Consensus Committee Report: Initial Formal Action on Public Comments

March 15, 2019

FOREWORD

Release of Second Draft Standard. Those Comments that were Approved or Approved As Modified by the Consensus Committee at the February 11-13, 2019 meeting have been incorporated in the Second Draft Standard posted at www.homeinnovation.com/ngbs.

The changes shown in the Second Draft Standard are now open for public comment. Public comments are accepted through April 29, 2019 via a web-based form available at www.homeinnovation.com/ngbs.

Instructions for submitting public comments are included with the web-based form. Only those changes that were approved by the Consensus Committee during its February 11-13, 2019 meeting, shown in legislative format in the Second Draft Standard, are open for public comment. The first Draft Standard (September 28, 2018) and other committee work on the development of the 2020 edition of the National Green Building Standard can be found at www.homeinnovation.com/ngbs.

This report is released as information to the Consensus Committee and public as to the preliminary Formal Actions taken on the comments received on the Draft Standard (September 28, 2018). After the consensus committee balloting on the comments closes, the Public Comments Report (PCR) will be released as the documentation on the Public Comments phase of development. Information on the Proposed Change Phase can be found in the Public Proposals Report (PPR) available at www.homeinnovation.com/ngbs.

This report includes the following information to date on each comment considered by the Consensus Committee:

1. The name of the submitter of the comment;
2. The entity represented;
3. The text of the comment;
4. The preliminary Formal Action taken by the consensus committee; and
5. Any consensus committee statement on the formal action.

Editorial Comments. A public comment that does not result in a substantive change to the Standard is categorized as an editorial comment.

Held Comments. A public comment that proposes changes to a section or part of the first Draft Standard that was not changed shall be reported as Held. The release of this report is considered notification to a submitter of a Held Comment. At the discretion of the submitter, a Held comment can be retained and be processed as a proposed change during the next revision of the standard.

Notification of Committee Action. The release of this report is considered notification to a submitter of a public comment or a ballot comment as to the preliminary committee action on the comment.

Commenter Options. If the commenter disagrees with the preliminary Formal Action, the following options are afforded to the commenter based on the committee's formal action on the comment.

Preliminary Formal Action	Commenter Options
Accept	If believe the change was not properly implemented, submit a public comment on Second Draft.
Accept as Modified	If disagree, submit a public comment on Second Draft.
Disapprove	Commenter has the right to appeal. See appeals notice below. All formal actions in this report are preliminary. It is possible that the committee will reverse its action during the concurrent balloting process. The Final Formal Action will be reported in the Public Comment Report (PCR) and the commenter will be notified. The commenter will be again notified of their right to appeal at that time.

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 April 15, 2019. 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 the 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. Please see the Home Innovation Research Labs' Procedures for further information. Another appeals notice will be issued with the Public Comments Report (PCR) containing the Final Formal Actions on comments.

Home Innovation Research Labs' Procedures. A copy of the Home Innovation Research Labs' "Procedures for Consensus Developed Standards" is available at www.homeinnovation.com/ngbs.

Summary of Comments

Comment Number	Log ID	Name	Section Number	Committee Action
PC001	6003	Thomas Pape	Section 101.2 Scope	Disapprove
PC002	6006	Thomas Pape	NON-RESIDENTIAL SPACES	Disapprove
PC003	6109	Josh Hanson	Section 202 Definitions	Accept as Modified
PC004	6241	Craig Conner	SECTION 202 DEFINITIONS	Accept as Modified
PC005	BC01	Amy Schmidt	202 Definitions and Entire Standard	Disapprove
PC006	BC02	Theresa Weston	202 Definitions and Entire Standard	Accept
PC007	6029	Amy Schmidt	Definitions	Disapprove
PC008	6263	Paul Gay	RECLAIMED WATER	Accept as Modified
PC009	6264	Paul Gay	SLEEPING UNITS	Disapprove
PC010	BC03	Theresa Weston	301.1 Environmental rating levels (Compliance Method; general)	Disapprove
PC011	BC04	Amy Schmidt	301.1 Environmental rating levels (Compliance Method; general)	Disapprove
PC012	BC05	R. Christopher Mathis	301.1 Environmental rating levels (Compliance Method; general)	Disapprove
PC013	6092	Aaron Gary	301.1.1	Disapprove
PC014	6079	Susan Gitlin	301.1.1 Non-residential spaces (and anywhere else in the draft standard that the International Green Construction Code or its acronym are mentioned	Disapprove
PC015	6085	Susan Gitlin	Section 303.1 Compliance options; Section 303.3. Green single-family homes, townhomes and duplexes; Chapter 12: Certified Compliance Path for Single-Family Homes, Townhomes and Duplexes Sections: 1200 thru 1206.2	Disapprove
PC016	6100	Susan Gitlin	303.2 Green buildings	Disapprove
PC017	6066	Greg Johnson	304.2 Alternative IgCC compliance	Disapprove
PC018	6276	Aaron Gary	304.2 Alternative IgCC compliance.	Disapprove
PC019	6096	Aaron Gary	305 Green Remodeling	Accept
PC020	6110	Josh Hanson	Section 305.2.1	Accept as Modified
PC021	6259	Neil Leslie	305.2.5.1 Energy consumption reduction	Accept
PC022	6067	Greg Johnson	305.2.6.1 Water consumption reduction path	Accept

Comment Number	Log ID	Name	Section Number	Committee Action
PC023	6255	Craig Conner	305.2.6.1 Water consumption reduction path.	Disapprove
PC024	6027	Amy Schmidt	305.3.5.1 Energy consumption reduction	Disapprove
PC025	BC06	Amy Schmidt	305.2.5.1 Energy consumption reduction	Disapprove
PC026	BC07	R. Christopher Mathis	305.2.5.1 Energy consumption reduction	Accept as Modified
PC027	BC08	Neil Leslie	305.2.5.1 Energy consumption reduction	Accept as Modified
PC028	BC09	Amy Schmidt	304.2 Alternative IgCC compliance	Disapprove
PC029	BC10	R. Christopher Mathis	304.2 Alternative IgCC compliance	Disapprove
PC030	6113	Josh Hanson	Section 403.5 (4) Stormwater management	Disapprove
PC031	6034	Gerald Coons	Section 403.5 Stormwater Management	Accept
PC032	6319	Craig Conner	403.5 Stormwater management.	Disapprove
PC033	6114	Josh Hanson	Section 403.6 (19) Landscape Plan	Disapprove
PC034	6036	Gerald Coons	Section 403.6 Landscape Plan	Accept
PC035	6037	Gerald Coons	Section 403.6 Landscape Plan	Accept as Modified
PC036	6038	Gerald Coons	Section 403.6 Landscape Plan	Accept
PC037	6039	Gerald Coons	Section 403.6 Landscape Plan	Accept
PC038	6068	Greg Johnson	403.6 Landscape plan	Disapprove
PC039	BC11	Thomas Pape	403.6 Landscape Plan	Disapprove
PC040	6256	Suzanne Boxman	403.6 Landscape plan.	Disapprove
PC041	6313	Craig Conner	403.6 Landscape plan. 503.5 Landscape plan.	Disapprove
PC042	6040	Gerald Coons	Section 403.7 Wildlife Habitat	Accept
PC043	6314	Craig Conner	405.1 Driveways and parking areas. 505.1 Driveways and parking areas.	Disapprove
PC044	BC12	Thomas Pape	403.5 Stormwater management	Disapprove
PC045	6240	Aaron Gary	405.6 Multi-modal transportation	Disapprove
PC046	6258	Craig Conner	405.6 Multi-modal transportation.	Disapprove
PC047	BC13	Bob Thompson	405.9 Open space	Disapprove
PC048	6101	Susan Gitlin	405.9 Open space.	Disapprove
PC049	6041	Gerald Coons	Section 406.1	Accept
PC050	6102	Susan Gitlin	406.1 (no title)	Disapprove
PC051	6315	Craig Conner	406.2 Smoking prohibitions. & 505.9 Smoking prohibitions.	Disapprove
PC052	BC14	Thomas Pape	406.1 The site is designed…	Disapprove
PC053	BC15	Bob Thompson	406.1 The site is designed to mitigate hazards from insect born disease.	Disapprove
PC054	BC16	John Barrows	406.1 The site is designed to mitigate hazards from insect born disease.	Disapprove
PC055	BC17	Laura Petrillo-Groh	406.1 The site is designed to mitigate hazards from insect born disease.	Disapprove

Comment Number	Log ID	Name	Section Number	Committee Action
PC056	BC18	Laura Petrillo-Groh	406.2 Smoking Prohibition	Disapprove
PC057	BC19	Laura Petrillo-Groh	501.2 Multi-modal transportation	Disapprove
PC058	6238	Aaron Gary	501.2 Multi-modal transportation.	Disapprove
PC059	6208	Craig Conner	501.2 Multi-modal transportation. & 11.501.2 Multi-modal transportation.	Disapprove
PC060	6350	Nat Hodgson III	503 Lot Design	Disapprove
PC061	6042	Gerald Coons	Section 503.1 Natural Resources	Accept
PC062	6103	Susan Gitlin	503.1 Natural resources	Disapprove
PC063	6244	Aaron Gary	503.1 Natural Resources	Disapprove
PC064	BC20	Bob Thompson	503.1 Natural resources	Disapprove
PC065	6318	Craig Conner	503.1 Natural resources.	Disapprove
PC066	6115	Josh Hanson	Section 503.4 (4) Stormwater Management	Disapprove
PC067	6043	Gerald Coons	Section 503.4 Stormwater Management	Accept as Modified
PC068	6070	Greg Johnson	503.4 Stormwater management	Disapprove
PC069	BC21	Thomas Pape	503.4 Stormwater management	Disapprove
PC070	6044	Gerald Coons	Section 503.5 Landscape Plan	Accept as Modified
PC071	6254	Suzanne Boxman	503.5 Landscape plan	Accept as Modified
PC072	BC22	Thomas Pape	503.5 Landscape plan	Disapprove
PC073	6061	Susan Gitlin	503.6 Wildlife habitat	Disapprove
PC074	6072	Greg Johnson	503.6 Wildlife habitat	Accept
PC075	BC23	Thomas Pape	505.4 Mixed-use development	Accept as Modified
PC076	BC24	Bob Thompson	505.4 Mixed-use development	Disapprove
PC077	6320	Craig Conner	505.5 Multifamily or mixed-use community garden(s)	Disapprove
PC078	6252	Craig Conner	505.8 Street Network. 11.505.8 Street Network. Definitions Section 202	Disapprove
PC079	BC25	Laura Petrillo-Groh	505.8 Street Network	Disapprove
PC080	6104	Susan Gitlin	505.10 For multifamily buildings, on-site...	Disapprove
PC081	6046	Gerald Coons	Section 505.10	Accept
PC082	6083	David Gromala	606.2	Accept
PC083	6316	Craig Conner	605.1 Hazardous waste	Accept
PC084	6311	Timm Locke	606.2 Wood-based products	Accept
PC085	6274	John Tokarczyk	606.2 Wood-based products.	Accept
PC086	6071	Susan Gitlin	Section 607.1 Recycling and composting	Accept as Modified
PC087	6317	Craig Conner	611 Product Declarations.	Disapprove
PC088	6246	Aaron Gary	611.1 & 11.611.1 Product Declarations	Accept as Modified
PC089	6207	Craig Conner	612.2 Sustainable products.	Accept
PC090	6321	Craig Conner	613 RESILIENT CONSTRUCTION	Disapprove

Comment Number	Log ID	Name	Section Number	Committee Action
PC091	6097	Susan Gitlin	613.2 Minimum structural requirements	Accept as Modified
PC092	6306	Paul Gay	613.3	Disapprove
PC093	6117	Josh Hanson	Section 613.3 - 613.7	Disapprove
PC094	6099	Susan Gitlin	Sections 613.3 thru 613.7: Resilient construction	Disapprove
PC095	6118	Josh Hanson	Section 613.6 Enhances Resiliency - 40%	Disapprove
PC096	6119	Josh Hanson	Section 613.7 Enhanced Resiliency - 50 %	Disapprove
PC097	BC26	Amy Schmidt	701.1.5 Alternative gold level compliance	Disapprove
PC098	BC27	R. Christopher Mathis	701.1.6 Alternative gold level compliance for tropical zones	Disapprove
PC099	6275	Aaron Gary	701.1.5 Alternative gold level compliance.	Disapprove
PC100	BC37	Amy Schmidt	701.1.6 Alternative gold level compliance for tropical zones	Disapprove
PC101	6121	Josh Hanson	Section 701.4.3.1 (k) Building Thermal Envelope Air Sealing	Disapprove
PC102	6122	Josh Hanson	Section 701.4.3.2.1 Grade I Insulation Installations	Disapprove
PC103	6030	Amy Schmidt	701.4.3.4 Fenestration air leakage	Disapprove
PC104	BC28	Thomas Culp	701.4.3.4 Fenestration air leakage	Accept as Modified
PC105	BC29	Amy Schmidt	701.4.3.4 Fenestration air leakage	Disapprove
PC106	BC30	R. Christopher Mathis	701.4.3.4 Fenestration air leakage	Disapprove
PC107	6028	Amy Schmidt	702.2.1 ICC IECC Analysis	Accept
PC108	6091	Paul Cabot	702.2.1 ICC IECC analysis	Disapprove
PC109	6093	Paul Cabot	702.2.1 ICC IECC Analysis	Accept
PC110	6271	Neil Leslie	702.2.1 ICC IECC analysis	Accept
PC111	6290	Neil Leslie	702.2.1 ICC IECC analysis	Disapprove
PC112	BC31	Amy Schmidt	702.2.1 ICC IECC analysis (Energy performance levels)	Accept as Modified
PC113	BC32	R. Christopher Mathis	702.2.1 ICC IECC analysis (Energy performance levels)	Accept as Modified
PC114	BC33	Neil Leslie	702.2.1 ICC IECC analysis (Energy performance levels)	Accept as Modified
PC115	6031	Amy Schmidt	702.2.2 Energy Performance Analysis	Disapprove
PC116	BC34	Amy Schmidt	702.2.2 Energy performance analysis	Disapprove
PC117	BC35	R. Christopher Mathis	702.2.2 Energy performance analysis	Disapprove
PC118	6123	Josh Hanson	Section 703.2.5.1.1 Dynamic Glazing	Disapprove
PC119	BC36	Thomas Culp	703.2.5.2 Enhanced Fenestration Specifications	Withdrawn
PC120	6124	Josh Hanson	Section 703.2.5.2.1 Dynamic Glazing	Disapprove
PC122	6127	Josh Hanson	Section 703.5.1	Accept

Comment Number	Log ID	Name	Section Number	Committee Action
PC123	6278	Aaron Gary	704 HERS Index Target Path	Accept as Modified
PC124	6128	Josh Hanson	Section 704.1 HERS Index Target Compliance	Disapprove
PC125	6056	Susan Gitlin	704.1 HERS index target compliance	Accept
PC126	6279	Aaron Gary	704.1 HERS Index target compliance.	Accept
PC127	6057	Susan Gitlin	704.2 Point calculation	Disapprove
PC128	6129	Josh Hanson	Section 705.3 (1)	Accept as Modified
PC129	6280	Aaron Gary	706.11 Battery Storage System	Accept as Modified
PC130	6328	Craig Conner	706.14 Third-Party Utility Benchmarking Service.	Disapprove
PC131	BC38	Aaron Gary	706.11 Battery Storage System	Withdrawn
PC132	6130	Josh Hanson	801.0 Intent	Disapprove
PC133	6219	Suzanne Boxman	801.1 Mandatory requirements.	Accept as Modified
PC134	6260	Ryan Meres	801.1 Mandatory requirements.	Disapprove
PC135	BC39	Cambria McLeod	802.5.1 Water-efficient (Lavatory faucets)	Accept as Modified
PC136	BC40	Thomas Pape	802.5.4 Water closets and urinals	Disapprove
PC137	BC41	Cambria McLeod	802.5.4 Water closets and urinals	Disapprove
PC138	6351	Nat Hodgson III	802 Prescriptive Path & 803 and Innovative Practices	Disapprove
PC139	6221	Suzanne Boxman	802.1 Indoor hot water usage.	Disapprove
PC140	6222	Suzanne Boxman	802.1 Indoor hot water usage.	Disapprove
PC141	6223	Suzanne Boxman	802.1 Indoor hot water usage.	Disapprove
PC142	6297	Paul Gay	802.2	Disapprove
PC143	6224	Suzanne Boxman	802.2 Water-conserving appliances.	Accept as Modified
PC144	6286	Aaron Gary	802.2 Water-conserving appliances.	Disapprove
PC145	6225	Suzanne Boxman	802.3 Water Usage Metering.	Accept as Modified
PC146	6227	Suzanne Boxman	802.4 Showerheads	Accept as Modified
PC147	6229	Suzanne Boxman	802.4 Showerheads	Accept
PC148	6233	Suzanne Boxman	802.4 Water closets and urinals	Disapprove
PC149	6230	Suzanne Boxman	802.5 Faucets.	Disapprove
PC150	6329	Craig Conner	802.5 Water closets and urinals. 11.802.7.4	Accept as Modified
PC151	6131	Josh Hanson	Section 802.5.1	Disapprove
PC152	6196	Cambria McLeod	802.5.2	Accept
PC153	6197	Cambria McLeod	802.5.4 Water closets and urinals	Accept as Modified
PC154	6047	Gerald Coons	Section 802.6 Irrigation Systems	Accept

Comment Number	Log ID	Name	Section Number	Committee Action
PC155	6234	Suzanne Boxman	802.6 Irrigation systems	Accept as Modified
PC156	6232	Suzanne Boxman	802.6 Irrigation systems.	Accept as Modified
PC157	6294	Paul Gay	802.6.3	Disapprove
PC158	6133	Josh Hanson	Section 802.6.5	Disapprove
PC159	6235	Suzanne Boxman	802.9 Water Treatment Devices	Disapprove
PC160	6237	Suzanne Boxman	802.10 Pools and Spas	Disapprove
PC161	6009	Thomas Pape	804 Performance Path	Disapprove
PC162	BC42	Thomas Pape	804 Performance Path	Disapprove
PC163	6261	Ryan Meres	804.1 Water Rating Index	Accept as Modified
PC164	6239	Suzanne Boxman	804.3 Water Efficiency NGBS Points Equivalency.	Disapprove
PC165	BC43	Cambria McLeod	804 Performance Path	Disapprove
PC166	6080	Kenneth Belding	901.1.14	Disapprove
PC167	6082	Kenneth Belding	901.1.14	Disapprove
PC168	6065	KERRY LEASON	901.1.4	Disapprove
PC169	6209	Craig Conner	901.2 Solid fuel-burning appliances	Accept as Modified
PC170	6086	Aaron Gary	902.2.1	Accept
PC171	BC44	Aaron Gary	902.3.2 Radon Testing	Disapprove
PC172	6134	Josh Hanson	Section 902.3 Radon reduction measures	Disapprove
PC173	6135	Josh Hanson	Section 902.3.1.7	Accept
PC174	6291	Paul Gay	902.3.2	Disapprove
PC175	6293	Aaron Gary	902.3.2 & 11.902.3.2	Disapprove
PC176	6192	Craig Conner	902.3.2 Radon testing	Accept as Modified
PC177	6190	Craig Conner	902.3.2 Radon testing.	Disapprove
PC178	6298	Aaron Gary	906 Additional / New & 11.906 Additional/New	Accept
PC179	6136	Josh Hanson	Section 906	Accept
PC180	6137	Josh Hanson	Section 906.2 Sound Barrier	Disapprove
PC181	6138	Josh Hanson	Section 906.3 Ventilation for Multifamily Common Spaces	Accept as Modified
PC182	6013	Josh Jacobs	906.4 Furniture and Furnishings	Accept
PC183	6139	Josh Hanson	Section 906.4 Furniture and Furnishings	Accept
PC184	6140	Josh Hanson	Section 906.6	Accept
PC185	6141	Josh Hanson	Section 906.6 (2)	Disapprove
PC186	6210	Craig Conner	11.906.6 Microbial Growth & Moisture Inspection and Remediation	Accept as Modified
PC187	6105	Susan Gitlin	11.503.1 Natural resources	Disapprove
PC188	6048	Gerald Coons	Section 11.503.1 Natural Resources	Accept
PC189	6143	Josh Hanson	Section 11.503.4 (3)	Disapprove

Comment Number	Log ID	Name	Section Number	Committee Action
PC190	6049	Gerald Coons	Section 11.503.4 Stormwater Management	Accept as Modified
PC191	6074	Greg Johnson	11.503.4 Stormwater Management	Disapprove
PC192	6050	Gerald Coons	Section 11.503.5 Landscape Plan	Accept as Modified
PC193	6217	Suzanne Boxman	11.503.5 Landscape plan.	Disapprove
PC194	6062	Susan Gitlin	11.503.6 Wildlife habitat	Disapprove
PC195	6075	Greg Johnson	11.503.6 Wildlife habitat	Accept
PC196	6052	Gerald Coons	Section 11.505.10	Accept
PC197	6106	Susan Gitlin	11.505.10 (no title)	Disapprove
PC198	6073	Susan Gitlin	Section 11.607.1 Recycling and composting	Accept as Modified
PC199	6206	Craig Conner	11.612.2 Sustainable products.	Accept as Modified
PC200	6307	Paul Gay	11.613.3	Disapprove
PC201	6145	Josh Hanson	Section 11.613.3 -11.613.7	Disapprove
PC202	6146	Josh Hanson	11.613.6	Disapprove
PC203	6147	Josh Hanson	Section 11.613.7	Disapprove
PC204	6148	Josh Hanson	Section 11.701.4.3.2.1	Disapprove
PC205	6299	Aaron Gary	11.703	Accept
PC206	6149	Josh Hanson	Section 11.703.2.5.1.1	Disapprove
PC207	6150	Josh Hanson	Section 11.703.2.5.2.1	Disapprove
PC208	6152	Josh Hanson	Table 11.703.4.1	Accept
PC209	6153	Josh Hanson	Table 11.703.4.2	Accept
PC210	6154	Josh Hanson	Table 11.703.4.3	Accept
PC211	6300	Aaron Gary	11.705	Accept as Modified
PC212	6281	Paul Gay	11.705.6.2.1	Accept as Modified
PC213	6220	Suzanne Boxman	11.801.1 Mandatory requirements.	Accept as Modified
PC214	6242	Suzanne Boxman	11.802.11 Pools and Spas.	Disapprove
PC215	6303	Paul Gay	11.802.2	Accept
PC216	6228	Suzanne Boxman	11.802.4 Showerheads.	Accept
PC217	6198	Cambria McLeod	11.802.5 Faucets	Accept
PC218	6199	Cambria McLeod	11.802.5.2	Accept
PC219	6200	Cambria McLeod	11.802.6	Accept as Modified
PC220	6053	Gerald Coons	Section 11.802.7 Irrigation Systems	Accept
PC221	6156	Josh Hanson	Section 11.802.7.5	Disapprove
PC222	6054	Gerald Coons	Section 11.802.8 Rainwater Collection and Distribution	Accept
PC223	6330	Craig Conner	11.802.8 Rainwater collection and distribution.	Accept as Modified

Comment Number	Log ID	Name	Section Number	Committee Action
PC224	6157	Josh Hanson	Section 11.902.3	Disapprove
PC225	6288	Paul Gay	11.902.3.3 Radon	Disapprove
PC226	6191	Craig Conner	11.902.3.3 Radon testing.	Disapprove
PC227	6193	Craig Conner	11.902.33 Radon testing	Accept as Modified
PC228	6158	Josh Hanson	Section 11.906	Accept
PC229	6159	Josh Hanson	Section 11.906.2	Disapprove
PC230	6160	Josh Hanson	Section 11.906.3	Accept as Modified
PC231	6161	Josh Hanson	Section 11.906.4	Accept
PC232	6162	Josh Hanson	Section 11.906.6	Accept
PC233	6163	Josh Hanson	Section 11.906.6 (2)	Disapprove
PC234	6236	Craig Conner	11.906.6 Microbial Growth & Moisture Inspection and Remediation	Accept as Modified
PC235	6331	Craig Conner	11.1005.1 Appraisals.	Accept as Modified
PC236	6342	Craig Conner	1200 Substitution of practices.	Disapprove
PC237	6337	Craig Conner	1201.3 Soil preparation for new plants. & deficient.1201.5 Soil preparation for new plants.	Accept
PC238	6076	Greg Johnson	1201.5 Soil preparation for new plants	Accept as Modified
PC239	6164	Josh Hanson	Section 1201.5	Disapprove
PC240	6322	Miranda Hardin	1202.7 Flashing	Disapprove
PC241	6323	Miranda Hardin	1202.11 Visible Suspect Fungal Growth	Accept as Modified
PC242	6344	Craig Conner	1202.14 Roof Water Discharge.	Accept as Modified
PC243	6165	Josh Hanson	Section 1202.14	Disapprove
PC244	6308	Marie Nisson	1202.8	Disapprove
PC245	6166	Josh Hanson	Section 1203.3	Accept
PC246	6167	Josh Hanson	Section 1203.7	Accept
PC247	6302	Aaron Gary	1203 Energy Efficiency	Accept
PC248	6168	Josh Hanson	Section 1203.7 - A	Accept
PC249	6340	Craig Conner	1203.8 High-efficacy lighting. & 1203.15 High-efficacy lighting.	Withdrawn
PC250	6339	Craig Conner	1203.10 Clothes washers.	Accept
PC251	6273	Neil Leslie	1203.11.1 IECC analysis.	Accept
PC252	6292	Neil Leslie	1203.11.1 IECC analysis.	Disapprove
PC253	6170	Josh Hanson	Section 1203.11.2	Disapprove
PC254	6081	Carl Seville	1203.12.1.2	Accept as Modified
PC255	6058	Susan Gitlin	1203.16.1 HERS index target compliance	Accept as Modified

Comment Number	Log ID	Name	Section Number	Committee Action
PC256	6201	Cambria McLeod	1204.1 Lavatory faucets	Accept
PC257	6202	Cambria McLeod	1204 Water Efficiency	Accept
PC258	6055	Gerald Coons	Section 1204.3 Irrigation Systems	Accept
PC259	6324	Miranda Hardin	1204.3 Irrigation Systems	Accept
PC260	6345	Craig Conner	1204.4 Alternative Compliance Path.	Accept
PC261	6338	Craig Conner	1204.4 Alternative Compliance Path.	Withdrawn
PC262	6174	Josh Hanson	Section 1205.3	Accept as Modified
PC263	6172	Josh Hanson	Section 1205.5	Disapprove
PC264	6173	Josh Hanson	Section 1205.8	Disapprove
PC265	6171	Josh Hanson	Section 1205.4 (a)	Disapprove
PC266	6325	Miranda Hardin	1205.4 Carpets	Disapprove
PC267	6014	Josh Jacobs	1205.6 Interior Architectural Coatings	Disapprove
PC268	6326	Miranda Hardin	1205.6 Interior Architectural Coatings	Disapprove
PC269	6341	Craig Conner	1205.6 Interior Architectural Coatings.	Accept
PC270	6327	Miranda Hardin	1205.7 Spot Ventilation	Accept
PC271	6296	Aaron Gary	1205.8 Whole Dwelling Ventilation	Accept as Modified
PC272	6243	Suzanne Boxman	1206.2 Training of initial homeowners.	Disapprove
PC273	6335	Craig Conner	Chapter 12	Disapprove
PC274	BC47	Amy Schmidt	Chapter 12 – Certified Compliance Path for SF Homes, Townhomes, and Duplexes	Disapprove
PC275	BC48	Bob Thompson	Chapter 12 – Certified Compliance Path for SF Homes, Townhomes, and Duplexes	Disapprove
PC276	BC49	R. Christopher Mathis	Chapter 12 – Certified Compliance Path for SF Homes, Townhomes, and Duplexes	Disapprove
PC277	BC50	Laura Petrillo-Groh	Chapter 12 – Certified Compliance Path for SF Homes, Townhomes, and Duplexes	Disapprove
PC278	BC51	Theresa Weston	Chapter 12 – Certified Compliance Path for SF Homes, Townhomes, and Duplexes	Disapprove
PC279	6169	Josh Hanson	Table 701.4.3.2 (2)	Disapprove
PC280	6175	Josh Hanson	Section 12.102.1	Accept
PC281	6078	Susan Gitlin	Section 13.104 Resource Efficiency	Accept
PC282	6309	Marie Nisson	13.104.1.6 Tile backing materials	Disapprove
PC283	6332	Craig Conner	13.104.3.1 Material selection.	Accept as Modified
PC284	6310	Marie Nisson	13.104.1.8 Architectural features	Accept
PC285	6176	Josh Hanson	Section 13.105.1.1	Accept
PC286	6204	Cambria McLeod	13.106.1 water efficiency and conservation	Accept
PC287	6179	Josh Hanson	Section 13.107.1	Disapprove
PC288	6347	Craig Conner	13.107.1.1 Entry.	Disapprove
PC289	6180	Josh Hanson	Section 13.107.3	Accept as Modified

Comment Number	Log ID	Name	Section Number	Committee Action
PC290	6015	Josh Jacobs	13.107.3 Pollutant Source Control Products or Material Selection	Accept
PC291	6333	Craig Conner	13.107.3 Pollutant source control products or material selection.	Disapprove
PC292	6348	Craig Conner	13.107.4.2 Wood-fired appliances.	Accept
PC293	6181	Josh Hanson	Section 13.107.4.4	Disapprove
PC294	6182	Josh Hanson	Section 13.107.4.5	Disapprove
PC295	6183	Josh Hanson	Section 13.107.5	Disapprove
PC296	6334	Craig Conner	13.107.9 Radon system.	Accept as Modified
PC297	6184	Josh Hanson	Section 13.108.2	Disapprove
PC298	6024	Jim Kendzel	Chapter 13, TABLE 106.1 MAXIMUM FLOW RATES AND FLUSH VOLUMES FIXTURE OR FIXTURE FITTING TYPE MAXIMUM FLOW RATE OR FLUSH VOLUME – Footnote d	Disapprove
PC299	BC53	Matt Sigler	Chapter 13 – Non-Residential New Construction	Accept as Modified
PC300	BC54	Amy Schmidt	Chapter 13 – Non-Residential New Construction	Disapprove
PC301	BC55	Theresa Weston	Chapter 13 – Non-Residential New Construction	Accept as Modified
PC302	BC56	R. Christopher Mathis	Chapter 13 – Non-Residential New Construction	Disapprove
PC303	BC57	Neil Leslie	Chapter 13 – Non-Residential New Construction	Disapprove
PC304	6177	Josh Hanson	Table 106.1	Disapprove
PC305	6178	Josh Hanson	Table 106.1 Footnote d.	Accept
PC306	6203	Cambria McLeod	Table 1601 Maximum Flow Rates and Flush Volumes Fixture or Fitting type maximum flow rate or flush volume	Accept as Modified
PC307	6026	Matt Sigler	Table 106.1 Maximum Flow Rates and Flush Volumes Fixture or Fixture Fitting Type Maximum Flow Rate or Flush Volume	Accept as Modified
PC308	6205	Cambria McLeod	Referenced Documents	Accept
PC309	6059	Susan Gitlin	Chapter 14 References/Energy Star	Accept
PC310	6089	Susan Gitlin	Chapter 14, under the EPA section	Accept
PC311	BC52	Gregory Curtis Coolidge	1402 Referenced Documents	Disapprove
PC312	6189	Josh Hanson	Table C200	Accept
PC313	6010	Thomas Pape	APPENDIX F WATER RATING INDEX	Disapprove
PC314	6245	Suzanne Boxman	F101.3 Capabilities	Disapprove
PC315	6077	Greg Johnson	F101.3 Capabilities.	Disapprove
PC316	6262	Ryan Meres	F101.3 Capabilities.	Accept

Comment Number	Log ID	Name	Section Number	Committee Action
PC317	6265	Ryan Meres	F101.3 Capabilities.	Disapprove
PC318	6270	Ryan Meres	F101.3 Capabilities.	Disapprove
PC319	6247	Suzanne Boxman	F101.3 Capabilities.	Disapprove
PC320	6282	Ryan Meres	F101.4 Process.	Disapprove
PC321	6248	Suzanne Boxman	F101.6 Indoor Water.	Disapprove
PC322	6249	Suzanne Boxman	F101.6 Indoor Water.	Disapprove
PC323	6250	Suzanne Boxman	F101.7 Water Capture for Potential Reuse	Disapprove
PC324	6283	Ryan Meres	F101.7 Water Capture for Potential Reuse	Disapprove
PC325	6251	Suzanne Boxman	F101.8 Outdoor Calculations.	Disapprove
PC326	6253	Suzanne Boxman	F101.8 Outdoor Calculations.	Accept as Modified
PC327	6287	Ryan Meres	F101.9 Water Cost Calculations.	Accept as Modified
PC328	6289	Ryan Meres	F101.9 Water Cost Calculations.	Accept as Modified
PC329	6094	Paul Cabot	901.1.4	Disapprove

EDITORIAL COMMENTS

Comment Number	Log ID	Name	Section Number
E01	6060	Susan Gitlin	Chapter 2, RECLAIMED WATER
E02	6213	Aaron McEwin	Reclaimed Water Definition (Spelling)
E03	6266	Paul Gay	305.2.3
E04	6268	Paul Gay	305.2.5
E05	6269	Paul Gay	305.2.5.1
E06	6272	Paul Gay	305.2.5.1
E07	6112	Josh Hanson	Section 305.2.7 Prescriptive practices
E08	6111	Josh Hanson	Table 305.2.5.5
E08	6090	Susan Gitlin	405.6, Multi-modal Transportation; 501.2(4), Multi-modal transportation; 11.501.2(3), Multi-modal transportation
E10	6069	Greg Johnson	405.9 Open space.
E11	6116	Josh Hanson	Section 62.1.15 Kitchen and Vanity Cabinets
E12	BC58	Cambria McLeod	612.3 Universal design elements
E13	6098	Susan Gitlin	613.1 Intent
E14	6195	Cambria McLeod	801.4.1 Faucets
E15	6132	Josh Hanson	Section 801.6.3
E16	6285	Paul Gay	906.4

Comment Number	Log ID	Name	Section Number
E17	6284	Paul Gay	906.3
E18	6144	Josh Hanson	Section 11.602.1.15
E19	BC59	Cambria McLeod	11.611.3 Universal design elements
E20	6277	Paul Gay	ALL
E21	6343	Craig Conner	TABLE 402.1.2 & 1203.13 Space Heating and Cooling and Water Heating System Efficiencies.
E22	BC60	Thomas Culp	Chapter 13 – Non-Residential New Construction
E23	6346	Craig Conner	13.106.5. Water softeners.
E24	E24	Craig Conner	1205.9 Radon Control

HELD COMMENTS

Comment Number	Log ID	Name	Section Number
H01	6033	Gerald Coons	Section 202 Definitions
H02	6035	Gerald Coons	Section 403.6 Landscape Plan
H03	6045	Gerald Coons	Section 503.5 Landscape Plan
H04	6120	Josh Hanson	Figure 6 (1,2 & 3)
H05	6216	Aaron McEwin	701.4.1.1 HVAC system sizing and 701.4.2.3 Duct System Sizing
H06	6304	Aaron McEwin	701.4.3.2(1) Air Barrier Testing
H07	6301	Thomas Culp	703.1.1.2 and 703.2.5.1
H08	6125	Josh Hanson	Section 703.3.4
H09	6231	Suzanne Boxman	802.4 Water closets and urinals
H10	6007	Thomas Pape	802.6.4
H11	6008	Thomas Pape	802.7 Rainwater collection and distribution
H13	6088	Aaron Gary	902.2.1
H14	6087	Aaron Gary	1205.12
H15	6142	Josh Hanson	Figure 9 (1)
H16	6151	Josh Hanson	Section 11.703
H17	6051	Gerald Coons	Section 11.503.5 Landscape Plan
H18	6155	Josh Hanson	Section 11.705.6.1 (1)
H19	6312	Craig Conner	Chapter 11's tables and figures
H20	6295	Aaron Gary	1205.8 Whole Dwelling Ventilation

Comment Number	Log ID	Name	Section Number
H21	6305	Aaron Gary	13.107.8.1 Building Ventilation
H22	6185	Josh Hanson	ASHRAE
H23	6186	Josh Hanson	DOE
H24	6187	Josh Hanson	FSC
H25	6188	Josh Hanson	B200
H26	6126	Josh Hanson	Section 703.4.3

Public Comments

March 15, 2019

Chapter 1: Scope

PC001 LogID 6003	101.2 Scope *Final Formal Action:* **TBD**
Submitter:	Thomas Pape, AWE
Comment:	101.2 Scope. The provisions of this Standard shall apply to the design, and construction, alteration, enlargement, and renovation of (1) all residential buildings, or (2) residential portions of mixed-use buildings ~~, or (3) mixed-use buildings where the residential portion is greater than 50 percent of the gross floor area~~.
Reason:	The water use and water using equipment in the non-residential areas is very different than inside homes. The water requirements in Section 8 are only appropriate for residential, As one example of many, the lavatory faucets in public restrooms should be 0.5 GPM, yet there are no provisions for this in Section 8. The Task Group 8 requested, but did not receive a new draft of Section 8 to include proper equipment provisions for non-residential areas. ***Secretariat Note: The proposed change to the scope of the standard is in the purview of the Secretariat. The public comment is included in this document for the benefit of transparency. The comment is also submitted to TG-1 for review of the water efficiency provisions based on the reason statement in the comment.***
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Addressed the proposer's concerns within the provisions of the Standard.

Chapter 2: Definitions

PC002 LogID 6006	202 Definitions *Final Formal Action:* **TBD**
Submitter:	Thomas Pape, AWE
Comment:	NON-RESIDENTIAL SPACES. ~~Spaces~~ CONDITIONED SPACES not designated as residential in Section 101.2.1.
Reason:	The current definition is too broad. There is already a definition for CONDITIONED SPACE. This proposal will establish non-residential space as a subset of conditioned space, eliminating areas such a tool sheds, she-sheds, chicken coops, barns, pump houses, burial vaults, root cellars, guard houses, summer kitchens, etc.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The Standard covers non-conditioned spaces that are non-conditioned spaces such as outdoor parking, etc.

PC003 LogID 6109	202 Definitions *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	AUTHORITY HAVING JURISDICTION - An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure
Reason:	AHJ is used throughout the manual but it is not truly defined.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	AUTHORITY HAVING JURISDICTION (AHJ): An agency or agent responsible for enforcing this code.
CC Reason:	Modification makes definition consistent with 2018 IgCC, simpler, and more concise.

PC004 LogID 6241	202 DEFINITIONS *Final Formal Action:* **TBD**
Submitter:	Craig Conner, self
Comment:	**READILY ACCESIBLE.** ~~Capable of being quickly and easily reached for operation, maintenance, and inspection~~. Capable of being reached quickly for operation, renewal, or inspection without requiring those to who ready access is requisite to climb over or remove obstacles or to resort to potable ladders or access equipment.
Reason:	Is the definition from Chapter 11 of the IRC better? I'm OK either way.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**READILY ACCESIBLE.** ~~Capable of being quickly and easily reached for operation, maintenance, and inspection~~. Capable of being reached quickly for operation, renewal, or inspection without requiring those to who ready access is requisite to climb over or remove obstacles or to resort to portable ladders or access equipment.
CC Reason:	Typo

PC005 LogID BC01	202 Definitions and Entire Standard *Final Formal Action:* **TBD**
Submitter:	Amy Schmidt; The Dow Chemical Company
Comment:	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.
Reason:	
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The current definition is consistent with the current NGBS scope and that if we change the scope it would change the definition automatically.

PC006 LogID BC02	202 Definitions and Entire Standard *Final Formal Action:* **TBD**
Submitter:	Theresa Weston; DuPont Building Innovations
Comment:	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.
Reason:	***Secretariat Note:*** *As a point of clarification, the change included the definition of Sleeping Unit (provided below for convenience) and all corresponding changes throughout the Standard where the term Sleeping Unit was added.* ***<u>Sleeping Unit:</u>*** *<u>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.</u>*
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	The CC believes that the definition as proposed is appropriate, and where it was inserted was appropriate.

PC007 LogID 6029	202 Definitions *Final Formal Action:* **TBD**
Submitter:	Amy Schmidt, Dow Building Solutions
Comment:	~~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.~~

Reason:	Based on my comment on section 701.4.3.4 this definition is not appropriate for this standard. I don't believe these types of windows would even meet basic code requirements. They are definitely not good for areas prone to hurricanes: https://www.sun-sentinel.com/news/fl-xpm-1991-07-26-9101270972-story.html
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Disapprove (default action). Consensus was not reached on any action. The term is retained in the standard.

PC008 LogID 6263	**202 Definitions** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, self
Comment:	Reclaimed water (and other sections) make reference to Authority Having Jurisdiction) add a definition for Authority Having Jurisdiction eg "An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure." taken from NEC PS. "Authority"spelled incorrectly in reclaimed water
Reason:	Having the definition for AHJ makes it clearer for all as to who should be contacted or made aware and helps identify exactly who's requirements are to be followed
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	AUTHORITY HAVING JURISDICTION (AHJ): An agency or agent responsible for enforcing this code.
CC Reason:	Modification makes definition consistent with 2018 IgCC, simpler, and more concise. Same action as PC003

PC009 LogID 6264	**202 Definitions** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, self
Comment:	Add examples of what a sleeping unit could be
Reason:	as written this definition is confusing to me, some example would help clarify
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Definition clarity preferred over insufficient list of examples.

Chapter 3: Compliance Method

PC010 LogID BC03	**301.1 Environmental rating levels (Compliance Method; general)** ***Final Formal Action:*** **TBD**
Submitter:	Theresa Weston; DuPont Building Innovations
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* ***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.*
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	This section was intentionally removed from the requirements because it deals with the site water requirements and the site water requirements are dealt with in Chapter 5.

PC011 LogID BC04	**301.1 Environmental rating levels (Compliance Method; general)** ***Final Formal Action:*** **TBD**
Submitter:	Amy Schmidt; The Dow Chemical Company
Comment:	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
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* ***Add new definition to Section 202:*** ***NON-RESIDENTIAL SPACES.*** *Spaces not designated as residential in Section 101.2.1.* ***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.* *(Add reference to 2018 International Green Construction Code in Chapter 13)*

Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC001.

PC012 LogID BC05	**301.1 Environmental rating levels (Compliance Method; general)** ***Final Formal Action:*** **TBD**
Submitter:	R. Christopher Mathis; Mathis Consulting
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* ***Add new definition to Section 202:*** ***NON-RESIDENTIAL SPACES.*** *Spaces not designated as residential in Section 101.2.1.* ***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.* *(Add reference to 2018 International Green Construction Code in Chapter 13)*
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC doesn't want the process to be put on hold.

PC013 LogID 6092	**301.1.1 Non-residential spaces** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self
Comment:	**30~~1.1.1~~4.2 Non-residential spaces.** Non-residential spaces in mixed-use buildings shall comply withChapter 13 (Commercial Spaces/Mix Use Chapter) of this Standard or Chapters6-10 of the ICC International Green Construction Code (IgCC), excluding §6.3.1. *RENUMBER SUBSEQUENT SECTIONS.*
Reason:	This section seems misplaced. It would be more logical to place it in section 304.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	

CC Reason:	The proposed section is titled multifamily buildings and proposal to move would cause confusion.

PC014 LogID 6079	**301.1.1 Non-residential spaces** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	As seen in the Referenced Documents appendix, the intent is to refer to IGCC 2018. However, this code was published only towards the end of the current NGBS public comment period. Any reviewer that attempted to review the NGBS draft prior to the publication of the 2018 IGCC would not have had the code available for review or would have referred to the 2015 version. Given that the 2018 version is significantly different than the 2015 version, reviewers need to be given a chance to review and comment on the reference in NGBS to the 2018 code, as it affects the use and outcomes of NGBS.
Reason:	Availability of referenced publications is essential to full public review.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	No specific action given. This section will remain open for public comment in the 2nd draft standard.

PC015 LogID 6085	**303.1 Compliance options** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	**303.1 Compliance options.** The criteria for new buildings shall be in accordance with Section 303.2 for Residential buildings, the residential portion of mixed use buildings, or mixed-use buildings~~ or Section 303.3 for compliance for single family homes, townhomes, and duplexes~~ ~~**303.3 Green single-family homes, townhomes, and duplexes.** Single-family homes, townhomes, and duplexes that meet all applicable requirements of Chapter12 shall be deemed Certified.~~ ~~Chapter12: Certified Compliance Path for Single-Family Homes, Townhomes and Duplexes Sections:1200 thru 1206.2~~
Reason:	The proposed Chapter 12 offers a new path to certification to the National Green Building Standard. Any alternate path should offer homes with a) higher human health and environmental attributes than those contained in a conventionally built home and b) a level of environmental and human health attributes not distant from the level required to achieve bronze certification under the credit path. We are concerned, however, that the set of provisions in Chapter 12 do not meet these criteria: they do not sufficiently go beyond typical building practices nor would they lead to homes that merit a "green building" certification. Such a departure from the existing standard overly lowers the bar and could undermine the use of the rating system. We therefore recommend that Chapter 12 be deleted in its entirety. Single-family home construction is an area of opportunity for achieving sustainability. In 2009, EPA released Sustainable Materials Management: The Road Ahead, which provides an analysis of the major materials, products, and services in the U.S. economy and their associated environmental impacts. The report ranks 480 materials, products and services based on 17 environmental impact categories. The construction of new single-family homes rose to the top as one of the most significant sources of life cycle environmental and resource use impacts in the U.S. EPA's further study, Analysis of the Life Cycle Impacts and Potential for Avoided Impacts Associated with Single-Family Homes details the types and relative magnitudes of these impacts. Multiple strategies can potentially lessen or offset the life cycle impacts of the single family homes, including optimizing the sizes of homes, enabling deconstruction to increase the reuse and recycling of building materials at end of service lives, increasing reuse and recycling, minimizing stormwater runoff, etc. Nonetheless, such standards have not been included in Chapter 12; for example, the Chapter 12 resource efficiency subsection is contingent on meeting requirements largely deemed mandatory in Chapter 6. Conformity to a set of requirements may generally be sufficient for driving the baseline construction, but the baseline construction that

	Chapter 12 appears to be driving appears fairly limited. Moreover, the whole approach of having to meet only a set of basic requirements fails to incentivize innovation. A more thoughtful approach than what is proposed in NGBS, includes a broader set of required as well as encouraged practices and strategies, in order to both drive the baseline and also spark trailblazing. By encouraging and recognizing innovation within the single family home construction market, Home Innovation can demonstrate that innovation is possible and feasible and go further in bringing a more meaningful market shift.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	This chapter would provide an option for builders to enter the NGBS arena.

PC016 LogID 6100	**303.2 Green buildings** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	303.2 Exception: Where the builder is unable to 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 are permitted to be obtained by eliminating rating requirements and points from Chapter 5. Rating thresholds requirements are permitted to be adjusted to half of the original required level. ~~accordingly.~~ Builder shall provide evidence of this impossibility to the Adopting Entity and provide disclaimer statement on marketing materials when this occurs.
Reason:	This exception is overly broad as written. The environmental implications of site location, development and use are significant, and practices to improve site sustainability are an integral component of green building. This exception, if necessary, should be written to ensure that a builder makes all possible attempts to improve the sustainability of the site. The current sentence that allows the points threshold to be adjusted "accordingly" could potentially mean that the requirements are zeroed out, or close to it. The requirement that a builder meet at least half of the required points would mean that site sustainability opportunities would be considered rather than ignored.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The last sentence of the exception with the requirement to provide evidence keeps the provisions from being overly broad.

PC017 LogID 6066	**304.2 Alternative IgCC compliance** ***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Outdoor Equipment Institute
Comment:	**304.2 Alternative IgCC compliance.** As an alternative, any multifamily or mixed-use building that complies with Chapters 6-10 of the ICC International Green Construction Code (IgCC), excluding §6.3.1, ~~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.
Reason:	This change will make Sec. 304.2 consistent with Section 301.1.1 (Non-residential spaces in mixed-use buildings) so that mixed use buildings have the identical IgCC alternative under either path.
Substantiating Documents:	No
CC Action:	Disapprove

Modification of Comment:	
CC Reason:	This section applies to the entire building including the site, therefore that section is relevant.

PC018 LogID 6276	**304.2 Alternative IgCC compliance** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self
Comment:	**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~~ bronze rating level. Additionally, acceptable airtightness 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.
Reason:	Appendix J of the 2018 IgCC pins equates base compliance in the National Green Building Standard with base compliance in the IgCC. As such, according to the IgCC, Bronze level compliance in Chapter 7 is equal to base compliance in the IgCC. It only seems logical then to mirror the level of compliance equivalence that the IgCC has already established within the National Green Building Standard.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	This would cause conflict with Chapter 7 decision on the same issue. Also, based on the earlier review of the analysis and that ASHRAE asked for this recognition of the IgCC.

PC019 LogID 6096	**305 Green Remodeling** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self
Comment:	**305 GREEN REMODELING** **305.1 Compliance**. Compliance with Section 305 shall be voluntary unless specifically adopted as mandatory by the Adopting Entity. **305.2 Whole-building rating criteria** **305.2.1 Applicability.** The provisions of Section 305.2~~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 305.2~~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. **305.2.1.1 Additions.** For a remodeled building that includes an addition, the entire building including the addition shall comply with the criteria of Section 305.2~~3~~. The total above-grade conditioned area added during a remodel shall not exceed 75% of the existing building's above-grade conditioned area. For multifamily buildings, the above-grade conditioned area shall be based on the entire building including all dwelling units/sleeping units and common areas. **305.2.2 Rating scope.** The building rating achieved under Section 305.2~~3~~ and the associated compliance criteria apply to the entire building after the remodel including any additions. **305.2.3 Mandatory practices.** Additions, alterations or repairs to an existing building, building system or portion thereof shall comply with the Mandatory requirements of 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 ~~apartment~~ apparent moisture issues exist.

305.2.4 Rating level. A minimum rating level of Bronze shall be achieved in each of the following categories: Energy efficiency (Sections305.2~~3~~.5), Water efficiency (Section 305.2~~3~~.6), and Prescriptive practices (Section 305.2~~3~~.7). The building rating level shall be the lowest rating level achieved in Sections 305.2~~3~~.5, 305.2~~3~~.6, and305.2~~3~~.7.

305.2.5 Energy efficiency. The building shall comply with Section ~~11~~.305.2~~3~~.5.1 or ~~11~~.305.2~~3~~.5.2.

305.2.5.1 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 ~~2~~305.3.5.1.

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 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/sleeping units and common areas.

If a building can demonstrate through documentation approved by the Adopting Entity that there model 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 was existing in the building up to 3 years prior project registration.

305.2.5.2 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.

305.2.5.2 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 305.2.5.2
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. through and 11.7065 ~~do~~ shall not count towards the total points for section 11.305.2~~3~~.7.

305.2.6 Water efficiency. The building shall comply with Section ~~11~~.305.~~3~~2.6.1 or ~~11.~~305.~~3~~2.6.2.

305.2.6.1 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~~2.6.1.
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.

305.2.6.2. Prescriptive path. The building shall comply with Table 305.~~3~~2.6.2 (Water Rating Prescriptive Point Thresholds). Any practice listed in Section.11.801 shall be eligible for contributing points toward Table 305.~~3~~2.6.2 (Water Rating Prescriptive Point Thresholds). The attributes of the existing building that were in compliance with the prescriptive practices of in Section.11.80~~1~~2 prior to the remodel and remain in compliance after the remodel shall be eligible for contributing points to this section

Table 305.2.6.2
Water Rating Prescriptive Point Thresholds

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

Points from Section 11.801 through 11.804 shall not count towards the total points for section 305.2.7.

305.2.7 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 305.23.7. Any practice listed in Chapter 11, except for 11.70~~0~~1 through 11.706 and 11.80~~0~~1 through 11.804 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.

Reason:	clerical changes - incorrect section number references, misspellings, incorrect verbiage.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC020 LogID 6110	**305.2.1 Applicability**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	

Comment:	**305.2.1 Applicability.** 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.~~ Projects that would be eligible must have received their Certificate of Occupancy at least 5 years prior to registration to be considered for the NGBS remodel path.
Reason:	Clearer language
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**305.2.1 Applicability.** 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.~~ Projects that would be eligible must have received their Certificate of Occupancy at least 5 years prior to NGBS registration. ~~to be considered for the NGBS remodel path~~
CC Reason:	Clarity

PC021 LogID 6259	**305.2.5.1 Energy consumption reduction** ***Final Formal Action:*** **TBD**
Submitter:	Neil Leslie, self
Comment:	Change the following to correct a typo and the Table reference: The energy ~~effieciency~~ efficiency rating level shall be based on the reduction in energy consumption resulting from the remodel in accordance with Table ~~2~~305.3.5.1. Delete the following without substitution: 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 a third-party energy audit and analysis or utility consumption data.
Reason:	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. Inherent problems with site energy: An energy metric obtained by adding the energy content of two different fuels without a weighting factor creates nonsense, and qualifying a building rating level by meeting a reduction in use based on that metric creates perverse incentives that can be avoided using the other metrics contained in the 2015 version of ICC 700. For a metric based on the addition of two quantities to make sense, it is necessary that the two quantities be fungible—that one can completely substitute for another. There is no plausible theory of value that allows one joule of gas to be substituted for one joule of electricity. Electricity can do things that gas cannot, because it has lower entropy. Thus it is inherently worth more. (This value in thermodynamics is reflected in the relative pricing of electricity and in the relative source energy consumption) Adding something that is worth more to something that is worth less produces confusion and nonsense; using a metric based on that addition leads to the wrong outcomes. If I return from Mexico with 100 pesos and 100 dollars in my pocket, it would not make sense to say I had 200 “desos”.

	If I tried to do so, I would undervalue the dollars and waste them, and overvalue the pesos and save them when it would be better to spend them. Electricity is a superior good worth a lot more than gas: electricity costs much more, and it consumes more primary energy. Making electricity and natural gas equal on a site energy basis when any conceivable measure of impact has them unequal is like being paid or getting invoices in "desos": it leads the user to the wrong decision. Thermodynamically, one joule of natural gas is worth a lot less than one joule of electricity, because electricity is work—it has zero entropy—while gas can only be used by combustion that produces work with an efficiency of at best 55% in large-scale power supply applications and in average circumstances less than 40%. In buildings, burning natural gas produces low-temperature (~40-50°C) heat from combustion energy at higher temperature and entropy. Adding the two—electricity and gas—as if they were the same quantity ("energy") makes no sense: they are not the same thing, but are only denominated in the same units. It would be like adding a Reynolds number to an efficiency, arguing that since they are both dimensionless, they can be compared. Using site energy makes it relatively easier for an all-electric building to qualify for a building rating level than a mixed fuel building, creating unfairness. This issue is not just about fuel choice however. The most highly used and cost effective retrofits in homes reduce lighting and plug load energy. For a mixed fuel building, they would reduce electricity use by a lot but are likely to increase gas use to compensate for the loss of internal load. Using site energy, an internal loads reduction in a decently insulated building in a cold climate would increase its site EUI. Because gas at a delivered efficiency of 90% is needed to compensate for the loss of internal gains at an efficiency of 100%, a 1 joule reduction in loads will cause a 1.1 joule increase in site heating energy, making it look like a bad investment during many hours of the year, even though energy costs and source energy would both be reduced. This masks the value of reducing internal loads and creates a disincentive to reduce electricity consumption compared to reducing natural gas consumption in a mixed fuel building.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Consistent with action on PC027.

PC022 LogID 6067	**305.2.6.1 Water consumption reduction path** ***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Outdoor Equipment Institute
Comment:	**305.2.6.1 Water consumption reduction path** *<1st three paragraphs and formula omitted>* <u>Where</u> ~~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~~ <u>shall</u> be calculated based on data and building systems that existed in the building up to 3 years prior project registration.
Reason:	Preferable standards language.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC023 LogID 6255	**305.2.6.1 Water consumption reduction path** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	305.2.6.1 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. Alternately the percentage reduction in water consumption shall be based on a percentage reduction in the WRI in the existing building.
Reason:	This adds an option to base the improvement in water efficiency on the improvement in the Water Rating Index (WRI).
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC likes the idea but due to the relative newness of the WRI tool, the CC believes they would need more time to ensure that it is properly implemented.

PC024 LogID 6027	**305.3.5.1 Energy consumption reduction** ***Final Formal Action:*** **TBD**
Submitter:	Amy Schmidt, Dow Building Solutions
Comment:	305.2.5.1 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 205.3.5.1. The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings or [(consumption per square foot before remodel – consumption per square foot after remodel)/consumption per square foot before remodel] 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 ~~site energy 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:*100/sleeping 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 existing in the building up to 3 years prior project registration.
Reason:	The committee action is inconsistent with the way base energy codes measure consumption. Site energy consumption as a measure does not recognize the inefficiencies of transmission for energy coming from the grid and will therefore allow gaming within the standard. Models will be run to determine the path of least resistance. This will result in significant under representation of consumption of the buildings using this option. SEE BSD-151 by Kohta Ueno & John Straube who say "The problem is that the process of generating electricity incurs substantial losses—enough that for every unit of electricity at the plug, it might have been necessary to “burn” about 3 times that amount of energy (coal, gas, nuclear, etc.) at the power plant"
Substantiating Documents:	Yes, substantiating documents can be found at www.homeinnovation.com/ngbs under the Public Comments on Draft Standard.
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Language submitted is not reflective of the draft standard. Removal of site energy savings text was action in PC026.

PC025 LogID BC06	**305.2.5.1 Energy consumption reduction** ***Final Formal Action:*** **TBD**
Submitter:	Amy Schmidt; The Dow Chemical Company

Comment:	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
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* *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*
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Based upon action on PC026

PC026 LogID BC07	**305.2.5.1 Energy consumption reduction** ***Final Formal Action:*** **TBD**
Submitter:	R. Christopher Mathis; Mathis Consulting
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* *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*
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	*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*
CC Reason:	Consistent with action on PC027.

PC027 LogID BC08	**305.2.5.1 Energy consumption reduction** ***Final Formal Action:*** **TBD**
Submitter:	Neil Leslie; Gas Technology Institute
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:*

	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
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	*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…*
CC Reason:	Based on original Ballot Comment.

PC028 LogID BC09	**304.2 Alternative IgCC compliance** ***Final Formal Action:*** **TBD**
Submitter:	Amy Schmidt; The Dow Chemical Company
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* ***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)*
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Reason on the scope creep: Scope is not within the purview of the CC Reason: Sampling is a standard procedure in the industry, and the sampling requirement is significant.

PC029 LogID BC10	**304.2 Alternative IgCC compliance** ***Final Formal Action:*** **TBD**
Submitter:	R. Christopher Mathis; Mathis Consulting
Comment:	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.

	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* ***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)*
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC doesn't want to put the process on hold.

Chapter 4: Site Design and Development

PC030 LogID 6113	403.5 (4) Stormwater management *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	~~**(Points for vegetative paving systems are only awarded for location receiving more than 20 inches per year of annual average precipitation)**~~
Reason:	Remove requirement, Any project incorporating vegetative paving should be able to take points. OR add "..more than 20in per year of annual average precipitation as determined by NOAA(or something similar)
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	This was deemed an acceptable compromise to prevent awarding points in arid regions.

PC031 LogID 6034	403.5 Stormwater Management *Final Formal Action:* **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	403.5 (4) – We are supportive of these changes.
Reason:	Vegetative paving systems provide additional benefits.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC032 LogID 6319	403.5 Stormwater management *Final Formal Action:* **TBD**
Submitter:	Craig Conner, self
Comment:	~~(Points for vegetative paving systems are only awarded for location receiving more than 20 inches per year of annual average precipitation)~~
Reason:	Infiltration of rain and stormwater is more important where there is less water. This restriction eliminates most of the arid western US. Infiltration helps restore aquifers, limits flooding in areas that are not adapted to significant rainfall and supports local water hungry plants.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	This was deemed an acceptable compromise to prevent awarding points in arid regions.

PC033 LogID 6114	403.6 (19)Landscape Plan *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	(a) Is not present on slopes steeper than 25% (i.e. ~~where land rises more than a foot vertically for every 4 feet horizontally).~~1 foot rise for every 4 foot run)
Reason:	Easier to understand, less wordy
Substantiating Documents:	No
CC Action:	Disapprove

Modification of Comment:	
CC Reason:	Modification to example is unnecessary.

PC034 LogID 6036	**403.6 Landscape Plan**	***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance	
Comment:	403.6 (5) - We support the addition of this item.	
Reason:	403.6 (5) - We support the addition of this item. Water efficient, hardy and climate appropriate turfgrass species have been and continue to be developed for various areas of the country.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC035 LogID 6037	**403.6 Landscape Plan**	***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance	
Comment:	*403.6 (6) should be removed in its entirety.* ~~**(56)** For landscaped vegetated areas, the maximum percentage of all turf areas is:~~ ~~**(a)** 0 percent **510**~~ ~~**(b)** Greater than 0 percent to less than 20 percent **48**~~ ~~**(c)** 20 percent to less than 40 percent **36**~~ ~~**(d)** 40 percent to 60 percent **24**~~	
Reason:	403.6 (6) – We do not support this change and strongly disagree with the allocation of points based on limitations of the use of turfgrass. There is no scientific or logical justification for this section targeting one plant species. In addition, this limits flexibility of the landscape designer to provide the most effective and efficient landscape design for the site. This assignment of points is duplicative of requirements already in place where points are provided for the use of the EPA WaterSense Water Budget Tool. Chapter 4 applies to the "site" which will include common areas for recreation, children's play, pet exercise, group functions and other outdoor uses for residents and families. Turfgrass is an important element of landscape design to meet these important services. This is also inconsistent with the potential use of turfgrass to comply with numerous sections of the ICC 700 where turfgrass is a proven and effective method for compliance. Turfgrass is helpful in compliance with sections: 403.3 (3) 403.5 (2); (3); (4), (18) 403.6 (3); (4) 405.3 405.4 (1); (2) 405.9 406.1	
Substantiating Documents:	No	
CC Action:	Approve as Modified	
Modification of Comment:	**403.6(4)** EPA WaterSense Water Budget Tool or equivalent is used when implementing the site vegetative design. ~~up to the maximum percentage of turf areas.~~ **10 points**	
CC Reason:	The commenter correctly identifies the awarding for points for use of water budget tool exclusively for turf limitation incentives as duplicative with 403.6(6). The CC believes the modified language eliminates this specific duplication.	

PC036 LogID 6038	**403.6 Landscape Plan**	***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance	
Comment:	403.6 (7) We support this change	
Reason:	Section 403.6 (7) – We support this change which encourages the improvement and increase of pollinator habitat.	

Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC037 LogID 6039	**403.6 Landscape Plan**	***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance	
Comment:	403.6 (19) - We support the addition of this section	
Reason:	Promotes the use of efficient irrigation systems and design.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC038 LogID 6068	**403.6 Landscape plan**	***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Outdoor Equipment Institute	
Comment:	**403.6Landscape plan.** *< (1) through(5) omitted>*	

(6) For landscaped vegetated areas, the maximum percentage of all turf areas is:	
(a) 0 percent	**5~~10~~**
(b) Greater than 0 percent to less than 20 percent	**4~~8~~**
(c) 20 percent to less than 40 percent	**3~~6~~**
(d) 40 percent to 60 percent	**2~~4~~**

Reason:	Doubling point awards for a builder to NOT do something that can have significant environmental benefits is a mistake. There is no quicker way to control wind and water erosion on a disturbed site than to place sod on the areas of disturbance. Note that this section does not assure that the vegetation planted on the site instead of turfgrass will have any significant benefit. There are any number of plants that do not have the same capacity to accumulate biomass, sequester carbon, or to provide reliable atmospheric cooling that turfgrass does – mitigating some of the need for building air conditioning – because of its superior leaf area index and evapotranspiration. By far the greatest population of the United States lives in areas with more than 20 inches per year of annual precipitations; areas that climate models predict to have greater precipitation and stormwater events going forward. In those places turfgrass helps provide virtually free air conditioning, particularly when planted with shade trees. Note also that the parallel section in Chapter 5 (Sec. 503.5 (6)) has not been suggested for point increase. Increasing point award for Sec. 403.6 (6) makes the standard internally inconsistent.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The point reduction is too severe. The CC agrees with the point values in the current draft standard.

PC039 LogID BC11	**403.6 Landscape Plan**	***Final Formal Action:*** **TBD**
Submitter:	Thomas Pape; Alliance for Water Efficiency	

Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* (5) Where turf is being planted, Turfgrass Water Conservation Alliance (TWCA) or equivalent third party qualified water efficient grasses are used | 6
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	There are many qualified 3rd party evaluators of water efficient turf varieties. The adopting entity determines equivalence.

PC040 LogID 6256	**403.6 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Add as follows. **Proposed Change:** (5) Where turf is being planted, Turfgrass Water Conservation Alliance (TWCA) or equivalent, as determined by the jurisdiction having authority, third party qualified water efficient grasses are used.
Reason:	Stating "as equivalent" without further context is vague and cannot be implemented consistently.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The adopting entity determines equivalence.

PC041 LogID 6313	**403.6 & 503.5 Landscape plan.** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	403.6 Landscape plan. **(5)** Where turf is being planted, ~~Turfgrass Water Conservation Alliance (TWCA) or equivalent~~ third party qualified water efficient grasses are used. 503.5 Landscape plan. **(5)** Where turf is being planted~~, Turfgrass Water Conservation Alliance (TWCA) or equivalent~~ third party qualified water efficient grasses are used. Also 11.503.5 Landscape plan.
Reason:	Turf grass Water Conservation Alliance seems to be a membership oriented organization that also serves as a marketing tool. The AHJ might sometimes allow TWCA products, but it should not be mandated as acceptable by the NGBS. Also there is no citation in the NGBS references. Even though it was my first visit I got this message from the web site: "This map is currently frozen. To unfreeze, please Upgrade the account that owns this map to one of our paid plans for more visits." "In case the map is not owned by any account, Sign-Up for the service and claim the map with a paid account." Try this web site. https://www.tgwca.org/list-of-qualified-products.html
Substantiating Documents:	No

CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The program listed is provided as a convenience and base of equivalence. TWCA originated the protocol that is the basis for many drought evaluations.

PC042 LogID 6040	**Section 403.7 Wildlife Habitat**	***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance	
Comment:	403.7 - We support the additions to this section.	
Reason:	Provides additional guidance with regards to wildlife habitat considerations.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC043 LogID 6314	**405.1 & 505.1 Driveways and parking areas.**	***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self	
Comment:	405.1 Driveways and parking areas. **(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% 505.1 Driveways and parking areas. **(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	
Reason:	Infiltrating rain and stormwater is an important part of maintaining local aquifers. Channeling stormwater into drains is not green. Infiltration of stormwater and rainwater tends to reduce flooding and benefits local plants. This should be restored. One of these sections is for developments and one is for the lot, so these are not the same.	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	The provisions for water permeable surfaces were moved to 403.5(4) and 503.4(4).	

PC044 LogID BC12	**403.5 Stormwater management**	***Final Formal Action:*** **TBD**
Submitter:	Thomas Pape; Alliance for Water Efficiency	
Comment:	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	

Reason:	***Secretariat Note**: Comment on the following provision of the Draft Standard:* **403.5 Stormwater management.** (4) Permeable materials are used for driveways, parking areas, walkways and patios according to the following percentages: (Points for vegetative paving systems are only awarded for locations receiving more than 20 inches per year of annual average precipitation) (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
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Vegetative paving systems are well defined by the marketplace and it is unlikely that the adopting entity or evaluator would allow "gaming" the system.

PC045 LogID 6240	**405.6 Multi-modal transportation** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self
Comment:	(7) A Site 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 withing the top quartile for the region calculated at 15.26 to 20 (Most Walkable) on the National Walkability Index. (b) Walkability is within the second quartile for the region calculated at 10.51 - 15.25 (Above Average Walkable) on the National Walkability Index.
Reason:	This credit as written is extremely cumbersome to verify. the term region is undefined. As such it is impossible to do a statistical analysis to determine the "top quartile" or the "second" quartile". Even if region were to be defined, the fact that a statistical analysis is required to verify a credit makes it nearly unusable in and of itself.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	EPA Tool has been provided to determine the quartile.

PC046 LogID 6258	**405.6 Multi-modal transportation** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	~~**(7)** 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**~~ ~~**(b)** Access is within the second quartile for the region~~ ~~**(8)** 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~~ ~~**(b)** Access is within the second quartile for the region~~
Reason:	This is unusable. The database cited is difficult to understand, sparsely populated for many items, does not include "walkability', and is not listed in references for ICC 700. My home's smart location index is 85. My block group SLI is 86. Is that good? I have no idea if it is good or even what those are. I tried the DC NAHB headquarters, which also lacked some data. The database had a "?" for whether NAHB's building existed in 2010. When I clicked "more" the data base had no "Walk Score" and no "Transit Score" for either my home or the NAHB building. It did not find the transit stop that is 1+ blocks from my house. EPA's "Smart Location Database" did not take me to something I could use. This should be deleted. https://www.epa.gov/smartgrowth/smart-location-mapping
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	We need to protect the opportunity of builders to earn points for appropriate siting.

PC047 LogID BC13	**405.9 Open space** ***Final Formal Action:*** **TBD**
Submitter:	Bob Thompson; US EPA
Comment:	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
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **405.9 Open space.** ~~A~~ The community is saturated within 1/2 mile of an area of open space available to the public or a portion of the gross area of the community is set aside as open space. — ~~1~~2 **(Points awarded for every 10 percent of the community set aside as open space. If open space outside of the community is included, a maximum of 3 points are awarded)**
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The commenter misread the technical substantiation, which calls for 9 sq meters of green space per person in urban environments. Green infrastructure and community facilities dedicated to human wellbeing are of significant environmental value.

PC048 LogID 6101	**405.9 Open space** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	405.9 Open space. A The community is ~~saturated~~ situated within 1/2 mile of an area of open space available to the public or a portion of the gross area of the community is set aside as open space. ~~2~~ 1 (Points awarded for every10 percent of the community set aside as open space. Maximum 3 points.) ~~If open space outside of the community is included, a maximum of 3 points are awarded)~~
Reason:	The benefit of this open space practice is to give residents a place for recreation and exercise. Whether the developer has opted to build near an existing park or offers new open space within the development

	is of little relevance if the areas are a similar distance and of similar quality. Thus, it does not make sense to limit the points based on whether the open space is within or outside the community. Conversely, we do not want to reward points such that a developer is encouraged to use land inefficiently. As written, a developer could build a large area with few homes, but with huge tracts dedicated for open space (e.g., golf courses, man-made lakes) This could mean, say, 10 points, for building a community with attributes at odds with sustainable practices encouraged elsewhere in Chapters 4 and 5.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	We want to encourage development of sites in proximity to existing green space as well as including green space in the community wherever possible. Green infrastructure and community facilities dedicated to human wellbeing are of significant environmental value.

PC049 LogID 6041	**406.1 The site is designed…** ***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	406.1 We support the addition of this section.
Reason:	Tick born diseases are an increasing hazard which this section provides means to help mitigate.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Comment of affirmation, non-actionable.

PC050 LogID 6102	**406.1 The site is designed to mitigate…** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	~~406.1 The site is designed to mitigate hazards from insect born disease. (To acquire points the site must be documented to be at risk by an epidemiologist or qualified professional)~~ ~~(a) Dense plant beds, shrubbery and woody plants are not planted within 5 feet (1.5 m) of occupied buildings 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~~
Reason:	Insect-borne diseases can have serious consequences for human health. Unfortunately, the practices listed here are inconsistent with those recommended by the experts at CDC and elsewhere, have not been shown to be effective, and/or rely on homeowner action rather than that of the builder. We recommend deleting this section so as to avoid suggesting that a homeowner purchasing a NGBS home is less likely to be bitten by ticks or mosquitos if a builder received points for the above practices.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	

CC Reason:	The TG reviewed extensive substantiation of insect mitigation design. Well-designed landscapes forestall the need for chemical treatments. TG believes this is an important section and should remain as part of the 2020 NGBS. The CC agreed with the TG recommendation.

PC051 LogID 6315	**406.2 & 505.9 Smoking prohibitions.** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	~~406.2 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~~ ~~(b) Smoking is prohibited in common areas unless otherwise designated as smoking areas~~ ~~505.9 Smoking prohibitions. Signs are provided on multifamily and mixed-use lots prohibiting smoking ath 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.~~ ~~(b) Smoking is prohibited on decks, balconies, patios and other occupied exterior spaces.~~ ~~(c) Smoking is prohibited at all parks, playgrounds, and community activity or recreational spaces.~~
Reason:	I don't like smoking, but don't see this prohibition as a part of a green standard. In my state this is a function of state law. What are "common areas"? Parks? Sidewalks? Streets? Parking lots? How many signs? 1 per acre? 1 per square meter? 1 per square mile? We already have 901.14 Non-smoking areas.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	These prohibitions are an important component of health and safety and as such should be included in the standard.

PC052 LogID BC14	**406.1 The site is designed…** ***Final Formal Action:*** **TBD**
Submitter:	Thomas Pape; Alliance for Water Efficiency
Comment:	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
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:*

	406.1 The site is designed to mitigate hazards from insect born disease. **(To acquire points the site must be documented to be at risk by an epidemiologist or qualified professional)**
	(a) Dense plant beds, shrubbery and woody plants are not planted within 5 feet (1.5 m) of occupied buildings — **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**
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC050.

PC053 LogID BC15	**406.1 The site is designed to mitigate hazards from insect born disease.** ***Final Formal Action:*** **TBD**
Submitter:	Bob Thompson; US EPA
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:*
	406.1 The site is designed to mitigate hazards from insect born disease. **(To acquire points the site must be documented to be at risk by an epidemiologist or qualified professional)**
	(a) Dense plant beds, shrubbery and woody plants are not planted within 5 feet (1.5 m) of occupied buildings — **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**
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC050.

PC054 LogID BC16	**406.1 The site is designed to mitigate hazards from insect born disease.** *Final Formal Action:* **TBD**
Submitter:	John Barrows; P3 Builder Group
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **406.1** The site is designed to mitigate hazards from insect born disease. **(To acquire points the site must be documented to be at risk by an epidemiologist or qualified professional)** (a) Dense plant beds, shrubbery and woody plants are not planted within 5 feet (1.5 m) of occupied buildings — **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**
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC050.

PC055 LogID BC17	**406.1 The site is designed to mitigate hazards from insect born disease.** *Final Formal Action:* **TBD**
Submitter:	Laura Petrillo-Groh; AHRI
Comment:	AHRI votes no. This proposal goes beyond the scope of the standard. Issue of tick-borne diseases is not "green building" issue.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **406.1** The site is designed to mitigate hazards from insect born disease. **(To acquire points the site must be documented to be at risk by an epidemiologist or qualified professional)** (a) Dense plant beds, shrubbery and woody plants are not planted within 5 feet (1.5 m) of occupied buildings — **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**
Substantiating Documents:	No

CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Disapprove (default action). Consensus was not reached on any action. The committee's action is to retain the practice in the standard.

PC056	**LogID BC18**	**406.2 Smoking Prohibition**	***Final Formal Action:*** **TBD**
Submitter:		Laura Petrillo-Groh; AHRI	
Comment:		AHRI votes no. Do not agree that points need to be awarded.	
Reason:		***Secretariat Note****: Comment on the following provision of the Draft Standard:*	

406.2 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	**3**

Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC051. These prohibitions are an important component of health and safety and as such should be included in the standard.

Chapter 5: Lot Design, Preparation, and Development

PC057 LogID BC19	501.2 Multi-modal transportation *Final Formal Action:* TBD
Submitter:	Laura Petrillo-Groh; AHRI
Comment:	AHRI votes no. This proposal is too complex and has too many points
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* (4) …….. 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 -- 5 points (b) Walkability is within the second quartile for the region – 2 points
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC045.

PC058 LogID 6238	501.2 Multi-modal transportation *Final Formal Action:* TBD
Submitter:	Aaron Gary, self
Comment:	(4) A lot is selected... 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~~ calculated at 15.26 to 20 (Most Walkable) on the National Walkability Index. (b) Walkability is ~~within the second quartile for the~~ region calculated at 10.51 - 15.25 (Above Average Walkable) on the National Walkability Index.
Reason:	"region" neither undefined in the NGBS Standard or USEPA Smart Location Database. How can do you a statistical analysis to determine the top and second quartile when the areas you are comparing to are undefined? For a project in Rockville, Maryland, does "region" mean the surrounding 10 square blocks, the Washington DC-Baltimore metro area, or the entire Mid-Atlantic? What about a small town in Yukon, Oklahoma?
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC045.

PC059 LogID 6208	501.2 & 11.501.2 Multi-modal transportation. *Final Formal Action:* TBD
Submitter:	Craig Conner, self
Comment:	A lot is selected within one-half mile (805 m) of six or more community resources. No more than two each of the following use category can be counted toward the total: Recreation, Retail, Civic, and Services. Examples of resources in each category include,

	but are not limited to the following: Recreation: recreational facilities (such as pools, tennis courts, basketball courts), parks. Retail: grocery store, restaurant, retail store. Civic: post office, place of worship, community center. Services: bank, daycare center, school, medical/dental office, laundromat/dry cleaners. ~~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 withing the top quartile for the region~~ ~~(b) Walkability is within the second quartile for the region~~
Reason:	This is unusable. The database cited is difficult to understand, sparsely populated for many items, does not include "walkability', and is not listed in references for ICC 700. My smart location index is 85. My block group SLI is 86. Is that good? I have no idea. When I asked for more, it had no "walk score" for me. DC NAHB headquarters also lack some data. Had a "?" for whether NAHB's building existed in 2010. Had no "Walk Score" and no "Transit Score" for either me or NAHB building. Did not find transit stop that is 1+ blocks from my house. EPA's "Smart Location Database" did not take me to something I could use. This is silly and should be deleted. https://www.epa.gov/smartgrowth/smart-location-mapping
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC058

PC060 LogID 6350	**503 Lot Design** ***Final Formal Action:*** **TBD**
Submitter:	Nat Hodgson III, Southern Nevada Home Builders Association
Comment:	**Unique Greywater Requirements for the Southwest** • Section 503.4 give revegetation credit to builders in areas receiving less than 10 inches of annual rainfall when they utilize professionally designed and installed xeriscaping. **Stormwater and Air Quality Approaches Unique to the Southwest** • Sections 503.4, 503.5 be amended to reflect that there is no penalty for exceeding non-permeable area thresholds for areas receiving less than 10 inches of annual rainfall.

Reason:	As residential developers in a metropolitan area that is located in Climate Zone 3b and receives less than 4 inches of annual rainfall, we recognize that our needs are somewhat unique. That is why our members were encouraged to see several updates, including a performance path for outdoor water efficiency ratings in Section 803. We are also encouraged to see other areas where the 2020 NGBS provides for regional exceptions. Our hope is that similar opportunities to identify environmentally appropriate regional best practices to revegetation, landscaping and stormwater will be considered for the 2020 NGBS. **Unique Greywater Requirements for the Southwest** States in the Colorado River Compact have unique regulations regarding collection and use of rainwater and greywater. In fact, it is illegal in Colorado and Nevada to collect rainwater, unless water rights have been granted. Similarly, return flow credits are granted to our water purveyors for every gallon treated and returned to the Colorado River, so all codes and environmental programs are oriented to returning as close to 100% of indoor and outdoor water to a drain for treatment and reuse. It is large efficiency of water reuse that simply cannot be matched by a property owner or developer on a case-by-case basis. Similarly, xeriscaping provides the best combination of dust mitigation for air quality, stormwater control and water efficiency. Professionally designed and installed xeriscaping, along with rain detection equipment for drip irrigation systems are the best way to meet the unique needs of the arid Southwest. For this reason, SNHBA respectfully request that Section 503.4 give revegetation credit to builders in areas receiving less than 10 inches of annual rainfall when they utilize professionally designed and installed xeriscaping. We believe this change meets the intent of a performance-based regional approach to water conservation in Section 803. Similarly, we ask that Sections 802 and 803 maintain an approach that does not penalize builders in areas where water collection and reuse is illegal and not the most environmentally effective approach to water conservation. **Stormwater and Air Quality Approaches Unique to the Southwest** Another area where arid desert areas differ in environmental best practices is desirability of non-permeable surfaces. Whereas permeable surfaces are preferred for stormwater compliance and water efficiency in many areas of the country, the opposite is true for areas receiving less than 10 inches of annual rainfall. In fact, building codes in Climate Zone 3b typically require that 50% or more of a lot is covered. Non-permeable surfaces move rainwater to drains, where reuse is best facilitated, and minimize dust for air quality. For this reason, we respectfully request that Sections 503.4, 503.5 be amended to reflect that there is no penalty for exceeding non-permeable area thresholds for areas receiving less than 10 inches of annual rainfall. In closing, we appreciate the continued work to create a Green Building Standard that allows for use of regional best practices. Past versions of the standard not crediting builders in the arid West for best practices has resulted in minimal use of the standard. In this regard, the 2020 NGBS Draft represents significant improvement over the 2012 and 2015 Standard. Incorporation of the changes to Section 503, 802 and 803 to reflect best practices for arid areas in the West would result in a drastic increase in use of the standard in these areas, which is our shared goal.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The comment was not provided in legislative format, and suggested action is unclear.

PC061 LogID 6042	**503.1 Natural Resources**	***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance	

Comment:	503.1 (8) – We support the addition of this section.
Reason:	This added reference provides important guidance when building in an urban-wildlife interface area.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Comment of affirmation, non-actionable.

PC062 LogID 6103	**503.1 Natural resources**	***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Comment:	~~503.1 (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).~~	
Reason:	a) It is inconsistent with the goals of a green building standard to reward a builder for siting in a hazardous and environmentally sensitive area. If this is practice is included in this standard, it would be more appropriate for it to be mandatory. b) Why allow a developer to get points merely for having a plan? c) The IWUIC was written to protect buildings from fires, but it was not written with sustainability in mind. For example, the code requires the removal of plants to create a defensible space. The requirements are very broad and oversimplified and, other than offering an exception for turf, ivy, and a few other low-lying plants, do not inform users about the many plants that are fire resistant. Wildfires vary based on local conditions, as do the plants that are fire resistant. Defensible space, then, is an issue that needs local interpretation. IWUIC requirements could unnecessarily contribute to environmental damage by encouraging builders to remove (or not plant) vegetation that is a low fire risk but beneficial to the ecosystem. Following are links to a sampling of materials created by localities that mention many types of plants that may be included in defensible space: https://www.unce.unr.edu/publications/files/ho/2001/fs0133.pdf https://uwyoextension.org/uwrange/wp-content/uploads/2013/10/Defensible-Landscaping.pdf https://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service/For-Communities/Firewise-Communities/Firewise-Landscaping http://extension.colostate.edu/docs/pubs/natres/06303.pdf https://interwork.sdsu.edu/fire/curricula/documents/NativePlantstoReduceFireRisk.pdf	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	There are serious negative environmental impacts to the spread of fire between wildlands and buildings (combusting construction materials, material replacement, air quality impacts, and erosion)	

PC063 LogID 6244	**503.1 Natural Resources**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self	

Comment:	(8) ~~Developer has a plan to~~ The lot is designed and constructed ~~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).
Reason:	Having a plan to design and construct and actually designing and constructing are two very different things. the best laid plans are often abandoned when faced with technical and economic realities.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	503.0 Intent states "(points awarded only if the intent of the design is implemented)"

PC064 LogID BC20	**503.1 Natural resources** *Final Formal Action:* **TBD**
Submitter:	Bob Thompson, US EPA
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **(8)** Developer has a plan to design and construct the lot in accordance with the International Wildland-Urban Interface Code (IWUIC). 6 **(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).**
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	503.0 Intent states "(points awarded only if the intent of the design is implemented)"

PC065 LogID 6318	**503.1 Natural resources** *Final Formal Action:* **TBD**
Submitter:	Craig Conner, self
Comment:	503.1 Natural resources. **(8)** Developer ~~has a plan to design and~~ constructs the lot in accordance with the International Wildland-Urban Interface Code (IWUIC).
Reason:	It is not the planning we want, it is the doing.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	503.0 Intent states "(points awarded only if the intent of the design is implemented)"

PC066 LogID 6115	**503.4 (4) Stormwater Management** *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self

Comment:	~~(Points for vegetative paving systems are only awarded for locations receiving more than 20 inches per year of annual average precipitation)~~
Reason:	I would argue that anyone who utilizes vegetative paving should be awarded points, as they are still taking initiative to incorporate permeable materials on-site to allow for infiltration and reduce the harm from run-off or impacting the municipal storm system.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Irrigation should not be encouraged for a vegetative paving system for arid climates.

PC067 LogID 6043	**503.4 Stormwater Management** ***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	503.4 (4) – We support the addition of this section, but with modification. **(4)** Complete gutter and downspout system directs storm water away from foundation to vegetated landscaping, a raingarden, or catchment system that provides for water infiltration.
Reason:	This provides the functional performance expectation for storm water management of this item.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	Modify Draft Standard as Follows: (5) Complete gutter and downspout system directs storm water away from foundation to vegetated landscape ~~ing~~ area, a raingarden, or catchment system that provides for water infiltration
CC Reason:	Clarification. Densely was undefined.

PC068 LogID 6070	**503.4 Stormwater management** ***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Outdoor Equipment Institute
Comment:	**503.4 Stormwater management.** *< (1)through (4) omitted >.* **(5)** Complete gutter and downspout system directs storm water away from foundation to ~~landscaping~~ densely vegetated area, a rain garden, or catchment system
Reason:	The NGBS definition of "landscaping" includes "created or installed elements such as fences or other material objects;" and "abstract elements such as the weather and lighting conditions," where it could be harmful to direct stormwater discharges. 'Vegetated area' better meets the intent of the change. 'Densely' is added to prevent gaming, like directing stormwater toward a single tree. 'Raingarden' is added to address less densely vegetated areas that work similarly to catchment systems but that may not be considered as such by the user.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC067.

PC069 LogID BC21	**503.4 Stormwater management** ***Final Formal Action:*** **TBD**
Submitter:	Thomas Pape; Alliance for Water Efficiency
Comment:	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.
Reason:	***Secretariat Note**: Comment on the following provision of the Draft Standard:* **(5)** Complete gutter and downspout system directs storm water away from foundation to landscaping or catchment system – **3 points**
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC067. Consistent with EPA recommendations for disconnecting rain leaders from sewer systems.

PC070 LogID 6044	**503.5 Landscape Plan** ***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	503.5 (4) This section should be changed to read: (4) EPA WaterSense Water Budget Tool or equivalent is used ~~when implementing up to the maximum percentage of turf areas.~~
Reason:	Section 503.5 (4) - We disagree with the reference to turfgrass in the use of the EPA WaterSense Water Budget Tool. We agree with the modification to the points allowed. This is a misapplication of the intent of this tool to provide the landscape designer with an appropriate water budget for the landscape design of the site and is not intended to be used to prescriptively limit the use of any individual plant option. This tool applies to the total plant palette used in the landscape.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	503.5 (4) This section should be changed to read: (4) EPA WaterSense Water Budget Tool or equivalent is used when implementing the site vegetative design ~~up to the maximum percentage of turf areas.~~
CC Reason:	Consistent with action on PC035

PC071 LogID 6254	**503.5 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Add as follows. **Proposed Change:** (5) Where turf is being planted, Turfgrass Water Conservation Alliance (TWCA) or equivalent as determined by the jurisdiction having authority third party qualified water efficient grasses are used.
Reason:	Stating "as equivalent" without further context is vague and cannot be implemented consistently.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	(5) Where turf is being planted, Turfgrass Water Conservation Alliance (TWCA) or equivalent as determined by the adopting entity third party qualified water efficient grasses are used.
CC Reason:	Clarification of language to match rest of standard

PC072 LogID BC22	**503.5 Landscape plan** ***Final Formal Action:*** **TBD**
Submitter:	Thomas Pape; Alliance for Water Efficiency

Comment:	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.
Reason:	***Secretariat Note**: Comment on the following provision of the Draft Standard:* (5) Where turf is being planted, Turfgrass Water Conservation Alliance (TWCA) or equivalent third party qualified water efficient grasses are used — 3
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Drought tolerant grasses are determined by many university and county extension services.

PC073 LogID 6061	**503.6 Wildlife habitat**	***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Comment:	(2) To improve pollinator habitat, at least 10 percent of planted areas are composed of native or regionally appropriate flowering and nectar producing plant species. Invasive plant species shall not be utilized.	
Reason:	Including nectar producing species is a good start, but why not encourage projects to use the plants that co-evolved with pollinators? Pollinators rely on native plants for more than just nectar sources—for example, butterflies and other insects use native plants not only as nectar sources, but larval hosts. Where possible, constructed habitats should take the full life cycle of pollinator species into account. "Native or regionally appropriate" vegetation is referenced in other areas of the draft, so this addition would be consistent with language elsewhere in the standard.	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	Additional restriction is unnecessary	

PC074 LogID 6072	**503.6 Wildlife habitat**	***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Comment:	**503.6Wildlife habitat.** Measures are planned to support wildlife habitat and include at least two of the following*:< (1) omitted>* ~~**(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.~~	
Reason:	The proposed language duplicates the language of Sec. 503.5 (3), allowing double counting for the same practice.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC075 LogID BC23	505.4 Mixed-use development *Final Formal Action:* TBD
Submitter:	Thomas Pape; Alliance for Water Efficiency
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **505.4 Mixed-use development.** ~~The lot contains a mixed-use building.~~ ~~8~~ (1) The lot contains a mixed-use building. 8 (2) Lot is within ½ mile of a mixed-use building(s). 4
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	Delete 505.4(2)
CC Reason:	Commenter was persuasive on item (2)

PC076 LogID BC24	505.4 Mixed-use development *Final Formal Action:* TBD
Submitter:	Bob Thompson; US EPA
Comment:	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).
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **505.4 Mixed-use development.** ~~The lot contains a mixed-use building.~~ ~~8~~ (1) The lot contains a mixed-use building. 8 (2) Lot is within ½ mile of a mixed-use building(s). 4
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	In favor of action on PC075

PC077 LogID 6320	505.5 Multifamily or mixed-use community garden *Final Formal Action:* TBD
Submitter:	Craig Conner, self
Comment:	505.5 Multifamily or mixed-use community garden(s). **(b)** Locate the project within a 0.5-mile walking distance of an existing or planned framers market/farm stand that is open or will operate at least once a week for at least five months of the year. ~~3~~ 1
Reason:	3 points seems excessive compared to other items.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	

CC Reason:	Density is greener and more sustainable in general. CC believes current point value is appropriate

PC078 LogID 6252	**505.8 and 11.505.8 Street Network. Definitions 202** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	~~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).~~ ~~505.8 Street Network. Locate the project in an area of high intersection density.~~ ~~11.505.8 Street Network. Project is located in an area of high intersection density.~~
Reason:	I don't see this as a good thing. Rather not live in a busy downtown. Don't think this is good for "wellness". The definition is not clear. How big of an "area" is it? blocks? city? Who is going to count these? Suggest deleting these.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Density is greener and more sustainable in general

PC079 LogID BC25	**505.8 Street Network**	***Final Formal Action:*** **TBD**
Submitter:	Laura Petrillo-Groh; AHRI	
Comment:	AHRI votes no. This proposal is outside the scope and purpose of a green building standard.	
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* ***505.8 Street Network:*** *Locate the project in an area of high intersection density. -* ***5 POINTS*** ***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).*	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	Density is greener and more sustainable in general.	

PC080 LogID 6104	**505.10 For multifamily buildings, on-site…** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	~~505.10 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.~~ ~~(a) A dedicated area of at least 400 square feet is provided inside the building with adult exercise and/or children's play equipment. 3~~ ~~(b) A courtyard, garden, terrace, or roof space at least10% of the lot area that can serve as outdoor space for children's play and /or adult activities is provided. 3~~ ~~(c) Active play/recreation areas are illuminated at night to extend opportunities for physical activity into the evening.~~
Reason:	It is unclear how this proposed section relates to site sustainability. Moreover, it is redundant with the points already available for open space. Finally, in many cases, the use of these spaces is dependent on the owner of the building and not under the control of the builder.

Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Its well established that human health and well being has sustainability benefits. The CC believes it is important to promote recreation on site.

PC081 LogID 6046	**505.10 For multifamily buildings, on-site….** ***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	505.10 – We support the addition of this section.
Reason:	On-site dedicated recreation space for exercise or play opportunities for adults and/or children are important to the health and well-being of the residents.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Comment of affirmation, nonactionable item.

Chapter 6: Resource Efficiency

PC082 LogID 6083	606.2 Wood-based products *Final Formal Action:* **TBD**
Submitter:	David Gromala, self
Comment:	**Comments on Sections 606.2 and 11.606.2:** I find it encouraging that the ICC-700 Committee is adding/expanding a reference to the voluntary consensus standard ASTMD7612. This standard was developed over many years to provide unbiased, quantifiable parameters by which the fiber sources of wood products can be categorized. Its requirements for categorization as responsible or certified sources are robust. This standard has provided the foundation for the 3rd party auditing program currently being used by the State of Oregon under Oregon Forest Practices Act. **Additional Editorial notes:** The last line on Page 12 is missing aright parenthesis. Also, Section 606.2 – " manufacturers' " (with the apostrophe after the "s") is plural while "system" is singular. (It's corrected in Section 11.606.2.) A quick MS Word spell-check found some typos (such as: Definition of "reclaimed water" – "authority" is misspelled. Section 305.2.3 – "repairs" is misspelled. Section 305.2.5 – "efficiency" and "energy" are misspelled). I'm sure there are more, but they'll be caught in final editing.
Reason:	I appreciate the opportunity to comment on the latest proposals related to ICC-700. For those on the Committee who do not know me, before I retired I was active in LEED, Green Globes, and the initial version of ICC-700. I served in a leadership role for several years in the ICC-ES Environmental Program's "Verified Attribute Report (VAR)" Program in which we evaluated the compliance of manufacturers to specific sustainability criteria in nationally recognized programs. I was also active in ASTM Committee E60 (Sustainability, E6 (Building Construction), D7 (Wood), and D20 (Plastics). The ASTM D7612 standard is an excellent reference and its inclusion in IGCC 606.2 and 11.606.2 is a step forward.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Supportive comment, not an actionable item. Additional editorial notes will be addressed by staff during review process.

PC083 LogID 6316	605.1 Hazardous waste *Final Formal Action:* **TBD**
Submitter:	Craig Conner, self
Comment:	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
Reason:	The word "all" is generally not helpful. If there is no "all" does it mean "most"? "All" is implied. This would be worse, if we put in all the implied "alls". For example, the item could have been worded with the implicit "alls" made explicit as: *"605.1 All hazardous waste. All construction and all waste management plans shall always include all information on all proper handling and all disposal of all hazardous waste. All hazardous waste is always properly handled and disposed."*
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC084 LogID 6311	606.2 Wood-based products *Final Formal Action:* **TBD**
Submitter:	Timm Locke, Oregon Forest Resources Institute

Comment:	This standard should be approved as submitted.
Reason:	The revisions to the standard mean that significantly more wood supply would be available for use in green construction. This, in turn would mean that the cost of wood products eligible to meet the standard would likely be more cost competitive with other building materials, thus reducing the cost of green construction and increasing the chances that more builders will choose this route. My name is Timm Locke and I represent the Oregon Forest Resources Institute.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Supportive comment, not an actionable item.

PC085 LogID 6274	**606.2 Wood-based products**	***Final Formal Action:*** **TBD**
Submitter:	John Tokarczyk, Oregon Department of Forestry	
Comment:	The Oregon Department of Forestry would like to express support for making reference to ASTM D7612 compliant wood or wood-based products in section 606.2 of the ICC-700 National Green Building Standard for residential housing. Oregon recognizes the distinct importance and value of responsible forestry in producing forest products and has developed a robust and comprehensive set of regulatory statutes and rules which are administered throughout the state to ensure the continued presence of healthy and dynamic forestlands. Referencing the ASTM standard in section 606.2 extends value to over ten million acres of Oregon forestlands including public lands which comply with ASTM D7612 and have been third party certified as a "Responsible Source" in accordance with ASTM International Standard D7612 "Categorizing Wood and Wood Based Products According to Their Fiber Sources" which provides for reforestation, limits on clear cutting, protection of wildlife, water quality, streams and fish habitat. Beyond supporting robust forest facing regulatory investments and public lands, there is a benefit for inclusion in the ICC standard as it would create greater harmonization of green building standard material resource requirements such that resource procurement is simplified. To this end, USGBC LEED standards currently recognize ASTM D7612 in their Alternative Compliance Path for Legal Wood. Also, the 2012 International Green Construction Code (IgCC) recognizes ASTM D7612 in their definition of fiber procurement system which is specified in Section 505.2.4 for Bio-based materials of the Material Resource Conservation and Efficiency chapter. Operationally Oregon has developed traceability procedures and compliance recommendations for Responsible Sourcing. A lumber grading agency and their membership have decided to adopt the Oregon procedures and currently offer Responsible Source Material. Lastly, addition of this standard is not expected to add any additional cost to construction, but provides benefit for practitioners and supporters of responsible forestry. For these reasons, Oregon strongly supports reference to ASTM D7612 Responsible Sourcing in the ICC-700 National Green Building Standard for residential housing. Sincerely, John Tokarczyk Oregon Department of Forestry	
Reason:	Recognizing ASTM D7612 wood or wood-based products supports responsible forestry, public investments in forest facing governmental administration, and public lands.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:	Supportive comment, not an actionable item.	

PC086 LogID 6071	**Section 607.1 Recycling and composting**	***Final Formal Action:*** **TBD**

Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	**Recycling and composting.** Recycling and composting by the occupant are facilitated by one or more of the following methods: (1) A readily accessible space(s) for recyclable ~~and compostable~~ material containers is provided and identified on the floorplan of the house or dwelling unit. 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. The area outside the living space shall~~:~~ ~~(a) 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.~~ ~~3~~2points ~~(2) In multifamily building, management provides recycling container and has designated recycling dumpsters onsite and /or contract with offsite sorting.~~ ~~3points~~ (2) A readily accessible space(s)for compostable material containers is provided and identified on the floorplan of the house or dwelling unit. A readily accessible area(s) outside the living space is provided for compostable material containers and identified on the site plan for the house or building. The area outside the living space shall accommodate composting container(s) for locally accepted materials, or, accommodate a composting container(s) for on-site composting. 4points
Reason:	Proposal to add a credit for composting in multifamily buildings: As written, providing space for compostables in multifamily buildings is not recognized under the 2020 NGBS. Such oversight disincentivizes provision of adequate space and can result in missed opportunities to reduce the large fraction of organics that is in the municipal solid waste stream. Proposal to allocate 2 points for provision of recycling space and 4 points for provision of composting space: Collection of recyclables has been implemented in many localities and the recycling rate has grown over many years. However, composting efforts are still behind despite local composting programs being in place. Providing space for composting can increase awareness and ability of consumers to collect and/or compost organics, and it presents the next meaningful opportunity to change how we manage all ongoing waste. A slightly larger number of points is intended to provide a comparatively worthwhile incentive needed to better facilitate the sustainable management of organics. Proposal to delete the requirement targeting building management: It is unclear how NGBS would ensure whether building management provides recycling containers and requirement is met.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**Recycling and composting.** Recycling and composting by the occupant are facilitated by one or more of the following methods: (1) A readily accessible space(s) for recyclable ~~and compostable~~ material containers is provided and identified on the floorplan of the house or dwelling unit~~.~~ or 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. The area outside the living space shall~~:~~ ~~(a) 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~~ ~~3~~2points ~~(2) In multifamily building, management provides recycling container and has designated recycling dumpsters onsite and /or contract with offsite sorting.~~ ~~3points~~ (2) A readily accessible space(s)for compostable material containers is provided and identified on the floorplan of the house or dwelling unit. or A readily accessible area(s) outside the living space is provided for compostable material containers and identified on the site plan for the house or building. The area outside the living space shall accommodate composting container(s) for locally accepted materials, or, accommodate a composting container(s) for on-site composting. 4points
CC Reason:	Modifications address concerns of applicability in multifamily buildings

PC087 LogID 6317	**611 Product Declarations** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	~~611 Product declarations.~~
Reason:	One single source found 546 EPDs related to construction products. https://www.environdec.com/Epd-Search/?search_type=simple&Category=7764 The new section calls for 10 EPDs or the like. Could one even build a building that has less than 30 products with EPDs? EPDs don't generally set a minimum and evaluate products compared to that minimum. Presumably products that are "bad", such as products with lots of mercury, lead, asbestos, … could have EPDs. There is no minimum or baseline for using the EPDs to evaluate multiple options. This is a paper work exercise that should be deleted. https://www.environdec.com/Epd-Search/?search_type=simple&Category=7764
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	This tool allows selection of products based on embedded carbon and the reduction of carbon is a fundamental goal of the NGBS.

PC088 LogID 6246	**611.1 & 11.611.1 Product Declatations** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self
Comment:	611.1 Product declarations. A minimum of 10 different products installed in the building project, at the time of certificate of occupancy, comply with one of the following sub-sections. Declarations, reports, and assessments are submitted to ~~the Adopting Entity~~ and contain documentation of the critical peer review by an independent third party, results from the review, the reviewer's name, company name, contact information, and date of the review. 11.611.1 Product declarations. A minimum of 10 different products installed in the building project, at the time of certificate of occupancy, comply with one of the following sub-sections. Declarations, reports, and assessments are submitted ~~to the Adopting Entity~~ and contain documentation of the critical peer review by an independent third party, results from the review, the reviewer's name, company name, contact information, and date of the review.

Reason:	Will Product Declarations be submitted to and reviewed by Home Innovation Research Labs or the NGBS Verifier? Askiing the Adopting Entity to recieve and review 10+ product declarations for each home and apartment for approval will be time consuming and burdensome.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***Modify Draft Standard as Follows:*** **611.1 Product declarations.** A minimum of 10 different products installed in the building project, at the time of certificate of occupancy, comply with one of the following sub-sections. Declarations, reports, and assessments are submitted ~~to the Adopting Entity~~ and contain documentation of the critical peer review by an independent third party, results from the review, the reviewer's name, company name, contact information, and date of the review. **11.611.1 Product declarations.** A minimum of 10 different products installed in the building project, at the time of certificate of occupancy, comply with one of the following sub-sections. Declarations, reports, and assessments are submitted ~~to the Adopting Entity~~ and contain documentation of the critical peer review by an independent third party, results from the review, the reviewer's name, company name, contact information, and date of the review.
CC Reason:	Correction to language.

PC089 LogID 6207	**612.2 Sustainable products.** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	**(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 NSF 332 ~~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 ~~EcoLogo CCD-016~~UL 2985~~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 ~~or applicable multi-attribute standards~~. **(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 ~~or applicable multi-attribute standards.~~ **(7)** 50% or more of the tile installed (by square feet) is certified to 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:	This web site offers an " Alphabetical index of 463 ecolabels." http://www.ecolabelindex.com/ecolabels/?search=&as_values_081= ICC 700 should not endorse 463 "ecolabels" without examining them. I can not find an EPA web page that lists all the ecolabels, nor can I find a definitive list. The ecolabels list appears to be a moving target. Or maybe "ecolabel" is best described as a principal or approach. Google using the address and name in the ICC 700 brings up this as the first item. https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapid=39952142 Here is part of what comes up: Terrachoice Environmental Marketing Inc. operates as an environmental marketing agency in North America. It provides science-based marketing strategy services, including branding strategy; consultation on environmental messaging and positioning; PR, communications, and social media strategy and implementation; and market research services comprising the design and delivery of market research studies and analyses on sustainability, as well as on green purchasers in B2B, B2G, and B2C commerce markets.

Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC090 LogID 6321	**613 RESILIENT CONSTRUCTION** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	613.1 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~~ and seismic (as applicable) ~~and reduce the potential for the loss of life and property~~. 613.2 Minimum structural requirements (base design). 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. 613.3 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~~ and seismic (as applicable) that are 10% higher than the base design.
Reason:	Consider deleting section 613 or at least delete the parts of it that can't be calculated. Can "resilience" really be calculated? Maybe. Can "durability" really be calculated? I'm skeptical that "durability" can be calculated. If "durability" is kept define what "durability" means. I doubt that the "loss of life and property" can be calculated, nor is an improvement for those specified. If section 613 is kept, make same change of "or" to "and" in all the 10%, 20%, 30%, 40%, 50% items. "or" means one can just upgrade one thing in the list. "and" means all of them.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC094

PC091 LogID 6097	**613.2 Minimum structural requirements** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	613.2 Minimum structural requirements (base design). The building complies with ICC IRC or IBC 2018. – Mandatory ~~is designed and constructed to comply with ICC 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.~~
Reason:	Compliance with the most recent building codes increases the likelihood that a building will withstand extreme natural events. Currently this section offers no baseline for the base design. We suggest that buildings, at a minimum, meet the latest ICC code (or equivalent, if the local jurisdiction uses codes published by another organization.) We also recommend deleting the rest of the language in this section as it is redundant with language in 613.1.
Substantiating Documents:	No
CC Action:	Approve as Modified

Modification of Comment:	***Section 613.2 in Draft Standard in its entirety should read as follows:*** 613.2 Minimum structural requirements (base design). <u>The building is designed and constructed in compliance with structural requirements in the IBC or IRC as applicable. – 2 points</u> ***Staff Note: 2018 Version of IRC and IBC***
CC Reason:	Clarity. Mandatory requirement was switched to points because the majority of the country has not yet adopted the structural requirements of the 2018 versions.

PC092 LogID 6306	**613.3 Enhanced resilience** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, self
Comment:	<u>613.3 Enhanced resilience – Assess project lot and building risk associated with lot Location , develop strategies to address specific risks and include measures in plan</u> 613. ~~3~~ <u>4</u> 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. 3 613.~~4~~ <u>5</u> 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. 5 613.~~5~~ <u>6</u> 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. 10 613. ~~6~~<u>7</u> 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. 12 613.~~7~~ <u>8</u> 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
Reason:	encourage resilient building practices
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC094

PC093 LogID 6117	**613 RESILIENT CONSTRUCTION** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	~~613.3 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.~~

	~~613.4 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~~ ~~613.5 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.~~ ~~613.6 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.~~ ~~613.7 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~~ Remove the sections above and update to the following or similar: a) 10% above base design - 3pts b) 20% above base design - 5pts c) 30% above base design - 10pts d) 40% above base design - 15pts e) 50% above base design - 20pts
Reason:	Sections 613.3-7 could be condensed down instead of reiterating the same wording over and over again.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC094

PC094 LogID 6099	**613 RESILIENT CONSTRUCTION** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	~~**613.3 Enhanced resilience – 10% above base design…**~~ ~~**613.4 Enhanced resilience – 20% above base design…**~~ ~~**613.5 Enhanced resilience – 30% above base design…**~~ ~~**613.6 Enhanced resilience – 40% above base design…**~~ ~~**613.7 Enhanced resilience – 50% above base design…**~~ We recommend that the existing sections be replaced with provisions that are specific to the types of hazards presented by the particular location. For example: **613.x Enhanced resiliency to hurricane winds. Homes along** the Atlantic and Gulf Coast are built to the *incrementally efficient maximum (IE Max)*IBHS Fortified Home program level that is appropriate for the 700-year windspeed in the location. (Refer to the wind speed in the American Society for Civil Engineers (ASCE) Structural Engineering Institute (SEI) standard ASCE7-16, *Minimum Design Loads for Building sand Other Structures* with 700-year mean recurrence interval; and, to the associated IE Max Fortified Home program level in Table 613.5.) Mandatory **Table 613.5** IE Max IBHS Fortified Home program level appropriate for 700-year wind speed

700 -year wind speed (mph)	**IEMax Fortified program level**

110-120	Bronze
130-180	Silver

Source: National Institute of Building Sciences, Multihazard Mitigation Council (2017): *Natural Hazard Mitigation Saves: 2017 Interim Report,* page 39

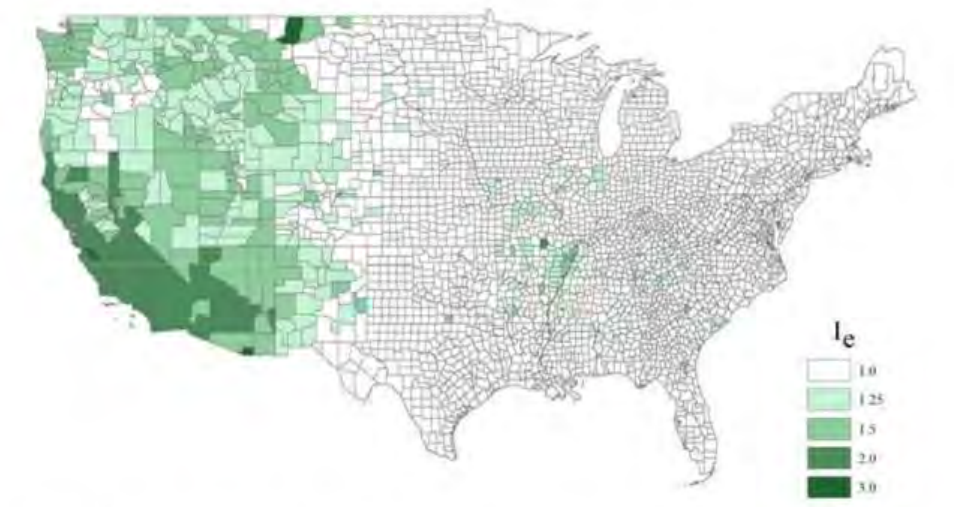
Definition:

Incrementally Efficient Maximum (IEMax). The IE Max level of natural hazard mitigation is the point on a geographic and mathematical basis where the last incremental improvement in the design cost-effectively captures the last incremental benefit.

613.x Enhanced resiliency to earthquakes. The strength and stiffness requirements of the 2018 IBC and IRC are exceeded in locations designated in figure 613.6 with coefficient Ie > 1.

Ie	Percent Enhancement Above 2018 IBC and IRC Seismic Requirements	Points
1.25	25%	4
1.5	25%	3
	50%	6
2.0	25%	2
	50%	4
	100%	10
3.0	25%	1
	50%	3
	100%	7
	200%	15

Figure613.6 Coefficient Ie relative to geographic location

	 **Figure 2-12.** Maximum strength and stiffness factor I_e to exceed 2015 IBC and IRC seismic design requirements where the incremental benefit remains cost-effective Source: National Institute of Building Sciences, Multihazard Mitigation Council (2017): *Natural Hazard Mitigation Saves: 2017 Interim Report,* page 44
Reason:	The National Institute of Building Sciences recently issued the report, Natural Hazard Mitigation Saves: 2017 Interim Report, which is "intended to inform future code changes to make communities more resilient and help jurisdictions make decisions on what codes to adopt and enforce". (http://www.wbdg.org/files/pdfs/MS2_2017Interim%20Report.pdf). According to this report, the benefits that result from including certain mitigation measures vary based on peril, geographic location, socioeconomic status and economic sector. Accordingly, the current 2020 NGBS approach by which buildings would be designed for "enhanced resilience" without specific regard for the aforementioned factors, appears unsupported. We recommend that the section be amended to include specific hazard-relevant measures.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Proposed change would reduce resilience credits in a large portion of the country

PC095 LogID 6118	**613.6 Enhances Resiliency - 40%**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	Update Points from ~~12~~ to 15	
Reason:	If a project can show compliance with 40% above a resiliency baseline it should be awarded as such since that is not a small undertaking. SO I think 15pts would be in order.	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	Consistent with action on PC094	

PC096 LogID 6119	**613.7 Enhanced Resiliency - 50 %**	***Final Formal Action:*** **TBD**

Submitter:	Josh Hanson, self
Comment:	Update points from ~~15~~ to 20
Reason:	If a project can show compliance with 50% above a resiliency baseline it should be awarded as such since that is not a small undertaking. SO I think 20pts would be in order.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC094

Chapter 7: Energy Efficiency

PC097 LogID BC26	701.1.5 Alternative gold level compliance *Final Formal Action:* **TBD**
Submitter:	Amy Schmidt; The Dow Chemical Company
Comment:	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.
Reason:	
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	It is prohibitively expensive to test each unit in multifamily high-rise building. Following procedures from existing standards is appropriate.

PC098 LogID BC27	701.1.6 Alternative gold level compliance for tropical zones *Final Formal Action:* **TBD**
Submitter:	R. Christopher Mathis; Mathis Consulting
Comment:	How many more compliance paths do we add until this standard becomes a construction guide? A standard must have uniformity.
Reason:	
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	No action proposed. The tropical climate was overlooked by the previous standard and the new language provides provision that are specific to the climate zone. The provisions for other parts of the country do not directly apply to tropical zones. IECC includes a path for tropical climate. The new path gets the performance close to zero net energy.

PC099 LogID 6275	701.1.5 Alternative gold level compliance *Final Formal Action:* **TBD**
Submitter:	Aaron Gary, self
Comment:	**701.1.5 Alternative IgCC ~~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~~ bronze 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.

Reason:	Appendix J of the 2018 IgCC pins equates base compliance in the National Green Building Standard with base compliance in the IgCC. As such, according to the IgCC, Bronze level compliance in Chapter 7 is equal to base compliance in the IgCC. It only seems logical then to mirror the level of compliance equivalence that the IgCC has already established within the National Green Building Standard.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The level was selected based on detailed analysis that was presented to the Task Groups and Committee during the review of proposed changes.

PC100 LogID BC37	**701.1.6 Alternative gold level compliance for tropical zones** *Final Formal Action:* **TBD**
Submitter:	Amy Schmidt; The Dow Chemical Company
Comment:	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
Reason:	
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	For this Climate, the current package is sufficient to achieve gold based on previous discussions.

PC101 LogID 6121	**701.4.3.1 (k) Building Thermal Envelope Air Sealing** *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	Joints of framing members at rim joists adjacent to unconditioned space.
Reason:	This follows the suit with how the other areas are inspected. The primary areas of concern should always be we the rim is next to exterior.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	This item is part of a list and the provisions are in the Building Thermal Envelope Section. The added language is not needed.

PC102 LogID 6122	**701.4.3.2.1 Grade I Insulation Installations** *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	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 (i.e. manufacturer's recommended installation) by a third-party are in accordance with the following:

Reason:	Grade I is in the eye of the beholder. Referencing manufacturer's recommended installation gives clearer unbending direction.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Grade I in an industry standard. Manufacturer's recommendations will vary based on product and manufacturer. Manufacturer's recommendations are in addition to Grade I specifications.

PC103 LogID 6030	**701.4.3.4 Fenestration air leakage** ***Final Formal Action:*** **TBD**
Submitter:	Amy Schmidt, Dow Building Solutions
Comment:	~~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~~
Reason:	This exception allows increased air leakage of over 4 times what is allowed by others windows in this section. Although tropical zones do have some unique needs one of them is hurricane protection. These windows are know for poor storm protection. The allow high winds to drive water into homes. if they are included in this standard they should be accompanied by permanently installed hurricane shutters.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Disapprove (default action). Consensus was not reached on any action. The committee action is to retain Jalousie windows for Tropical Zones.

PC104 LogID BC28	**701.4.3.4 Fenestration air leakage** ***Final Formal Action:*** **TBD**
Submitter:	Thomas Culp; Aluminum Extruders Council, Glass Association of North America
Comment:	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
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **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 windows, skylights, and doors~~field-fabricated fenestration products. **Mandatory** 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
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**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. For s~~S~~ite-built fenestration ~~have a certificate of compliance~~, a test report by an accredited, independent laboratory verifying compliance with the applicable infiltration rate shall be submitted to demonstrate compliance with this practice. This practice does not apply to field-fabricated fenestration products. *(rest of section unchanged)*
CC Reason:	To clarify requirements for site-built fenestration

PC105 LogID BC29	**701.4.3.4 Fenestration air leakage** ***Final Formal Action:*** **TBD**
Submitter:	Amy Schmidt; The Dow Chemical Company
Comment:	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
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **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 windows, skylights, and doors~~field-fabricated fenestration products. **Mandatory** 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 **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.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Disapprove (default action). Consensus was not reached on any action. The committee action is to retain Jalousie windows for Tropical Zones.

PC106 LogID BC30	**701.4.3.4 Fenestration air leakage** ***Final Formal Action:*** **TBD**
Submitter:	R. Christopher Mathis; Mathis Consulting
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **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 windows, skylights, and doors~~field-fabricated fenestration products. **Mandatory** 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

	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.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Disapprove (default action). Consensus was not reached on any action. The committee action is to retain Jalousie windows for Tropical Zones.

PC107 LogID 6028	**702.2.1 ICC IECC Analysis**	***Final Formal Action:*** **TBD**
Submitter:	Amy Schmidt, Dow Building Solutions	
Comment:	702.2.1 ICC IECC analysis. Energy efficiency features are implemented to achieve energy cost ~~or site energy~~ 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 through C407.5, applied as defined in the ICC IECC, is required.	
Reason:	This comment corresponds to a comment I made on Section 305.3.5.1, Energy Consumption Reduction. My reasoning is the same and I refer to the same substantiating documentation I have submitted: BSD-151 Understanding Primary Source and Site Energy.	
Substantiating Documents:	Yes, substantiating documents can be found at www.homeinnovation.com/ngbs under the Public Comments on Draft Standard.	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC108 LogID 6091	**702.2.1 ICC IECC analysis**	***Final Formal Action:*** **TBD**
Submitter:	Paul Cabot, American Gas Association	
Comment:	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 ~~R~~405, ~~or ICC IECC Section C407.2 throughC407.5,~~ applied as defined in the ICC IECC, is required. 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.	
Reason:	The committee reason for disapproving the public proposal that the changes are "Inconsistent with IECC that allows choice of baseline technologies and systems" is not correct. Since IECC allows this heating and cooling selection, the change is consistent. The NGBS committee can choose one path as the method of achieving the a energy score.	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	Consistent with action on PC111. IECC requires comparison to the same fuel type. This proposal requires a single metric. For 55 gal or larger, federal requirement is a heat pump water heater. Also deletes references to commercial sections of the code. Proposed Change P202 has been previously disapproved by the full committee on the same topic.	

PC109 LogID 6093	702.2.1 ICC IECC Analysis *Final Formal Action:* **TBD**
Submitter:	Paul Cabot, American Gas Association
Comment:	Energy efficiency features are implemented to achieve energy cost ~~or site energy~~ or source energy performance that meets the ICC IECC.
Reason:	The addition of "or site energy" undermines any consistent baseline and ignores the significant electric generation and transmission losses that are incorporated in the cost and source analysis.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC110 LogID 6271	702.2.1 ICC IECC analysis *Final Formal Action:* **TBD**
Submitter:	Neil Leslie, self
Comment:	Delete the following without substitution: Energy efficiency features are implemented to achieve energy cost ~~or site energy~~ or source energy performance that meets the ICC IECC.
Reason:	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. Inherent problems with site energy An energy metric obtained by adding the energy content of two different fuels without a weighting factor creates nonsense, and qualifying a building rating level by meeting a reduction in use based on that metric creates perverse incentives that can be avoided using the other metrics contained in the 2015 version of ICC 700. For a metric based on the addition of two quantities to make sense, it is necessary that the two quantities be fungible—that one can completely substitute for another. There is no plausible theory of value that allows one joule of gas to be substituted for one joule of electricity. Electricity can do things that gas cannot, because it has lower entropy. Thus it is inherently worth more. (This value in thermodynamics is reflected in the relative pricing of electricity and in the relative source energy consumption) Adding something that is worth more to something that is worth less produces confusion and nonsense; using a metric based on that addition leads to the wrong outcomes. If I return from Mexico with 100 pesos and 100 dollars in my pocket, it would not make sense to say I had 200 “desos”. If I tried to do so, I would undervalue the dollars and waste them, and overvalue the pesos and save them when it would be better to spend them. Electricity is a superior good worth a lot more than gas: electricity costs much more, and it consumes more primary energy. Making electricity and natural gas equal on a site energy basis when any conceivable measure of impact has them unequal is like being paid or getting invoices in “desos”: it leads the user to the wrong decision. Thermodynamically, one

	joule of natural gas is worth a lot less than one joule of electricity, because electricity is work—it has zero entropy—while gas can only be used by combustion that produces work with an efficiency of at best 55% in large-scale power supply applications and in average circumstances less than 40%. In buildings, burning natural gas produces low-temperature (~40-50°C) heat from combustion energy at higher temperature and entropy. Adding the two—electricity and gas—as if they were the same quantity ("energy") makes no sense: they are not the same thing, but are only denominated in the same units. It would be like adding a Reynolds number to an efficiency, arguing that since they are both dimensionless, they can be compared. Using site energy makes it relatively easier for an all-electric building to qualify for a building rating level than a mixed fuel building, creating unfairness. This issue is not just about fuel choice however. The most highly used and cost effective retrofits in homes reduce lighting and plug load energy. For a mixed fuel building, they would reduce electricity use by a lot but are likely to increase gas use to compensate for the loss of internal load. Using site energy, an internal loads reduction in a decently insulated building in a cold climate would increase its site EUI. Because gas at a delivered efficiency of 90% is needed to compensate for the loss of internal gains at an efficiency of 100%, a 1 joule reduction in loads will cause a 1.1 joule increase in site heating energy, making it look like a bad investment during many hours of the year, even though energy costs and source energy would both be reduced. This masks the value of reducing internal loads and creates a disincentive to reduce electricity consumption compared to reducing natural gas consumption in a mixed fuel building.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC111 LogID 6290	**702.2.1 ICC IECC analysis** *Final Formal Action:* **TBD**
Submitter:	Neil Leslie, self
Comment:	Revise as follows: 702.2.1 ICC IECC or IgCC analysis Energy efficiency features are implemented to achieve energy cost ~~or site energy~~ or source energy performance that meets the ICC IECC or ICC IgCC. A documented analysis using software in accordance with ICC IECC, Section R405~~, or ICC IECC Section C407.2 throughC407.5,~~ or ICC IgCC (ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017 Table C.1) applied as defined in the ICC IECC or IgCC, is required. For heating systems, the standard reference design shall be an air source heat pump or as listed in IgCC Table C.1. 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, or as listed in IgCC (ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017 Table C.1). Chapter 14 Referenced Documents IgCC 2018 International Green Construction Code 304.2, 702.1.1
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. 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 avoided by reference to IgCC performance calculations. 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. This comment provides the needed consistency for more equitable implementation of the performance path in ICC 700. Note that it will be critical to reject the site energy option 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.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	To be consistent with IECC and Resnet methodology.

PC112 LogID BC31	**702.2.1 ICC IECC analysis (Energy performance levels)** ***Final Formal Action:*** **TBD**
Submitter:	Amy Schmidt; The Dow Chemical Company
Comment:	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
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* ***702.2.1 ICC IECC Analysis.*** *Energy efficiency features are implemented to achieve energy cost or site energy or source energy performance that meets the ICC IECC.*
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***702.2.1 ICC IECC Analysis.*** *Energy efficiency features are implemented to achieve energy cost or ~~site energy or~~ source energy performance that meets the ICC IECC.*
CC Reason:	Consistent with action on PC107

PC113 LogID BC32	**702.2.1 ICC IECC analysis (Energy performance levels)** ***Final Formal Action:*** **TBD**
Submitter:	R. Christopher Mathis; Mathis Consulting
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* ***702.2.1 ICC IECC Analysis.*** *Energy efficiency features are implemented to achieve energy cost or site energy or source energy performance that meets the ICC IECC.*
Substantiating Documents:	No
CC Action:	Approve as Modified

Modification of Comment:	***702.2.1 ICC IECC Analysis.*** *Energy efficiency features are implemented to achieve energy cost or ~~site energy or~~ source energy performance that meets the ICC IECC.*
CC Reason:	Consistent with action on PC107

PC114 LogID BC33	**702.2.1 ICC IECC analysis (Energy performance levels)** ***Final Formal Action:*** **TBD**
Submitter:	Neil Leslie; Gas Technology Institute
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* ***702.2.1 ICC IECC Analysis.*** *Energy efficiency features are implemented to achieve energy cost or site energy or source energy performance that meets the ICC IECC.*
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***702.2.1 ICC IECC Analysis.*** *Energy efficiency features are implemented to achieve energy cost or ~~site energy or~~ source energy performance that meets the ICC IECC.*
CC Reason:	Consistent with action on PC107

PC115 LogID 6031	**702.2.2 Energy Performance Analysis** ***Final Formal Action:*** **TBD**
Submitter:	Amy Schmidt, Dow Building Solutions
Comment:	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~~, and on-site renewable energy~~ . Points are assigned using the following formula:
Reason:	I support the use of renewable energy however it must be recognized and incorporated for what it is. It is an alternative fuel/generation source and does not contribute to how efficient the home is. This could lead to the severe unintended consequences to the grid in the future when renewable energy systems age and homes are not as efficient as we intended them to be.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Renewable energy is essential for getting to low-energy and zero-energy homes

PC116 LogID BC34	702.2.2 Energy performance analysis *Final Formal Action:* TBD
Submitter:	Amy Schmidt; The Dow Chemical Company
Comment:	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
Reason:	***Secretariat Note**: Comment on the following provision of the Draft Standard:* **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, and on-site renewable energy. Points are assigned using the following formula:
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Renewable energy is essential for getting to low-energy and zero-energy homes

PC117 LogID BC35	702.2.2 Energy performance analysis *Final Formal Action:* TBD
Submitter:	R. Christopher Mathis; Mathis Consulting
Comment:	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.
Reason:	***Secretariat Note**: Comment on the following provision of the Draft Standard:* **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, and on-site renewable energy. Points are assigned using the following formula:
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Renewable energy is essential for getting to low-energy and zero-energy homes

PC118 LogID 6123	703.2.5.1.1 Dynamic Glazing *Final Formal Action:* TBD
Submitter:	Josh Hanson, self
Comment:	Move Section 703.2.5.1.1 back above table 703.2.5.1
Reason:	This credit should be mentioned before reaching the table, otherwise it looks out of place referencing a table behind it.
Substantiating Documents:	No
CC Action:	Disapprove

Modification of Comment:	
CC Reason:	The current organization of this section is preferred for clarity – consistent with the action on PC120.

PC119 LogID BC36	**703.2.5.2 Enhanced Fenestration Specifications** ***Final Formal Action:*** **TBD**
Submitter:	Thomas Culp; Aluminum Extruders Council, Glass Association of North America
Comment:	I don't agree - this has been carefully vetted by DOE and EPA for Energy Star. Nonetheless, I will just abstain here.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:*

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.~~

Substantiating Documents:	No
CC Action:	Withdrawn
Modification of Comment:	
CC Reason:	Withdrawn by proponent via email on 12/10/2018.

PC120 LogID 6124	**703.2.5.2.1 Dynamic Glazing** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Move section 703.2.5.2.1 back above table 703.2.5.2 (a,b,c).
Reason:	This credit should be mentioned before reaching the table, otherwise it looks out of place referencing a table behind it.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The current organization of this section is preferred for clarity.

PC122 LogID 6127	**703.5.1 Water heater Uniform Energy Factor** ***Final Formal Action:*** **TBD**

Submitter:	Josh Hanson, self
Comment:	(Where multiple systems are used, points awarded based on the system with the lowest efficiency.)
Reason:	Note is to be removed, I recommend laving it in as it is helpful for guidance.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Note is helpful in using the standard for multifamily buildings

PC123 LogID 6278	**704 HERS Index Target Path** *Final Formal Action:* **TBD**
Submitter:	Aaron Gary, self
Comment:	**704** **~~HERS~~ERI INDEX TARGETPATH** **704.1 ~~HERS~~ERI index target compliance.** Compliance with the energy chapter shall be permitted to be based on the EPA ~~HERS~~ National ERI Index Target Procedure for Energy Star ~~Qualified~~Certified Homes. Points from Section 704 (~~HERS~~ERI Index Target) shall not be combined with points from Section 702 (Performance Path) or Section 703(Prescriptive Path). Dwelling ratings shall be submitted to a quality control registry approved by the Adopting Entity for calculating points under this section. **704.2 Point calculation.** Points for Section 704 shall be computed based on Steps "1a" through "1d" of the EPA ~~HERS~~ National ERI Index Target Procedure. Points shall be computed individually for each building as follows: 30 + (percent Number of HERS Index Points less than EnergyStar ~~HERS~~ National ERI Index Target for that building) * 2. **ENERGY STAR® Documents** ~~June 1, 2013~~ September 1, 2018 | ENERGY STAR Certified Homes, Version (Rev. 0~~8~~9) ~~HERS~~ National ERI Index Target Procedure for National Program Requirements | 701.1, 701.1.3, 704.1, 704.2
Reason:	On September 1, 2018 the EPA updated the ENERGY STAR program requirements document that NGBS 2020 is referencing. This comment reflects the current reference document and reflective language that it uses.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**In red:** **704.1 ~~HERS~~ERI ~~index~~ target compliance.** Compliance with the energy chapter shall be permitted to be based on the EPA ~~HERS~~ National ERI ~~Index~~ Target Procedure for Energy Star ~~Qualified~~Certified Homes. Points from Section 704 (~~HERS~~ERI ~~Index~~ Target) shall not be combined with points from Section 702 (Performance Path) or Section 703(Prescriptive Path). Dwelling ratings shall be submitted to a quality control registry approved by the Adopting Entity for calculating points under this section. **704.2 Point calculation.** Points for Section 704 shall be computed based on Step~~s~~ ~~"~~1~~a" through "1d"~~ of the EPA ~~HERS~~ National ERI ~~Index~~ Target Procedure. Points shall be computed individually for each building as follows: 30 + (~~percent~~ Number of ~~HERS Index~~ ERI Points less than EnergyStar ~~HERS~~ National ERI ~~Index~~ Target for that building) * 2.

	ENERGY STAR® Documents ENERGY STAR Certified Homes, Version [illegible] (Rev. 0~~8~~9) ~~HERS~~ National ERI ~~Index~~ Target Procedure for National Program Requirements — 701.1, 701.1.3, 704.1, 704.2
CC Reason:	Clarification and coordination. Alignment with the revised referenced standard.

PC124 LogID 6128	**704.1 HERS Index Target Complaince** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Dwelling ratings shall be submitted to a quality control registry approved by the Adopting Entity for calculating points under this section. Provide definition of a quality control registry
Reason:	If NGBS is going to require uploads to a quality control registry, that term will need to be defined.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	In favor of PC126 that addresses the issue.

PC125 LogID 6056	**704.1 HERS index target compliance** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	**704.1 HERS index target compliance.** Compliance with the energy chapter shall be permitted to be based on the EPA National ERI ~~HERS Index~~ Target Procedure for ~~Energy Star Qualified~~ ENERGY STAR Certified Homes. Points from Section 704 (HERS Index Target) shall not be combined with points from Section 702 (Performance Path) or Section 703(Prescriptive Path). Dwelling ratings shall be submitted to a quality control registry approved by the Adopting Entity for calculating points under this section.
Reason:	Please update existing references to the ENERGY STAR Certified Homes program to reflect the latest program documents. These updated references will not change the overall intent of the NGBS standard. Rather, they will reflect the latest refinements, improvements, and clarifications that EPA has integrated into its program documents.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Consistent with PC123

PC126 LogID 6279	**704.1 HERS Index target compliance.** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self

Comment:	**704.1 HERS index target compliance.** 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).Dwelling ratings shall be submitted to a ~~quality control registry~~ Rating Certification Body approved by the Adopting Entity for calculating points under this section.
Reason:	Follows the most recent language for recognized oversight bodies from the recent EPA ENERGY STAR RFQ.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Consistent with the EPA procedure.

PC127 LogID 6057	**704.2 Point calculation** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	**704.2 Point calculation.** Points for Section 704 shall be computed based ~~on Steps "1a" through "1d" of~~ the EPA National ERI ~~HERS Index~~ Target Procedure for ENERGY STAR. Points shall be computed individually for each building as follows: 30 + (percent Number of HERS Index Points less than ~~EnergyStar~~ ENERGY STAR ~~HERS Index~~ ERI Target for that building)
Reason:	Please update existing references to the ENERGY STAR Certified Homes program to reflect the latest program documents. These updated references will not change the overall intent of the NGBS standard. Rather, they will reflect the latest refinements, improvements, and clarifications that EPA has integrated into its program documents.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	In favor of PC123. The intent of the current provisions is to limit to the specific step in the Target Procedure and not include the additional steps that trigger the size adjustment factor.

PC128 LogID 6129	**705.3 HVAC Design is verified by 3rd party…** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	The ENERGY STAR HVAC Design and Rater Design Review Checklists are completed ~~without correction needed~~.If correction are needed only 2pts (or 1pts) shall be awarded
Reason:	The work has been done, it just may need to be tweaked. Plus it will encourage more people to consider this path and look at more possible ENERGYSTAR compliance options since its not a hard pass or fail.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	HVAC Design is verified by 3rd party as follows: (1) The ENERGY STAR HVAC Design and Rater Design Review Checklists are complete~~d~~ and correct ~~without correction needed~~. 3 (2) HVAC Installation is inspected and conforms to HVAC design documents and plans. 3
CC Reason:	The modification will reduce confusion by allowing correction of the final checklist without altering points.

PC129 LogID 6280	**706.11 Battery Storage System** ***Final Formal Action:*** **TBD**

Submitter:	Aaron Gary, self
Comment:	*DELETE 706.11 IN ITS ENTIRETY* ~~**706.11 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.~~
Reason:	706.11 is redundant with section 706.5 (3).
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	706.11 *Grid-interactive* ~~*B*~~*battery* ~~*S*~~*storage* ~~S~~system. A grid-interactive 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~~. **GRID-INTERACTIVE BATTERY STORAGE.** A battery storage system that provides electric system grid operators such as utilities, independent system operators (ISOs) and regional transmission organizations (RTOs), with automatic control that is capable of receiving and automatically responding to a signal for charge and discharge.
CC Reason:	GIBS allows for overall operability of the grid with homes and is value added. It addresses the concern of the comment related to double counting. Points retained at 2 points. These types of systems are of high value in states with high levels of renewable penetration.

PC130 LogID 6328	**706.14 Third-Party Utility Benchmarking Service** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	706.14 Third-Party Utility Benchmarking Service. ~~**(2)** 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~~
Reason:	Future commitments are iffy. How are they enforced? Should not mention one service, just the EPA Portfolio Manager.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC would like to encourage reporting of usage data.

PC131 LogID BC38	**706.11 Battery Storage System** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary; Tempo Partners
Comment:	Redundant with points awarded under P264 *(Staff Note: P264 corresponds to Section 706.5 On-site renewable energy systems in Draft Standard)*.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **706.11 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**

Substantiating Documents:	No
CC Action:	Withdrawn
Modification of Comment:	
CC Reason:	Withdrawn by proponent on TG-5 call on 1/4/2019. This is duplicative with PC129.

Chapter 8: Water Efficiency

PC132 LogID 6130	801.0 Intent *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	Implement measures that reduce indoor and outdoor water usage. Implement measures ~~that include~~ including but not limited to the collection of water, the treatment of water on-site and use of alternative sources of water. ~~Implement measures that treat water on site.~~
Reason:	I just think it reads cleaner
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC thinks that the current language in the draft is clearer, and the update is unnecessary.

PC133 LogID 6219	801.1 Mandatory requirements. *Final Formal Action:* **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Delete without substitution **Proposed Change:** ~~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.~~
Reason:	Mandatory measures are useful at ensuring user satisfaction, quality, and other benefits that serve the intent of the standard and are not adequately captured in simply measuring end-use efficiency via a performance path. The standard should not exclude all mandatory measures when the performance path of Section 804 is used. It would benefit the standard to clearly separate mandatory measures from point measures, to plainly identifying which of the provisions under 802 and 803 are actually MANDATORY.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**Proposed Change:** 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.
CC Reason:	CC believes that simply removing the “not” in the language addresses the issue.

PC134 LogID 6260	801.1 Mandatory requirements *Final Formal Action:* **TBD**
Submitter:	Ryan Meres, RESNET
Comment:	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.

Reason:	On August 3, 2018 RESNET published BSR/RESNET/ICC 1101-201x, draft PDS-01, Standard for the Calculation and Labeling of the Water Use Performance of One- and Two-Family Dwellings Using the Water Rating Index. RESNET recommends deleting the title for the performance path. No other section within Chapter 8 has a specific title, so there's no reason the performance path section needs a separate title. In addition, having two ANSI standards with the same name, but different language will create market confusion.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The ANSI approved ICC 700 began using the nomenclature of Water Rating Index prior to ICC 1101.

PC135 LogID BC39	**802.5.1 Water-efficient (Lavatory faucets)** ***Final Formal Action:*** **TBD**
Submitter:	Cambria McLeod; Kohler
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **802~~1~~.4~~5~~.1 ~~W~~Install water-efficient lavatory faucets with ~~a maximum~~ flow rates not more than ~~of~~ 1.5 gpm (5.68 L/m), tested ~~at 60 psi (414 kPa)~~ in ~~accordance~~ compliance with ASME A112.18.1/CSA B125.1 and meeting the performance criteria of the EPA WaterSense High-Efficiency Lavatory Faucet Specification~~, are installed~~ or equivalent:**
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**802.5.1** Install water-efficient lavatory faucets with flow rates not more than 1.5 gpm (5.68 L/m), tested in compliance with ASME A112.18.1/CSA B125.1 and meeting the performance criteria of the EPA WaterSense High-Efficiency Lavatory Faucet Specification ~~or equivalent:~~
CC Reason:	Modification follows and applies the intent of the commenter.

PC136 LogID BC40	**802.5.4 Water closets and urinals** ***Final Formal Action:*** **TBD**
Submitter:	Thomas Pape; Alliance For Water Efficiency
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:*

	8021.5.4 Water closets and urinals. Water closets and urinals are in accordance with the following: **(Points awarded for 801.5(2) or 801.5(3), not both.)** **(1)** Gold and emerald levels: All water closets and urinals are in accordance with Section 801.5. — **Mandatory** **(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 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. — ~~24~~ **126 Max**
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Comment isn't valid for the specified section.

PC137 LogID BC41	**802.5.4 Water closets and urinals** ***Final Formal Action:*** **TBD**
Submitter:	Cambria McLeod; Kohler
Comment:	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.
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* **8021.5.4 Water closets and urinals.** Water closets and urinals are in accordance with the following: **(Points awarded for 801.5(2) or 801.5(3), not both.)** **(1)** Gold and emerald levels: All water closets and urinals are in accordance with Section 801.5. — **Mandatory** **(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 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. — ~~24~~ **126 Max**
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Comment isn't valid for the specified section.

PC138 LogID 6351	**802 Prescriptive Path & 803 and Innovative Practices** ***Final Formal Action:*** **TBD**
Submitter:	Nat Hodgson III, Southern Nevada Home Builders Association

Comment:	**Unique Greywater Requirements for the Southwest** • Sections 802 and 803 maintain an approach that does not penalize builders in areas where water collection and reuse is illegal and not the most environmentally effective approach to water conservation.
Reason:	As residential developers in a metropolitan area that is located in Climate Zone 3b and receives less than 4 inches of annual rainfall, we recognize that our needs are somewhat unique. That is why our members were encouraged to see several updates, including a performance path for outdoor water efficiency ratings in Section 803. We are also encouraged to see other areas where the 2020 NGBS provides for regional exceptions. Our hope is that similar opportunities to identify environmentally appropriate regional best practices to revegetation, landscaping and stormwater will be considered for the 2020 NGBS. **Unique Greywater Requirements for the Southwest** States in the Colorado River Compact have unique regulations regarding collection and use of rainwater and greywater. In fact, it is illegal in Colorado and Nevada to collect rainwater, unless water rights have been granted. Similarly, return flow credits are granted to our water purveyors for every gallon treated and returned to the Colorado River, so all codes and environmental programs are oriented to returning as close to 100% of indoor and outdoor water to a drain for treatment and reuse. It is large efficiency of water reuse that simply cannot be matched by a property owner or developer on a case-by-case basis. Similarly, xeriscaping provides the best combination of dust mitigation for air quality, stormwater control and water efficiency. Professionally designed and installed xeriscaping, along with rain detection equipment for drip irrigation systems are the best way to meet the unique needs of the arid Southwest. For this reason, SNHBA respectfully request that Section 503.4 give revegetation credit to builders in areas receiving less than 10 inches of annual rainfall when they utilize professionally designed and installed xeriscaping. We believe this change meets the intent of a performance-based regional approach to water conservation in Section 803. Similarly, we ask that Sections 802 and 803 maintain an approach that does not penalize builders in areas where water collection and reuse is illegal and not the most environmentally effective approach to water conservation. In closing, we appreciate the continued work to create a Green Building Standard that allows for use of regional best practices. Past versions of the standard not crediting builders in the arid West for best practices has resulted in minimal use of the standard. In this regard, the 2020 NGBS Draft represents significant improvement over the 2012 and 2015 Standard. Incorporation of the changes to Section 503, 802 and 803 to reflect best practices for arid areas in the West would result in a drastic increase in use of the standard in these areas, which is our shared goal.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Incomplete submittal.

PC139 LogID 6221	**802.1 Indoor hot water usage.** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Revise **Proposed Change:** (1) The maximum volume from the water heater to the termination of the fixture supply at furthest fixture is 128 ounces (1 gallon or 3.78 liters). ~~8~~5 points
Reason:	The points should have a spread that reflects the impact and difficulty of each measure. A system that stores less than 32 ounces between the water heater and the furthest fixture (3) is both extremely

	efficient and extremely difficult. It is likely both more efficient (when considering all factors) and more difficult than a demand controlled recirculation system with supply lines of the main loop of just 8 ounces less.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC believes current point values are appropriate.

PC140 LogID 6222	**802.1 Indoor hot water usage** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Revise **Proposed Change:** (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). ~~20~~24 Points
Reason:	The points should have a spread that reflects the impact and difficulty of each measure. A system that stores less than 32 ounces between the water heater and the furthest fixture (3) is both extremely efficient and extremely difficult. It is likely both more efficient (when considering all factors) and more difficult than a demand controlled recirculation system with supply lines of the main loop of just 8 ounces less.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC believes current point values are appropriate.

PC141 LogID 6223	**802.1 Indoor hot water usage.** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Revise **Proposed Change:** A demand controlled hot water priming pump is installed on the main supply pipe of the circulation loop and the maximum volume from this supply pipe to the furthest fixture is 24 ounces (0.19 gallons or 0.71 liters). ~~24~~22 Points
Reason:	The points should have a spread that reflects the impact and difficulty of each measure. A system that stores less than 32 ounces between the water heater and the furthest fixture (3) is both extremely efficient and extremely difficult. It is likely both more efficient (when considering all factors) and more difficult than a demand controlled recirculation system with supply lines of the main loop of just 8 ounces less.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC believes current point values are appropriate.

PC142 LogID 6297	**802.2 Water-conserving appliances** ***Final Formal Action:*** **TBD**

Submitter:	Paul Gay, self
Comment:	~~(1) dishwasher 2 points~~ (1) dishwasher 2 points
Reason:	im not sure why this credit was dropped Per Energy Star.....A new ENERGY STAR certified dishwasher will save, on average, 3,870 gallons of water over its lifetime. ENERGY STAR certified dishwashers use advanced technology to get your dishes clean while using less water and energy. Dishwasher technology has improved dramatically over the last decade. New ENERGY STAR certified models include several innovations that reduce energy and water consumption and improve performance. Soil sensors test how dirty dishes are throughout the wash and adjust the cycle to achieve optimum cleaning with minimum water and energy use. Improved water filtration removes food soils from the wash water allowing efficient use of detergent and water throughout the cycle.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The water savings of Energy Star dishwashers has not been verified in real settings.

PC143 LogID 6224	**802.2 Water-conserving appliances** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Revise **Proposed Change:** (1) ~~dishwasher~~ dishwasher
Reason:	Object to removal of the dishwasher. It's unlikely this would lead to a choice to not have a dishwasher. If people are going to put in a dishwasher, we want to make sure they have an efficient fixture. While water use in modern dishwashers tends to be low, this is reflected in the relatively low number of points (2) being offered).
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	(1) ~~dishwasher~~ dishwasher 2 points
CC Reason:	Points needed to be included with the addition.

PC144 LogID 6286	**802.2 Water-conserving appliances** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self
Comment:	802.2 Water-conserving appliances. ENERGY STAR or equivalent water-conserving appliances are installed. (1) dishwasher 2 (~~1~~2) clothes washer, or 13 (~~2~~3) clothes washer with an Integrated Water Factor of 3.8 or less 24 Multifamily Building Note: Washing machines are installed in individual units or provided in common areas of multifamily buildings.
Reason:	ENERGY STAR Dishwashers should not be removed for credit. While the savings for an individual dishwashers may not be as significant as a clothes washer, it still is environmentally beneficial. According to ENERGY STAR, a new ENERGY STAR certified dishwasher will save, on average, 3,870 gallons of water over its lifetime.

Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The water savings of Energy Star dishwashers has not been verified in real settings.

PC145 LogID 6225	**802.3 Water Usage Metering** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Add **Proposed Change:** Maximum points available for section 802.3 is 10.
Reason:	Otherwise the use of multiple metering devices (in say multifamily) could have a very large number of points associated with it.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	802.3(2) Point Note: Points earned in Section 802.3(2) shall not exceed 50% of total points earned for chapter 8.
CC Reason:	Concerns of the commenter were valid, but CC believes that limiting the points to 10 would not incentivize large multiunit buildings to install these meters.

PC146 LogID 6227	**802.4 Showerheads** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Revise as follows. **Proposed Change:** The total maximum combined flow rate of all showerheads in the maximum operating flow configuration controlled by a single valve at any point in time in a shower compartment with floor area of ~~1800~~ 2800 square inches or less is 1.6 to equal or less than 2.5 0 gpm.
Reason:	Many shower faucets are designed to allow one head or another to flow, but not both. For example, an overhead showerhead and a handheld could be configured to be operated together or to be operated only one at a time. The proposed language addresses this variation by testing the shower compartment at its maximum flow configuration, we can address this variation. It appears that the point of the size ranges is to prevent people from claiming a shower compartment is for more than one person (and justifies a second valve) unless it is large enough to accommodate more than one person. 1800 is a little small for this purpose. While there is no "standard", 2180 sq. in. is our best estimate of an "average" shower stall as well as the smallest likely ADA compliant stall.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***Modify Draft Standard as Follows:*** The total maximum combined flow rate of all showerheads in a shower compartment with floor area of ~~1800~~ 2600 square inches or less is equal or less than 2.0 gpm. For each additional 1300 square inches or any portion thereof of shower compartment floor area, an additional 2.0 gpm combined showerhead flow rate is allowed. Showerheads shall comply with ASME A112.18/CSA B125.1. Showerheads shall be 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.
CC Reason:	The suggested language was repetitive, and the CC agrees with increasing the minimum size requirement for additional showerheads.

PC147 LogID 6229	802.4 Showerheads *Final Formal Action:* **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	Showerheads shall comply with ASME A112.18.1/CSA B125.1 and meeting the performance criteria of the U.S. EPA WaterSense Specification for showerheads.
Reason:	WaterSense labeled showerheads also provide pressure compensations which maintain flow at the rated flow rate in the presence of high system pressure. If the committee is not willing to cite WaterSense then state that showerheads must comply with the High-efficiency requirements for showerheads in A112.18.1. Also, the citation for ASME A112.18.1 was incorrect.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC148 LogID 6233	802.4 Water closets and urinals *Final Formal Action:* **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Revise as follows. **Proposed Change: (**c) One or more composting or waterless toilets and/or nonwater urinals. Nonwater urinals shall be tested in accordance with ASME A112.19.2/CSA B45.1. 6~~12~~ Points.
Reason:	There is no rational for valuing a composting toilet so highly.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC believes current point values are appropriate.

PC149 LogID 6230	802.5 Faucets *Final Formal Action:* **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Delete **Proposed Change:** ~~(2) Flow rate = 1.20 gpm~~
Reason:	The point totals are excessive for the savings that will be realized. Recommend delete (3), (4), and (5). Mandatory is 1.5 gpm and they will get up to additional 6 points if they install fixtures that flow at 1.2 gpm. That is sufficient.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC believes current point values are appropriate.

PC150 LogID 6329	802.5 Water closets and urinals & 11.802.7.4 *Final Formal Action:* **TBD**
Submitter:	Craig Conner, self

Comment:	Tank-type water closets shall be in accordance with the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets or equivalent. 11.802.7.4 **(1) Irrigation controllers are labeled by EPA WaterSense program or equivalent**
Reason:	Either put in the specific requirements (my preference) or put "or equivalent". For water closets this is “flush” performance criteria, so be specific.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***Modify Draft Standard as Follows:*** 802.6.4(1) Irrigation controllers shall be in accordance with the performance criteria of the ~~are labeled by~~ EPA WaterSense program
CC Reason:	Unification of language

PC151 LogID 6131	**802.5.1 Install water-efficient lavatory faucets** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	~~and meeting the performance criteria of the EPA WaterSense High-Efficiency Lavatory Faucet Specification, are installed or equivalent~~:
Reason:	Consider awarding points for EPA watersense fixtures vs making it an additional measure to be able to take points.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Watersense criteria should remain the minimum standard for any green code.

PC152 LogID 6196	**802.5.2 Water-efficient kitchen faucets** ***Final Formal Action:*** **TBD**
Submitter:	Cambria McLeod, Kohler
Comment:	802.5.2 Water-efficient residential kitchen faucets are installed in accordance with ASME A112.18.1/CSA B125.1. Residential kitchen faucets may temporarily increase the flow above the maximum rate but not to exceed 2.2 gpm. (1) All residential kitchen faucets have a maximum flow rate of 1.8 gpm (2) All residential kitchen faucets have a maximum flow rate of 1.5 gpm.
Reason:	Because the standard is expanding to include non-residential spaces, we should be consistent in clarifying the exact faucet type that can earn points in this section.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC153 LogID 6197	**802.5.4 Water closets and urinals** ***Final Formal Action:*** **TBD**
Submitter:	Cambria McLeod, Kohler
Comment:	(4)(a) Water closets that have a~~n effective~~ flush volume of 1.2 gallons or less.

Reason:	Adding the term effective allows for the use of water-saving dual-flush toilets and makes the requirements clearer to the specifier.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	(4)(a) Water closets that have an effective flush volume of 1.2 gallons or less.
CC Reason:	Commenter corrected submittal. Consistency throughout section.

PC154 LogID 6047	**802.6 Irrigation Systems** ***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	802.6 (6.1 thru 6.5) – We support the changes in these sections.
Reason:	Promotes the use of efficient irrigation systems
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Comment of affirmation, not actionable.

PC155 LogID 6234	**802.6 Irrigation systems** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Add **Proposed Change:** 801.6.3 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. Mandatory.
Reason:	We understand the concept had been moved to 802.6.1, but they should maintain the "qualified professional certified by a WaterSense labeled program" as a backstop in case the Adopting Entity does not have an approval process.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***Modify Draft Standard as Follows:*** 802.6.1 Where an irrigation system is installed, an irrigation plan and implementation are executed by a WaterSense qualified professional or equivalent ~~as approved by Adopting Entity~~.
CC Reason:	CC agrees that the standard should maintain the "qualified professional certified by a WaterSense labeled program" as a backstop.

PC156 LogID 6232	**802.6 Irrigation systems** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Delete **Proposed Change:** ~~S~~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 posted on Smart Water Application Technologies manufacturers website or similar.~~
Reason:	This is not a common practice of manufacturers and based on conversations, none have any intention to start posting this information.
Substantiating Documents:	No

CC Action:	Approve as Modified
Modification of Comment:	**802.6.2** Irrigation sprinkler nozzles shall be tested according to ANSI standard ASABE/ICC 802-2014 Landscape Irrigation Sprinkler and Emitter Standard by an accredited third party laboratory ~~and results are posted on manufacturers website or similar~~.
CC Reason:	Commenter used outdated language. Clarification of wording.

PC157 LogID 6294	**802.6.3 where an irrigation system…** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, self
Comment:	where an irrigation system is installed, an irrigation plan and implementation are executed by a professional certified by a water sense labeled program (3 points)
Reason:	encourages growth of the water sense irrigation certification
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC155.

PC158 LogID 6133	**802.6.5 Commissioning and Water…** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Add a note regarding what qualification are required in order to perform Cx on an irrigation system. Or consider changing ~~Commissioning~~ to another term (Verification) since the system wouldn't actually be commissioned.
Reason:	Cx of this system leads me to believe there are certain certifications that must be held in order to Cx an irrigation system
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC believes change in language is unnecessary.

PC159 LogID 6235	**802.9 Water Treatment Devices** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Delete **Proposed Change:** ~~802.9.2 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~~ ~~(2) Combined capacity of all R/O systems does not exceed 0.75 gallons 1~~
Reason:	This would credit homes for NOT having RO systems, which most don't already. Additionally, extra credit should be given by efficiency of processing (i.e. useful water produced relative to reject), not based on capacity.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC wishes to discourage the unnecessary use of RO systems. Systems that are necessary should be listed to NSF 58.

PC160 LogID 6237	802.10 Pools and Spas *Final Formal Action:* **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Add as follows. **Proposed Change:** 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) Manual pool covers that cover the entire surface of the pool. 5 points. (~~1~~2) Automated motorized non-permeable pool cover that covers the entire pool surface. 10 points.
Reason:	10 points for an automated motorized pool cover is low when compared to other items such as installation of composting toilets. These covers cost $5,000- $20,000 and are significantly more expensive than other covers with no evidence that they are used more. All solid pool covers save about 95% of evaporation when used. Automated covers may make it easier for them to be used but there is no evidence to support this claim. Source https://www.epa.gov/sites/production/files/2018-09/documents/ws-products-outdoor-poolcover-noi.pdf (Pg 6)
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Multiple studies have shown that manual pool covers are not used regularly.

PC161 LogID 6009	804 Performance Path *Final Formal Action:* **TBD**
Submitter:	Thomas Pape, AWE
Comment:	~~804.1 Water Rating Index. Water Rating Index (WRI) score is calculated in accordance withAppendix F 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.~~ Note: Delete Table 804.2 ~~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~~ ~~804.3NGBS = WRI x (2.29) + 181.7~~
Reason:	This WRI system is untested and has NOT been vetted through an ANSI process. The system has many known flaws, of which two examples are: The system assumes a dishwasher in the baseline home. Not all homes have dishwashers AND studies have proven that homes with dishwashers have no reduction in faucet use, thus even a highly efficient dishwasher use more water than if the dishes were cleaned manually. REUWS 2016 cites: "found use of a dishwasher did not result in less faucet use, which normally would be supposed. The 520 households in REU2016 that used dishwashers had an average faucet use of 26.3 gphd and the 241 homes that did not use dishwashers used an average of 26.4 gphd for faucets. These two values are not statistically different, which suggests that in this group, the use of dishwashers was not associated with less faucet use." The WRI system also gives credit for a "smart" controller installed for irrigation. There is no evidence smart controllers us irrigate more efficiently than non-smart controller. REUWS 2016:“Fifty-three homes reported having what they believe to be a “smart, weather-based” irrigation controller. This coefficient had a positive slope (0.096) indicating a rise in water use, but the p value was 0.644 indicating very low statistical significance. Consequently, the data set provides no indication that “smart” controller, or things that people believe to be smart controllers are affecting outdoor water use.” Until the WRI system is tested and evaluated in various

	climates and regions across the country, it is irresponsible to use this system as a performance path. The reputation of the National Green Building Standard is at grave risk.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC believes that the performance path WRI has benefit. Consistent with original CC action.

PC162 LogID BC42	**804 Performance Path** ***Final Formal Action:*** **TBD**
Submitter:	Thomas Pape; Alliance for Water Efficiency
Comment:	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.
Reason:	
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC believes that the performance path WRI has benefit. Consistent with original CC action.

PC163 LogID 6261	**804.1 Water Rating Index** ***Final Formal Action:*** **TBD**
Submitter:	Ryan Meres, RESNET
Comment:	804.1 Performance Path ~~Water Rating Index P~~. ~~Water TRating Index (WRI)~~ The index score for the Performance Path shall be ~~is~~ calculated in accordance with Appendix F or equivalent methodology.
Reason:	On August 3, 2018 RESNET published BSR/RESNET/ICC 1101-201x, draft PDS-01, Standard for the Calculation and Labeling of the Water Use Performance of One- and Two-Family Dwellings Using the Water Rating Index for the first round of public comments. RESNET recommends deleting the title for the performance path. No other section within Chapter 8 has a specific title, so there's no reason the performance path section needs a separate title. In addition, having two ANSI standards with the same name, but different language will create market confusion
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	804.1 Performance Path ~~Water Rating Index P~~. ~~Water TRating Index (WRI)~~ The index score for the Performance Path shall be ~~is~~calculated in accordance with Appendix F Water Rating Index(WRI) or equivalent methodology.
CC Reason:	Name should be referenced in the title.

<table>
<tr><td>PC164 LogID 6239</td><td colspan="5">804.3 Water Efficiency NGBS Points Equivalency Final Formal Action: TBD</td></tr>
<tr><td>Submitter:</td><td colspan="5">Suzanne Boxman, U.S. Environmental Protection Agency</td></tr>
<tr><td>Comment:</td><td colspan="5">Section: 804.3
Requested Action: Revise

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

<s>Equation 804.3NGBS = WRI x (-2.29) + 181.7</s>
<table><tr><td><u>WRI Score</u></td><td><u>70</u></td><td><u>60</u></td><td><u>50</u></td><td><u>40</u></td></tr><tr><td><u>Points</u></td><td><u>22</u></td><td><u>40</u></td><td><u>67</u></td><td><u>90</u></td></tr></table></td></tr>
<tr><td>Reason:</td><td colspan="5">It’s unnecessarily complex to have an equation. As opposed to the performance path for energy where there is a variable target based on ENERGY STAR requirements (i.e. relative improvement over a moving target), the performance path for water is being determined based solely on how the predicted rating compares with the existing points structure not relative improvement. So, while the equation is informative for determining the right thresholds, it is more straight forward to simply state the number of points provided at different performance levels. There is no “value added” from the equation.</td></tr>
<tr><td>Substantiating Documents:</td><td colspan="5">No</td></tr>
<tr><td>CC Action:</td><td colspan="5">Disapprove</td></tr>
<tr><td>Modification of Comment:</td><td colspan="5"></td></tr>
<tr><td>CC Reason:</td><td colspan="5">Both the formula and the table are beneficial to the end user.</td></tr>
</table>

<table>
<tr><td>PC165 LogID BC43</td><td>804 Performance Path Final Formal Action: TBD</td></tr>
<tr><td>Submitter:</td><td>Cambria McLeod; Kohler</td></tr>
<tr><td>Comment:</td><td>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.</td></tr>
<tr><td>Reason:</td><td>Secretariat Note: Comment on the following provision of the Draft Standard:
<u>TABLE 1. WATER USE FOR BASELINE AND VERIFIED DEVICES</u>
<table><tr><td><u>Device</u></td><td><u>Baseline VolumePerOccupant</u>
<u>gallons / day / occupant</u></td><td><u>Uses for Verified Devices</u>
<u>and units</u></td></tr><tr><td><u>Toilet</u></td><td><u>8</u></td><td><u>5 uses / day / occupant</u></td></tr><tr><td><u>Shower</u></td><td><u>13.455</u></td><td><u>5.382 or
4.7035 with TSVs
minutes / day / occupant
at device flow rate</u></td></tr></table></td></tr>
<tr><td>Substantiating Documents:</td><td>No</td></tr>
<tr><td>CC Action:</td><td>Disapprove</td></tr>
<tr><td>Modification of Comment:</td><td></td></tr>
<tr><td>CC Reason:</td><td>Data supports usage per day.</td></tr>
</table>

Chapter 9: Indoor Environmental Quality

PC166 LogID 6080	901.1.4 Gas-fired fireplaces and … *Final Formal Action:* **TBD**
Submitter:	Kenneth Belding, Empire Comfort Systems
Comment:	Vented gas-fired fireplaces and vented 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 as written in the Green Building Standard bans a product that is design certified to the ANSI standards and has been for 30 plus years with no negative effects to our consuming public. There has never been a fatality and never an illness directly attributed to vent free heating products, again never is the optimum word here with millions of these units operating everyday , every year across this country and for that matter the world. There are other devices mandated in construction such as CO detectors which along with 21st century ventilation techniques make these units even safer for use than other types of heating products which we all know carry liabilities every year. The change I am proposing does not mean that there is any endorsement by the Green Building Standard but does not disapprove of them either. If there isn't, there should be a law that bans the idea that a code body can basically ban a product category that is ANSI Certified and has no negative claim and or liability history. This portion of the standard should be modified to ensure that the safest heating system on the market stays on the market. There are at least 4 independent scientific studies that also show, without question, that vent free products are safe and a safe, viable consumer choice for supplemental heating.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC wishes to keep fireplaces venting to the outdoors and is consistent with other green programs

PC167 LogID 6082	901.1.4 Gas-fired fireplaces and … *Final Formal Action:* **TBD**
Submitter:	Kenneth Belding, Empire Comfort Systems
Comment:	**901.1.4** Vented gas-fired fireplaces and vented 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 or sleeping units and direct heating equipment are vented to the outdoors~~. Alcohol burning devices and kerosene heaters are vented to the outdoors.
Reason:	This section as written in the Green Building Standard bans a product that is design certified to the ANSI standards and has been for 30 plus years with no negative effects to our consuming public. There has never been a fatality and never an illness directly attributed to vent free heating products, again never is the optimum word here with millions of these units operating everyday, every year across this country and for that matter the world. There are other devices mandated in construction such as CO detectors which along with 21st century ventilation techniques make these units even safer for use than other types of heating products which we all know carry liabilities every year. The change I am proposing does not mean that there is any endorsement by the Green Building Standard but does not disapprove of them either. If there isn't, there should be a law that bans the idea that a code body can basically ban a product category that is ANSI Certified and has no negative claim and or liability history. This portion of the standard should be modified to ensure that the safest heating system on the market stays on the market. There are at least 4 independent scientific studies that also show, without question, that vent free products are safe and a safe, viable consumer choice for supplemental heating.
Substantiating Documents:	No

CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC wishes to keep fireplaces venting to the outdoors and is consistent with other green programs.

PC168 LogID 6065	**901.1.4 Gas-fired fireplaces…** ***Final Formal Action:*** **TBD**
Submitter:	Kerry Leason, Manufacturer
Comment:	**901.1.4** ~~Gas-fired~~ Vented gas-fired fireplaces and vented 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 or sleeping units and direct heating equipment are vented to the outdoors.~~ Alcohol burning devices and kerosene heaters are vented to the outdoors.
Reason:	Section 901.1.4 unjustifiably prohibits the installation of listed gas-fired unvented room heaters in residential housing when meeting all requirements for product certification and building standards that would qualify these product in green buildings and preserving adequate indoor air quality.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC wishes to keep fireplaces venting to the outdoors and is consistent with other green programs.

PC329 LogID 6094	**901.1.4 Gas-fired fireplaces and direct heating …** ***Final Formal Action:*** **TBD**
Submitter:	Paul Cabot, American Gas Association
Comment:	Vented gas-fired fireplaces and vented 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:	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. The task group revised it's initial disapproval during the consideration of ballot comments and recommended that the committee approve the changes. ***Secretariat Note: The Public Comment was incorrectly held by Staff. The comment addresses a section of the Draft Standard that was changed during the development of the 2020 NGBS. The comment was previously referred to as H12.***
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC wishes to keep fireplaces venting to the outdoors and is consistent with other green programs.

PC169 LogID 6209	**901.2 Solid fuel-burning appliances** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	**(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~~.
Reason:	There is nothing by the name "Phase 2" that I can find. What is "certified" is not referenced in ICC 700 and is hard to find.
Substantiating Documents:	No
CC Action:	Approve as Modified

Modification of Comment:	Modify Draft Standard as follows: *Add reference document for EPA Burnwise voluntary program –* https://www.epa.gov/burnwise/voluntary-fireplace-program
CC Reason:	CC wishes to keep the EPA Phase 2 emission level qualification. Addition of reference document addresses some of the concerns of the commenter. Consistent with previous CC action.

PC170 LogID 6086	**902.2 Building ventilation systems**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self	
Comment:	**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.	**Mandatory where the maximum air infiltration rate is less than 5.0 ACH50**
	(1) exhaust or supply fan(s) ready for continuous operation and with appropriately labeled controls	**3**
	(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	**6**
	(3) heat-recovery ventilator	**7**
	(4) energy-recovery ventilator	**8**
	(5) Ventilation air is preconditioned by a system not specified above.	10
Reason:	Option (5) did not include and points. As a ventilation system that provides preconditioned air is an upgrade to the systems listed already and should be worth more points.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC171 LogID BC44	**902.3.2 Radon Testing**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary; Tempo Partners	
Comment:	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.	
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:*	

	902.3.2 Radon testing. Radon testing is mandatory for Zone 1
	Except: testing is not mandatory where the authority having jurisdiction has defined the radon zone as Zone 2 or 3.
	(1) Testing specifications. Testing is performance as specified in (a) through (j) **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.
	(j) 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."
	(2) Testing results. A radon test done in accordance with 902.3.1 and completed before occupancy receives a results of 2 pCi/L or less. **6**
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	In favor of action on PC176

PC172 LogID 6134	**902.3 Radon reduction measures** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Radon reduction measures are in accordance with ICC IRC Appendix F or 902.3.1, or the EPA's Build Radon Out
Reason:	The EPA's Build Radon Out is a great document that is inline with the other two references and should be referenced as well.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	EPA suggested that the document is out of date and shouldn't be used. There is no data to support equivalence.

PC173 LogID 6135	**902.3.1.7 Fan** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self

Comment:	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. Fan is not required to be on a dedicated circuit.
Reason:	Important to let the verifier and builder know that the fan is not required to be on a dedicated circuit as it is not a large enough load to require one and therefore should not have a homerun.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC174 LogID 6291	**902.3.2 Radon testing** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, self
Comment:	Except: testing is not mandatory where the authority having jurisdiction has defined the radon zone as Zone 2 or 3.or, if the zone is not identified by the AHJ, as defined in Figure 9(1).
Reason:	Language alignment
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC believes that this change is unnecessary and adds confusion.

PC175 LogID 6293	**902.3.2 & 11.902.3.2 Radon testing** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self
Comment:	902.3.2 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 Zone2 or 3. (2)testing is not mandatory for multifamily buildings. 11.902.3.3Radon 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 Zone2 or 3. (2)testing is not mandatory for multifamily buildings.
Reason:	As written the radon testing requirement for radon zone 1 (high radon potential zone) could confusing, probably has practical problems and would be prohibitive if taken to mean all units in a large multi family building.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC176. A representative sample reduces the burden on multifamily buildings and the requirement for testing should remain

PC176 LogID 6192	**902.3.2 Radon testing** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self

Comment:	902.3.2 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 for multifamily buildings. (3) testing is not mandatory where the occupied space is located above an unenclosed open space. Testing specifications. Testing is performed as specified in (a) through (k) (a) Testing is performed after the residence passes its airtightness test. (b) Testing is performed after the radon control system installation is complete. If the system has an active fan, the residence shall be tested with the fan operating. (c) Testing is performed at the lowest level which will be occupied, even if the space is not finished. (d)Testing is not performed in a closet, hallway, stairway, laundry room, furnace room, kitchen or bathroom. (e) Testing is performed with a commercially available test kit or with a continuous radon monitor that can be calibrated. Testing shall be in accordance with the testing device manufacturer's instructions. (f) Testing ~~can~~ shall be performed by the builder, a registered design professional or an approved 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) Written radon test results shall be provided by the test lab or testing party. Written test results shall be included with construction documents. ~~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.~~ (i) An additional pre-paid test kit shall be provided ~~to~~ for 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.~~ (k) Where the radon test result is 4 pCi/L or greater, the fan for the radon vent pipe shall be installed. ~~(i) This section does not require a specific test result, rather it requires the test be performed and the results provided to the homeowner.~~ ~~(j) 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."~~
Reason:	Testing is in effect the commissioning of a radon system. This aligns the language in the NGBS with what passed in the IRC based on the public comment to RM5 in the IRC. There may not yet be an owner when the home is built, so this change has test results provided with construction documents. Several sentences were clarified. This deletes mention of test results delivered after occupancy, which could be after the verifiers were gone. New "b" specifies testing with the fan operating, if there is a fan. New "c" adds "kitchen" as one of the types of spaces where testing should not occur. New "e" better describes the continuous testing device and specifies using the manufacturer's directions. New "f" removes a "can" in favor of a "shall". It also specifies an "approved" third party. New "g" and "h" recognize that new homes don't necessarily have an owner until sold and that the test results are better left with construction documents. New "i" removes an unneeded sentence. New "j" specifies that the radon system be activated with a fan if the radon level in the passive system exceeds the safety limit. It also deletes some confusing language. This change exempts multifamily from the mandatory requirements due to practical difficulties, but retains the points for multifamily.

	More than half the states have some kind of state radon requirement or have local jurisdictions that have adopted some kind of radon requirements. You can look at your state's radon requirement in the LawAtlas project. (http://lawatlas.org/datasets/state-radon-laws, click "explore", then click your state)
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***Revise Draft Standard as Follows:*** 902.3.2 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 unenclosed open space. Testing specifications. Testing is performed as specified in (a) through (k). Testing of a representative sample shall be permitted for multifamily buildings only. (a) Testing is performed after the residence passes its airtightness test. (b) Testing is performed after the radon control system installation is complete. If the system has an active fan, the residence shall be tested with the fan operating. (c) Testing is performed at the lowest level within a dwelling unit which will be occupied, even if the space is not finished. (d) Testing is not performed in a closet, hallway, stairway, laundry room, furnace room, kitchen or bathroom. (e) Testing is performed with a commercially available test kit or with a continuous radon monitor that can be calibrated. Testing shall be in accordance with the testing device manufacturer's instructions. (f) Testing ~~can~~ shall be performed by the builder, a registered design professional or an approved 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) Written radon test results shall be provided by the test lab or testing party. Written test results shall be included with construction documents. ~~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.~~ (i) An additional pre-paid test kit shall be provided ~~to~~ for 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.~~ (k) Where the radon test result is 4 pCi/L or greater, the fan for the radon vent pipe shall be installed. ~~(i) This section does not require a specific test result, rather it requires the test be performed and the results provided to the homeowner.~~ ~~(j) 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."~~
CC Reason:	With the addition of a representative sample, the requirement for multifamily buildings to test for radon should remain.

PC177 LogID 6190	**902.3.2 Radon testing.** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	902.3.2 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 for multifamily buildings.
Reason:	Multifamily can present problems with radon testing if such testing was mandatory. Radon testing is still useful, but issues such as which units to test, what to do if the building is partly completed, and possible misinterpretation to read this as a requirement to test all units are a problem. This retains the points for testing multifamily units, but does not make testing for multifamily mandatory.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Number of dwelling units in a building does not change the risk.

PC178 LogID 6298	**906 Additional / New & 11.906 Additional/New** *Final Formal Action:* **TBD**
Submitter:	Aaron Gary, self
Comment:	**~~906~~** **~~ADDITIONAL / NEW~~** **90~~6.15~~5.3 Enhanced Air Filtration.** Meet all of the following. **2** **(1)** Design for and install a secondary filter rack space for activated carbon filters **(2)** Provide the manufacturer's recommended filter maintenance schedule to the homeowner or building manager. RENUMBER SUBSEQUENT SECTIONS **~~11.906~~** **ADDITIONAL / NEW** **11.90~~6.15~~5.4 Enhanced Air Filtration.** Meet all of the following. **2** **(1)** Design for and install a secondary filter rack space for activated carbon filters **(2)** Provide the manufacturer's recommended filter maintenance schedule to the homeowner or building manager. ~~RENUMBER SUBSEQUENT SECTIONS~~
Reason:	The new provisions in section 906 should be included in Section 905 in order to align with the structure of the other chapters in the Standard.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC179 LogID 6136	**906 ADDITIONAL / NEW** *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	Eliminate Section 906 and roll those measures in under 905
Reason:	There are two measures under Section 905 and all the measures under section 906 are innovative. So it only would make sense.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	

CC Reason:	

PC180 LogID 6137	**906.2 Sound Barrier** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	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~~.utilizing sound abatement insulation or R-11 or R-13 batts or other comparable products at these junctions.
Reason:	It doesn't seem very common to perform and get sound ratings from room to room in a dwelling unit or house. Usually, the sound rating is from interior to exterior of the building. If the builder goes to the trouble of installing insulation in those walls to reduce sound transmission but doesn't have a test performed he should still be awarded for meeting the intent and it should be worded and awarded as such.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Limiting the sound abatement material to R-11 or R-13 batts is too restrictive. Insulation installed might not meet the previous threshold for sound attenuation.

PC181 LogID 6138	**906.3 Ventilation for Multifamily Common Spaces** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Move this section to Section 902 mandatories
Reason:	This requirement seems out of place under section 906. It should be included with the mandatories in section 902.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***Modify Draft Standard as Follows:*** ~~**906.3**~~ 902.1.6 **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 1002.1 and 1002.2 of NGBS. 3 Points
CC Reason:	Identified section and added points

PC182 LogID 6013	**906.4 Furniture and Furnishings** ***Final Formal Action:*** **TBD**
Submitter:	Josh Jacobs, UL
Comment:	**~~906.4~~1.12 Furniture and Furnishings.** In a multifamily building, all furniture in common areas shall have VOC emission levels in accordance with ANSI/BIFMA e3-Furniture Sustainability Standard sections 7.6.1 and 7.6.2, tested in accordance with ANSI/BIFMA Standard Method M7.1. Emission levels are determined by a laboratory accredited to ISO/IEC 17025 and the ANSI/BIFMA Standard Method M7.1 is in its scope of accreditation. Furniture and Furnishings are certified by a third-party program accredited to ISO 17065, such as, but not limited to, those in Appendix D. **APPENDIX D** **EXAMPLES OF THIRD-PARTY PROGRAMS FOR INDOOR ENVIRONMENTAL QUALITY** **901.12** UL GREENGUARD Gold Scientific Certifications Systems (SCS) Indoor Advantage Gold Program BIFMA level certification where 7.6.1 and 7.6.2 are proven to be achieved

Reason:	This change will place this product emission criteria with the other product emission criteria in Chapter 9. It will also align the language, requirements, and direction with the other product emission requirements currently in Chapter 9.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC183 LogID 6139	**906.4 Furniture and Furnishings** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Award two points for this measure
Reason:	Not always feasible on project to ensure this is met. Plus we should award points and encourage the use of these materials/ furniture but not make them a requirement. Also, sometime by the time this furniture is bought and installed the verifier could be off the site with inspections complete.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC184 LogID 6140	**906.6 Microbial Growth & Moisture Inspection…** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Move Section 906.6 to section 904.
Reason:	Since Section 904 covers air-quality in the building/dwelling this measure would belong in 904
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC185 LogID 6141	**906.6(2) Microbial Growth & Moisture Inspection…** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Verify that there are no visible signs of water damage or pooling. 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. <u>If wood is involved, it will be tested for moisture content of 19% of less before being enclosed.</u>
Reason:	There is no mention of wood and mold and live and thrive in here especially if it is enclosed in a wall cavity.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The testing procedures and damage type would need to be further defined. The TG thinks that the idea of the comment is valid, and should be revisited in a future revision of the NGBS.

PC186 LogID 6210	906.6 Microbial Growth & Moisture Inspection and Remediation *Final Formal Action:* TBD
Submitter:	Craig Conner, self
Comment:	~~906.6 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~~ ~~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.~~ ~~(2) Verify that there are no visible signs of water damage or pooling. 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.~~
Reason:	Awkward wording for this item. Inconsistent- first you verify that there is no mold, then you fix it. The EPA documents are not in the references. The EPA documents are "mandatory", or not? But documents are more like general guidance, and are not suitable as mandatory standards. The second document appears to be targeting large mold problems mostly for buildings that are not likely to be in NGBS.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***Modify the Draft Standard as Follows:*** **906.6 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 Mandatory ~~Notes:~~ Or 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. Mandatory Add the following to the reference chapter: EPA document 402-k-01-001 (Mold Remediation in Schools and Commercial Buildings) EPA Document 402-K-02-003 (A Brief Guide to Mold, Moisture, and Your Home)
CC Reason:	CC believes that the section is important and shouldn't be deleted. The information in the note should be included as part of the standard, not an advisory note. Commenters concern of reference standard not being included was addressed.

Chapter 11: Remodeling

PC187 LogID 6105	11.503.1 Natural resources *Final Formal Action:* **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** ~~(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).~~
Reason:	a) Why allow a developer to get points merely for having a plan? b) The IWUIC was written to protect buildings from fires, but it was not written with sustainability in mind. For example, the code requires the removal of plants to create a defensible space. The requirements are very broad and oversimplified and, other than offering an exception for turf, ivy, and a few other low-lying plants, do not inform users about the many plants that are fire resistant. Wildfires vary based on local conditions, as do the plants that are fire resistant. Defensible space, then, is an issue that needs local interpretation. IWUIC requirements could unnecessarily contribute to environmental damage by encouraging builders to remove (or not plant) vegetation that is a low fire risk but beneficial to the ecosystem.
Substantiating Documents:	
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	There are serious negative environmental impacts to the spread of fire between wildlands and buildings (combusting construction materials, material replacement, air quality impacts, and erosion)

PC188 LogID 6048	11.503.1 Natural Resources *Final Formal Action:* **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	11.503.1 (8) - We support the addition of this section,
Reason:	Provides guidance when a development is in a Wildland-Urban Interface area
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Not an actionable comment

PC189 LogID 6143	11.503.4 (3) *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** ~~(Points for vegetative paving systems are only awarded for locations receiving more than 20 inches per year of annual average precipitation)~~

Reason:	Remove requirement, Any project incorporating vegetative paving should be able to take points. OR add "..more than 20in per year of annual average precipitation as determined by NOAA(or something similar)
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Irrigation should not be encouraged for a vegetative paving system for arid climates.

PC190 LogID 6049	**11.503.4 Stormwater Management** ***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** 11.503.4 (4) – *We support the addition of this section, but with modification.* **(4)** Complete gutter and downspout system directs storm water away from foundation to vegetated landscaping, a raingarden, or catchment system that provides for water infiltration.
Reason:	This provides the functional performance expectation for storm water management of this item.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	Modify Draft Standard as Follows: (5) Complete gutter and downspout system directs storm water away from foundation to densely vegetated landscape area, a raingarden, or catchment system that provides for water infiltration
CC Reason:	Clarification. Input from PC068 included in modification.

PC191 LogID 6074	**11.503.4 Stormwater Management** ***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** **11.503.4Stormwater Management.** *< (1)through (3) omitted >.* **(4)** Complete gutter and downspout system directs storm water away from foundation to ~~landscaping~~ densely vegetated area, a raingarden, or catchment system.
Reason:	The NGBS definition of "landscaping" includes "created or installed elements such as fences or other material objects;" and "abstract elements such as the weather and lighting conditions," where it could be harmful to direct stormwater discharges. 'Vegetated area' better meets the intent of the change. 'Densely' is added to prevent gaming, like directing stormwater toward a single tree. 'Raingarden' is added to address less densely vegetated areas that work similarly to catchment systems but that may not be considered as such by the user.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC067.

PC192 LogID 6050	11.503.5 Landscape Plan *Final Formal Action:* **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** 11.503.5 This section should be changed to read: (5) EPA WaterSense Water Budget Tool or equivalent is used ~~when implementing up to the maximum percentage of turf areas.~~
Reason:	Section 11.503.5 (4) - We disagree with this change and with the reference to turfgrass in the use of the EPA WaterSense Water Budget Tool. This is a misapplication of the intent of this tool to provide the landscape designer with an appropriate water budget for the landscape design of the site and is not intended to be used to prescriptively limit the use of any individual plant option. This tool applies to the total plant palette used in the landscape. We agree with the modification to the points allowed.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	503.5 (4) This section should be changed to read: (4) EPA WaterSense Water Budget Tool or equivalent is used when implementing the site vegetative design ~~up to the maximum percentage of turf areas.~~
CC Reason:	Consistent with action on PC035

PC193 LogID 6217	11.503.5 Landscape plan *Final Formal Action:* **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	(5) Where turf is being planted, Turfgrass Water Conservation Alliance (TWCA), or equivalent third party as determined by the jurisdiction having authority, qualified water efficient grasses are used.
Reason:	Stating "as equivalent" without further context is vague and cannot be implemented consistently.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Added language does not provide any more clarity than current draft standard.

PC194 LogID 6062	11.503.6 Wildlife habitat *Final Formal Action:* **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** (2) To improve pollinator habitat, at least 10 percent of planted areas are composed of native or regionally appropriate flowering and nectar producing species. Invasive plant species shall not be utilized.
Reason:	Including nectar producing species is a good start, but why not encourage projects to use the plants that co-evolved with pollinators? Pollinators rely on native plants for more than just nectar sources—for example, butterflies and other insects use native plants not only as nectar sources, but larval hosts. Where possible, constructed habitats should take the full life cycle of pollinator species into account.

	"Native or regionally appropriate" vegetation is referenced in other areas of the draft, so this addition would be consistent with language elsewhere in the standard.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Additional restriction is unnecessary. ***Note: Based on action on PC073.***

PC195 LogID 6075	**11.503.6 Wildlife habitat** ***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** **11.503.6 Wildlife habitat.** Measures are planned to support wildlife habitat and include at least two of the following:< (1) omitted> ~~**(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.~~
Reason:	The proposed language duplicates the language of Sec. 11.503.5 (3), allowing double counting for the same practice.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Consistent with action on PC194

PC196 LogID 6052	**11.505.10 For multifamily buildings, on-site…** ***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	11.505.10 – We support the addition of this section.
Reason:	On-site dedicated recreation space for exercise or play opportunities for adults and/or children are vital to the health and well being of residents.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Comment of affirmation. not an actionable comment

PC197 LogID 6106	**11.505.10 For multifamily buildings, on-site…** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	~~11.505.10 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 . (a) A dedicated area of at least400 square feet is provided inside the building with adult exercise and/or children's play equipment. 3 (b) 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 (c) Active play/recreation areas are illuminated at night to extend opportunities for physical activity into the evening.~~

Reason:	It is unclear how this proposed section relates to site sustainability. Also, in many cases, the use of these spaces is dependent on the owner of the building and not under the control of the builder.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC080

PC198 LogID 6073	**11.607.1 Recycling and composting** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** **Recycling and composting.** Recycling and composting by the occupant are facilitated by one or more of the following methods: (1) A readily accessible space(s) for recyclable ~~and compostable~~ material containers is provided and identified on the floorplan of the house <u>or dwelling unit</u>. 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 <u>or building</u>. The area outside the living space shall~~:~~ ~~(a) A~~ <u>a</u>ccommodate 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.~~ ~~3~~<u>2</u>points ~~(2) In multifamily building, management provides recycling container and has designated recycling dumpsters onsite and /or contract with offsite sorting.~~ ~~3points~~ <u>(2) A readily accessible space(s)for compostable material containers is provided and identified on the floorplan of the house or dwelling unit. A readily accessible area(s) outside the living space is provided for compostable material containers and identified on the site plan for the house or building.</u> <u>The area outside the living space shall accommodate composting container(s) for locally accepted materials, or, accommodate a composting container(s) for on-site composting.</u> <u>4points</u>
Reason:	Proposal to add a credit for composting in multifamily buildings: As written, providing space for compostables in multifamily buildings is not recognized under the 2020 NGBS. Such oversight disincentivizes provision of adequate space and can result in missed opportunities to reduce the large fraction of organics that is in the municipal solid waste stream. Proposal to allocate 2 points for

	provision of recycling space and 4 points for provision of composting space: Collection of recyclables has been implemented in many localities and the recycling rate has grown over many years. However, composting efforts are still behind despite local composting programs being in place. Providing space for composting can increase awareness and ability of consumers to collect and/or compost organics, and it presents the next meaningful opportunity to change how we manage all ongoing waste. A slightly larger number of points is intended to provide a comparatively worthwhile incentive needed to better facilitate the sustainable management of organics. Proposal to delete the requirement targeting building management: It is unclear how NGBS would ensure whether building management provides recycling containers and requirement is met.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**Recycling and composting.** Recycling and composting by the occupant are facilitated by one or more of the following methods: (1) A readily accessible space(s) for recyclable ~~and compostable~~ material containers is provided and identified on the floorplan of the house or dwelling unit~~.~~ or 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. The area outside the living space shall~~:~~ ~~(a) 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. ~~3~~2points ~~(2) In multifamily building, management provides recycling container and has designated recycling dumpsters onsite and /or contract with offsite sorting.~~ ~~3points~~ (2) A readily accessible space(s)for compostable material containers is provided and identified on the floorplan of the house or dwelling unit. or A readily accessible area(s) outside the living space is provided for compostable material containers and identified on the site plan for the house or building. The area outside the living space shall accommodate composting container(s) for locally accepted materials, or, accommodate a composting container(s) for on-site composting. 4points
CC Reason:	Modifications address concerns of applicability in multifamily buildings

PC199 LogID 6206	**11.612.2 Sustainable products.** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	11.612.2 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 or sleeping unit, as applicable. Products are certified by a third-party agency accredited to ISO 17065. 9 Max (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 NSF 332 ~~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 ~~EcoLogo CCD-016~~UL 2985 ~~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 ~~or applicable multi-attribute standards~~.

	(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~~. 3 (6) 50% or more of the door leafs installed (by number of door leafs) is certified to UL 102 ~~or applicable multi-attribute standards~~. 3 (7) 50% or more of the tile installed (by square feet) is certified to 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:	There are 100s of "Ecolable" standards. These standards are not all cited in ICC 700. I can not find any single list of the standards. The list apparently constitutes a moving target. I don't think all (almost none?) of the ecolabel standards were looked at. Any such standards should be supplied to the committee for review. If there is a multi-attribute standard to cite, it should be specifically named. To be used in a percent improvement requirement, any such standard needs a single clear base case to compute a % improvement. This is very unusable.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**11.612.2 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 or sleeping 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~~ or equivalent. (2) 50% or more of resilient flooring installed (by square feet) is certified to NSF 332 ~~or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels~~ or equivalent. (3) 50% or more of the insulation installed (by square feet) is certified to UL 2985 ~~or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels~~ or equivalent. (4) 50% or more of interior wall coverings installed (by square feet) is certified to NSF 342 ~~or applicable multi-attribute standards.~~ or equivalent (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~~ or equivalent. 3 (6) 50% or more of the door leafs installed (by number of door leafs) is certified to UL 102 ~~or applicable multi-attribute standards~~. or equivalent 3 (7) 50% or more of the tile installed (by square feet) is certified to 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~~. or equivalent
CC Reason:	The addition of "or equivalent" adds flexibility and the ability to use the standards first corrected in the original comment and potentially others.

PC200 LogID 6307	**11.613.3 Enhanced resilience** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, self
Comment:	613.3 Enhanced resilience – Assess project lot and building risk associated with lot Location , develop strategies to address specific risks and include measures in plan 613. ~~3~~ 4 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. 3 613.~~4~~ 5 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. 5 613~~.5~~ 6 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. 10 613. ~~6~~7 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. 12 613.~~7~~ 8 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
Reason:	Encourage Resilient design practices
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Request of the commenter. Intend to revisit at a later date.

PC201 LogID 6145	**11.613.3 -11.613.7 Enhanced resilience** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** ~~11.613.3 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.~~ ~~11.613.4 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.~~ ~~11.613.5 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.~~ ~~11.613.6 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.~~ ~~11.613.7 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~~ Remove the sections above and update to the following or similar: a) 10% above base design - 3pts b) 20% above base design - 5pts c) 30% above base design - 10pts d) 40% above base design - 15pts e) 50% above base design - 20pts
Reason:	Sections 11.613.3-11.613.7 could be condensed down instead of reiterating the same wording over and over again.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Language was condensed too far, should retain some of the original charging language.

PC202 LogID 6146	**11.613.6 Enhanced resilience – 40%...** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Update Points from ~~12~~ to 15
Reason:	If a project can show compliance with 40% above a resiliency baseline it should be awarded as such since that is not a small undertaking. So I think 15pts would be fair.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC deems current points awarded appropriate

PC203 LogID 6147	**11.613.7 Enhanced resilience – 50%...** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Update points from ~~15~~ to 20
Reason:	If a project can show compliance with 50% above a resiliency baseline it should be awarded as such since that is not a small undertaking. SO I think 20pts would be fair.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC deems current points awarded appropriate

PC204 LogID 6148	**11.701.4.3.2 Air barrier, air sealing** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	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 (i.e. manufacturer's recommended installation) by a third-party are in accordance with the following:
Reason:	Grade I is in the eye of the beholder. Referencing manufacturer's recommended installation gives clearer unbending direction.

Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Addition is unnecessary. Manufacturer's instructions wouldn't add any additional clarity.
PC205 LogID 6299	**11.703 Prescriptive Energy Compliance** ***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self
Comment:	11.703 Prescriptive Energy Compliance 11.703.1 Prescriptive Energy Compliance - Mandatory Practices
Reason:	Section numbers and headers in chapter 11 need to be reviewed for clarity and alignment. Current structure is very confusing. Comment above is only 1 example of many where improvement is needed.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC206 LogID 6149	**11.703.2.5.1.1 Dynamic glazing** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** Move Section 11.703.2.5.1.1 back above table 703.2.5.1
Reason:	This credit should be mentioned before reaching the table, otherwise it looks out of place referencing a table behind it.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC118

PC207 LogID 6150	**11.703.2.5.2.1 Dynamic glazing.** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** Move section 11.703.2.5.2.1 back above table 703.2.5.2 (a,b,c).
Reason:	This credit should be mentioned before reaching the table, otherwise it looks out of place referencing a table behind it.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	

CC Reason:	Consistent with action on PC120

PC208 LogID 6152	**Table 11.703.4.1 Ductless heating system**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	~~(No points awarded for multifamily buildings four or more stories in height.)~~	
Reason:	Again, the more you alienate taller multifamily buildings, the less they are going to use this path let alone NGBS.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC209 LogID 6153	**Table 11.703.4.2 Ductless cooling system**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	~~(No points awarded for multifamily buildings four or more stories in height.)~~	
Reason:	Again, the more you alienate taller multifamily buildings, the less they are going to use this path let alone NGBS.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC210 LogID 6154	**Table 11.703.4.3 Ducts**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	~~(No points awarded for multifamily buildings four or more stories in height.)~~	
Reason:	Again, the more you alienate taller multifamily buildings, the less they are going to use this path let alone NGBS.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC211 LogID 6300	**11.705 Additional practices**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self	
Comment:	**11.705.2.1.1 Interior lighting.** In dwelling units or sleeping units, permanently installed interior lighting fixtures are controlled with an occupancy sensor, or dimmer: (1) 50 percent to less than 75 percent of lighting fixtures. (2) A minimum of 75 percent of lighting fixtures.	
Reason:	Section numbers and headers in chapter 11 need to be reviewed for clarity and alignment. Current structure is very confusing. As one example, the measures in sections 11.705 & 11.706 are worth points that contribute to Table 305.2.7, but all the points in these measures are missing.	

Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**(1) To keep this parallel with new construction, change footnote under Table 305.2.5.2** **Change footnote in table 305.2.5.2:** "Points from Section 11.703 and 11.705 do not count towards the total points for section 11.305.2.7." **To the following:** "A building complying with 305.2.5.2 Prescriptive Path for Energy shall obtain at least 30 points from Section 11.703 and include a minimum of two practices from Section 11.705. Points earned in Section 11.705 and 11.706 contribute to the energy points in Table 305.2.5.2 and support earning a higher certification level. Points from Section 11.703, 11.705 and 11.706 do not count towards the required points in Table 305.2.7" **(2)** All of the points listed in 705 and 706 reflected in 11.705 and 11.706 **(3) The following section should read:** 305.2.7 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 305.2.7. Any practice listed in Chapter 11, except for practices in sections 11.701-11.706 and sections 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. **(4) Remove the following section:** ~~11.801.1 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.~~ **(5)** All of the points in Section 802 & 803 need to be reflected in 11.802 & 11.803 **(6)** Remove Section 11.804 entirely.
CC Reason:	Corrections and clarifications for Chapter 11 re-write. Public comment uncovered a larger problem, the approved as modified language is an attempt to correct the problem.

PC212 LogID 6281	**11.705.6.2.1 Air leakage validation of building…** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, self
Comment:	**11.705.6.2.1 Air leakage validation of building or dwelling units or sleeping units.** A visual inspection is performed as described in 11.701.4.3.2(2) and air leakage testing is performed in accordance with ~~ASTM E779 or ASTM E1827.~~ ANSI 380
Reason:	sections 11.902.2.2 and 902.2.2 reference ANSI 380 testing protocol....this protocol also covers BD tests but section 705.6.2.1 references ASTME 779 or 1827...align for consistency..... do the same for 705.6.2.1
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**11.705.6.2.1 Air leakage validation of building or dwelling units or sleeping units.** A visual inspection is performed as described in 11.701.4.3.2(2) and air leakage testing is performed in accordance with ASTM E779 or ASTM E1827 or ANSI 380.
CC Reason:	Consistent with IECC

PC213 LogID 6220	11.801.1 Mandatory requirements. *Final Formal Action:* TBD
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** **Requested Action:** Delete without substitution **Proposed Change:** ~~The building shall comply with Section 802 (Prescriptive Path) and 803 (Innovative Practices) or Section 804 (Performance Path). Points from Section804 (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.~~
Reason:	Mandatory measures are useful at ensuring user satisfaction, quality, and other benefits that serve the intent of the standard and are not adequately captured in simply measuring end-use efficiency via a performance path. The standard should not exclude all mandatory measures when the performance path of Section 804 is used. It would benefit the standard to clearly separate mandatory measures from point measures, to plainly identifying which of the provisions under 802 and 803 are actually MANDATORY.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**11.801.1 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.
CC Reason:	CC believes that simply removing the “not” in the language addresses the issue.

PC214 LogID 6242	11.802.11 Pools and Spas. *Final Formal Action:* TBD
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** **Requested Action:** Add as follows. **Proposed Change:** (1) Manual pool covers that cover the entire surface of the pool. 5 points. (~~1~~2) Automated motorized non-permeable pool cover that covers the entire pool surface.
Reason:	10 points for an automated motorized pool cover is low when compared to other items such as installation of composting toilets. These covers cost $5,000- $20,000 and are significantly more expensive than other covers with no evidence that they are used more. All solid pool covers save about 95% of evaporation when used. Automated covers may make it easier for them to be used but there is no evidence to support this claim. Source https://www.epa.gov/sites/production/files/2018-09/documents/ws-products-outdoor-poolcover-noi.pdf (Pg 6)
Substantiating Documents:	No
CC Action:	Disapprove

Modification of Comment:	
CC Reason:	Multiple studies have shown that manual pool covers are not used regularly.

PC215 LogID 6303	**11.802.2 Water-conserving appliances**	***Final Formal Action:*** **TBD**
Submitter:	Paul Gay, self	
Comment:	(1) Dishwasher (2 points) (2) Clothes washer or (3) clothes washer with Integrated Water factor of 3.8 or less points didn't transfer over in formatting for 2 and 3	
Reason:	I'm not sure why this credit was dropped from 802.2 Per Energy Star.....A new ENERGY STAR certified dishwasher will save, on average, 3,870 gallons of water over its lifetime. ENERGY STAR certified dishwashers use advanced technology to get your dishes clean while using less water and energy. Dishwasher technology has improved dramatically over the last decade. New ENERGY STAR certified models include several innovations that reduce energy and water consumption and improve performance. Soil sensors test how dirty dishes are throughout the wash and adjust the cycle to achieve optimum cleaning with minimum water and energy use. Improved water filtration removes food soils from the wash water allowing efficient use of detergent and water throughout the cycle.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:	Consistent with action on PC143	

PC216 LogID 6228	**11.802.4 Showerheads**	***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency	
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** **Requested Action:** Revise as follows. **Proposed Change:** Showerheads shall comply with ASME A112.18.1/CSA B125.1 and meeting the performance criteria of the U.S. EPA WaterSense Specification for showerheads.	
Reason:	WaterSense labeled showerheads also provide pressure compensations which maintain flow at the rated flow rate in the presence of high system pressure. If the committee is not willing to cite WaterSense then state that showerheads must comply with the High-efficiency requirements for showerheads in A112.18.1. Also, the citation for ASME A112.18.1 was incorrect.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC217 LogID 6198	**11.802.5.1 Install water-efficient lavatory faucets**	***Final Formal Action:*** **TBD**
Submitter:	Cambria McLeod, Kohler	

Comment:	11.802.5.1 Install water-efficient lavatory faucets with flow rates not more than 1.5 gpm (5.~~68~~7 L/min), tested in compliance with ASME A112.18.1/CSA B125.1 and meeting the performance criteria of the EPA WaterSense High-Efficiency Lavatory Faucet Specification ~~or equivalent~~
Reason:	When changing to metric, the ASME standard equates 1.5 gpm to 5.7L/min. Proposing to remove 'or equivalent' as there is no alternative to prove equivalence to WaterSense. A consumer or contractor would not be able to do the testing to prove equivalence and there is no other national program that one could 'equate' to. WaterSense is an authorized program (recently authorized in 2018) and is supported by Plumbing Manufacturer's International (which represents manufacturers which provide over 90% of the plumbing products sold in the U.S.)
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC218 LogID 6199	**11.802.5.2 Water efficient kitchen faucets** ***Final Formal Action:*** **TBD**
Submitter:	Cambria McLeod, Kohler
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** 11.802.5.2 Water efficient residential kitchen faucets are installed in accordance with ASME A112.18.1/CSA B125.1. Residential kitchen faucets may temporarily increase the flow above the maximum rate but not to exceed 2.2 gpm.(1) All residential kitchen faucets have a maximum flow rate of 1.8 gpm
Reason:	Adding the term residential to provide clarity and consistency as to which faucet type this flow rate pertains to.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC219 LogID 6200	**11.802.6 Water closets and urinals.** ***Final Formal Action:*** **TBD**
Submitter:	Cambria McLeod, Kohler
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** 11.802.6(4) Water closets that have a~~n effective~~ flush volume of 1.2 gallons or less.
Reason:	Adding the term effective allows for the use of water-saving dual-flush toilets and makes the requirements clearer to the specifier.
Substantiating Documents:	No
CC Action:	Approve as Modified

Modification of Comment:	(4)(a) Water closets that have an effective flush volume of 1.2 gallons or less.
CC Reason:	Commenter corrected submittal. Consistency throughout section.

PC220 LogID 6053	**11.802.7 Irrigation Systems**	***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance	
Comment:	11.802.7.1 thru .5 – We support the addition of these sections.	
Reason:	Promotes the use of efficient irrigation systems	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:	Comment of affirmation, not an actionable comment.	

PC221 LogID 6156	**11.802.7.5 Commissioning and Water Use…**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** Add a note regarding what qualification are required in order to perform Cx on an irrigation system. Or consider changing ~~Commissioning~~ to another term (Verification) since the system wouldn't actually be commissioned.	
Reason:	Cx of this system leads me to believe there are certain certifications that must be held in order to Cx an irrigation system	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	CC believes change in language is unnecessary.	

PC222 LogID 6054	**11.802.8 Rainwater Collection and Distribution**	***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance	
Comment:	11.802.8.1 – We support the addition of this section.	
Reason:	Promotes the use of rainwater for irrigation, retaining it on site and providing for rainwater infiltration.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:	Comment of affirmation, not an actionable comment.	

PC223 LogID 6330	**11.802.8 Rainwater collection and distribution**	***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self	

Comment:	11.802.8.2 (2) Rainwater provides for total domestic demand. Where rainwater is used as potable water the potable rainwater system shall meet the requirements of IRC Sections P2913.2 through P2913.9, P2906, and Section 2912. The following shall also apply: (a) The following roof materials shall not be used to collect rainwater: shingles with fire retardant, copper, and materials that contain asbestos. Materials that contain lead, including but not limited to flashings and roof jacks, shall be prohibited. (b) Potable water supplies shall be protected against cross connection with rainwater as specified in IRC Section P2902.1. (c) Disinfection shall be provided by at least one of the following: 1.Ultraviolet (UV) light providing at least 40 mJ/cm2 at 254 nm for the highest water flow rate. A UV sensor with visible alarm, audible alarm, or water shutoff shall be triggered when the UV light is below the minimum at the sensor. In addition filtration no greater than 5 µm shall be located upstream of the UV light or 2. filtration no greater than 0.2 µm , or 3. other approved disinfection (d) Materials and systems that collect, convey, pump, or store rainwater for potable rainwater systems shall comply with NSF 53, NSF 61 or equivalent. (e) The quality of the water at the point of use shall be verified in accordance with the requirements of the jurisdiction. (f) The rainwater storage shall not admit sunlight. (g) Potable rainwater pipe shall not be required to be purple after the point that the water is disinfected.
Reason:	Rainwater is an excellent source of potable water if health and safety concerns are met. Using parts of existing buildings presents more difficult problems; for example, existing roofs are more likely to present problems as a potable water collection surface. This change specifies what works and what does not work for rainwater collection. Most of the requirements for using rainwater as potable water are the same as those for other potable water in the IRC, so the relevant sections of the IRC can just be cited. The existing IRC Section 2906 on Materials, Joints and Connections is required. The requirements for non-potable rainwater already in IRC Section 2912 are also required for potable rainwater; debris excluder, roof washer, gutters, inspections, manuals, etc. This change adds concerns specific to rainwater. --Roof materials that are not suitable for potable rainwater collection are prohibited. --Cross connection that would allow rainwater to flow back into other water supply systems is prohibited. --Disinfection to address biological contaminants is required, with UV light being by far the most common; however microfiltration and other options are allowed. --Potable rainwater systems have components upstream of the potable water that must not contaminate the incoming water. The citied standards (NSF 53 on Drinking Water Treatment Units and NSF 61 on Drinking Water System Components) are already used in IRC Chapter 29. --Water quality is required to meet the quality requirements of the jurisdictions using language similar to the existing IRC. --Sunlight in the rainwater tank would allow algae to grow, so it is prohibited. --Purple pipe would not be required after disinfection because post-disinfection these pipes carry only potable water.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	11.802.8.2 (2) Rainwater provides for total domestic demand.

	Where rainwater is used as potable water the potable rainwater system shall meet the requirements of IRC Sections P2906 and Section P2912. The following shall also apply: (a) The following roof materials shall not be used to collect rainwater: shingles with fire retardant, copper, and materials that contain asbestos. Materials that contain lead, including but not limited to flashings and roof jacks, shall be prohibited. (b) Potable water supplies shall be protected against cross connection with rainwater as specified in IRC Section P2902.1. (c) Disinfection shall be provided by at least one of the following: 1.Ultraviolet (UV) light providing at least 40 mJ/cm2 at 254 nm for the highest water flow rate. A UV sensor with visible alarm, audible alarm, or water shutoff shall be triggered when the UV light is below the minimum at the sensor. In addition filtration no greater than 5 µm shall be located upstream of the UV light or 2. filtration no greater than 0.2 µm , or 3. other approved disinfection (d) Materials and systems that collect, convey, pump, or store rainwater for potable rainwater systems shall comply with NSF 53, NSF 61 or equivalent. (e) The quality of the water at the point of use shall be verified in accordance with the requirements of the jurisdiction. (f) The rainwater storage shall not admit sunlight. (g) Potable rainwater pipe shall not be required to be purple after the point that the water is disinfected.
CC Reason:	Corrected section referenced

PC224 LogID 6157	**11.902.3 Radon reduction measures** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** Radon reduction measures are in accordance with ICC IRC Appendix F or 902.3.1, or the EPA's Build Radon Out
Reason:	The EPA's Build Radon Out is a great document that is inline with the other two references and should be referenced as well.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	EPA suggested that the document is out of date and shouldn't be used. There is no data to support equivalence. ***Note: Based on action on PC172.***

PC225 LogID 6288	**11.902.3.3 Radon** ***Final Formal Action:*** **TBD**
Submitter:	Paul Gay
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.***

	Except: testing is not mandatory where the authority having jurisdiction has defined the radon zone as Zone 2 or 3. if the zone is not identified by the AHJ then as identified on the map (reference map).
Reason:	language alignment
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC believes that this change is unnecessary and adds confusion.

PC226 LogID 6191	**11.902.3.3 Radon testing.** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** 11.902.3.3 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 for multifamily buildings.
Reason:	Multifamily can present problems with radon testing if such testing was mandatory. Radon testing is still useful, but issues such as which units to test, what to do if the building is partly completed, and possible misinterpretation to read this as a requirement to test all units are a problem.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The risk is present regardless of how many dwelling units there are in the building.

PC227 LogID 6193	**11.902.3.3 Radon testing** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** 11.902.33 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 for multifamily buildings. (3) testing is not mandatory where the occupied space is located above an unenclosed open space. Testing specifications. Testing is performed as specified in (a) through (k) (a) Testing is performed after the residence passes its airtightness test. (b) Testing is performed after the radon control system installation is complete. If the system has an active fan, the residence shall be tested with the fan operating.

	(c) Testing is performed at the lowest level which will be occupied, even if the space is not finished. (d)Testing is not performed in a closet, hallway, stairway, laundry room, furnace room, kitchen or bathroom. (e) Testing is performed with a commercially available test kit or with a continuous radon monitor that can be calibrated. Testing shall be in accordance with the testing device manufacturer's instructions. (f) Testing ~~can~~ shall be performed by the builder, a registered design professional or an approved 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) Written radon test results shall be provided by the test lab or testing party. Written test results shall be included with construction documents. ~~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.~~ (i) An additional pre-paid test kit shall be provided ~~to~~ for 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.~~ (k) Where the radon test result is 4 pCi/L or greater, the fan for the radon vent pipe shall be installed. ~~(i) This section does not require a specific test result, rather it requires the test be performed and the results provided to the homeowner.~~ ~~(j) 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."~~
Reason:	Testing is in effect the commissioning of a radon system. This aligns the language in the NGBS with what passed in the IRC based on the public comment to RM5 in the IRC. There may not yet be an owner when the home is built, so this change has test results provided with construction documents. Several sentences were clarified. This deletes mention of test results delivered after occupancy, which could be after the verifiers were gone. New "b" specifies testing with the fan operating, if there is a fan. New "c" adds "kitchen" as one of the types of spaces where testing should not occur. New "e" better describes the continuous testing device and specifies using the manufacturer's directions. New "f" removes a "can" in favor of a "shall". It also specifies an "approved" third party. New "g" and "h" recognize that new homes don't necessarily have an owner until sold and that the test results are better left with construction documents. New "i" removes an unneeded sentence. New "j" specifies that the radon system be activated with a fan if the radon level in the passive system exceeds the safety limit. It also deletes some confusing language. This change exempts multifamily from the mandatory requirements due to practical difficulties, but retains the points for multifamily. More than half the states have some kind of state radon requirement or have local jurisdictions that have adopted some kind of radon requirements. You can look at your state's radon requirement in the LawAtlas project. (http://lawatlas.org/datasets/state-radon-laws, click "explore", then click your state)
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***Revise Draft Standard as Follows:*** 11.902.3.2 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 unenclosed open space. Testing specifications. Testing is performed as specified in (a) through (k). Testing of a representative sample shall be permitted for multifamily buildings only. (a) Testing is performed after the residence passes its airtightness test. (b) Testing is performed after the radon control system installation is complete. If the system has an active fan, the residence shall be tested with the fan operating. (c) Testing is performed at the lowest level within a dwelling unit which will be occupied, even if the space is not finished. (d) Testing is not performed in a closet, hallway, stairway, laundry room, furnace room, kitchen or bathroom. (e) Testing is performed with a commercially available test kit or with a continuous radon monitor that can be calibrated. Testing shall be in accordance with the testing device manufacturer's instructions. (f) Testing ~~can~~ shall be performed by the builder, a registered design professional or an approved 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) Written radon test results shall be provided by the test lab or testing party. Written test results shall be included with construction documents. ~~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.~~ (i) An additional pre-paid test kit shall be provided ~~to~~ for 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.~~ (k) Where the radon test result is 4 pCi/L or greater, the fan for the radon vent pipe shall be installed. ~~(i) This section does not require a specific test result, rather it requires the test be performed and the results provided to the homeowner.~~ ~~(j) 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."~~
CC Reason:	With the addition of a representative sample, the requirement for multifamily buildings to test for radon should remain. ***Note: Based on action on PC176***

PC228 LogID 6158	**11.906 ADDITIONAL / NEW** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** Eliminate Section 11.906 and roll those measures in under 11.905
Reason:	There are three measures under Section 11.905 and all the measures under section 11.906 are innovative. So it only would make sense.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC229 LogID 6159	11.906.2 Sound Barrier *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** 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~~.utilizing sound abatement insulation or R-11 or R-13 batts or other comparable products at these junctions.
Reason:	It doesn't seem very common to perform and get sound ratings from room to room in a dwelling unit or house. Usually, the sound rating is from interior to exterior of the building. If the builder goes to the trouble of installing insulation in those walls to reduce sound transmission but doesn't have a test performed he should still be awarded for meeting the intent and it should be worded and awarded as such.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Using R-11 or R-13 insulation alone does not ensure achieving the desired sound attenuation.

PC230 LogID 6160	11.906.3 Ventilation for Multifamily Common Spaces *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** Move this section to Section 11.902 mandatories
Reason:	This requirement seems out of place under section 11.906. It should be included with the mandatories in section 11.902.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***Modify Draft Standard as Follows:*** ~~**906.3**~~ 902.1.6 **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 1002.1 and 1002.2 of NGBS. 3 Points
CC Reason:	Identified section and added points

PC231 LogID 6161	11.906.4 Furniture and Furnishings *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** Award two points for this measure
Reason:	Not always feasible on project to ensure this is met. Plus we should award points and encourage the use of these materials/ furniture but not make them a requirement. Also, sometime by the time this furniture is bought and installed the verifier could be off the site with inspections complete.

Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC232 LogID 6162	**11.906.5 Evaporative Coil Mold Prevention** *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** Move Section 11.906.6 to section 11.904.
Reason:	Since Section 11.904 covers air-quality in the building/dwelling this measure would belong in 11.904
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC233 LogID 6163	**11.906.6 Microbial Growth & Moisture Inspection** *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** Verify that there are no visible signs of water damage or pooling. 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. <u>If wood is involved, it will be tested for moisture content of 19% of less before being enclosed.</u>
Reason:	There is no mention of wood and mold and live and thrive in here especially if it is enclosed in a wall cavity.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The testing procedures and damage type would need to be further defined. The TG thinks that the idea of the comment is valid, and should be revisited in a future revision of the NGBS.

PC234 LogID 6236	**11.906.6 Microbial Growth & Moisture Inspection and Remediation** *Final Formal Action:* **TBD**
Submitter:	Craig Conner, self

Comment:	***Secretariat Note: A parallel comment has been submitted for the new construction portion of the Draft standard. TG-7 Remodeling is not required to develop a recommended action on this comment. The final action from the parallel comment will be implemented unless a specific Chapter 11 recommendation is approved.*** ~~11.906.6 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~~ ~~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.~~ ~~(2) Verify that there are no visible signs of water damage or pooling. 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.~~
Reason:	Awkward wording for this item. Inconsistent- first you verify that there is no mold, then you fix it. The EPA documents are not in the references. The EPA documents are "mandatory", or not? But documents are more like guidance, not mandatory standards. The second document appears to be targeting significant mold problems.
Substantiating Documents:	No
CC Action:	Approve as Modified (TG 3)
Modification of Comment:	***Modify the Draft Standard as Follows:*** **906.6 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 Mandatory ~~Notes:~~ Or 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. Mandatory Add the following to the reference chapter: EPA document 402-k-01-001 (Mold Remediation in Schools and Commercial Buildings) EPA Document 402-K-02-003 (A Brief Guide to Mold, Moisture, and Your Home)
CC Reason:	CC believes that the section is important and shouldn't be deleted. The information in the note should be included as part of the standard, not an advisory note. Commenters concern of reference standard not being included was addressed.

PC235 LogID 6331	**11.1005.1 Appraisals**	***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self	

Comment:	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 a~~n equivalent~~ public posting so that an appraiser can access the energy data for an energy efficiency property valuation
Reason:	NGBS should not favor RESNET when there are other possible postings, potentially including a posting associated with the NGBS itself.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	1005.1 Appraisals. One or more of the following is implemented: (1) Energy rating or projected 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 a~~n equivalent~~ public posting so that an appraiser can access the energy data for an energy efficiency property valuation 11.1005.1 Appraisals. One or more of the following is implemented: (1) Energy rating or projected 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 a~~n equivalent~~ public posting so that an appraiser can access the energy data for an energy efficiency property valuation
CC Reason:	Making energy rating and usage information more broadly available

Chapter 12: Certified Compliance Path for Single-Family Homes, Townhomes, and Duplexes

PC236 LogID 6342	1200 Substitution of practices *Final Formal Action:* TBD
Submitter:	Craig Conner, self
Comment:	1200 Substitution of practices. The adopting entity shall be permitted to substitute one or more practices with alternatives that achieve the overall intent of this standard. The determination of intent and equivalency is in the purview of the adopting entity. 1200.1 Local regulations. Where an item in this chapter would violate local laws or ordinances, that item shall not be required.
Reason:	Specific items in this chapter should not violate local regulation.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Disapproved at request of the maker because it is already included in the Standard

PC237 LogID 6337	1201.3 & 1201.5 Soil preparation for new plants. *Final Formal Action:* TBD
Submitter:	Craig Conner, self
Comment:	**1201.3 Soil preparation for new plants**. Soil shall be tilled or new soil shall be added down 6" for new plants and 12" for new trees. Soil shall be amended with organic matter, such as mulch or compost, as needed. Long acting sources of nutrients shall be added if the soil is deficient. ~~**1201.5 Soil preparation for new plants.**~~ Alternately, the landscaping plan shall incorporate the jurisdictional Department of Transportation (DOT) specifications (or equal) for soil preparation and amendment for landscape planning. If regional conditions provide an alternative for planting (for instance, in drought or water challenged areas) that alternative shall be ~~REQUIRED~~ required as a part of the landscape plan.
Reason:	These have the same title. Merge the two soil preparation sections. The two sections seem to be providing two different ways to get to the same goal? Maybe they can just be two alternatives?
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	This change simplifies the requirements in the Standard by incorporating two separate sections into one section with the same title.

PC238 LogID 6076	1201.5Soil preparation for new plants *Final Formal Action:* TBD
Submitter:	Greg Johnson, Outdoor Power Equipment Institute
Comment:	**1201.5Soil preparation for new plants.** The landscaping plan shall incorporate the jurisdictional Department of Transportation (DOT) specifications (or equal) for soil preparation and amendment for landscape planning. Other qualified sources such as University or county agricultural extension services shall be permitted for use. ~~If regional conditions provide an alternative for planting (for instance, in drought or water challenged areas) that alternative shall be REQUIRED as a part of the landscape plan.~~
Reason:	The "If regional conditions …" language is imprecise as it does not identify who might be responsible for providing the alternative to be followed. University r county extensive services will be able to provide

	the most appropriate specifications for local conditions. Also, it is inappropriate for the standard to require compliance with unknown provisions.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**1201.5 Soil preparation for new plants.** The landscaping plan shall incorporate the jurisdictional Department of Transportation (DOT) specifications (or equal) for soil preparation and amendment for landscape planning. Other approved sources such as University or county agricultural extension services shall be permitted for use. ~~If regional conditions provide an alternative for planting (for instance, in drought or water challenged areas) that alternative shall be REQUIRED as a part of the landscape plan.~~
CC Reason:	Clarity

PC239 LogID 6164	**1201.5 Soil preparation for new plants** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Remove section 1201.5 or combine with Section 1201.3
Reason:	There are two measures for Soil Preparation. We should either combine the measure or eliminate 1201.5
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	In favor of action on PC237

PC240 LogID 6322	**1202.7 Flashing** ***Final Formal Action:*** **TBD**
Submitter:	Miranda Hardin, self
Comment:	Flashing details ~~shall be provided in the construction documents and~~ shall be in accordance with the fenestration manufacturer's instructions
Reason:	Not all single family home builders have detailed plan drawings. I think this may be a barrier if required. I believe that inspection on site of the flashing done correctly is sufficient.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Addition is unnecessary and the information should be included in the construction documents.

PC241 LogID 6323	**1202.11 Visible Suspect Fungal Growth** ***Final Formal Action:*** **TBD**
Submitter:	Miranda Hardin, self
Comment:	Relative humidity within the structure shall be controlled during construction after HVAC start up ~~so as~~ to prevent the potential for microbial growth.
Reason:	There is no way to control the humidity in a home, especially in a hot/humid climate, during the entire construction phase. If that is what is needed, then some more guidance would be needed as to how to accomplish that.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	1202.11 Visible Suspect Fungal Growth. Building materials with visible suspect fungal growth shall not be installed, or shall be addressed in accordance with industry recognized guidelines such as ANSI/IICRC S520 Mold Remediation or EPA 402-K-01-001 Table 2: Mold Remediation Guidelines, prior to

	concealment and closing. Porous and semi-porous building materials should be stored in such a manner as to prevent excessive moisture content prior to installation or use. Relative humidity within the structure shall be controlled during construction so as to ~~prevent~~ minimize the potential for microbial growth.
CC Reason:	Clarifies intent.

PC242 LogID 6344	**1202.14 Roof Water Discharge.** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	1202.14 Roof Water Discharge. Gutters shall discharge 5' from building, onto paved surfaces~~, or.~~ Alternately water shall discharge into areas designed to infiltrate drainage into the ground or to water vegetation.
Reason:	Make it clear these are both options. The roof water discharge needs to clearly state that taking water out 5 ft from building is sufficient by itself. It also should retain the option of infiltrating into the ground at the site or development level. Infiltration has big impact on storm water runoff and can reduce builder costs for stormwater management.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	1202.14 Roof Water Discharge. Each downspout ~~gutters~~ shall discharge 5' from building, onto ~~paved~~ impervious surfaces, ~~or. alternately water shall~~ into areas designed to infiltrate drainage into the ground, to water vegetation, or into a rain collection system.
CC Reason:	Adds the option to utilize a rain collection system

PC243 LogID 6165	**1202.14 Roof Water Discharge** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Gutters shall discharge 5' from building, onto paved surfaces, or into areas designed to infiltrate drainage into the ground or to water vegetation. Due site limitations, gutters that can't meet the 5' requirement may be less with a narrative explaining the situation
Reason:	Some sites are very limited in urban areas.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC handled this issue in PC242.

PC244 LogID 6308	**1202.8 Tile backing materials** ***Final Formal Action:*** **TBD**
Submitter:	Marie Nisson, self
Comment:	**Tile backing materials**. Tile backing materials installed under tiled surfaces in wet areas shall be in accordance with ASTM C1178,C1278, C1288, ~~or~~ C1325, or D 3273. ~~Tile shall not be installed over paper-faced drywall in wet areas~~
Reason:	Wallboard with a product or coating that meets ASTM D 3273 meets requirements of MR board and should be considered equivalent for use in wet areas. The ASTM Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	

CC Reason:	The ASTM D3273 doesn't specify if the products are designed for tile in wet areas.

PC245 LogID 6166	**1203.3 Dampproof walls shall…**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	Remove 1203.3	
Reason:	Section 1203.3 is a duplicate of Section 1202.3	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC246 LogID 6167	**1203.7 Air sealing and insulation**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	Insulation shall be installed to Grade I. Grade II and Grade III insulation shall not be permitted. Building envelope air tightness and insulation installation shall be verified to be in accordance with Section A and B.	
Reason:	The section was calling out what the insulation installation shouldn't be (Grade II and III) but not what it should actually be.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC247 LogID 6302	**1203 Energy Efficiency**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self	
Comment:	**1203.1 Mandatory requirements.** The building shall comply with Sections 1203.1 through 1203.10 ~~701~~ AND ~~702~~1203.11 (Energy Performance Path), Sections 1203.12 through 1203.14~~703~~ (Prescriptive Path), or Section 1203.16~~704~~ (HERS Index Target Path). Sampling shall not be permitted for this alternative compliance path. **1203.2 Adopting entity review.** A review by the Adopting Entity or approved third party shall be conducted to verify design and compliance with these energy requirements. **1203.3** Dam-p proof walls shall be provided below finished grade.	
Reason:	Chapter 12 needs to be reviewed for internal consistency of section references and numbers and typos. Above is one example of an error though more abound.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC248 LogID 6168	**1203.7 Air sealing and insulation A**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	

Comment:	~~Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. Registers shall be taped or otherwise sealed during the test.~~ Testing: Building envelope tightness is tested. Testing is conducted in accordance with ASTM E-779 using a blower door at a pressure of 1.04psf (50pa). Testing is conducted after rough-in and installation of penetrations in the building envelope , including but not limited to penetrations for utilities, electrical, plumbing, ventilation and combustion appliances. Testing is to be conducted under the following conditions:"
Reason:	The wrong note was incorporated here. The section is for unit infiltration testing but the measure gave instruction for duct leakage testing.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC249 LogID 6340	**1203.8 & 1203.15 High-efficacy lighting** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	1203.8 High-efficacy lighting. A minimum of ~~90~~ 95 percent of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent. 1203.15 High-efficacy lighting. A minimum of 95 percent of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent.
Reason:	The two lighting high-efficacy levels should be the same.
Substantiating Documents:	No
CC Action:	Withdrawn
Modification of Comment:	
CC Reason:	Withdrawn at the request of the maker

PC250 LogID 6339	**1203.10 Clothes washers** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	1203.10 Clothes washers. Where installed, clothes washers rated with an IWF (integrated water factor),MEF (modified energy factor), or IMEF (integrated modified energy factor), shall be rated as follows
Reason:	This requirement applies only if clothes washers are installed.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC251 LogID 6273	**1203.11.1 IECC analysis.** ***Final Formal Action:*** **TBD**
Submitter:	Neil Leslie, self

Comment:	Delete the following without substitution: Energy efficiency features are implemented to achieve energy cost ~~or site energy~~ or source energy performance that exceeds the IECC by 7.5 percent.
Reason:	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. Inherent problems with site energy An energy metric obtained by adding the energy content of two different fuels without a weighting factor creates nonsense, and qualifying a building rating level by meeting a reduction in use based on that metric creates perverse incentives that can be avoided using the other metrics contained in the 2015 version of ICC 700. For a metric based on the addition of two quantities to make sense, it is necessary that the two quantities be fungible—that one can completely substitute for another. There is no plausible theory of value that allows one joule of gas to be substituted for one joule of electricity. Electricity can do things that gas cannot, because it has lower entropy. Thus it is inherently worth more. (This value in thermodynamics is reflected in the relative pricing of electricity and in the relative source energy consumption) Adding something that is worth more to something that is worth less produces confusion and nonsense; using a metric based on that addition leads to the wrong outcomes. If I return from Mexico with 100 pesos and 100 dollars in my pocket, it would not make sense to say I had 200 “desos”. If I tried to do so, I would undervalue the dollars and waste them, and overvalue the pesos and save them when it would be better to spend them. Electricity is a superior good worth a lot more than gas: electricity costs much more, and it consumes more primary energy. Making electricity and natural gas equal on a site energy basis when any conceivable measure of impact has them unequal is like being paid or getting invoices in “desos”: it leads the user to the wrong decision. Thermodynamically, one joule of natural gas is worth a lot less than one joule of electricity, because electricity is work—it has zero entropy—while gas can only be used by combustion that produces work with an efficiency of at best 55% in large-scale power supply applications and in average circumstances less than 40%. In buildings, burning natural gas produces low-temperature (~40-50°C) heat from combustion energy at higher temperature and entropy. Adding the two—electricity and gas—as if they were the same quantity (“energy”) makes no sense: they are not the same thing, but are only denominated in the same units. It would be like adding a Reynolds number to an efficiency, arguing that since they are both dimensionless, they can be compared. Using site energy makes it relatively easier for an all-electric building to qualify for a building rating level than a mixed fuel building, creating unfairness. This issue is not just about fuel choice however. The most highly used and cost effective retrofits in homes reduce lighting and plug load energy. For a mixed fuel building, they would reduce electricity use by a lot but are likely to increase gas use to compensate for the loss of internal load. Using site energy, an internal loads reduction in a decently insulated building in a cold climate would increase its site EUI. Because gas at a delivered efficiency of 90% is needed to compensate for the loss of internal gains at an efficiency of 100%, a 1 joule reduction in loads will cause a 1.1 joule increase in site heating energy, making it look

	like a bad investment during many hours of the year, even though energy costs and source energy would both be reduced. This masks the value of reducing internal loads and creates a disincentive to reduce electricity consumption compared to reducing natural gas consumption in a mixed fuel building.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Consistent with action on PC110

PC252 LogID 6292	**1203.11.1 IECC analysis** ***Final Formal Action:*** **TBD**
Submitter:	Neil Leslie, self
Comment:	**1203.11.1 IECC analysis.** Energy efficiency features are implemented to achieve energy cost ~~or site energy~~ or source energy performance that exceeds the IECC by 7.5 percent. A documented analysis using software in accordance with IECC, Section R405, 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. 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 for rejecting the previous proposal is not relevant to the objective of this comment. The section 12 provisions are inconsistent with Section 305.2.5.1 compliance requirements that already use a single baseline for comparison with the improvement. ICC 700 is also 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. This comment provides the needed consistency for more equitable implementation of the performance path in ICC 700. Note that it will be critical to reject the site energy option 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.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with actions on PC108

PC253 LogID 6170	**1203.11.2 Energy performance analysis** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Move this section above 1203.11.1 (same in 703)
Reason:	It looks out of order. The description of the Energy Performance Analysis should come first then the criteria to meet the energy analysis.

Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC likes the order as it currently exists.

PC254 LogID 6081	**1203.12.1.2 R-values and fenestration requirement** ***Final Formal Action:*** **TBD**
Submitter:	Carl Seville, SK Collaborative
Comment:	Add column to table 402.1.2to the right of "Ceiling U Factor" Labeled “Air Impermeable Roofline Insulation Option” as follows: ClimateZone Insulated Roofline U Factor 1 .04 2 .04 3 .04 4 ExceptMarine .033 5 and Marine 4 .033 6 .033 7 and 8 .029
Reason:	Insulated rooflines perform better than unconditioned attics, however the insulation level required on the roofline is significantly lower than ceiling insulation to achieve this higher performance. Ducts are also encouraged to be installed in conditioned space. Through energy modeling and in some state energy codes, trade off allowances, lower insulation values in insulated rooflines provide equivalent performance. In commercial energy codes these lower U and R values are explicitly stated for insulated rooflines. It is appropriate that similar allowances are included in residential construction which will encourage this practice. By allowing more moderate roofline insulation with either spray foam or continuous rigid board in lieu of ceiling insulation, builders will be more likely to take this route than if they are required to install the same level of insulation in rooflines as is required for ceilings. This proposal is intended to be an alternate option for roofline insulation instead of ceiling insulation - one of the other would be required.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**1203.~~12~~703 Energy prescriptive pathway.** **1203.~~12~~703.1 BUILDING ENVELOPE~~UA Compliance.~~** The building thermal envelope complies with Section ~~13~~12.703.1.1 or ~~13~~12.703.1.2. Exception: ~~13~~12.703.1 is not required for Tropical Climate Zone. **1203.~~12.1.2~~703.1.1** ~~R-values~~**Insulation and fenestration requirements**. The *building thermal envelope*~~is in accordance with the insulation and fenestration~~ shall meet the requirements of ~~IECC~~ Table~~R402.1.2~~12.703.1.1 and 12.703.1.1.1. ~~The SHGC is in accordance with the IECC requirements.~~ **1203.~~12.1.1~~703.1.2** The total UA proposed and baseline calculations are documented where the total proposed *building thermal envelope* UA is less than or equal to the total baseline UA resulting from multiplying the U-factors in Table 12.703.1.2 by the same assembly area as in the proposed building. REScheck is deemed to provide UA calculation documentation. SHGC requirements of Table~~402.1.212.~~12.703.1.1 shall be met. **TABLE 12.703.1.1** **INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]**

CLIMATE ZONE	FENESTRATION [b] U-FACTOR	SKYLIGHT [b] U-FACTOR	GLAZED FENESTATION SHGC [b,e]	CEILING R-VALUE [i]	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE [i]	FLOOR R-VALUE	BASEMENT [c] WALL R-VALUE	SLAB [d] R-VALUE & DEPTH	CRAWL SPACE [c] WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.32	0.55	0.25	38	20 OR 13+5 [h]	8/13	19	5/13 [f]	0	5/13
4 except Marine	0.32	0.55	0.40	49	20 OR 13+5 [h]	8/13	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.30	0.55	NR	49	20 OR 13+5 [h]	13/17	30 [g]	15/19	10, 2 ft	15/19
6	0.30	0.55	NR	49	20+5 [h] OR 13+10 [h]	15/20	30 [g]	15/19	10, 4 ft	15/19
7 and 8	0.30	0.55	NR	49	20+5 [h] OR 13+10 [h]	19/21	38 [g]	15/19	10, 4 ft	15/19

NR = Not Required

For SI: 1 foot = 304.8 mm.

a. R-values are minimums. U-factors and SHGC are maximums. Where insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed R-value of the insulation shall be not less than the R-value specified in the table.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

Exception: In Climate Zones 1 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30.

c. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall.

"15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. Alternatively, compliance with "15/19" shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.

d. R-5 insulation shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation R-value for slabs. as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend below the slab.

e. There are no SHGC requirements in the Marine Zone.

f. Basement wall insulation is not required in warm-humid locations as defined by IECC Figure R301.1 and IECC Table R301.1.

g. Alternatively, insulation sufficient to fill the framing cavity and providing not less than an R-value of R-19.

h. The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, "13+5" means R-13 cavity insulation plus R-5 continuous insulation.

i. Mass walls shall be in accordance with IECC Section R402.2.5. The second R-value applies where more than half of the insulation is on the interior of the mass wall.

TABLE ~~402.1.2~~ 12.703.1.2

~~INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT~~ EQUIVALENT U-FACTORS

CLIMATE ZONE	FENESTRATION *U*-FACTOR	SKYLIGHT *U*-FACTOR	CEILING *U*-FACTOR	FRAME WALL *U*-FACTOR	MASS WALL *U*-FACTOR	FLOOR *U*-FACTOR	BASEMENT WALL *U*-FACTOR	CRAWL SPACE WALL *U*-FACTOR
1	0.50	0.75	0.035	0.084	0.197	0.064	0.360	0.477
2	0.40	0.65	0.030	0.084	0.165	0.064	0.360	0.477
3	0.32	0.55	0.030	0.060	0.098	0.047	0.091 [c]	0.136
4 except Marine	0.32	0.55	0.026	0.060	0.098	0.047	0.059	0.065
5 and Marine 4	0.30	0.55	0.026	0.060	0.082	0.033	0.050	0.055
6	0.30	0.55	0.026	0.045	0.060	0.033	0.050	0.055

	7 and 8 | 0.30 | 0.55 | 0.026 | 0.045 | 0.057 | 0.028 | 0.050 | 0.055 a. Nonfenestration *U*-factors shall be obtained from measurement, calculation or an approved source. b. Mass walls shall be in accordance with IECC Section R402.2.5. Where more than half the insulation is on the interior, the mass wall *U*-factors shall not exceed 0.17 in Climate Zone 1, 0.14 in Climate Zone 2, 0.12 in Climate Zone 3, 0.087 in Climate Zone 4 except Marine, 0.065 in Climate Zone 5 and Marine 4, and 0.57 in Climate Zones 6 through 8
CC Reason:	Proposal does not provide adequate solutions for all assembly types in residential construction, modifications address the issue.

PC255 LogID 6058	**1203.16.1 HERS index target compliance** ***Final Formal Action:*** **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	**1203.16.1 HERS index target compliance.** Energy efficiency features are implemented to achieve a HERS Index performance that is 8 points less than the EPA National ERI ~~HERS Index~~ Target Procedure for Energy Star ~~Qualified~~ Certified Homes ~~version~~ Version 3.0 as computed based on Steps "1~~a~~"through "~~1d~~3" of the EPA National ERI ~~HERS Index~~ Target Procedure.
Reason:	Please update existing references to the ENERGY STAR Certified Homes program to reflect the latest program documents. These updated references will not change the overall intent of the NGBS standard. Rather, they will reflect the latest refinements, improvements, and clarifications that EPA has integrated into its program documents.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**In red:** **1203.16.1 ~~HERS~~ERI ~~Index~~ target compliance.** Compliance with the energy chapter shall be permitted to be based on the EPA ~~HERS~~ National ERI ~~Index~~ Target Procedure for Energy Star ~~Qualified~~Certified Homes. Points from Section 704 (~~HERS~~ERI ~~Index~~ Target) shall not be combined with points from Section 702 (Performance Path) or Section 703(Prescriptive Path). Dwelling ratings shall be submitted to a quality control registry approved by the Adopting Entity for calculating points under this section. **1203.16.2 Point calculation.** Points for Section 704 shall be computed based on Step~~s~~ ~~"~~1~~a"~~ ~~through "1d"~~ of the EPA ~~HERS~~ National ERI ~~Index~~ Target Procedure. Points shall be computed individually for each building as follows: 30 + (~~percent~~ Number of ~~HERS Index~~ ERI Points less than EnergyStar ~~HERS~~ National ERI ~~Index~~ Target for that building) * 2. **ENERGY STAR® Documents** ENERGY STAR Certified Homes, Version (Rev. 0~~8~~9) ~~HERS~~ National ERI ~~Index~~ Target Procedure for National Program Requirements | 701.1, 701.1.3, 704.1, 704.2
CC Reason:	Consistent with action on PC123.

PC256 LogID 6201	**1204.1 Lavatory faucets** ***Final Formal Action:*** **TBD**
Submitter:	Cambria McLeod, Kohler
Comment:	1204.1 Lavatory faucets. Water-efficient lavatory faucets in bathroom shall have a maximum flow rate of 1.5 gpm (5.~~68~~7 L/min), tested at 60 psi (414 kPa) in accordance with ASME A112.18.1/CSA B125.1
Reason:	Aligning the metric equivalent from the ASME standard (5.7L/min). Correcting the standard to reflect it is harmonized with CSA.

Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC257 LogID 6202	**1204.2 Water Efficiency**	***Final Formal Action:*** **TBD**
Submitter:	Cambria McLeod, Kohler	
Comment:	1204.2 Water closets shall have an effective flush volume of 1.28 gallons or less and in accordance with the performance criteria of the U.S. EPA WaterSense Specification for tank-type toilets. ~~and shall meet a minimum MaP threshold of 350 and/or shall be WaterSense.~~	
Reason:	WaterSense includes a 350g bulk waste removal but also requires that other important performance criteria be met. WaterSense is now a fully authorized program (recently in 2018) and is supported by plumbing manufacturers International, which represents plumbing manufacturers that sell over 90% of the plumbing products in the U.S.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC258 LogID 6055	**1204.3 Irrigation Systems**	***Final Formal Action:*** **TBD**
Submitter:	Gerald Coons, Greenscapes Alliance	
Comment:	1204.3 – We support the addition of this section.	
Reason:	Promotes the use of efficient irrigation systems.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:	Comment of affirmation, not an actionable item	

PC259 LogID 6324	**1204.3 Irrigation Systems**	***Final Formal Action:*** **TBD**
Submitter:	Miranda Hardin, self	
Comment:	3) The irrigation system(s) is controlled by a climate-based controller or soil moisture controller ~~or no irrigation is installed.~~ 4) No irrigation is installed	
Reason:	It just makes better sense to have the no irrigation option by itself so when creating a checklist or doing field verification it is clear which option they chose.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC260 LogID 6345	1204.4 Alternative Compliance Path *Final Formal Action:* **TBD**
Submitter:	Craig Conner, self
Comment:	1204.4 Alternative Compliance Path. Water Rating Index (WRI) needs to achieve ~~set~~ a level of ~~75~~ 70.
Reason:	Correct the WRI level, which was meant to be 70. The 75 would make the certified path easier than the lowest level in NGBS.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC261 LogID 6338	1204.4 Alternative Compliance Path. *Final Formal Action:* **TBD**
Submitter:	Craig Conner, self
Comment:	1204.4 Alternative Compliance Path. Water Rating Index (WRI) needs to achieve set level ~~75~~.70
Reason:	Correcting the WRI score.
Substantiating Documents:	No
CC Action:	Withdrawn
Modification of Comment:	
CC Reason:	Withdrawn by maker as duplicate

PC262 LogID 6174	1205.3 Garages *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	~~1205.3 Garages. Garages shall be in accordance with "a" or "b":~~ ~~a Attached garage~~ ~~(1) Doors installed in the common wall between the attached garage and conditioned space are tightly sealed and gasketed and;~~ ~~(2) A continuous air barrier is provided separating the garage space from the conditioned living spaces.~~ ~~b A carport is installed, the garage is detached from the building, or no garage is installed.~~
Reason:	Wrong chapter
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	Remove section 1205.3 from Chapter 13 only.
CC Reason:	This was a mistake, should not be included in chapter 13.

PC263 LogID 6172	1205.5 Carbon monoxide (CO) alarms *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	A carbon monoxide (CO) alarm shall be provided in accordance with IRC Section R315 in any dwelling unit with a combustion fueled appliance or attached garage ~~with an opening that communicates with the dwelling unit.~~
Reason:	Even if there is not an opening into the building but a garage is under roof with a residential space be it a home or dwelling units there should be a CO monitor. I think of this as a CYA measure.

Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Requiring a monitor in every room would be too onerous and this issue is addressed by the air sealing requirements between garage and conditioned space.

PC264 LogID 6173	**1205.8 Whole Dwelling Ventilation**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	(1) Continuous exhaust air ventilation system equipped with outdoor air ducts and intake(s) for ventilation air (2) Demand-Controlled exhaust air ventilation system equipped with outdoor air ducts and intake(s) for ventilation air and with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads (3) Continuous Supply air ventilation system (4) Demand-Controlled supply air ventilation system equipped with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads	
Reason:	We should add notes as described above since people will key in on continuous or demand controlled to know the type of ventilation strategy. They are trigger words	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	The proposed language is more limiting than what was intended for this section.	

PC265 LogID 6171	**1205.4 Carpets**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	~~water closets and bathing fixtures~~, bathrooms, kitchens, laundry rooms or any other areas with the potential for water damage and	
Reason:	We should be a little more specific here. Plus there are usually dishwasher, possubly clothes washers in or near the kitchen and laundry areas that can cause damage. Currently it looks like we are only concerned with bathrooms.	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	The language is too vague; many things have the potential for water damage.	

PC266 LogID 6325	**1205.4 Carpets**	***Final Formal Action:*** **TBD**
Submitter:	Miranda Hardin, self	
Comment:	a) water closets and bathing fixtures and kitchens	
Reason:	The kitchen is obviously somewhere you would not want carpet and follows other above code program protocols.	
Substantiating Documents:	No	
CC Action:	Disapprove	

Modification of Comment:	
CC Reason:	The proposal would make it inconsistent with the charging language.

PC267 LogID 6014	**1205.6 Interior Architectural Coatings** ***Final Formal Action:*** **TBD**
Submitter:	Josh Jacobs, UL
Comment:	~~**1205.6 Interior Architectural Coatings.** A minimum of 85 percent of the interior architectural coatings are in accordance with one or more of the following:~~ ~~**(1)** Zero VOC as determined by EPA method 24 (VOC content is below the detection limit for the method)~~ ~~**(2)** Green Seal GS-11~~ ~~**(3)** CARB Suggested Control Measure for Architectural Coatings (see Table 901.9.1).~~ **1205.6 Product Emissions** **1205.6.1 Interior architectural coatings.** A minimum of 85 percent of the interior architectural coatings are in accordance with either Section 1205.6.1.1 or Section 1205.6.1.3, not both. A minimum of 85 percent of architectural colorants are in accordance with Section 1205.6.1.2. **Exception:** Interior architectural coatings that are formulated to remove formaldehyde and other aldehydes in indoor air and are tested and labeled in accordance with ISO 16000-23, Indoor air -- Part 23: Performance test for evaluating the reduction of formaldehyde concentrations by sorptive building materials. **1205.6.1.1** Site-applied interior architectural coatings, which are inside the water proofing envelope, are in accordance with one or more of the following: **5** **(1)** Zero VOC as determined by EPA Method 24 (VOC content is below the detection limit for the method) **(2)** GreenSeal GS-11 **(3)** CARB *Suggested Control Measure for Architectural Coatings* (see Table 901.9.1). **Table 1205.6.1.1** **VOC Content Limits For Architectural Coatings [a,b,c] Coating Category LIMIT[d] (g/l)** Flat Coatings 50 Non-flat Coatings 100 Non-flat High-Gloss Coatings 150 Specialty Coatings: Aluminum Roof Coatings 400 Basement Specialty Coatings 400 Bituminous Roof Coatings 50 Bituminous Roof Primers 350 Bond Breakers 350 Concrete Curing Compounds 350 Concrete/Masonry Sealers 100 Driveway Sealers 50 Dry Fog Coatings 150 Faux Finishing Coatings 350 Fire Resistive Coatings 350 Floor Coatings 100 Form-Release Compounds 250 Graphic Arts Coatings (Sign Paints) 500 High Temperature Coatings 420 Industrial Maintenance Coatings 250

Low Solids Coatings 120e
Magnesite Cement Coatings 450
Mastic Texture Coatings 100
Metallic Pigmented Coatings 500
Multi-Color Coatings 250
Pre-Treatment Wash Primers 420
Primers, Sealers, and Undercoaters 100
Reactive Penetrating Sealers 350
Recycled Coatings 250
Roof Coatings 50
Rust Preventative Coatings 250
Shellacs, Clear 730
Shellacs, Opaque 550
Specialty Primers, Sealers, and Undercoaters 100
Stains 250
Stone Consolidants 450
Swimming Pool Coatings 340
Traffic Marking Coatings 100
Tub and Tile Refinish Coatings 420
Waterproofing Membranes 250
Wood Coatings 275
Wood Preservatives 350
Zinc-Rich Primers 340
a. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
b. Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1, 2008.
c. Table 901.9.1 architectural coating regulatory category and VOC content compliance determination shall conform to the California Air Resources Board Suggested Control Measure for Architectural Coatings dated February 1, 2008.
d. Limits are expressed as VOC Regulatory (except as noted), thinned to the manufacturer's maximum thinning recommendation, excluding any colorant added to tint bases.
e. Limit is expressed as VOC actual.

1205.6.1.2 Architectural coating colorant additive VOC content is in accordance with Table 901.9.2. **1**
(Points for 1205.6.1.2 are awarded only if base architectural coating is in accordance with 1205.6.1.1.)

Table 1205.6.1.2
VOC Content Limits for Colorants

Colorant	**LIMIT (g/l)**
Architectural Coatings, excluding IM Coatings	50
Solvent-Based IM	600
Waterborne IM	50

1205.6.1.3 Site-applied interior architectural coatings, which are inside the waterproofing envelope, are in accordance with the emission levels of CDPH/EHLB Standard Method v1.1. Emission levels are determined by a laboratory accredited to ISO/IEC 17025 and the CDPH/EHLB Standard Method v1.1 in its scope of accreditation. The product is certified by a third-party program accredited to ISO 17065, such as, but not limited to, those found in Appendix D. **8**

1205.6.2 Floor materials. The following types of finished flooring materials are used. The materials have emission levels in accordance with CDPH/EHLB Standard Method v1.1. Product is tested

by a laboratory with the CDPH/EHLB Standard Method v1.1 within the laboratory scope of accreditation to ISO/IEC 17025 and certified by a third-party program accredited to ISO 17065, such as, but not limited to, those in Appendix D.

1

8 max

(Points are awarded for every 10% of conditioned floor space using one of the below materials.)

(1) Hard surface flooring: Prefinished installed hard-surface flooring is installed. Where postmanufacture coatings or surface applications have not been applied, the following hard surface flooring types are deemed to comply with the emission requirements of this practice:

(a) Ceramic tile flooring

(b) Organic-free, mineral-based flooring

(c) Clay masonry flooring

(d) Concrete masonry flooring

(e) Concrete flooring

(f) Metal flooring

(2) Carpet and carpet cushion is installed.

(When carpet cushion meeting the emission limits of the practice is also installed, the percentage of compliant carpet area is calculated at 1.33 times the actual installed area.)

1205.6.3 Wall coverings. A minimum of 10 percent of the interior wall surfaces are covered and a minimum of 85 percent of wall coverings are in accordance with the emission concentration limits of CDPH/EHLB Standard Method v1.1. Emission levels are determined by a laboratory accredited to ISO/IEC 17025 and the CDPH/EHLB Standard Method v1.1 is in its scope. The product is certified by a third-party program accredited to ISO 17065, such as, but not limited to, those in Appendix D. **4**

1205.6.4 Interior adhesives and sealants. A minimum of 85 percent of site-applied adhesives and sealants located inside the waterproofing envelope are in accordance with one of the following, as applicable.

(1) The emission levels are in accordance with CDPH/EHLB Standard Method v1.1. Emission levels are determined by a laboratory accredited to ISO/IEC 17025 and the CDPH/EHLB Standard Method v1.1 is in its scope of accreditation. The product is certified by a third-party program accredited to ISO 17065, such as, but not limited to, those found in Appendix D. **8**

(2) GreenSeal GS-36. **5**

(3) SCAQMD Rule 1168 in accordance with Table 1205.6.4(3), excluding products that are sold in 16-ounce containers or less and are regulated by the California Air Resources Board (CARB) Consumer Products Regulations. **5**

Table 1205.6.4(3)

Site Applied Adhesive and Sealants VOC Limits a,b

ADHESIVE OR SEALANT	**VOC LIMIT (g/l)**
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50

	Drywall and panel adhesives 50 Cove base adhesives 50 Multipurpose construction adhesives 70 Structural glazing adhesives 100 Single ply roof membrane adhesives 250 Architectural sealants 250 Architectural sealant primer Non-porous 250 Porous 775 Modified bituminous sealant primer 500 Other sealant primers 750 CPVC solvent cement 490 PVC solvent cement 510 ABS solvent cement 325 Plastic cement welding 250 Adhesive primer for plastic 550 Contact adhesive 80 Special purpose contact adhesive 250 Structural wood member adhesive 140 a. VOC limit less water and less exempt compounds in grams/liter b. For low-solid adhesives and sealants, the VOC limit is expressed in grams/liter of material as specified in Rule 1168. For all other adhesives and sealants, the VOC limits are expressed as grams of VOC per liter of adhesive or sealant less water and less exempt compounds as specified in Rule 1168. **1205.6.5 Insulation.** Emissions of 85 percent of wall, ceiling, and floor insulation materials are in accordance with the emission levels of CDPH/EHLB Standard Method v1.1. Emission levels are determined by a laboratory accredited to ISO/IEC 17025 and the CDPH/EHLB Standard Method v1.1 is in its scope of accreditation. Insulation is certified by a third-party program accredited to ISO 17065, such as, but not limited to, those in Appendix D. **4** **APPENDIX D** **EXAMPLES OF THIRD-PARTY PROGRAMS FOR INDOOR ENVIRONMENTAL QUALITY** **TABLE D200(1)** **Examples of Third-party Certification Programs** **Related Section of Standard** **Examples of Third-party Certification Programs Compliant with the Corresponding Section** 901.5 Cabinets Kitchen Cabinet Manufacturers Association (KCMA) Environmental Stewardship Program (ESP) 901.6 Carpets Carpet and Rug Institute's (CRI) Green Label Plus Indoor Air Quality Program 901.7 & 1205.6.2 Hard-surface flooring UL GREENGUARD Gold Resilient Floor Covering Institute's FloorScore Indoor Air Certification Program 901.8 & 1205.6.3 Wall coverings UL GREENGUARD Gold Scientific Certification Systems (SCS) Indoor Advantage Gold Program 901.9 & 1205.6.1 Architectural coatings UL GREENGUARD Gold Scientific Certification Systems (SCS) Indoor Advantage Gold Program

	Green Seal-11 Standard for Paints and Coatings UL 2768 901.10 & 1205.6.4 Adhesives and sealants UL GREENGUARD Scientific Certifications Systems (SCS) Indoor Advantage Gold Program Carpet and Rug Institute's (CRI) Green Label Plus Indoor Air Quality Program Resilient Floor Covering Institute's FloorScore Indoor Air Certification Program Green Seal-36 Standard for Adhesives for Commercial Use 901.11 & 1205.6.5 Insulation UL GREENGUARD Gold Scientific Certifications Systems (SCS) Indoor Advantage Gold Program
Reason:	The current proposed section 1205.6 does not actually protect indoor occupants from potentially harmful volatile organic compounds. What is listed is VOC content requirements and those were developed and are used due to the potential impact on outdoor environments, not indoor environments. Additionally, if we are wanting single-family homes to have good indoor air quality why are we ignoring source control in Chapter 12. We have requirements in Chapter 901 which give us a perfect blue print for these requirements. Most of the products that would be used to comply with Chapter 901 product emission requirements are the same exact products that would comply with the proposed Chapter 1205.6. Home builders and owners have easy access to the products for the proposal, it would not add cost as many manufacturers have their entire line of products meeting the requirements, we want to ensure that single family home have healthy indoor environments, therefore the requirements from Chapter 901 on product emissions, should be copied verbatim into this area.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The proposed changes are overly complicated and the existing chapter and requirements meets the needs of the CC. Too many mandatory items.

PC268 LogID 6326	**1205.6 Interior Architectural Coatings** ***Final Formal Action:*** **TBD**
Submitter:	Miranda Hardin, self
Comment:	4) GREENGUARD OR GREENGUARD GOLD 5) Green Wise and Green Wise Gold
Reason:	The current 3 options are very restrictive. These certifications follow similar standards and are approved to be used in the EPA Indoor Air PLUS program.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The proposed record standard is not adequately described, and the proponent didn't submit the standard with the proposal.

PC269 LogID 6341	**1205.6 Interior Architectural Coatings** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self

Comment:	1205.6 Interior Architectural Coatings. A minimum of 85 percent of the interior architectural coatings are in accordance with one or more of the following: (1) ~~Zero~~ Low VOC as determined by EPA method 24 (VOC content is below the detection limit for the method)
Reason:	Low VOC is more practical. Does "low VOC" need a description? VOC limits do not apply to outside coatings.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC270 LogID 6327	**1205.7 Spot Ventilation**	***Final Formal Action:*** **TBD**
Submitter:	Miranda Hardin, self	
Comment:	~~Spot~~ Local ventilation shall be in accordance with the following:	
Reason:	The use of local ventilation is a more common way to describe the bath & kitchen exhausts.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC271 LogID 6296	**1205.8 Whole Dwelling Ventilation**	***Final Formal Action:*** **TBD**
Submitter:	Aaron Gary, self	
Comment:	SECTION202 DEFINITIONS ADD Definitions TC "202 DEFINITIONS" \f C \l"2" VENTILATION AIR. That potion of supply air that comes from the outside (outdoors), plus any recirculated air that has been treated to maintain the desired quality of air within a designation space. BALANCED AIR VENTILATION SYSTEM. two or more fans that simultaneously supply outdoor air and exhaust air at substantially equal rates such that both the total supply and total exhaust flow rates meet the required fan flow rate.	
Reason:	Ventilation Air and Balanced Air Ventilation System are two terms that were included in the Chapter 12 revision but not defined. Adding these definitions to the Standard provides clarity.	
Substantiating Documents:	No	
CC Action:	Approve as Modified	
Modification of Comment:	SECTION202 DEFINITIONS ADD Definitions TC "202 DEFINITIONS" \f C \l"2" VENTILATION AIR. That portion of supply air that comes from the outside (outdoors), plus any recirculated air that has been treated to maintain the desired quality of air within a designation space.	

	~~BALANCED AIR VENTILATION SYSTEM. two or more fans that simultaneously supply outdoor air and exhaust air at substantially equal rates such that both the total supply and total exhaust flow rates meet the required fan flow rate.~~ BALANCED VENTILATION. Any combination of concurrently operating mechanical exhaust and mechanical supply whereby the total mechanical exhaust airflow rate is within 10% of the total mechanical supply airflow rate.
CC Reason:	Providing alternate definition to align with I-Codes

PC272 LogID 6243	**1206.2 Training of initial homeowners** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Add as follows. **Proposed Change:** **(5)** Weather Based Irrigation Controllers
Reason:	WBIC save the most water and reduce runoff when properly setup, operated and maintained.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The irrigation controllers would be covered by household equipment.

PC273 LogID 6335	**Chapter 12** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	In the energy section it needs to be clear that UA, prescriptive and U-value are all options, not individual requirement. Prescriptive table seemed to grab attention as if it was the requirement, not just an option. Are all the footnotes on the prescriptive insulation table needed? They make the table look complicated. Should remove reference to EPA 402-K-01-001 on mold. The document is for schools and commercial buildings. It would also be hard to apply as it is too much general guidance rather than specifics.
Reason:	Chapter 12 needs these clean ups.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The proponent asked for disapproval on the first few items and the proponent will suggest revisions at the full CC meeting.

PC274 LogID BC47	**Chapter 12 – Certified Compliance Path for SF Homes, Townhomes, and Duplexes** ***Final Formal Action:*** **TBD**
Submitter:	Amy Schmidt; The Dow Chemical Company
Comment:	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
Reason:	

Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC015.

PC275 LogID BC48	**Chapter 12 – Certified Compliance Path for SF Homes, Townhomes, and Duplexes**	***Final Formal Action:*** **TBD**
Submitter:	Bob Thompson; US EPA	
Comment:	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.	
Reason:		
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	Consistent with action on PC015.	

PC276 LogID BC49	**Chapter 12 – Certified Compliance Path for SF Homes, Townhomes, and Duplexes**	***Final Formal Action:*** **TBD**
Submitter:	R. Christopher Mathis; Mathis Consulting	
Comment:	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..."	
Reason:		
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	Consistent with action on PC015.	

PC277 LogID BC50	**Chapter 12 – Certified Compliance Path for SF Homes, Townhomes, and Duplexes**	***Final Formal Action:*** **TBD**
Submitter:	Laura Petrillo-Groh; AHRI	
Comment:	AHRI votes no. A fifth path for compliance dilutes the green building standard.	
Reason:		
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	Consistent with action on PC015.	

PC278 LogID BC51	Chapter 12 – Certified Compliance Path for SF Homes, Townhomes, and Duplexes *Final Formal Action:* **TBD**
Submitter:	Theresa Weston; DuPont Building Innovation
Comment:	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.
Reason:	
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC015.

PC279 LogID 6169	Table 701.4.3.2 (2) *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	Update Table to reflect 2018 IECC table R402.1.1
Reason:	The current table that is in the standard is jumbled and has criteria under different categories. We need to make sure it reads like the table from the 2018 IECC
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Table in chapter 12 is internally consistent with table in chapter 7.

Chapter 13: Non-Residential New Construction

PC280 LogID 6175	13.102.1 Compliance *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	The non-residential portion(s) of a mixed-use building shall comply with all of the provisions of this chapter as applicable. The provisions of this Chapter are mandatory ~~to demonstrate compliance with this Chapter.~~
Reason:	Redundant as it is already stated in the sentence.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC281 LogID 6078	13.104 Resource Efficiency *Final Formal Action:* **TBD**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	**Add the following:** **13.104.4 Recycling andcomposting.** A readily accessible space(s) adequate to accommodate therecycling and composting containers for materials accepted in local recycling/compostingprograms is provided and identified on the floorplan.
Reason:	EPA appreciates that commercial space constitutes a smaller portion of buildings that are within the scope of NGBS certification, and that on a square footage basis, commercial space may be considered a lesser priority. However, depending on the use, even a “small” commercial space, e.g., a small restaurant or food retailer, can generate comparable amounts of ongoing waste and present a significant opportunity for sustainable management of ongoing consumables. Sustainable management of ongoing consumables is important for resource conservation, material recovery, job creation and a self-reliant economy, and can better be facilitated through provision of adequate building space. Requirements for the management of ongoing consumables have been central to rating systems for over a decade.
Substantiating Documents:	
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC282 LogID 6309	13.104.1.6 Tile backing materials *Final Formal Action:* **TBD**
Submitter:	Marie Nisson, self
Comment:	Tile backing materials installed under tiled surfaces in wet areas are in accordance with ASTM C1178,C1278, C1288, ~~or~~ C1325 or ASTM D 3273. ~~Tile shall not be installed over paper-faced gypsum board in wet areas.~~
Reason:	Wallboard with a product or coating that meets ASTM D 3273 meets requirements of MR board and should be considered equivalent for use in wet areas. The ASTM Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber

Substantiating Documents:	
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The ASTM D 3273 doesn't specify if the products are designed for tile in wet areas.

PC283 LogID 6332	**13.104.3.1 Material selection**	***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self	
Comment:	~~13.104.3.1 Material selection.:~~	
Reason:	Prefer to delete all of 13.104.3.1. It is hard not to meet these, so it becomes a paper work exercise. If it is retained the number should be raised much higher than two.	
Substantiating Documents:	No	
CC Action:	Approve as Modified	
Modification of Comment:	13.104.3.1 Material selection. At least ~~two~~ six of these sections ~~types of the materials~~ must be ~~used~~ met from the following: ~~and must comply with at least one of Sections of this standard that are listed below:~~	
CC Reason:	The modification is to lean on the requirements that are already in the Resources Chapter.	

PC284 LogID 6310	**13.104.1.8 Architectural features**	***Final Formal Action:*** **TBD**
Submitter:	Marie Nisson, self	
Comment:	(2) No roof configurations that create horizontal valleys in roof design, unless directed to a drain on a flat roof.	
Reason:	Commercial buildings often have flat roofs. Proper water management on flat roofs can include horizontal valleys that direct water to drain systems.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC285 LogID 6176	**13.105.1.1 Insulation installation**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	Insulation installed in the thermal envelope shall be visually inspected for compliance with Grade I installation. Grade II insulation is only permitted where exterior continuous insulation is installed. Grade ~~II and~~ III insulation installation is not permitted.	
Reason:	We need to call out that Grade I is required. Also, Grade II should only be acceptable if Continuous insulation is installed at the exterior.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC286 LogID 6204	**13.106.1 Water efficiency and conservation**	***Final Formal Action:*** **TBD**

Submitter:	Cambria McLeod, Kohler
Comment:	13.106.1(2) Service ~~sink~~ faucets, ~~bath valves~~ tub fillers, pot fillers, laboratory faucets, utility faucets, and other fittings designed primarily for filling operations.
Reason:	Adding the term faucets after service sink to clarify the reference is to the fitting and not the fixture. Bath valve refers to the valve itself. I am assuming the submitter of the comment wanted to reference the actual end fitting which would be more appropriately called a tub filler.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC287 LogID 6179	**13.107.1 Carpets**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	Carpeting is not ~~installed adjacent to water closets and bathing and or shower fixtures~~ in areas where water damage could occur. These areas included but are not limited to: bathrooms, kitchens, laundry rooms, spas, pool areas, etc.	
Reason:	Giving more guidance and descriptions on where carpet should not occur vs just specifying that it shouldn't be in bathrooms.	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	Water damage could occur anywhere.	

PC288 LogID 6347	**13.107.1.1 Entry**	***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self	
Comment:	13.107.1.1 Entry. The primary entryway from the outdoors shall include one of the following: (1) Permanent walk-off mat that allows access for cleaning (e.g., grating with catch basin); or an other approved alternative. ~~(2) Roll-out mat that will be maintained on a weekly basis by a contracted service.~~	
Reason:	This section is not practical. It tries to regulate something in the future.	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	This practice has been able to be enforced so far with different programs including the NGBS.	

PC289 LogID 6180	**13.107.3 Pollutant source control products…**	***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self	
Comment:	At least two types of the materials must be used ~~from the following, and must comply with at least one of the Sections of this standard that are listed below~~ and comply with at least one of the following sections below:	
Reason:	Too wordy, just cut it down to be more streamlined and concise.	

Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	~~At least two types of the materials must be used from the following, and must comply with at least one of the Sections of this standard that are listed below~~ At least two types of the following product categories must meet their respective section of the Standard referenced below:
CC Reason:	This modified language accomplishes the same thing as what was proposed but in a more clear and concise fashion.

PC290 LogID 6015	**13.107.3 Pollutant Source Control Products or Material Selection** ***Final Formal Action:*** **TBD**
Submitter:	Josh Jacobs, UL
Comment:	**13.107.3 Product Emissions ~~Pollutant source control products or material selection.~~** At least ~~two~~ five types of the materials must be used from the following, and must comply with at least one of the Sections of this standard that are listed below: **(1)** Wood materials Section 901.4 **(2)** Cabinets Section 901.5 **(3)** Floor materials Section 901.7 **(4)** Wall coverings Section 901.8 **(5)** Interior architectural coatings Section 901.9 **(6)** Interior adhesives and sealants Section 901.10 **(7)** Insulation Section 901.11
Reason:	In other green building codes for commercial all of these types of products are required to meet the requirements that we list. To have only 2 out of 7 categories be required in commercial spaces is not good for indoor air quality or human health and wellness. This is especially true when compliance with Section 901.4 is now achieved through a federal law, so simply buying composite wood for your commercial space gets you half way to the proposed requirement.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC291 LogID 6333	**13.107.3 Pollutant source control products or material selection** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	~~13.107.3 Pollutant source control products or material selection.~~
Reason:	This will usually be easy. It is not worth the paper work that it will require for what will usually be a small portion of the overall building.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Inconsistent with PC290.

PC292 LogID 6348	**13.107.4.2 Wood-fired appliances** ***Final Formal Action:*** **TBD**

Submitter:	Craig Conner, self
Comment:	13.107.4.2 Wood-fired appliances. Wood stoves and wood-burning fireplace inserts shall be listed and, additionally, shall be labeled in accordance with ~~these~~ the applicable requirement~~s~~.
Reason:	Usually only one of these will apply.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC293 LogID 6181	**13.107.4.3 Biomass appliances…** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	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.~~ ALL gas-fired fireplaces and direct -vent heating equipment are vented to the outdoors
Reason:	I would require all gas fireplaces to be vented to the exterior. No unvented fireplaces or heaters should be acceptable for any green program.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Consistent with action on PC166.

PC294 LogID 6182	**13.107.4.5 Unvented…** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	~~Unvented room heaters and unvented decorative appliances, including alcohol burning, shall be prohibited.~~ ALL unvented heaters and appliances are prohibited. This excludes gas ovens and/or ranges
Reason:	Unvented appliances as specified above shoud not be allowed in a building pursuing NGBS certification.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC believes current draft standard language is superior

PC295 LogID 6183	**13.107.5 Protection of HVAC system openings** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	HVAC supply and return duct and equipment openings shall be protected during ~~dust-producing operations of~~ construction.
Reason:	HVAC boots, supplies and returns should be protected during construction, period. The language "dust producing operation" can be left open for interpretation. When ductwork lands on-site it should be protected until the grilles are installed.
Substantiating Documents:	No
CC Action:	Disapprove

Modification of Comment:	
CC Reason:	It is not feasible to protect the HVAC ducts during all of the construction process.

PC296 LogID 6334	**13.107.9 Radon system** ***Final Formal Action:*** **TBD**
Submitter:	Craig Conner, self
Comment:	13.107.9 Radon system. (a) a passive radon system is installed ~~Mandatory~~ 8 points
Reason:	Will this always be practical in commercial spaces? Often these spaces are not finished or are finished much later than the residential spaces. Often the type of business that will be in these spaces is not known. I don't want this being mandatory to keep the building from meeting NGBS.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	13.107.9 Radon system. Commercial spaces in buildings located in Zone 1 shall comply with Section 902.3.1. ~~Radon reduction measures are in accordance with ICC IRC Appendix F or Section 902.3.1. Radon Zones as identified by the AHJ or, if the zone is not identified by the AHJ, as defined by Figure 9(1).~~ ~~(1) Buildings located in Zone 1~~ ~~(a) a passive radon system is installed Mandatory~~ ~~(b) an active radon system is installed 12~~ ~~(2) Buildings located in Zone 2 or Zone 3~~ ~~(a) a passive radon system is installed 8~~ ~~(b) an active radon system is installed 12~~
CC Reason:	Consistent with updated radon section in chapter 9. Points should not be in the chapter.

PC297 LogID 6184	**13.108.1 OPERATION AND MAINTENANCE MANUAL** ***Final Formal Action:*** **TBD**
Submitter:	Josh Hanson, self
Comment:	Manuals are provided to the tenants of the nonresidential space prior to the start of construction regarding the design and construction of the non-residential portion of the building. Paper or digital format manuals are to include information regarding those aspects of the design and construction that are within the area of responsibilities of the respective tenant. One or more responsible parties are to receive a copy of all documentation for archival purposes. Tenant is to be made aware that the building is pursing NGBS certification and recommended to follow the tenant finish out construction documents but not required. If tenant decides not to follow tenant finish out guidance, this will not affect the certification of the building
Reason:	The additional language helps to answer the question to the elephant in the room which is, what if they don't want to follow the guidelines, what happens with certification, etc. Even if my language above is not the case, I recommended adding some to clarify the impact this will have on the building's certification.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Not enforceable, as the tenants might move in way past the certification period.

PC298 LogID 6024	13.106 Water Efficiency and Conservation *Final Formal Action:* TBD
Submitter:	Jim Kendzel, American Supply Association
Comment:	Requested Revision: 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~~ **6** gpf.
Reason:	Water closets are not sold with a 1.5 gpf. They are sold at 1.28 gpf (EPA WaterSense and as noted in the table) and at 1.6 gpf. The assumption is the 1.5 gpf is a typographical error and should be revised to be consistent with the gpf available in the marketplace.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC took action in PC305 and deleted this section making this proposal unnecessary.

PC299 LogID BC53	Chapter 13 – Non-Residential New Construction *Final Formal Action:* TBD
Submitter:	Matt Sigler; Plumbing Manufacturers International
Comment:	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.
Reason:	
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	Add footnote to Table 106.1 for Kitchen faucet-private: <u>Kitchen faucets may temporarily increase the flow above the maximum rate but not to exceed 2.2 gpm</u>.
CC Reason:	Some of this comment was addressed by PC305. The proposal was modified to incorporating the same provisions that were found elsewhere in the Standard and the allowance to temporarily allow an increase is consistent with other green codes and standards.

PC300 LogID BC54	Chapter 13 – Non-Residential New Construction *Final Formal Action:* TBD
Submitter:	Amy Schmidt; The Dow Chemical Company
Comment:	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
Reason:	
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	

CC Reason:	The scope was revised and is not the purview of the CC.

PC301 LogID BC55	**Chapter 13 – Non-Residential New Construction** ***Final Formal Action:*** **TBD**
Submitter:	Theresa Weston; DuPont Building Innovation
Comment:	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.
Reason:	
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	13.105.3.1 Air barrier verification. If not previously verified, ~~T~~the air barrier shall be visually inspected to demonstrate compliance with Table 701.4.3.2(2) ~~of this standard.~~ and shall comply with the requirements of IECC C402.5 ~~or the building thermal envelope shall be tested in accordance with ASTM E 779 at a pressure differential of 0.3 inch water gauge (75 Pa) or an equivalent method approved by the code official and deemed to comply with the provisions of this section when the tested air leakage rate of the building thermal envelope is not greater than 0.40 cfm/ft2 (2.0 L/s • m2).~~
CC Reason:	To bring it into section with the commercial portion of the IECC while including the residential checklist.

PC302 LogID BC56	**Chapter 13 – Non-Residential New Construction** ***Final Formal Action:*** **TBD**
Submitter:	R. Christopher Mathis; Mathis Consulting
Comment:	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.
Reason:	
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC believes that the scope issue was resolved and the Standard should not be put on hold.

PC303 LogID BC57	**Chapter 13 – Non-Residential New Construction** ***Final Formal Action:*** **TBD**
Submitter:	Neil Leslie; Gas Technology Institute
Comment:	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
Reason:	
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Unvented combustion devices, with the exception of ovens and ranges, have a negative impact on air quality and do not belong in a green standard.

PC304 LogID 6177	TABLE 106.1 MAXIMUM FLOW RATES… *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	Lavatory faucet-public (metering) 0.25 ~~gpc~~ gpm at 60 psi b. Gallons per ~~cycle.~~ minute
Reason:	Lavatory faucets are measured in gallons per minute no gallons per cycle.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The original language is correct.

PC305 LogID 6178	TABLE 106.1 MAXIMUM FLOW RATES… *Final Formal Action:* **TBD**
Submitter:	Josh Hanson, self
Comment:	~~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.~~
Reason:	Remove, 99% of toilets available are 1.6, 1.28, 1.1/1.6, 0.8/1.6, etc. So I say we remove this because there are no toilets in the range of 1.28 to 1.5 gpf. Plus the wording is pretty confusing.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC306 LogID 6203	TABLE 106.1 MAXIMUM FLOW RATES… *Final Formal Action:* **TBD**
Submitter:	Cambria McLeod, Kohler
Comment:	a. Includes hand showers, body sprays, rainfall panels ~~and jets.~~ 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~~6 gpf.
Reason:	The term 'jet' is not a term used within the plumbing industry and I am confused as to what it is referring to. A flush volume of 1.5gpf does not exist. I assume this was a typo and should have been 1.6gpf.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	a. Includes hand showers, body sprays, and rainfall panels ~~and jets.~~ ~~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~~6 ~~gpf.~~
CC Reason:	The CC struck "jets" is not appropriate to a showering situation. The second part was struck to be consistent with PC305.

PC307 LogID 6026	13.106 Water Efficiency and Conservation *Final Formal Action:* **TBD**
Submitter:	Matt Sigler, PMI

Comment:	**TABLE 106.1 MAXIMUM FLOW RATES AND FLUSH VOLUMES FOR FIXTURES ~~OR~~ AND FIXTURE FITTINGS ~~TYPE MAXIMUM FLOW RATE OR FLUSH VOLUME~~** 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 1.6 ~~1.5~~ gpf.
Reason:	1. There is no such thing as a 1.5 gpf single flush water closet. Recommend changing 1.5 gpf to 1.6 gpf to match federal regulations as outlined in the Energy Policy and Conversation Act of 1992. 2. The current title of Table 106.1 is repetitive. Recommend the proposed revisions to better capture the purpose for the table.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	**TABLE 13.106.1 MAXIMUM FLOW RATES AND FLUSH VOLUMES FOR FIXTURES ~~OR~~ AND FIXTURE FITTINGS ~~TYPE MAXIMUM FLOW RATE OR FLUSH VOLUME~~** ~~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 1.6 1.5 gpf.~~
CC Reason:	Correcting the Table title and the Table number, the second part deletion is consistent with action taken on PC305.

Chapter 14: Referenced Documents

PC308 LogID 6205	1402 – Referenced Documents	*Final Formal Action:* TBD
Submitter:	Cambria McLeod, Kohler	
Comment:	ASME A112.81.1/CSA B125.1 ASSE 1016/ASME A112.1016/CSA B125.16	
Reason:	Adding the appropriate harmonized standards.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC309 LogID 6059	1402 Referenced Document	*Final Formal Action:* TBD
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Comment:	**ENERGY STAR® Documents**	

~~June 1, 2013~~ September 1, 2018	National ERI Target Procedure, ENERGY STAR Certified Homes, Version 3 (Rev. 09~~8~~) ~~HERS Index Target Procedure for National Program Requirements~~	701.1, 701.1.3, 704.1, 704.2
September 1, 2018 ~~August 29, 2013~~	National Program Requirements ENERGY STAR Certified Homes, Version 3 (Rev. 09) ~~ENERGY STAR for Homes Version 3.0 Guidelines~~	701.1.4
September 1, 2018 ~~April 13, 2015~~	National Program Requirements ENERGY STAR Certified Homes, Version 3.1 (Rev. 09) ~~ENERGY STAR for Homes Version 3.1 Guidelines~~	701.1.4
January 1, 2015	ENERGY STAR Multifamily High Rise Version 1 (Rev 03)	701.1.4

Reason:	Please update existing references to the ENERGY STAR Certified Homes program to reflect the latest program documents. These updated references will not change the overall intent of the NGBS standard. Rather, they will reflect the latest refinements, improvements, and clarifications that EPA has integrated into its program documents.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	Consistent with PC123 and PC125.

PC310 LogID 6089	1402 – Referenced Documents	*Final Formal Action:* TBD
Submitter:	Susan Gitlin, US Environmental Protection Agency	

Comment:	

EPA		Environmental Protection Agency 1200 Pennsylvania Avenue, NW Washington, DC 20460 www.epa.gov	(202) 564-4700
EPA 747-K-97-001	1997	Reducing Lead Hazards When Remodeling Your Home	11.1001.1(23)
Method 24	2000	Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings	901.9.1(1), 11.901.9.1(1), 12.1.901.9.1(1)
	1990	Asbestos in the Home: A Homeowner's Guide	11.1001.1(23)
	2013	Smart Location Database, NGBS: Points for Smart Location Practices https://epa.maps.arcgis.com/home/item.html?id=9508f9295c144b9fb392d33b18b569e3	405.6(7), 405.6(8), 501.2(4), 11.501.2(3)

Reason:	The Smart Location Database is specifically referenced as the basis for achieving points in Chapters 4, 5, and 11. This addition to Chapter 14 provides an essential link that NGBS users will need to achieve those points.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC311 LogID BC52	**1402 Referenced Documents** ***Final Formal Action:*** **TBD**
Submitter:	Gregory Curtis Coolidge; Crescent Communities
Comment:	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
Reason:	***Secretariat Note****: Comment on the following provision of the Draft Standard:* IBC ~~2015~~ 2018 IECC ~~2015~~ 2018 IFGC ~~2015~~ 2018 IMC ~~2015~~ 2018 IRC ~~2015~~ 2018
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The Standard is supposed to be an above code voluntary rating system/standard and falling back on the baseline would not support that objective.

Appendices

PC312 LogID 6189	C200 CLIMATE ZONES Table C200 *Final Formal Action:* TBD
Submitter:	Josh Hanson, self
Comment:	Update to Reference 2018 IRC currently references 2015 IRC
Reason:	Currently references the older code vs 2018.
Substantiating Documents:	No
CC Action:	Approve
Modification of Comment:	
CC Reason:	

PC313 LogID 6010	APPENDIX F: WATER RATING INDEX *Final Formal Action:* TBD
Submitter:	Thomas Pape, AWE
Comment:	~~APPENDIX FWATER RATING INDEX~~ ~~F101.1 Intent. Provide a flexible method to quantify home water use efficiency as a single number.~~ ~~F101.2 Scope. The Water Rating Index (WRI) is a performance calculation for water use efficiency, includingboth indoor and outdoor water use.~~ Note: Delete Appendix F in its entirety
Reason:	The algorithms displayed in the WRI system have not been properly vetted through an ANSI process, nor is it even possible to vet the system. The displayed algorithms include many constants that have no explained source or reason for use. They might be correct, but maybe not. There is no possible way to know if there is a scientific basis for the value, or just a good guess. This performance path is premature. The fine reputation of NGBS is at great risk.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The CC believes that the performance path WRI has benefit. Consistent with original CC action.

PC314 LogID 6245	F101.3 Capabilities *Final Formal Action:* TBD
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Revise **Proposed Change:** (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.
Reason:	There is no clear justification for limiting townhouses to three stories above grade. Single-family homes do not have height limits. Perhaps it's a holdover from the IRC but the presence of multifamily confuses the reason for this restriction.
Substantiating Documents:	No
CC Action:	Disapprove

Modification of Comment:	
CC Reason:	This is from the water ratings index, maintains consistent with the IRC

PC315 LogID 6077	**F101.3 Capabilities**	***Final Formal Action:*** **TBD**
Submitter:	Greg Johnson, Outdoor Power Equipment Institute	
Comment:	**F101.3 Capabilities.** < (1) through (3) omitted> (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) and (ii) omitted>* (iii)Foundation water, which is groundwater captured from the internal or external perimeter of the building foundation. *<renumber following subsections>*	
Reason:	: Harvested foundation groundwater is commonly used to irrigate landscaping in many areas of the country. Some of this water is ground sourced or not the result of precipitation so it would not qualify as "sitewater."	
Substantiating Documents:	No	
CC Action:	Disapprove	
Modification of Comment:		
CC Reason:	CC believes that this may not be properly accounted for in the WRI. Potentially to be looked at in a future revision. 3rd party data is not available to determine water savings.	

PC316 LogID 6262	**F101.3 Capabilities**	***Final Formal Action:*** **TBD**
Submitter:	Ryan Meres, RESNET	
Comment:	F101.3 Capabilities. The WRI calculation shall include the following capabilities: (1) Both new and existing construction. (2) One or more of ~~T~~the following building types: (Remainder of section left unchanged)	
Reason:	Is the original language implying that any program that calculates a WRI needs to be able to do all these building types? Why would it matter if an equivalent WRI calculation only could do single family dwellings or only multifamily dwellings? Builders will choose what works for their project. An equivalent calculation methodology may be capable of doing more than one building type, but should not be required to do more than one building type.	
Substantiating Documents:	No	
CC Action:	Approve	
Modification of Comment:		
CC Reason:		

PC317 LogID 6265	**F101.3 Capabilities**	***Final Formal Action:*** **TBD**
Submitter:	Ryan Meres, RESNET	
Comment:	F101.3 Capabilities. The performance path ~~WRI calculation~~ program shall include the following capabilities:	

Reason:	Given the inclusion of the types of reports listed within this section, it doesn't seem appropriate to simply say the "calculation" shall include the following. The WRI should not be considered just a calculation. In fact, a true "rating" consists of many requirements beyond the calculation methodology. Rating reports would be one such "program" requirement, but should also include the type of information required on each report in order to provide standardization in the market.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC believes the WRI name should be referenced.

PC318 LogID 6270	**F101.3 Capabilities** *Final Formal Action:* **TBD**
Submitter:	Ryan Meres, RESNET
Comment:	(Language not included, remains unchanged) (4) <u>For performance path programs that account for alternative water sources</u>, 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.
Reason:	Although RESNET agrees that rainwater capture and greywater reuse are important to water efficiency, we disagree that it needs to be a minimum capability of a WRI calculation methodology. In 2017, there were over 800,000 homes built in the U.S. Of those homes, more than 325,000 were built by 200 builders. These builders are building anywhere from 175 to over 45,000 homes a year. The overwhelming majority of these homes do not make use of any alternative water sources. There is not sufficient data available to analyze the real impact that rainwater capture and greywater reuse have on offsetting the actual potable water use of a home. For that reason, this appendix is being short-sighted in throwing out programs that focus on efficiency just because they don't have a means to account for alternative water sources.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Additional language is redundant.

PC319 LogID 6247	**F101.3 Capabilities** *Final Formal Action:* **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Delete as follows. **Proposed Change:** (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.~~
Reason:	The discussion of where different types of alternative water is permissible should be left to the health department/responsible party of the JHA. It is oddly credited/worded for performance path purposes.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	The AHJ is always the final approver. The end user would already have attained a permit.

PC320 LogID 6282	**F101.4 Process** ***Final Formal Action:*** **TBD**
Submitter:	Ryan Meres, RESNET
Comment:	F101.4 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) Review and understanding ~~Confirmation~~ of contract documents including building drawings, site drawings, landscape drawings, specifications, cut sheets, and approved final submittals. (b) How to verify that the ~~Visual confirmation of~~ installed site material, fixtures, and equipment match the construction documents. (c) How to conduct ~~Physical~~ field testing of installed fixtures and equipment. (d) How to ~~Ability to utilize~~ use a tool and provide the proper inputs to calculate a building's index score. ~~that incorporates this WRI calculation.~~
Reason:	This section is very vague on details and seems to open up WRI verification to just about anyone who wants to do it. What are the minimum qualifications to be a trainer? The minimum training requirements don't describe actual learning objectives or minimum skills or abilities. This lack of detail will lead to nearly anyone being able to offer a simple training and qualify people as WRI verifiers. Doing so will lead to inconsistency and eventually a mistrust of the entire performance path. What does "Confirmation of contract documents..." mean? It sounds like a verifier just needs to check a box to confirm that those documents have been submitted.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC believes that the current language is sufficient and that the language provided does not provide any additional clarity.

PC321 LogID 6248	**F101.6 Indoor Water** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Delete as follows. **Proposed Change:** ~~(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) Verified Structural Waste (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.~~
Reason:	The term "furthest fixture" needs to be defined. Suggest adding "the fixture with the greatest amount of water stored in the distribution system between itself and the source". In order for the appendix to be consistent, it's important that in a home built to exact specifications of the Baseline Structural Waste has a Verified Structural Waste that is equal to the baseline. This isn't possible in this instance because of the equation doesn't account for heat loss in the distribution system or small amount of water stored in the fixtures themselves. Either an adjustment factor needs to be added to Baseline Structural Waste or the appendix should just use the Preliminary value directly with a non-temp field verification (i.e. layout confirmation).
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Structural Waste can be verified.

PC322 LogID 6249	**F101.6 Indoor Water** ***Final Formal Action:*** **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Delete as follows. **Proposed Change:** ~~(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 4uses per day. For master bath showers assume 1 use each for 2 occupants for a total of 2uses 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 Toilet Water, Lavatory Water and Shower Water as appropriate in the Indoor Use equation in item #1~~
Reason:	"Master Bath" is not defined in the standard. Furthermore, this section seems to be based on people's expectations of standard operating schedules rather than data. Without data to back it up, this specificity does more harm than good. Suggest deleting in its entirety.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	CC believes that Master Bath is a widely used and understood term. CC believes that removing small sections from the WRI would interfere with the balance of the equation.

PC323 LogID 6250	F101.7 Water Capture for Potential Reuse *Final Formal Action:* **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Revise as follows. **Proposed Change:** (1) Rainwater Capture, Greywater Capture, and Blackwater Capture shall be computed for each month (a) Rainwater Capture(month) - ~~gallons/month~~ gallons/day for all days of the month, includes roof water and site water.= [(Roof water Area * Roof Surface Capture) + (Site water Area * Site Surface Capture)] * 0.623(gallons/sq ft of 1 in of rain)~~ * Days In Month(month)~~
Reason:	The actual availability of rainwater has many factors involved (rainfall, catchment area, capture ratio, storage capacity and treatment efficiency on one side with demand on the other), many of which are addressed here. However, because of all these factors, a daily calculation is really preferred to estimate availability at any point in time. Additionally, the available water needs to be discounted for treatment. Nothing will be 100% efficient.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Daily rainfall forecasts or historical data are not readily available.

PC324 LogID 6283	F101.7 Water Capture for Potential Reuse *Final Formal Action:* **TBD**
Submitter:	Ryan Meres, RESNET
Comment:	F101.7 Water Capture for Potential Reuse. This calculates the water available for reuse for each month.
Reason:	Can builders capture water from multiple homes in a subdivision and use that for irrigation and get credit under this performance path? See this article: https://www.builderonline.com/products/green-products/recycled-rainwater-is-irrigating-more-atlanta-area-communities_o This would be an important option for production builders that are doing large subdivisions.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Non-actionable comment.

PC325 LogID 6251	F101.8 Outdoor Calculations *Final Formal Action:* **TBD**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	F101.8 Outdoor Calculations. The annual outdoor water use shall be calculated as follows (points can not be earned for this portion of the WR land section 403.6 or 503.5(4)).
Reason:	This methodology is too close to points awarded in 403.6 and 503.5(4). There is of course, an inherent relationship between landscape design and water use, and credit should be given for both. But this essentially credits the same exact action twice (albeit calculated in slightly different ways). If credit is claimed for 403.6 or 503.5(4) you should not be able to use this part of appendix F to claim credit under the performance path.
Substantiating Documents:	No
CC Action:	Disapprove
Modification of Comment:	
CC Reason:	Points can not be duplicated because appendix F is an alternative path

PC326 LogID 6253	F101.8 Outdoor Calculations *Final Formal Action:* TBD
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** Delete section. **Proposed Change:** ~~F101.8 Outdoor Calculations.~~
Reason:	As written, the formula will result in an error for any zone that has no irrigation as you cannot divide by 0. If the intent is to assign no water use to zones without irrigation, this is also an error as data tells us water use will still occur even without automatic irrigation. No irrigation method is 100% effective/efficient. Flood and direct injection will both lose some water to infiltration as well as evaporation (in the case of flood). It is only "100%" efficient if all the water is taken up by the plant's rootzone and made biologically available to the plant. This cannot happen. We are not aware of any data that helps inform an appropriate number for these efficiencies, but "1" is just absurd. The term "verified" is vague. "Approved" by whom. Almost all physical pool covers inhibit evaporation with relative effectiveness. The theory to the water savings potential of motorized pool covers is that they will be used more and therefore save more water. This makes sense, but we have looked and found no compelling field evidence that this is the case. If we are wrong, please share that data with us. If we're right and it's an unproven theory, delete the adjustment.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	***Modify Draft Standard as Follows:*** F101.8(1)(a) Water use shall be increased for an Irrigation Efficiency of less than 1~~00%~~, as specified in Table 8 F101.8(4) (C) Tale 8 Irrigation Efficiency ~~No~~ Only hand irrigation ~~0~~1
CC Reason:	Modification to table addresses the divide by 0 error which can no longer occur. "Verified" and "Approved" are terms that are used previously in this standard and are well understood. Experts on the TG agreed that pool covers do save water and that motorized ones are used significantly more frequently than manual ones.

PC327 LogID 6287	F101.9 Water Cost Calculations *Final Formal Action:* TBD
Submitter:	Ryan Meres, RESNET
Comment:	F101.9 Water Cost Calculations. Where water costs are calculated the water cost shall be as provided by the ~~jurisdiction having authority~~ local water utility.
Reason:	"Jurisdiction having authority" could be confused with the code official as this term is meant to imply in all other codes. I'm assuming the cost is not meant to come from the code official, but rather the water utility.
Substantiating Documents:	No
CC Action:	Approve as Modified
Modification of Comment:	F101.9 Water Cost Calculations. Where water costs are calculated the water cost shall be obtained from ~~as provided by~~ the ~~jurisdiction having~~ authority having jurisdiction.
CC Reason:	Current language is more general, and TG does not want to restrict this practice to just the local water utility. Corrected language for consistency and clarity.

PC328 LogID 6289	F101.9 Water Cost Calculations *Final Formal Action:* **TBD**
Submitter:	Ryan Meres, RESNET
Comment:	(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
Reason:	More detailed description on how to perform this calculation is needed. Doing so will provide consistency in how the calculation is to be done and reported. A cost calculation methodology will give builders confidence in using the cost figures in their marketing. See section 6.1.2 of the preliminary draft standard for candidate ANSI standard 1101, attached, for language on performing cost calculations.
Substantiating Documents:	Yes, substantiating documents can be found at www.homeinnovation.com/ngbs under the Public Comments on Draft Standard.
CC Action:	Approve as Modified
Modification of Comment:	Delete Section F101.9(2) ~~(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~~
CC Reason:	CC agrees with public commenter. The issue wasn't clear enough. The water bills vary wildly from region to region. Due to this wide range, the CC believes that the section should be removed.

Editorial Comments

Editorial comments have been implemented by Staff. These comments do not result in substantive changes to the Standard.

E01 LogID 6060	202 Definitions
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	RECLAIMED WATER. Non-potable water provided by a wastewater utility, treated to meet the requirements of the ~~Aithority~~ Authority Having Jurisdiction (AHJ) for the intended uses. The water may be sanitized to allow for aboveground landscape irrigation or flush sanitary fixtures. May also be known as Recycled Water in some areas.
Reason:	Editorial (spelling correction)
Substantiating Documents:	No
Comment Category:	Editorial

E02 LogID 6213	202 Definitions
Submitter:	Aaron McEwin, Jordan & Skala Engineers
Comment:	RECLAIMED WATER. Non-potable water provided by a wastewater utility, treated to meet the requirements of the ~~Aithority~~ Authority Having Jurisdiction (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.
Reason:	Spelling error
Substantiating Documents:	No
Comment Category:	Editorial

E03 LogID 6266	305.2.3 Mandatory practices
Submitter:	Paul Gay, self
Comment:	~~"apartment~~ "replace with "apparent "
Reason:	wrong language
Substantiating Documents:	No
Comment Category:	Editorial

E04 LogID 6268	305.3.5 Energy efficiency
Submitter:	Paul Gay, self
Comment:	correct table references.....should be 305.3.5.1 and 305.3.5.2
Reason:	tables 11.305.3.5.1 or 11.305.3.5.2 do not exist
Substantiating Documents:	No
Comment Category:	Editorial

E05 LogID 6269	Table 305.2.5.1
Submitter:	Paul Gay, self
Comment:	correct reference to table 205.3.5.1, should be 305.3.5.1
Reason:	reference tables incorrect
Substantiating Documents:	No
Comment Category:	Editorial

E06 LogID 6272	305.2.5.1 Energy consumption reduction path.
Submitter:	Paul Gay, self
Comment:	last paragraph ...nergy baseline should be energy baseline
Reason:	spelling mistake
Substantiating Documents:	No
Comment Category:	Editorial

E07 LogID 6112	305.2.7 Prescriptive practices
Submitter:	Josh Hanson, self
Comment:	except for ~~11.700and 11.800~~ 11.703 and 11.802
Reason:	Referencing the wrong sections
Substantiating Documents:	No
Comment Category:	Editorial

E08 LogID 6111	Table 305.2.5.2 Energy Rating Prescriptive Point Thresholds
Submitter:	Josh Hanson, self
Comment:	Section ~~11.800~~ 11.802 Prescriptive Thresholds
Reason:	Referencing the wrong section
Substantiating Documents:	No
Comment Category:	Editorial

E08 LogID 6090	405.6 and 501.2(4), Multi-modal transportation
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	Please revise 405.6(7), 405.6(8), 501.2(4), and 11.501.2(3) as follows: ~~USEPA's~~ EPA's Smart Location Database
Reason:	Please change "USEPA's" to "EPA's" in these four sections. This will create consistency with references to other EPA documents in this standard and ensure that users can find the database in the Referenced Documents chapter. (Chapter 14, Referenced Documents, has a section for "EPA" but none for "USEPA.")
Substantiating Documents:	No
Comment Category:	Editorial

E10 LogID 6069	405.9 Open space.
Submitter:	Greg Johnson, Outdoor Equipment Institute
Comment:	**405.9 Open space.** The community is ~~saturated~~ situated within 1/2 mile of an area of open space available to the public or a portion of the gross area of the community is set aside as open space.
Reason:	Editorial; wrong word printed.
Substantiating Documents:	No
Comment Category:	Editorial

E11 LogID 6116	602.1.15 Kitchen and Vanity Cabinets
Submitter:	Josh Hanson, self

Comment:	Move section 602.1.15 Kitchen and vanity cabinets to be just after 602.1.11
Reason:	The section currently looks out of place being between Arch features and roof surfaces. It should come after tile backing materials.
Substantiating Documents:	No
Comment Category:	Editorial

E12 LogID BC58	**612.3 Universal design elements**
Submitter:	Cambria McLeod; Kohler
Comment:	ICC A117.1 2009 is not the latest version. There is a 2017 version
Reason:	***Secretariat Note****: Resolved by staff editorially. 2017 version is referenced in the Draft Standard.*
Substantiating Documents:	No
Comment Category:	Editorial

E13 LogID 6098	**613.1 Intent**
Submitter:	Susan Gitlin, US Environmental Protection Agency
Comment:	613.1 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 activity(as applicable) and reduce the potential for the loss of life and property.
Reason:	Editorial.
Substantiating Documents:	No
Comment Category:	Editorial

E14 LogID 6195	**801.4.1 Faucets**
Submitter:	Cambria McLeod, Kohler
Comment:	My proposed revision is to section 801.4.1 Faucets. This has been proposed to be renamed 802.5.1(2) 802.5.1(4) and 802.5.1(5) (2) Flow rate <= 1.20gpm (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 (5) Flow rate <= 1.20 gpm for all lavatory faucets in the dwelling unit(s)
Reason:	For consistency with the national testing standard, rounding the the first digit for 1.2gpm would be appropriate.
Substantiating Documents:	No
Comment Category:	Editorial

E15 LogID 6132	**801.6.3 Where an irrigation system… (deleted)**
Submitter:	Josh Hanson, self
Comment:	Glad this section was removed
Reason:	This requirement could make or break where a project could certify.
Substantiating Documents:	No

Comment Category:	Editorial

E16 LogID 6285	**906.4 Furniture and Furnishings**
Submitter:	Paul Gay, self
Comment:	add points
Reason:	no points given
Substantiating Documents:	No
Comment Category:	Editorial

E17 LogID 6284	**906.3 Ventilation for Multifamily Common Spaces**
Submitter:	Paul Gay, self
Comment:	add points
Reason:	no points given
Substantiating Documents:	No
Comment Category:	Editorial

E18 LogID 6144	**11.602.1.15 Kitchen and vanity cabinets**
Submitter:	Josh Hanson, self
Comment:	Move section 11.602.1.15 Kitchen and vanity cabinets to be just after 11.602.1.11
Reason:	The section currently looks out of place being between Arch features and roof surfaces. It should come after tile backing materials.
Substantiating Documents:	No
Comment Category:	Editorial

E19 LogID BC59	**11.611.3 Universal design elements**
Submitter:	Cambria McLeod; Kohler
Comment:	A117.1 was updated in 2017 not 2009
Reason:	***Secretariat Note****: Resolved by staff editorially. 2017 version is referenced in the Draft Standard.*
Substantiating Documents:	No
Comment Category:	Editorial

E20 LogID 6277	**Chapter 11 Remodeling**
Submitter:	Paul Gay, self
Comment:	Check editing and formatting for Chapter 11 especially energy and water
Reason:	Make sure language copied from other chapters aligns with remodeling intent and all tables and references are correct
Substantiating Documents:	No
Comment Category:	Editorial

E21 LogID 6343	**TABLE 402.1.2 & 1203.13 Space Heating and Cooling and Water Heating System Efficiencies.**
Submitter:	Craig Conner, self

Comment:	TABLE 402.1.2 1203.13 Space Heating and Cooling and Water Heating System Efficiencies. The Space Heating and Cooling and Water Heating systems are in accordance with Table XX.703.2. INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT TABLE XX.703.2
Reason:	Correct table number. It is not "XX". What is value for cell with "v"? Probably editorial.
Substantiating Documents:	No
Comment Category:	Editorial

E22 LogID BC60	**Chapter 13 – Non-Residential New Construction**
Submitter:	Thomas Culp; Aluminum Extruders Council, Glass Association of North America
Comment:	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
Reason:	
Substantiating Documents:	No
Comment Category:	Editorial

E23 LogID 6346	**13.106.5. Water softeners**
Submitter:	Craig Conner, self
Comment:	13.106.5. Water softeners. Water softeners shall comply with Sections 13.106.5.1 through 13.106.5.3.
Reason:	Correct a typo
Substantiating Documents:	No
Comment Category:	Editorial

E24 LogID N/A	**1205.9 Radon Control**
Submitter:	Craig Conner, self
Comment:	1205.9 Radon control. Radon control measures are installed in accordance with ~~802.3~~ 902.3 for Zone 1 as defined in Figure 9(1). (a) a passive radon system is installed, or (b) an active radon system is installed
Reason:	Correct a typo
Substantiating Documents:	No
Comment Category:	Editorial

Held Comments

Comments that proposed changes to a section or part of the Draft Standard that was not changed during the development of the 2020 NGBS shall be reported as Held. These comments are identified with a comment number prefix of "H". In addition, the scope, intent, purpose, and title of the standard are under the purview of the Executive Standards Council. Please refer to the Procedures for information on submitting changes to these sections. At the discretion of the submitter, a Held comment can be processed as a proposed change during the next revision of the standard.

H01 LogID 6033	**202 Definitions**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	**OPEN SPACE.** An area of land orwater that (1) remains in its natural state, (2) is used for agriculture, (3) is landscaped or (4) areas for outdoor activities, ~~or (3) is free from intensive development~~
Reason:	The term "Intensive development" is not defined, leaving this term to various interpretations. Adding items (3) and (4) provide more definitive explanation of included spaces.
Substantiating Documents:	No
Comment Status:	Held

H02 LogID 6035	**403.6 Landscape Plan**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	*This section should be changed to read:* **(4)** EPAWaterSense Water Budget Tool or equivalent is used ~~when implementing up to the maximumpercentage of turf areas.~~
Reason:	403.6 (4) – We disagree with the reference to turfgrass in the use of the EPA WaterSense Water Budget Tool. This is a misapplication of the intent of this tool to provide the landscape designer with an appropriate water budget for the landscape design of the site and is not intended to be used to prescriptively limit the use of any individual plant option. This tool applies to the total plant palette used in the landscape.
Substantiating Documents:	No
Comment Status:	Held

H03 LogID 6045	**503.5 Landscape Plan**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	503.5 (6) *Section 503.5 (6) should be removed in its entirety.* ~~**(56)** For landscaped vegetated areas, the maximum percentage of turf area 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:	Section 503.5 (6) - We strongly disagree with the allocation of points based on limitations of the use of turfgrass. There is no scientific or logical justification for this section targeting one plant species. In addition, this limits flexibility of the landscape designer to provide the most effective and efficient landscape design for the site. This assignment of points is duplicative of requirements already in place where points are provided for the use of the EPA WaterSense Water Budget Tool. This code applies to residential construction which will include areas for recreation, children's play, pet exercise, family functions and other outdoor uses. Turfgrass is an important element of landscape design to meet these important services. This is also inconsistent with the potential use of turfgrass to comply with numerous sections of the ICC 700 where turfgrass is a proven and effective method for compliance. Turfgrass is

	helpful in compliance with sections: 503.1 (8) 503.2 (4) 503.4 (2); (3); (4); (5) 503.5 (2) 504.3 (6) 505.2 (2) 505.10 (a); (b); (c) 602.4.3
Substantiating Documents:	No
Comment Status:	Held

H04 LogID 6120	**Figure 6 (1,2 & 3) Climate Zones …**
Submitter:	Josh Hanson, self
Comment:	Move to the back of the manual with the rest of the appendices
Reason:	These figures have always seemed out of place. Typically when you go to look for a reference you look to the back of a book, not to the back of a chapter.
Substantiating Documents:	No
Comment Status:	Held

H05 LogID 6216	**701.4.1.1 HVAC system sizing and 701.4.2.3 Duct System Sizing**
Submitter:	Aaron McEwin, Jordan & Skala Engineers
Comment:	It was discussed during the retreat, Manual Js would be excepted as whole House load calculations instead of room-by-room load calculations. This is in conflict with the mandatory requirement of Manual D, were you need room-by-room calculations to size the ductwork. Recommend keeping language as is, no changes.
Reason:	Conflict during retreat.
Substantiating Documents:	No
Comment Status:	Held

H06 LogID 6304	**701.4.3.2(1) Air Barrier Testing**
Submitter:	Aaron McEwin, Jordan & Skala Engineers
Comment:	Testing. Building envelope tightness is tested. Testing is conducted in accordance with ASTM E-779 or ASTM E-1827 using a blower door at a test pressure of 1.04 psf (50 Pa). Testing is conducted after rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation, and combustion appliances. Testing is conducted under the following conditions:
Reason:	ASTM E-779 requires the following: 1. Testing in both directions (Scope 1.1 of standard). 2. Must be a multi-point test (Procedures 8.9 of standard). Adding ASTM E-1827 will match the IECC wording. This can be a single point test, however several reading are required and they must be averaged. I would be curious to know who does the statistical analysis called for in the standard.
Substantiating Documents:	No
Comment Status:	Held

H07 LogID 6301	**703.1.1.2 and 703.2.5.1 Prescriptive R-values and fenestration…**
Submitter:	Thomas Culp, Aluminum Extruders Council

Comment:	*Changes shown relative to draft standard:* **703.1.1.2 Prescriptive R-values and fenestration requirements.** The building thermal envelope is in accordance with the insulation and fenestration requirements of ICC IECC Table R402.1.2or Tables C402.1.3. The fenestration U-factors and SHGC's are in accordance with Table 703.2.5.1 or ICC IECC Table C402.4. ... **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 or ICC IECC Table C402.4. *(portions of sections not shown are unchanged)*
Reason:	Section 703.1.1.2 is being changed in the public review draft so the mandatory requirements for fenestration under the prescriptive path include proper reference to either Table 703.2.5.1 or ICC IECC Table C402.4, to address both low-rise and high-rise residential buildings. A similar reference to ICC IECC Table C402.4 is already in Section 703.2.1. However, when 703.1.1.2 was changed, the reference to ICC IECC Table C402.4 was left out of Section 703.2.5.1, creating an internal inconsistency in the standard. This comment would correct that. Task Group 5 voted to approve making this correction, but not enough committee members changed their votes in the recirculation ballot to include this in the public review draft, so the change is being proposed here via public comment. This proposal does not affect points or level of energy efficiency, as this is the mandatory baseline requirement for the prescriptive path – the project would still have to meet the other improvements in 703 to achieve the required energy efficiency and points.
Substantiating Documents:	No
Comment Status:	Held

H08 LogID 6125	**703.3.4 Cooling efficiency…**
Submitter:	Josh Hanson, self
Comment:	Add a section in for Multifamily Buildings 4 stories and up for Electric Air-Conditioning and Heat Pump Cooling.
Reason:	Looking at this pathway, it explicitly calls out that MF building 4 stories and up are either getting points or excluded from points. Points should be available for both low and midrise, especially if you want to open the door for more to consider using the NGBS
Substantiating Documents:	No
Comment Status:	Held

H09 LogID 6231	**802.4 Water closets and urinals**
Submitter:	Suzanne Boxman, U.S. Environmental Protection Agency
Comment:	**Requested Action:** add **Proposed Change:** (b) One or more urinals with a flush volume of 0.5 gallons (1.9L) or less when tested inaccordance with ASME A112.19.2/CSA B45.1 and meeting the performance criteria of the U.S. EPA WaterSense Specification for Flushing Urinals.
Reason:	WaterSense labled urinals included performance criteria.
Substantiating Documents:	No
Comment Status:	Held

H10 LogID 6007	**802.6.4 Irrigation system**
Submitter:	Thomas Pape, AWE

Comment:	802.6.4 The irrigation system(s) is controlled by a smart controller or no irrigation is installed.(Points are not additive.) ~~(1) Irrigation controllers are labeled by EPA WaterSense program = 10 points~~ (2) No irrigation is installed and a landscape plan is developed in accordance with Section 503.5,as applicable. = 15 points
Reason:	There is no scientifically valid evidence of "smart controllers attaining sustained saving water" in the residential sector. The Residential End Use of Water Study 2016 findings include: "Fifty-three homes reported having what they believe to be a "smart, weather-based" irrigation controller. This coefficient had a positive slope (0.096) indicating a rise in water use, but the p value was 0.644 indicating very low statistical significance. Consequently, the data set provides no indication that "smart" controller, or things that people believe to be smart controllers are affecting outdoor water use."
Substantiating Documents:	No
Comment Status:	Held

H11 LogID 6008	**802.7 Rainwater collection and distribution**
Submitter:	Thomas Pape, AWE
Comment:	802.7.1 Rainwater is used for irrigation in accordance with one of the following: (1) Rainwater is diverted for landscape irrigation without impermeable water storage = points 5 (2) Rainwater is diverted for landscape irrigation with impermeable water storage in accordance with one of the following: (a) ~~50~~ 200 – 499 gallon storage capacity = 5 points
Reason:	Fifty gallons of storage does not have any significant impact of water use reduction in a home.
Substantiating Documents:	No
Comment Status:	Held

H13 LogID 6088	**902.2 Building ventilation systems**
Submitter:	Aaron Gary, self
Comment:	SECTION 202 DEFINITIONS ADD Definition **VENTILATION AIR .** That potion of supply air that comes from the outside (outdoors), plus any recirculated air that has been treated to maintain the desired quality of air within a designation space. **BALANCED AIR VENTILATION SYSTEM.** two or more fans that simultaneously supply outdoor air and exhaust air at substantially equal rates such that both the total supply and total exhaust flow rates meet the required fan flow rate. **902.2 Building ventilation systems** **902.2.1** One of the following whole ~~building~~ dwelling 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. — **Mandatory where the maximum air infiltration rate is less than 5.0 ACH50**

(1)	exhaust air ~~or supply fan(s)~~ ventilation system equipped with outdoor air ducts and intake(s) for ventilation air ~~ready for continuous operation and with appropriately labeled controls~~	**~~3~~1**
(2)	exhaust air ventilation system equipped with outdoor air ducts and intake(s) for ventilation air and with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads.	**3**
(~~2~~3)	Supply air ~~fan(s) ready for continuous operation and with appropriately labeled controls~~ ventilation system	**3**
(4)	supply air ventilation system equipped with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads	**5**
(~~2~~5)	balanced air ventilation system with exhaust and supply fan(s) with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building	**6**
(~~3~~6)	heat-recovery ventilator	**7**
(7)	balanced air ventilation system with exhaust and supply fan(s) with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads, and with intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back in to the building	**8**
(~~4~~8)	energy-recovery ventilator	**8**
(~~5~~9)	Ventilation air is preconditioned by a system not specified above.	**10**

11.902.2 Building ventilation systems

11.902.2.1 One of the following whole ~~building~~ dwelling 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 11.1001.1 or 11.1002.2.		**Mandatory where the maximum air infiltration rate is less than 5.0 ACH50**
(1)	exhaust air ~~or supply fan(s)~~ ventilation system equipped with outdoor air ducts and intake(s) for ventilation air ~~ready for continuous operation and with appropriately labeled controls~~	**~~3~~1**
(2)	exhaust air ventilation system equipped with outdoor air ducts and intake(s) for ventilation air and with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads.	**3**
(~~2~~3)	Supply air ~~fan(s) ready for continuous operation and with appropriately labeled controls~~ ventilation system	**3**
(4)	supply air ventilation system equipped with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads	**5**

(~~2~~5)	balanced air ventilation system with exhaust and supply fan(s) with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building	**6**
(~~3~~6)	heat-recovery ventilator	**7**
(7)	balanced air ventilation system with exhaust and supply fan(s) with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads, and with intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back in to the building	**8**
(~~4~~8)	energy-recovery ventilator	**8**
(~~5~~9)	Ventilation air is preconditioned by a system not specified above.	**10**

APPENDIX B

WHOLE DWELLING~~BUILDING~~VENTILATION SYSTEM SPECIFICATIONS

B100
SCOPE AND APPLICABILITY

B101.1 Applicability of Appendix B. Appendix B is part of this Standard.

B101.2 Scope. The provisions contained in Appendix B provide the specifications necessary for complying with Section 902.2.1 for the installation of whole dwelling ~~building~~ ventilation systems. To receive points for implementing Practice 902.2.1 or 11.902.1, the chosen whole dwelling ~~building~~ ventilation system is to be in accordance with the applicable specifications of Appendix B.

Exceptions:

Whole-dwelling ventilation systems complying with ASHRAE 62.2 -2016, *Ventilation and Acceptable Indoor Air Quality in Residential,* Sections 4 (except 4.3), 6 (except 6.3-6.6), 7 (except 7.2) and Appendix C shall also be deemed in compliance with Appendix B.

Multifamily buildings four or more stories in height complying with ICC IMC Section 403 shall also be deemed in compliance with Appendix B.

B101.3 Acknowledgment. Portions of t~~T~~he text of Appendix B, Section B200 and related Tables are extracted from ICC IRC and, ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) Standard 62.2 *Ventilation and Acceptable Indoor Air Quality in ~~Low-Rise~~ Residential Buildings*, Section 4, and is used with the permission of ICC and ASHRAE. The referenced Section and Table numbers within the extracted text are modified to be applicable to Appendix B of this Standard. "*" indicates added reference to ICC or ASHRAE 62.2 to provide clarity.

B200
WHOLE-BUILDING VENTILATION

B201.1 Mechanical Ventilation Rate. A whole-dwelling mechanical ventilation system shall provide outdoor air at a continuous rate of not less than that determined in accordance with ~~A mechanical exhaust system, supply system, or combination thereof shall be installed for each dwelling unit to provide whole-building ventilation with outdoor air each hour at no less than the~~

~~rate specified in~~ Tables B201.1a and B201.1b or, equivalently, Equations B201.1a and B201.1b, based on the floor area of the conditioned space and number of bedrooms.

Exceptions: The whole-dwelling mechanical ventilation system is permitted to operate intermittently where the system has controls that enable operation for not less than 25-percent of each 4-hour segment and the average ventilation rate ~~averages the rate~~ during each 4-hour segment meets or exceeds the continuous ventilation rate prescribed in Tables B201.1(1a) and B201.1(1b) or, equivalently, Equations B201.1a and B201.1b~~Whole-building mechanical systems are not required provided that at least one of the following conditions is met:~~

~~**(a)** the building has no mechanical cooling and is in zone 1 or 2 of the ICC* IECC Climate Zone Map (see ASHRAE 62.2*, Figure 8.2), or~~

~~**(b)** the building is thermally conditioned for human occupancy for less than 876 hours per year,~~

B201.1.1 Different Occupant Density. Tables B201.1a and B201.1b and Equations B201.1a and B201.1b assume two persons in a studio or one-bedroom dwelling unit and an additional person for each additional bedroom. Where higher occupant densities are known, the rate shall be increased by 7.5 cfm (3.5 L/s) for each additional person. When approved by the authority having jurisdiction, lower occupant densities may be used.

B201.1.2 Alternative Ventilation. Other methods may be used to provide the required ventilation rates (of Tables B201.1a and B201.1b) when approved by a licensed design professional.

~~**B201.1.3 Infiltration Credit.** Section B201.1 includes a default credit for ventilation provided by infiltration of 2 cfm/100 ft² (10 L/s per 100 m²) of occupiable floor space. For buildings built prior to the application of this standard, when excess infiltration has been measured using *ANSI/ASHRAE Standard 136, A Method of Determining Air Change Rates in Detached Dwellings,* the rates in Section B201.1 may be decreased by half of the excess of the rate calculated from Standard 136 that is above the default rate. No increase to the rate in Section B201.1 is required if measured infiltration in accordance with Standard 136 is lower than the default rate.~~

Equation B201.1a		
Qfan=0.01Afloor +7.5Nbr+1		
where		
Qfan	=	fan flow rate, cfm
Afloor	=	floor area, ft^2
Nbr	=	number of bedrooms; not to be less than one

Equation B201.1b		
Qfan=0.05Afloor +3.5Nbr+1		
where		
Qfan	=	fan flow rate, L/s
Afloor	=	floor area, m^2

Nbr	=	number of bedrooms; not to be less than one

TABLE B201.1a (I-P)
Ventilation Air Requirements, cfm

Floor Area (ft^2)	Bedrooms 0–1	2–3	4–5	6–7	>7
<1500	30	45	60	75	90
1501–3000	45	60	75	90	105
3001–4500	60	75	90	105	120
4501–6000	75	90	105	120	135
6001–7500	90	105	120	135	150
>7500	105	120	135	150	165

TABLE B201.1b (SI)
Ventilation Air Requirements, L/s

Floor Area (m^2)	Bedrooms 0–1	2–3	4–5	6–7	>7
<139	14	21	28	35	42
139.1–279	21	28	35	42	50
279.1–418	28	35	42	50	57
418.1–557	35	42	50	57	64
557.1–697	42	50	57	64	71
>697	50	57	64	71	78

B201.1.3 Reduced Minimum Ventilation Requirement. The minimum continuous ventilation rate shall be reduced by 25%, provided the following criteria are met:

1) a ducted system supplies ventilation air directly to each bedroom and the largest common area.

2) not less than 70% of the whole building air volume is recirculated each hour. For intermittent systems an equivalent mixing is provided over a four-hour period.

3) the whole-dwelling ventilation is provided by a balanced ventilation system. ~~Energy recovery ventilators and heat recovery ventilators shall be meet the balanced requirement.~~

4) the fans providing supply ventilation air and exhaust ventilation air shall be interlocked or communicate in such a way that they turn on/off concurrently.

B201.2 System Type. The whole-~~house~~ dwelling ventilation system shall consist of one or more supply or exhaust fans and associated ducts and controls. Local exhaust fans shall be permitted to be part of a mechanical exhaust system. Outdoor air ducts connected to the return side of an air handler shall be permitted as supply ventilation if manufacturers' requirements for return air temperature are met. ~~See ASHRAE 62.2*, Appendix B for guidance on selection of methods.~~

B201.3 Ventilation Airflow 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 in accordance with Section 5 of RESNET/ICC 380 or other approved method.

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.

B201.4 Control and Operation. The "fan on" switch on a heating or air-conditioning system shall be permitted as an operational control for systems introducing ventilation air through a duct to the return side of an HVAC system. Readily accessible override control must be provided to the occupant. Local exhaust fan switches and "fan on" switches shall be permitted as override controls. Controls, including the "fan on" switch of a conditioning system, must be appropriately labeled.

Exception: An intermittently operating, whole-house mechanical ventilation system may be used if the ventilation rate is adjusted, according to the exception to Section B201.5. The system must be designed so that it can operate automatically based on a timer. The intermittent mechanical ventilation system must operate at least once per day and must operate at least 10 percent of the time.

B201.5 Delivered Ventilation. The delivered ventilation rate shall be calculated as the larger of the total supply or total exhaust and shall be no less than specified in Section B201.1 during each hour of operation.

Exception: The effective ventilation rate of an intermittent system is the combination of its delivered capacity, its daily fractional on-time, cycle time, and the ventilation effectiveness from Table B201.2. The fan flow rate required to achieve an effective ventilation rate that is equivalent to the continuous ventilation requirement shall be calculated from the following equation:

Equation B201.5		
$Qf=Qr/(ef)$		
where		
Qf	=	fan flow rate during the on-cycle
Qr	=	ventilation air requirement (from Table B201.1a or B201.1b)
T_{cyc}	=	fan cycle time, defined as the total time for one on-cycle and one off-cycle (used in Table B201.5)
e	=	ventilation effectiveness (from Table B201.5)
f	=	fractional on-time, defined as the on-time for one cycle divided by the cycle time

TABLE B201.5

Ventilation Effectiveness for Intermittent Fans

Fractional On-Time, *f*	**Cycle Time, T_{cyc} (h)**			
	0.4	**8**	**12**	**24**
0.1	1.00	0.79	*	*
0.2	1.00	0.84	0.56	*
0.	1.00	0.89	0.71	*
0.4	1.00	0.92	0.81	0.20
0.5	1.00	0.94	0.87	0.52
0.6	1.00	0.97	0.92	0.73
0.7	1.00	0.98	0.96	0.86
0.8	1.00	0.99	0.98	0.94

	~~0.9 | 1.00 | 1.00 | 1.00 | 0.99~~ ~~1.0 | 1.00 | 1.00 | 1.00 | 1.00~~ ~~See Chapter 10 of Guideline 24 for an example of this calculation.~~ ~~For values not listed, use the next higher value for cycle time or the next lower value for Fractional On-Time. Linear interpolation is allowed for intermediate Fractional On-Times. The maximum allowed Cycle Time is 24 hours and the minimum allowed Fractional On-Time is 0.1.~~ **B201.~~6~~4 Restrictions on System Type.** Use of certain ventilation strategies is restricted ~~in specific climates~~ as follows. ~~**B201.6.1 Hot, Humid Climates.** In hot, humid climates, whole-house mechanical net exhaust flow shall not exceed 7.5 cfm per 100 ft² (35 L/s per 100 m²). (See ASHRAE 62.2*, Section 8 for a listing of hot, humid US climates.)~~ ~~**B201.6.2 Very Cold Climates.** Mechanical supply systems exceeding 7.5 cfm per 100 ft² (35 L/s per 100 m²) shall not be used in very cold climates. (See ASHRAE 62.2*, Section 8 for a listing of very cold US climates.)~~ ~~**Exception:** These ventilation strategies are not restricted if the authority having jurisdiction approves the envelope design as being moisture resistant.~~ **B201.4.1 Exhaust Air Ventilation Systems.** Exhaust air ventilation systems must specify how outside air is delivered at the flow rate required. Systems that rely on ventilation air through the building envelope or ventilation air from multifamily common areas, adjacent dwelling units, attics, basements, etc. are prohibited.
Reason:	Through error or oversight the changes that composed the compromise Ventilation proposal that was unanimously approved by the IAQ task group (LogID 6563) were incorporated into Chapter 12 but not Chapter 9 or 11. This proposal was a big improvement to the Standard and as such need to be addressed through the public comment.
Substantiating Documents:	No
Comment Status:	Held

H14 LogID 6087	**1205.12 HVAC system protection**
Submitter:	Aaron Gary, self
Comment:	SECTION 202 DEFINITIONS ADD Definition **VENTILATION AIR .** That potion of supply air that comes from the outside (outdoors), plus any recirculated air that has been treated to maintain the desired quality of air within a designation space. **BALANCED AIR VENTILATION SYSTEM.** two or more fans that simultaneously supply outdoor air and exhaust air at substantially equal rates such that both the total supply and total exhaust flow rates meet the required fan flow rate. **902.2 Building ventilation systems**

902.2.1 One of the following whole ~~building~~ dwelling 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.		**Mandatory where the maximum air infiltration rate is less than 5.0 ACH50**
(1)	exhaust air ~~or supply fan(s)~~ ventilation system equipped with outdoor air ducts and intake(s) for ventilation air ~~ready for continuous operation and with appropriately labeled controls~~	**~~3~~1**
(2)	exhaust air ventilation system equipped with outdoor air ducts and intake(s) for ventilation air and with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads.	**3**
(~~2~~3)	Supply air ~~fan(s) ready for continuous operation and with appropriately labeled controls~~ ventilation system	**3**
(4)	supply air ventilation system equipped with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads	**5**
(~~2~~5)	balanced air ventilation system with exhaust and supply fan(s) with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building	**6**
(~~3~~6)	heat-recovery ventilator	**7**
(7)	balanced air ventilation system with exhaust and supply fan(s) with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads, and with intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back in to the building	**8**
(~~4~~8)	energy-recovery ventilator	**8**

11.902.2 Building ventilation systems

11.902.2.1 One of the following whole ~~building~~ dwelling 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 11.1001.1 or 11.1002.2.		**Mandatory where the maximum air infiltration rate is less than 5.0 ACH50**
(1)	exhaust air ~~or supply fan(s)~~ ventilation system equipped with outdoor air ducts and intake(s) for ventilation air ~~ready for continuous operation and with appropriately labeled controls~~	**~~3~~1**
(2)	exhaust air ventilation system equipped with outdoor air ducts and intake(s) for ventilation air and with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads.	**3**

(~~2~~3)	Supply air ~~fan(s) ready for continuous operation and with appropriately labeled controls~~ ventilation system	**3**
(4)	supply air ventilation system equipped with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads	**5**
(~~2~~5)	balanced air ventilation system with exhaust and supply fan(s) with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building	**6**
(~~3~~6)	heat-recovery ventilator	**7**
(7)	balanced air ventilation system with exhaust and supply fan(s) with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads, and with intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back in to the building	**8**
(~~4~~8)	energy-recovery ventilator	**8**

APPENDIX B

WHOLE DWELLING~~BUILDING~~VENTILATION SYSTEM SPECIFICATIONS

B100
SCOPE AND APPLICABILITY

B101.1 Applicability of Appendix B. Appendix B is part of this Standard.

B101.2 Scope. The provisions contained in Appendix B provide the specifications necessary for complying with Section 902.2.1 for the installation of whole dwelling ~~building~~ ventilation systems. To receive points for implementing Practice 902.2.1 or 11.902.1, the chosen whole dwelling ~~building~~ ventilation system is to be in accordance with the applicable specifications of Appendix B.

Exceptions:

Whole-dwelling ventilation systems complying with ASHRAE 62.2 -2016, *Ventilation and Acceptable Indoor Air Quality in Residential,* Sections 4 (except 4.3), 6 (except 6.3-6.6), 7 (except 7.2) and Appendix C shall also be deemed in compliance with Appendix B.

Multifamily buildings four or more stories in height complying with ICC IMC Section 403 shall also be deemed in compliance with Appendix B.

B101.3 Acknowledgment. Portions of t~~T~~he text of Appendix B, Section B200 and related Tables are extracted from ICC IRC and, ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) Standard 62.2 *Ventilation and Acceptable Indoor Air Quality in ~~Low-Rise~~ Residential Buildings*, Section 4, and is used with the permission of ICC and ASHRAE. The referenced Section and Table numbers within the extracted text are modified to be applicable to Appendix B of this Standard. "*" indicates added reference to ICC or ASHRAE 62.2 to provide clarity.

B200
WHOLE-BUILDING VENTILATION

	B201.1 Mechanical Ventilation Rate. A whole-dwelling mechanical ventilation system shall provide outdoor air at a continuous rate of not less than that determined in accordance with ~~A mechanical exhaust system, supply system, or combination thereof shall be installed for each dwelling unit to provide whole~~ dwelling ~~building ventilation with outdoor air each hour at no less than the rate specified in~~ Tables B201.1a and B201.1b or, equivalently, Equations B201.1a and B201.1b, based on the floor area of the conditioned space and number of bedrooms. **Exceptions:** The whole-dwelling mechanical ventilation system is permitted to operate intermittently where the system has controls that enable operation for not less than 25-percent of each 4-hour segment and the average ventilation rate ~~averages the rate~~ during each 4-hour segment meets or exceeds the continuous ventilation rate prescribed in Tables B201.1(1a) and B201.1(1b) or, equivalently, Equations B201.1a and B201.1b~~Whole-building mechanical systems are not required provided that at least one of the following conditions is met:~~ ~~**(a)** the building has no mechanical cooling and is in zone 1 or 2 of the ICC* IECC Climate Zone Map (see ASHRAE 62.2*, Figure 8.2), or~~ ~~**(b)** the building is thermally conditioned for human occupancy for less than 876 hours per year,~~
Reason:	Through error or oversight the changes that composed the compromise Ventilation proposal that was unanimously approved by the IAQ task group (LogID 6563) were incorporated into Chapter 12 but not Chapter 9 or 11. This proposal was a big improvement to the Standard and as such need to be addressed through the public comment.
Substantiating Documents:	No
Comment Status:	Held

H15 LogID 6142	**Figure 9 (1) EPA Map of Radon Zones**
Submitter:	Josh Hanson, self
Comment:	Move to the appendices/ references in the back of the standard.
Reason:	This figure has always seemed out of place. It should live in the back of the standard with the other appendices/references. You look at the back of a manual or standard to reference something, not the back of a chapter.
Substantiating Documents:	No
Comment Status:	Held

H16 LogID 6151	**11.703.1 Mandatory Practices**
Submitter:	Josh Hanson, self
	Add a section in for Multifamily Buildings 4 stories and up for Electric Air-Conditioning and Heat Pump Cooling. See Section 703
Reason:	Looking at this pathway, it explicitly calls out that MF building 4 stories and up are either getting points or excluded from points. Points should be available for both low and midrise, especially if you want to open the door for more to pursue NGBS certification
Substantiating Documents:	No

Comment Status:	Held

H17 LogID 6051	**11.503.5 Landscape Plan**
Submitter:	Gerald Coons, Greenscapes Alliance
Comment:	11.503.5 (6) *Section 11.503.5 (6)should be removed in its entirety.* ~~**(56)** 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:	Section 11.503.5 (6) - We strongly disagree with the allocation of points based on limitations of the use of turfgrass. There is no scientific or logical justification for this section targeting one plant species. In addition, this limits flexibility of the landscape designer to provide the most effective and efficient landscape design for the site. This assignment of points is duplicative of requirements already in place where points are provided for the use of the EPA WaterSense Water Budget Tool. This code applies to residential construction which will include areas for recreation, children's play, pet exercise, family functions and other outdoor uses. Turfgrass is an important element of landscape design to meet these important services. This is also inconsistent with the potential use of turfgrass to comply with numerous sections of the ICC 700 where turfgrass is a proven and effective method for compliance. Turfgrass is helpful in compliance with sections: 11.503.1 (8) 11.503.2 (4) 11.503.4 (2); (3); (4) 11.503.5 (2) 11.504.3 (6) 11.505.10 (a); (b); (c) 11.602.4.3
Substantiating Documents:	No
Comment Status:	Held
Modification of Comment:	
CC Reason:	

H18 LogID 6155	**11.705.6.1 (1) Third-party on-site inspection…**
Submitter:	Josh Hanson, self
Comment:	Ducts are installed <u>and sealed</u> in accordance with the ICC IRC ~~or~~<u>,</u> IMC <u>or IECC</u> ~~and ducts are sealed.~~
Reason:	Need to include the IECC as an option for duct sealing as it explicitly calls out requirements for it.
Substantiating Documents:	No
Comment Status:	Held

H19 LogID 6312	**Chapter 11's tables and figures**
Submitter:	Craig Conner, self
Comment:	Wherever this Chapter is duplicating another table or figure, make it a simple reference to the original table or figure.
Reason:	The size of the NGBS continues to grow, but bigger isn't necessarily better. Users of NGBS are put off by its size. Remodeling is by far the largest chapter, which makes it look overwhelming. The chapter could be reduced significantly by simply referencing the tables and figures it duplicates. Leaving multiple copies of the same table in the NGBS will make future changes harder because one should make consistent changes in all copies of the same table.
Substantiating Documents:	No
Comment Status:	Held

H20 LogID 6295	1205.8 Whole Dwelling Ventilation
Submitter:	Aaron Gary, self
Comment:	

902.2.1 One of the following whole ~~building~~ dwelling 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.		**Mandatory where the maximum air infiltration rate is less than 5.0 ACH50**
(1)	exhaust air ~~or supply fan(s)~~ ventilation system equipped with outdoor air ducts and intake(s) for ventilation air ~~ready for continuous operation and with appropriately labeled controls~~	**~~3~~1**
(2)	exhaust air ventilation system equipped with outdoor air ducts and intake(s) for ventilation air and with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads.	**3**
(~~2~~3)	Supply air ~~fan(s) ready for continuous operation and with appropriately labeled controls~~ ventilation system	**3**
(4)	supply air ventilation system equipped with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads	**5**
(~~2~~5)	balanced air ventilation system with exhaust and supply fan(s) with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building	**6**
(~~3~~6)	heat-recovery ventilator	**7**
(7)	balanced air ventilation system with exhaust and supply fan(s) with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads, and with intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back in to the building	**8**
(~~4~~8)	energy-recovery ventilator	**8**
(9)	Ventilation air is preconditioned by a system not specified above.	

11.902.2 Building ventilation systems

11.902.2.1 One of the following whole ~~building~~ dwelling 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 11.1001.1 or 11.1002.2.		**Mandatory where the maximum air infiltration rate is less than 5.0 ACH50**
(1)	exhaust air ~~or supply fan(s)~~ ventilation system equipped with outdoor air ducts and intake(s) for ventilation air ~~ready for continuous operation and with appropriately labeled controls~~	**~~3~~1**

(2)	exhaust air ventilation system equipped with outdoor air ducts and intake(s) for ventilation air and with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads.	**3**
(~~2~~3)	Supply air ~~fan(s) ready for continuous operation and with appropriately labeled controls~~ ventilation system	**3**
(4)	supply air ventilation system equipped with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads	**5**
(~~2~~5)	balanced air ventilation system with exhaust and supply fan(s) with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building	**6**
(~~3~~6)	heat-recovery ventilator	**7**
(7)	balanced air ventilation system with exhaust and supply fan(s) with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads, and with intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back in to the building	**8**
(~~4~~8)	energy-recovery ventilator	**8**
(9)	Ventilation air is preconditioned by a system not specified above.	

1205.8 Whole Dwelling Ventilation. One of the following whole dwelling ventilation systems shall be implemented and shall be in accordance with the specifications of Appendix B. An explanation of the operation and importance of the ventilation system shall be included in the homeowner's manual practice.
(1) exhaust air ventilation system equipped with outdoor air ducts and intake(s) for ventilation air
(2) exhaust air ventilation system equipped with outdoor air ducts and intake(s) for ventilation air and with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads
(3) Supply air ventilation system
(4) supply air ventilation system equipped with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads
(5) balanced air ventilation system with exhaust and supply fan(s) with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building
(6) heat-recovery ventilator
(7) balanced air ventilation system with exhaust and supply fan(s) with automatic ventilation controls to limit ventilation air during periods of extreme temperature, extreme humidity and/or during times of peak utility loads, and with intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back in to the building
(8) energy-recovery ventilator
(9) Ventilation air is preconditioned by a system not specified above.

Reason:	Aligns the language in Chapter 9, 11, and 12 Whole-building/dwelling ventilation system sections

Substantiating Documents:	No
Comment Status:	Held

H21 LogID 6305	**13.107.8.1 Building Ventilation**
Submitter:	Aaron Gary, self
Comment:	**902.2.1** One of the following whole building ventilation systems is implemented and is in accordance with the specifications of Appendix B Chapter 4 of the ICC IMC or ASHRAE 62.2.and an explanation of the operation and importance of the ventilation system is included in either 1001.1 or 1002.2. 13.107.8.1 Building Ventilation. Ventilation shall be provided to non-residential spaces in accordance with Chapter 4 of the ICC IMC or ASHRAE62.1

ASHRAE		*American Society of Heating, Refrigeration,* *Air-conditioning Engineers* *1791 Tullie Circle, N.E.* *Atlanta, GA 30329* *www.ashrae.org*	*(800) 527-4723*
ASHRAE 62.1	2016	Ventilation for Acceptable Indoor Air Quality	
ASHRAE 62.2	2016	Ventilation and Acceptable Indoor Air Quality for Residential Buildings	

Reason:	The ventilation requirements of NGBS 2020 are very disjointed. The ventilation requirements for Commercial spaces are the 2018 IMC or 62.1-2016 (13.107.8.1 Building Ventilation). The ventilation requirements for residential spaces are 62.2-2010 (Appendix B). The ventilation requirements for common spaces are undefined. The proposal that fixed these issues was disapproved despite unanimous support due to error or oversight. This change at least brings the ventilation requirements into alignments throughout the building.
Substantiating Documents:	No
Comment Status:	Held

H22 LogID 6185	**1402 – Referenced Documents**
Submitter:	Josh Hanson, self
Comment:	Add ASHARE 62.2-2016.
Reason:	There is already a reference to 62.1-2016. And with this being the 2020 edition of this standard it would make sense to reference 62.2-2016 vs 2007 or 2010 as these will be 12-13 and 8-9 years old respectively.
Substantiating Documents:	No
Comment Status:	Held

H23 LogID 6186	**1402 – Referenced Documents**
Submitter:	Josh Hanson, self
Comment:	Update to reflect 2018 REScheck and COMcheck and the appropriate version.
Reason:	The standard currently references 2015 RES and COmchecks.
Substantiating Documents:	No

Comment Status:	Held

H24 LogID 6187	**1402 – Referenced Documents**
Submitter:	Josh Hanson, self
Comment:	~~FSC-STD-01-001~~ ~~(Version 4-0) EN~~ ~~2013 FSC Principles and Criteria for Forest~~ ~~Stewardship v5~~ FSC STD-01-011 (Version 5-0)EN - FSC Principles and Criteria for Forest Stewardship
Reason:	Updated the reference to the current version of the compliance manual for FSC.
Substantiating Documents:	No
Comment Status:	Held

H25 LogID 6188	**B200 WHOLE-BUILDING VENTILATION**
Submitter:	Josh Hanson, self
Comment:	Which ventilation standard is being used, I see that 62.2 has been referenced twice pointing to two versions 2007 and 2010. Since we are referencing 62.1-2016 this section should be updated and reference 62.2-2016.
Reason:	This program should follow the most current versions of ASHRAE 62.2 since we will be in line with 2018 IECC and 62.1-2016 we should be inline with 62.2-2016.
Substantiating Documents:	No
Comment Status:	Held

H26 LogID 6126	**703.4.3 Ductwork is in accordance..**
Submitter:	Josh Hanson, self
Comment:	~~(No points awarded for multifamily buildings four or more stories in height.)~~
Reason:	Again, the more you alienate taller multifamily buildings, the less they are going to use this path let alone NGBS. ***Secretariat Note: The Public Comment was held by the Consensus Committee at the Feb 2019 meeting. The comment proposed change to a section of the Draft Standard that was not changed during the development of the 2020 NGBS. The comment was previously designated as PC121.***
Substantiating Documents:	No
Comment Status:	Held