and zones are operational.
4. Variables:
   a. $LandscapeArea_{(zone)}$ - verified landscape zone(s) with specific verified area
   b. Defaults – If the landscaping cannot be verified then the verifier shall use an automatic minimum of 10% of the $LandscapeWaterArea_{(total)}$. Where the plants cannot be verified, the verifier shall assume plants with the highest water requirements and no irrigation.
   c. $IrrigationEfficiency_{(zone)}$ – The efficiency of a specific type of irrigation, a number between 0 and 1.

TABLE 8. IRRIGATION EFFICIENCY

No Irrigation	0
Drip-Standard	.7
Drip-Micro	.8
Drip-Press Comp	.9
Fixed Spray	.65
Micro Spray	.7
Rotor	.7
Rotary Nozzle	.75
Spray	.55
Flood	1
Direct Injection / Root	1

   d. $IrrigationControllerReduction_{(zone)}$ is irrigation water reduction based on a verified weather-based irrigation controller:
      i. An irrigation controller that integrates rain sensors shall be a 10% IrrigationControllerReduction
      ii. An irrigation controller that integrates daily weather tracking shall be a 10% IrrigationControllerReduction
      iii. Both I and ii, which shall be a 20% IrrigationControllerReduction

5. $Evapotranspiration_{(month)}$ - Monthly evapotranspiration (ETo)
   a. Approved long-term evapotranspiration data with a least a monthly resolution shall be used to define monthly evaportranpiration rates for specific locations.
   b. PlantFractionEvapotranspiration – which is the fraction of evapotranspiration needed to maintain established plants, a number between 0 and 1. Each plant zone shall have a $PlantFractionEvapotranspiration_{(zone)}$ – which is from the highest water using plant in that zone.
   c. For purposes of identifying plant water demand an approved resource shall be used to identify plant type.

TABLE 9. RELATIVE WATER USE BY PLANT TYPE

Plant Type	Plant Fraction of Evapotranspiration
Turf, cool season grasses adapted to temperatures from 65° to 75° F.	0.8
Turf, warm season grasses adapted to temperatures between 80° & 95° F	0.6
Annual flowers	0.8
Woody plants and herbaceous perennials, wet plants adapted to ≥20 in. of annual precipitation	0.7
Woody plants and herbaceous perennials, dry plants adapted to 10 to 20 in. of annual precipitation	0.5
Desert plants plants adapted to <10 in. of annual precipitation	0.3
Home food crops	1.0

6. NonLandscapeWaterUse shall be the sum of outdoor exposed pools, spas, and fountains, if any
   a. The water requirement for outdoor uncovered pools, spas, or fountains is 70% of the evapotranspiration (ETo). The water demand is the same covered or uncovered Exception: Pools with motorized covers shall use 40% of the evapotranspiration.
   b. The baseline assumes uncovered pools, spas or fountains only if present for the proposed.

Water cost calculations.

Where water costs are calculated the water cost shall be as provided by the jurisdiction having authority.

1. All indoor and outdoor water use shall be included in the water cost calculation. This includes items for which there is no industry accepted baseline efficiency as specified in the Indoor Calculations section of this appendix.
2. Water cost inputs shall include:
   a. Billing unit
   b. Straight or tiered costs per billing unit
   c. Peak and off-peak costs if applicable,
   d. Indoor and outdoor costs, if separated
   e. Service charges

Committee Reason:	Craig Conner, Building Quality
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **38** Disagree with committee action: **1** Abstain: **1** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Thomas Pape:*** This alternate requirement is not ready for implementation. It does not provide the detailed and algorithms needed to verify compliance. Anyone could load up a spreadsheet and claim compliance. NAHB has no method to verify the claims of the rating are accurate and valid. This should not be implemented until a tool is software is developed, tested in wide geographic areas, and made available to ALL and any users. I have led the development of several water and energy analysis tools, and my experience tells me that NAHB is not ready to implement this compliance path in any verifiable and quality assured manner. In addition there needs to be training sessions developed on how to collect the data and use the tool.

	I applaud the concept, but it is incomplete.
Abstain:	***Cambria McLeod:*** The usage on showers is not consistent with research. Aquacraft Residential End use study shows 8 minutes and LEED has it at 6.15 minutes. The baseline assumption here appears to be low.

P319 LogID 17-102	**New for Chapter 8**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Thomas Pape, BMP	
Requested Action:	Add new as follows	
Proposed Change:	**801.9 Water Treatment Devices** **801.9.1** Water Softeners shall not be installed where the supplied water hardness is less than 8.0 grains per gallon measured as total calcium carbonate equivalents. Water softeners shall be listed to NSF 44 and a rated salt efficiency of 3400 grains of total hardness per 1.0 pound of salt based on sodium chloride equivalency. Devices shall not discharge more than 4.0 gallons of water per 1000 grains of hardness removed during the service or recharge cycle. (1) No water softener = 10 points (2) Water softener installed to supply softened water only to domestic water heater = 5 points **801.9.2** Reverse Osmosis (R/O) water treatment systems shall be listed to NSF 58 and shall include automatic shut-off valve to prevent water discharge when storage tank is full. (1) No R/O system = 6 points (2) Combined capacity of all R/O systems does not exceed 0.75 gallon = 3 points	
Reason:	Water treatment devices are often installed where the water quality does not warrant. The devices often discharge excessive water as part of the cycling process.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	(1) No water softener = 5 points (2) Water softener installed to supply softened water only to domestic water heater = 2 points … (1) No R/O system = 3 points (2) Combined capacity of all R/O systems does not exceed 0.75 gallons = 1 point	
Committee Reason:	Conserves water and resources, and realigns the points for better consistency	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P320 LogID 17-103	**New for Chapter 8**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Thomas Pape, BMP	
Requested Action:	Add new as follows	
Proposed Change:	**801.10 Pools and Spas** 801.10.1 Pools and Spas with water surface area greater than 36 square feet and connected to a water supply shall have a dedicated meter to measure the amount of water supplied to the pool or spa. (1) No pool or spa = 5 points	

	(2) Automated motorized non-permeable pool cover that covers the entire pool surface installed on pools with water surface area greater than 500 square feet. = 10 points (3) Pools with surface area greater than 1000 square feet without automated motorized non-permeable pool cover = negative 20 points (4) Pools with surface area greater than 750 square feet and less than or equal to 1000 square feet without automated motorized non-permeable pool cover = negative 15 points (5) Pools with surface area of 750 square feet or less without automated motorized non-permeable pool cover = negative 10 points
Reason:	Pools and spas are a source of significant water loss due to evaporation and leaks. The loss is often more than twice that of turf evapo-transpiration. The meter can help indicate to the owner when a leak is occurring. Studies have proven that the only type of pool cover used regularly is the type that has a motorized closing feature.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**801.10 Pools and Spas** 801.10.1 Pools and Spas with water surface area greater than 36 square feet and connected to a water supply shall have a dedicated meter to measure the amount of water supplied to the pool or spa. ~~(1) No pool or spa = 5 points~~ (~~2~~1) Automated motorized non-permeable pool cover that covers the entire pool surface ~~installed on pools with water surface area greater than 500 square feet~~. = 10 points ~~(3) Pools with surface area greater than 1000 square feet without automated motorized non-permeable pool cover = negative 20 points~~ ~~(4) Pools with surface area greater than 750 square feet and less than or equal to 1000 square feet without automated motorized non-permeable pool cover = negative 15 points~~ ~~(5) Pools with surface area of 750 square feet or less without automated motorized non-permeable pool cover = negative 10 points~~
Committee Reason:	Update the points value to prevent excessive points and not to give points to standard practice in majority of homes.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P321 LogID 17-105	**New for Chapter 8**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Rob Starr, The Toro Company	
Requested Action:	Add new as follows	
Proposed Change:	801.6.5 Commissioning and Water Use Reduction for Irrigation Systems (**Points are additive, per each practice**) 801.6.5 (1) All irrigation zones utilize pressure regulation so emission devices (sprinklers and drip emitters) operate at manufacturer's recommended operating pressure. 3 pts	
Reason:	With the addition of other sub-topics to 801.6.5, it's necessary to develop a general topic description and then number all individual subtopics.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	Re-numbering may be required for clarity; numbering and ordering will be an administrative task	

Committee Reason:	Consistent with next four proposals.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P322 LogID 17-106	**New for Chapter 8**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Rob Starr, The Toro Company	
Requested Action:	Add new as follows	
Proposed Change:	801.6.5 (1) To assure long-term reliability using dripline tubing, a filter of appropriate mesh size should shall be installed on all drip zones. 3 pts	
Reason:	Having an appropriate filter added immediately after the valve and between a pressure regulator protects against any minute contaminate that could potentially clog the output the of the tubing emitter. (This addition can provide additional points as well.)	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	801.6.5 (1) ~~To assure long-term reliability using~~ Where dripline tubing is installed, a filter ~~of appropriate~~ with mesh size in accordance with the manufacturer's recommendation ~~should shall be~~ is installed on all drip zones. 3 pts	
Committee Reason:	Clarifies the proposal.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P323 LogID 17-107	**Other for Chapter 8 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Rob Starr, The Toro Company	
Requested Action:	Add new as follows	
Proposed Change:	801.6.5 (2) To assure long-term reliability in subsurface drip tubing installations, utilize tubing that provides an internal root intrusion protection scheme comprised of either as triflluralin, pendamethalin or copper. 3 pts	
Reason:	Pre-emergent material is either impregnated into the drip emitters or molded into the drip tubing which then creates a "force field" effect around the emitter outlet(s) diverting root growth and assuring long-term reliability of root intrusion and/or blockage. (This addition could provide additional points as well.)	
Committee Formal Action from Meeting:	**Disapprove**	

Modification of Proposed Change:	
Committee Reason:	Issues with materials listed in the proposal, proprietary materials, and not a complete list of materials that can be used.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P324 LogID 17-108	**New for Chapter 8**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Rob Starr, The Toro Company	
Requested Action:	Add new as follows	
Proposed Change:	801.6.5 (4) Utilize spray bodies that incorporate an in-stem flow shut-off device. 3 pts	
Reason:	Up to 40 gallons of water per minute can escape through a spray head that has a missing or damaged nozzle. This wasted water can lead to landscape erosion, property damage, or unsafe conditions due to wet hardscapes. The in-stem flow shut-off device should hold back over 99% of the water that could be otherwise wasted in cases where the nozzle has been compromised through unintentional accidents or vandalism	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	801.6.5 (4) Utilize spray bodies that incorporate an in-stem or external flow shut-off device. 3 pts	
Committee Reason:	Include all shut-off device types to allow for alternative designs.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P325 LogID 17-109	**New for Chapter 8**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Rob Starr, The Toro Company	
Requested Action:	Add new as follows	
Proposed Change:	801.6.5 (1) For irrigation systems installed on sloped sites, either an in-stem or external check valve is utilized for each spray body. 3 pts	
Reason:	Low head drainage can be seen in an elevation change of fewer than 6 inches. The resulting runoff and water waste can lead to landscape erosion, unsafe conditions on hardscapes and sidewalks, and pooling around spray heads. By the utilization of a check valves either incorporated within a spray body component and/or as an external add-on component to a spray head body, the check valve saves water	

	and eliminates runoff by immediately sealing the spray head at its connection point and the end of the irrigation cycle, thereby preventing the draining of lateral lines through the lowest-lying heads. The device should also be capable of compensating for elevation changes in a zone at a minimum of 7 feet. Additional points should be provided for use of these type products. 3 pts
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P326 LogID 17-110	**New for Chapter 8**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Rob Starr, The Toro Company	
Requested Action:	Add new as follows	
Proposed Change:	801.6.5 (2) Where an irrigation system is installed, a flow sensing device is installed to monitor & alert the controller when flows are outside design range. 3 pts	
Reason:	When connected to an irrigation controller that can interpret a flow sensor's generated information, the utilization of a flow monitoring device (flow sensor) provides reliable flow information to aid in the detection of and response to the irrigation system issues like piping breaks, non-closing valves, broken spray bodies, etc. Additional points shall be provided for use of this type product in the installation of an irrigation system.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P327 LogID 17-112	**New for Chapter 8**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Hope Medina, Cherry Hills Village	
Requested Action:	Add New	

Proposed Change:	**801.2 Water usage metering.** Installation of a meter for water consumed from any source associated with the building or building site. Installation of the water meter shall be installed in accordance with the requirements of the International Residential Code or International Plumbing Code. Each meter shall be capable of communicating water consumption data remotely and be capable of providing daily data with electronic data storage and reporting capability that can produce reports for daily, monthly, and yearly water consumption. (Fire sprinkler systems are not required to be metered) **801.2.1 Individual water usage metering.** Each dwelling unit in a multifamily building has the installation of a meter for water consumed from any source associated with the dwelling unit. Installation of the water meter shall be installed in accordance with the requirements of the International Residential Code or International Plumbing Code. Each meter shall be capable of communicating water consumption data remotely for the dwelling unit occupant and be capable of providing daily data with electronic data storage and reporting capability that can produce reports for daily, monthly, and yearly water consumption. (Fire sprinkler systems are not required to be metered) Renumber the remaining sections
Reason:	The intent of this proposal is to provide valuable information for the occupant to know if the daily usage of water is truly being efficient or conservative. It provides the capability to monitor the consumption of water, and determine possible leaks or problems within the plumbing systems in a timelier manner.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	*Replace proposal in its entirety with the following:*

801.2 Water Usage Metering. Water meters are installed meeting the following:			-
	801.2.1 Single Family Buildings: Water Usage Metering.		
(1)	**(a)**	Where not otherwise required by the local AHJ, installation of a meter for water consumed from any source associated with the building or building site.	**2 per unique use meter**
	(a)	Each water meter shall be capable of communicating water consumption data remotely for the dwelling unit occupant and be capable of providing daily data with electronic data storage and reporting capability that can produce reports for daily, monthly, and yearly water consumption. (Fire sprinkler systems are not required to be metered)	**2 per sensor package**
	801.2.2 Multi-Family Buildings: Water Usage Metering.		
(2)	**(a)**	Where not otherwise required by the local AHJ, installation of a meter for water consumed from any source associated with the building or building site.	**2 per unique use meter**
	(a)	Each water meter shall be capable of communicating water consumption data remotely for the dwelling unit occupant and be capable of providing daily data with electronic data storage and reporting capability that can produce reports for daily, monthly, and yearly water consumption. (Fire sprinkler systems are not required to be metered)	**2 per sensor package**

Committee Reason:	Always have to comply with code. Clarified the type of meter.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P328 LogID 17-113	**New for Chapter 8**	***Final Formal Action:*** **Withdrawn**
Submitter:	Hope Medina, Cherry Hills Village	
Requested Action:	Add New	
Proposed Change:	**801.1.1 Water heating efficiency design.** The length of piping from the source of the heating of water to the furthest fixture in accordance with one of the following: (1) 40 feet from heating source (2) 30 feet from heating source (3) 20 feet from heating source If multiple heating sources are utilized points are awarded for the system that qualifies for the minimum points	
Reason:		
Committee Formal Action from Meeting:	**Withdrawn**	
Modification of Proposed Change:		
Committee Reason:	Withdrawn by proponent on TG-4 conference call June 29, 2017.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P329 LogID 6215	**901.0 Intent (Pollutant Source Control)**	***Final Formal Action:*** **Disapprove**
Submitter:	Max Sherman, self	
Requested Action:	Revise as follows	
Proposed Change:	Require compliance with ANSI/ASHRAE 62.2-2016	
Reason:	62.2-2016 is the only American National Standard for minimum acceptable indoor air quality. 1) Any home that wishes to be green must at least meet this requirement. 2) Establishing a lower requirement would be in violation of ANSI rules. 3) No other version of 62.2 (or any other ventilation standard) exists and the current (i.e. 2016) version needs to be used.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P538, which includes 62.2 as an optional compliance path	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**	

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P330 LogID 6570	**901.1.4 Gas fireplaces and direct heating equipment vented outdoors**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Craig Conner, self	
Requested Action:	Revise as follows	
Proposed Change:	901.1.4 Gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the NFPA 54, ICC IFGC, or the applicable local gas appliance installation code. Gas-fired fireplaces within dwelling units and direct heating equipment are vented to the outdoors. <u>Alcohol burning devices and kerosene heaters are vented to the outdoors.</u>	
Reason:	Recently there are have been efforts to include alcohol and kerosene bring devices as allowed in residences. These devices have no place in a green home without ventilation to the exterior.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P331 LogID 17-050	**Section 901.1.4 Gas-fired fireplaces and direct heating equipment**	***Final Formal Action:*** **Disapprove**
Submitter:	Frank Stanonik, AHRI	
Requested Action:	Revise Section 901.1.4.as follows.	
Proposed Change:	<u>Vented g</u>as-fired fireplaces and <u>vented</u> direct heating equipment is listed and is installed in accordance with the NFPA 54, ICC IFGC or the applicable local gas appliance installation code. ~~Gas-fired fireplaces within dwelling units and direct heating equipment are vented to the outdoors.~~	
Reason:	This section prohibits the installation of listed gas-fired unvented heaters and creates the situation where the installation of a single unvented gas-fired heater in a home disqualifies it from being considered a green building regardless of all the other features addressed in the standard which may be incorporated into the building. This is unjustified and irrational. It ignores the other requirements in the standard, such as the required use of CO alarms and the rigorous ventilation requirements, which in combination with the existing product safety standards and Fuel Gas Codes promote the safe installation and use of unfired gas-fired heaters. Millions of these heaters are in use without causing	

	adverse indoor air quality situations in homes. The change would make the standard neutral on the use of these products.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Combustion should be vented to outdoors, humidity can be a problem
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **36** Disagree with committee action: **4** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Paul W Cabot:*** Listed unvented gas heaters meet the ANZI Z21.11.2 product standard that includes limits on the emission of carbon monoxide. The current standard's prohibition on these appliances is baseless. ***Laura Petrillo-Groh:*** AHRI votes to approve proposal. IAQ has not been proven to be adversely affected by vent-free heaters. ***Sean S. Devlin:*** based on circulated ballot comments. ***Kristopher Stenger:*** to follow TG3 recommendation based on comment.
Abstain:	

P332 LogID 17-058	**Section 901.1.4 Gas-fired fireplaces and direct heating equipment** ***Final Formal Action:*** **Disapprove**
Submitter:	Paul Cabot, American Gas Association
Requested Action:	Revise Section 901.1.4.as follows.
Proposed Change:	Vented gas-fired fireplaces and vented direct heating equipment is listed and is installed in accordance with the ANSI Z223.1 / NFPA 54, ICC International Fuel Gas Code (IFGC), or the applicable local gas appliance installation code. ~~Gas-fired fireplaces within dwelling units and direct heating equipment are vented to the outdoors.~~
Reason:	This section prohibits the installation of listed gas-fired unvented heaters and results in a home being disqualified when a single unvented gas-fired heater is installed. The NGBS should not punish builders who desire to construct a green building to the standard just because of one feature. The NGBS is designed to encourage green construction by offering incentives. Millions of unvented space heaters are installed use without causing adverse indoor air quality situations in homes. The change would make the standard silent on the use of these products. The other changes adds the correct designation of the National Fuel Gas Code and spells out the IFGC.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Combustion should be vented to outdoors, humidity can be a problem
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **34** Disagree with committee action: **6** Abstain: **0** Non-voting: **5**

Ballot Comments	
Agree with Committee Action	***Laura Petrillo-Groh:*** AHRI supports the disapproving this item.
Disagree with Committee Action:	***Paul W Cabot:*** Listed unvented gas-fired room heaters meet the ANSI standard Z21.11.2 that includes limits on carbon monoxide emissions. The committee does not provide justify it's statement that "humidity can be a problem." The standard's current prohibition on listed heaters is baseless. ***Neil Leslie:*** I agree with the proponent's argument, and prefer compliance requirements over prohibitions when possible. ***Sean S. Devlin:*** based on circulated ballot comments. ***Greg Johnson:*** I concur with the Leslie comment and support the TG 3 recommendation. ***Kristopher Stenger:*** to follow TG3 recommendation based on comment. ***Gregory Curtis Coolidge:*** Agree with ballot comments offered.
Abstain:	

P333 LogID 6561	**901.2.1 Solid fuel-burning fireplace, inserts, stoves, and heaters**	***Final Formal Action:*** **Disapprove**
Submitter:	Kat Benner, self / TexEnergy	
Requested Action:	Revise as follows	
Proposed Change:	(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are ~~EPA certified or Phase 2 Qualified~~ insulated, fire-blocked, sealed and gasketed.	
Reason:	Mandating "EPA certified or Phase 2 Qualified" is extremely cost-prohibitive and thus nearly impossible. Recommend keeping the points and removing the Mandatory OR simply strike "EPA certified or Phase 2 Qualified". If the unit is insulated, fire-blocked, sealed and gasketed, this would be a reasonable requirement.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P334.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P334 LogID 6203	**901.2.1 Solid fuel-burning fireplaces, inserts, stoves, and heaters**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	

Proposed Change:	(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 ~~and are EPA certified or Phase 2 Qualified~~. - **~~6~~ 4 Points**
Reason:	The EPA does not certify factory-built wood burning fireplaces so this reference is nonsensical. Very few fireplaces meet the EPA Phase 2 Qualified requirements and thus they are exorbitantly priced compared to other similar fireplaces. This Mandatory measures represents undue burden for projects and should be removed. Leaving it in-place as a Mandatory basically mandates no wood-burning fireplaces in all but the most custom of homes.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are an EPA ~~certified or~~ Phase 2 Emission Level Qualified Model. 6 points
Committee Reason:	Having an actual reference for the emissions level is preferable to deleting it.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P335 LogID 6270	**901.3 Garages**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	901.3. X Install CO detector/Monitor within 10 ft of Garage door (interior side)	
Reason:	Points for going above Mandatory requirement. Easy / inexpensive health and safety measure	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	There is no evidence supporting the 10 ft distance required in the proposal as providing some benefit.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P336 LogID 6275	**901.6 Carpets**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Revise as follows	
Proposed Change:	(1) ~~Wall-to-wall~~ No carpeting is ~~not~~ installed ~~adjacent to water closets and bathing fixtures~~ in half/full bathrooms, kitchens, utility/laundry rooms or within 3 ft of entries.	

Reason:	Who wants soggy socks...or moisture issues. language needs to be more precise and in line with building best practice
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The new compliance requirements would be overly onerous.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P337 LogID 17-049	**Section 901.14 Non-smoking areas** ***Final Formal Action:*** **Disapprove**
Submitter:	Michelle Foster, Home innovation Research Labs
Requested Action:	Revise as follows:
Proposed Change:	901.14 **Non-smoking areas**. Environmental tobacco smoke is minimized by one or more of the following: (1) All interior common areas of a multifamily building are designated as non-smoking areas with posted signage. (2) Exterior smoking areas of a multifamily building are designated with posted signage and located a minimum of 25 feet from entries, outdoor air intakes, and operable windows. (3) <u>Smoking is prohibited entirely in the building.</u> (4) <u>Smoking is prohibited within 25 feet of the exterior of the building and No Smoking signs are posted around the building.</u>
Reason:	Second-hand smoke is detrimental to residents and building owners that prohibit smoking anywhere inside or near the building are reducing the environmental impacts of the building.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Subject matter (smoking and signage) was addressed in P132. Issues with compliance given future tenants activities.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **33** Disagree with committee action: **7** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Bob Thompson:*** By not accepting the recommended modification that was approved 10-0-0 by the TG, occupants of individual units will remain exposed to second hand smoke which is an established public health risk. The Consensus Committee should not have overridden the unanimous support of the experts on the TG ***Aaron Gary:*** based on circulated ballot comments.

	Thomas Culp: based on circulated ballot comments and TG3 recommendation. I understand there may be concerns about enforceability issues and changes afteroccupancy, but I agree with intent to at least address it for the initial certification. ***Kristopher Stenger:*** to follow recommendation of TG3 based on comment. ***Theresa Weston:*** based on circulated ballot comments. ***William A. Sanderson:*** this is a health, safety and indoor air quality issue and i agree with the original submission and the task group's subsequent affirmation. ***Gregory Curtis Coolidge:*** Agree with ballot comments offered.
Abstain:	

P338 LogID 6496	**902.1.5 Fenestration cross-ventilation**	***Final Formal Action:*** **Approved as Modified**
Submitter:	John Barrows, self	
Requested Action:	Revise as follows	
Proposed Change:	**902.1.5 (a):** "Operable windows, operable skylights, or sliding glass doors with a total area of at least 15 percent of the ventilated conditioned floor area are provided.	
Reason:	Clarification to this practice is required. It is unclear in 902.1.5(a) as to how the compliance with this practice is calculated. Is this determined as a whole house? (Example: "Operable windows, operable skylights, or sliding glass doors with a total area of at least 15 percent of the entire home's conditioned floor area are provided.") Or is this calculated room-by-room? (Example: "Operable windows, operable skylights, or sliding glass doors are provided within each regularly occupied space, with a total area of at least 15 percent of each respective space's conditioned floor area"). Also, a definition of "cross ventilation" and "stack effect" may be helpful.	
Committee Formal Action from Meeting:	**Approved as Modified**	
Modification of Proposed Change:	… with a total area of at least 15 percent of the ~~ventilated~~ total conditioned floor area are provided	
Committee Reason:	The modification clarifies the provision. The TG suggests that the Standard be reviewed for consistent use of either "gross" or "total" conditioned area.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P339 LogID 6206	**902.2.1 Whole building ventilation system**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**902.2.1** One of the following whole building ventilation systems is implemented and is in accordance with the specifications of ~~Appendix B~~ ASHRAE 62.2 and an explanation of the operation and importance of the ventilation system is included in either 1001.1 or 1002.2.	

	DELETE APPENDIX B
Reason:	As demonstrated during the NGBS 2015 Development Committee discussions, Appendix B, which includes only an excerpt of ASHRAE 62.2, does not adequately capture the depth or breadth of the Standard. Excerpting some of the calculations from 62.2 while leaving other out along with various exceptions results in more air being required to be delivered compared to if the whole Standard had been adopted.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P538
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P340 LogID 6207	**902.2.1 Whole building ventilation system** ***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self
Requested Action:	Revise as follows
Proposed Change:	**902.2.1** One of the following whole building ventilation systems is implemented and is in accordance with the specifications of Appendix B and an explanation of the operation and importance of the ventilation system is included in either 1001.1 or 1002.2. **(1)** exhaust or supply fan(s) ready for continuous operation and with appropriately labeled controls - **3 Points** **(2)** exhaust or supply fan(s) with automatic smart ventilation controls to limit ventilation during periods of extreme temperature and extreme humidity. - **6 Points** ~~**(2)**~~**(3)** balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building **- 6 Points** ~~**(3)**~~**(4)** heat-recovery ventilator **- 7 Points** **(5)** balanced exhaust or supply fan(s) with automatic smart ventilation controls to limit ventilation during periods of extreme temperature and extreme humidity, and with intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back in to the building - **8 Points** ~~(4)~~(6) energy-recovery ventilator - **8 Points**
Reason:	Initial research in this area, funded by the U.S. Department of Energy (U.S. DOE), investigated the proof-of-concept for smart ventilation and estimated typical ventilation energy savings of 40% (Turner and Walker 2012) or about 15% of total heating and cooling load, with savings increasing to more than 50% on average for economizer-equipped homes.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P538
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0**

	Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P341 LogID 17-056	**Section 902.2.1 Building ventilation systems** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, Tempo Partners
Requested Action:	Revise 902.2.1 as follows
Proposed Change:	902.2.1 One of the following whole building ventilation systems is implemented and is in accordance with the specifications of Appendix B and an explanation of the operation and importance of the ventilation system is included in either 1001.1 or 1002.2. (1) exhaust or supply fan(s) ready for continuous operation and with appropriately labeled controls (2) balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building (3) heat-recovery ventilator (4) energy-recovery ventilator (5) Ventilation air is preconditioned by a method not specified above, or is supplemented
Reason:	Pre-conditioning ventilation air saves energy and improves occupant comfort.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Ventilation air is preconditioned by a ~~method~~ system not specified above~~, or is supplemented~~
Committee Reason:	For clarification
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P342 LogID 6205	**902.2.2 Whole building ventilation airflow tested** ***Final Formal Action:*** **Approve as Submitted**
Submitter:	Aaron Gary, self
Requested Action:	Revise as follows
Proposed Change:	**902.2.2** Ventilation airflow is tested to achieve the design fan airflow ~~at point of exhaust~~ in accordance with ANSI/RESNET/ICC 380 and Section 902.2.1
Reason:	Not all ventilation systems can be tested at the point of exhaust and for many doing so while possible is not accurate. ANSI/RESNET/ICC 380 is an ICC approved Standard that includes guidelines for testing ventilation airflow at multiple locations, including the point of exhaust, so that the most appropriate and accurate means can be selected by the 3rd party verifier.
Committee Formal Action from Meeting:	**Approve as Submitted**

Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P343 LogID 6541	**902.3 Radon control** *Final Formal Action:* **Approve as Submitted**
Submitter:	Craig Conner, self
Requested Action:	Add new as follows
Proposed Change:	**902.3.3 Radon testing.** Radon testing is Mandatory for Zone 1. **Exception:** testing is not mandatory where the authority having jurisdiction has defined the radon zone as Zone 2 or 3. **902.3.3.1 Testing specification.** Testing is performed as specified in (a) though (j). Points 8 (a) Testing is performed after the residence passes its airtightness test. (b) Testing is performed at the lowest level which will be occupied, even if the space is not finished. (c) Testing is not performed in a closet, hallway, stairway, laundry room, furnace room or bathroom. (d) Testing is performed with a commercially available test kit or with a radon monitor. Testing shall be in accordance with the manufacturer's instructions. (e) Testing can be performed by the builder or a third party. (f) Testing shall extend at least 48 hours or to the minimum specified by the manufacturer, which ever is longer. This initial testing can extend past occupancy. (g) Test results shall be provided directly to the homeowner by the test lab or testing party. The test results are not required to be delivered before occupancy. (h) An additional pre-paid test kit shall be provided to the homeowner to use when they choose. The test kit shall include mailing, or emailing the results from the testing lab to the homeowner. The homebuilder may also receive the test results. (i) This section does not require a specific test result, rather it requires the test be performed and the results provided to the homeowner. (i) The homeowner shall be informed prior to occupancy and in writing that "A radon test result of 4 pCi/L or above is the 'action level' set by EPA." **902.3.3.3 Testing results.** A radon test done in accordance with902.3.3.1 and completed before occupancy receives a result of 2 pCi/L or less. 6 points
Reason:	Individual homes can vary significantly in a specific home has higher levels of radon. Testing is the only practical way to know if a radon reduction system works. Add Jani Palmer, Physical Scientist, EPA, Indoor Environments Division as a co-proponent
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**39**
	Disagree with committee action:	**1**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Aaron Gary:*** I am concerned that this provision as a Mandatory requirement will be a disincentive for participation in this voluntary program especially in multifamily projects where the quantity of tests required will be prohibitive from and cost and scheduling perspective. The functional testing of the required passive radon system should be a points credit similar to the functional testing of the heating and cooling systems and mechanical ventilation systems.	
Abstain:		

P344 LogID 6540	**902.3 Radon control** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Craig Conner, self
Requested Action:	Delete and substitute as follows
Proposed Change:	**902.3 Radon reduction measures.** Radon reduction measures are in accordance with ICC IRC Appendix F or 902.3.2.Zones are as defined in Figure 9(1). **902.3.1** Radon reduction measures are Mandatory for Zone 1. Exception: radon reduction is not mandatory where the authority having jurisdiction has defined the radon zone as Zone 2 or 3. (a) a passive radon system is installed 6 points (b) an active radon system with a fan is installed. A fan-failure warning light or audible alarm shall be provided in the occupied space. The fan shall include a minimum of a five-year manufacturer's warranty. 12 points **902.3.2 Radon reduction option** This option requires sections 902.3.2.1 through 902.3.2.6. **902.3.2.1 Soil-gas barriers and base course.** A base course in accordance with Section 506.2.2 of the IRC shall be installed below slabs and foundations. There shall be a continuous gas-permeable base course under each soil-gas retarder that is separated by foundation walls or footings. Between slabs and the base course, damp proofing or water proofing shall be installed in accordance with Section 406 of the IRC. Punctures, tears and gaps around penetrations of the soil-gas retarder shall be repaired or covered with an additional soil-gas retarder. The soil-gas retarder shall be a continuous6-mil (0.15 mm) polyethylene or an approved equivalent. **902.3.2.2 Soil gas collection.** There shall be an unobstructed path for soil gas flow between the void space installed in the base course and the vent through the roof. Soil gases below the foundation shall be collected by a perforated pipe with a diameter of not less than 4 inches (10 cm) and not less than 5 feet (1.5 m) in total length. A tee fitting or equivalent method shall provide two horizontal openings to the radon collection. The tee fitting shall be designed to prevent clogging of the radon collection path. Alternately the soil gas collection shall be by approved radon collection mats or an equivalent approved method. **902.3.2.3 Soil gas entry routes.** Openings in slabs, soil-gas retarders, and joints such as, but not limited to, plumbing, ground water control systems, soil-gas vent pipes, piping and structural supports, shall be sealed against air leakage at the penetrations. The sealant shall be a polyurethane caulk, expanding foam or other approved method. Foundation walls shall comply with Section 103.2.3 of the IRC. Sumps

shall be sealed in accordance with Section 103.2.2 of the IRC. Sump pits and sump lids intended for ground water control shall not be connected to the sub-slab soil-gas exhaust system.

902.3.2.4 Soil gas vent. A gas-tight pipe vent shall extend from the soil gas permeable layer though the roof. The vent pipe size shall not be reduced at any location as it goes from gas collection to the roof. Exposed and visible interior vent pipes shall be identified with not less than one label reading "Radon Reduction System" on each floor and in habitable attics.

902.3.2.5 Vent pipe diameter. The minimum vent pipe diameter shall be as specified in Table **902.3.2.5**.

TABLE 902.3.2.5 MAXIMUMVENTED FOUNDATION AREA

Maximum area vented	Nominal pipe diameter
2,500 ft^2 (232 m^2)	3 inch (7.6 cm)
4,000 ft^2 (372 m^2)	4 inch (10 cm)
Unlimited	6 inch (15.2 cm)

902.3.2.6 Multiple vented areas. In dwellings where interior footings or other barriers separate the soil-gas permeable layer, each area shall be fitted with an individual vent pipe. Vent pipes shall connect to a single vent that terminates above the roof or each individual vent pipe shall terminate separately above the roof.

902.3.2.6 Fan. Each sub-slab soil-gas exhaust system shall include a fan, or dedicated space for the post-construction installation of a fan. The electrical supply for the fan shall be located within 6 feet (1.8 m) of the fan.

Reason:

This change adds a more readable and understandable radon reduction option. Elements of radon reduction are already required by the IRC, so those requirements are not repeated here. The result is simple and understandable radon text that will not require the NGBS to go to another document. The points for radon reduction systems with fans, called active systems, are increased relative to the passive systems, because the active system are muxh more effective. "Fan-powered radon reduction systems can apply 50 times more suction pressure at the suction points than passive systems. The chief advantage of a fan-powered radon system is that it always achieves a greater and more reliable radon reduction than passive systems." (Standard Practice for Radon Control Options for the Design and Construction of New Low-Rise Residential Buildings ASTM E1465-07a Section 6.5.5.1)

Committee Formal Action from Meeting:

Approve as Modified

Modification of Proposed Change:

902.3 Radon reduction measures. Radon reduction measures are in accordance with ICC IRC Appendix F or 902.3.2.Zones are as defined in Figure 9(1).

902.3.1 Radon reduction measures are Mandatory for Zone 1 as identified by the AHJ; or if the zone is not identified by the AHJ then as identified on the map (reference map). For all zones, the points are as follows:

~~Exception: radon reduction is not mandatory where the authority having jurisdiction has defined the radon zone as Zone 2 or 3.~~

(~~a) a passive radon system is installed 6 points~~

~~(b) an active radon system with a fan is installed. A fan-failure warning light or audible alarm shall be provided in the occupied space. The fan shall include a minimum of a five-year manufacturer's warranty. 12 points~~

Zone 1:
a) passive is Mandatory.
b) active system 12 pts

Zones 2 and 3:
a) passive system 6 pts

b) active system 12 pts

902.3 Radon control. Radon control measures are in accordance with ICC IRC Appendix F. Zones as defined in Figure 9(1).		
(1)	Buildings located in Zone 1	**Mandatory**
	(a) a passive radon system is installed	**7**
	(b) an active radon system is installed	**10**
(2)	Buildings located in Zone 2 or Zone 3	
	(a) a passive or active radon system is installed	**7**

902.3.2 Radon reduction option
This option requires sections 902.3.2.1 through 902.3.2.6.

902.3.2.1 Soil-gas barriers and base course. A base course in accordance with Section 506.2.2 of the IRC shall be installed below slabs and foundations. There shall be a continuous gas-permeable base course under each soil-gas retarder that is separated by foundation walls or footings. Between slabs and the base course, damp proofing or water proofing shall be installed in accordance with Section 406 of the IRC. Punctures, tears and gaps around penetrations of the soil-gas retarder shall be repaired or covered with an additional soil-gas retarder. The soil-gas retarder shall be a continuous6-mil (0.15 mm) polyethylene or an approved equivalent.

902.3.2.2 Soil gas collection. There shall be an unobstructed path for soil gas flow between the void space installed in the base course and the vent through the roof. Soil gases below the foundation shall be collected by a perforated pipe with a diameter of not less than 4 inches (10 cm) and not less than 5 feet (1.5 m) in total length. A tee fitting or equivalent method shall provide two horizontal openings to the radon collection. The tee fitting shall be designed to prevent clogging of the radon collection path. Alternately the soil gas collection shall be by approved radon collection mats or an equivalent approved method.

902.3.2.3 Soil gas entry routes. Openings in slabs, soil-gas retarders, and joints such as, but not limited to, plumbing, ground water control systems, soil-gas vent pipes, piping and structural supports, shall be sealed against air leakage at the penetrations. The sealant shall be a polyurethane caulk, expanding foam or other approved method. Foundation walls shall comply with Section 103.2.3 of the IRC. Sumps shall be sealed in accordance with Section 103.2.2 of the IRC. Sump pits and sump lids intended for ground water control shall not be connected to the sub-slab soil-gas exhaust system.

902.3.2.4 Soil gas vent. A gas-tight pipe vent shall extend from the soil gas permeable layer though the roof. The vent pipe size shall not be reduced at any location as it goes from gas collection to the roof. Exposed and visible interior vent pipes shall be identified with not less than one label reading “Radon Reduction System” on each floor and in habitable attics.

902.3.2.5 Vent pipe diameter. The minimum vent pipe diameter shall be as specified in Table **902.3.2.5**.

TABLE 902.3.2.5 MAXIMUMVENTED FOUNDATION AREA

Maximum area vented	**Nominal pipe diameter**
2,500 ft^2 (232 m^2)	3 inch (7.6 cm)
4,000 ft^2 (372 m^2)	4 inch (10 cm)
Unlimited	6 inch (15.2 cm)

902.3.2.6 Multiple vented areas. In dwellings where interior footings or other barriers separate the soil-gas permeable layer, each area shall be fitted with an individual vent pipe. Vent pipes shall connect to a single vent that terminates above the roof or each individual vent pipe shall terminate separately above the roof.

	902.3.2.6 Fan. Each sub-slab soil-gas exhaust system shall include a fan, or dedicated space for the post-construction installation of a fan. The electrical supply for the fan shall be located within 6 feet (1.8 m) of the fan.
Committee Reason:	The language was not compatible with the standard as written
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P345 LogID 6542	**902.3 Radon control** ***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, self
Requested Action:	Add new as follows
Proposed Change:	**902.3.3.4 Side venting.** Side venting, rather than roof venting, of radon shall be permitted in radon reduction provided (a) through {e) are satisfied. (a) the side venting is active with a fan installed. A fan-failure warning light or audible alarm shall be provided in the occupied space. The fan shall include a minimum of five year manufacturer's warranty. (b) the side vent is a minimum of 5 feet from an operable opening into the residence and 2 feet from the rim joist. The side vent exhaust is not directed at an operable opening within 10 feet of the vent. The rim joists are air sealed and the home meets the air tightness requirements of the IRC/IECC. (c) the side vent will not collect rainwater. (d) the residence is tested in accordance 902.3.3.1 (e) the homebuilder provides a commitment for radon reduction after occupancy to below the action level if the initial test result comes back at the "action level" of 4 pCi/L or above. Radon reduction to less than 4 pCi/L shall meet this commitment. The homebuilder may retest the home using a third party at the homebuilder's expense. The retest shall override the initial test. Where the authority having jurisdiction has certified parties for radon reduction the third-party tester shall be so certified.
Reason:	Side venting provides an additional option that may be more practical in some cases. A side vent would not have the suction power provided by a passive through the roof vent, therefor a fan is required. Because some are skeptical of side venting, and this option is not included in existing standards, this option requires a test and a builder commitment to correct it if the "action level" is exceeded.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	It goes against the existing health standards for design
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	

Disagree with Committee Action:	
Abstain:	

P346 LogID 6543	**902.3 Radon control**	***Final Formal Action:*** **Withdrawn**
Submitter:	Craig Conner, self	
Requested Action:	Add new as follows	
Proposed Change:	**902.3.1Testing.** Radon testing shall be in accordance with the following. Mandatory. **(a) Approved testing devices** Devices used for measuring radon shall be listed and labeled as having met minimum requirements established by the National Radon Proficiency Program (NRPP) or the National Radon Safety Board (NRSB) if the jurisdiction has no program for evaluating or approving devices where the testing is conducted. **(b) Device instructions** Detectors and devices shall be used in compliance with device-specific instructions provided by the manufacturer. **(c) Device types** a) Passive Devices refers to those that do not provide hourly readings; and b) Continuous Monitors are monitors that can integrate, record and produce reviewable readings in time increments of one hour. If a device is not capable of these functions or is not set to record readings each hour, it is functioning as a passive device and is not considered a continuous monitor. **(d) Testing Strategies** Conduct Simultaneous Testing, Continuous Monitor Testing or any combination of the two. a) Simultaneous Testing is defined two short-term tests at the same time at each location. b) Continuous Monitor Testing is testing using a continuous monitor at each location. **(e) Mitigation Decisions** If the average of 2 short-term tests or a Continuous Monitor meets or exceeds the World Health Organization's action level of 2.7 pCi/L, then install and activate a fan to the sub-slab soil gas exhaust system and test again. Provide test results to the homebuilder and homebuyer.	
Reason:	This change provides guidance on testing and testing devices. The only proponent of this change is Jani Palmer, Physical Scientist, EPA, Indoor Environments Division	
Committee Formal Action from Meeting:	**Withdrawn**	
Modification of Proposed Change:		
Committee Reason:	Withdrawn by proponent on TG-3 conference call May 11, 2017.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P347 LogID 17-037	**902.4 HVAC system protection**	***Final Formal Action:*** **Approved as Modified**
Submitter:	Bob Thompson	
Requested Action:	Revise as follows	

Proposed Change:	902.4 HVAC system protection. One of the following HVAC system protection measures is performed. (1) HVAC supply registers (boots), return grilles, and rough-ins are covered during construction activities to prevent dust and other pollutants from entering the system. (2) Prior to owner occupancy, HVAC supply registers (boots), return grilles, and duct terminations are inspected and vacuumed. In addition, the coils are inspected and cleaned and the filter is replaced if necessary. (3) During construction, all return grilles have a temporary MERV 8 or higher filter installed in a manner ensuring no leakage around the filter. [xx points]
Reason:	Using air filters during construction can protect HVAC equipment from construction that can shorter equipment life and result in higher operational costs. Proper containment of particulates can reduce the need to use energy to flush a building pre-occupancy.
Committee Formal Action from Meeting:	**Approved as Modified**
Modification of Proposed Change:	(3) If HVAC systems are to be operated during construction, all return grilles…
Committee Reason:	To clarify that this is for in-use systems as opposed to non-use systems. Proper containment of particulates can reduce the chances of microbial contamination and the need to use energy...
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P348 LogID 6209	**902.6 Living space contaminants**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**902.6 Living space contaminants** TC"902.6Living space contaminants"\f C \l "3" **.** Indoor contaminants are limited through the following: **(1)** The living space is sealed in accordance with Section701.4.3.1 to prevent unwanted contaminants.- **MANDATORY** **(2)** A permanent shoe removal and storage space is implemented near the primary entryway. This space may not have wall-to-wall carpeting. - **3 POINTS**	
Reason:	A majority of the dirt and dust in homes is tracked in by occupants. One of the most effective ways to reducing these indoor contaminants therefore is to encourage occupants and visitors to remove shoes at the door.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The intent of the proposal is vague. Provision one states that the living space is sealed from contaminants, whereas the second provision seems to imply that the space can be connected to the living space. The points for the second provision are too generous.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0**	

	Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P349 LogID 6268	**902.6 Living space contaminants**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	902.6.X MF Compartmentalization Breaks or Joints thru the residential unit envelope shall be sealed includes but not limited to HVAC boots sealed to sheetrock / sub floor, Fan casings	
Reason:	new credit awards points to Encourage additional air sealing/compartmentalization	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Not enough adjustment to warrant a change to the NGBS. It is not clear what the full intent is. The proposal should be rewritten for more clarity.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P350 LogID 6294	**904.0 Intent (IAQ)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**904.3 Indoor Air Quality Metric.** Dwelling receives a IAQ score using the DOE IAQ Metric of X. (threshold TBD)	
Reason:	Recognize and encourage the adoption of the new DOE sponsored IAQ metric for indoor air quality.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The proposal does not have enough information to justify adding this provision to the standard.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P351 LogID 6556	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Kat Benner, self / TexEnergy	
Requested Action:	Add new as follows	
Proposed Change:	905 HEALTH AND WELL BEING (...prior to INNOVATIVE PRACTICES)	
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The proposal is incomplete.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P352 LogID 6479	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section **Section 906.7** - Air Quality Testing. The quality of the air within conditioned space is verified before occupancy by performing one or more of the following tests: (1) Formaldehyde level testing. (2) Total VOC level testing. (3) Carbon Monoxide level testing. (4) PM 10 & PM 2.5 (Particulates) testing. (5) Ozone level testing. (6) Radon level testing.	
Reason:	Indoor pollutants can cause a variety of health issues and conditions. Testing can verify that living spaces are free of high concentrations of specific VOC's or other irritants.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		

Committee Reason:	Potential double counting with a materials point included. Additionally, there was insufficient justification given for the specific chemicals and content amounts.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P353 LogID 6473	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section **Section 906.1 -** Enhanced Air Filtration - Meet one of the following two options: (1) Design for Secondary Filter Rack Space for Carbon Filters. (2) Install a Permanent Stand Alone Air Purification System that is appropriately sized for the home or dwelling unit.	
Reason:	Secondary filtration provides a higher assurance of consistent air quality throughout the year. Standard filters cleanse the air, but there is still opportunity for further air purification.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	New Section **Section 906.1** – Enhanced Air Filtration. Meet ~~one~~ all of the following ~~two options~~: 2 pts. (1) Design for and install a Secondary Filter Rack Space for Activated Carbon Filters. (2) Provide ~~a Permanent Stand Alone Air Purification System that is appropriately sized for the home or dwelling unit~~ the Manufacturer's recommended filter maintenance schedule to the homeowner or building manager.	
Committee Reason:	The modification clarifies the original proposal.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P354 LogID 6474	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	

Proposed Change:	New Section **Section 906.2** - Anti-microbial high-touch surfaces - Abrasion-resistant, non-leaching surfaces with antimicrobial properties are installed. (high tough surfaces: kitchen and bathroom counter tops, doorknobs, electrical switches)
Reason:	This measure reduces risk for spread of bacteria and other harmful microbes and therefore reduces the risk of future infections, which contributes to overall occupant health.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Members had issue with the use of the term "antimicrobial", and "high touch" surfaces could be misread to include carpeting.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P355 LogID 6475	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section **Section 906.3** - Documented plan for dedicated exercise/fitness space - Minimum 3% of Conditioned Square Footage of the home is dedicated to an exercise area. For multifamily projects: 250 square feet or more of common area must be dedicated to exercise space.	
Reason:	Permanent exercise space contributes to a lower risk of health concerns and promotes exercise and fitness.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Unintentional life safety consequences; unclear about impact on IEQ; vague requirement.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P356 LogID 6576	Other for Chapter 9 (include section number and title below)	*Final Formal Action:* **Withdrawn**
Submitter:	Craig Conner, self	
Requested Action:	Add new as follows	
Proposed Change:	Simplified IAQ compliance. Compliance with the items below constitutes compliance with this chapter. at the silver level. Combustion appliances get combustion air and vent to the outdoors. Balanced ventilation is used in the home. A radon reduction system or a radon test below at or below 2 pCi/L	
Reason:	This is a simple compliance method for the IAQ requirements which can otherwise be complicate.	
Committee Formal Action from Meeting:	**Withdrawn**	
Modification of Proposed Change:		
Committee Reason:	Withdrawn by proponent on TG-3 conference call August 7, 2017.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P357 LogID 6418	Other for Chapter 9 (include section number and title below)	*Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**902.2.5** Whole building ventilation system in installed with a automatic notification device to communicate performance degradation or failure. - **6 points**	
Reason:	2015 FSEC study (FSEC-CR-2002-15) showed a wide disconnect between the perceived and actual effectiveness of whole building ventilation systems in homes. The study found that of the homes surveyed only 5% of homes had a whole building ventilation system that was actually delivering the expected air as found while at the same time 48% of these same homeowners said they were happy with the performance of their whole building ventilation system. Existing and emerging technologies that can help address this disconnect should be well rewarded. The installation of non-performing ventilation systems both wastes resources and degrades the value of green building in the marketplace.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The points are too high for this provision. It's not clear to the members that this technology is commercially available. The proposal is too vague and may allow options that do not perform as intended – specifically differentiating between performance degradation and total failure.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	

Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P358 LogID 6355	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**905.X Access to daylight.** To promote health and well being of occupants the following measures are implemented: (1) 75% of regularly occupiable spaces have windows, skylights, or glass doors. - **3 POINTS** (2) 75% of regularly occupiable spaces have direct line of sight views to the outdoors. - **3 POINTS**	
Reason:	Studies have shown that access to outdoor light and views increase health and productivity of building occupants.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Almost any house can get 3 points for this provision.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P359 LogID 6477	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section **Section 906.5** - Isolation of Contamination Sources - Meet all of the following: (1) Cleaning Products are stored in negatively pressurized space. (2) Household storage (paints, sealants, adhesives, etc) are stored outside of conditioned space or are stored in negatively pressurized space.	
Reason:	Chemicals and other household materials containing VOC's stored in living space can off-gas and cause various irritations including nausea or headaches. Odorless living space contributes to occupant health and well-being.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Difficult to verify and this is an occupant behavior based provision, not construction.	

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P360 LogID 6478	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section **Section 906.6** - Sound Barriers - Minimize sound transfer between public & private space with proper wall construction methods. Proper wall construction includes proper acoustical sealing and continuous sound insulation batts separting sleeping areas from other functional spaces within a home or dwelling unit.	
Reason:	Noise transfer from public living space can be disturbing to occupants seeking rest or peaceful relaxation in sleeping areas. Acoustic comfort contributes to tenant well-being.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	New Section **Section 906.6** – Sound Barriers. ~~Minimize sound transfer between public & private space with proper wall construction methods. Proper wall construction includes proper acoustical sealing and continuous sound insulation batts separting sleeping areas from other functional spaces within a home or dwelling unit.~~ Provide room-to-room privacy between bedrooms and adjacent living spaces within dwelling units or homes by achieving an articulation index (AI) between 0 and 0.15 per the criteria below: Articulation Index 0 to 0.05 = STC > 55 (NIC >47) Articulation Index 0.05 to 0.15 = STC 52 – 55 (NIC 44 – 47) 1 point for single family 4 points for multifamily	
Committee Reason:	This addresses a sound condition that diminishes an acceptable living environment. Original item didn't have points.	

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		

Abstain:	

P361 LogID 6427	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**905.X Outdoor Living.** Meet any or all of the following: **(1)** Built-in outdoor kitchen **(4 points)** **(2)** Built-in outdoor fireplace (no indoor fireplace installed) **(3 points)** **(3)** Plumbed outdoor shower **(3 points)** **(4)** Covered, usable front porch protecting entry door Minimum depth: 6'; minimum area: 100 sq. ft. **(3 points)** **(5)** Covered, usable porch other than front porch. Minimum side dimension: 6'; minimum area 100 sq. ft. One of the above porches fully screened **(2 points)** **(6)** Uncovered patio Minimum side dimension: 6'; minimum area: 100 sq. ft. **(1 point)**	
Reason:	To reduce sources of indoor heat and humidity and associated indoor air quality issues by encouraging occupants to take advantage of outdoor living. Could fit in with other Health and Wellness credits to form a new section.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	This change encourages an increased use of resources. Giving points to build a second kitchen with another set of appliances goes against the spirit of the standard. It also does not seem appropriate for the chapter on IEQ to have provisions for outdoor living space.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P362 LogID 6476	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section **Section 906.4 -** Exterior Noise Intrusion - Meet one of the following two options: (1) Average Sound pressure level from outside noise does not exceed 50 DBA when measured. (2) All exterior wall assemblies are design to meet an STC rating of 55. Reference: HUD Chapter 4 Supplement - Sound Transmission Class Guidance.	
Reason:	Prolonged exterior noise can contribute to occupant stress, which can trigger other health issues.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		

Committee Reason:	No definition of (1) exterior noise or (2) area of concern
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P363 LogID 6419	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**902.2.X** All HVAC filter locations are designed such that they are easily accessible to the occupant. - **3 POINTS**	
Reason:	HVAC filters do not get changed when they are not accessible reducing the air quality and energy efficiency of the HVAC system and eventually leading to system failure.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Enforcement of “easily” and “accessible” is questionable if not defined. The term accessible is also worrisome because of the distinction between easy to get to and ADA compliant.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P364 LogID 6429	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**ADD NEW SECTION** **902.2.3** Factory-built, wood-burning fireplaces are EPA Phase 2 Qualified. - **6 points**	
Reason:	Very few fireplaces meet the EPA Phase 2 Qualified requirements and thus they are exorbitantly priced compared to other similar fireplaces. This measure should be moved from being a Mandatory items to an optional credit.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		

Committee Reason:	Consistent with action on P333 and P334
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P365 LogID 6397	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Eric DeVito, SMXB Law	
Requested Action:	Add new as follows	
Proposed Change:	**905.3 Fenestration sensors.** All operable windows, operable skylights, and doors shall have one or more of the following: **(1)** Interconnected or interlocking electronic devices or sensors that signal whether the windows, skylights, or doors are open or closed; or **(2)** Mechanical or electronic self-closing mechanisms.	**2**
Reason:	Today's smart homes are incorporating an increasing number of monitors and systems that provide a variety of benefits. This proposal would create an "innovative practices" credit by awarding points for the installation of signaling sensors or self-closing mechanisms on operable windows, doors, and skylights. Interlocking devices or sensors may be placed on windows, doors, and skylights for numerous reasons, including HVAC operation, improved energy efficiency, ventilation, or security. In fact, a single device may provide several different benefits now and in the future. The value of interconnected building components is already recognized in ASHRAE Standard 90.1-2013 and California Title 24, which both include requirements for interlocking electronic devices on windows and doors that send a signal to the thermostat when the windows or doors are opened. Green homes will continue to trend in the direction of more monitoring and sensor-based operation. Rather than parse out individual points for specific features, we recommend providing two points (or more, if the Committee prefers) for the range of innovative devices that may be installed on windows, doors, and skylights. ICC-700 should encourage "future-proofing" green homes by giving innovative practices credit for devices and practices that make the home smarter.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	This issue is more of an energy efficiency issue and the proposal lacks sufficient information justifying how it affects IEQ. The issue is also a home security and water entry issue.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		

Abstain:	

P366 LogID 6424	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**ADD SECTION** **902.2.7 Preoccupancy flush.** Dwelling is flushed with outdoor air for 48 hours prior to occupancy. - **3 POINTS**	
Reason:	During the construction process dwellings become contaminated with dust, debris and off-gassing from materials. Flushing the dwelling with outdoor air prior to occupancy helps remove these potentially harmful pollutants from the space.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	This is a good idea for code, but the proposal lacks specificity here – there's no direction as to how to perform this. What is the pass fail? How many cfm qualifies as flushing? It's also not possible to flush some debris, it has to be vacuumed or removed in a different manner. VOCs generally stay in the home longer than 48 hours.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P367 LogID 6356	**Other for Chapter 9 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**Section 906** - Add a new section as relevant for Health & Well-being credits.	
Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The proposal is incomplete. If a new section is needed, the specific provision for the new section needs to be submitted for review.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P368 LogID 17-057	**New for Chapter 9**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, Tempo Partners	
Requested Action:	Add new as follows:	
Proposed Change:	**Ventilation for multifamily common spaces.** Systems are implemented and are in accordance with the specifications of ASHRAE 62.1 and an explanation of the operation and importance of the ventilation system is included in either 1002.1 and 1002.2 (1) exhaust or supply fan(s) ready for continuous operation and with appropriately labeled controls (2) balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building (3) heat-recovery ventilator (4) energy-recovery ventilator (5) Ventilation air is preconditioned by a method not specified above, or is supplemented	
Reason:	Pre-conditioning ventilation air saves energy and improves occupant comfort.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**Ventilation for multifamily common spaces.** Systems are implemented and are in accordance with the specifications of ASHRAE 62.1 and an explanation of the operation and importance of the ventilation system is included in ~~either~~ 1002.1 and 1002.2 of NGBS. ~~(1) exhaust or supply fan(s) ready for continuous operation and with appropriately labeled controls~~ ~~(2) balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building~~ ~~(3) heat-recovery ventilator~~ ~~(4) energy-recovery ventilator~~ ~~(5) Ventilation air is preconditioned by a method not specified above, or is supplemented~~	
Committee Reason:	Simplification is always good.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P369 LogID 17-036	**New for Chapter 9**	***Final Formal Action:*** **Disapprove**
Submitter:	Karla Butterfield, Steven Winter Associates	
Requested Action:	Add new as follows:	
Proposed Change:	**Relative Humidity.** A system is installed with the capability to maintain relative humidity in occupied/occupiable space between 40% to 60% at all times by adding or removing moisture from the air. [XX points]	

Reason:	Maintaining proper humidity levels in the building improves the overall IAQ for the building and can improve the durability of the building. Maintaining proper humidity without the use of AC can also save energy.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Concerned about additional costs to comply. Concerned about unintended consequences of maintaining the higher humidity levels at all time. Further, this proposal should be broken down between humidification and dehumidification if the proponent returns with a modified version.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P370 LogID 17-040	**New for Chapter 9** ***Final Formal Action:*** **Disapprove**
Submitter:	Michelle Foster, Home Innovation Research Labs
Requested Action:	Add new as follows:
Proposed Change:	A building air flush is performed while maintaining an indoor temperature of at least 15 °C [59 °F] and relative humidity below 60%, at one of the following volumes: (1) A total air volume of 4500 m^3 of outdoor air per m^2 of floor area [14,000 ft^3 per ft^2 of floor area] prior to occupancy. [XX points] (2) A total air volume of 1000 m^3 of outdoor air per m^2 of floor area [3500 ft^3 per ft^2 of floor area] prior to occupancy, followed by a second flush of 3500 m^3 of outdoor air per m^2 of floor area [10,500 ft^3 per ft^2 of floor area] post-occupancy. While the post-occupancy flush is taking place, the ventilation system must consistently provide at least 0.1 m^3 per minute of outdoor air per m^2 of floor area [0.3 CFM fresh air per ft^2 floor area]. [XX points]
Reason:	A building flush is a process to force air through a building just prior to occupancy to remove some of the pollutants, such as formaldehyde and other volatile organic compounds (VOC's), that seep from newly installed components, fresh paint, materials, finishes and furnishings. These include flooring and flooring adhesives, paints and finishes, caulks and sealants, and cabinets and work surfaces made from composite lumber products. The flush out process aims to improve indoor air quality (IAQ) by limiting occupants' exposure to the most intense period of contamination, and minimizing the cross-contamination between materials.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Does not accomplish the reason as submitted
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P371 LogID 17-041	**New for Chapter 9**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Michelle Foster, Home Innovation Research Labs	
Requested Action:	Add new as follows:	
Proposed Change:	**Furniture and Furnishings**. In a multifamily building, the VOC content of all furniture and furnishings in the common areas meets limits set by the following, as applicable: ANSI/BIFMA e3-2011 Furniture Sustainability Standard sections 7.6.1 and 7.6.2, tested in accordance with ANSI/BIFMA Standard Method M7.1-2011. [XX points]	
Reason:	As building envelopes get tighter it is more important that the pollutants brought into the living area are minimized to improve indoor environmental quality for the residents.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**Furniture and Furnishings**. In a multifamily building, ~~the VOC content of all furniture and furnishings in the common areas meets limits set by the following, as applicable:~~ all furniture in common areas shall have VOC emission levels in accordance with ANSI/BIFMA e3~~-2011~~ Furniture Sustainability Standard sections 7.6.1 and 7.6.2, tested in accordance with ANSI/BIFMA Standard Method M7.1~~-2011~~. ~~[XX points]~~	
Committee Reason:	The standards listed do not deal with VOC content, they deal with emissions	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P372 LogID 17-042	**New for Chapter 9**	***Final Formal Action:*** **Disapprove**
Submitter:	Karla Butterfield, Steven Winter Associates	
Requested Action:	Add new as follows:	
Proposed Change:	VOC ABSORPTION MANAGEMENT. To protect building materials from VOCs emitted by other (source) materials during construction, the following requirements are met: (1) Absorptive materials, such as finishes and furnishings, are atmospherically segregated during storage before installation. [XX points] (2) Absorptive materials that would not benefit from off-gassing are sealed in original packing materials or other protective covering and stored in designated secure area until they are installed. [XX points]	
Reason:	As building envelopes get tighter it is more important that the pollutants brought into the living area are minimized to improve indoor environmental quality for the residents. It is especially important to try to make sure that building materials that can absorb VOCs are not contaminated with other building materials that may off-gas.	
Committee Formal Action from Meeting:	**Disapprove**	

Modification of Proposed Change:	
Committee Reason:	"Absorptive material" is not defined in the NGBS.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P373 LogID 17-046	**New for Chapter 9**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Michelle Foster, Home innovation Research Labs	
Requested Action:	Add new as follows	
Proposed Change:	EVAPORATIVE COIL MOLD PREVENTION. For buildings with a mechanical system for cooling, the following method of suppressing mold growth is installed: (1) Ultraviolet lamps are installed on the cooling coils and drain pans of the mechanical system supplies. [XX points] (2) Lamps produce ultraviolet radiation at a wavelength of 254 b. nm so as not to generate ozone. (3) Lamps have ballasts housed in a NEMA-rated enclosure.	
Reason:		
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	EVAPORATIVE COIL MOLD PREVENTION. For buildings with a mechanical system for cooling~~, the following method of suppressing mold growth is installed~~: ~~(1)~~ Ultraviolet lamps are installed on the cooling coils and drain pans of the mechanical system supplies. ~~[XX points] (2)~~ Lamps produce ultraviolet radiation at a wavelength of 254 ~~b.~~ nm so as not to generate ozone. ~~(3)~~ Lamps have ballasts housed in a NEMA-rated enclosure. [2 points]	
Committee Reason:	Mold prevention, and it kills biological growth as well. Also to assign points.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P374 LogID 17-047	**New for Chapter 9**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, Tempo Partners	
Requested Action:	Add new as follows:	
Proposed Change:	ENVIRONMENTAL MEASURES DISPLAY. Real-time information is provided to residents on at least one of the following indoor environmental parameters: [1 point for each] (a.) Carbon dioxide concentration.	

	(b.) Particles pm 2.5 (c.) Total VOCs (1) In the common area of the building [1 point for each] In units [1 point for each]
Reason:	Resident access to information about the indoor environmental quality can help residents take action to improve less than ideal conditions as well as understand what actions have a negative impact on indoor air quality.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The concept is good but the technology is not ready, and there is additional concern that the practice is outside of the intent and purpose of the NGBS as the standard has practices to deal with these emissions (awarding points for these sensors is non-sensical). Interpreting the readings would be confusing for much of the public at this time.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P375 LogID 17-048	**New for Chapter 9** ***Final Formal Action:*** **Approve as Modified**
Submitter:	Jeremy Velasquez, US-EcoLogic
Requested Action:	Add news as follows for remodeling:
Proposed Change:	**Microbial Growth & Moisture Inspection and Remediation.** A visual inspection is performed to confirm the following: (1) Verify that no visible signs of discoloration and microbial growth on ceilings, walls or floors, or other building assemblies. [XX points] ***Notes***: If minor microbial growth is observed (less than 25 square feet) in homes or multifamily buildings, reference EPA Document 402-K-02-003 (A Brief Guide to Mold, Moisture, and Your Home) for guidance on how to properly remediate the issue. If microbial growth is observed, on a larger scale in homes or multifamily buildings (greater than 25 sq ft), reference EPA document 402-k-01-001 (Mold Remediation in Schools and Commercial Buildings) for guidance on how to properly remediate the issue. [https://www.epa.gov/sites/production/files/2016-10/documents/moldguide12.pdf] (2) Verify that there are no visible signs of water damage or pooling. [XX points] [Revision 11.602.1.7.1]. If signs of water damage or pooling are observed, verify that the source of the leak has been repaired, and that damaged materials are either properly dried or replaced as needed. **[Points can only be awarded if no signs or mold are present, or if the mold that was encountered has been properly cleaned or remediated.]**
Reason:	The presence of mold can negatively impact indoor environmental quality. Remediating existing mold can improve indoor environmental quality.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**Microbial Growth & Moisture Inspection and Remediation.** A visual inspection is performed to confirm the following:

	(1) Verify that no visible signs of discoloration and microbial growth on ceilings, walls or floors, or other building assemblies. [~~2 points~~ MANDATORY] ***Notes***: If minor microbial growth is observed (~~less than~~ within a total area of 25 square feet) in homes or multifamily buildings, reference EPA Document 402-K-02-003 (A Brief Guide to Mold, Moisture, and Your Home) for guidance on how to properly remediate the issue. If microbial growth is observed, on a larger scale in homes or multifamily buildings (greater than 25 sq ft), reference EPA document 402-k-01-001 (Mold Remediation in Schools and Commercial Buildings) for guidance on how to properly remediate the issue. [https://www.epa.gov/sites/production/files/2016-10/documents/moldguide12.pdf] (2) Verify that there are no visible signs of water damage or pooling. [~~2 points~~ MANDATORY] [Revision 11.602.1.7.1]. If signs of water damage or pooling are observed, verify that the source of the leak has been repaired, and that damaged materials are either properly dried or replaced as needed. **[Points can only be awarded if no signs or mold are present, or if the mold that was encountered has been properly cleaned or remediated.]**
Committee Reason:	Should be a mandatory practice in a sustainable building standard
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P376 LogID 17-117	**1001.1 Homeowner's manual** ***Final Formal Action:*** **Disapprove**
Submitter:	Suzanne Boxman, US EPA
Requested Action:	Revise as follows
Proposed Change:	**1001.1 Homeowner's manual.** A homeowner's manual is provided and stored in a permanent location in the dwelling that includes the following, as available and applicable… … (24) Retrofit energy calculator that provides baseline for future energy retrofits. (25) Information on deconstruction and disassembly services (26) For houses designed for disassembly, a plan with as-built drawings and information are provided about: 1) the method of disassembly for major components; and, 2) suitability of the selected materials for recycling or reuse.
Reason:	Deconstruction is beneficial because it maximizes the potential for materials reuse and prevents valuable resources from being landfilled unnecessarily. Including proper deconstruction resources will streamline the deconstruction process for houses which are being remodeled, retrofitted, or are at the end of their useful lifespan. Design for disassembly can reduce materials waste and extend a building's useful life, providing economic and environmental benefits for builders, owners, occupants, and the communities. The homeowner's manual should include the information necessary to facilitate disassembly and realize the intended benefits for all homes that are designed for disassembly.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action taken on P380

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P377 LogID 6432	**1001.2 Training of initial homeowners**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**Training of initial homeowners.** Initial homeowners are familiarized with the role of occupants in achieving green goals. Training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include... - **MANDATORY 8 POINTS**	
Reason:	Aligns with Measure 11.1001.2; In the development of the 2015 NGBS this measure was changed from being worth 8 point to being Mandatory. While making this mandatory is good, the loss of 8 points in Chapter 10 makes it extremely difficult for projects to achieve Gold or Emerald Certification.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P378 LogID 6559	**1001.2 Training of initial homeowners**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Kat Benner, self / TexEnergy	
Requested Action:	Revise as follows	
Proposed Change:	(Points) Mandatory 8 points	
Reason:	Achieving required minimums of 8 points for this Chapter is not possible without inclusion of points for this mandatory measure. Previous points were removed during prior update 2012, likely inadvertently.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P379 LogID 17-066	**1001.2 Training of initial homeowners**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, Tempo Partners	
Requested Action:	Revise as follows	
Proposed Change:	**1001.2 Training of initial homeowners.** (8) Whole-dwelling ventilation systems. **1002.4 Training of building owners.** (8) Whole-dwelling ventilation systems.	
Reason:	Most homeowners do not understand how to operate or maintain the mechanical ventilation systems that are installed in their homes or apartments, or even the intent of such a system. Providing and recognizing training on these important systems would be beneficial.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**1001.2 Training of initial homeowners.** (8) Whole-house mechanical ventilation systems. **1002.4 Training of building owners.** (8) Whole-dwelling mechanical ventilation systems.	
Committee Reason:	The value of training the homeowner on the whole house ventilation system is of great value	
Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P380 LogID 17-116	**1001.2 Training of initial homeowners**	***Final Formal Action:*** **Disapprove**
Submitter:	Suzanne Boxman, US EPA	
Requested Action:	Revise as follows	
Proposed Change:	**1001.2 Training of initial homeowners.** Initial homeowners are familiarized with their role and the role of occupants in achieving green goals. Training is provided to the responsible party(ies) regarding ~~equipment~~ building operation and maintenance, including equipment operation and building material replacement, and regarding occupant actions that will improve the environmental performance of the building. These include, as applicable… … (7) Recycling and composting practices.	

	(8) Benefits of deconstruction and resources available to deconstruct the building or its parts.
Reason:	Deconstruction is beneficial because it maximizes the potential for materials reuse and prevents valuable resources from being landfilled unnecessarily. Training the homeowners about the benefits of deconstruction will ensure they are aware of the value of materials included in their buildings and position them to take advantage of the fact that their properties are environmental and economic resources.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	There is value to this information being in manual for future decision-making (not too cumbersome), but must not be mandatory.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P381 LogID 6232	**1002.0 Intent (Construction, Operation, and Maintenance Manuals and Training for Multifamily Buildings)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	Host an annual group event that provides opportunity for discussion / input to better the suggestions in the OMBOE manual.	
Reason:	topics include recycling tips/energy / water saving tips and opens up discussion on these and related topics	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Executions and ownership are undefined. This cannot be administered or verified.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P382 LogID 17-114	**1002.1 Building construction manual**	***Final Formal Action:*** **Disapprove**

Submitter:	Suzanne Boxman, US EPA
Requested Action:	Revise as follows
Proposed Change:	**1002.1 Building construction manual.** A building construction manual, including five or more of the following, is compiled and distributed… … (8) A photo record of framing with utilities installed. Photos are taken prior to installing insulation and clearly labeled. (9) Information on deconstruction and disassembly services (10) For houses designed for disassembly, a plan with as-built drawings and information are provided about: 1) the method of disassembly for major components; and, 2) suitability of the selected materials for recycling or reuse.
Reason:	Deconstruction is beneficial because it maximizes the potential for materials reuse and prevents valuable resources from being landfilled unnecessarily. Including proper deconstruction resources will streamline the deconstruction process for houses which are being remodeled, retrofitted, or are at the end of their useful lifespan. Design for disassembly can reduce materials waste and extend a building's useful life, providing economic and environmental benefits for builders, owners, occupants, and the communities. The homeowner's manual should include the information necessary to facilitate disassembly and realize the intended benefits for all homes that are designed for disassembly.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action taken on P380
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P383 LogID 1508	**1002.2 Operations manual**	***Final Formal Action:*** **Disapprove**
Submitter:	Todd Jones, Center for Resource Solutions	
Requested Action:	Revise as follows	
Proposed Change:	(4) Information on opportunities to purchase Green-ecertified (or equivalent) renewable energy from local utilities or national green power providers and information on utility and tax incentives for the installation of on-site renewable energy systems.	
Reason:	(4) We recommend that information be provided specifically about Green-e certified utility and national green power products, to ensure that they are high quality and independently verified. The Green-e website is a good resource for finding local and national green power options.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Not necessary – Utilities oversee this.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**	

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P384 LogID 17-039	**1002.3 Maintenance manual**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Michelle Foster, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**1002.3 Maintenance manual**. Maintenance manuals are created and distributed to the responsible parties in accordance with Section 1002.0. Between all of the maintenance manuals, five or more of the following options are included. (Points awarded per two items. Points awarded for non-mandatory items.) (1) A narrative detailing the importance of maintaining a green building. This narrative is included in all responsible parties' manuals. (2) A list of local service providers that offer regularly scheduled service and maintenance contracts to ensure proper performance of equipment and the structure (e.g., HVAC, water-heating equipment, sealants, caulks, gutter and downspout system, shower and/or tub surrounds, irrigation system). (3) User-friendly maintenance checklist that includes: (a) HVAC filters (b) thermostat operation and programming (c) lighting controls (d) appliances and settings (e) water heater settings (f) fan controls (4) List of common hazardous materials often used around the building and instructions for proper handling and disposal of these materials. (5) Information on organic pest control, fertilizers, deicers, and cleaning products. (6) Instructions for maintaining gutters and downspouts and the importance of diverting water a minimum of 5 feet away from foundation. (7) Instructions for inspecting the building for termite infestation. (8) A procedure for rental tenant occupancy turnover that preserves the green features. (9) An outline of a formal green building training program for maintenance staff. (10) A green cleaning plan which includes guidance on sustainable cleaning products. (11) A maintenance plan for active recreation and play spaces (e.g., playgrounds, ground markings, exercise equipment) for adults, youth and children.	
Reason:	Including a provision in the maintenance manual on the recreation space will ensure that the space remains available to residents for recreation.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	(9) An outline of a formal green building training program for maintenance staff. (10) A green cleaning plan which includes guidance on sustainable cleaning products. (11) A maintenance plan for active recreation and play spaces (e.g., playgrounds, ground markings, exercise equipment) ~~for adults, youth and children~~.	
Committee Reason:	Language needs to be less specific	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0**	

	Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P385 LogID 6433	**1002.4 Training of building owners**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**1002.4 Training of building owners.** Building owners are familiarized with the role of occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include:	**Mandatory** **8 POINTS**
Reason:	Aligns with Measure 11.1001.2; In the development of the 2015 NGBS this measure was changed from being worth 8 point to being Mandatory. While making this mandatory is good, the loss of 8 points in Chapter 10 makes it extremely difficult for projects to achieve Gold or Emerald Certification.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P386 LogID 6560	**1002.4 Training of building owners**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Kat Benner, self / TexEnergy	
Requested Action:	Revise as follows	
Proposed Change:	(Points) Mandatory 8 points	
Reason:	Achieving required minimums of 8 points for this Chapter is not possible without inclusion of points for this mandatory measure. Previous points were removed during prior update 2012, likely inadvertently.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**	

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P387 LogID 17-115	**1002.4 Training of building owners**	***Final Formal Action:*** **Disapprove**
Submitter:	Suzanne Boxman, US EPA	
Requested Action:	Revise as follows	
Proposed Change:	**1002.4 Training of building owners.** Building owners are familiarized with the roles of operations and maintenance staff and occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding ~~equipment~~ building operation and maintenance, including equipment operation, control systems and building material replacement and regarding occupant actions that will improve the environmental performance of the building. These include, as applicable… … (7) Recycling and composting practices. (8) Benefits of deconstruction and resources available to deconstruct the building or its parts.	
Reason:	Deconstruction is beneficial because it maximizes the potential for materials reuse and prevents valuable resources from being landfilled unnecessarily. Training the homeowners about the benefits of deconstruction will ensure they are aware of the value of materials included in their buildings and position them to take advantage of the fact that their properties are environmental and economic resources.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	There is value to this information for future decision-making (not too cumbersome), but must not be mandatory	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P388 LogID 17-005	**1004.2 Verification system**	***Final Formal Action:*** **Disapprove**
Submitter:	Stephen Evanko, Dominion Due Diligence	
Requested Action:	Revise as follows	
Proposed Change:	1004.1 Verification System A verification system plan is provided in the building owner's manual (Sections (1001 or 1002). The verification system provides methods for demonstrating continued energy and water savings that are	

	determined from the building's initial year of occupancy of water and energy consumption as compared to annualized consumption at least every four years (1) Verification Plan is developed ~~top~~ to monitor post-occupancy energy and water use and is provided in the building owner's manual [1 point] (3) Verification system is installed in the building to monitor post-occupancy energy and water use [3 points] <u>1004.2 Commitment for Annual Energy Benchmarking (NEW)</u> <u>1) Commitment for annual Energy Benchmarking: Multifamily property commits to benchmark annual energy performance using Energy Star Portfolio Manager. Owner commits to maintain a benchmark score of 75 or better and to share the energy star benchmark score with the Adopting Entity. [3 points]</u>
Reason:	Benefits: Numerous studies have shown that continuous benchmarking leads to an ongoing reduction energy consumption of at least 2-3% per year http://www.imt.org/uploads/resources/files/PCC_Benefits_of_Benchmarking.pdf https://www.energystar.gov/sites/default/files/buildings/tools/DataTrends_Savings_20121002.pdf Owners should receive green points for committing to this proven energy efficient practice. The practice in 1004.1 is good but doesn't benchmark against comparable properties. Offering a minimum performance target rather than just comparing to past performance drives improved performance. Why only Multifamily? Energy Star Portfolio Manager currently only supports benchmarking on Multifamily properties. Verification: Like many other NGBS practices, this benchmarking process provides the framework for ongoing green building operation. I would suggest that for verification, • We honor documentation that the property is being underwritten through a green financing program which has a benchmarking requirement or through evidence that the site will need to comply with a local municipal benchmarking requirement • Owner produces a Signed Energy Data Benchmarking Plan showing how the property owner intends to secure the energy data (including tenant data) and benchmark the property Why sharing with Adopting Entity?: This could provide additional data to demonstrate the value of the NGBS certification. This is common with other green building programs. This practice is also encouraged by some green financial products (Fannie Mae Green Rewards, HUD Green Mortgage Insurance Premium Reduction and some progressive municipalities are pushing for benchmarking
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Not reliably verifiable. Also tied to a proprietary product. Might suggest that verifier and bldg. owner have liability or exposure in future.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P389 LogID 6291	**1005.1 Reserved – To Be Determined**	***Final Formal Action:*** **Disapprove**

Submitter:	Aaron Gary, self
Requested Action:	Add new as follows
Proposed Change:	**1005.1 Appraisals.** One or more of the following is implemented. (1) Energy rating data is posted to publicly accessible database so that appraisers can access it for performing "green" property valuations. - 2 **POINTS** (2) Green certification data is provided so that appraisers can access it for performing "green" property valuations. - 2 **POINTS**
Reason:	The real key to increasing demand for high-performance homes is getting the information to home appraisers in such a way that they can recognize the increased value of the green certified home above that of a conventionally built home.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P396
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P390 LogID 6359	**Other for Chapter 10 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**Section 1006** - Add new section as relevant for Health & Well-being awareness credits.	
Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with P314	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P391 LogID 6557	Other for Chapter 10 (include section number and title below) *Final Formal Action:* **Disapprove**
Submitter:	Kat Benner, self / TexEnergy
Requested Action:	Add new as follows
Proposed Change:	1005 HEALTH AND WELL BEING (...prior to INNOVATIVE PRACTICES)
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Major elements already covered in NGBS, especially CH9 IEQ. No need for a stand-alone section. Premature. NGBS/HI staff have indicated they will explore, address, come up with a more holistic recommendation.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P392 LogID 6307	Other for Chapter 10 (include section number and title below) *Final Formal Action:* **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**1001.1 Homeowner's manual.** A homeowner's manual is provided and stored in a permanent location in the dwelling that includes the following, as available and applicable… … (24) Retrofit energy calculator that provides baseline for future energy retrofits. (25) Disassembly plan with as-built drawings and information about the method of disassembly for major components; and material selection for recycling/reuse. **1001.2 Training of initial homeowners.** Initial homeowners are familiarized with their role and the role of occupants in achieving green goals. Training is provided to the responsible party(ies) regarding ~~equipment~~ building operation and maintenance, including equipment operation and building material replacement, and regarding occupant actions that will improve the environmental performance of the building. These include, as applicable… … (7) Recycling and composting practices. (8) Disassembly methods for building components, material suitability for recycling and reuse, replacement with other recyclable/reusable materials.
Reason:	Design for Adaptation and Disassembly involves the utilization of recyclable/reusable building materials and preserves resources by maximizing building-material recovery. A disassembly plan and building-owner training on the disassembly methods and reuse/recycling properties of the major building components, facilitate disassembly and appropriate material management, and help realize the intent and benefits of the Design for Adaptation and Disassembly measures. Solution: Add Disassembly Plan as

	an additional item to be provided to homeowner, as applicable. Include training on disassembly methods and building material reuse/recycling properties as an additional training for parties responsible for building maintenance and operation, including replacement of building materials.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Language needs adjustment, and proposal lacks information
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P393 LogID 6308	**Other for Chapter 10 (include section number and title below)** *Final Formal Action:* **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**1002.1Building construction manual.** A building construction manual, including five or more of the following, is compiled and distributed… … (8) A photo record of framing with utilities installed. Photos are taken prior to installing insulation and clearly labeled. (9) Disassembly plan with as-built drawings and information about the method of disassembly for major components; and material selection for recycling/reuse. **1002.3Maintenance manual.** Maintenance manuals are created and distributed to the responsible parties in accordance with Section 1002.0.Between all of the maintenance manuals, five or more of the following options are included… … (10) A green cleaning plan which includes guidance on sustainable cleaning products. (11) For use during building component maintenance and replacement, a disassembly plan with as-built drawings and information about the method of disassembly for major components; and material selection for recycling/reuse. **1002.4Training of building owners.** Building owners are familiarized with the roles of operations and maintenance staff and occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding ~~equipment~~ building operation and maintenance, including equipment operation, control systems and building material replacement and regarding occupant actions that will improve the environmental performance of the building. These include, as applicable… … (7) Recycling and composting practices. (8) Disassembly methods for building components, material suitability for recycling and reuse, replacement with other recyclable/reusable materials.
Reason:	Design for Adaptation and Disassembly involves the utilization of recyclable/reusable building materials and preserves resources by maximizing building-material recovery. A disassembly plan and building-owner training on the disassembly methods and reuse/recycling properties of the major building

	components, facilitate disassembly and appropriate material management, and help realize the intent and benefits of the Design for Adaptation and Disassembly measures. Solution: Add Disassembly Plan as an additional item to be provided to building owners and parties responsible for operations and maintenance. Include training on disassembly methods and building material reuse/recycling properties as an additional training for parties responsible for building maintenance and operation, including replacement of building materials.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Language needs adjustment, and proposal lacks information
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P394 LogID 6480	**Other for Chapter 10 (include section number and title below)** ***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions
Requested Action:	Add new as follows
Proposed Change:	New Section <u>Section 1006.1 - Material Transparency - All relevant declare labels, health product declarations, building product disclosures are provided to the occupant.</u>
Reason:	Homeowners and building occupants have the right to know what products are being installed in the building. Raise awareness about the possible toxicity of building materials supports changes in the industry for healthier products.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	1st: good concept, "declare" is too specific – broaden. 2nd: Too broad, "declare labels" is the wrong term. This concept is partly addressed in 100.0.1.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P395 LogID 1513	Other for Chapter 10 (include section number and title below)	*Final Formal Action:* **Approve as Modified**
Submitter:	Carl Seville, SK Collaborative	
Requested Action:	Revise as follows	
Proposed Change:	1002 – Combine operations and maintenance manual for Multifamily buildings into a single document. Add a separate tenant/occupant manual for occupants of multifamily buildings to provide them with reference and training materials to properly manage their apartment or condo unit.	
Reason:		
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**1002.5 Multifamily Occupant Manual** An occupant manual is compiled and distributed in accordance with Section 1002.0 (1 Point are awarded per two items. Points awarded for non-mandatory items.) (1) NGBS Certificate **(Mandatory)** (2) List of Green Building Features **(Mandatory)** (3) Operations manuals for all appliances and occupant operated equipment including lighting and ventilation controls, thermostats, etc. **(Mandatory)** (4) Information on recycling and composting programs (5) Information on purchasing renewable energy from utility (6) Information on energy efficient replacement lamps (7) List of practices to save water and energy (8) Local public transportation options (9) Explanation of benefits of green cleaning **1002.6: Training of Multifamily Occupants** Prepare a training outline, video or website that familiarizes occupants with their role in maintaining the green goals of the project. Include all equipment that the occupant(s) is expected to operate including but not limited to: (1 Point are awarded per two items.) (1) Lighting controls (2) Ventilation controls (3) Thermostat operation and programming (4) Appliances operation (5) Recycling and composting (6) HVAC filters (7) Water heater settings and hot water use	
Committee Reason:	To match existing formatting in the NGBS	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P396 LogID 17-019	New for Chapter 10	*Final Formal Action:* **Approve as Submitted**

Submitter:	Phil LaRocque, LaRocque Business Management Services
Requested Action:	Add new as follows:
Proposed Change:	1005.1 Appraisals. One or more of the following is implemented. (1) Energy rating or usage data is posted by submitting rating or data to the RESNET registry, affixing the HERS or ERI data to a sticker in an appropriate location in the home, or an equivalent posting so that an appraiser can access the energy data for an energy efficiency property valuation.-2 POINTS (2) An Appraisal Institute Form 820.05 "Residential Green and Energy Addendum" or Form 821 "Commercial Green and energy Efficient Addendum" that consider NGBS, LEED, ENERGY STAR certifications and equivalent programs, is completed for the appraiser by a qualified professional or builder to use in performing the valuation of the property.-2 POINTS (3) NGBS certification information or one of the Appraisal Institute Forms cited in (2) above is uploaded to a multiple listing service (MLS) or equivalent database so that appraisers can access it to compare property valuations.-2 POINTS
Reason:	Increasing demand for NGBS and other certification programs requires getting the certification and data information on these high-performance homes to appraisals so they can recognize the added value of the green certified home or apartment above that of a code-built home.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P397 LogID 1509	**11.1001.1 Building owner's manual is provided** ***Final Formal Action:*** **Disapprove**
Submitter:	Todd Jones, Center for Resource Solutions
Requested Action:	Revise as follows
Proposed Change:	Information on local available Green-ecertified (or equivalent) utility green power programs or renewable electricity products, as well as information on how to find other certified renewable energy products using the Green-e website ~~utility programs that purchase a portion of energy from renewable energy providers~~.
Reason:	(6) Many utilities will purchase a portion of energy of renewable energy providers. We recommend clarification of this requirement such that information is related to utility programs/products that deliver renewable energy to customers. We also recommend strengthening this requirement by requiring that this be information about renewable energy products/options available to the building, either from the local utility (e.g., differentiated renewable electricity/green power products/options) or competitive electricity suppliers (if in a deregulated region) or REC products that are available nationally. The Green-e website can be used to find green power options in your area. We also recommend that information be provided specifically about Green-e certified utility green power programs/products, competitive electricity products, and stand-alone REC products.

Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Avoid reference to proprietary programs and websites.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P398 LogID 1510	**11.1002.2 Operations manual**	***Final Formal Action:*** **Disapprove**
Submitter:	Todd Jones, Center for Resource Solutions	
Requested Action:	Revise as follows	
Proposed Change:	Information on opportunities to purchase Green-ecertified (or equivalent) renewable energy from local utilities or national green power providers and information on utility and tax incentives for the installation on on-site renewable energy systems.	
Reason:	(4) We recommend that information be provided specifically about Green-e certified utility and national green power products, to ensure that they are high quality and independently verified, The Green-e website is a good resource for finding local and national green power options.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P383 and this is a proprietary program/website.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P399 LogID 6564	**11.1002.4 Training of building owners**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Kat Benner, self / TexEnergy	
Requested Action:	Revise as follows	
Proposed Change:	Mandatory 8 points	
Reason:	"Mandatory" and "8 points" appears to have been overlooked when this section was added to Chapter 11, despite equivalent appearing in corresponding section 11.1001.2 for Single Family. Additionally, same suggestion for standard section 1002.4 in Chapter 10 was submitted, as minimum points "8" appears to have been inadvertently removed when submission for 2012 Protocol was	

	submitted/revised. Not possible to achieve level beyond Bronze if additional points not provided in this section of Chapter 10.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	11.1001.2 Should follow the points as reflected in 10.1001.2 11.1002.4 Should follow the points as reflected in 10.1002.4
Committee Reason:	For consistency between chapter 11 and 12
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P400 LogID 6434	**11.1002.4 Training of building owners**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**11.1002.4 Training of building owners.** Building owners are familiarized with the role of occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include:	**Mandatory** **8**
Reason:	Aligns with Measure 11.1001.2; In the development of the 2015 NGBS this measure was changed from being worth 8 point to being Mandatory. While making this mandatory is good, the loss of 8 points in Chapter 10 makes it extremely difficult for projects to achieve Gold or Emerald Certification.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Mandatory can't get points? See 11.1002.2. Award points for non-mandatory items. Change philosophy for whole std. proposing same change across the board. No point threshold for remodeling.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P401 LogID 6233	**11.1003.1 Public Education (Signage, Certification Plaques, Education)**	***Final Formal Action:*** **Disapprove**

Submitter:	Paul Gay, US-EcoLogic
Requested Action:	Add new as follows
Proposed Change:	Host an annual group event that provides opportunity for discussion / input to better the suggestions in the OMBOE manual
Reason:	topics include recycling tips/energy / water saving tips and opens up discussion on these and related topics
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Executions and ownership are undefined. This cannot be administered or verified.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P402 LogID 6487	**11.500.0 Intent (Remodeling: Lot design, preparation, and development)**	***Final Formal Action:*** **Disapprove**
Submitter:	Steven Armstrong, self	
Requested Action:	Add new as follows	
Proposed Change:	Consider separate chapter for multifamily remodeling	
Reason:	Brings more clarity to the verification process due to unique nature of multifamily remodel.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	No language provided.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P403 LogID 6436	**11.501.2 Multi-modal transportation**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**ADD NEW OPTION TO 11.501.2**	

	(7) Employment Access: A site is selected in an area with a measured Jobs per Sq. Mi. of: a) 10,000 - less than 25,000 - **3 POINTS** b) 25,000 to less than 50,000 - **4 POINTS** c) 50,000 to less than 100,000 - **5 POINTS** d) 100,000 or more - **6 POINTS**
Reason:	Travel to and from work is a major source of carbon emissions. Locating housing near employment will significantly reduce the vehicle miles travelled of the average occupant. This metric can be accessed at: http://htaindex.cnt.org/
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Does not apply to remodeling (shouldn't get points based on where your remodeling project is located or what sharing programs are in place).
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P404 LogID 6389	**11.501.2 Multi-modal transportation**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**(8)** Lot is within a community that has a Bike sharing program and where facilities for bike sharing are planned for and constructed. - **5 points** **(9)** Lot is within a community that has a Car sharing program and where facilities for car sharing are planned for and constructed. - **5 points**	
Reason:	Based on existing practice in NGBS 2015 (405.6) and applied to a single lot versus entire land development. Communities that provide for shared bike and vehicle usage should be rewarded as this reduces the production of green-house gases in the same way as mass transit or bicycle use.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	*Replace proposal in its entirety with the following:* **(8)** The remodel includes the new development and implementation of a community scale bike sharing. - 3 **points** **(9)** The remodel includes the new development and implementation of a community scale motorized vehicle sharing program. - **5 points**	
Committee Reason:	Does not apply to remodeling (shouldn't get points based on where your remodeling project is located or what sharing programs are in place).	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P405 LogID 6548	**11.503.3 Soil disturbance and erosion**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Ben Edwards, self	
Requested Action:	Delete without substitution	
Proposed Change:	Delete only item (3) from section 11.503.3 Limits of new clearing and grading are demarcated on the lot plan.	
Reason:	This comment is intended to highlight a larger issue in this document: double counting. 11.504.3(2) awards 5 points for flagging the site under Lot Construction. 11.503.3(3) awards 5 points for the same action under Lot Design (points are awarded when "the intent of the design is implemented." While flagging a site is important, does the committee believe 10 points should be awarded for a fundamental construction practice? Further, 4 more points are awarded in 11.504.1 On-site Supervision and Coordination if someone watches the flagged clearing and grading. The potential for 14 points for a standard practice is not appropriate in an above-code document. Points should be awarded based on outcome, and should clearly indicate the relative weight in compliance. Note: Similar issues are found in Chapters 4 and 5, and the topic of soil disturbance is illustrative. Philosophically, if points are to be awarded for planning, construction, and verification, the greatest weight should be on verification.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	*Do not delete 11.503.3(3) and instead revise the points as follows:* 11.503.3 Soil disturbance and erosion… (1) Remodeling construction… ~~5~~ 2 pts (2) The new utilities on the lot… ~~5~~ 2 pts (3) Limits of new clearing and… ~~5~~ 2 pts	
Committee Reason:	Agreed that more points should be awarded for implementation and verification over design in this case. However, design is still important and should be at least minimally incentivized.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P406 LogID 6390	**11.503.4 Stormwater management**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**(5)** Complete gutter and downspout system directs storm water away from foundation to landscaping or catchment system. - **8 points**	
Reason:	To direct rainwater away from the structure to prevent erosion and to protect the structure itself, and/or for rainwater capture	

Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P407 LogID 1516	**11.503.4 Stormwater management** ***Final Formal Action:*** **Disapprove**
Submitter:	Heather Dylla, National Asphalt Pavement Association
Requested Action:	Delete without substitution
Proposed Change:	~~Permeable materials are used for driveways, parking area, walkways and patios according to the following percentages~~ ~~(a) Less than 25 percent **2**~~ ~~(b) 20 – 50 percent **5**~~ ~~(c) Greater than 50 percent **10**~~
Reason:	Giving points specifically to permeable materials may encourage their use where they are not practical or not even the best solution for stormwater management. Their efficacy depends on site limitations such as soil permeability, depth to impermeable layers and water table, and topography. It is recommended that permeable materials are evaluated together with all other low impact development practices (question 3) to encourage the best stormwater management solution.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Needs better language- permeable materials used where effective.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P408 LogID 6239	**11.503.5 Landscape plan** ***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self
Requested Action:	Revise as follows

Proposed Change:	**503.5 Landscape ~~plan~~.** ~~A plan for t~~ The lot is developed to limit water and energy use while preserving or enhancing the natural environment. **(Where "front" only or "rear" only ~~plan~~ is implemented, only half of the points (rounding down to a whole number) are awarded for Items (1)-(8)**
Reason:	Remodels are more likely to improve their landscape using a design/build methodology which often skips the development of a formal plan during design. While this may not be best practice, the resulting verified installation should still receive full credit for the items that can still achieved without a design plan (i.e. 2-3,5-9).
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	View planning and execution as two discrete operations.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P409 LogID 6248	**11.505.0 Intent (Innovative Practices)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	11 505.XX Project has emergency plan in place to address relevant Natural Disasters	
Reason:	to ensure project is protected against relevant potential impact from natural hazards e.g. Floods/Earthquakes/Landslides/Hurricanes/Tornadoes/Dust Storms/Wildfires	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action regarding emergency plan	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P410 LogID 6382	**11.505.4 Mixed-use development**	***Final Formal Action:*** **Disapprove**

Submitter:	Aaron Gary, self
Requested Action:	Revise as follows
Proposed Change:	**Mixed Use Development:** (1) The lot contains a mixed use building (2) Residential community contains a mixed use building (for Single Family homes only)
Reason:	Allows single family mixed use communities to be recognized for achieving the same goal.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	How can you have "mixed use" without retail space? Code conflict.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P411 LogID 6391	**11.505.5 Community garden(s)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	505.5 Community garden(s). Provide local food production for residents or area consumers through one of the following: (1) A portion of the lot is established as a community garden(s), available to residents of the lot~~, to provide for local food production to residents or area consumers~~. (2) Locate the project within a 0.5-mile walk distance of an existing or planned farmers market that is open or will operate at least once a week for at least five months of the year.	
Reason:	Access to fresh produce offers healthy food options for residents, and purchase of fresh produce directly from farmers demystifies the cycle of food production. This measure also supports local economic development that increases the economic value and production of farmlands and community gardens. This revision creates a path for sites where the community garden is not feasible but the end-goal can still be met through site-selection.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Addition of a farmer's market would classify as a community resource gaining points from another section.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		

Abstain:	

P412 LogID 6536	**11.505.6 Multi-unit plug-in electric vehicle charging**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, Building Quality	
Requested Action:	Revise as follows	
Proposed Change:	11.505.6 Multi-unit plug-in electric vehicle charging. Plug-in electric vehicle charging capability is provided for at least ~~1~~ 2 percent of parking stalls. The number shall be rounded to the nearest even number, with odd numbers rounded up. Zero shall not earn points. Electrical capacity in main electric panels supports Level 2 charging (208/240V-40 amp). Each stall is provided with conduit and wiring infrastructure from the electric panel to support Level 2 charging (208/240V-40 amp) service to the designated stalls, and stalls are equipped with either Level 2 charging AC grounded outlets (208/240V-40 amp) or Level 2 charging stations (240V/40A) by a third party charging station. Charging stations and infrastructure shall be in accordance with Article 625 of the National Electrical Code.	
Reason:	The number of stations is rounded to an even number because having 2 charging stations on a single post is often more economical. Article 625 of the NEC covers EV charging stations and their connection to the electrical supply.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P413 LogID 6538	**11.505.6 Multi-unit plug-in electric vehicle charging**	***Final Formal Action:*** **Disapprove**
Submitter:	Chuck Foster, Charles R. Foster Associates	
Requested Action:	Revise as follows	
Proposed Change:	Plug-in electric vehicle charging capability is provided for at least ~~1~~ 3 percent of parking stalls.	
Reason:	There are now over 577,000 plug-in electric vehicles (plug-in hybrids or battery electric vehicles) being driven in the US. All major manufacturers offer the vehicles for sale, and there are federal tax incentives, as well as state incentives, for their use. As of early 2016, there were over 12,200 public EV charging stations in the US. This proposal increases the percentage requirement from 1 to 3 percent (the original proposal that was discussed during the last NGBS revision was 5 percent), and adds clarify language if the calculation yields a value like 1.4 (in which case, they would have to install 2 EV charging stations).	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P414	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**	

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P414 LogID 6152	**11.505.6 Multi-unit plug-in electric vehicle charging**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, Edison Electric Institute	
Requested Action:	Revise as follows	
Proposed Change:	**11.505.6 Multi-unit plug-in electric vehicle charging.** Plug-in electric vehicle charging capability is provided for at least ~~1~~ 2 percent of parking stalls. Fractional values shall be rounded up to the nearest whole number. Electrical capacity...	
Reason:	There are now over 577,000 plug-in electric vehicles (plug-in hybrids or battery electric vehicles) being driven in the US. All major manufacturers offer the vehicles for sale, and there are federal tax incentives, as well as state incentives, for their use. As of early 2016, there were over 12,200 public EV charging stations in the US. This proposal increases the percentage requirement from 1 to 2 percent (the original proposal that was discussed during the last NGBS revision was 5 percent), and adds clarifying language if the calculation yields a value like 1.4 (in which case, they would have to install 2 EV charging stations).	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**11.505.6 Multifamily plug-in electric vehicle charging.** Plug-in electric vehicle charging capability is provided for ~~at least~~ not fewer than ~~1~~ 2 percent of parking stalls, 4 points. An additional two points can be earned for each percentage point above 2% for a maximum of 10 points. Fractional values shall be rounded up to the nearest whole number. Electrical capacity....	
Committee Reason:	Consistent with action on P109	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P415 LogID 6155	**11.505.6 Multi-unit plug-in electric vehicle charging**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, Edison Electric Institute	
Requested Action:	Revise as follows	
Proposed Change:	...(208/240V-~~40~~ 80 amp).... (208-240V/~~40~~ 80A)	
Reason:	This proposal updates the specification match the current SAE information, as shown on the following web site and below: http://www.sae.org/smartgrid/chargingprimer.pdf "AC Level 2 Charging* – 208 – 240 AC charging up to 80 amps, on-board vehicle charger (~19kw)"	
Committee Formal Action from Meeting:	**Approve as Modified**	

Modification of Proposed Change:	"(208/240V- up to 80 amps or in accordance with SAE J1772)" and full title and 2017 is included in referenced standards table
Committee Reason:	Consistent with action on P110
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P416 LogID 6231	**11.602.1.8 Water-resistive barrier**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	Have 3rd Party Water Barrier / Window Leakage Test conducted and Passed per Industry standards	
Reason:	passing a performance test will help ensure weather barrier is installed as intended /per design.....potentially heading off potential moisture /intrusion problems and associated costs	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Separate windows and WRBs. Reward testing. Reclaimed windows?	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P417 LogID 6309	**11.605.2 Construction waste management plan**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Revise as follows	
Proposed Change:	**11.605.2Construction waste management plan.** …diverting, through methods such as reuse, salvage, recycling or manufacturer reclamation, a minimum of 50 percent (by weight) of nonhazardous construction and demolition materials~~, excluding land-clearing waste,~~ from disposal in landfills and combustion, excluding energy and material recovery. For this practice, land clearing debris is not considered a construction anddemolition material and is excluded from the calculation. Materials used as alternative daily cover are considered construction waste and do not counttoward recycling or salvaging. **Exceptions:**	

	~~1) Waste materialsgenerated from land clearing, soil and sub-grade excavation and all manner ofvegetative debris shall not be in the calculations.~~ ~~2)~~ A recycling facility (traditional or E-Waste) offering materialreceipt documentation is not available within 50 miles of the jobsite.
Reason:	If the intent of the "Exceptions" section is to indicate specific circumstances when the practice does not apply, or to acknowledge situations when it cannot be met by the person seeking the points, then it is unclear why the first item is listed. How is stating "Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations," an Exception? We would argue this is an exclusion from the calculation, not an exception from the practice - due to some imposed practical difficulties - and as such, it is more appropriately emphasized in the language of the credit. Solution: Revise the body of the credit to more strongly emphasize that land clearing debris is excluded from the calculation. Delete the first item listed under Exceptions.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**11.605.2 Construction waste management plan.** …diverting, through methods such as reuse, salvage, recycling or manufacturer reclamation, a minimum of 50 percent (by weight) of nonhazardous construction and demolition ~~materials, excluding land-clearing~~ waste~~,~~ from disposal ~~in landfills and combustion, excluding energy and material recovery~~. For this practice, land clearing debris is not considered a construction waste ~~and demolition material and is excluded from the calculation~~. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging. For remodeling projects or demolition of an existing facility, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) by an ~~EPA certified~~ E-Waste recycling facility. **Exceptions:** 1) Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations. 2) A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.
Committee Reason:	Consistent with action on P114
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P418 LogID 6235	**11.605.3 On-site recycling**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	Multi Family Alternative to built in collection space - Management provides "blue box" recycling container or "blue Bins" and has designated recycling dumpsters onsite and /or contract with offsite sorting Recycling Facility	
Reason:	provide alternative opportunity to encourage recycling to projects/tenants where space will prevent the built in option	

Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	This should be under 11.607.1, not 11.605.3 3) Management provides ~~"blue box" recycling container or "blue Bins"~~ recycling container and has designated recycling dumpsters onsite and /or contract with offsite sorting Recycling Facility (3 pts)
Committee Reason:	Consistent with action on P150
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P419 LogID 6349	**11.606.3 Manufacturing energy**	***Final Formal Action:*** **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete without substitution	
Proposed Change:	~~11.606.3 Manufacturing energy. Materials are used for major components of the building that are manufactured using a minimum of 33 percent of the primary manufacturing process energy derived from renewable source, combustible waste sources, or renewable energy credits (RECs).~~	
Reason:	Use of the word 'materials' is does not promote use of this section for final products which could have multiple materials or assemblies and could be from various locations. An effective way to capture this information for products, or materials, would be through EPDs. EPDs are more widely recognized in the industry and easier for Standard user to obtain. Individually, these single-attributes have little bearing on the final impact and are becoming antiquated, so they are being replaced with EPDs. Because EPDs are already a part of this standard, the available 6 points that would be removed with this section could be added into Product Declarations.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	EPDs in innovative practices already and in Chapter 6. Renewables! "Major components". See TG3 Contact Susan for background.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P420 LogID 1511	**11.606.3 Manufacturing energy**	***Final Formal Action:*** **Disapprove**

Submitter:	Todd Jones, Center for Resource Solutions
Requested Action:	Revise as follows
Proposed Change:	Materials manufactured using renewable energy for a minimum of 33 percent of their primary manufacturing process energy. Non-electric energy used in manufacturing materials must be derived from (1) renewable sources~~,~~ or (2) combustible waste sources~~, or (3) renewable energy credits (RECs)~~. Electricity used in manufacturing materials must be paired with renewable energy certificate (RECs), which must be retired. The building may purchase RECs on behalf of the building material supplier where the supplier has not purchase/used renewable electricity, with RECs, for manufacturing of building materials. Green-e certification (or equivalent) is requires [or recommended] for renewable electricity purchases and materials manufacturerd using renewable electricity.
Reason:	This requirement refers to renewable energy use in manufacturing of building materials, and therefore may refer to use of both electricity and non-electric energy in manufacturing. Currently, the options 1-3 are not differentiated as apply to either electricity or non-electric energy use. However, since RECs are required to claim use of renewable electricity in all cases, including from on-site renewable generation equipment, we suggest differentiating between electricity used in manufacturing, in which case RECs are required, and non-electricity energy used in manufacturing. It is also not clear that in option 3, RECs are being purchased by the building to be applied to the building materials, i.e. its supply chain, and not to the building's own electricity usage, and that RECs/RE may also be purchased or used by the supplier of the building materials. Finally, we recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P148
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P421 LogID 6311	**11.608.1 Resource-efficient materials** ***Final Formal Action:*** **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**608.1 Resource-efficient materials.** Products containing fewer materials are used to achieve same end-use requirements as conventional products, including but not limited to: ~~(1) Lighter, thinner brick with depth less than 3 inches and/or brick with coring of more that 25 percent~~ ~~(2)~~ (1) Engineered wood or engineered steel products ~~(3)~~ (2) Roof or floor trusses
Reason:	Since engineered wood, engineered steel products and roof or floor trusses are incorporated intermittently in the façade, and/or entirely in the interior, their dematerialization is not likely to jeopardize the structure's overall energy efficiency. In fact, filling with insulation those spots in the exterior walls where the unneeded mass of structural elements would otherwise have been, reduces the

	thermal bridging associated with structural elements in exterior walls and improves the structure's energy efficiency. Conversely, the continuous dematerialization of a façade material, such as brick, may require an addition of more insulation to compensate for the loss of volume all along the perimeter, just to achieve comparable energy efficiency. A more accurate assessment of the benefits of the dematerialization of façade materials can possibly be made and if there are benefits, points can be captured through Life Cycle Assessments (11.610.1.1 and 11.610.1.2) that apply a material consumption impact category in addition to categories measuring energy-consumption impacts through the manufacturing, construction and use life-cycle stages.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P490
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P422 LogID 6338	**11.609.1 Regional materials**	***Final Formal Action:*** **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete without substitution	
Proposed Change:	~~Regional materials. Regional materials are used for major and/or minor components of the building. (For a component to comply with this practice, a minimum of 75% of all products in that component category must be sourced regionally, e.g.; stone veneer category – 75 percent or more of the stone veneer on a project must be sources regionally.)~~	
Reason:	To increase use of the standard, reduce the complexity and remove these calculations. Regional material impacts are captured through EPDs, which are easier for the end user to locate and provide a much better indicator as they focus on the outcome of the various inputs. Individually, single-attributes have little bearing on the final impact so they are being replaced with EPDs. Because EPDs are already a part of this standard, the 10 points removed with this section could be added into the Product Declarations, Section 11.611.4, if the Standard was to keep the same number of threshold points.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Single attributes materials are still useful for the industry, can't solely rely on EPDs Spelling - "sourced" not "sources".	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **34** Disagree with committee action: **6** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		

Disagree with Committee Action:	***Thomas Pape:*** Committee acted in blatant violation of ANSI requirements for presenting a clear reason for disapproval. A spelling error is not a valid reason to disapprove a proposal. ***Secretariat Note:*** *Clerical error. When developing a recommendation for the Consensus Committee, TG-7 voted to disapprove P422 by deferring to TG-3's recommendation on the parallel proposal (P152), but added the note "spelling - 'sourced' not 'sources'" to their reason statement. P152 and P422 were on the Consent Agenda for the May 2018 meeting and the Consensus Committee upheld the TGs' recommendations. The reason statement for disapproval for P152 has been included above in red.* ***Cambria McLeod:*** This rejection appears to violate the Home Innovation Research Lab document 'Procedures for Consensus Developed Standards.' A disapproval of a comment is required to have a statement (reason) specific to the comment, preferably technical in nature, to support the consensus committee's decision that no substantive changes to the standard are required. The comment provided by the committee on this proposal did not contain a statement or reason that was specific to the proposal. ***Secretariat Note:*** *Clerical error. When developing a recommendation for the Consensus Committee, TG-7 voted to disapprove P422 by deferring to TG-3's recommendation on the parallel proposal (P152), but added the note "spelling - 'sourced' not 'sources'" to their reason statement. P152 and P422 were on the Consent Agenda for the May 2018 meeting and the Consensus Committee upheld the TGs' recommendations. The reason statement for disapproval for P152 has been included above in red.* ***Sean S. Devlin:*** based on circulated ballot comments. ***Kristopher Stenger:*** follow recommendation of TG7 based on comment. ***William A. Sanderson:*** agree with comments and task group's affirmation. ***Gregory Curtis Coolidge:*** Agree with ballot comments offered.
Abstain:	

P423 LogID 6312	**11.610.1 Life cycle assessment** ***Final Formal Action:*** **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**11.610.1.1Whole-building life cycle assessment.** A whole-building LCA is performed in conformance with ASTM E2921 using ISO14044compliant life cycle assessment. 1. Execute LCA at the whole-building level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E2921. The assessment criteria include the following environmental impact categories: a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste i. Water Use j. Pollution Discharges to Water …

	3. Execute full LCA, including extraction and harvesting, manufacturing, construction, use and end-of-life phases~~,~~. For the use phase, calculate ~~through calculation of~~ operating energy impacts (c) – (f) using local or regional emissions factors from energy supplier, utility, or EPA. For the use phase, also include impacts associated with material replacements. **11.610.1.2.1Product LCA.** A product with improved environmental impact measures compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment are selected from the following: a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste i. Water Use j. Pollution Discharges to Water **11.610.1.2.2 Building Assembly LCA.** Abuilding assembly with improved environmental impact measures compared to an alternative assembly of the same function is selected… **…**The environmental impact measures used in the assessment are selected from the following: a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste i. Water Use j. Pollution Discharges to Water
Reason:	Using less material and recovering more is crucial to our economic and environmental future. Material use and waste generation over the life cycle of a building should be modeled. In addition, the "full" life cycle assessment should include all life cycle phases, including manufacturing, construction, use and end-of-life phases. While the NGBS-proposed language for whole-building life cycle assessment emphasizes that the assessment should include the use phase, it omits mentioning the manufacturing, construction and end-of-life phases. Finally, the language for the whole-building use phase indicates that impacts related to energy use should be evaluated, but remains silent on the need to evaluate impacts associated with the replacement of materials. Solution: Add the material use and waste impact categories to the assessment criteria. Emphasize that the boundary of the assessment should include the manufacturing, construction and end-of-life phase. Emphasize that the assessment of the use phase should include the analysis of impacts associated with the replacement of materials.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P153.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P424 LogID 6365	**11.611.3 Universal design elements**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	(6) All sink ~~faucet controls are single-handle controls of both volume and temperature,~~ lavatory and showering controls shall have cross or lever handles.	
Reason:	The current language is design-limiting and also excludes other functional areas which could utilize universal design elements such as lavatories and showering areas. Cross and lever controls for all faucets and bathing/showering trim provide greater accessibility than controls with knob shapes. ADA and A117.1 allow center set, widespread and single handle controls.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	6) All sink ~~faucet controls are single-handle controls of both volume and temperature,~~ lavatory and showering controls that comply with ICC A117.1 ~~shall have cross or lever handles~~. Add ICC A117.1 to Chapter 13 with latest year 2009	
Committee Reason:	Consistent with action on P160	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **0** Abstain: **1** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:	***Cambria McLeod:*** A117.1 was updated in 2017 not 2009.	

P425 LogID 6412	**11.611.3 Universal design elements**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	**11.611.3 Universal design elements.** Dwelling incorporates one or more of the following universal design elements. Conventional industry construction tolerances are permitted. **(1)** High visibility address numbers at entrance to dwelling unit **(2)** Movement sensor light at entrance into dwelling unit **(3)** A sidelight or a peephole at 42 and 60 inches above the floor at entrance to dwelling unit **RENUMBER SUBSEQUENT ITEMS**	
Reason:	Provide good overall lighting and house number for nighttime security and ease-of-use. Additional lowered peephole for seated or short adults and children. (Based on NC State University publication of universal design elements for residences.)	

Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P159.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P426 LogID 17-091	**11.701 Minimum energy efficiency requirements**	***Final Formal Action:*** **Disapprove**
Submitter:	Michael Jouaneh, Lutron Electronics	
Requested Action:	Modify chap 11 as follows	
Proposed Change:	Add 705.2 and 706 to remodeling chapter too for points.	
Reason:	These sections (705.2 and 706) apply to existing home remodeling too.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P427 LogID 6519	**11.701.4.0 Minimum energy efficiency requirements**	***Final Formal Action:*** **Approve as Modified**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**11.701.4.0 Minimum energy efficiency requirements.** Additions, alterations, or renovations to an existing building, building system or portion there of comply with the provisions of the ~~International Energy Conservation Code~~ ICC IECC as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this ~~code~~ standard. An addition complies with the ICC IECC if the addition complies or if the existing building and addition comply with the ICC IECC as a single building.	
Reason:	Revising for clarity, and consistent reference to ICC IECC.	

Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**11.701.4.0 Minimum energy efficiency requirements.** Additions, alterations, or renovations to an existing building, building system or portion there of comply with the provisions of the ~~International Energy Conservation Code~~ ICC IECC as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with t~~his code~~ the ICC IECC. An addition complies with the ICC IECC if the addition complies or if the existing building and addition comply with the ICC IECC as a single building.
Committee Reason:	Editorial change ICC. "Comply with the IECC" NGBS? IECC.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P428 LogID 6450	**11.701.4.0 Minimum energy efficiency requirements**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Craig Conner, Building Quality	
Requested Action:	Revise as follows	
Proposed Change:	11.701.4.0 Minimum energy efficiency requirements. Additions, alterations, or renovations to an existing building, building system or portion ~~there of~~ thereof shall comply with the provisions of the International Energy Conservation Code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. An addition complies with the IECC if the addition complies or if the existing building and addition comply with the IECC as a single building.	
Reason:	Correct the spelling. This change is editorial. This change should be under only the name of "Howard C. Wiig, State of Hawaii, representing self"	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P429 LogID 6520	**11.701.4.3.1 Building Thermal Envelope Air Sealing**	***Final Formal Action:*** **Approve as Submitted**

Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)
Requested Action:	Revise as follows
Proposed Change:	**11.701.4.3.1 Building thermal envelope air sealing.** The building thermal envelope exposed or created during the remodel is durably sealed to limit infiltration. The sealing methods between dissimilar materials allow for differential expansion and contraction. The following are caulked, gasketed, weather-stripped or otherwise sealed with an air barrier material, suitable film or solid material: **(g)** Walls, ~~and~~ ceilings, and floors separating ~~a garage from~~ conditioned space~~s~~ from unconditioned space. **(k)** ~~Rim joist junction.~~Joints of framing members at rim joists. **(l)** Top and bottom plates. **(m)** Other sources of infiltration.
Reason:	Suggest revising several of the items in the list to more thoroughly identify the locations where air sealing is required.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P430 LogID 6522	**11.701.4.3.2 Air sealing and insulation** ***Final Formal Action:*** **Approve as Modified**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)
Requested Action:	Revise as follows
Proposed Change:	**11.701.4.3.2 Air barrier, air sealing, building envelope testing, and insulation.** ~~Grade II and III insulation installation is not permitted.~~ Building envelope air barrier, air sealing, envelope tightness and insulation installation is verified to be in accordance with this Section ~~11.701.4.3.2(1) and 11.701.4.3.2(2).~~ and Section 11.701.4.3.2.1. **11.701.4.3.2.1** ~~Grade I insulation installations are~~ **Insulation installation.** Field-installed insulation products to ceilings, walls, floors, band joists, rim joists, conditioned attics, basements, and crawlspaces, except as specifically noted, are verified by a third-party in accordance with the following: ~~**(1)** Grading applies to field-installed insulation products.~~ ~~**(2)** Grading applies to ceilings, walls, floors, band joists, rim joists, conditioned attics basements and crawlspaces, except as specifically noted.~~ Re-number items(3) through (11), and revise item (11) **(11)** Where properly installed, ICFs, SIPs, and other wall systems that provide integral insulation are deemed in compliance with ~~the Grade 1 insulation installation requirements~~ this section.
Reason:	Removing all mentions of "Grade" pertaining to insulation installation, as Grade is not defined or described in the standard. Also revising 11.701.4.3.2.1 to move the "what" and "where" specifics of the

	first two items into the charging language. Also, adding requirement insulation installation is verified by a third-party.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Same modifications as for P189: ~~**11.701.4.3.2 Air barrier, air sealing, building envelope testing, and insulation.** Grade II and III insulation installation is not permitted. Building envelope air~~ barrier, air sealing, envelope ~~tightness,~~ and insulation ~~installation is verified to be in accordance with~~ this ~~Section 701.4.3.2(1) and 701.4.3.2(2)~~ and Section ~~701.4.3.2.1~~. **11.701.4.3.2.1 Grade I** ~~insulation installations are~~ **Insulation installation.** Field-installed insulation products to ceilings, walls, floors, band joists, rim joists, conditioned attics, basements, and crawlspaces, except as specifically noted, are verified as Grade I by a third-party in accordance with the following: ~~**(1)** Grading applies to field-installed insulation products.~~ ~~**(2)** Grading applies to ceilings, walls, floors, band joists, rim joists, conditioned attics basements and crawlspaces, except as specifically noted.~~ Re-number items (3) through (11), and revise item (11) **(11)** Where properly installed, ICFs, SIPs, and other wall systems that provide integral insulation are deemed in compliance with ~~the Grade 1 insulation installation requirements~~ this section. **11.703.2.1 UA improvement.** The total building thermal envelope UA is less than or equal to the total UA resulting from the U-factors provided in Table 703.2.1(a) or IECC Tables C402.1.4 and C402.4, as applicable. Where insulation is used to achieve the UA improvement, the insulation installation is in accordance with Grade I requirements in ~~as graded~~ Section 701.4.3.2.1 as verified by a third-party. Total UA is documented using a RESCheck, COMCheck, or equivalent report to verify the baseline and the UA improvement.
Committee Reason:	Section 701.4.3.2 is removed from this proposed change due to prior action P190. Grade I was retained to further clarify and emphasize for need for the installation to meet Grade I requirement and to provide clarity to verifiers.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P431 LogID 6521	**11.701.4.3.2 Air sealing and insulation** ***Final Formal Action:*** **Approve as Submitted**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)
Requested Action:	Revise as follows
Proposed Change:	**11.701.4.3.2 Air barrier, air sealing, building envelope testing, and insulation.** ~~Grade II and III insulation installation is not permitted.~~ Building envelope air barrier, air sealing, envelope tightness and insulation installation is verified to be in accordance with this Section ~~11.701.4.3.2(1) and 11.701.4.3.2(2).~~ and Section 11.701.4.3.2.1. Insulation installation other than Grade 1 is not permitted.
Reason:	Removing the phrase regarding “Grade II and III” insulation installation as these are not defined, described, or referenced in the standard, and instead refer to “Grade I” which has requirements

	described in the standard. Revising the text to add explicit requirement to comply with the insulation installation requirements in Section 11.701.4.3.2.1.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P432 LogID 6364	**11.701.4.3.2 Air sealing and insulation**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**11.701.4.3.2 Air sealing and insulation.** Grade II and III insulation installation is not permitted for newly installed insulation. For the potions of the building envelope that are exposed or created during the remodel, the ~~B~~ building envelope air tightness and insulation installation is verified to be in accordance with Section 11.701.4.3.2(1) and 11.701.4.3.2(2)… **No other revisions.**	
Reason:	Existing language appears to mandate insulation grading in existing walls that are not being disturbed as part of the remodel. This revision aligns the section with NGBS 2015 12.701.4.3.2 language.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P433 LogID 6523	**11.701.4.3.5 Recessed lighting**	***Final Formal Action:*** **Approve as Modified**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	

Proposed Change:	**11.701.4.3.5 ~~Recessed lighting~~ Lighting in building thermal envelope.** Newly installed ~~recessed~~ luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All ~~recessed~~ luminaires in the building thermal envelope are IC-rated and labeled as meeting ASTM E283when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm(0.944 L/s) of air movement from the conditioned space to the ceiling cavity. All ~~recessed~~ luminaires in the building envelope are sealed with a gasket or caulk between the housing and the interior of the wall or ceiling covering.
Reason:	The vast majority of lighting luminaires are recessed in the building thermal envelope. However, the scope of the requirements of this section should apply to all lighting luminaires in the building thermal envelope, not just recessed lighting. With fast changing lighting technology, it's possible lighting luminaires will penetrate the building thermal envelope but not be considered recessed lighting. The revisions would apply to all lighting luminaires "in" the building thermal envelope, but would not apply to luminaires "on" the building thermal envelope. Consider, for example, ½" thick LED lighting panels which are installed in place of ½" drywall on the ceiling. These panels may not be considered recessed but clearly should be included in the requirements of this section
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**11.701.4.3.5 ~~Recessed lighting~~ Lighting in building thermal envelope.** Newly installed ~~recessed~~ luminaires installed in the building thermal envelope which penetrate the air barrier are sealed to limit air leakage between conditioned and unconditioned spaces. All ~~recessed~~ luminaires installed in the building thermal envelope which penetrate the air barrier are IC-rated and labeled as meeting ASTM E283 when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm (0.944 L/s) of air movement from the conditioned space to the ceiling cavity. All ~~recessed~~ luminaires installed in the building thermal envelope which penetrate the air barrier are sealed with a gasket or caulk between the housing and the interior of the wall or ceiling covering.
Committee Reason:	Consistent with action on P195
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P434 LogID 6362	**11.701.4.4 High-efficacy lighting**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**11.701.4.4 High-efficacy lighting.** Newly installed ~~L~~ lighting ~~efficacy~~ in dwelling units is in accordance with one of the following: (1) A minimum of 75 percent of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent ~~(2) Lighting power density, measured in watts/square foot, is 1.1 or less.~~	
Reason:	Current language mandates changing out existing lighting to meet this Mandatory item. Change aligns with other measures in Chapter 11 that only pertain to Newly Installed items. Calculating a lighting power density for newly installed lighting only does not make sense and hence option (2) should be removed.	
Committee Formal Action from Meeting:	**Approve as Modified**	

Modification of Proposed Change:	**11.701.4.4 High-efficacy lighting.** A minimum of 90 percent of newly installed hard-wired lighting fixtures ~~L~~ lighting ~~efficacy~~ in dwelling units ~~is in accordance with one of the following: (1) A minimum of 75 percent of the total hard-wired lighting fixtures~~ or the bulbs in those fixtures ~~qualify as~~ shall be high efficacy. ~~or equivalent~~ ~~(2) Lighting power density, measured in watts/square foot, is 1.1 or less.~~ [MANDATORY]
Committee Reason:	Changed 75 to 90 since IECC 2018 will be 90.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P435 LogID 6524	**11.701.4.5 Boiler supply piping**	***Final Formal Action:*** **Approve as Modified**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**11.701.4.5 Boiler supply piping.** Boiler ~~supply~~ piping in unconditioned space supplying or returning heated water or steam that is accessible during the remodel is insulated.	
Reason:	It seems this more clearly describes the intent of the requirements of this section.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**11.701.4.5 Boiler ~~supply~~ piping.** Boiler ~~supply~~ piping in unconditioned space supplying ~~or~~ and returning heated water or steam ~~that is accessible during the remodel~~ is insulated. Exception: where condensing boilers are installed, insulation is not required for return piping.	
Committee Reason:	Improve energy savings of boiler systems and to account for condensing boilers	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P436 LogID 6369	**11.901.2.1 Solid fuel-burning fireplaces, inserts, stoves, and heaters**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	**(2)** Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 ~~and are EPA certified or Phase 2 Qualified~~.	
Reason:	The EPA does not certify factory-built wood burning fireplaces so the first reference is nonsensical. Very few fireplaces meet the EPA Phase 2 Qualified requirements and thus they are exorbitantly priced	

	compared to other similar fireplaces. The second reference as a Mandatory measure represents undue burden for projects and should be removed.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are an EPA ~~certified or~~ Phase 2 Emission Level Qualified Model. 6 points
Committee Reason:	Consistent with action on P334
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P437 LogID 6566	**11.901.2.1 Solid fuel-burning fireplaces, inserts, stoves, and heaters**	***Final Formal Action:*** **Disapprove**
Submitter:	Kat Benner, self / TexEnergy	
Requested Action:	Revise as follows	
Proposed Change:	(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and ~~are EPA certified or Phase 2 Qualified~~ insulated, fire-blocked, sealed and gasketed.	
Reason:	(Same revision was also submitted for standard Chapter 9 901.2.1): Mandating "EPA certified or Phase 2 Qualified" is extremely cost-prohibitive and thus nearly impossible. Recommend keeping the points and removing the Mandatory OR simply strike "EPA certified or Phase 2 Qualified". If the unit is insulated, fire-blocked, sealed and gasketed, this would be a reasonable requirement.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P436.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P438 LogID 6269	**11.901.3 Garages**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	11.901.3. X Install CO detector/Monitor within 10 ft of Garage door (interior side)	

Reason:	Points for going above Mandatory requirement. Easy / inexpensive health and safety measure
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P335 and distance is not clear
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P439 LogID 6273	**11.901.6 Carpets**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Revise as follows	
Proposed Change:	(1) ~~wall to wall~~ No New Carpeting is ~~not~~ installed ~~adjacent to water closets and bathing fixtures~~ in half/full bathrooms, kitchens, utility/laundry rooms or within 3 ft of entries. XX Points if existing carpet in these areas is removed and replaced with hard flooring	
Reason:	who wants soggy socks??!original language is behind current /typical standard building practice	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P336.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P440 LogID 6371	**11.901.6 Carpets**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Revise as follows	
Proposed Change:	**Carpets.** Newly installed c~~C~~arpets are in accordance with the following: (1) Wall-to-wall carpeting is not installed adjacent to water closets and bathing fixtures.	
Reason:	Existing language appears to mandate changing flooring in otherwise undisturbed areas. Adding "newly installed" aligns this mandatory requirement with the other Mandatory requirements in section 11.901.	

Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P439
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P441 LogID 6413	**11.902.2.1 Whole building ventilation system** *Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, self
Requested Action:	Revise as follows
Proposed Change:	902.2.1 One of the following whole building ventilation systems is implemented and is in accordance with the specifications of ~~Appendix B~~ ASHRAE 62.2 and an explanation of the operation and importance of the ventilation system is included in either 1001.1 or 1002.2. **DELETE APPENDIX B**
Reason:	As demonstrated during the NGBS 2015 Development Committee discussions , Appendix B, which includes only an excerpt of ASHRAE 62.2, does not adequately capture the depth or breadth of the Standard. Excerpting some of the calculations from 62.2 while leaving other out along with various exceptions results in more air being required to be delivered compared to if the whole Standard had been adopted.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistency with Chapter 9
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P442 LogID 6414	**11.902.2.1 Whole building ventilation system** *Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, self
Requested Action:	Revise as follows

Proposed Change:	**11.902.2.1** One of the following whole building ventilation systems is implemented and is in accordance with the specifications of ~~Appendix B~~ ASHRAE 62.2 and an explanation of the operation and importance of the ventilation system is included in either 1001.1 or 1002.2. (1) exhaust or supply fan(s) ready for continuous operation and with appropriately labeled controls - 3 Points (2) exhaust or supply fan(s) with automatic smart ventilation controls to limit ventilation during periods of extreme temperature and extreme humidity. - 6 Points ~~(2)~~(3) balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building - 6 Points ~~(3)~~(4) heat-recovery ventilator - 7 Points (5) balanced exhaust or supply fan(s) with automatic smart ventilation controls to limit ventilation during periods of extreme temperature and extreme humidity, and with intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back in to the building - 8 Points ~~(4)~~(6) energy-recovery ventilator - 8 Points
Reason:	Initial research in this area, funded by the U.S. Department of Energy (U.S. DOE), investigated the proof-of-concept for smart ventilation and estimated typical ventilation energy savings of 40% (Turner and Walker 2012) or about 15% of total heating and cooling load, with savings increasing to more than 50% on average for economizer-equipped homes.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistency with Chapter 9
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P443 LogID 6415	**11.902.2.2 Whole building ventilation airflow is tested**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	902.2.2 Ventilation airflow is tested to achieve the design fan airflow ~~at point of exhaust~~ in accordance with ANSI/RESNET/ICC 380 and Section 902.2.1	
Reason:	Not all ventilation systems can be tested at the point of exhaust and for many doing so while possible is not accurate. ANSI/RESNET/ICC 380 is an ICC approved Standard that includes guidelines for testing ventilation airflow at multiple locations, including the point of exhaust, so that the most appropriate and accurate means can be selected by the 3rd party verifier.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0**	

	Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P444 LogID 6416	**11.902.6 Living space contaminants**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	**11.902.6 Living space contaminants.** Indoor contaminants are limited through the following: (1) The living space is sealed in accordance with Section701.4.3.1 to prevent unwanted contaminants. **- MANDATORY** (2) A permanent shoe removal and storage space is implemented near the primary entryway. This space may not have wall-to-wall carpeting. **- 3 POINTS**	
Reason:	A majority of the dirt and dust in homes is tracked in by occupants. One of the most effective ways to reducing these indoor contaminants therefore is to encourage occupants and visitors to remove shoes at the door.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P348	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P445 LogID 6425	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	11.905.X Outdoor Living. Meet any or all of the following: **(1)** Built-in outdoor kitchen **(4 points)** **(2)** Built-in outdoor fireplace (no indoor fireplace installed) **(3 points)** **(3)** Plumbed outdoor shower **(3 points)** **(4)** Covered, usable front porch protecting entry door Minimum depth: 6'; minimum area: 100 sq. ft. **(3 points)** **(5)** Covered, usable porch other than front porch Minimum side dimension: 6'; minimum area 100 sq. ft. One of the above porches fully screened **(2 points)** **(6)** Uncovered patio Minimum side dimension: 6'; minimum area: 100 sq. ft. **(1 point)**	

Reason:	To reduce sources of indoor heat and humidity and associated indoor air quality issues by encouraging occupants to take advantage of outdoor living. Could fit in with other Health and Wellness credits to form a new section.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Items on the list are either covered in other sections, or not inherently green as they require additional resources with potentially minimal gains.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P446 LogID 6493	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**Section 11-906** - <u>Add a new section as relevant for health and well-being credits.</u>	
Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Wellness is not defined. No language provided.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P447 LogID 6422	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	**<u>11.905.X Access to daylight.</u>** <u>To promote health and well being of occupants the following measures are implemented:</u> <u>(1) 75% of regularly occupiable spaces have windows, skylights, or glass doors. - **3 POINTS**</u>	

	(2) 75% of regularly occupiable spaces have direct line of sight views to the outdoors. **- 3 POINTS**
Reason:	Studies have shown that access to outdoor light and views increase health and productivity of building occupants.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Almost any house can get 3 points for this provision.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P448 LogID 6430	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	**ADD NEW SECTION** **11.902.2.3** Factory-built, wood-burning fireplaces are EPA Phase 2 Qualified. - **6 points**	
Reason:	Very few fireplaces meet the EPA Phase 2 Qualified requirements and thus they are exorbitantly priced compared to other similar fireplaces. This measure should be moved from being a Mandatory items to an optional credit.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P436.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P449 LogID 6421	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	**11.902.2.X** Whole building ventilation system in installed with a automatic notification device to communicate performance degradation or failure**. - 6 points**	

Reason:	2015 FSEC study (FSEC-CR-2002-15) showed a wide disconnect between the perceived and actual effectiveness of whole building ventilation systems in homes. The study found that of the homes surveyed only 5% of homes had a whole building ventilation system that was actually delivering the expected air as found while at the same time 48% of these same homeowners said they were happy with the performance of their whole building ventilation system. Existing and emerging technologies that can help address this disconnect should be well rewarded. The installation of non-performing ventilation systems both wastes resources and degrades the value of green building in the marketplace.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The points are too high for this provision. It's not clear to the members that this technology is commercially available. The proposal is too vague and may allow options that do not perform as intended – specifically differentiating between performance degradation and total failure.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P450 LogID 6423	**Other for Chapter 11 (include section and title below)** *Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic
Requested Action:	Add new as follows
Proposed Change:	ADD SECTION **11.902.2.7 Preoccupancy flush.** Dwelling is flushed with outdoor air for 48 hours prior to occupancy.
Reason:	During the construction process dwellings become contaminated with dust, debris and off-gassing from materials. Flushing the dwelling with outdoor air prior to occupancy helps remove these potentially harmful pollutants from the space.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P370, concerns about effectiveness of action
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P451 LogID 6409	Other for Chapter 11 (include section and title below)	*Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	**505.12 Local Economic Development and Community Wealth Creation:** (1) Demonstrate that local preference for construction employment and subcontractor hiring was part of your bidding process - 3 POINTS (2) Demonstrate that you achieved at least 20% local employment - 4 POINTS (3) Provide physical space for small business, nonprofits, and/or skills and workforce education. - 5 POINTS	
Reason:	Housing often has the opportunity to act as an economic catalyst within a neighborhood and community. Housing projects offer opportunities to directly enhance the lives of residents when they include physical space that can accommodate various programs for learning, job skill development and other social interactions. Numerous studies have documented the ways in which affordable housing projects have positive economic impacts on their surrounding neighborhoods.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	As written there are issues with enforceability / provability of the provisions. There are also unintended consequences like builders in rural areas that want to educate inner-city people being unable to get the points because it's not local labor. There's also a questions about the applicability of these provisions to remodeling as opposed to new construction.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P452 LogID 6411	Other for Chapter 11 (include section and title below)	*Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	**ADD NEW SECTION** **11.505.X Building Orientation.** Lot is part of a community where a minimum if 75% of the building sites are designed with the longer dimension of the structure to face within 20 degrees of south. **- 6 points**	
Reason:	Takes existing NGBS 2015 practice, 403.2, and applies it to a lot.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P118.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0**	

	Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P453 LogID 6406	**Other for Chapter 11 (include section and title below)** *Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic
Requested Action:	Add new as follows
Proposed Change:	ADD NEW SECTION **505.X Open Space:** Lot is within a community that has 1 acre or greater set aside as open space.
Reason:	Based on NGBS 2015 405.9 and applied to a single lot versus entire land development
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Little relevance to remodeling.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P454 LogID 6407	**Other for Chapter 11 (include section and title below)** *Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic
Requested Action:	Add new as follows
Proposed Change:	ADD NEW SECTION **505.X Community Recycling Program:** Lot is within a community that has a recycling program. **- 5 POINTS**
Reason:	Promotes recycling on a community level as a means to align with practice 11.607 which does the same on the house level. Being able to collect recycling in a homes when you have no place to take it is aspirational but not particularly effective
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	No definition of how the community recycling program would work. A building cannot receive credit for a community recycling program.

Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P455 LogID 6408	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW SECTION **505.X** District Heating and Cooling: Lot is within a community that has a district heating and/or cooling system.	
Reason:	District cooling and heating can be very efficient as it removes the need for building specific space heating systems, space cooling systems, and/or domestic water heating systems.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	There are unintended consequences to this proposal. Just because you have district heating and cooling doesn't mean that it's efficient.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Paul W Cabot:*** The standard should recognize the opportunity that district heating and cooling systems can provide, including energy balancing among various buildings. The committee's reason that these systems can be inefficient is baseless, since the heating and cooling equipment must meet minimum efficiency standards.	
Abstain:		

P456 LogID 6410	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW SECTION **505.13 Community Design for Cross Ventilation:**	

	Lot is within a community located in a hot, humid climate where 75% of streets are within 20-30 degrees either direction of parallel to the prevailing wind. - **5 POINTS**
Reason:	In hot, humid climate good ventilation is necessary to remove excess heat from streets and open spaces and to provide cross-ventilation in buildings. Streets parallel to the prevailing wind have the highest velocity while streets perpendicular to the prevailing wind yield lower velocity and more turbulent wind in the streets.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Does not apply to remodels.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P457 LogID 6435	**Other for Chapter 11 (include section and title below)** *Final Formal Action:* **Approve as Modified**
Submitter:	Aaron Gary, US-EcoLogic
Requested Action:	Add new as follows
Proposed Change:	**11.1005.1 Appraisals.** One or more of the following is implemented. **(1)** Energy rating data is posted to publicly accessible database so that appraisers can access it for performing "green" property valuations. - **2 POINTS** **(2)** Green certification data is provided so that appraisers can access it for performing "green" property valuations. - **2 POINTS**
Reason:	The real key to increasing demand for high-performance homes is getting the information to home appraisers in such a way that they can recognize the increased value of the green certified home above that of a conventionally built home.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	*Replace proposal in its entirety with the following:* **11.1005.1 Appraisals.** One or more of the following is implemented. (1) Energy rating or usage data is posted by submitting rating or data to the RESNET registry, affixing the HERS or ERI data to a sticker in an appropriate location in the home, or an equivalent posting so that an appraiser can access the energy data for an energy efficiency property valuation.-2 POINTS (2) An Appraisal Institute Form 820.05 "Residential Green and Energy Addendum" or Form 821 "Commercial Green and energy Efficient Addendum" that consider NGBS, LEED, ENERGY STAR certifications and equivalent programs, is completed for the appraiser by a qualified professional or builder to use in performing the valuation of the property.-2 POINTS (3) NGBS certification information or one of the Appraisal Institute Forms cited in (2) above is uploaded to a multiple listing service (MLS) or equivalent database so that appraisers can access it to compare property valuations.-2 POINTS

Committee Reason:	Consistent with action on P396
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P458 LogID 6441	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW SECTION **11.611.X Resilient Construction**. Buildings are designed to withstand sever weather per Table 611.X **Table 611.3** **Fortified Home Technical Requirements Level**	

	Points for Bronze	Points for Silver	Points for Gold
(1) Fortified Home Hurricane Technical Requirements	X	X	X
(2) Fortified Home High Wind Technical Requirements	X	X	X
(1) Fortified Home High Wind & Hail Bronze Technical Requirements	X	X	X

Reason:	Rebuilding homes after severe weather is costly in terms of time, money, and materials. This green building standard should recognize projects that build resiliently.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P484
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P459 LogID 6525	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	

Requested Action:	Add new as follows
Proposed Change:	**11.706** **Innovative Practices** **11.706.1 Ducts in conditioned space.** In climate zones1-4, heating system and cooling system ducts are located in conditioned space. Points = TBD **11.706.2 Insulated basement and crawl space.** In climate zones4-8, basement and crawl space are insulated as required by the ICC IECC. Points = TBD
Reason:	In cooling dominated climate zones, where basements or crawl spaces are rarely constructed, moving or placing heating and cooling system ducts within (insulated) conditioned space improves the efficiency of the heating / cooling system. In heating dominated climate zones, where basements or crawl spaces are common, insulating those spaces as required by the ICC IECC improves energy efficiency significantly.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	These energy efficiency measures are already covered in efficiency improvements table 305.3.5.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P460 LogID 6375	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	**11.505.X Street Network:** Locate the project in an area of high intersection density. - **5 POINTS**	
Reason:	This credit encourages health and well being of home owners and tenants on by encouraging daily physical activity. It has the added benefits of promoting projects that are well connected to the community at large as well as encourage development within existing communities that minimizes vehicle miles traveled.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**11.505.X Street Network:** Project is ~~L~~located ~~the project~~ in an area of high intersection density. - **5 POINTS** **INSERT definition in Section 201.** Area of High Intersection Density. An area whose existing streets and sidewalks create at least 90 intersections per square mile (35 intersections per square kilometer). **INSERT into Verifier Resource Guide…** When determining the number of intersections, include the following: intersections within a ¼ mile (400 meter) radius of project boundary; streets and sidewalks that are available for general public use and not gated; sidewalk intersections provided they are a unique right of way (i.e., a sidewalk through a city park); and publicly accessible alleys.	
Committee Reason:	Consistent with action on P120	

Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P461 LogID 6428	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	**11.902.2.X** All HVAC filter locations are designed such that they are easily accessible to the occupant. - **3 POINTS**	
Reason:	HVAC filters do not get changed when they are not accessible reducing the air quality and energy efficiency of the HVAC system and eventually leading to system failure.	
Committee Formal Action from Meeting:	**Approve as Modified**	
Modification of Proposed Change:	**11.902.2.X** All HVAC filter locations are designed such that they are ~~easily~~ readily accessible to the occupant. - **3 POINTS** **Add new definition:** **Readily accessible:** capable of being quickly and easily reached for operation, maintenance, and inspection.	
Committee Reason:	ASHRAE 62.2 includes a definition of "readily accessible" which is appropriate to utilize, such that this practice can be encouraged	
Ballot Results on Committee Action:	Eligible to vote:	**45**
	Agree with committee action:	**40**
	Disagree with committee action:	**0**
	Abstain:	**0**
	Non-voting:	**5**
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P462 LogID 6417	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW SECTION **904.3 Indoor Air Quality Metric**. Dwelling receives a IAQ score using the DOE IAQ Metric of X. (threshold TBD)	
Reason:	Recognize and encourage the adoption of the new DOE sponsored IAQ metric for indoor air quality.	

Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The metric has yet to be established. DOE is currently working with various partners to establish the threshold. Not measurable.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P463 LogID 6310	**Other for Chapter 11 (include section and title below)** *Final Formal Action:* **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Add new as follows
Proposed Change:	**11.608.2Design for Adaptation and Disassembly.** For siding, windows, mechanical/electrical/plumbing (MEP) systems, wall paneling and flooring materials, incorporate three or more of the following measures, as applicable: Use reusable/recyclable materials. For example: o Use materials and fixtures for which take-back or reuse/recycling programs are established. o Use high-quality materials that exceed minimum performance standards. o Avoid use of coatings or adhesives that prevent reuse and recycling. Promote disentanglement of building components. For example: o To limit the destruction of the surrounding materials, incorporate installation details that permit easy removal and replacement of components. o Consolidate placement of MEP components in building floorplans and cross-sections. Provide access to and use reversible connections, such as screws, bolts, or clips. Provide disassembly and reuse information to owner.
Reason:	Section 11.608 currently includes a single subsection encouraging the dematerialization of building components. The Design for Adaptation and Disassembly is similarly, an upstream strategy to improve resource efficiency and therefore, fits with the upstream, resource-efficiency focus of this section. The Design for Adaptation and Disassembly involves the utilization of recyclable/reusable building materials and preserves resources by maximizing their recovery and ensuring their continuous reutilization.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P527.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P464 LogID 6331	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	2012 commentary has good info. Include an edited version.	
Reason:	the 2012 commentary provides short but helpful guidance for implementation. it makes sense to include this information upfront and center in the working standard not buried in another book	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Too much work for this revision of the standard. Withdrawn by proponent.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P465 LogID 6332	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	Create a new and separate Multi Family Remodel Chapter	
Reason:	Create a Phased Existing Building pathway to certification e.g a Project is undergoing a phased unit by unit remodel	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Home Innovation is considering administrative changes to provide more clarity through the multifamily remodeling verification process.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P466 LogID 6313	**Other for Chapter 11 (include section and title below)** ***Final Formal Action:*** **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**11.1001.1Homeowner's manual.** A homeowner's manual is provided and stored in a permanent location in the dwelling that includes the following, as available and applicable… … (25) Retrofit energy calculator that provides baseline for future energy retrofits. (26) Disassembly plan with as-built drawings and information about the method of disassembly for major components; and material selection for recycling/reuse. **11.1001.2Training of initial ~~building~~ homeowners.** Initial homeowners are familiarized with their role and the role of occupants in achieving green goals. Training is provided to the responsible party(ies)regarding ~~newly installed equipment~~ changes in building operation and maintenance, including newly installed equipment operation and building material replacement, and regarding occupant actions that will improve the environmental performance of the building. These include, as applicable… … (7) Recycling and composting practices. (8) Disassembly methods for building components, material suitability for recycling and reuse, replacement with other recyclable/reusable materials.
Reason:	Design for Adaptation and Disassembly involves the utilization of recyclable/reusable building materials and preserves resources by maximizing building-material recovery. A disassembly plan and building-owner training on the disassembly methods and reuse/recycling properties of the major building components, facilitate disassembly and appropriate material management, and help realize the intent and benefits of the Design for Adaptation and Disassembly measures. Solution: Add Disassembly Plan as an additional item to be provided to homeowner, as applicable. Include training on disassembly methods and building material reuse/recycling properties as an additional training for parties responsible for building maintenance and operation, including replacement of building materials.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	It is unclear how this proposal would apply to an existing building
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P467 LogID 6314	Other for Chapter 11 (include section and title below) *Final Formal Action:* **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**11.1002.1Building construction manual.** A building construction manual, including five or more of the following, is compiled and distributed… … (8) A photo record of framing with utilities installed. Photos are taken prior to installing insulation and clearly labeled. (9) Disassembly plan with as-built drawings and information about the method of disassembly for major components; and material selection for recycling/reuse. **11.1002.3Maintenance manual.** Maintenance manuals are created and distributed to the responsible parties in accordance with Section 1002.0.Between all of the maintenance manuals, five or more of the following options are included… … (10) A green cleaning plan which includes guidance on sustainable cleaning products. (11) For use during building component maintenance and replacement, a disassembly plan with as-built drawings and information about the method of disassembly for major components; and material selection for recycling/reuse. **11.1002.4Training of building owners.** Building owners are familiarized with the roles of operations and maintenance staff and occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding ~~newly installed equipment~~ changes in building operation and maintenance, including newly installed equipment operation, control systems and building material replacement and regarding occupant actions that will improve the environmental performance of the building. These include, as applicable… … (7) Recycling and composting practices. (8) Disassembly methods for building components, material suitability for recycling and reuse, replacement with other recyclable/reusable materials.
Reason:	Design for Adaptation and Disassembly involves the utilization of recyclable/reusable building materials and preserves resources by maximizing building-material recovery. A disassembly plan and building-owner training on the disassembly methods and reuse/recycling properties of the major building components, facilitate disassembly and appropriate material management, and help realize the intent and benefits of the Design for Adaptation and Disassembly measures. Solution: Add Disassembly Plan as an additional item to be provided to building owners and parties responsible for operations and maintenance. Include training on disassembly methods and building material reuse/recycling properties as an additional training for parties responsible for building maintenance and operation, including replacement of building materials.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	It is unclear how this proposal would apply to an existing building
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	

Abstain:	

P468 LogID 6263	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	Projects that are exempt from Mandatory Practices earn points if measure is done	
Reason:	precedent set ...see 705.6.2.1 and 705.6.2.3 a project that is exempt from Blower door /Duct test is awarded points if they are done	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P469 LogID 6267	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	11 .902.6.X MF Compartmentalization Breaks or Joints thru the residential unit envelope shall be sealed includes but not limited to HVAC boots sealed to sheetrock / sub floor, Fan casings	
Reason:	new credit awards points to Encourage additional air sealing/compartmentalization	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P349.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		

Abstain:	

P470 LogID 6259	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	Create an entire new chapter for MF Units ..... Where applicable remove all restrictive i.e "all units" language	
Reason:	basis for new MF unit section or chapter is to provide a building with a gradual ...phased.... pathway toward certification. removing "all Units" or similar language will avoid confusion if some units are certified ahead of other units not yet retrofitted	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Home Innovation is considering administrative changes to provide more clarity through the multifamily remodeling verification process	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P471 LogID 6262	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Revise as follows	
Proposed Change:	Add Innovative credits/trade off	
Reason:	Provide opportunity for innovative practices to be rewarded	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Not enough information provided to approve.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P472 LogID 6245	Other for Chapter 11 (include section and title below)	*Final Formal Action:* **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	11.XXX.XX Create Remodel Innovative Practice Section	
Reason:	encourage program participation and remodel specific solutions	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Not enough information provided to approve.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P473 LogID 6558	Other for Chapter 11 (include section and title below)	*Final Formal Action:* **Disapprove**
Submitter:	Kat Benner, US-EcoLogic / TexEnergy	
Requested Action:	Add new as follows	
Proposed Change:	HEALTH AND WELL BEING (...prior to each sub-section of INNOVATIVE PRACTICES: 11.405, 11.505, 11.611, 11.706, 11.802, 11.905, 11.1005)	
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Not enough detail provided	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P474 LogID 6569	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Kat Benner, US-EcoLogic / TexEnergy	
Requested Action:	Revise as follows	
Proposed Change:	11.801.6.3 Mandatory 6 points	
Reason:	(Note: Water Chapter 8 was missing from drop-down options on Chapter 11 online revisions? Thus, hand-typing Title) (Note 2: Same Revision below was submitted for corresponding standard Chapter 8 801.6.3, fyi) Reason for revision: Requiring WaterSense labeling, plan, and certified staff to install is impossible in many areas of the country, especially those further from large metropolitan areas, as WaterSense certified professionals are simply not available nor within any range to install or implement materials. Thus, also cost-prohibitive or simply impossible. Additionally, no equivalent program currently exists. Suggest removing Mandatory and instead leave measure, but suggest with 6 points awarded vs. Mandatory.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	There currently is no section 11.801 in standard.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P475 LogID 6494	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**Section 11.906.1** - Isolation of remodeled areas. To prevent contamination of unrenovated spaces, meet one of the following two options: (1) Remodeled space is isolated from unrenovated space by masking of openings and/or providing strip doors. 1 (2) Remodeled space is isolated from unrenovated space by masking of openings and/or providing strip doors and the space is either negatively pressurized by ducting exhaust to the exterior OR a HEPA filtration system is installed. 2	
Reason:	Air quality should be maintained in spaces that are being occupied while renovations are happening in other areas of the building.	
Committee Formal Action from Meeting:	**Approve as Modified**	

Modification of Proposed Change:	**Section 11.906.1**5.X - Isolation of areas to be remodeled ~~areas~~. To ~~prevent contamination of~~ protect unrenovated spaces, meet one of the following ~~two options~~: Max 3 points (1) Remodeled space is isolated from unrenovated space by masking of openings and hvac returns and~~/or~~ providing strip doors. 1 (2) Remodeled space is isolated from unrenovated space by masking of openings and hvac returns, and~~/or~~ providing strip doors and the space is ~~either~~ negatively pressurized by ducting exhaust to the exterior ~~OR a HEPA filtration system is installed. 2~~ 3 (3) Remodeled space is isolated from unrenovated space by masking of openings and hvac returns, and providing strip doors and a dedicated HEPA filtration system is installed. 3 ~~Add definition of "Strip Door"~~
Committee Reason:	Great idea, added clarification and revised points.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P476 LogID 6498	**Other for Chapter 11 (include section and title below)** ***Final Formal Action:*** **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions
Requested Action:	Add new as follows
Proposed Change:	New Section **Section 11.505.7 -** Pest Control - Meet one or more of the following: (1) Containers and garbage cans are sealed and storage of household materials outside is minimized. 1 (2) Pest Inspection is performed by certified pest control professional. 1
Reason:	In some areas, pests can become an issue if trash and storage isn't properly secured.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Although pest prevention is an important aspect of durability in a green building, the first proposed addition does not incentive practices beyond common-sense cleanliness, and the second does not include a standard, protocol, or certification to be referenced by the verifier.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P477 LogID 6249	Other for Chapter 11 (include section and title below)	*Final Formal Action:* **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	11.10XX.XX or 1X.XXX.XX (Existing Multi Family) Management has contract with Cleaning Company that enforces Green Cleaning Practices / has written Green Cleaning protocols established or Management Has written/enforcable In House Green Cleaning protocols in place and 48 hour Pre Occupancy Flush is conducted prior to tenant move in	
Reason:	Prior to move in Units are cleaned using Green Cleaning Practices (carpets etc) and or flushed	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Adequate language pertaining to green cleaning exists within the NGBS	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P478 LogID 6242	Other for Chapter 11 (include section and title below)	*Final Formal Action:* **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	11.505.X Pre Construction Durability Assessment Assess Project lot and Building risks associated with lot location, develop strategies to address specified risks. Include measures in plans	
Reason:	assess and address site / location specific risks eg Pests/UV/Excessive thermal considerations (Hot/Cold/ Humidity) Moisture/Soil/Terrain/Landscape and include measures to address in plans	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Some terms were unclear (e.g., “excessive thermal considerations”); unclear how much assessment is needed for the scope.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **33** Disagree with committee action: **6** Abstain: **1** Non-voting: **5**	
Ballot Comments		

Agree with Committee Action	
Disagree with Committee Action:	***Theresa Weston:*** I believe a pre-construction durability assessment would be beneficial and is suitable to be recognized within the standard. ***Sean S. Devlin:*** based on circulated ballot comments. ***Aaron Gary:*** based on circulated ballot comments. ***Greg Johnson:*** I concur with the Weston comment and support the TG 7 response. ***Kristopher Stenger:*** follow TG7 recommendation based on comment. ***Gregory Curtis Coolidge:*** Agree with ballot comments offered.
Abstain:	***Thomas Culp:*** following recirculation of ballot comments, I am abstaining.

P479 LogID 6236	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	11 611 XX Conduct "TBD" hours of documented onsite trades training. Documentation shows date /duration /trade and reason	setting / showing expectations of the credit requirement is an ongoing process....one and done = none. Verifier and
Reason:	Contractor teamwork is the trick, with visual and hands on learning the best way to ensure thing pass early and often	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P167.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P480 LogID 6230	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	

Requested Action:	Add new as follows
Proposed Change:	11.505 XX Install Permanent or Maintained/Managed Post Construction Sewer/Street drain protection
Reason:	protect sewer system and water ways from ongoing post construction pollutants
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P092.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P481 LogID 6244	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	11.XXX.XX Conduct 3rd party Air Seal/ Compartmentalization Plan evaluation with pre and during construction Trades training.	
Reason:	ensure air seal /compartmentalize measures are in plans and in scope of work.conduct training and provide guidance for correct/timely install practices early and as often as necessary	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P168.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P482 LogID 6221	**Other for Chapter 11 (include section and title below)**	***Final Formal Action:*** **Approve as Modified**
Submitter:	Steven Rosenstock, Edison Electric Institute	
Requested Action:	Add new as follows	
Proposed Change:	**11.505.7 Battery Storage System.** A battery storage system is installed that stores electric energy from an on-site renewable electric generation system or is grid-interactive or can perform both functions.	

Reason:	As more electric grids and homes install renewable and variable electric generation systems, there is more need for energy storage. In Hawaii, there are now special electric rates for customers that can store electricity from on-site PV systems. This new section will allow more storage technologies to receive credit in the NGBS. Information on Hawaii rates: https://www.hawaiianelectric.com/clean-energy-hawaii/producing-clean-energy/customer-self-supply-and-grid-supply-programs Information on different battery storage technologies: https://cleantechnica.com/2015/05/07/tesla-powerwall-price-vs-battery-storage-competitor-prices-residential-utility-scale/ https://cleantechnica.com/2015/05/09/tesla-powerwall-powerblocks-per-kwh-lifetime-prices-vs-aquion-energy-eos-energy-imergy/ http://www.solarpowerworldonline.com/2016/05/comparison-residential-solar-batteries/
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	**11.505.7 Battery Storage System.** A battery storage system of not less than 6 kWh of available capacity is installed that stores electric energy from an on-site renewable electric generation system or is grid-interactive or can perform both functions. **2 Points**
Committee Reason:	It's consistent with language in 706.7 and accommodated a technology that has multiple functions
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P483 LogID 17-062	**New for Chapter 11**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Paul Cabot, American Gas Association	
Requested Action:	Add new section 11.505.7 as follows:	
Proposed Change:	11.505.7 Multi-unit residential CNG vehicle fueling. CNG vehicle residential fueling appliances are provided for at least 1 percent of the parking stalls. The CNG fueling appliances shall be listed in accordance with ANSI/CSA NGV 5.1 and installed in accordance to the appliance manufacturer's installation instructions.	
Reason:	Add recognition for CNG residential fueling appliances as a green building practice. The new standard ANSI/CSA NGV 5.1 has been approved and all major model fuel gas installation codes have been updated to require that residential CNG fueling appliances be listed to that standard and installed in accordance with the manufacturer's installation instructions. Home fueling using natural gas is a green - 0practice since it taps into the efficient natural gas transmission and distribution system and avoids the systemic losses from converting crude oil into refined gasoline and diesel. Fueling at home also reduces vehicle mileage by reducing trips to gasoline stations for fueling. The proposed text is structured similar to coverage for electric vehicle charging stations.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0**	

	Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P484 LogID 17-020	**New for Chapter 11** *Final Formal Action:* **Disapprove**
Submitter:	James M Williams, AE URBIA
Requested Action:	Add a new Section **11.1101 RESILIENT CONSTRUCTION**
Proposed Change:	**11.1101** **RESILIENT CONSTRUCTION** **11.1101.0 Intent.** Design and construction practices are implemented that enhance the resilience and durability of the structure (above building code minimum design loads) so the structure can better withstand forces generated by; flooding, snow, wind or seismic (as applicable) and reduce the potential for the loss of life and property. **11.1101.1 Minimum structural requirements (base design).** The design and construction of the structure, components and systems shall comply with the minimum; structural requirements, loads, and forces, as described in the applicable adopted ICC IRC and ICC IBC for a given site. (Mandatory) **11.1101.2 Enhanced resilience – 10% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 10% higher than the base design. (3 points) **11.1101.2 Enhanced resilience – 20% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 20% higher than the base design. (5 points) **11.1101.2 Enhanced resilience – 30% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 30% higher than the base design. (10 points) **11.1101.2 Enhanced resilience – 40% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 40% higher than the base design. (12 points) **11.1101.2 Enhanced resilience – 50% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 50% higher than the base design. (15 points)
Reason:	Resilient and durable design and construction of the structure reduce the potential for the loss of life and property which result from natural (and manmade) disasters and are sustainable practices which should be recognized and rewarded.

Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	Add new section to 611 Innovative Practices and Chapter 11 **611.XXX** **RESILIENT CONSTRUCTION** **611.XXX Intent.** Design and construction practices developed by a licensed design professional or equivalent are implemented that enhance the resilience and durability of the structure (above building code minimum design loads) so the structure can better withstand forces generated by; flooding, snow, wind or seismic (as applicable) and reduce the potential for the loss of life and property. **611.XXX Minimum structural requirements (base design).** The design and construction of the structure, components and systems shall comply with the minimum; structural requirements, loads, and forces, as described in the applicable adopted ICC IRC and ICC IBC for a given site. (Mandatory) **611.XXX Enhanced resilience – 10% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 10% higher than the base design. (3 points) **611.XXX Enhanced resilience – 20% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 20% higher than the base design. (5 points) **611.XXX Enhanced resilience – 30% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 30% higher than the base design. (10 points) **611.XXX Enhanced resilience – 40% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 40% higher than the base design. (12 points) **611.XXX Enhanced resilience – 50% above base design.** Design and construction practices are implemented that enhance the resilience and durability of the structure by designing and building to forces generated by; flooding, snow, wind or seismic (as applicable) that are 50% higher than the base design. (15 points)
Committee Reason:	This section belongs in the new construction chapters as well.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P485 LogID 17-044	New for Chapter 11	*Final Formal Action:* **Disapprove**
Submitter:	Michelle Foster, Home Innovation Research Labs	
Requested Action:	Add new as follows:	
Proposed Change:	For renovation of buildings constructed prior to 1978, where not required by code, a qualified party has certified any necessary abatement have been conducted.	
Reason:		
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Lacks sufficient information.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P486 LogID 6330	12.0.1 Applicability	*Final Formal Action:* **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	2012 commentary has good info. include an edited version.	
Reason:	the 2012 commentary provides short but helpful guidance for implementation. it makes sense to include this information upfront and center in the working standard not buried in another book	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P487 LogID 6260	12.1(A) Product or material selection	*Final Formal Action:* **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	Clarify language in 12. (A) …does this mean you can pick from any item designated 12.1.A XXXX?	
Reason:	Clear language of intent is a good thing	

Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of action on P034.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P488 LogID 6340	**12.1(A).604.1 Recycled content** *Final Formal Action:* **Disapprove**
Submitter:	Cambria McLeod, Kohler
Requested Action:	Delete and substitute as follows
Proposed Change:	**12.1(A).604.1 Product Declarations. A minimum of 3 newly installed products comply with one of the following subsections.** **12.1(A).604.1.1Industry-wide declaration.** A Type III industry-wide environmental product declaration (EPD) is submitted for each product. Where the program operator explicitly recognized the EPD as representative of the product group on a National level, it is considered industry-wide. In the case where an industry-wide EPD represents only a subset of an industry group, as opposed to being industry-wide, the manufacturer is required to be explicitly recognized as a participant by the EPD program operator. All EPDs are required to consistent with ISO Standards 14025 and 21930 with at least a cradle-to-gate scope. **12.1(A).604.1.2Product Specific Declaration.** A product specific Type III EPD is submitted froe ach product. The product specific declaration shall be manufacturer-specific for an individual product or product family. All Type IIIEPDs are required to be certified as complying, at a minimum, with the goal and scope for the cradle-to-gate requirements in accordance with ISO Standards14025 and 21930.
Reason:	Remove sections in entirety. (This changes includes removal of SECTION 12.1(A).604.1 RECYCLED CONTENT, SECTION 12.1(A).609.1 REGIONAL MATERIALS and SECTION 12.1(A).610.1 LIFE CYCLE ASSESSMENT) Replace these three sections with the proposed language above. To increase use of the standard, reduce the complexity and remove the recycled content and regional material calculations. Regional material impacts are captured through EPDs, which are easier for the end user to locate and provide a much better indicator as they focus on the outcome of the various inputs. Individually, single-attributes have little bearing on the final impact so they are being replaced with EPDs. Asking a contractor or other Standard user to find an LCA tool and use it to select various inputs is not user-friendly, nor is it an effective way to understand the burden of that product. Essentially they would be guessing as to the inputs whereas the use of an EPD allows the manufacturer to utilize specific inputs, removing the guesswork.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of action on P034.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P489 LogID 6328	**12.1(A).606.2 Wood-based products**	***Final Formal Action:***	**Approve as Modified *See Secretariat Note Below***
Submitter:	Rob Brooks, Rob Brooks & Associates		
Requested Action:	Delete and substitute as follows		
Proposed Change:	See proposed changes to Section 606.2: **606.2 Wood-based products.** Wood or wood-based products shall be derived from a manufacturers' fiber procurement system that has been audited by an *approved agency* as compliant with the provisions of: (a) ASTM D7612 as a responsible or certified source. Government or tribal forestlands whose water protection programs have been evaluated by an *approved agency* as compliant with the responsible source designation of ASTM D7612 are exempt from auditing in the manufacturers' fiber procurement system. (b) National Wood Flooring Association's Responsible Procurement Program (RPP)		
Reason:	See reason statement in proposed change to Section 606.2: • This proposed change related to the acceptance of forest products is vital to the use of ICC-700 in states where forest product production is an important source of revenue, such as Oregon. Neighboring states, such as Washington, Idaho and California also rely upon forest product production and support the use of sustainable forestry and best management practices to maintain (among other objectives) water quality. • The IgCC, USGBC Pilot Credit and the USDA BioPreferred Program currently recognize ASTM D7612 responsible and certified sources. The 2012 ICC-700 recognizes responsible sources through the SFI Fiber Sourcing program. Alternatively, SFI Chain of Custody is a certified source. (see attached table). All of the existing forest certification programs listing in ICC-700 are recognized by ASTM D7612. • ASTM D7612 provides a means to specify sustainable forestry via the certified sources designation without the reference to proprietary standards such as SFI, FSC, ATFS, etc. The American National Standards Institute's (ANSI) Essential Requirements for Due Process, excludes specifying ecolabels—FSC, PEFC, SFI—that is, their brand name—because that would run afoul of ANSI's prohibition on the use of commercial terms. It says in part, "[t]he appearance that a standard endorses any particular products, services or companies must be avoided." Previously, there was no method to generically specify these ecolabels, but with the advent of the ASTM D7612, the generic reference is available, which should replace the proprietary ecolabel. The USGBC Pilot Credit recognizes this advantage and avoids comparison between proprietary systems to avoid improper commercial endorsement. • ASTM D7612 provides a means to specify enforcement of best management practices by governmental agencies that have authority to protect water quality on both certified and non-certified forestlands via the responsible source designation. For Oregon, enforcement is achieved through the Oregon Forest Practices Act (OFPA), regardless of whether the forestland is certified to sustainable forestry standards, or not. o Enforcement is defined as having authority, staffing, budget, proof of citations and the ability to adapt the rules to improve the system. Oregon forestlands subject to the OFPA have been independently audited and found compliant to the responsible source designation by PFS Corporation. o The emphasis on water quality for government or tribal forestlands is due to the		

	existing rules already in place tp protect forests (see https://cfpub.epa.gov/watertrain/moduleFrame.cfm?parent_object_id=1517 The degree to which these rules are enforced by each state has been evaluation by the National Association of State Foresters http://www.stateforesters.org/state-forestry-agency-best-management-practices-protecting-water#sthash.7VDEx3y6.dpbs The three tiers of enforcement are non-regulatory, quasi-regulatory and regulatory in order of increasing compliance. ASTM D76712 recognizes those states having quasi-regulatory and regulatory compliance under the responsible source designation. o The strength of the responsible sources program is the ability to issue citations (fines) for noncompliance to water quality rules and to reward states/jurisdictions that fund enforcement. Citations are issued to operators on both certified and non-certified forests. In some states, such as Oregon, the OFPA rules extend beyond water quality. Oregon producers want recognition of their compliance to OFPA, but not at the same tier as certified sources to avoid market confusion that responsible and certified sources are equivalent. o Manufacturers are required to trace fiber procurement under both the responsible and certified sources designation. Further information can be provided to the ICC-700 committee upon request. o The strength of the certified sources program is to write rules that extend beyond issues related to water quality. When damage to the forest happens from non-compliance, certified source programs can de-certify clients, they cannot issue citations or stop-work orders to remediate damage. o Thus, the responsible source program is an important enforcement component (and partner) to a certified source program. It will provide recognition for those states who actively monitor, enforce and punish offenders not in compliance with the law. It encourages states to enforce their water quality rules through inspection, documentation and citation, which is complementary to the voluntary sustainable forestry standards, or certified sources. It supports the “boots on the ground”, actively monitoring harvest operations on both public and private lands. o ASTM D7612 not only supports the expanded enforcement of existing water quality rules (aka best management practices), but also recognizes voluntary compliance to those sustainable forestry practices above and beyond state water quality rules. • In Oregon, the OFPA applies to approximately 10 million acres; of which approximately 4 million acres are certified forests. If the responsible source designation were also applied to federal and tribal lands, the designation would apply to approximately 30 million acres of forestland in Oregon. The fiscal implication of the responsible source designation is significant to the increased value of building products derived from private and public lands, which is why the state of Oregon is presenting this request. The responsible source designation provides states recognition of best management practice enforcement on public lands without the controversial decision and cost to convert to the certified source designation. Further information about ASTM D7612 is found at https://www.astm.org/standardization-news/?q=features/green-greener-greenest-ma17.html.
Committee Formal Action from Meeting:	**Approve as Modified** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*
Modification of Proposed Change:	*Replace proposal in its entirety with the following:* 12.1(A).606.2 Wood-based products. Wood or wood-based products installed during the remodel are certified to the requirements of one of the following ~~recognized product programs~~ : [a-g remains unchanged]; (h) a manufacturers’ fiber procurement system that has been audited by an approved agency as compliant with the provisions of ASTM D7612 as a responsible or certified source. Government or tribal forestlands whose water protection programs have been evaluated by an approved agency as compliant with the responsible source designation of ASTM D7612 are exempt from auditing in the manufacturers’ fiber procurement system. (1) A minimum of two responsible or certified wood-based products are used for minor components of the building. 3 points

	(2) A minimum of two responsible or certified wood-based products are used in major components of the building 4 points
Committee Reason:	Consistent with action on P146
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P490 LogID 6316	**12.1(A).608.1 Resource-efficient materials** ***Final Formal Action:*** **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**12.608.1Resource-efficient materials.** Products containing fewer materials are used to achieve same end-use requirements as conventional products, including but not limited to: ~~(1) Lighter, thinner brick with depth less than 3 inches and/or brick with coring of more that 25 percent~~ ~~(2)~~ (1) Engineered wood or engineered steel products ~~(3)~~ (2) Roof or floor trusses
Reason:	Since engineered wood, engineered steel products and roof or floor trusses are incorporated intermittently in the façade, and/or entirely in the interior, their dematerialization is not likely to jeopardize the structure's overall energy efficiency. In fact, filling with insulation those spots in the exterior walls where the unneeded mass of structural elements would otherwise have been, reduces the thermal bridging associated with structural elements in exterior walls and improves the structure's energy efficiency. Conversely, the continuous dematerialization of a façade material, such as brick, may require an addition of more insulation to compensate for the loss of volume all along the perimeter, just to achieve comparable energy efficiency. A more accurate assessment of the benefits of the dematerialization of façade materials can possibly be made and if there are benefits, points can be captured through Life Cycle Assessments (12.610.1.1 and 12.610.1.2) that apply a material consumption impact category in addition to categories measuring energy-consumption impacts through the manufacturing, construction and use life-cycle stages.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Light, thin brick should still be encouraged in appropriate applications.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P491 LogID 6341	12.1(A).609.1 Regional materials	*Final Formal Action:* **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete and substitute as follows	
Proposed Change:	**12.1(A).604.1 Product Declarations. A minimum of 3 newly installed products comply with one of the following subsections.** **12.1(A).604.1.1Industry-wide declaration.** A Type III industry-wide environmental product declaration (EPD) is submitted for each product. Where the program operator explicitly recognized the EPD as representative of the product group on a National level, it is considered industry-wide. In the case where an industry-wide EPD represents only a subset of an industry group, as opposed to being industry-wide, the manufacturer is required to be explicitly recognized as a participant by the EPD program operator. All EPDs are required to consistent with ISO Standards 14025 and 21930 with at least a cradle-to-gate scope. **12.1(A).604.1.2Product Specific Declaration.** A product specific Type III EPD is submitted froe ach product. The product specific declaration shall be manufacturer-specific for an individual product or product family. All Type IIIEPDs are required to be certified as complying, at a minimum, with the goal and scope for the cradle-to-gate requirements in accordance with ISO Standards14025 and 21930.	
Reason:	Remove sections in entirety. (This changes includes removal of SECTION 12.1(A).604.1 RECYCLED CONTENT, SECTION 12.1(A).609.1 REGIONAL MATERIALS and SECTION 12.1(A).610.1 LIFE CYCLE ASSESSMENT) Replace these three sections with the proposed language above. To increase use of the standard, reduce the complexity and remove the recycled content and regional material calculations. Regional material impacts are captured through EPDs, which are easier for the end user to locate and provide a much better indicator as they focus on the outcome of the various inputs. Individually, single-attributes have little bearing on the final impact so they are being replaced with EPDs. Asking a contractor or other Standard user to find an LCA tool and use it to select various inputs is not user-friendly, nor is it an effective way to understand the burden of that product. Essentially they would be guessing as to the inputs whereas the use of an EPD allows the manufacturer to utilize specific inputs, removing the guesswork.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P492 LogID 6343	12.1(A).610.1 Life cycle analysis	*Final Formal Action:* **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete and substitute as follows	
Proposed Change:	**12.1(A).604.1 Product Declarations. A minimum of 3 newly installed products comply with one of the following subsections.**	

	12.1(A).604.1.1Industry-wide declaration. A Type III industry-wide environmental product declaration (EPD) is submitted for each product. Where the program operator explicitly recognized the EPD as representative of the product group on a National level, it is considered industry-wide. In the case where an industry-wide EPD represents only a subset of an industry group, as opposed to being industry-wide, the manufacturer is required to be explicitly recognized as a participant by the EPD program operator. All EPDs are required to consistent with ISO Standards 14025 and 21930 with at least a cradle-to-gate scope. **12.1(A).604.1.2Product Specific Declaration.** A product specific Type III EPD is submitted froe ach product. The product specific declaration shall be manufacturer-specific for an individual product or product family. All Type IIIEPDs are required to be certified as complying, at a minimum, with the goal and scope for the cradle-to-gate requirements in accordance with ISO Standards14025 and 21930.
Reason:	Remove sections in entirety. (This changes includes removal of SECTION 12.1(A).604.1 RECYCLED CONTENT, SECTION 12.1(A).609.1 REGIONAL MATERIALS and SECTION 12.1(A).610.1 LIFE CYCLE ASSESSMENT and subsections) Replace these three sections with the proposed language above. To increase use of the standard, reduce the complexity and remove the recycled content and regional material calculations. Regional material impacts are captured through EPDs, which are easier for the end user to locate and provide a much better indicator as they focus on the outcome of the various inputs. Individually, single-attributes have little bearing on the final impact so they are being replaced with EPDs. Asking a contractor or other Standard user to find an LCA tool and use it to select various inputs is not user-friendly, nor is it an effective way to understand the burden of that product. Essentially they would be guessing as to the inputs whereas the use of an EPD allows the manufacturer to utilize specific inputs, removing the guesswork.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of action on P034.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P493 LogID 6317	**12.1(A).610.1 Life cycle analysis** ***Final Formal Action:*** **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	**12.1(A).610.1.1 Functional area life cycle assessment.** An LCA is performed in conformance with ASTM E2921 for an entire functional area using ISO14044 compliant a life cycle assessment. Execute LCA at the functional-area level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E-2921. The assessment criteria includes the following environmental impact categories: a. Primary energy use b. Global warming potential

	c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste i. Water Use j. Pollution Discharges to Water … Execute full LCA, including extraction and harvesting, manufacturing, construction, use and end-of-life phases~~.~~. For the use phase, calculate ~~through calculation of~~ operating energy impacts (c) – (f) using local or regional emissions factors from energy supplier, utility or EPA. For the use phase, also include impacts associated with material replacements. **12.1(A).610.1.2.1~~Life cycle assessment for a product or assembly~~ Product LCA.** …The environmental impact measures used in the assessment are selected from the following: a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste i. Water Use j. Pollution Discharges to Water **12.1(A).610.1.2.2 Building Assembly LCA.** A building assembly with improved environmental impact measures… **…**The environmental impact measures used in the assessment are selected from the following: a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. Material Use h. Waste i. Water Use j. Pollution Discharges to Water
Reason:	Using less material and recovering more is crucial to our economic and environmental future. Material use and waste generation over the life cycle of a building should be modeled. In addition, the "full" life cycle assessment should include all life cycle phases, including manufacturing, construction, use and end-of-life phases. While the NGBS-proposed language for whole-building life cycle assessment emphasizes that the assessment should include the use phase, it omits mentioning the manufacturing, construction and end-of-life phases. The language for the whole-building use phase indicates that impacts related to energy use should be evaluated, but remains silent on the need to evaluate impacts associated with the replacement of materials. Finally, the organization of the section 12.1(A).610.1.2 is inconsistent with sections 11.610.1.2 and 6.610.1.2. Solution: Add the material use and waste impact categories to the assessment criteria. Emphasize that the boundary of the assessment should include the manufacturing, construction and end-of-life phase. Emphasize that the assessment of the use phase should include the analysis of impacts associated with the replacement of materials. Divide Section

	12.1(A).610.1.2 into 12.1(A).610.1.2.1 Product LCA and 12.1(A).610.1.2.2 Building Assembly LCA for organizational consistency with 11.610.1.2 and 6.610.1.2.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Consistent with action on P423
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P494 LogID 6224	**12.1(A).610.1 Life cycle analysis** ***Final Formal Action:*** **Approve as Submitted**
Submitter:	Paul Gay, US-EcoLogic
Requested Action:	Delete without substitution
Proposed Change:	~~12.1(A).610.1 Life cycle assessment. A life cycle assessment (LCA) tool is used to select environmentally preferable products, assemblies, or entire functional area in accordance with Section 12.1(A).610.1.1 or 12.1(A).610.1.2, respectively. Only one method of analysis or tool may be utilized. The reference service life is 60 years for any LCA tool. Results of the LCA are reported in terms of the environmental impacts listed in this practice and it is stated if operating energy was included in the LCA.~~ ~~12.1(A).610.1.1 Functional area life cycle assessment. An LCA is performed in conformance with ASTM E2921 for an entire functional area using ISO14044 compliant life cycle assessment.~~ ~~(1) Execute LCA at the functional area level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E2921. The assessment criteria includes the following environmental impact categories:~~ ~~(a) primary energy use~~ ~~(b) Global warming potential~~ ~~(c) Acidification potential~~ ~~(d) Eutrophication potential~~ ~~(e) Ozone depletion potential~~ ~~(f) Smog potential~~ ~~(2) Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using energy supplier, utility, or EPA electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the locality or Sub-Region in which the building is located.~~ ~~(3) Execute full LCA, including use-phase, through calculation of operating energy impacts (c) – (f) using local or regional emissions factors from energy supplier, utility, or EPA.~~ ~~12.1(A).610.1.2 Life cycle assessment for a product or assembly. An environmentally preferable product or assembly is selected for an application based upon the use of an LCA tool that incorporates data methods compliant with ISO 14044 or other recognized standards that compare the environmental impact of products or assemblies.~~

	~~(1) Two or more products with the same intended use are compared based on LCA and the product with at least a 15% average improvement is selected. A minimum of four environmental impact measures are included in the comparison. The environmental impact measures to be considered are chosen from the following:~~ ~~(a) primary energy use~~ ~~(b) global warming potential~~ ~~(c) acidification potential~~ ~~(d) eutrophication potential~~ ~~(e) ozone depletion potential~~ ~~(f) smog potential~~ ~~(2) An assembly with improved environmental impact measures that are on average at least 15% better than a comparable functionally assembly is selected. A minimum of four environmental impact measures are included in the comparison. The full life cycle, from resource extraction to demolition and disposal (including but not limited to on-site construction, maintenance and replacement, material and product embodied acquisition, and process and transportation energy), is assessed. The assessment includes all structural elements, insulation, and wall coverings ™of the assembly. The assessment does not include electrical and mechanical equipment and controls, plumbing products, fire detection and alarm systems, elevators, and conveying systems. The following functional building elements are eligible for points under this practice:~~ ~~(a) exterior walls~~ ~~(b) roof/ceiling~~ ~~(c) interior walls or ceilings~~ ~~(d) intermediate floors~~ ~~The environmental impact measures to be considered are chosen from the following:~~ ~~(a) primary energy use~~ ~~(b) global warming potential~~ ~~(c) acidification potential~~ ~~(d) eutrophication potential~~ ~~(e) ozone depletion potential~~ ~~(f) smog potential~~ ~~12.1(A).611.1 Manufacturer's environmental management system concepts. For one or more products used in the remodel, the product's manufacturer's operations and business practices include environmental management system concepts, and the production facility is registered to ISO 14001 or equivalent.~~
Reason:	this seems an excessive mandatory requirement for a remodel project. should be encouraged but not required, i suspect this section as a requirement will put off potential program users
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P495 LogID 6361	12.1(A).611.1 Manufacturer's environmental management system	*Final Formal Action:* **Disapprove**
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	~~Manufacturer's environmental management system concepts. For one or more products used in the remodel, the product manufacturer's operations and business practices include environmental management system concepts, and the production facility is registered to ISO14001 or equivalent.~~ Product Specific Declaration Improvements. Utilizing a Type III environmental product declaration (EPD), one or more products used in the remodel shall demonstrate an improvement over prior EPDs for those same products.	
Reason:	The use of ISO 14001 adds minimal value and is not widely used as a facility could be ISO 14001 compliant and have negative impacts. Proving that a product's impacts, throughout its lifecycle, are improving over time is a more effective way to demonstrate innovation. Comparing a product's EPD from one year to the next can demonstrate improvement in environmental management systems, regardless of the type of facility registration.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P496 LogID 6257	12.1.601.2 Material usage (General)	*Final Formal Action:* **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	Exemption if the exterior wall surface can not accommodate the advanced framing measures listed due to structural integrity issues.	
Reason:	[Exception requires a stamped letter to be completed by the Professional Engineer designing the structural detailing for the building explaining why].	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		

Disagree with Committee Action:	
Abstain:	

P497 LogID 6526	**12.1.701.4.0 Minimum energy efficiency requirements**	***Final Formal Action:*** **Disapprove**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**12.1.701.4.0 M~~m~~inimum energy efficiency requirements.** Additions, alterations, or renovations to an existing building, building system or portion thereof comply with the provisions of the ~~International Energy Conservation Code~~ ICC IECC as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this ~~code~~ standard. An addition complies with the ICC IECC if the addition complies or if the existing building and addition comply with the ICC IECC as a single building.	
Reason:	Revising for clarity, and consistent reference to ICC IECC.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P498 LogID 6443	**12.1.701.4.1.1 HVAC system sizing**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	**12.1.701.4.1.1 HVAC system sizing** TC"12.1.701.4.1.1HVAC system sizing" \f C \l "3" **.** Newly installed or modified space heating and cooling system is sized according to heating and cooling loads calculated using ACCA Manual J, or equivalent. New equipment is selected using ACCA Manual S or equivalent. Where existing equipment is used to serve a functional area whose total conditioned area was increased during the remodel, Manual J is used to verify the capacity is appropriate for the remodel.	
Reason:	Existing equipment that is not being modified in any other way and where this is not change to the amount of conditioned are being served should not be required to be modified.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	

Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P499 LogID 6265	**12.1.701.4.1.1 HVAC system sizing**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Delete without substitution	
Proposed Change:	12.1.701.4.1.1 HVAC system sizing...~~." Where existing equipment is usedMan J is used to verify the capacity is appropriate for the remodel"~~	
Reason:	The additional "existing system" language isn't in Chapter 11 701.4.1.1 strike out to align standard language. what happens if the HVAC isn't "appropriate"?	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P500 LogID 6527	**12.1.701.4.3.4 Building thermal envelope air sealing**	***Final Formal Action:*** **Approve as Submitted *See Secretariat Note Below***
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	**12.1.701.4.3.1 Building thermal envelope air sealing.** The portions of the building thermal envelope that are exposed or created during the remodel are durably sealed to limit infiltration. The sealing methods between dissimilar materials allow for differential expansion and contraction. The following are caulked, gasketed, weather-stripped, or otherwise sealed with an air barrier material, suitable film, or solid material: **(g)** Walls, ~~and~~ ceilings, and floors separating ~~a garage from~~ conditioned space~~s~~ from unconditioned space. **(k)** ~~Rim joist junction.~~ Joints of framing members at rim joists. **(l)** Top and bottom plates. **(m)** Other sources of infiltration.	
Reason:	Suggest revising several of the items in the list to more thoroughly identify the locations where air sealing is required.	

Committee Formal Action from Meeting:	**Approve as Submitted** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P501 LogID 6529	**12.1.701.4.3.2 Air sealing and insulation**	***Final Formal Action:***	**Approve as Modified *See Secretariat Note Below***
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)		
Requested Action:	Revise as follows		
Proposed Change:	**12.1.701.4.3.2 Air barrier, air sealing, and insulation.** ~~Grade II and III installation is not permitted for newly installed insulation~~. For the portions of the building envelope that are exposed or created during the remodel, air barrier, air sealing, and insulation is third-party verified as installed in accordance with Section 12.701.4.3.2.1 and items listed in Table 12.1.701.4.3.2(2) are field verified via visual inspection. **12.701.4.3.2.1** ~~Grade I insulation installations are~~ **Insulation installation.** Field-installed insulation products to ceilings, walls, floors, band joists, rim joists, conditioned attics, basements, and crawlspaces, except as specifically noted, are verified by a third-party in accordance with the following: ~~**(1)** Grading applies to field-installed insulation products.~~ ~~**(2)** Grading applies to ceilings, walls, floors, band joists, rim joists, conditioned attics basements and crawlspaces, except as specifically noted.~~ Re-number items(3) through (11), and revise item (11) **(11)** Where properly installed, ICFs, SIPs, and other wall systems that provide integral insulation are deemed in compliance with ~~the Grade 1 insulation installation requirements~~ this section.		
Reason:	Removing all mentions of "Grade" pertaining to insulation installation, as Grade is not defined or described in the standard. Also revising 11.701.4.3.2.1 to move the "what" and "where" specifics of the first two items into the charging language. Also, adding requirement insulation installation is verified by a third-party.		
Committee Formal Action from Meeting:	**Approve as Modified** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*		
Modification of Proposed Change:	Consistent with P189: Retain reference to "Grade I" as follows.		

	~~**12.701.4.3.2 Air barrier, air sealing, building envelope testing, and insulation.** Grade II and III insulation installation is not permitted. Building envelope air barrier, air sealing, envelope tightness, and insulation installation is verified to be in accordance with this Section 701.4.3.2(1) and 701.4.3.2(2) and Section 701.4.3.2.1.~~ **12.701.4.3.2.1 Grade I** ~~insulation installations are~~ **Insulation installation.** Field-installed insulation products to ceilings, walls, floors, band joists, rim joists, conditioned attics, basements, and crawlspaces, except as specifically noted, are verified as Grade I by a third-party in accordance with the following: ~~**(1)** Grading applies to field-installed insulation products.~~ ~~**(2)** Grading applies to ceilings, walls, floors, band joists, rim joists, conditioned attics basements and crawlspaces, except as specifically noted.~~ Re-number items (3) through (11), and revise item (11) **(11)** Where properly installed, ICFs, SIPs, and other wall systems that provide integral insulation are deemed in compliance with ~~the Grade 1 insulation installation requirements~~ this section. **12.703.2.1 UA improvement.** The total building thermal envelope UA is less than or equal to the total UA resulting from the U-factors provided in Table 703.2.1(a) or IECC Tables C402.1.4 and C402.4, as applicable. Where insulation is used to achieve the UA improvement, the insulation installation is in accordance with Grade I requirements in ~~as graded~~ Section 701.4.3.2.1 as verified by a third-party. Total UA is documented using a RESCheck, COMCheck, or equivalent report to verify the baseline and the UA improvement.
Committee Reason:	Same as P189: Section 701.4.3.2 is removed from this proposed change due to prior action P190. Grade I was retained to further clarify and emphasize for need for the installation to meet Grade I requirement and to provide clarity to verifiers.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P502 LogID 6528	**12.1.701.4.3.2 Air sealing and insulation**	***Final Formal Action:***	***Approve as Submitted See Secretariat Note Below***
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)		
Requested Action:	Revise as follows		
Proposed Change:	**12.1.701.4.3.2 Air barrier, air sealing, and insulation.** ~~Grade II and III installation is not permitted for newly installed insulation~~. For the portions of the building envelope that are exposed or created during the remodel, air barrier, air sealing, and insulation is third-party verified as installed in accordance with Section 12.701.4.3.2.1 and items listed in Table 12.1.701.4.3.2(2) are field verified via visual inspection. Insulation installation other than Grade 1 is not permitted.		
Reason:	Removing the phrase regarding “Grade II and III” insulation installation as these are not defined, described, or referenced in the standard, and instead refer to “Grade I” which has requirements		

	described in the standard. Revising the text to add explicit requirement to comply with the insulation installation requirements in Section 12.701.4.3.2.1.
Committee Formal Action from Meeting:	**Approve as Submitted** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P503 LogID 6530	**12.1.701.4.3.5 Recessed lighting**	***Final Formal Action:***	**Approve as Modified *See Secretariat Note Below***
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)		
Requested Action:	Revise as follows		
Proposed Change:	**12.701.4.3.5 ~~Recessed lighting~~ Lighting in building thermal envelope.** Newly installed ~~recessed~~ luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All ~~recessed~~ luminaires in the building thermal envelope are IC-rated and labeled as meeting ASTM E283when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm (0.944 L/s) of air movement from the conditioned space to the ceiling cavity. All ~~recessed~~ luminaires in the building envelope are sealed with a gasket or caulk between the housing and the interior of the wall or ceiling covering.		
Reason:	The vast majority of lighting luminaires are recessed in the building thermal envelope. However, the scope of the requirements of this section should apply to all lighting luminaires in the building thermal envelope, not just recessed lighting. With fast changing lighting technology, it's possible lighting luminaires will penetrate the building thermal envelope but not be considered recessed lighting. The revisions would apply to all lighting luminaires "in" the building thermal envelope, but would not apply to luminaires "on" the building thermal envelope. Consider, for example, ½" thick LED lighting panels which are installed in place of ½" drywall on the ceiling. These panels may not be considered recessed but clearly should be included in the requirements of this section.		
Committee Formal Action from Meeting:	**Approve as Modified** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*		
Modification of Proposed Change:	**12.701.4.3.5 ~~Recessed lighting~~ Lighting in building thermal envelope.** ~~Recessed~~ Newly installed luminaires installed in the building thermal envelope which penetrate the air barrier are sealed to limit air leakage between conditioned and unconditioned spaces. All ~~recessed~~ luminaires installed in the building thermal envelope which penetrate the air barrier are IC-rated and labeled as meeting ASTM E283 when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm (0.944 L/s) of air movement from the conditioned space to the ceiling cavity. All ~~recessed~~ luminaires installed in the		

	building thermal envelope which penetrate the air barrier are sealed with a gasket or caulk between the housing and the interior of the wall or ceiling covering.
Committee Reason:	Consistent with action on P195.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P504 LogID 6384	**12.1.701.4.4 High-efficacy lighting**	***Final Formal Action:***	**Approve as Modified *See Secretariat Note Below***
Submitter:	Aaron Gary, self		
Requested Action:	Revise as follows		
Proposed Change:	**High-efficacy lighting.** Newly installed l ~~L~~ighting ~~efficacy~~ in dwelling units is in accordance with one of the following: (1) A minimum of 75 percent of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent ~~(2) Lighting power density, measured in watts/square foot, is 1.1 or less.~~		
Reason:	Aligns with other measures in Chapter 12 that only pertain to Newly Installed items. Current language mandates changing out existing lighting to meet this Mandatory item. Calculating a lighting power density for newly installed lighting only does not make sense and hence option (2) should be removed.		
Committee Formal Action from Meeting:	**Approve as Modified** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*		
Modification of Proposed Change:	**12.1.701.4.4 High-efficacy lighting.** ~~Newly installed~~ A minimum of 90 percent of newly installed hard-wired lighting fixtures ~~L~~ lighting ~~efficacy~~ in dwelling units ~~is in accordance with one of the following: (1) A minimum of 75 percent of the total hard-wired lighting fixtures~~ or the bulbs in those fixtures ~~qualify as~~ shall be high efficacy. ~~or equivalent~~ ~~(2) Lighting power density, measured in watts/square foot, is 1.1 or less.~~ [mandatory] ***Similar change to 701.4.4 & 11.701.4.4***		
Committee Reason:	Consistent with action on P434.		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**		
Ballot Comments			
Agree with Committee Action			
Disagree with Committee Action:			
Abstain:			

P505 LogID 6513	12.1.701.4.5 Boiler supply piping	*Final Formal Action:*	**Approve as Modified** ***See Secretariat Note Below***
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)		
Requested Action:	Revise as follows		
Proposed Change:	**12.1.701.4.5 Boiler supply piping.** Insulate all newly installed boiler ~~supply~~ piping in unconditioned space supplying or returning heated water or steam and insulate existing boiler ~~supply~~ piping in unconditioned space supplying or returning heated water or steam where accessible.		
Reason:	It seems this more clearly describes the intent of the requirements of this section.		
Committee Formal Action from Meeting:	**Approve as Modified** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*		
Modification of Proposed Change:	**12.701.4.5 Boiler ~~supply~~ piping.** ~~Insulate all newly installed~~ Boiler ~~supply~~ piping in unconditioned space supplying ~~or~~ and returning heated water or steam is insulated. Exception: where condensing boilers are installed, insulation is not required for return piping. ~~and insulate existing boiler supply piping in unconditioned space supplying or returning heated water or steam where accessible~~		
Committee Reason:	Consistent with action on P435		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**		
Ballot Comments			
Agree with Committee Action			
Disagree with Committee Action:			
Abstain:			

P506 LogID 6385	12.1.901.2.1 Solid fuel-burning appliances	*Final Formal Action:*	**Disapprove**
Submitter:	Aaron Gary, self		
Requested Action:	Revise as follows		
Proposed Change:	(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 ~~and are EPA certified or Phase 2 Qualified~~.		
Reason:	The EPA does not certify factory-built wood burning fireplaces so the first reference is nonsensical. Very few fireplaces meet the EPA Phase 2 Qualified requirements and thus they are exorbitantly priced compared to other similar fireplaces. The second reference as a Mandatory measure represents undue burden for projects and should be removed.		
Committee Formal Action from Meeting:	**Disapprove**		
Modification of Proposed Change:			
Committee Reason:	In favor of action on P034.		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**		
Ballot Comments			

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P507 LogID 6272	**12.1.901.6 Carpets**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	(1) ~~wall to wall~~ No New Carpeting is ~~not~~ installed ~~adjacent to water closets and bathing fixtures~~ in half/full bathrooms, kitchens, utility/laundry rooms or within 3 ft of entries. Exemplary credit if existing carpet in these areas is removed and replaced with hard flooring	
Reason:	who wants soggy socks??!original language is behind current /typical standard building practice	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P508 LogID 6276	**12.1.901.8 Interior wall coverings**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	is this standard common practice ie Home Depot off the shelf wallpaper meets it ? Can we simplify it?	
Reason:	Blah,blah, blah ....need cleaner , clearer language	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		

Abstain:	

P509 LogID 6444	**12.1.901.9.2 Interior coatings emission levels** *Final Formal Action:* **Disapprove**
Submitter:	Aaron Gary, US-EcoLogic
Requested Action:	Revise as follows
Proposed Change:	**12.1.901.9.2** ~~Newsite-applied interior architectural coatings are in accordance with theemission levels of CDPH/EHLB Standard Method v1.1, footnote b in Table 4.1 doesnot apply (i.e., maximum allowable formaldehyde concentration is 16.5 µg/m³(13.5 ppb)). Emission levels are determined by a laboratory accredited toISO/IEC 17025 and the CDPH/EHLB Standard Method v1.1 is in its scope ofaccreditation. The product is certified by a third-party program accredited toISO 17065, such as, but not limited to, those in Appendix D.~~ Architectural coating colorant additive VOC content is in accordance with Table 901.9.2. **(Points for 901.9.2 are awarded only if base architectural coating is in accordance with 901.9.1.)** **Table 901.9.2** **VOC Content Limits for Colorants** **Colorant** / **LIMIT (g/l)** Architectural Coatings, excluding IM Coatings: 50 Solvent-Based IM: 600 Waterborne IM: 50
Reason:	Aligns the requirements of 12.1.901.9.2 with sections 11.901.9.2 and 901.9.2.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of action on P034.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P510 LogID 6282	**12.1.902.1.1 Spot ventilation** *Final Formal Action:* **Disapprove**
Submitter:	Paul Gay, US-EcoLogic
Requested Action:	Revise as follows
Proposed Change:	~~12.1.902.1.1~~ 12.3. XXX.XX Bathrooms are vented to the outdoors. The minimum ventilation rate is 50 cfm (23.6 L/s) for intermittent operation or 20 cfm (9.4 L/s) for continuous operation in bathrooms. Exemption if walls / ceilings are not opened up

Reason:	as written the language indicates, regardless of the actual scope of work (ie addition/kitchen remodel/attic remodel) the bath fans have to be vented to outside. suggest moving to section 12.3 Chapter 11 902.1.1 has exemptions
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of action on P034.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P511 LogID 6283	**12.1.902.1.1 Spot ventilation** ***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic
Requested Action:	Revise as follows
Proposed Change:	**(2)** Clothes dryers (except listed and labeled condensing ductless dryers) are vented to the outdoors. <u>Exemption if opening walls and ceilings is beyond project scope</u>
Reason:	as written the language indicates, regardless of the actual scope of work (ie addition/kitchen remodel/attic remodel) the clothes dryer have to be vented to outside. This would be a significant cost add and may force client to chose not to participate in program Chapter 11 902.1.1 has exemption
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of action on P034.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P512 LogID 6374	**12.2.801.4.1 Faucets** ***Final Formal Action:*** **Disapprove**
Submitter:	Cambria McLeod, Kohler
Requested Action:	Delete without substitution
Proposed Change:	~~12.2.801.4.1 Faucets. Newly installed lavatory faucets have a maximum flow rate of 1.5 gpm (5.68 L/m) or less when tested at 60 psi (414 kPa) in accordance with ASME A112.18.1.~~

Reason:	Lavatory faucets are not relevant for kitchen remodels.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of action on P034.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P513 LogID 6370	**12.3.801.3 Showerheads**	***Final Formal Action:***	**Approve as Submitted *See Secretariat Note Below***
Submitter:	Cambria McLeod, Kohler		
Requested Action:	Revise as follows		
Proposed Change:	The total maximum combined flow rate of all newly installed showerheads controlled by a single valve at any point in time in a shower compartment is 1.6 to less than 2.5 gpm. Maximum of two valves are installed per shower compartment. ~~The flow rate is tested at 80 psi (552kPa) in accordance with ASME A112.18.1.~~ Showerheads shall comply with ASME A112.18.1/CSA B125.1. Showerheads are served by an automatic compensating valve that complies with ASSE 1016/ASME A112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead.		
Reason:	The language needs to be updated to reflect the harmonized standards. Including the pressure values is repetitive because they are included in the product standard requirements.		
Committee Formal Action from Meeting:	**Approve as Submitted** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*		
Modification of Proposed Change:			
Committee Reason:			
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**		
Ballot Comments			
Agree with Committee Action			
Disagree with Committee Action:			
Abstain:			

P514 LogID 6376	12.3.801.4.1 Faucets	*Final Formal Action:*	**Approve as Modified** ***See Secretariat Note Below***
Submitter:	Cambria McLeod, Kohler		
Requested Action:	Revise as follows		
Proposed Change:	801.4.1 Lavatory Faucets. Newly installed lavatory faucets shall have a maximum flow rate of 1.5 gpm (5.68 L/m), ~~at 60 psi (414 kPa)~~ in ~~accordance~~ compliance with ASME A112.18.1/CSA B125.1, and certified to the performance criteria of the U.S. EPA WaterSense High-Efficiency Lavatory Faucet Specification.		
Reason:	Add the term 'lavatory' in the section title for consistency with the rest of the standard. The ASME and CSA standards are harmonized standards. They are recognized in the industry as ASME A112.18.1/CSA B125.1 and should be referenced as such. The EPA Water Sense program is a well-recognized program and products carrying a WaterSense label demonstrate that they not only save water, but they have been third-party certified to meet performance criteria. This allows consumers to easily identify water-efficient products that also perform. This program has widespread support and there are over 12,000 bathroom faucets/accessories currently labeled with WaterSense.		
Committee Formal Action from Meeting:	**Approve as Modified** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*		
Modification of Proposed Change:	12.3.801.4.1 Lavatory Faucets~~. Newly installed~~ Install water efficient lavatory faucets ~~shall have~~ with a maximum flow rate of 1.5 gpm (5.68 L/m), ~~at 60 psi(414 kPa)~~ in accordance ~~compliance~~ with ASME A112.18.1/CSAB125.1, and ~~certified to~~ in accordance with the performance criteria of the U.S. EPA WaterSense High-Efficiency Lavatory Faucet Specification or equivalent		
Committee Reason:	Consistent with action on P292		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**		
Ballot Comments			
Agree with Committee Action			
Disagree with Committee Action:	***Cambria McLeod:*** Disapprove of the committee action to add the term 'or equivalent'. There is no way for someone in the field to determine equivalance to the WaterSense specification. The performance measures of the specification include a max flow rate of 1.5gpm at 80psi and a min flow rate of 0.8gpm at 20psi. How will someone in the field be able to confirm this? The EPA WaterSense program continues to be funded. It is heavily supported by over 180 national, regional, and local organizations, from environmental groups, to manufacturers, to utilities and cities. Removing the requirement for a lav faucet to be certified to the performance criteria of the EPA WaterSense Lavatory Faucet Specification is a diservice to the end-user of the faucet and creates a burden on the user of this standard.		
Abstain:			

P515 LogID 6381	12.3.801.5 Water closets	*Final Formal Action:*	**Approve as Modified** ***See Secretariat Note Below***
Submitter:	Cambria McLeod, Kohler		
Requested Action:	Revise as follows		

Proposed Change:	12.3.801.5 Water closets. All newly installed water closets have an effective flush volume of 1.28 gallons (4.85 L) or less ~~when tested in accordance~~ ,in compliance with ASME A112.19.2/CSA B45.1 or ASME A112.19.14 as applicable~~, and is in accordance with EPA WaterSense Tank-Type Toilets~~. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets.
Reason:	Current language is permissive and unclear as to the requirements. The proposal keeps the intent but clarifies the language.
Committee Formal Action from Meeting:	**Approve as Modified** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*
Modification of Proposed Change:	*Replace proposal in its entirety with the following:* **12.3.801.5 (2) Water closets.** A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less in accordance, with ASME A112.19.2/CSA B45.1 or ASME A112.19.14 as applicable. Tank-type water closets shall be in accordance with the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets.
Committee Reason:	Consistent with action on P295 and it was previously unclear who does certification
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **0** Abstain: **1** Non-voting: **6**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	***Cambria McLeod:*** Without proper certification to WaterSense, there is no way for the end-user of the product or the user of this standard to know if a product does indeed meet the performance criteria of the specification. The EPA Water Sense program is a well-recognized program, heavily supported by over 180 national, regional, and local organizations, from environmental groups, to manufacturers, to utilities and cities. Products carrying a WaterSense label demonstrate that they not only save water, but they have been third-party certified to meet performance criteria. This allows consumers to easily identify water-efficient products that also perform. This program has widespread support and there are over 2,800 tank-type toilets currently labeled with WaterSense. Additionally, flushometer tank type toilets are also available with Water Sense certifications and with the expansion of this standard to include commercial properties, it would behoove us to also include these products.

P516 LogID 6256	**12.6.902.3 Radon control**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Delete and substitute as follows	
Proposed Change:	~~**12.4.902.3 Radon control**~~ TC"12.4.902.3Radon control" \f C \l "3" ~~**.** In Radon Zone 1, passive or active radon control system is installed in accordance with ICC IRC Appendix F.~~ ~~**12.6 .902.3 Radon control.** In Radon Zone 1, passive or active radon control system is installed in accordance with ICC IRC Appendix F.~~ **12.6.902.3 Radon control** TC"11.902.3 Radon control" \f C \l "3" **.** Radon control measures are in accordance with ICC IRC Appendix F. Zones are defined in Figure 9(1). This practice is not mandatory if	

	the existing building has been tested for radon and is accordance with federal and local acceptable limits. **12.4 .902.3 Radon control** TC"11.902.3 Radon control" \f C \l "3" **.** Radon control measures are in accordance with ICC IRC Appendix F. Zones are defined in Figure 9(1). This practice is not mandatory if the existing building has been tested for radon and is accordance with federal and local acceptable limits.
Reason:	Standard Language to align with Chapter 11. Also , as written potentially adds a huge cost add best to determine if measures are in fact warranted
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of action on P034.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P517 LogID 6246	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	12.XXX.XX Create Remodel Innovative Practice Section	
Reason:	Encourage program participation and remodel specific solutions	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Not enough information provided. Agreed in principle.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P518 LogID 6255	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**

Submitter:	Paul Gay, US-EcoLogic
Requested Action:	Add new as follows
Proposed Change:	12 XXX.XX allow Irrigation improvement/ upgrade to count toward total water savings.
Reason:	e.g upgraded irrigation system saves XXXXXX gals of water per year its the equivalent of XX units switching to low flow faucets and toilets.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	In favor of action on P034.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P519 LogID 6495	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:***	**Approve as Modified** ***See Secretariat Note Below***
Submitter:	Jeremy Velasquez, TexEnergy Solutions		
Requested Action:	Add new as follows		
Proposed Change:	**Section 12.7.1** - Isolation of remodeled areas. To prevent contamination of unrenovated spaces, meet the following: Remodeled space is isolated from unrenovated space by masking of openings and/or providing strip doors.		
Reason:	Air quality should be maintained in occupied spaces of the building while renovations of functional spaces is ongoing.		
Committee Formal Action from Meeting:	**Approve as Modified** ***Secretariat Note:*** *This proposed change is superseded by P034 which deletes Chapter 12 (Remodeling of Function Areas) in its entirety. Therefore, this proposed change is not incorporated into the Draft Standard.*		
Modification of Proposed Change:	~~**Section 12.7.1** - Isolation of remodeled areas. To prevent contamination of unrenovated spaces, meet the following:~~ ~~Remodeled space is isolated from unrenovated space by masking of openings and/or providing strip doors.~~ **Section 12.7.1** - Isolation of areas to be remodeled. To protect unrenovated spaces, meet one of the following (1) Remodeled space is isolated from unrenovated space by masking of openings and hvac returns and providing strip doors. (2) Remodeled space is isolated from unrenovated space by masking of openings and hvac returns, and providing strip doors and the space is negatively pressurized by ducting exhaust to the exterior (3) Remodeled space is isolated from unrenovated space by masking of openings and hvac returns, and providing strip doors and a dedicated HEPA filtration system is installed.		
Committee Reason:	Consistent with action taken on P475		

Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P520 LogID 6532	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Add new as follows	
Proposed Change:	**12.706** **Innovative Practices** **12.706.1 Ducts in conditioned space.** In climate zones1-4, heating system and cooling system ducts are located in conditioned space. Points = TBD **12.706.2 Insulated basement and crawl space.** In climate zones4-8, basement and crawl space are insulated as required by the ICC IECC. Points = TBD	
Reason:	In cooling dominated climate zones, where basements or crawl spaces are rarely constructed, moving or placing heating and cooling system ducts within (insulated) conditioned space improves the efficiency of the heating / cooling system. In heating dominated climate zones, where basements or crawl spaces are common, insulating those spaces as required by the ICC IECC improves energy efficiency significantly.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Duplicative with provisions of Section 703.4.3. Also included in the 2018 IECC.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P521 LogID 6253	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	Create a new and separate Multi Family Remodel Chapter	
Reason:	Create a Phased Existing Building pathway to certification e.g a Project is undergoing a phased unit by unit remodel	
Committee Formal Action from Meeting:	**Disapprove**	

Modification of Proposed Change:	
Committee Reason:	No separate chapter is needed. The current structure is adequate.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P522 LogID 6271	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	12,901 XX Carbon Monoxide Alarms. A carbon Monoxide alarm is provided	
Reason:	allow battery/ hard wire or existing smoke to be switch out for combo CO/Smoke .....easy/inexpensive life safety measure	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	In favor of action on P034.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P523 LogID 6261	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Revise as follows	
Proposed Change:	Add Innovative credits/trade off	
Reason:	Provide opportunity for innovative practices to be rewarded	
Committee Formal Action from Meeting:	Disapprove	
Modification of Proposed Change:		
Committee Reason:	Not enough information	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40**	

	Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P524 LogID 6274	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	NEW MF PHASES UNIT SECTION OR CHAPTER (1) No Carpeting is installed in half/full bathrooms, kitchens, utility/laundry rooms or within 3 ft of entries.	
Reason:	Mandatory for unit by unit upgrade/ Retrofit	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P336	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P525 LogID 6266	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	12 .902.6.X MF Compartmentalization Breaks or Joints thru the residential unit envelope shall be sealed includes but not limited to HVAC boots sealed to sheetrock / sub floor, Fan casings	
Reason:	new credit awards points to Encourage additional air sealing/compartmentalization	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	Consistent with action on P349.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0**	

	Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P526 LogID 6258	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Paul Gay, self	
Requested Action:	Add new as follows	
Proposed Change:	Create a new section in chapter 12 or entire new chapter for MF Units ..... Where applicable remove all restrictive i.e "all units" language	
Reason:	basis for new MF unit section or chapter is to provide a building with a gradual ...phased.... pathway toward certification. removing "all Units" or similar language will avoid confusion if some units are certified ahead of other units not yet retrofitted	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	No separate chapter is needed in the opinion of the Consensus Committee. The current structure is adequate.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P527 LogID 6315	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Add new as follows	
Proposed Change:	**12.608.2Design for Adaptation and Disassembly.** For siding, windows, mechanical/electrical/plumbing (MEP) systems, wall paneling and flooring materials, incorporate three or more of the following measures, as applicable: Use reusable/recyclable materials. For example: o Use materials and fixtures for which take-back or reuse/recycling programs are established. o Use high-quality materials that exceed minimum performance standards. o Avoid use of coatings or adhesives that prevent reuse and recycling. Promote disentanglement of building components. For example: o To limit the destruction of the surrounding materials, incorporate installation details that permit easy removal and replacement of components. o Consolidate placement of MEP components in building floorplans and cross-sections.	

	Provide access to and use reversible connections, such as screws, bolts, or clips. Provide disassembly and reuse information to owner.
Reason:	Section 12.608 currently includes a single subsection encouraging the dematerialization of building components. The Design for Adaptation and Disassembly is similarly, an upstream strategy to improve resource efficiency and therefore, fits with the upstream, resource-efficiency focus of this section. The Design for Adaptation and Disassembly involves the utilization of recyclable/reusable building materials and preserves resources by maximizing their recovery and ensuring their continuous reutilization.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Topic seems to be covered in other sections
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P528 LogID 6387	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW FUNCTIONAL AREA DESIGNATIONS FOR MULTIFAMILY BUILDINGS OR CREATE NEW MULTIFAMILY SPECIFIC REMODEL CHAPTER... **12.7 Multifamily Common Areas** **12.7.0 Applicability.** In addition to the practices listed in Section 12.1, the following practices are mandatory for all multifamily residenitally associated common area remodels. **12.7.1 Kitchen.** When the common area remodel includes a kitchen, the remodel shall also comply with the practices in Section 12.2. **12.7.2 Bathroom.** When the common area remodel includes a bathroom, the remodel shall also comply with the practices in Section 12.3. **RENUMBER SUBSEQUENT SECTIONS**	
Reason:	The current version of the Standard does not adequately address the remodeling of multifamily buildings. For a multifamily building it is not kitchens, bathrooms, or basements that define a functional area but the dwelling units and the residential associated common areas.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	To discourage piecemeal certification and “green-washing” of partial buildings	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0**	

	Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P529 LogID 6388	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW FUNCTIONAL AREA DESIGNATIONS FOR MULTIFAMILY BUILDINGS OR CREATE NEW MULTIFAMILY SPECIFIC REMODEL CHAPTER **12.6 Multifamily Dwelling Units** **12.6.0 Applicability.** In addition to the practices listed in Section 12.1, the following practices are mandatory for all multifamily dwelling unit remodels. **12.6.1 Kitchen.** When the dwelling unit remodel includes a kitchen, the remodel shall also comply with the practices in Section 12.2. **12.6.2 Bathroom.** When the dwelling unit remodel includes a bathroom, the remodel shall also comply with the practices in Section 12.3. **RENUMBER SUBSEQUENT SECTIONS**	
Reason:	The current version of the Standard does not adequately address the remodeling of multifamily buildings. For a multifamily building it is not kitchens, bathrooms, or basements that define a functional area but the dwelling units and the residential associated common areas.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The current NGBS language and available are adequate.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		

P530 LogID 6386	**Other for Chapter 12 (include section number and title below)**	***Final Formal Action:*** **Disapprove**
Submitter:	Aaron Gary, self	
Requested Action:	Add new as follows	

Proposed Change:	ADD NEW FUNCTIONAL AREA DESIGNATIONS FOR MULTIFAMILY BUILDINGS OR CREATE NEW MULTIFAMILY SPECIFIC REMODEL CHAPTER **12.6 Multifamily Dwelling Units** **12.6.0 Applicability.** In addition to the practices listed in Section 12.1, the following practices are mandatory for all multifamily dwelling unit remodels. **12.6.1 Kitchen.** When the basement remodel includes a kitchen, the remodel shall also comply with the practices in Section 12.2. **12.6.2 Bathroom.** When the basement remodel includes a bathroom, the remodel shall also comply with the practices in Section 12.3. **RENUMBER SUBSEQUENT SECTIONS**
Reason:	The current version of the Standard does not adequately address the remodeling of multifamily buildings. For a multifamily building it is not kitchens, bathrooms, or basements that define a functional area but the dwelling units and the residenital associated common areas.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The current NGBS language and available are adequate.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P531 LogID 6373	**Other for Chapter 12 (include section number and title below)** *Final Formal Action:* **Disapprove**
Submitter:	Jeremy Velasquez, TexEnergy Solutions
Requested Action:	Add new as follows
Proposed Change:	**Section 12.7** - Add a new section as relevant for Health & Well-being credits
Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Not enough information
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	

Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P532 LogID 6445	**1302 Referenced Documents**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Craig Conner, self	
Requested Action:	Revise as follow	
Proposed Change:	IBC ~~2015~~ 2018 IECC ~~2015~~ 2018 IFGC ~~2015~~ 2018 IMC ~~2015~~ 2018 IRC ~~2015~~ 2018	
Reason:	I-codes should be updated to the new 2018 version to be consistent with the I-family. Include Howard Wiig, from Hawaii, representing self as a co-proponent	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Gregory Curtis Coolidge:*** I do not agree with updating to 2018 version of Codes because almost all jurisdictions utilize either 2012 or 2015 Codes and 2018 Code implementations could still be 3 years away which could cause groups to have to comply with Codes that are not currently active or are beyond what current Codes require	
Abstain:		

P533 LogID 6517	**1302 Referenced Documents**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	Update references to ICC IBC, ICC IECC, ICC IFGC, ICC IMC, and ICC IRC to the 2018 edition.	
Reason:	The 2018 edition of these codes are now finalized.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	

Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Gregory Curtis Coolidge:*** I do not agree with updating to 2018 version of Codes because almost all jurisdictions utilize either 2012 or 2015 Codes and 2018 Code implementations could still be 3 years away which could cause groups to have to comply with Codes that are not currently active or are beyond what current Codes require
Abstain:	

P534 LogID 6472	**1302 Referenced Documents**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Ben Edwards, self	
Requested Action:	Revise as follows	
Proposed Change:	Update referenced I-Codes to current, 2018 version.	
Reason:	Capture improvements from most recent codes cycle. Align with other proposed changes.	
Committee Formal Action from Meeting:	**Approve as Submitted**	
Modification of Proposed Change:		
Committee Reason:		
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:	***Gregory Curtis Coolidge:*** I do not agree with updating to 2018 version of Codes because almost all jurisdictions utilize either 2012 or 2015 Codes and 2018 Code implementations could still be 3 years away which could cause groups to have to comply with Codes that are not currently active or are beyond what current Codes require	
Abstain:		

P535 LogID 6582	**1302 Referenced Documents**	***Final Formal Action:*** **Disapprove**
Submitter:	Steven Rosenstock, Edison Electric Institute	
Requested Action:	Add new as follows	
Proposed Change:	**ASHRAE** American Society of Heating, Refrigeration, and Air Conditioning Engineers 1791 Tullie Circle, N.E. Atlanta, GA 30329 www.ashrae.org (404) 636-8400 189.1 2014 *ANSI/ASHRAE/IES/USGBC Standard 189.1-2014, Standard for the Design of High-Performance Green Buildings* *303.1.1, 304.1.1*	

Reason:	This new reference is aligned with proposed changes in Sections 303 and 304, which include a reference to Standard 189.1. The 2017 version of ASHRAE 189.1 has not been published as of the time this proposal was filed. The provisions of ASHRAE Standard 189.1-2017 will be incorporated into the next version of the International Green Construction Code, which has not been published yet.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	The proponent agrees with disapproval as comments are addressed by action on proposal P017.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P536 LogID 6467	**1302 Referenced Documents**	***Final Formal Action:*** **Disapprove**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Requested Action:	Add new as follows	
Proposed Change:	International Code Council: <u>International Wildland-Urban Interface Code 2018</u>	
Reason:	This supports proposed changes in Chapter 4 & 5.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	No longer necessary based on changes made to earlier proposal.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **0** Abstain: **1** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:	***Greg Johnson:*** The International Wildland-Urban Interface Code provides needed guidance for the responsible development of sites where wildland fire hazard exists.	

P537 LogID 6405	**1302 Referenced Documents**	***Final Formal Action:*** **Approve as Submitted**
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	
Proposed Change:	**1302 REFERENCED DOCUMENTS**	

	ICC		*International Code Council* *500 New Jersey Ave, NW, 6th Floor* *Washington, DC 20001* *www.iccsafe.org* *(888) 422-7233*		
	IECC	~~2015~~ 2018	International Energy Conservation Code	610.1.1(2), 701.1.4, 701.4.3.3, 702.2.1, 702.2.2, 702.2.3, 703.1.1.1, 703.1.1.2, 703.1.2, 703.1.3, 703.2.1, 705.6.2.1, 705.6.2.3(1), 705.6.2.3(2), 705.6.3, 11.610.1.1(2), 11.701.4.0, 11.701.4.3.3, 12.1.610.1.1(2), 12.1.701.4.0	

Reason:	This proposal updates the references in ICC-700 from the 2015 IECC to the 2018 IECC. As with previous editions of ICC-700, we think it is most appropriate for the 2018 ICC-700 to build upon the efficiencies of the most recent national model energy code, the 2018 IECC. This will also be consistent with the practice of all International Codes cross-referencing the most recent edition of each code. In terms of energy efficiency, this update will result in a slight overall improvement in efficiency, but there are no significant changes in terms of formatting.
Committee Formal Action from Meeting:	**Approve as Submitted**
Modification of Proposed Change:	
Committee Reason:	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **39** Disagree with committee action: **1** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	***Gregory Curtis Coolidge:*** I do not agree with updating to 2018 version of Codes because almost all jurisdictions utilize either 2012 or 2015 Codes and 2018 Code implementations could still be 3 years away which could cause groups to have to comply with Codes that are not currently active or are beyond what current Codes require
Abstain:	

P538 LogID 6563	**B100 Scope and applicability (Whole Building Ventilation System Specifications)**	***Final Formal Action:*** **Disapprove**
Submitter:	Craig Conner, self	
Requested Action:	Delete and substitute as follows	
Proposed Change:	Replace whole Appendix with: The ventilation rate shall be as defined in IRC section M1507.3.3as equation 15-1 (shown below)	

	Ventilation rate in cubic feet per minute = (0.01 x total square foot area of house) + [7.5x (number of bedrooms + 1)] * coefficient Where coefficient are as follows: Balanced/Distributed/Mixed Coefficient0.75 Example; HRV's/ERV's/ or supply linked with exhaust fan with forced air (furnace/AC) run time Unbalanced/Distributed/Mixed Coefficient1.0 Example; Exhaust fan or supply fan or supply air duct to air handler with forced air (furnace/AC) run time Unbalanced/Distributed/Not Mixed Coefficient1.25 Example; Multi point exhaust fan without a forced air system Unbalanced/Not Distributed/Not Mixed Coefficient 1.5 Example; Single point exhaust fan without a forced air system Retain and renumber: Tables TABLE B201.1a&bVentilation Air Requirements, cfm, which are taken from the IRC 1507.3.3(1) Balanced air flow is supply and exhaust within 20%. Points 10 B201.1.2Alternative Ventilation. Other methods may be used to provide the required ventilation rates when approved by a licensed design professional. B201.3Airflow Measurement. The airflow required by this section is the quantity of outdoor ventilation air supplied and/or indoor air exhausted by the ventilation system as installed and shall be measured using a flow hood, flow grid, or other airflow measuring device. Ventilation airflow of systems with multiple operating modes shall be tested in all modes designed to meet this section.
Reason:	The ASHRAE 62.2 ventilation rate has gotten too high. This removes the reference to ASHRAE. The NGBS should use the IRC ventilation rate in M1507.3.3. This adds consideration of ventilation quality. Balanced ventilation performs the best, hence less ventilation is needed.
Committee Formal Action from Meeting:	**Disapprove**
Modification of Proposed Change:	
Committee Reason:	Multiple ventilation proposals were combined in P034 to create consistency.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P539 LogID 6518	**C300 International Climate Zones**	***Final Formal Action:*** **Approve as Modified**
Submitter:	John Woestman, Extruded Polystyrene Foam Association (XPSA)	
Requested Action:	Revise as follows	
Proposed Change:	Add description or definition of Tropical Climate Zone.	

Reason:	"Tropical" climate zone is used in numerous locations in standard, but not identified, defined, or described in Appendix C, or anywhere else in the standard.
Committee Formal Action from Meeting:	**Approve as Modified**
Modification of Proposed Change:	*Add to Section C200 of Appendix C:* C201.1 Tropical climate zone. The tropical climate zone shall be defined as: 1. Hawaii, Puerto Rico, Guam, American Samoa, U.S. Virgin Islands, Commonwealth of Northern Mariana Islands; and 2. Islands in the area between the Tropic of Cancer and the Tropic of Capricorn.
Committee Reason:	To provide a definition for tropical zone consistent with IECC.
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**
Ballot Comments	
Agree with Committee Action	
Disagree with Committee Action:	
Abstain:	

P540 LogID 17-014	**Appendix D Examples of Third-Party Programs for Indoor Environmental**	***Final Formal Action:*** **Disapprove**
Submitter:	Robert De Vries, Nu Wool Co	
Requested Action:	Remove reference to a proprietary certification program	
Proposed Change:	Remove reference to a proprietary certification program	
Reason:	Codes and Standards should not be using proprietary, non ANSI supported certification bodies to substantiate products that already have had the required testing done by third party lab following ANSI standards and test methods. Specifically Underwrites Laboratory is the owner of GreenGuard AND a testing lab. This can require an entity looking for certification to have UL conduct duplicate testing to satisfy the GreenGuard component when product tests for other conformance (Certification of Use) has been done elsewhere. I would think the NAHB would frown on such a monopoly.	
Committee Formal Action from Meeting:	**Disapprove**	
Modification of Proposed Change:		
Committee Reason:	The proposal does not specify which programs to remove other than UL in the reason statement.	
Ballot Results on Committee Action:	Eligible to vote: **45** Agree with committee action: **40** Disagree with committee action: **0** Abstain: **0** Non-voting: **5**	
Ballot Comments		
Agree with Committee Action		
Disagree with Committee Action:		
Abstain:		