



Agenda
Planning Commission Meeting
Wednesday, April 27, 2016
City Hall Council Chamber | 505 Swift Boulevard

Commission Members: Chair Madsen, Vice-Chair Boring and Commissioners Clark, Wise, Palmer, Wallner and Berkowitz

Liaisons: Council Liaison Lemley and Alternate Council Liaison Luzzo Gilmour
Staff Liaison Development Services Manager Simon

Regular Meeting - 7:00 p.m. (City Hall Council Chamber)

Welcome and Roll Call

Approval of Agenda: (Approved by Motion)

Approval of Minutes: (Approved by Motion)

Draft Minutes from the March 23, 2016 Regular Planning Commission Meeting

Public Comments:

Public Hearing Explanation:

Unfinished Business - Public Hearing:

New Business – Public Hearing:

- I. Consideration of Proposed Amendments to the Land Use and Development Regulations Governing the Badger Mountain South Master Planned Community

Communications:

Adjournment

The next Planning Commission Workshop is May 11, 2016

The next Planning Commission Meeting is May 25, 2016

This Meeting is broadcast live on CityView Channel 192 and online at CI.RICHLAND.WA.US/CITYVIEW

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PLANNING COMMISSION AGENDA ITEM COVERSHEET

Meeting Date: 04/27/2016

Agenda Category: Approval of Minutes

Prepared By: Rick Simon, Development Services Manager

Subject:

Draft Minutes from the March 23, 2016 Regular Planning Commission Meeting

Request:

Key I - Financial Stability & Operational Effectiveness

Recommended Motion:

Approve the minutes of the Planning Commission meeting held on March 23, 2016

Summary:

None.

Attachments:

1. Draft Minutes 3-23-16



MINUTES
PLANNING COMMISSION MEETING
City Hall – 550 Swift Boulevard – Council Chamber
WEDNESDAY, March 23, 2016
7:00 PM

Call to Order:

Chair Madsen called the meeting to order at 7:00 PM.

Attendance:

Present: Commissioners, Boring, Clark, Palmer, Wise, Vice-Chair Wallner and Chair Madsen; Commissioner Berkowitz was excused. Also present were Block Grant Coordinator, Michelle Burden, Development Services Manager Rick Simon and Recorder Pam Bykonen.

Approval of Agenda:

Chair Madsen presented the March 23, 2016 meeting agenda for approval.

The March 23, 2016 meeting agenda was approved as presented.

Approval of Minutes

Chairman Madsen presented the meeting minutes of the February 24, 2016 meeting for approval. Chairman Madsen noted a correction regarding Commissioner Boring incorrectly listed as absent and excused.

A motion was made by Commissioner Boring and seconded by Vice-Chairman Wallner to approve the meeting minutes of the February 24, 2016 meeting as amended.

The motion carried unanimously.

Public Comment

Chairman Madsen asked if any members of the public would like to comment on an item not on the agenda. Seeing none, he closed this portion of the meeting.

PUBLIC HEARING

New Business

- 1. 2015 CDBG/HOME CONSOLIDATED ANNUAL PERFORMANCE AND EVALUATION REPORT (Public Hearing)**

Chairman Madsen opened the Public Hearing at 7:06.

Ms. Burden gave an overview of the Consolidated Annual Performance and Evaluation Report (CAPER) which is submitted to HUD each year. The public hearing marked the beginning of the 15-day comment period required prior to the submission.

Chairman Madsen closed the Public Hearing at 7:16.

2. REALLOCATION OF 2015 CDBG FUNDS TO LUTHER SR. CENTER

Public Hearing opened at 7:21

Ms. Burden provided a summary of the requirements of HUD to spend program income in the amount of \$106,000. She answered questions of the commission regarding what other entities would be eligible for funds and explained the urgency of spending the funds in a timely manner so to avoid impacting future grant funds from HUD.

The public hearing was closed at 7:30 p.m.

A motion was made by Commissioner Clark and seconded by Commissioner Wise to recommend City Council approve the reallocation of CDBG 2015 program income in the amount of \$106,000 to Luther Sr. Center.

The motion carried 6-0.

3. TEXT AMENDMENTS TO RMC 23.22.020 – BUFFER STANDARDS FOR C-1 NEIGHBORHOOD RETAIL ZONING (Z2016-101)

Mr. Simon provided a summary of the proposed zoning code amendment that would establish specific buffer standards for C-1 zoned properties that abut single family residential properties.

Chairman Madsen opened the public hearing at 7:33 p.m. and see that no one was present to offer testimony, closed the hearing at 7:33 p.m.

A motion was made by Commissioner Boring and seconded by Commissioner Wallner that the Planning Commission concur with the findings and conclusions set forth in Staff Report Z2016-101 and recommend the City Council adopt the proposed zoning code amendments to Richland Municipal Code Section 23.22.020(B)(7-8).

The motion carried 6-0.

Communications:

Mr. Simon

- Reminded all of the next workshop on April 13th workshop.

Commissioner Wise

- Congratulated 2016 Officers.

Commissioner Palmer

- Noted the 10-Year Anniversary of the Tri-Cities Regional Chamber of Commerce.

ADJOURNMENT:

The March 23, 2016 Richland Planning Commission Regular Meeting was adjourned at 7:40 PM.

PREPARED BY: Pam Bykonen, Recorder, Planning and Development

REVIEWED BY:

Rick Simon, Secretary
Richland Planning Commission



PLANNING COMMISSION AGENDA ITEM COVERSHEET

Meeting Date: 04/27/2016

Agenda Category: New Business – Public Hearing

Prepared By: Rick Simon, Development Services Manager

Subject:

Consideration of Proposed Amendments to the Land Use and Development Regulations Governing the Badger Mountain South Master Planned Community

Request:

Recommended Motion:

I move that the Planning Commission concur with the findings and conclusions set forth in Staff Report Z2016-102 and recommend to the City Council adoption of the proposed amendments to the Badger Mountain South Land Use & Development Regulations, as set forth in the draft document.

Summary:

Nor Am Investment, LLC, the developer of the Badger Mountain South Master Planned Community is proposing some minor amendments to the Land Use and Development Regulations that govern the development of this community. Please refer to the attached staff report and attachments for a complete description of the proposed amendments.

Attachments:

1. Z2016-102 Staff Report
2. Proposed Sustainability Amendment
3. Proposed Garage Setback Amendment
4. Proposed Fencing Amendment
5. Built Green Checklist
6. Energy Star Checklist

STAFF REPORT

TO: PLANNING COMMISSION
FILE NO.: Z2016-102

PREPARED BY: RICK SIMON
MEETING DATE: APRIL 27, 2016

GENERAL INFORMATION:

APPLICANT: NOR AM INVESTMENT, LLC

REQUEST: TEXT AMENDMENTS TO THE LAND USE & DEVELOPMENT REGULATIONS FOR THE BADGER MOUNTAIN SOUTH MASTER PLANNED COMMUNITY.

LOCATION: BADGER MOUNTAIN SOUTH, GENERALLY LOCATED SOUTH OF BADGER MOUNTAIN, EAST OF DALLAS ROAD AND NORTH OF REATA ROAD.

REASON FOR REQUEST

Nor Am Investment, LLC, the owners of the Badger Mountain South master planned community have identified three amendments to the Land Use and Development Regulations (LUDR) that would enhance their ability to develop the master planned community in a fashion that is consistent with local market demands.

FINDINGS AND CONCLUSIONS

Staff has completed its review of the proposed zoning amendments to the Badger Mountain South Land Use and Development Regulations (Z2016-102) and submits that:

- 1) The City adopted the Badger Mountain Subarea Plan on September 7, 2010, which includes a detailed master planned community known as "Badger Mountain South".
- 2) The Badger Mountain South master plan includes a finer level of detail than other City planning documents. To fully implement the plan, a more detailed development regulation was needed. Nor Am Investment drafted the Land Use and Development Regulation (LUDR) which was adopted by the City to fully implement the Badger Mountain South master plan.
- 3) The purpose of the LUDR is to:
 - a) Establish neighborhoods with a range of housing styles and types to accommodate a population of diverse ages and incomes;
 - b) Promote health benefits of a walkable, pedestrian environment;
 - c) Establish mixed-use neighborhoods where daily activities can occur within walking distance of most homes;
 - d) Reduce traffic and congestion by creating a traditional neighborhood development street grid;
 - e) Improve the character and quality of the built environment;

- f) Promote building and landscape design that conserve energy, water and other resources;
 - g) Promote lot and block orientation that accommodates passive solar capture; and
 - h) Conserve areas for parks, trails and open spaces by established a connected open space network.
- 4) The LUDR was originally adopted by the City on December 7, 2010, was amended on June 19, 2012, on April 15, 2014 and March 3, 2015 and has been used to regulate the development within the Badger Mountain South community.
 - 5) The initial development of the site included a 156 lot residential subdivision known as West Vineyards, which was recorded on April 2, 2013. Veneto Villaggio, a 40 lot commercial binding site plan was recorded in 2014.
 - 6) Prior to the residential and commercial platting activity, Badger Mountain South needed to extend utility services to the site, including construction of over 2.5 miles of sewer main, a similar length of water main along with the construction of a million gallon domestic water reservoir.
 - 7) As of April 1st, a total of 45 building permits for single family residences and 1 commercial building (Country Mercantile) have been issued within the Badger Mountain South Master Planned Community.
 - 8) Given the large capital investments made by Badger Mountain South, a faster rate of development is needed in order for the master planned community to be successful.
 - 9) The slow market absorption of the lots within the plat of West Vineyards is at least in part created by LUDR standards that contribute to higher construction costs and more stringent standards than those that are in place in competing market areas.
 - 10) The proposed changes in the LUDR are designed to provide relief from some of the standards that have increased cost and/or restricted choice in the development of single family residences.
 - 11) Additional review of the LUDR has revealed that there are a number of minor corrections, clarifications and improvements that constitute desirable improvements to the LUDR.
 - 12) The proposed amendments do not impact the overall intent or purpose of the LUDR. Rather, they provide some relief from standards that result in increased cost of development and expand choice.
 - 13) Based on the above findings and conclusions, adoption of the proposed LUDR would be in the best interest of the community of Richland.

RECOMMENDATION

Staff recommends the Planning Commission concur with the findings and conclusions set forth in the Staff Report (Z2016-102) and recommend to the City Council adoption of the proposed amendments to the Badger Mountain South Land Use & Development Regulations, as set forth in the draft document.

ATTACHMENTS

- A. Supplemental Information
- B. Proposed LUDR Text Amendments
- C. Built Green Washington Checklist
- D. Energy Star Certification Program Requirements

ATTACHMENT A
(Z2016-102)

SUPPLEMENTAL INFORMATION

BACKGROUND

The Badger Mountain Subarea Plan was officially adopted by City Council on September 7, 2010. A major part of this subarea plan included the master planned community of Badger Mountain South. The development of a master planned community of this scale, nearly 1,500 acres, is unique to the City of Richland. At completion, with 4,500 to 5,000 dwelling units anticipated, it would be more than double the size of the Horn Rapids community. Given the very detailed master planning that the property owner, Nor Am Investment, has completed for this area, and their specific goals for sustainable development, the City's standard zoning regulations were deemed insufficient to implement this master plan. Consequently, Nor Am proposed and the City adopted an alternative and more highly detailed development regulation to fully implement the plan for this master planned community. This document is referred to the "Land Use Development Regulation" (LUDR).

The LUDR was drafted to implement the very specific vision contained in the Badger Mountain South master plan. In many areas, the LUDR includes standards that are not addressed in the City's standard development regulations.

The LUDR has been in place since December of 2010 and was amended in 2012, 2014 and again in 2015. The LUDR was used as the guide for development of the first residential project within the Badger Mountain South community which is West Vineyards as well as the first commercial project, Veneto Villaggio. Most recently, the LUDR was used in the review and approval of West Village preliminary plat.

The developers have made significant investments through the extension of water and sewer mains to serve the development site and the slow rate of development has created a need for a reassessment of the LUDR standards. LUDR changes to make future development more palatable to the existing market and more affordable are the driving force behind the proposed amendments.

PURPOSE

The LUDR is the City's first form based code and places an emphasis on many smart growth planning principles. It encourages pedestrian activity through the integrated system of pedestrian and bicycle trails throughout the community; it will implement the plan to provide parks, shopping and schools within easy walking distance of every residence; it calls for narrow streets and small lots to slow vehicular traffic and make more efficient use of land; its' overall design encourages public transit; it includes provisions for mixed-use development and standards for building form, design and landscaping; and requires the use of energy conservation measures in the development

of new buildings. Many of these standards are not even addressed at all in City Code, so the complexity of the LUDR far exceeds that of the City's standard development regulations.

The stated purpose of the LUDR (as listed in Chapter 1) is to:

- a) Establish neighborhoods with a range of housing styles and types to accommodate a population of diverse ages and incomes;
- b) Promote health benefits of a walkable, pedestrian environment;
- c) Establish mixed-use neighborhoods where daily activities can occur within walking distance of most homes;
- d) Reduce traffic and congestion by creating a traditional neighborhood development street grid;
- e) Improve the character and quality of the built environment;
- f) Promote building and landscape design that conserve energy, water and other resources;
- g) Promote lot and block orientation that accommodates passive solar capture; and
- h) Conserve areas for parks, trails and open spaces by established a connected open space network.

SUMMARY OF LUDR CHANGES

The three proposed changes to the LUDR are summarized as follows:

- Under Chapter 12 – Sustainability Principles: Removal of the requirement for energy star compliance and modification of the language concerning roof trusses capable of supporting future solar panels.
- Under Chapter 8 - Building Type Standards: Changes to garage standards, allowing garages to be built even with the front façade, instead of being setback a minimum of 4 feet and allowing a third garage bay to be setback 2 feet from the other garage bays, rather than 8 feet.
- Under Chapter 13 – Site Improvement Standards: Changes in fence height requirements to allow for a 6 foot tall fence within the Neighborhood Edge district.

ANALYSIS

Perhaps the most significant proposed amendment relates to the standards associated with energy conservation, with the proposed deletion of the requirement for Energy Star certification. New building construction would still be built in accordance with a green building rating system, such as Built Green or LEED, and Energy Star certification would be added to the list of green building rating systems that a home builder can choose from. But Energy Star certification would no longer be independently required, given the costs associated with the certification process. Some homebuilders within the Badger Mountain South community have indicated that the additional cost of Energy Star compliance puts them at a competitive disadvantage with other homebuilders who

are not required to meet these standards. Construction costs with the Badger Mountain South community are also increased by the requirement that all homes include fire sprinkler systems, which is not required of other homes constructed within the City.

The language requiring roof trusses to be designed to support the loads of solar panels has been deleted. Modern solar panels are lightweight enough to be used on rooftops without the need for additional support. The language requiring that conduit be provided for future solar rooftop systems remains in place to ensure that a future solar panel installation can be accomplished easily.

There is some overlap between the Built Green requirements and Energy Star requirements, so deletion of the energy star requirements does not signal a move away from energy conservation principles (see the attached Built Green and Energy Star checklists.) The requirements for hot water heating, provisions for future solar panels, opportunities for geo thermal heating that are available to all homeowners and the Built Green compliance requirement do ensure that energy conservation/sustainability principles still remain an important component of the Badger Mountain South community.

The proposed changes to the garage requirements ease some of the restrictions on garages and provide more flexibility for the placement on garages on smaller lots. The reduction in the required setback of the garages from the front building façade still ensures that some architectural articulation will be provided.

The proposed changes to the fencing height requirement are limited to the Neighborhood Edge district, where the lots are significantly larger and deeper than those lots that are within the central portions of the Badger Mountain South community.

With all the changes proposed, the basic purposes of the LUDR remain intact. The amendments would help to reduce the overall costs of construction and are designed to make the Badger Mountain South community more attractive in the local market place, which is critical to both the developer and the City, given that the master planned community represents a large percentage of the City's potential future growth area.

SUMMARY

The proposed amendments to the LUDR are in keeping with the purposes of the original LUDR document and are necessary to ensure the viability of the Badger Mountain South master planned community.

12.A INTRODUCTION

1. In Badger Mountain South, sustainable development means development that looks to the long-term social and environmental health of the community. It is the key concept to what is unique about this community of homes, businesses, schools and play fields. This section provides sustainability goals for Badger Mountain South.
2. The standards and requirements of previous sections of the LUDR relate to the concept of sustainability through the following ways:

a. **Compact Design**

Compact design is a recognized element of sustainable development because it allows a reduction of infrastructure, yields a higher proportion of contiguous preserved open space, facilitates transit use, and is more conducive to walking.

b. **Mix of Uses**

Permitting a mix of land uses in close proximity creates attractive places to live, provides employment, business and shopping opportunities in close proximity to residences, and encourages alternatives to driving.

c. **Connectivity**

Connected open space in Badger Mountain South will provide over 300 acres of parks, trails, and open space connecting neighborhoods, schools, and businesses.

d. **Walkability**

Each neighborhood in Badger Mountain South is designed to create multiple destinations within a five-minute walk. The street and trail network provides safe accommodations for pedestrians and easy access to (proposed) neighborhood schools.

e. **Housing Choice**

Badger Mountain South will provide a range of housing types and affordability levels to accommodate most any household and to facilitate the creation of intergenerational neighborhoods.

f. **Transportation Choice**

The street and trail network will provide multiple ways into the community for vehicles, bicyclists, pedestrians and transit. As build out occurs, transit expansion will likely follow.
3. In this section of the LUDR, more specific direction is provided to address energy and other resource conservation through standards that apply to all buildings and sites. These standards are guided by sustainability principles which follow. At their best, sustainability principles, when applied as standards to the built environment, reconnect people to their community and provide attainable performance targets without limiting innovation.
4. National, sustainable design certifications, including but not limited to, Energy Star, Built Green and LEED, are rating systems that provide guidance to developers and builders to help achieve the sustainability intent of the Badger Mountain South community.

12.B SUSTAINABILITY PRINCIPLES

1. **ENERGY:**

a. Promote energy conservation in all aspects of development and life cycle operation.

b. Promote production and use of renewable energy.
2. **WATER:**

a. Promote water conservation in all aspects of development and life cycle operation.

b. Promote re-use, recycling and ground water recharge of rain water and grey water.
3. **TRANSPORTATION:**

a. Promote pedestrian, bicycle and community transit modes of transportation.

b. Promote a compact, walkable and mixed-use pattern of development.
4. **EXTERIOR LIGHTING:**

a. Minimize light trespass from the building and site to achieve:

(1) Energy savings

(2) Night-sky ambience; and

(3) Increased visibility, safety, and security by reducing glare.
5. **RECYCLING:**

a. Promote reduction in waste during development and life cycle operation.

b. Promote reuse of materials during construction.

c. Promote recycling of materials during development and life cycle operation.
6. **HEALTHY LIFESTYLE:**

a. Promote an active, healthy lifestyle by connecting areas of activity with non-motorized means of circulation.

b. Promote opportunities for active recreation through community-wide trail system as well as provisions for parks and play areas in each neighborhood.
7. **BUILDING MATERIALS:**

a. Choose building materials and systems that:

(1) Protect and promote indoor air quality;

(2) Contain recycled content, or can be recycled;

(3) Are extracted, processed, and manufactured regionally;

(4) Utilize renewable, salvaged, or FSC Certified materials
8. **URBAN AGRICULTURE:**

a. Promote opportunities for community gardening within each neighborhood.

12.C COMMON STANDARDS



Illustrative Photo: Walkable and Sustainable Community

The following Common Standards are applicable to all development within Badger Mountain South. Refer to Section 12.D and 12.E for additional standards specific to use or to District.

1. **ENERGY**

a. ~~Achieve Energy Star compliance applicable for the year of construction.~~

b. Include passive and/or active means of allowing for both solar gain where used for passive solar heating as well as sun protection from unwanted solar heat gain.

c. Include building space, conduits and roof support for future addition of solar hot water or photovoltaic systems on every building. When provided, the use of geo-thermal may substitute for any of the above requirements. Geo-thermal wells and realated infrastructure is permitted in all setback areas.
2. **GREEN BUILDING COMPLIANCE**

a. Achieve the minimum level for one of the following green building rating systems or their equivalent:

(1) Built Green – as promoted by the local building trade organization

(2) LEED – as promoted the U.S. Green Building Council (www.usgbc.org)

(3) Green Globes – as promoted by the Green Building Initiative (www.thegbi.com)

(4) National Green Building Standards – 2008 (www.nahbgreen.org) for residential only
3. **EXTERIOR LIGHTING**

Goals: Nighttime building illumination should reinforce prominent building design elements yet avoid off-site lighting and night sky pollution. Technologies to reduce light pollution include full cutoff luminaires, low-reflectance, and low-angle spotlights. Computer modeling of commercial project’s site lighting is encouraged.

a. For all buildings except Low Rise Residential (under four stories):

(1) Submit a Lighting Plan, depicted on the site plan, for all projects with four or more exterior fixtures. The



Illustrative Photo: Sustainable Community

- Lighting Plan must include all elements as found in the Glossary for “Lighting Plan”.
- (2) Lighting power densities must not exceed ANSI/ASHRAE/IESNA Standard 90.1-2010.
- (3) Meet exterior lighting control requirements from ANSI/ASHRAE/IESNA Standard 90.1 - 2010.
- (4) Follow all the requirements that applies to the development proposed as found in ANSI/ASHRAE/IESNA Standard 90.1 - 2010.
- b. For all Low Rise Residential Buildings (under four stories):

(1) Lighting fixtures shall have translucent covers that eliminate glare and have full cutoff features/shielding to prevent direct light from the fixture to shine beyond the property limits where the fixture is installed.

(2) Lights of less than 15 watts used for holiday decoration are exempt.

(3) Lighting for U.S. flags intended to be properly displayed at night is exempt.

4. **REACH CODES**

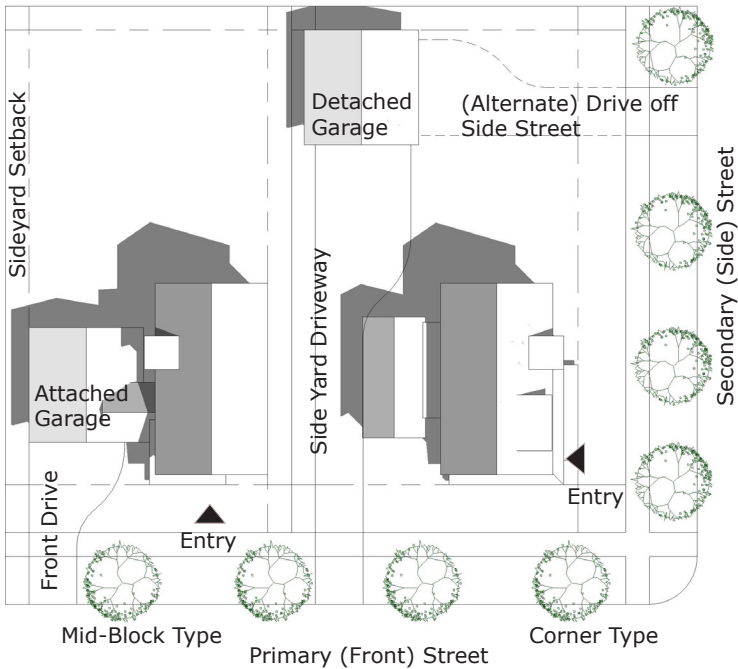
a. Projects that achieve Passive House Certification shall be deemed compliant with the energy conservation requirement.

b. Projects that achieve Living Building Challenge shall be deemed compliant with both the energy conservation requirement, and the green building requirement.
5. **RECOMMENDED ELEMENTS (NOT REQUIRED)**

a. Solar Hot Water system

b. Photovoltaic system

c. LEED Platinum



Illustrative Plan Diagram

1. TYPE DESCRIPTION

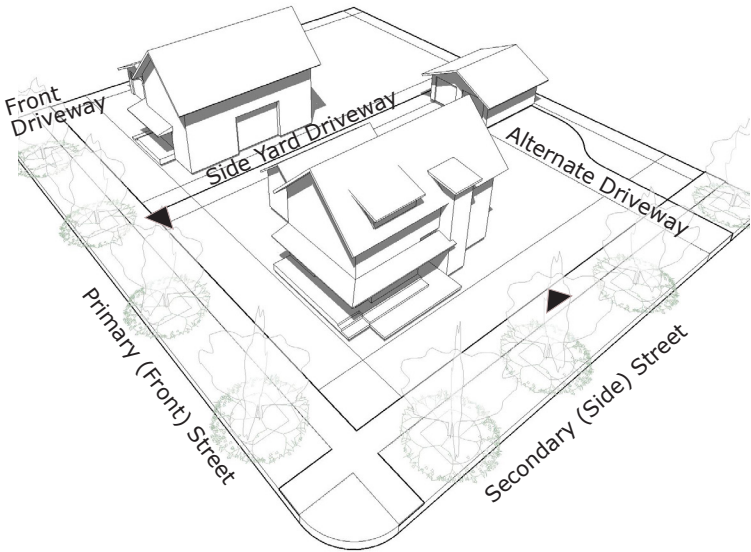
The Single-Family House - Street Access Building Type is a structure that accommodates one primary residence. Garages are accessed from the street by a side yard or front driveway. This type cannot be used if a rear Alley is provided. Home Occupations may also be allowed per District standards. A variety of lot sizes will allow for a diverse range of Single-Family homes in order to respond to the needs of different households, house sizes, and affordable levels.

2. APPLICABLE DISTRICTS

- a. Neighborhood General (BMS-NG) (3.D)
- b. Neighborhood Edge (BMS-NE) (3.E)

3. STREETScape

- a. Street Access Houses require a design and layout that lessens the visual impact of the garages from the street. The preferred solution is the side yard driveway.
- b. Streetscape diversity is achieved through different models and architectural styles. Each block face shall contain at least three different models. Different models are defined as those with significant variation in floor plan configuration and minor variation in size or number of bedrooms.
- c. Each of the three models must have at least two architectural styles and color schemes. To further differentiate models, vary wall colors and materials.
- d. Not more than two of the same model with the same architectural style can be used on a block face.
- e. Variety in building height is encouraged along a block face.



Illustrative Axonometric Diagram

4. LOT SIZE

- a. Width: Min. 50 ft.
- b. Depth: Minimum 100 ft.
- c. See applicable District Standards in Section 3 for required setbacks and Build-to-Lines.

5. ACCESS

- a. The main entry to the building shall be accessed directly from and face the Primary (Front) Street. Corner buildings may have access on Secondary (Side) Street.
- b. Garages and services shall be accessed from the street in either a side yard driveway or front driveway condition. On corner lots the garage may be accessed from the Secondary (side) Street.
- c. Driveways shall be placed a minimum of 30 ft. apart unless combined into a shared driveway condition.
- d. Services, including utility access, above ground equipment and trash containers shall be located off of the street and screened from view.

6. BUILDING SIZE AND MASSING

- a. Maximum number of stories: 2.5
- b. Height may be increased to 3 stories in the BMS-NE District.
- c. Garages shall be ~~secondary to the front elevation of the house and in no case may the garage be more than 60 percent of the structure facade.~~ no
 - (1) Detached or semi-detached garages shall be set to the rear of the lot with a side yard driveway. Corner lots may have driveway access from the Secondary (side) Street.
 - (2) ~~Attached garages with a front driveway condition shall be setback a minimum of 4 ft. from the front facade, or reduced (1) story minimum in height from the main portion of the house. When otherwise permitted,~~



Illustrative Photo: Side Yard Driveway Access



Illustrative Photo: Front Driveway Garage

- 2' attached garages with a front driveway condition may have three bays when one of the bays is recessed a minimum of 8 ft. from the other garage bays and when a Porch Frontage Type is used with a porch at least 80 sq. ft. in size, (See Section 9.G).
- (3) Attached garages at corner lots may be accessed from the secondary side street, however the Primary (front) Street facing facade shall have articulation and windows, similar to the front facade.
- (4) If an attached garage is setback 16 ft. or more from the main facade of the house, or if the conditions of c(5) below are met, it shall be considered as a side yard driveway condition per 5.c. block face percentage calculation.
- (5) A garage may be part of a front facade when the garage has a side driveway condition. With a side driveway condition, the garage portion of the facade facing the street will feature design elements to match the residence. These elements may include similar window types, an upper story, and/or further architectural articulation complementary to the principal structure.
- d. Refer to Section 3 for additional District-specific building height standards.

7. FRONTAGES

- a. Allowed Frontage Types for Single-Family Houses are:
 - (1) Forecourt (9.E)
 - (1) Porch (9.G)
 - (2) Stoop (9.H)
- b. Refer to Section 9 for Frontage Type definitions and standards.
- c. Refer to Section 3 for applicable District standards for allowed encroachments into required setbacks.

8. LANDSCAPE STANDARDS

- a. The Common standards 11.C and the Single-Family Landscape standards set forth in Section 11.E.1 are applicable to Single-Family Houses.

9. SUSTAINABLE STANDARDS

- a. The Common standards in 12. C and Residential Sustainable standards set forth in Section 12.E are applicable to Single-Family Houses.

10. SITE IMPROVEMENT STANDARDS

- a. The Standards set forth in Section 13 are applicable to Single-Family Houses.

11. PARKING

- a. Residential Parking quantity requirements by District - See Section 3.
- b. Parking may be provided in attached, semi-detached, or detached garages accessed from the street.
- c. Dwellings have direct or indirect access to their garages.
- d. Parking may be provided in Tandem stalls.
- e. Refer to Section 3 for additional District-specific parking standards.

12. ACCESSORY UNITS

- a. Accessory Units are allowed for the Single-Family House - Street Access Building Type. See Section 8.P for Accessory Unit Building Type Standards.

13.A FENCING



Side and Rear Yard Fencing



Wing Fencing with Gate



Front Yard Fencing



Corner Lot Fencing



Iron Fencing



Painted Wood Fencing



Picket Fencing

1. RESIDENTIAL

a. General Considerations

- (1) A fence is defined as a structural or ornamental barrier separating one exterior space from another. The intent is to create good neighbor fences and make alleys people-friendly by allowing homeowners to view activities in the alley.
- (2) The heights or elevations of any wall or fence shall be measured from the finished grade natural elevations of the property at or along the applicable points or lines.
- (3) Cyclone and chain link fences are prohibited. Fences must be constructed of grade #2 (or better) no-hole cedar, masonry, recycled plastic, iron, powder coated steel, or aluminum.

b. Standards

- (1) Side, rear yard, and Alley fences shall be a maximum of 6 ft. in height. All solid or 0% transparent fences shall consist of 60 inches height solid fencing, with an 12 inches height articulation on top of fence, for a maximum total fence height of 6 ft. Articulation shall be a minimum of 50% transparent, composed of the same material as the fence unless otherwise approved by the City. Height shall be measured from the Natural Grade.
- (2) Front fences.
 - i. Any fence extended beyond the front of the house, must not exceed 4 ft. in height.
 - ii. Painting of front fences is allowed when painted to complement the exterior color of the residential structure. Any painted fence must be maintained so as to conform to the standards established for fences.
- (3) No tree, whether in a setback or on private property, shall be used for the attachment or support of any fence or privacy screen.
- (4) Fence company signs may not be affixed to fences.
- (5) Fencing in Courtyard Housing and Cottage Court front yards shall be a maximum of 4 ft. high.
- (6) Hedges may be established as a fence along the front yard or corner lot side yard when the maximum height of the plant materials is maintained at 4 ft. or less.

- (7) When trash receptacles, recycling containers and similar are stored outside of a building or other structure, they must be screened with a sight obscuring fence which matches the style and materials of other fencing on the lot and must be one foot high than the object being screened.
- (12) Enclosed Courtyard Screen.
 - i. A solid or semi-solid partition constructed of the same or similar materials or as approved by the City as the principal structure and either partially or completely surrounding an outdoor living space.
 - ii. May extend into the front yard setback no more than 6 ft. beyond the front facade/front porch of the principal structure, but in no event exceed 40 percent of the width of the lot.
 - iii. Must be decoratively embellished on the exterior when a solid screen is built.
 - iv. Maximum height of 6 ft.

2. COMMERCIAL DISTRICT FENCING AND LANDSCAPE/RETAINING WALLS

a. General Considerations

- (1) Fences and landscape/retaining walls will be reviewed as part of the landscape plan submittal for development applications. A fence is defined as a structural, functional or ornamental barrier separating one exterior space from another.
- (2) The heights or elevations of any wall or fence shall be measured from the finished grade elevations of the property at or along the applicable points or lines.
- (3) No cyclone or chain link fences are allowed except as noted below and except that fence posts may be metal or steel enclosed in wood and as noted below. Freestanding concrete and masonry walls shall be minimum 8 inches thick. Wood shall be painted unless natural cedar or redwood is used. Site wall materials should generally match building materials. Metal and iron fencing shall be configured in predominately vertical elements; all metal surfaces shall be painted.

b. Standards

- (1) Acceptable materials for Fences and Landscape/Retaining Walls are as follows:
 - i. Brick, concrete and stone masonry;
 - ii. Architecturally detailed exposed cast-in-place concrete;
 - iii. Stucco, cement based;
 - iv. Wood pickets, lattice and boards; use #2 or better no-hole cedar;
 - v. Painted wrought iron, powder coated steel, or aluminum;
 - vi. Chain link, for rear property lines in the BMS-SD-DR District only;
- (2) Fences constructed with wood are encouraged to use wood wrapped steel posts.
- (3) All fences shall be 6 ft. in height or less. Wood wrapped steel posts for fences may be higher than 6 ft. Height shall be measured from the Natural Grade.
- (4) No tree, whether in a setback or on private property, shall be used for the attachment or support of any fence or privacy screen.
- (5) Fences along alleys shall be located outside access easement tract.

3. NEIGHBORHOOD STORAGE AREA FENCING

- a. Fencing and Screening Required: Fencing and screening is required around all portions of the lot utilized for the outdoor storage as allowed per Land Use Table, Section 2.C. All fencing and screening shall be installed in accordance with the following requirements:
 - (1) Building setbacks. All Neighborhood Storage Areas must be fenced with a secured, black, vinyl coated chain link fence placed 10 ft. from the front sidewalk, 6 ft. from side property line, 6 ft. from rear property line.
 - (2) Minimum Fence Height. Fencing of outdoor storage areas shall be constructed to a minimum height as follows:
 - i. 6 ft. in height in BMS-NG district.
 - (3) These standards supersede the parking placement standards by District, section 3.
- b. Landscape screening, See 11.C.8 for storage facility screening.

- c. Maintenance Required. Fences, walls and landscaping surrounding outdoor storage areas shall be well maintained and kept free of litter, posters, signs and trash.

4. COMMUNITY STORAGE FACILITY FENCING

- a. Community Storage Facility fencing and screening shall comply with all Neighborhood Storage Area Standards in 13.A.3 except that:
 - (1) Minimum Fence Height. Fencing of outdoor storage areas shall be constructed to a minimum height of 8 ft. tall in the BMS-NC-P Overlay District.

Articulation not required in neighborhood edge lots.

Please indicate:

- ☐ **Preliminary checklist**
(for enrollment)
- ☐ **Final checklist**
(for certification review)

Single-Family/Townhome New Construction Checklist

Builder	
Project Address	
# of Bedrooms	
Unit size in square feet	
House Size Multiplier	#N/A
Comments	#N/A

REQUIRED CREDITS

Category	Possible Points	Credit	Point Totals	Comments
THREE-STAR REQUIREMENTS (300 points minimum)				
	required	3 rd party verification required (See reference)	★	
	required	All ★ items	★	
	required	Conform to the House Size Matrix (Table 0-1)	★	
	required	Meet all applicable codes and regulations	★	
	required	Program Orientation (one time only)	★	
Site & Water	required	Prohibit burying of construction waste	★	
Site & Water	required	Stabilize all construction entrances with quarry spall or crushed rock	★	
IAQ	required	Ensure proper drainage of crawl space	★	
IAQ	required	All spot fans under 110 CFM are 1.5 sones or less	★	
Materials	required	Post and implement a jobsite recycling plan	★	
	required	Provide a building owners manual in accordance with credit 6-1	★	
Energy	required	15% energy use improvement over State Energy Code (2012)	★	
	required	Achieve a minimum of 40 points in each of sections 2-5	★	
FOUR-STAR REQUIREMENTS (400 points minimum)				
	required	Meet 3-Star requirements	★	
	required	Achieve a minimum of 60 points in each of sections 2-5	★	
Site & Water	required	No zinc galvanized ridge caps, copper flashing or copper wires for moss prevention	★	
Site & Water	required	Landscape with plants appropriate for site topography and soil types, emphasizing use of plants with low watering requirements [drought tolerant]	★	
Site & Water	required	Use the most efficient aerator available for kitchen faucets, lavatory faucets and showerheads	★	
Energy	required	Achieve 20% improvement over Washington State Energy code (2012) (See Table 0-2 in Appendix)	★	
IAQ	required	Use low toxic/low VOC paint on all major surfaces	★	
IAQ	required	Ventilate with box fans in windows blowing out during drywall sanding and new wet finish applications	★	
IAQ	required	Use no products that contain added urea formaldehyde for any interior applications	★	
Materials	required	Practice waste prevention and recycling and buy recycled products (Section 5)	★	
Materials	required	Achieve a minimum recycling rate of 50% of waste by weight	★	

FIVE-STAR REQUIREMENTS (600 points minimum)				
	required	Meet 4-Star requirements plus point minimum	★	
	required	Achieve a minimum of 100 points in each of sections 2-5	★	
Site & Water	required	Amend disturbed soil with compost to a depth of 10 to 12 inches to restore soil environmental functions (2-34)	★	
Site & Water	required	Use pervious materials for at least one-third of total area for driveways, walkways, and patios (See action item 2-44)	★	
Site & Water	required	Limit use of turf grass to 25% of landscaped area (2-61)	★	
Site & Water	required	Avoid soil compaction by limiting heavy equipment use to building footprint and construction entrance (2-19)	★	
Site & Water	required	Preserve existing native vegetation as landscaping (2-21)	★	
Site & Water	required	Retain 30% of the trees located on site at the start of construction or, alternatively, achieve a Green Factor score or .6 or higher (2-23)	★	
Energy	required	Pre-wire for future PV installation (3-93)	★	
Energy	required	Achieve 30% improvement over Washington State Energy code (2012)) (See Table 0-2 in Appendix)	★	
IAQ	required	Detached or no garage OR garage air sealed from house with automatic exhaust fan (4-27)	★	
Materials	required	Achieve a minimum recycling rate of 70% of waste by weight	★	
Materials	required	Use a minimum of 10 materials with recycled content	★	

Check items you will be including in this project to qualify for a BUILT GREEN star rating. Version 2012

QUALIFYING CREDITS

Item #	Possible Points	Credit	Comments
SECTION 1: BUILT GREEN TEAM			
1-1	1-10	Use Built Green® member subcontractors, vendors, service providers, and real estate agents	
1-2	5	A. Incorporate Built Green® early in the design by conducting an eco-charrette with the homeowner & team to determine Built Green® features to be included in the home. B. Identify team member roles and how they relate to various phases of green lot design, prep and development C. Create a mission statement that includes the projects goals and objectives	
1-3	1	Provide all documentation/copies to third party verifier electronically	
SECTION 1 TOTAL			0

SECTION 2: SITE & WATER

SITE PROTECTION			
Proximity			
2-1	5	Locate site within one of the Urban Growth Area (UGA) designated areas	
Subtotal			0
Overall			
2-2	5	Build on infill lot to take advantage of existing infrastructure, reduce development of virgin sites	
2-3	5	Build on a greyfield lot	
2-4	5	Build on an EPA-recognized brownfield lot	
2-5	5	An adaptive reuse lot is selected	
2-6	10	Build in a Built Green® development	
2-7	5	Use an alternative foundation system that minimizes volume of foundation material and disturbance to soil and/or to water flow, for at least 50% of the foundation	
2-8	5	Build in a low impact development	
2-9	4	Build in a rural cluster development (RCD)	
Subtotal			0
Lot Design			
2-10	3	Self-conduct a site inventory and assessment	
2-11	5	Complete a natural resources inventory under the direction of qualified professional.	
2-12	5	Conduct a third party review of the site development plan for critical areas and habitat protection (e.g. botanist, arborist, landscape architect)	

2-13	6	Implement a plan to conserve the elements identified by the resource inventory as high priority resources. Create a protection and maintenance plan for priority natural resources/areas during construction		
2-14	2	All tree pruning on site is conducted by or supervised by a Certified Arborist		
2-15	3	Basic training in tree or other natural resource protection is provided for the on-site supervisor.		
		Subtotal	0	
Slope Disturbance				
2-16	6	Long-term erosion effects are reduced through the design and implementation of terracing, retaining walls, landscaping, and restabilization techniques.		
Defensible Space Precautions				
2-17	1-3	Landscape fire buffer around house using native species that are fire resistant		
2-18	3	Reduce fire danger by removing underbrush and unhealthy vegetation on site (perform all measures listed in handbook)		
		Subtotal	0	
Protect Site's Natural Features				
2-19	3	Avoid soil compaction by limiting heavy equipment use to building footprint and construction entrances		
2-20	4	Trenching, significant changes in grade, and compaction of soil and critical root zones in "tree save" areas are avoided		
2-21	3	Preserve existing native vegetation as landscaping		
2-22	3	Take extra precautions to protect trees during construction		
2-23	1-5	Retain trees on site (1 pt per 20% preserved)		
2-24	3	If building near wetlands, shorelines, bluffs, and other critical areas, preserve & protect beyond code or local requirements		
2-25	1-5	Set aside percentage of buildable site to be left undisturbed		
2-26	4	Measures are planned and implemented that will support wildlife habitat		
2-27	5	Previously compromised environmentally sensitive areas are mitigated or restored		
		Subtotal	0	
Protect Natural Processes On-Site				
2-28	6	Natural water and drainage features are preserved and used		
2-29	2	Install and maintain temporary erosion control devices that significantly reduces sediment discharge from the site beyond code requirements		
2-30	1	Use compost to stabilize disturbed slopes		
2-31	3	Stabilize disturbed areas within 14 days that are complete or will be left unworked for greater than 21 days using methods as recommended by the EPA or in the approved storm water pollution prevention plan (SWPPP), where required		
2-32	3	Balance cut and fill, while maintaining original topography		
2-33	4	Limit grading to 15 feet around structures, septic, ground-source heat pump fields, except for driveway access		
2-34	4	Amend disturbed soil with compost or suitable soil amendments to a minimum depth of 10" to restore soil environmental functions		
2-35	2	Replant or donate removed vegetation for immediate reuse		
2-36	2	Use plants donated from another site		
2-37	3	Grind land clearing wood and stumps for reuse		
2-38	5-10	Use a water management system that allows groundwater to recharge on site (5 pts for 50%, 10 pts for 100%)		
		Subtotal	0	
Landscape Plan				
2-39	5	Species and locations for tree planting are identified that will provide summer shading of the dwelling and parking areas to moderate temperatures		
2-40	4	Vegetative wind breaks or channels are designed as appropriate to local conditions		
2-41	1-5	Achieve a Green Factor Score for urban or infill under 1 acre http://www.seattle.gov/dpd/Permits/GreenFactor/		
2-42	3	Plant only trees that when full grown still allow for future solar install on south-side of property		
		Subtotal	0	
Impervious Surfaces				

2-43	1-10	Install vegetated roof system (e.g. green roof) to reduce impervious surface (1 pt per 10% of roof)		
2-44	2-6	Use pervious materials for driveways, parking areas, walkways, and patios (2 pts per 33% pervious achieved)		
		Subtotal	0	
Eliminate Water Pollutants during Construction				
2-45	2	When construction is complete, leave no disturbed areas uncovered or unstabilized		
2-46	1	Do not bury construction waste		
2-47	1	Establish and maintain a single stabilized construction entrance (quarry spall, crushed rock or concrete)		
2-48	3	Preserve and cover topsoil on site for reuse		
2-49	1	Wash out concrete trucks into storage containers, slab, or sub base areas.		
2-50	1	Establish and post clean up procedures for spills to prevent illegal discharges		
2-51	1	Reduce hazardous waste through good jobsite housekeeping		
2-52	3	Produce no hazardous waste		
2-53	3	Construct tire wash, establish and post clean up protocol for tire wash		
2-54	2	Use slow-release organic fertilizers to establish vegetation		
2-55	2	Use less toxic form releasers		
2-56	1	Use non-toxic outdoor materials for landscaping (plastic, non-treated wood)		
2-57	5	Do not clear or grade during wet weather periods		
2-58	2	Do not use zinc galvanized ridge caps, copper flashing, or copper wires for moss prevention		
		Subtotal	0	
Heat Island Mitigation				
2-59	2	Use light colored hardscaping: Horizontal hardscaping materials are installed with a Solar Reflectance Index of 29 or greater for min 50% surface area		
		Subtotal	0	
WATER PROTECTION				
Outdoor Conservation				
2-60	1	Mulch landscape beds with 2 inches of organic mulch		
2-61	3-12	Limit use of turf grass, or use no turf grass (3 pts per 25%)		
2-62	2	Use drought-tolerant grass type		
2-63	2	Landscape with plants appropriate for site topography and soil types, emphasizing use of native plants with low watering requirements (drought-tolerant)		
2-64	5	Plants with similar watering needs are grouped (hydrozoning).		
2-65	4	Pre-plumb for greywater reuse for irrigation		
2-66	5	Install greywater system for irrigation		
2-67	10	Install landscaping that requires no potable water for irrigation whatsoever after initial establishment period (approx. 1 yr), excluding food production		
2-68	1-10	Install rainwater collection system (cistern) for reuse		
2-69	3	Irrigation system is designed by a professional in accordance with EPA WaterSense requirements (or equivalent) and installed in accordance with EPA WaterSense Program or equivalent		
2-70	4	Evapotranspiration- (ET-) based irrigation controller with a rain sensor		
2-71	4	Soil moisture sensor based irrigation controller		
2-72	2	Install a leak detection system with excess water flow shutoff		
2-73	4	An integrated pest management plan to minimize chemical use of pesticides and fertilizers is established		
		Subtotal	0	
Indoor Conservation				
2-74	8	Plumbing system with all plumbing fixture fittings (faucets & showerheads) located such that the volume of the water contained in each pipe run between the water heater and fixture fitting is a maximum of 6 cups (1.42 liters) (86.63 cubic inches) (.38 gallons)		
2-75	2	For bathroom faucets, select fixtures with less than 1.5 GPM		
2-76	1-3	Self-closing valve, motion sensor, metering, or pedal-activated faucet is installed to enable intermittent on/off operation		
2-77	1	For showers, install showerheads with less than 2.0 GPM		
2-78	1	Install at least 1 kitchen faucet with less than 2.0 GPM		

2-79	1-4	Select high-performance low-flush or dual-flush toilets (1.28 gpm) from list in resources. (1 pt per toilet)		
2-80	10	Install composting toilets		
2-81	1-2	Install system to refill toilet with hand-wash water (1 pt per toilet)		
2-82	4	Stub-in plumbing to use greywater or rainwater for indoor reuse		
2-83	8	Install greywater or rainwater system for indoor reuse		
2-84	2	Install a recirculating pump for domestic hot water w/ timer or motion sensor		
2-85	2	Urinal is installed with a flush volume of 0.5 gallons or less		
		Subtotal	0	
Indoor Water Quality				
2-86	3	Provide compost or worm bins instead of a food garbage disposal		
2-87	2	Install a whole house water filter system		
2-88	2	Install water filtration system for consumptive use		
2-89	2	Install a chemical and salt free water softener system		
2-90	1	Separate outdoor water supply prior to filtration		
2-91	1-3	Provide spot water filtration using reverse osmosis or biodegradable carbon filter in kitchen and bathrooms. (1 pt per fixture)		
		Subtotal	0	
ENVIRONMENTAL DESIGN CONCEPTS				
2-92	10	Provide accessory dwelling unit or accessory living quarters		
2-93	2	Maintain clear area to south of house for passive and active solar access		
2-94	3	Provide a covered front porch		
2-95	3	Position garage so it is not in front of house, while minimizing impervious driveway area		
2-96	2-5	Minimize garage size		
2-97	3	Build within ¼ mile of a transit stop		
2-98	1-5	Design to promote and encourage pedestrian-friendly and safe neighborhoods		
2-99	2	Bury utility lines in common trenches		
2-100	5	Utilities are installed using one or more alternative means such as tunneling instead of trenching, use of smaller (low ground pressure) equipment, or geomats to spread the weight of construction equipment, shared utility trenches or easements, and placement of utilities under streets instead of yards.		
2-101	1	Use dark sky compliant fixtures to minimize night glare. (no point allowed if required by local codes)		
2-102	3	Build on a lot that is within 1/2 mile of at least six essential services, (e.g., grocery store, post office, place of worship, community center, daycare center, bank, school, restaurant, medical/dental office, laundromat/dry cleaner, etc)		
2-103	4	Driveways or parking are shared between multiple units		
2-104	3	Proximity to bike amenities within 1 mile		
		Subtotal	0	
Extra Credit for Site and Water				
2-105	1-10	Extra credit for innovation in Site and Water		
SECTION 2 TOTAL			0	

SECTION 3: ENERGY EFFICIENCY

OVERALL				
3-1	1-50	Document a reduction in overall home energy use using approved energy modeling software (1 pt per % improvement over code)		
3-2	50	Build a zero net energy home that draws zero outside power or fuel on a net annual basis (based on modeling)		
ENVELOPE				
Thermal Performance				
3-3	1-40	Document envelope improvements beyond code (component performance approach) (1 pt per % improvement over code)		
3-4	1-40	Document envelope improvements beyond code (prescriptive approach)		
3-5	10	Home is ENERGY STAR® Homes Northwest certified		
3-6	1-2	Install no more than 1% of conditioned floor space of skylights (1 pt), or NO skylights (2 pts)		
3-7	5	Skylights maximum of U-0.20		

3-8	10	All windows w/ maximum of U-0.20		
3-9	3	Design with low window to floor ratio (<12%)		
3-10	5	Install full continuous rigid insulation beyond code beneath any slabs on grade		
3-11	5	Install dense packed cellulose (over 2.5 lbs/inch), or wet-blown cellulose, or blown-in foam or fiberglass BIBS or blown in fiberglass as insulation		
3-12	5	Install frost-protected shallow foundation, minimum R-10 insulation		
3-13	2	Skylight shafts insulated to R-38, covered with GWB, OSB or other rigid sheathing to prevent air movement through the insulation from degrading the insulation value		
3-14	2	Specify and use raised-heel trusses (>= 8in.) or SIPs roof, to allow full insulation over conditioned space		
		Subtotal	0	
Air Sealing				
3-15	3	Airtight drywall approach for framed structures using thermal enclosure checklist		
3-16	5-10	Blower door test results better than 3.5 ACH50 (5 points), 2.5 ACH50 (10 points)		
3-17	3	Use an air barrier on the exterior wall assembly installed per manufacturers guidelines		
		Subtotal	0	
Reduce Thermal Bridging				
3-18	1	Use insulated headers		
3-19	1	Where applicable, use 2-stud instead of 3-stud corners, and fully insulate corners		
3-20	1	Fully insulate at interior/exterior wall intersection by open cavity framing		
3-21	10	Use structural insulated panels (SIPs), insulated concrete forms (ICFs) or straw bale for exterior walls around conditioned space		
3-22	2	Use exterior rigid insulation beyond code		
3-23	3	Use advanced wall framing, 24-inch on-center, w/ double top plate		
3-24	4	Use advanced wall framing—24-in on-center framing, w/ single top plate		
3-25	1	Use drywall stops or clips for backing		
3-26	3	Innovative stick framing to reduce thermal bridging, by methods such as double wall framing and horizontal wall furring		
3-27	10	Free air movement in attic or on site framed roof systems exceeding code by 15%		
3-28	3	Install storm door system with magnetic seal		
		Subtotal	0	
Solar Design Features				
3-29	5	Orient home on site to optimize passive solar strategies		
3-30	5	Passive solar design, basic features installed		
3-31	1-12	Passive solar design, advanced features installed		
3-32	3	Model solar design features using approved modeling software		
3-33	5	Design and implement passive cooling system (no A/C; radiant cooling or passive cooling system)		
		Subtotal	0	
HEATING/COOLING SYSTEM				
Equipment & Distribution				
3-34	1	Centrally locate heating/cooling system to reduce the size of the distribution system		
3-35	1	Provide two properly supported ceiling fan pre-wires		
3-36	1-2	Install properly supported ENERGY STAR® ceiling fans, 1 pt per fan		
3-37	1	Use foil-covered external insulation on metal ducting		
3-38	1	Use advanced sealing of all duct joints using low-toxic mastic		
3-39	2	Third-party duct test results less than 4% loss of conditioned floor area (50 pascals)		
3-40	3	Place all ducts in conditioned space		
3-41	1	Insulate any ducts located in unconditioned space to at least R-11		
3-42	5	Locate heating/cooling equipment inside the conditioned space		
3-43	3	Air handling equipment or return ducts are not located in the garage, unless placed in isolated/air sealed mechanical rooms with an outside air source		
3-44	2	Design the distribution system using ACCA Manual D		

3-45	10	Use ductless distribution system (e.g. hydronic, radiant, ductless minisplits)		
3-46	3	Where appropriate, install furnace fan or pumps with an electrically commutated motor (ECM)		
3-47	1	Locate registers towards center of home rather than at outside walls minimizing ducting and loads on unit		
		Subtotal	0	
Controls				
3-48	3	Select high efficiency heat pumps instead of electric heat ¹ (add, or heat pump with efficiency that exceeds code requirements		
3-49	5	Install a heating system with zonal controls		
		Subtotal	0	
Heat Recovery				
3-50	5	Install a heat recovery ventilator or energy recovery ventilator ¹		
		Subtotal	0	
Heating / Cooling				
3-51	5	Select ENERGY STAR® heating/cooling equipment (not available if claiming under WSEC Table 406.2)		
3-52	2	Install high-efficiency auxiliary heating units, e.g. EPA-approved pellet stove, Russian fireplace, masonry radiant heater		
3-53	2	Properly size HVAC system using ACCA Manual J (do not oversize)		
3-54	2	Use direct vent gas or propane hearth products (AFUE rating)		
3-55	10	Install geothermal heat pumps ¹		
		Subtotal	0	
WATER HEATING				
Distribution				
3-56	1	Locate water heater within 20 pipe feet of highest use		
3-57	1	Insulate all hot water pipes		
3-58	3	Design home with single plumbing wall		
3-59	2	Use 3/8" pipe (PEX) tubing		
3-60	1	Install an on demand hot water recirculation system		
		Subtotal	0	
Drain water Heat Recovery				
3-61	3	Install drain water heat recovery system (DHR)		
		Subtotal	0	
Water Heating				
3-62	2	Install tankless water heater ¹		
3-63	3	Install electric water heater efficiency to EF of .93 or higher (not available if claiming under WSEC Table 406.2)		
3-64	1-5	Upgrade gas or propane water heater efficiency to EF 0.62, 0.83, or 0.90 ¹		
3-65	2	Install water heater inside the heated space (electric, direct vent, or sealed venting only)		
3-66	6	Upgrade electric water heater to exhaust air heat pump water heater or de-superheater: EF 2.0 ¹		
3-67	2	Use indirect water heater for domestic hot water (DHW)		
		Subtotal	0	
LIGHTING				
Natural Light				
3-68	1	Light-colored interior finishes		
3-69	2	Use clerestory for natural lighting		
3-70	2	Use light tubes for natural lighting and to reduce electric lighting		
3-71	1	Create more shared light with glass interior doors and windows		
		Subtotal	0	
Efficient Lighting				
3-72	1	Solar-powered walkway or outdoor area lighting		
3-73	2	Use compact fluorescent bulbs, ballast, or fixtures in three high-use locations (kitchen, porch/outdoors, and one other location)		
3-74	1-5	Install fluorescent- or LED-lighting (1 pt for each 5% of lighting beyond the code required 75%)		
3-75	1-3	Install fluorescents or LED lights on dimmer (1 pt per installed dimmer)		

3-76	1-3	Use interior occupancy sensors, e.g. timers, motions detectors (1 pt per item)		
3-77	1	Install photo cells, timers, motion detectors (exterior)(beyond Energy Code requirements)		
3-78	1	Install LED lighting in high-use location		
3-79	2	Install switches for wall outlets (phantom load switches)		
3-80	5	Install no recessed can lights that penetrate the building's thermal envelope		
		Subtotal	0	
Appliances				
3-81	1	Provide an outdoor clothesline		
3-82	1	Install gas clothes dryer		
3-83	2	Install front loading or ENERGY STAR® washing machine		
3-84	1	Install an ENERGY STAR dishwasher		
3-85	1	Install ENERGY STAR refrigerator		
3-86	1	Install ENERGY STAR exhaust fan vented to outside		
3-87	2	Install induction range		
3-88	3	Install energy monitoring device in home		
		Subtotal	0	
ALTERNATIVE ENERGY				
3-89	2-3	Enroll the residence in the local utility's electricity program for renewable electricity sources		
3-90	2	Pre-pipe for solar water heater		
3-91	10	Solar water heating system sized to provide a minimum of 40% hot water designed energy use ¹		
3-92	1-25	Percentage or all of home powered by renewable energy source (5 pts per kW)		
3-93	4	Provide designated location on south roof area and rough-in conduit for wiring and controls for future solar thermal and photovoltaics		
		Subtotal	0	
Extra Credit for Energy Efficiency				
3-94	1-10	Extra credit for innovation in Energy Efficiency		
SECTION 3 TOTAL			0	
1 Not applicable if claiming under WSEC Table 406.2				

SECTION 4: HEALTH & INDOOR AIR QUALITY

OVERALL				
4-1	4	Interact w/ homeowner early in design/construction process to identify chemical sensitivities and preferred IAQ measures and finishes		
4-2	5	Project team member to have taken American Lung Association (ALA) of Washington "Healthy House Professional Training" course or other IAQ class with 8 hours of curriculum minimum		
4-3	15	Certify the home to a third-party verified program emphasizing indoor air quality (e.g., EPA Indoor airPLUS®, American Lung Association Health House®)		
4-4	3	Design for soundproof area in home		
		Subtotal	0	
JOBSITE OPERATIONS				
4-5	1	Use less-toxic cleaners		
4-6	1	Require workers to use VOC-safe masks when applying VOC containing wet products, and N-95 dust masks when generating dust		
4-7	1-3	Take measures during construction operations to avoid moisture problems later, 1 pt per 4 measures		
4-8	2	Take measures to avoid problems due to construction dust (perform all measures listed in handbook)		
4-9	3	Implement comprehensive dust control plan as described in handbook		
4-10	2	Use moisture meter to ensure moisture levels are 19% or less in walls, 12% or less in floors before closing up, installing drywall, and finish floors		
4-11	3	Ventilate with box fans in windows blowing out during drywall sanding and new wet finish applications		
4-12	2	No use of unvented combustion-type heaters during construction		
4-13	2	Block all duct ports upon installation and no use of ducted HVAC		

4-14	3	Clean duct and furnace thoroughly just before owners/tenants move in		
4-15	2	No smoking inside of any building or within 25 ft. (or more) radius of exterior of any building		
4-16	4-8	Train subs in implementing a healthy building jobsite plan for the project (4 pts) and contractually require compliance (8 pts)		
4-17	2	Implement a "no-idle zone policy" for equipment and vehicles not in active use		
		Subtotal	0	
LAYOUT & MATERIAL SELECTION				
4-18	1	Use pre-finished flooring		
4-19	10	No carpet		
4-20	2	If using carpet, specify products certified by third-party for indoor air quality		
4-21	2	Install low pile or less allergen-attracting carpet and pad		
4-22	1	Install natural fiber carpet (e.g. jute, sisal, wool)		
4-23	3	Limit use of carpet to one-third of home's square footage		
4-24	1	If using carpet, install by dry method		
4-25	3-5	Optimize air quality in family bedrooms to basic (3 pts) or advanced level (5 pts) (see handbook)		
4-26	5	Garage air-sealed from house with automatic exhaust fan		
4-27	10	Detached or no garage		
4-28	2	Fully insulate attached garage to minimize condensation-based mold growth		
4-29	3	Use urea formaldehyde-free insulation or GreenGuard Certified product		
		Inside the house, use only low-VOC, low-toxic, water-based, solvent-free sealers, grouts, mortars, caulks, adhesives, stains, pigments, and additives for:		
4-30	2	Tile and grout		
4-31	2	Framing		
4-32	4	Flooring		
4-33	2	Plumbing		
4-34	2	HVAC		
4-35	2	Insulation		
4-36	2	Drywall		
4-37	2	Use materials without added urea-formaldehyde for finish work, including shelving, window and door trim, and base molding		
4-38	3	Use plywood and composites of exterior grade or with no added urea formaldehyde (for interior use)		
4-39	3	Install cabinets made w/ no-added urea formaldehyde board and low-toxic finish		
4-40	2	Use ceramic tile for 5% or more of flooring		
4-41	3	Use polyethylene piping for plumbing and electrical conduit. No PVC piping		
4-42	3-5	Use low- or non-VOC and non-toxic interior paints and finishes on large surface areas (3 pts) or all interior surfaces (5 pts); 150 flat, < 50 for non-flat		
		Subtotal	0	
MOISTURE CONTROL				
4-43	1	Slope crawlspace and foundation grade toward perimeter for drainage, supply drainage lines out to exterior footing drains, and install polyfilm vapor barrier sealed to stem walls		
4-44	1	Verify seal at doors, windows, and plumbing and electrical penetrations against moisture and air leaks		
4-45	3	Envelope inspection at pre-insulation by a qualified professional		
4-46	2	Slab on grade, upgrade under-slab moisture barrier beyond code to 10 mil minimum; minimum of 10 mil poly in crawl spaces with sealed seams and sealed perimeter		
4-47	1	Install approved ice and water shield membrane for roofs pitched under 4-in-12		
4-48	3	Roof overhangs are at least 24" inches		
4-49	2	Protect windows and doors on tall walls with additional overhang protection		
4-50	2	Use a nontoxic foundation, dampproofing treatment and perimeter drain to protect walls against moisture		
4-51	1	Install a drainable house wrap under exterior siding to promote wall drainage.		
4-52	5	Full exterior drainage plane integrated shingle-style with pan-flashed and face-flashed door and window openings, as designated in EEBA's "Water Management Guide", or equivalent		

4-53	5	Install a sloped sill pan with end dams and back dams for all windows, and back dams for all exterior doors exposed to the weather		
4-54	1	Install metal flashing at all windows and all door heads exposed to the weather		
4-55	3	Hose-test installed windows, before siding, to verify resistance to wind driven rain		
4-56	2	Where not required by code, install working radon type vent system to eliminate potential moisture, methane, and radon problems in crawl space or under slabs on grade		
4-57	1	Install a rigid perforated footing drain at foundation perimeter, not connected to roof drain system		
4-58	3	Show and build moisture management details for below grade walls beyond code, such as dimple drainage mat at exterior face and capillary breaks		
4-59	2	Perform calcium chloride moisture test on all slabs on grade prior to installing any finish flooring in conformance with product warranties		
4-60	3	Have crawl space, attic, and garage building performance tested for disconnection to the living space of house		
4-61	3	Use an unvented or mechanically-exhausted, conditioned crawl space (not appropriate where flood venting is required)		
4-62	4	No plumbing distribution lines in exterior walls		
4-63	4	Implement mold prevention measures such as antimicrobial treatment		
		Subtotal	0	
AIR DISTRIBUTION AND FILTRATION				
4-64	3	Verify performance of ventilation systems; measuring supply and exhaust airflow, checking control activation and damper operation		
4-65	3-5	Install return-air ducts (5 pts) or passive pressure (3 pts) relief strategy in all bedrooms		
4-66	1	Use medium-efficiency pleated filter, MERV 10		
4-67	5	Use high-efficiency pleated filter, MERV 12 or better, or HEPA		
4-68	2	Balance airflow system based on filter being used		
4-69	3	Install central vacuum, exhausted to outside		
4-70	2	Provide for cross ventilation using operable windows		
4-71	2	Install an operable skylight, clerestory or roof monitor (manual or automated) high up in the structure to aid natural ventilation. Use U-factor of 0.45 or below and solar gain co-efficient of 0.35 or below for skylight		
4-72	2	Use ultraviolet light or equivalent new technologies for air purification		
4-73	3	A carbon monoxide (CO) alarm is installed in a central location outside of each separate sleeping area in the immediate vicinity of the bedrooms. the alarm is hardwired with a battery back-up.		
		Subtotal	0	
HVAC EQUIPMENT				
4-74	1	Limit kitchen exhaust fan to 300 CFM maximum		
4-75	2-4	Install timers, humidistat controls, or occupancy sensors for bath and laundry exhaust fans, 2 pts per device		
4-76	1-3	Install quiet (<1.5 sone) bath fan with smooth ducting, minimum 4 inch or employ other quiet ventilation strategy or install ENERGY STAR, or equivalent fan operating =< 1 sone (3 pts)		
4-77	1	Install exhaust fans in rooms where office equipment is used		
4-78	3	Do not install naturally aspirated heating and hot water equipment		
4-79	1	No sound insulation or other fibrous materials installed inside ducting		
4-80	5	Provide balanced or slightly positive indoor pressure using controlled ventilation		
4-81	10	Install whole house radiant heating system (no ducted heating)		
4-82	3	If providing central heating and cooling, install whole house humidification and/or dehumidification		
		Subtotal	0	
INDOOR POLLUTANT CONTROL				
4-83	1	Build a lockable storage closet for hazardous cleaning and maintenance products, separate from occupied space		
4-84	1	Install showerhead filter		
4-85	1	Do not install gas-burning appliances inside house		
4-86	7	Fireplace, woodstoves, pellet stoves, or masonry heaters are not installed in the home		

4-87	2	Design a designated shoe-removal area and storage at primary entrance		
BUILDING ENTRANCE POLLUTANTS CONTROL				
4-88	1	Install exterior grilles or mats		
4-89	1	Install interior grilles or mats		
4-90	1-3	Install floor drain or catch basin with drain under washing machine and/or water heater		
4-91	1	Install moisture alarms under sinks and dishwasher		
		Subtotal	0	
ELECTROMAGNETIC FIELDS				
4-92	2	Wire bedrooms so circuitry can be conveniently shut off at night to eliminate electric fields		
4-93	2	Design sleeping and sitting areas to be at least 12 feet from major appliances		
4-94	1	Use no CFLs		
		Subtotal	0	
Extra Credit for Health and Indoor Air Quality				
4-95	1-10	Extra credit for innovation in health and indoor air quality		
SECTION 4 TOTAL			0	

SECTION 5: MATERIALS EFFICIENCY

Overall Design				
5-1	5-9	Design and build for deconstruction concept		
5-2	2	Use stacked floor plan		
5-3	1	Use standard dimensions in design of structure		
5-4	2	Avoid waste from structural over-design		
		Subtotal	0	
Reduce				
5-5	2	Create detailed take-off and provide as cut list to framer		
5-6	2	Use central cutting area or cut packs		
5-7	2	Use suppliers who offer reusable or recyclable packaging		
		Subtotal	0	
Use Salvaged Materials				
5-8	2	Purchase used building materials for your job		
5-9	1-4	Use salvaged doors		
5-10	1-2	Use salvaged flooring		
5-11	1-2	Use salvaged windows		
5-12	1-2	Use salvaged appliances		
5-13	1-2	Use salvaged fixtures		
5-14	1-2	Use salvaged hardware		
5-15	2	Use salvaged cabinets		
5-16	2	Use salvaged siding		
5-17	2	Use salvaged decking		
5-18	2	Use salvaged trim		
5-19	2	Use salvaged framing lumber		
5-20	1	Reuse spent solvent for cleaning		
		Subtotal	0	
Recycling				
Source-Separated Recycling				
5-21	5	Use deconstruction to dismantle and reuse existing building(s) on site		
5-22	1	Recycle cardboard by source separation, 85% minimum recycling rate		
5-23	3	Recycle metal scraps by source separation, 85% minimum recycling rate		
5-24	5	Recycle clean scrap wood and broken pallets by source separation, 85% minimum recycling rate		
5-25	2	Recycle package wrap and pallet wrap by source separation, 85% minimum recycling rate		
5-26	3	Recycle drywall by source separation, 85% minimum recycling rate		
5-27	2	Recycle concrete/asphalt rubble, masonry materials, or porcelain by source separation, 85% minimum recycling rate		
5-28	1	Recycle paint by source separation, 85% minimum recycling rate		
5-29	4	Recycle asphalt roofing by source separation, 85% minimum recycling rate		

5-30	2	Recycle carpet padding and upholstery foam by source separation, 85% minimum recycling rate		
5-31	1	Recycle glass by source separation, 85% minimum recycling rate		
5-32	3	Recycle land clearing and yard waste, soil, and sod by source separation, 85% minimum recycling rate		
5-33	4	Recycle fluorescent lights and ballasts		
5-34	1	Donate, give away, or sell reusable finish items		
5-35	1	Move leftover materials to next job or provide to owner		
		Subtotal	0	
Commingle Recycling				
5-36	10	Send at least 90% of jobsite waste (by weight, excluding concrete, brick and asphalt) to a commingle recycling facility with a 50% recycling rate		
5-37	18	Send at least 90% of jobsite waste (by weight, excluding concrete) to a commingle recycling facility with a 75% recycling rate		
5-38	24	Send at least 90% of jobsite waste (by weight, excluding concrete) to a commingle recycling facility with a 90% recycling rate		
		Subtotal	0	
DESIGN AND MATERIAL SELECTION				
Overall				
5-39	1-10	Install locally-produced materials (1 pt per item)		
5-40	1-8	Use building salvaged lumber, minimum 200 board feet		
5-41	2-3	Use urban or forest salvaged lumber, minimum 250 board feet		
5-42	3	Use rapidly renewable building materials and products made from plants harvested within a ten-year cycle or shorter in at least 2 substantial applications		
5-43	2	Use environmentally preferable products with third-party certification, such as SCS, GreenGuard, and Floor Score (not applicable to carpet)		
5-44	2	Use recycled-content plastic lumber		
		Subtotal	0	
Framing				
5-45	7	Use dimensional lumber that is third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook, 50% minimum		
5-46	1	Use dimensional lumber that is third-party certified sustainably harvested wood that meets the Tier 2 requirements outlined in the handbook		
5-47	5	Use sheathing that is third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook, 50% minimum		
5-48	1	Use sheathing that is third-party certified sustainably harvested wood that meets the Tier 2 requirements outlined in the handbook		
5-49	5	Use beams that are third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook, 50% minimum		
5-50	1	Use beams that are third-party certified sustainably harvested wood that meets the Tier 2 requirements outlined in the handbook		
5-51	2	Use factory framed wall panels (panelized wall construction), including SIPs and ICFs		
5-52	3	Use truss roof system		
5-53	3	Use engineered structural products and use no dimensional 2xs larger than 2x8, and no 4xs larger than 4x8		
5-54	3	Use finger-jointed framing material (e.g. risers and studs) longitudinal compression loads only		
5-55	3	Use cementitious foam-formed walls with flyash concrete		
		Subtotal	0	
Foundation				
5-56	1	Use regionally produced block		
5-57	3-6	Use flyash or blast furnace slag for 25% by weight of cementitious materials for all concrete (20% for flat work)		
5-58	2	Use recycled concrete, asphalt, or glass cullet for base or fill		
		Subtotal	0	

Doors				
5-59	1	Use doors that are recycled-content or certified as sustainably produced (FSC, CSA Intl., or American Tree Farms System)		
5-60	2	Use domestically-grown and manufactured wood interior doors		
		Subtotal	0	
Finish Floor				
5-61	4	Hardwood flooring from third-party certified, sustainably harvested sources, locally harvested or re-used lumber		
5-62	2	Use recycled-content underlayment products		
5-63	1	Use recycled-content vinyl flooring.		
5-64	4	No vinyl flooring		
5-65	3	On more than 250 square feet, use rapidly renewable flooring products with a ten-year harvest cycle or shorter (excluding carpet)		
5-66	1	Use recycled-content carpet pad		
5-67	3	If installing carpet, use recycled-content or renewed carpet		
5-68	1	Use replaceable carpet tile		
5-69	3	Use 40% recycled-content hard surface tile, 100 square feet minimum		
5-70	3	Use natural linoleum		
5-71	3	Use recycled-content glass, ceramic, or porcelain tile for 10% of total floor area		
5-72	5	Use flooring that is third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook, 50% minimum		
5-73	1	Use flooring that is third-party certified sustainably harvested wood that meets the Tier 2 requirements outlined in the handbook		
5-74	1	Use durable/spot repairable floor finish		
5-75	2	Use concrete slab or sub-floor as a finished floor in living space		
5-76	6	A minimum of 85 percent of installed hard-surface flooring is in accordance with the emission concentration limits of CDPH 01350 as certified by a third-party program, such as the Resilient Floor Covering Institute, or GREENGUARD		
		Subtotal	0	
Interior Walls				
5-77	1	Use drywall with at least 30% recycled-content gypsum		
5-78	2	Use recycled or "reworked" paint and finishes		
5-79	1	Use recycled newspaper or cork expansion joint filler		
5-80	2	Use natural wall finishes, e.g. lime paint, clay		
5-81	2	Reduce interior walls through open plan for kitchen, dining, and living areas		
		Subtotal	0	
Exterior Walls				
5-82	1	Use recycled-content sheathing		
5-83	1	Use siding with reclaimed or at least 15% recycled material on at least 75% of solid wall surface		
5-84	2	No vinyl siding or exterior trim		
5-85	6	Wood siding is 100% FSC-certified or locally harvested or milled		
5-86	2	Use 50-year warranted siding product		
5-87	5	Use wood siding that is third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook, on at least 20% of solid wall surface		
5-88	1	Use wood siding that is third-party certified sustainably harvested wood that meets the Tier 2 requirements outlined in the handbook, on at least 20% of solid wall surface		
5-89	2	Use salvaged masonry brick or block, 50% minimum		
5-90	2	Use regionally-produced stone or brick		
		Subtotal	0	
Windows				
5-91	5	Use wood / fiberglass / finger jointed / composite wood windows		
5-92	1	Use locally-produced windows		
5-93	5	Use wood windows that are third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook		
5-94	1	Use wood windows that are third-party certified sustainably harvested wood that meets the Tier 2 requirements outlined in the handbook		
		Subtotal	0	

Cabinetry and Trim				
		Trim:		
5-95	1	Use regional trim products, 50% minimum		
5-96	3	Use trim that is third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook, 50% minimum		
5-97	1	Use trim that is third-party certified sustainably harvested wood that meets the Tier 2 requirements outlined in the handbook, 50% minimum		
5-98	3	Use finger-jointed or MDF trim with no added urea formaldehyde, 90% minimum		
5-99	1	Use wood veneers that are third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook, 50% minimum		
		Cabinets:		
5-100	2	Use cabinetry made of a rapidly renewable product		
5-101	2	Use regional products, 90% minimum		
5-102	3	Use wood that is third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook, 50% minimum		
5-103	1	Use wood that is third-party certified sustainably harvested wood that meets the Tier 2 requirements outlined in the handbook, 50% minimum		
5-104	3-7	Alternative materials used for cabinetry with low or no VOCs - recycled content stainless steel, solid wood, glass, etc (4 pts) or construction methods - pantry use, open shelves, etc.(3 pts)		
5-105	2-5	Use cabinet casework and shelving constructed of agricultural fiber with no-added urea formaldehyde		
		Countertops:		
5-106	2	Use countertops that are third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook		
5-107	4	Counter tops of concrete, domestic stone, tile with recycled content, recycled paper products and cabinets and countertop underlayment of wheatboard or non-formaldehyde particle board		
		Subtotal	0	
Roof				
5-108	2	Use recycled-content roofing material		
5-109	2	Use 40-year warranted roofing material		
5-110	3	Use 50-year warranted roofing material		
5-111	5	Use solar shingles		
5-112	8	Install a metal, concrete, slate, tile, or clay roof		
5-113	3	Install self-adhering underlayment on eaves, valleys & penetrations		
5-114	3	Install self-adhering underlayment on entire roof		
		Subtotal	0	
Insulation				
5-115	2	All insulation to have a minimum of 40% recycled-content		
5-116	3	Use environmentally friendly foam building products (formaldehyde-free, CFC-free, HCFC-free)		
		Subtotal	0	
Other Exterior				
5-117	2	Use reclaimed or salvaged material for landscaping walls		
5-118	3	Use lumber that is third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook for decking and porches		
5-119	3	Use 100% recycled-content plastic or wood polymer lumber for decks and porches, or third party certified wood products		
5-120	4	Use no-pressure treated lumber		
5-121	1	Use low-toxic pressure-treated wood		
5-122	5-8	B20 biodiesel or better equipment (5 pts for 100% excavation equipment on biodiesel, 1 pt for any additional vehicle frequently on-site)		
		Subtotal	0	
Recycling				

5-123	3	Provide built-in kitchen or utility room recycling center		
5-124	1	Provide garage sorting bins for recyclable materials		
		Subtotal	0	
Universal Design				
5-125	2	Stepless front entry		
5-126	1	Stepless other entry (rear or side door, door from garage)		
5-127	1	Hard-surface stepless grade changes at exterior to allow access to essential maintenance locations, like garbage cans, etc.		
5-128	1	Install exterior accessible hard-surface gathering area. (requires Item 5-127)		
5-129	2	Provide accessible guest bathroom on main floor of home (requires stepless access to house, either 5-127 or 5-128)		
5-130	3	Accessible bathroom with curbless shower, (grab-bar blocking required in all bathrooms)		
5-131	3-5	Locate closets or other spaces directly above each other on all floors that can be used for future elevator installation.		
5-132	3	Minimum door width 2'-10" for all rooms requiring entry (small closets excepted)		
5-133	1-3	Install smart technology (e.g. electronic blinds, programmed environmental controls, etc.) 1 pt per installed item		
5-134	1-3	Install cabinets with removable or slide-away lower doors for roll-up access to kitchen sink, upper cabinets that lower to counter top height for access, etc. 1 pt per feature		
5-135	1-3	Special work and forethought, innovative universal design features, see Homebuilder Guide for more information.		
		Subtotal	0	
Extra Credit for Materials Efficiency				
5-136	1-10	Extra credit for innovation in Materials Efficiency		
SECTION 5 TOTAL			0	

SECTION 6: OPERATION, MAINTENANCE & HOMEOWNER EDUCATION

6-1	3-5	A building owners manual is provided that includes at least 4 of the following: (all 8 items = 5 pts)		
		Information on local recycling programs		
		Information about available local utility programs that purchase a portion of energy from renewable energy providers		
		Explanation of the benefits of using energy efficient lighting systems (e.g., compact fluorescent light bulbs, light emitting diode (LED) in high usage areas		
		A list of practices to conserve water and energy		
		Local public transportation options		
		List of common hazardous materials often used around the building and instructions for proper handling and disposal of these materials		
		Information about organic pest control, fertilizers, de-icers, and cleaning products		
		Information about native landscape materials and/or those that have low-water requirements		
6-2	6	Building owners/occupants are familiarized with the green building goals and strategies implemented and the impacts of the occupants' practices on the costs of operating the building. Training is provided on the equipment operation and control systems		
6-3	0.5	A diagram showing the location of safety valves and controls for major building systems		
6-4	0.5	Where frost protected shallow foundations are used, notify owner of precautions, including instructions not to remove or damage insulation when modifying landscaping, to provide heat to the home as required by the irc/ibc, and to keep base materials beneath and around the home free from moisture due to broken water pipes or other water sources		
6-5	0.5	A list of local service providers that offer regularly scheduled service and maintenance contracts to assure proper performance of equipment and the structure (e.g., HVAC, water heating equipment, sealants, caulks, gutter and downspout system, shower/tub surrounds, irrigation system.)		
6-6	0.5	a photo record of framing with utilities installed. photos taken prior to installing insulation, clearly labeled, and included as part of the homeowner's binder		
6-7	0.5	Maintenance checklist		

SECTION 7 BUILT GREEN BRAND PROMOTION		
7-1	1-10	Extra credit for innovation in marketing for Built Green brand
SECTION 7 TOTAL		0

SECTION 1: BUILT GREEN TEAM	0
SECTION 2: SITE & WATER	0
SECTION 3: ENERGY EFFICIENCY	0
SECTION 4: HEATH & INDOOR AIR QUALITY	0
SECTION 5: MATERIALS EFFICIENCY	0
SECTION 6: OPERATION, MAINTENANCE & HOMEOWNER EDUCAT	0
SECTION 7: BUILT GREEN BRAND PROMOTION	0
SUBTOTAL	0
House Size Multiplier	#N/A
GRAND TOTAL	#N/A

Total Points for Project

Program Level Obtained

☐ 1-Star ★
 ☐ 2-Star ★★
 ☐ 3-Star ★★★
 ☐ 4-Star ★★★★
 ☐ 5-Star ★★★★★

By my signature, I certify that I have

(Home Builder Signature and Date)

Smaller houses use a multiplier for their overall points based on SF size.
Larger houses are required to earn a minimum of points in the energy and materials section. (Points listed are for each section)
Project size to include all conditioned space of house except for an Additional Dwelling Unit (ADU)

Bedrooms							Multiplier	min. points req in energy section**	min. points req in materials section**
1	2	3	4	5	6				
2005 avg. size (in WA State)	<500	<700	<900	<1300	<1900	<2400	1.20	N/A	N/A
	501-800	701-1000	901-1200	1301-1750	1901-2350	2401-2700	1.15	N/A	N/A
	801-1200	1001-1400	1201-1800	1751-2350	2351-2950	2701-3500	1.10	N/A	N/A
	1201-1600	1401-1800	1801-2400	2351-3000	2951-3600	3501-4300	1.05	N/A	N/A
	1600	1800	2400	3000	3600	4300	1.00	0	0
	1601-1800	1801-2000	2401-2700	3001-3400	3601-4000	4301-4700	1.00	25*	25
	1801-2000	2001-2200	2701-3000	3401-3800	4001-4400	4701-5100	1.00	35*+	35+
	2001-2200	2201-2400	3001-3300	3801-4200	4401-4800	5101-5500	1.00	45*+	45+
	>2200	>2400	>3300	>4200	>4800	>5500	1.00	55*+	55+

* Energy Star Certification can be substituted for the required point minimum



National Program Requirements

ENERGY STAR Certified Homes, Version 3.1 (Rev. 08)

Eligibility Requirements

The following homes are eligible to earn the ENERGY STAR:

- Detached dwelling units ¹ (e.g. single family homes); OR
- Dwelling units ¹ in any multifamily building with 4 units or fewer; OR
- Dwelling units ¹ in multifamily buildings with 3 stories or fewer above-grade ^{2,3}; OR
- Dwelling units ¹ in multifamily buildings with 4 or 5 stories above-grade ^{2,3} that have their own heating, cooling, and hot water systems ⁴, separate from other units, and where dwelling units occupy 80% or more of the occupiable ³ square footage of the building ⁵. When evaluating mixed-use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met.

Dwelling units ¹ in multifamily buildings that are not eligible to earn the ENERGY STAR through the Certified Homes Program may be eligible through the Multifamily High Rise Program. For more information, visit: www.energystar.gov/mfhr/eligibility

Note that compliance with these requirements is not intended to imply compliance with all local code requirements that may be applicable to the home to be built. ⁶

Partnership, Training, and Credentialing Requirements

Builders, Raters, and HVAC contractors must meet the following requirements prior to certifying homes:

- Builders are required to sign an ENERGY STAR Partnership Agreement and complete the online Version 3 Builder Orientation, which can be found at www.energystar.gov/homesPA.
- HVAC installing contractors are required to be credentialed by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO). An explanation of this process can be found at www.energystar.gov/newhomesHVAC.
- Raters and Field Inspectors are required to complete training, which can be found at www.energystar.gov/newhomestraining.

ENERGY STAR Certification Process ⁷

1. The certification process provides flexibility to select a custom combination of measures for each home that is equivalent in performance to the minimum requirements of the ENERGY STAR Reference Design Home, Exhibit 1, as assessed through energy modeling. Use a RESNET-accredited Home Energy Rating software program to determine the ENERGY STAR HERS Index Target, which is the highest numerical HERS Index value that each rated home may achieve to earn the ENERGY STAR. ⁸
2. Using the same software program, configure the preferred set of efficiency measures for the home to be certified and verify that the resulting HERS Index meets or exceeds the ENERGY STAR HERS Index Target, as determined in Step 1.

Note that, regardless of the measures selected, the Mandatory Requirements for All Certified Homes in Exhibit 2 are also required and impose certain constraints on the efficiency measures selected (e.g., insulation levels, insulation installation quality, window performance, duct leakage). Furthermore, on-site power generation may only be used to meet the ENERGY STAR HERS Index Target for homes that are larger than the Benchmark Home and only for the incremental change in the ENERGY STAR HERS Index Target caused by the Size Adjustment Factor. ⁹

3. Construct the home using the measures selected in Step 2 and the Mandatory Requirements for All Certified Homes, Exhibit 2.
4. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with RESNET's On-Site Inspection Procedures for Minimum Rated Features. ¹⁰ The Rater is required to keep electronic or hard copies of the completed and signed Rater checklists and the HVAC Design Report.

The Rater must review all items on the Rater checklists. Raters are expected to use their experience and discretion to verify that the overall intent of each inspection checklist item has been met (i.e., identifying major defects that undermine the intent of the checklist item versus identifying minor defects that the Rater may deem acceptable).

In the event that a Rater finds an item that is inconsistent with the intent of the checklists, the home cannot earn the ENERGY STAR until the item is corrected. If correction of the item is not possible, the home cannot earn the ENERGY STAR. In the event that an item on a Rater checklist cannot be inspected by the Rater, the home also cannot earn the ENERGY STAR. The only exceptions to this rule are in the Thermal Enclosure System Section of the Rater Field Checklist, where the builder may assume responsibility for verifying a maximum of eight items. This option shall only be used at the discretion of the Rater. When exercised, the builder's responsibility will be formally acknowledged by the builder signing the checklist for the item(s) that they verified.

In the event that a Rater is not able to determine whether an item is consistent with the intent (e.g., an alternative method of meeting a checklist requirement has been proposed), then the Rater shall consult their Provider. If the Provider also cannot make this determination, then the Rater or Provider shall report the issue to EPA prior to project completion at: energystarhomes@energystar.gov and will typically receive an initial response within 5 business days. If EPA believes the current program requirements are sufficiently clear to determine whether the intent has been met, then this guidance will be provided to the partner and enforced beginning with the house in question. In contrast, if EPA believes the program requirements require revisions to make the intent clear, then this guidance will be provided to the partner but only enforced for homes permitted after a specified transition period after the release of the revised program requirements, typically 60 days in length.

This process will allow EPA to make formal policy decisions as partner questions arise and to disseminate these policy decisions through the periodic release of revised program documents to ensure consistent application of the program requirements.



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Exhibit 1: ENERGY STAR Reference Design Home

The ENERGY STAR Reference Design Home is the set of efficiency features modeled to determine the ENERGY STAR HERS Index Target for each home pursuing certification. Therefore, while the features below are not mandatory, if they are not used then other measures will be needed to achieve the ENERGY STAR HERS Index Target. In addition, note that the Mandatory Requirements for All Certified Homes, Exhibit 2, contain additional requirements such as total duct leakage limits, minimum allowed insulation levels, and minimum allowed fenestration performance. Therefore, EPA recommends that partners review the documents in Exhibit 2 prior to selecting measures.

Hot Climates (2009 IECC Zones 1,2,3) ¹²		Mixed and Cold Climates (2009 IECC Zones 4,5,6,7,8) ¹²				
Cooling Equipment (Where Provided)						
• Cooling equipment modeled at the applicable efficiency levels below:						
• 15 SEER / 12 EER AC, • Heat pump (See Heating Equipment)		• 13 SEER AC, • Heat pump (See Heating Equipment)				
Heating Equipment						
• Heating equipment modeled at the applicable efficiency levels below, dependent on fuel and system type:						
• Gas furnace, efficiency as follows: • CZ 1 & 2: 80 AFUE, • CZ 3: 90 AFUE, ENERGY STAR certified, • 80 AFUE oil furnace, • 80 AFUE boiler, • 8.2 HSPF / 15 SEER / 12 EER air-source heat pump with electric or dual-fuel backup		• 95 AFUE ENERGY STAR gas furnace, • 85 AFUE ENERGY STAR oil furnace, • 90 AFUE ENERGY STAR gas boiler, • 86 AFUE ENERGY STAR oil boiler, • Heat pump, with efficiency as follows: • CZ 4: 8.5 HSPF / 15 SEER / 12 EER air-source w/ electric or dual-fuel backup, • CZ 5: 9.25 HSPF / 15 SEER / 12 EER air-source w/ electric or dual-fuel backup, • CZ 6: 9.5 HSPF / 15 SEER / 12 EER air-source w/ electric or dual-fuel backup, • CZ 7-8: 3.6 COP / 17.1 EER ground-source w/ electric or dual-fuel backup				
Envelope, Windows, & Doors						
• Insulation levels modeled to 2012 IECC levels and Grade I installation per RESNET standards.						
• Infiltration rates modeled as follows:						
		4 ACH50 in CZs 1,2		3 ACH50 in CZs 3,4,5,6,7,8		
• ENERGY STAR windows and doors modeled, as illustrated below:						
Window U-Value:		0.40 in CZs 1,2	0.30 in CZ 3	0.30 in CZ 4	0.27 in CZs 5,6,7,8	
Window SHGC:		0.25 in CZs 1,2	0.25 in CZ 3	0.40 in CZ 4	Any in CZs 5,6,7,8	
Door U-Value:		Opaque: 0.17	≤½ lite: 0.25	>½ lite: 0.30		
Door SHGC:		Opaque: Any	≤½ lite: 0.25	>½ lite: 0.25 in CZs 1,2,3; 0.40 in CZs 4,5,6,7,8		
Water Heater						
• DHW equipment modeled with the following efficiency levels as applicable:						
Gas:	30 Gal = 0.63 EF	40 Gal = 0.61 EF	50 Gal = 0.59 EF	60 Gal = 0.57 EF	70 Gal = 0.55 EF	80 Gal = 0.53 EF
Electric:	30 Gal = 0.94 EF	40 Gal = 0.93 EF	50 Gal = 0.92 EF	60 Gal = 0.91 EF	70 Gal = 0.90 EF	80 Gal = 0.89 EF
Oil:	30 Gal = 0.55 EF	40 Gal = 0.53 EF	50 Gal = 0.51 EF	60 Gal = 0.49 EF	70 Gal = 0.47 EF	80 Gal = 0.45 EF
Thermostat & Ductwork						
• Programmable thermostat modeled.						
• All ducts and air handlers modeled within conditioned space.						
Lighting & Appliances						
• ENERGY STAR refrigerators, dishwashers, and ceiling fans modeled.						
• ENERGY STAR light bulbs modeled in 90% of RESNET-defined Qualifying Light Fixture Locations.						



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Exhibit 2: Mandatory Requirements for All Certified Homes

Party Responsible	Mandatory Requirements
Rater	<ul style="list-style-type: none"> Completion of Rater Design Review Checklist Completion of Rater Field Checklist
HVAC System Designer	<ul style="list-style-type: none"> Completion of HVAC Design Report
HVAC Installing Contractor	<ul style="list-style-type: none"> Completion of HVAC Commissioning Checklist
Builder	<ul style="list-style-type: none"> Completion of Water Management System Builder Requirements

Exhibit 3: Benchmark Home⁹

Bedrooms in Home to be Built	0	1	2	3	4	5	6	7	8
Conditioned Floor Area Benchmark Home	1,000	1,000	1,600	2,200	2,800	3,400	4,000	4,600	5,200

Effective Date

EPA intends to implement the Version 3.1 program requirements for homes permitted starting one year after state-level implementation of the 2012 IECC or an equivalent code. However, EPA will make a final determination of the implementation timeline on a state-by-state basis. Exhibit 4 defines the Version 3.1 implementation timeline for states where EPA has made this determination. Homes permitted prior to the implementation timeline are eligible to earn the ENERGY STAR under Version 3 of the program requirements.

Note that regional program requirements and associated implementation schedules have been developed for homes in CA, FL, GU, HI, the Northern Mariana Islands, and PR.

Exhibit 4: ENERGY STAR Certified Homes Version 3.1 Implementation Timeline

State	Applicable to Homes with the Following Permit Date
MA	On or after 01/01/2015
DC, IL, MD, RI	On or after 04/01/2015 (except for Calvert County and St. Mary's County in MD, for which the applicable permit date is on or after 07/01/2015)
IA	On or after 06/01/2015
DE	On or after 12/01/2015
MT, OR, WA	On or after 01/01/2016
MN, VT	On or after 04/01/2016
NV	On or after 07/01/2016
NJ	On or after 04/01/2017
TX	On or after 10/01/2017

Notes:

1. A dwelling unit, as defined by the 2012 IECC, is a single unit that provides complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.
2. Any above-grade story with 20% or more occupiable space, including commercial space, shall be counted towards the total number of stories for the purpose of determining eligibility to participate in the program. The definition of an 'above-grade story' is one for which more than half of the gross surface area of the exterior walls is above-grade. All below-grade stories, regardless of type, shall not be included when evaluating eligibility.
3. Per ASHRAE 62.2-2010, occupiable space is any enclosed space inside the pressure boundary and intended for human activities or continual human occupancy, including, but not limited to, areas used for living, sleeping, dining, and cooking, toilets, closets, halls, storage and utility areas, and laundry areas.
4. Central domestic hot water systems are allowed if solar energy provides $\geq 50\%$ of the domestic hot water for the residential units.
5. Units in multifamily buildings with 4 or 5 stories above-grade, including mixed-use buildings, that have their own heating, cooling, & hot water systems, separate from other units, *but where dwelling units occupy < 80% of the residential (i.e., excluding commercial / retail space for mixed-use buildings) occupiable square footage of the building may earn the ENERGY STAR through either the*



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Certified Homes Program or the Multifamily High Rise (MFHR) Program if permitted prior to July 1, 2012. Units in buildings of this type that are permitted after this date shall only be eligible to earn the ENERGY STAR through the MFHR Program.

6. Where requirements of the local codes, manufacturers' installation instructions, engineering documents, or regional ENERGY STAR programs overlap with the requirements of these guidelines, EPA offers the following guidance:
 - a. Where the overlapping requirements exceed the ENERGY STAR guidelines, these overlapping requirements shall be met;
 - b. Where overlapping requirements conflict with a requirement of the ENERGY STAR program (e.g., slab insulation is prohibited to allow visual access for termite inspections), then the conflicting requirement within these program requirements shall not be met. Certification shall only be allowed if the Rater has determined that no equivalent option is available that could meet the intent of the conflicting requirement (e.g., switching from exterior to interior slab edge insulation). Note that a home must still meet its ENERGY STAR HERS Index Target. Therefore, other efficiency measures may be needed to compensate for the omission of the conflicting requirement.
7. Prior to Rev. 06, homes were permitted to be certified using either a Prescriptive Path or a Performance Path. Homes with a permit date on or after 09/01/2015 shall only use the Performance Path, which has been renamed the ENERGY STAR Certification Process. To minimize disruption to projects that are in process, homes with a permit date before 09/01/2015 are permitted to use a modified version of the Prescriptive Path in lieu of the Performance Path. For more information about this compliance option, visit: www.energystar.gov/v31prescriptivepath.
8. The software program shall automatically determine (i.e., without relying on a user-configured ENERGY STAR Reference Design) this target for each rated home by following the ENERGY STAR HERS Index Target Procedure, Version 3.1, available on EPA's website.
9. The average-size home with a specific number of bedrooms is termed the "Benchmark Home". The conditioned floor area of a Benchmark Home (CFA_{Benchmark Home}) is determined by selecting the appropriate value from Exhibit 3. For homes with more than 8 bedrooms, the CFA_{Benchmark Home} shall be determined by multiplying 600 sq. ft. by the total number of bedrooms & adding 400 sq. ft. A bedroom is defined by RESNET as a room or space 70 sq. ft. or greater size, with egress window and closet, used or intended to be used for sleeping. A "den", "library", or "home office" with a closet, egress window, and 70 sq. ft. or greater size or other similar rooms shall count as a bedroom, but living rooms and foyers shall not.

An egress window, as defined in 2012 IRC section R310, shall refer to any operable window that provides for a means of escape and access for rescue in the event of an emergency. The egress window definition has been summarized for convenience. The egress window shall:

 - have a sill height of not more than 44 in. above the floor; AND
 - have a minimum net clear opening of 5.7 sq. ft.; AND
 - have a minimum net clear opening height of 24 in.; AND
 - have a minimum net clear opening width of 20 in.; AND
 - be operational from the inside of the room without the use of keys, tools or special knowledge.
10. The term 'Rater' refers to the person completing the third-party inspections required for certification. This person shall: a) be a certified Home Energy Rater, Rating Field Inspector, or an equivalent designation as determined by a Verification Oversight Organization such as RESNET; and, b) have attended and successfully completed an EPA-recognized training class. See www.energystar.gov/newhomestraining.

Raters who operate under a Sampling Provider are permitted to verify the Minimum Rated Features of the home and to verify any Checklist Item designated "Rater Verified" using the RESNET-approved sampling protocol for homes outside California, and the CEC-approved sampling protocol for homes in CA. No parties other than Raters are permitted to use sampling. All other items shall be verified for each certified home. For example, no items on the HVAC Commissioning Checklist are permitted to be verified using a sampling protocol.
11. In States that have a v3.1 implementation timeline, per Exhibit 4, this Revision of the National Program Requirements is required to certify all homes permitted after 07/01/2016, but is allowed to be used for any home permitted or completed prior to this date. The Rater may define the 'permit date' as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.
12. The following map illustrates the Climate Zone boundaries as defined by the 2012 IECC Figure R301.1.

