

6a. Staff Report - Potential Expansion of Deep Green Incentive Program

Planning Commission Meeting Date: October 18, 2018

Agenda Item: 6a

PLANNING COMMISSION AGENDA ITEM CITY OF SHORELINE, WASHINGTON

AGENDA TITLE: Potential Expansion of Deep Green Incentive Program
DEPARTMENT: Planning & Community Development
PRESENTED BY: Miranda Redinger, AICP, Senior Planner

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Public Hearing | <input type="checkbox"/> Study Session | <input type="checkbox"/> Recommendation Only |
| <input type="checkbox"/> Discussion | <input type="checkbox"/> Update | <input type="checkbox"/> Other |

INTRODUCTION AND BACKGROUND

In September 2013, Council adopted the Climate Action Plan (CAP), which committed Shoreline to reducing greenhouse gas (GHG) emissions 25% by 2020, 50% by 2030, and 80% by 2050 (below 2007 levels).

In March 2018, Council revised City Council Goal #2, Action Step #4 to read: *Implement the 2018-2020 Priority Environmental Strategies, including achievement of citywide Salmon-Safe certification, consideration of expanding green building mandates, and appointment of a stakeholder committee to evaluate and develop a recommendation on the implementation of recommendations from the Climate Action Analysis for the 185th Street Station Subarea.*

On August 2, 2018, the Planning Commission discussed various options for expanding the green building mandate that currently exists in Mixed-Use Residential (MUR) zoning in the light rail station subareas to commercial zoning. The staff report for that meeting is available here: <http://www.shorelinewa.gov/home/showdocument?id=39436>.

To aid in its consideration, at the August 2 meeting, the Planning Commission reviewed a Comparative Analysis by the Rushing Company of various green building protocols against a baseline project currently underway in North City. The final report is included as Attachment A. Following a thoughtful discussion of the analysis and options, the Commission did not reach consensus on a recommendation, and requested that staff solicit additional input from green building certification agencies, the City's Economic Development Manager, and market-rate developers to inform a continued discussion.

The Commission considered this issue again at its September 6, 2018 meeting, but based on discussions with the entities listed above, the staff recommendation had changed. Rather than expanding the green building mandate, staff proposed expanding

Approved By: Project Manager 

Planning Director 

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the Deep Green Incentive Program (DGIP), Subchapter 9, SMC 20.50, by adding a fourth tier to include incentives for Built Green 4-Star and Passive House projects in areas outside of MUR zoning.

The staff report for the September 6 meeting is available here:
<http://www.shorelinewa.gov/home/showdocument?id=40690>.

DISCUSSION

PHIUS Net Zero Energy Program

Passive House Institute United States is commonly used in the green building industry as the name of both the certifying organization and the certification, in order to differentiate this standard from European counterparts. In previous discussions and drafts of regulatory language for this project, the certifying organization was often referred to by the acronym PHIUS, while the certification program was truncated to Passive House.

Since the September 6 meeting, in further consultation with PHIUS staff, the City has learned that the appropriate name for the certification is PHIUS+, and that the organization also offers a net zero program, called PHIUS+ Source Zero. The latter is comparable to the International Living Future Institute (ILFI) Zero Energy certification, which is currently eligible for Tier 3 of the DGIP if paired with a Salmon Safe certification.

PHIUS+ Source Zero is an additional recognition that project teams can pursue after achieving PHIUS+ targets. Source Zero extends from the PHIUS+ Standard, which develops numerical energy targets based on a robust analysis of local climate and construction costs. Achieving PHIUS+ means dramatically reducing demand. Achieving PHIUS+ Source Zero means meeting the small remainder with on-site renewable energy. This holistic view pursues both radical load reduction and clean energy production, allowing faster convergence toward the goal of eliminating carbon emissions from building energy.

Throughout this staff report and Attachment B, the organization will be referred to a PHIUS and the certifications will be referred to as PHIUS+ or PHIUS+ Source Zero. In addition to adding the PHIUS+ certification to the proposed Tier 4, staff recommends adding PHIUS+ Source Zero with a companion Salmon Safe certification to Tier 3 of the DGIP.

Parking Reduction

On September 6, the Commission supported the change to expanding the incentive program rather than the mandate, and suggested one additional revision.

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With regard to parking, Shoreline Municipal Code (SMC) 20.50.400 outlines potential reductions available through the DGIP (see below). Tier 1 is eligible for a 50% reduction, Tier 2 is eligible for a 35% reduction, and Tier 3 is eligible for a 20% reduction. Adding another tier that followed the pattern of decreasing the available reduction by 15% per tier would only leave a 5% parking reduction for Tier 4.

One potential way to make a parking reduction incentive more meaningful would be to make it cumulative. SMC 20.50.400(A) Reductions to minimum parking requirements articulates multiple ways to achieve a parking reduction, but SMC 20.50.400(F)&(G) specify that reductions may not be combined. The Commission supported the staff proposal of amending SMC 20.50.400(G) to remove reference to the DGIP.

The Commission further suggested that SMC 20.50.400(G), in its entirety, should be deleted, which would allow for affordable housing parking reductions to be combined with other parking reductions. The relevant portions of text from SMC 20.50.400 are below. Note that no changes are proposed to sections A or E, but these are included because they are relevant to SMC 20.50.400(G). A new change is proposed for SMC 20.50.400(F) that would allow parking reductions for the DGIP to be combined with those for proximity to light rail stations. Additional discussion and examples of how this could impact the number of required stalls in several areas of the city follows the code language.

SMC 20.50.400- Reductions to minimum parking requirements

A. Reductions of up to 25 percent may be approved by the Director using a combination of the following criteria:

1. On-street parking along the parcel's street frontage.
2. Shared parking agreement with nearby parcels within reasonable proximity where land uses do not have conflicting parking demands. The number of on-site parking stalls requested to be reduced must match the number provided in the agreement. A record on title with King County is required.
3. Parking management plan according to criteria established by the Director.
4. A City approved residential parking zone (RPZ) for the surrounding neighborhood within one-quarter mile radius of the subject development. The RPZ must be paid by the developer on an annual basis.
5. A high-capacity transit service stop within one-quarter mile of the development property line with complete City approved curbs, sidewalks, and street crossings.
6. A pedestrian public access easement that is eight feet wide, safely lit and connects through a parcel between minimally two different rights-of-way. This easement may include other pedestrian facilities such as walkways and plazas.
7. City approved traffic calming or traffic diverting facilities to protect the surrounding single-family neighborhoods within one-quarter mile of the development.
8. Retention of at least 20 percent of the significant trees on a site zoned MUR-70'.

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9. Replacement of all significant trees removed on a site zoned MUR-70' as follows:
 - a. One existing significant tree of eight inches in diameter at breast height for conifers or 12 inches in diameter at breast height for all others equals one new tree.
 - b. Each additional three inches in diameter at breast height equals one additional new tree, up to three trees per significant tree removed.
 - c. Minimum Size Requirements for Replacement Trees under This Provision. Deciduous trees shall be at least one and one-half inches in caliper and evergreens six feet in height.

B. A project applying for parking reductions under the Deep Green Incentive Program may be eligible for ~~commercial and multi-family projects based on the intended certification they intend to achieve. No parking reductions will be eligible for single-family projects.~~ Parking reductions are not available in R-4 and R-4 zones. Reductions will be based on the following tiers:

1. Tier 1 – Living Building or Living Community Challenge Certification: up to 50% reduction in parking required under SMC 20.50.390 for projects meeting the full International Living Future Institute (ILFI) program criteria;
2. Tier 2 – Living Building Petal or Emerald Star Certification: up to 35% reduction in parking required under 20.50.390 for projects meeting the respective ILFI or Built Green program criteria;
3. Tier 3 - LEED Platinum, 5-Star, ~~or~~ Net Zero Energy Building/Salmon Safe, or PHIUS+ Source Zero/Salmon Safe Certification: up to 20% reduction in parking required under 20.50.390 for projects meeting the respective US Green Building Council, Built Green, ~~or~~ ILFI, PHIUS and/or Salmon Safe program criteria.
4. Tier 4- PHIUS+ or 4-Star Certification: up to 5% reduction in parking required under 20.50.390 for projects meeting the respective PHIUS or Built Green program criteria.

E. Reductions of up to 50 percent may be approved by the Director for the portion of housing providing low income housing units that are 60 percent of AMI or less as defined by the U.S. Department of Housing and Urban Development.

F. A parking reduction of 25 percent may be approved by the Director for multifamily development within one-quarter mile of the light rail station. These parking reductions may not be combined with parking reductions identified in subsections A, ~~B~~ and ~~E~~ of this section.

~~G. Parking reductions for affordable housing or the Deep Green Incentive Program may not be combined with parking reductions identified in subsection A of this section.~~

Examples of how parking reductions could be applied

Proposed revisions to the DGIP would create an incentive for 4-Star and PHIUS+ certifications, while these programs are mandatory in Mixed-Use Residential (MUR) zoning in the light rail station subareas. Therefore, it is important to examine how parking reductions would be applied in various scenarios. It is also necessary to

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examine different scenarios to evaluate the effect of allowing affordable housing parking reductions to be cumulative.

Below, please find several examples of potential parking requirements for a theoretical 100-unit building, based on different zones, certification programs, and levels of affordability. For the first two (2), the “a” scenario is a more likely development (assuming 4-Star [Tier 4 or mandatory] certification and 20% affordable units targeted towards households making 70% of Area Median Income [AMI], which is the minimum State requirement to participate in Property Tax Exemption program). The “b” scenario supposes a more ambitious project (assuming an Emerald Star [Tier 2] certification and 20% affordable units targeted towards 60% AMI, which would make a project eligible for reductions under SMC 20.50.400). For the sake of simplicity, all affordable units are assumed to be studios and one-bedrooms.

For each scenario, the analysis assumes that 75 of the units are studios and one-bedrooms (.75 parking stalls required per unit), while 25 of the units are two-bedrooms (1.5 parking stalls required per unit). With no reductions, such a building would be required to build 94 parking stalls, four (4) of which would need to be accessible for people with disabilities. Because the requirement for accessible stalls is a Building Code requirement, not the Development Code, and is tied to units, overall parking reductions do not change the number of required accessible stalls.

It should also be noted that each of the potential reductions below are “up to”, so each of the scenarios illustrate a maximum parking reduction, not an automatic one.

Example 1a: 4-Star project in Mixed Business zoning within a quarter mile of a RapidRide stop on Aurora Avenue, 20% of units affordable to 70% AMI

- Eligible reductions:
 - 5% reduction through DGIP Tier 4 per SMC 20.50.400(B)(4) and SMC 20.50.630(E)(3)(b)(iv)
 - 25% reduction for proximity to high-capacity transit service per SMC 20.50.400(A)(5)
 - **Note that this would need to be combined with at least one other criteria from SMC 20.50.400(A).*
- Total number of required stalls: 68

Example 1b: Emerald-Star project in Mixed Business zoning within a quarter mile of a RapidRide stop on Aurora Avenue, 20% of units affordable to 60% AMI.

- Eligible reductions
 - 35% reduction through DGIP Tier 2 per SMC 20.50.400(B)(2) and SMC 20.50.630(E)(3)(b)(ii)
 - 25% reduction for proximity to high-capacity transit service per SMC 20.50.400(A)(5)

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- **Note that this would need to be combined with at least one other criteria from SMC 20.50.400(A).*
- 50% reduction for 20% of units per SMC 20.50.400(E)
- Total number of required stalls: 42

Example 2a: 4-Star project in Mixed-Use Residential-45' zoning within a quarter mile of light rail station, 20% of units affordable to 70% AMI

- Eligible reductions:
 - 25% reduction for proximity to light rail station per SMC 20.50.400(F)
- Total number of required stalls: 71

Example 2b: Emerald Star project in Mixed-Use Residential-45' zoning within a quarter mile of light rail station, 20% of units affordable to 60% AMI

- Eligible reductions:
 - 35% reduction through DGIP Tier 2 per SMC 20.50.400(B)(2) and SMC 20.50.630(E)(3)(b)(ii)
 - 25% reduction for proximity to light rail station per SMC 20.50.400(F)
 - 50% reduction for 20% of units per SMC 20.50.400(E)
- Total number of required stalls: 42
- If this project also met a combination (two [2] or more) of the criteria in 20.50.400(A), and this was allowed to be cumulative (by striking the entire last sentence in SMC 20.40.500[F]), it could be eligible for an additional 25% reduction. Under this scenario, the total number of required stalls would be 32.

Example 3: Emerald Star project in Mixed-Business zoning within a quarter mile of a RapidRide stop on Aurora Avenue, 100% of units affordable to below 60% AMI

- Eligible reductions:
 - 35% reduction through DGIP Tier 2 per SMC 20.50.400(B)(2) and SMC 20.50.630(E)(3)(b)(ii)
 - 25% reduction for proximity to high capacity transit per SMC 20.50.400(A)(5)
 - **Note that this would need to be combined with at least one other criteria from 20.50.400(A).*
 - 50% reduction for 100% of units per SMC 20.50.400(E)
- Total number of required stalls: 24

Staff Conclusions and Recommendation

- Allowing cumulative parking reductions may encourage developers to take advantage of the DGIP citywide.
- In light rail station subareas, allowing projects to further reduce parking if they target housing affordability for 60% AMI as opposed to 70% AMI could encourage deeper levels of affordability.
- However, allowing green and affordable projects to further reduce parking by an additional 25% for fulfilling requirements in SMC 20.50.400(A) may be too great a reduction for the benefits.

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- In areas within a quarter mile of RapidRide on Aurora Avenue, projects would need to fulfill an additional requirement from SMC 20.50.400(A) to be able to utilize proximity to transit to further reduce parking, which could provide additional amenities.
- To achieve the greatest reduction possible, a project would need to be almost entirely affordable to households making 60% or less of AMI, achieve an ambitious level of green building, be in proximity to transit, and fulfill an additional criterion from SMC 20.40.500(A). Staff believes that it is worthwhile to create an option to support such a project, which would likely be through a non-profit or agency affordable housing provider.

Therefore, staff recommends:

- Striking the second sentence from SMC 20.50.400(F), as shown below. This would allow Deep Green buildings in light rail station subareas to combine parking reductions from the incentive program with those for proximity to transit and deeper affordability.
 - F. A parking reduction of 25 percent may be approved by the Director for multifamily development within one-quarter mile of the light rail station. These parking reductions may not be combined with parking reductions identified in subsections A, B, and E of this section.
- Striking SMC 20.50.400(G), as shown below.
 - ~~G. Parking reductions for affordable housing or the Deep Green Incentive Program may not be combined with parking reductions identified in subsection A of this section.~~

SMC 20.50.630(F)- Compliance with minimum standards

When the original DGIP was adopted in April 2017, there was an interest in trying to make all programs within each tier as comparable as possible. However, one of the primary differences between Built Green and International Living Future Institute programs is that Built Green uses energy and water *modeling* for 4- and 5-Star certifications, whereas ILFI requires a *performance* period and analyzes actual use before awarding any certification. Built Green staff offered to perform additional post-occupancy analysis for 5-Star projects applying through the DGIP to make the programs more comparable, which is reflected in SMC 20.50.630(F) below.

However, if the DGIP expands to also include 4-Star citywide, and this encourages additional project registrations, Built Green staff is concerned that they will not have the capacity to perform the additional analysis. PHIUS also uses modeling rather than performance, and shares concerns about staff capacity to commit to additional work for Shoreline that is outside of their standard process.

Staff recommends striking letter “b” from the code language below and relying on the modeling procedures currently used by Built Green and PHIUS, which according to

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recent studies by both organizations are very reliable at predicting performance. In fact, the studies revealed that buildings are performing better than modeled.

SMC 20.50.630(F)

7. No later than two years after issuance of a final Certificate of Occupancy for the project, or such later date as requested in writing by the owner and approved by the Director for compelling circumstances, the owner shall submit to the Director the project's certification demonstrating how the project complies with the standards contained in this subsection. Compliance must be demonstrated through an independent certification from ILFI, ~~Built Green~~, or USGBC/Green Building Cascadia Institute (GBCI). A request for an extension to this requirement must be in writing and must contain detailed information about the need for the extension.
 - a. For projects pursuing ILFI certification (Living Building Challenge, Living Community Challenge, Petal Recognition, or ~~Net Zero Energy Building~~), performance-based requirements such as energy and water must demonstrate compliance through certification from ILFI within the two year timeframe noted above.
 - ~~b. For projects pursuing Built Green certification post-occupancy compliance must be demonstrated with analysis proving 12 consecutive months of net zero energy performance and/or 70% reduction in occupant water use. It is the owner's responsibility to submit utility information to Built Green so analysis can be conducted and shown to the Director.~~
 - c. For projects pursuing LEED certification, the applicant or owner must show proof of certification by way of the final LEED Construction Review report and LEED Certificate issued by USGBC/GBCI.

Current and Proposed Incentive Program Tier Structure

In summary, the current DGIP consists of a tiered system that rewards projects based on the stringency of the certification a project seeks to attain. Eligibility for benefits is structured by the following level of certification protocol:

- Tier 1 – Living Building Challenge or Living Community Challenge;
- Tier 2 – Emerald Star or Petal Recognition; or
- Tier 3 – LEED Platinum, 5-Star, or Zero Energy plus Salmon-Safe.

Staff recommends that an expanded incentive program be organized as follows:

- Tier 1- Living Building Challenge or Living Community Challenge;
- Tier 2- Emerald Star or Petal Recognition;
- Tier 3- LEED Platinum, 5-Star, Zero Energy plus Salmon Safe, or PHIUS+ Source Zero plus Salmon Safe; or
- Tier 4- PHIUS+ or 4-Star.

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NEXT STEPS

November 26- City Council Study Session

December 10- Council Adoption of Ordinance No. 839

RECOMMENDATION

Staff recommends that the Planning Commission make a recommendation to the City Council to expand and amend the Deep Green Incentive Program as per Attachment A. Changes would include adding a Tier 4, consisting of Built Green 4-Star and PHIUS+ certification options, and adding PHIUS+ Source Zero in conjunction with Salmon Safe certification as an option for Tier 3. Regulations would also allow for PHIUS+ to fulfill the green building mandate in MUR zones, as would the Evergreen Standard, but only for affordable housing or school projects that receive State money and are required to design to that standard.

ATTACHMENTS

Attachment A- Final Comparative Analysis of LEED, Built Green, and Passive House

Attachment B- Amendatory Language for Development Code Sections

Comparative Analysis of LEED, Built Green, & Passive House

FINAL - September 2018



Shoreline Apartments

Image courtesy of VIA Architecture

PREPARED FOR:



17500 Midvale Ave N
Shoreline, WA 98133-4905
206-801-2700
www.shorelinewa.gov

SUBMITTED BY:

RUSHING

1725 Westlake Ave N
Suite 300
Seattle, WA 98109
(206) 285-7100
www.rushingco.com

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Introduction

When the Shoreline City Council adopted the Climate Action Plan in 2013, they joined King County and other cities in the region by committing to reduce community greenhouse gas emissions 80% by 2050, with an interim target of 50% by 2030. To reduce emissions from new buildings, the City adopted mandatory green building standards in the Mixed-Use Residential (MUR) zoning surrounding two future light rail stations, and a Deep Green Incentive Program to encourage the highest standard for green building citywide.

The Shoreline City Council has directed staff to consider an expansion of the current green building mandate for MUR zoning to also include commercial zoning within the city. This analysis provides a comparison of one code compliant baseline development project against three green building protocols– Built Green 4-Star, Leadership in Energy and Environmental Design (LEED) for Homes Gold, and Passive House Certification. The analysis includes Rough Order of Magnitude (ROM) costs to better understand implications for design and construction, in addition to quantifying environmental performance benefits of the various protocols.

See **Appendix 1 Glossary of Terms** for definitions. A Term included in the Glossary is identified by an underline.

Potential Expansion of Deep Green Incentive Program - Attachment A

Goals of Study

- Establish a protocol comparison based on a sample project, the **Shoreline Apartments** project at 17233 15th Ave NE, Shoreline, WA.
- Using the sample project, evaluate the following levels of sustainability compliance using the following tools and metrics:
 - **Code Compliance:** 2015 Washington State Energy Code (WSEC) & 2015 Uniform Plumbing Code (UPC) with Washington State Amendments
 - **Prescriptive, point-based green building protocols:**
 - **LEED for Homes Multi-Family Midrise, Gold:** must achieve a minimum **60 points** with a recommended 5-point buffer. See the *LEED for Homes Scorecard* (Appendix 2)
 - **Built Green Multi-Family, 4-Star:** must achieve a minimum **400 points (60 points** from Sections 2-5 with a recommended 7-point buffer in each Section). See the *Built Green Scorecard* (Appendix 3).
 - **Performance-based green building protocol:**
 - **Passive House:** not tracked using a scorecard. Compliance approved through on-site verification and building performance. See the *Passive House Strategies List* (Appendix 4).
 - Soft Costs & Hard Costs ROM (Rough Order of Magnitude)
 - Design & Construction Impacts

Executive Summary

This evaluation indicates the following high-level comparison metrics for the pursuit of a code compliant building, LEED for Homes Midrise Gold, Built Green 4-Star and Passive House certification.

Protocol/Approach	Environmental Benefits	ROM Costs to achieve compliance	Significant Design Features & Impacts
Code Compliance	Baseline: varies by project	Sample Building: \$34.24 million (construction costs) unknown at this time (<u>soft costs</u>)	<i>Energy Baseline (code minimum):</i> Includes two C406 Measures <i>Water Baseline (code minimum):</i> Water closets (toilets): 1.6 gpf (gallons per flush) Showerheads: 2.5 gpm (gallons per minute) Private lavatory faucets: 2.2 gpm Kitchen lavatory faucets: 2.2 gpm

Potential Expansion of Deep Green Incentive Program - Attachment A

Protocol/Approach	Environmental Benefits	ROM Costs to achieve compliance	Significant Design Features & Impacts
LEED for Homes Multi-Family Midrise Target: Gold	<p>Energy: 0-10% ↓ CO₂ emissions annually¹</p> <p>Water: 1.55 million gallons ↓ annually²</p> <p>Health/Materials: “Building green using LEED... enables us all to live, learn, work and play in environments that enhance human health both indoors and outdoors.”³</p>	<p>\$275,000-325,000</p> <p>0.8 – 0.9% additional cost⁴</p>	Miscellaneous design and construction adjustments, e.g. design charrette, General Contractor LEED training, 3 rd party energy modeling, <u>commissioning</u> , duct leakage testing, blower door testing between each unit.
Built Green Multi-Family Target: 4-Star	<p>Energy: 75-85% ↓ CO₂ emissions annually¹</p> <p>Water: 2.08 million gallons ↓ annually²</p> <p>Health/Materials: “Built Green believes the market can act as a powerful force to improve environmental and health outcomes.”⁵</p>	<p>\$600,000-2,200,000</p> <p>1.7 – 6.4% additional cost⁴</p>	<p>Substantial energy saving design strategies/systems to meet 4-Star prerequisite: 20% better than WA State Energy Code (WSEC).</p> <p>Miscellaneous design and construction adjustments, e.g. 3rd party energy modeling and <u>commissioning</u>.</p>
Passive House	<p>Energy: 85-95% ↓ CO₂ emissions annually¹</p> <p>Water: 0 gallons ↓ annually</p> <p>Health/Materials: Similarly, to their high comfort standards, Passive House buildings also provide a healthy and quiet indoor environment.⁶</p>	<p>\$960,000-1,700,000</p> <p>2.8 – 4.9% additional cost⁴</p>	Enhanced insulation, triple pane glazing, continuous air barrier, air infiltration. Five times better than the 2015 Washington State Energy Code (WSEC), ERVs (<u>Energy Recovery Ventilators</u>).

¹ Estimates based on the 2015 Washington State Energy Code and transition to all electric systems. Based on 2016 data, Seattle City Light is powered by 92% renewable energy (hydro and wind). Seattle City Light is the City of Shoreline’s electricity service provider. seattle.gov/light/Fuel_Mix.

² Water estimate includes low flow fixtures and excludes process water.

³ Benjamin, Heather. *LEED Enhances Human Health*. 17 Aug 2017. usqbc.org/articles/leed-enhances-human-health.

⁴ Rough order of magnitude calculation based on baseline building valuation of \$34.24 million for average construction costs. Protocol increased costs based on both hard costs and soft costs.

⁵ Built Green Values, Market Focus: builtgreen.net

⁶ International Passive House Association. *What are the benefits of Passive House buildings?* 01 Feb 2017. blog.passivehouse-international.org/benefits-passive-house-buildings

Potential Expansion of Deep Green Incentive Program - Attachment A

Analysis Assumptions

- **Location:** Project is in the City of Shoreline, density is like the sample project (i.e. projects which do not have density, access to transit, and community resources nearby would need to be evaluated differently).
- **Unit Size:** All residential units are below 1200 square feet.
- **Combustion Uses:** Gas fireplace is EPA Certified and installed with doors. Gas hot water heaters are designed and installed with closed combustion.
- **This study has been conducted by selecting credits in each rating system which are:**
 1. **In reference project (sample building)** given the information provided in the 09.20.2017 Permit Submittal Plan Set, as provided by the City of Shoreline. Given the scope of this study and broad applicability to typical project typologies, the baseline building project team was not consulted to verify extrapolations.
 2. **Typical** to design and construction for buildings of this type and within the jurisdiction of the City of Shoreline
 3. **Lowest cost and minimal time impact** to the design, design team, and contractor

Sample Project Data

Basic Information	Systems	Fixtures & Appliances	Cost
Location: Shoreline, WA Type: 2 buildings, 5 stories, wood framed construction/post-tension slab Total gross combined building area: 200,000 sf Units: 243 units Lot size: 1.85 acres Parking: 270 spaces, 2 levels below grade parking WSEC & UPC: 2015	Common areas: Variable Refrigerant Flow (VRF) Units: Cove heaters, trickle vents, whole house fans Domestic hot water: Gas condensing water heaters	Toilets: 1.28 gpf (gallons per flush) Showers: 2 gpm (gallons per minute) Lavatories: 1.5 gpm Refrigerators / Dishwashers / Clothes Washers: ENERGY STAR	Construction Valuation: \$34.24 M Soft Costs: unknown at this time

Potential Expansion of Deep Green Incentive Program - Attachment A

Green Building Protocol Overview

This section provides a high-level overview of each protocol. (■ - sustainable solutions available in this category, □ - sustainable solutions not available in this category)

LEED for Homes Multi-Family Midrise v4

Administered by: US Green Building Council (USGBC) & Green Business Certification Institute (GBCI)

About:

- The most widely used green building rating system in the world.
- Applies to midrise multi-family (four to six stories). LEED for Homes is also applicable to single family homes, low-rise multi-family (one to three stories), and high rise (above 6 stories, with LEED Provider's permission).

Most significant shift from "typical" / WA State Energy Code (WSEC):

- Blower door testing between units
- Energy Prerequisite - 5% improvement over the baseline building performance rating based on ASHRAE Standard 90.1-2010, Appendix G (with errata).

What makes it green? This rating system provides sustainable solutions to address:

- | | | | |
|-------------------|----------------------------|-----------------------------|---------------------|
| ■ Land Management | ■ Energy | ■ Water | ■ Transportation |
| ■ Habitat | ■ Building Materials | □ Equity & Inclusion | ■ Health & Wellness |
| □ Food Access | ■ Operations & Maintenance | □ Emergency & Disaster Prep | □ Aesthetic |

Built Green Multi-Family v2017

Administered by: Master Builders Association (MBA) of King and Snohomish Counties

About:

- Local Green Building Program: Developed in partnership with King County, Snohomish County, and other government agencies in Washington State.
- It was originally founded in 1999. Since then, over 32,000 projects have been certified.
- 52% of new homes in Seattle & 32% of new homes in King County were Built Green in 2016.

Most significant shift from "typical" / WA State Energy Code (WSEC):

- Built Green 3-Star requires the building energy model to show 10% better performance than WSEC OR two additional R406/C406 measures.
- Built Green 4-Star requires the building energy model to show 20% better performance than WSEC.

What makes it green? This rating system provides sustainable solutions to address:

- | | | | |
|-------------------|----------------------------|-----------------------------|---------------------|
| ■ Land Management | ■ Energy | ■ Water | ■ Transportation |
| □ Habitat | ■ Building Materials | □ Equity & Inclusion | ■ Health & Wellness |
| □ Food Access | ■ Operations & Maintenance | □ Emergency & Disaster Prep | □ Aesthetic |

Potential Expansion of Deep Green Incentive Program - Attachment A

PHIUS+ 2015

Administered by: Passive House Institute United States (PHIUS), peer-reviewed by U.S. Department of Energy (DOE)

Note: PHIUS+ 2018 gets published Sept-Oct 2018.

About:

- Projects that pursue this standard have airtight envelopes, continuous insulation, often triple-paned windows, minimal space conditioning, and optimize natural heating/cooling techniques (e.g. passive solar).
- Given that this protocol is not just for homes, the term 'passive building' is becoming more commonplace.

Most significant shift from "typical" / WA State Energy Code (WSEC):

- **Air tightness requirement** is five times greater than WSEC. Requires continuous air barriers and a rigorous threshold for the ASTM E779 fan pressure test.
- **Source energy limit** per person – enhanced insulation and windows [e.g. roof assembly target R-81 (WSEC requires R-49). Wall assembly above-grade target R-39 (WSEC stipulates R-21 for wood frame construction), triple paned windows]
- **Strict space conditioning criteria** (newer heating and ventilation systems are typically required to comply (e.g. Energy Recovery Ventilation [ERV])).

What makes it green? This rating system provides sustainable solutions to address:

- | | | | |
|--|--|--|--|
| <input type="checkbox"/> Land Management | <input checked="" type="checkbox"/> Energy | <input type="checkbox"/> Water | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Habitat | <input checked="" type="checkbox"/> Building Materials | <input type="checkbox"/> Equity & Inclusion | <input type="checkbox"/> Health & Wellness |
| <input type="checkbox"/> Food Access | <input type="checkbox"/> Operations & Maintenance | <input type="checkbox"/> Emergency & Disaster Prep | <input type="checkbox"/> Aesthetic |

Potential Expansion of Deep Green Incentive Program - Attachment A

Protocol Comparison: Climate, Ecology & Health

One Star (★) if protocol does not go beyond code requirements or provides minimal opportunity. Maximum five stars (★★★★★) awarded if protocol provides a great opportunity to greatly exceed code or typical practices. *Note: The sample building used in this study may not take advantage of all opportunities to incorporate these comprehensive environmental benefits, based on credits selected to achieve certification threshold.*

Benefit	Code Compliance	LEED for Homes Gold	Built Green 4-Star	Passive House
Land Management (Preservation of land)	★	★★	★★★	★
Energy (CO ₂ emissions reduction)	★	★ 0-10% CO ₂ emissions reduced / year	★★★ 75-85% CO ₂ emissions reduced / year	★★★★★ 85-95% CO ₂ emissions reduced / year
Water (Potable water reduction)	★	★★ 1.55 million gallons reduced / year	★★ 2.08 million gallons reduced / year	★ 0 gallons reduced / year
Transportation (CO ₂ reduction)	★	★★	★★★	★
Habitat (Developing sites that support ecosystems)	★	★★	★	-
Building Materials (Improve indoor air quality & reduce exposure to toxins)	★	★★★	★★★	★★
Building Materials (Local & recycled)	-	★★★★	★★★	-
Equity & Inclusion (Ensure all are welcome & have a voice)	★	★★	★★	★
Health & Wellness (Physical & mental health)	★	★★	★★★	★★
Food Access (Access to healthy food)	-	★	★	-
Operations & Maintenance (Education & stewardship)	★	★★	★★	-
Emergency & Disaster Preparation (Resilience)	★	★	★	★
Aesthetic (Beauty)	-	★	★	-

Potential Expansion of Deep Green Incentive Program - Attachment A

Protocol Comparison: Costs

Impact	Code Compliance	LEED for Homes Gold	Built Green 4-Star	Passive House
<u>Soft Costs</u>	<p>Baseline: varies by project</p> <p><i>Code does not require:</i></p> <ul style="list-style-type: none"> Facilitate an integrated design process (e.g. all disciplines coordinate efforts at the concept/schematic phase) Conduct preliminary energy modelling Ensure the durability of the project (e.g. additional moisture and pest control measures & inspections) Conduct additional systems inspections Provide homeowner education 	<p>SUB-TOTAL: \$170,000-200,000</p> <ul style="list-style-type: none"> Registration & Certification: \$10,000 LEED On-Site Verification: \$40,000 IPc1 - Integrated Project Planning: Trades Training: \$4,000 IPc1 - Integrated Project Planning: Design charrette: \$6,000 EAp1 - Energy Modeling: \$30,000 EAp1 - Fundamental <u>Commissioning:</u> \$35,000 EAp1 – Duct leakage, ventilation & exhaust testing: \$15,000-\$30,000 EAp3 - O&M + Homeowner Education: \$5,000 MRc1 – Durability Verification: \$4,000 EQp7 - Blower Door Testing & Thermal Enclosure Verification: \$15,000 EQc6 – Garage pressure testing: \$5,000 	<p>SUB-TOTAL: \$120,000 - \$200,000</p> <ul style="list-style-type: none"> Registration & Certification ~ \$10,000 Built Green Consulting & Verification: \$40,000 3.2 – <u>Commissioning:</u> \$35,000 3.10 – Energy Modeling: \$35,000 	<p>SUB-TOTAL: \$160,000 - \$200,000</p> <ul style="list-style-type: none"> Registration & Certification: \$30,000 Passive House Consultant: \$50,000 <u>Commissioning:</u> \$35,000 Passive House Modeling: \$45,000
<u>Hard Costs</u>	<p>Baseline: varies by project</p>	<p>SUB-TOTAL: \$105,000-125,000</p> <ul style="list-style-type: none"> EQp7 - Potential additional sealing/caulking to meet blower door test threshold: \$20,000-40,000 EQc7 – <u>No Added Urea Formaldehyde (NAUF):</u> \$40,000 	<p>SUB-TOTAL: \$360,000-\$860,000</p> <ul style="list-style-type: none"> 3.10 – Advanced hot water heat recovery: e.g. Sewer thermal heat recovery or heat pumps: \$300,000-\$800,000 5.52 – RECs (Renewable Energy Credits): \$10,000 	<p>SUB-TOTAL: \$770,000-\$1,800,000</p> <ul style="list-style-type: none"> Air tightness requirement of 0.05 CFM50 and 0.08 CFM75 per square foot of gross envelope (WSEC requires 0.40 CFM75). Requires continuous air barriers and a rigorous threshold for the ASTM E779 fan pressure test. Advanced sealing measures: General Contractor estimate required.

Potential Expansion of Deep Green Incentive Program - Attachment A

Impact	Code Compliance	LEED for Homes Gold	Built Green 4-Star	Passive House
<p>Hard Costs <i>Continued</i></p>		<ul style="list-style-type: none"> • IDc4 – 6 EV charging stations: \$45,000 	<ul style="list-style-type: none"> • 2.70 – 1 EV charging station: \$8,000 • 4.18, 4.19 – <u>No Added Urea Formaldehyde (NAUF)</u>: \$40,000 	<ul style="list-style-type: none"> • Source energy limit: 6200 kWh per person per year • Roof Assembly target R-81 (WSEC stipulates R-49 for in-roof insulation; R-38 for above-deck insulation) • Wall Assembly above-grade target R-39 (WSEC stipulates R-21 for wood frame construction). Requires either deeper studs and/or adding exterior, continuous insulation. • Triple paned windows: \$70,000 - \$150,000 (\$3 - \$5/SF) • Space Conditioning: Non-standard mechanical systems are typically required to comply (e.g. Energy Recovery Ventilation [ERV], possible heat-pump heating): \$700,000- \$1,400,000
<p>TOTAL ROM COSTS</p>	<p>Baseline</p>	<p>TOTAL: \$275,000-325,000</p>	<p>TOTAL: \$480,000-\$1,060,000</p>	<p>TOTAL: \$930,000-2,000,000</p>
<p>Notable* Design/ Construction Impacts (*not all inclusive)</p>	<p>Baseline (Two 2015 WSEC C406 Measures)</p>	<ul style="list-style-type: none"> • Design charrette • Trades Training – GC LEED training • Highly reflective roof surface (e.g. TPO) and/or green roof • All plantings 18” from exterior walls • WaterSense certified and low-flow plumbing fixtures –1.75gpm showerheads, 1.5gpm lavatory faucets • ENERGY STAR appliances – dishwasher, clothes washer, refrigerators • Sub-metered irrigation 	<ul style="list-style-type: none"> • Advanced energy efficiency measures to comply with 20% better than WSEC • Highly reflective roof surface (e.g. TPO) and/or green roof • TPO or built up bitumen roof to reduce water pollutants • WaterSense certified and Low-flow plumbing fixtures –1.75gpm showerheads, 1.5gpm lavatory faucets, 1.28gpf toilets • ENERGY STAR appliances – dishwasher, clothes washer, refrigerators 	<ul style="list-style-type: none"> • Attention to building geometry – less complicated perimeter (e.g. rectangle or L-shape) will be more efficient for thicker insulation & infiltration mitigation • Enhanced R-value walls and roof • Triple Pane Glazing • Continuous air barrier - reduced air infiltration allowance • Decreased rentable square footage, with thicker envelope if on a zero-lot line project • Mechanical systems sizing will go down compared to typical practice

Potential Expansion of Deep Green Incentive Program - Attachment A

Impact	Code Compliance	LEED for Homes Gold	Built Green 4-Star	Passive House
<p>Notable* Design/ Construction Impacts (*not all inclusive) <i>Continued</i></p>		<ul style="list-style-type: none"> • ENERGY STAR Portfolio Manager utility tracking • Clothes washers: Steel hose + ¼ turn shut off • Shower/bath: greenboard • All tropical wood – FSC • Aggregate within 100 miles, insulation with 25% recycled content • CO sensors in all spaces adjacent to garage / ductwork outside fire rated envelope of garage (or soffit'ed) • ENERGY STAR plus occupancy sensors, humidistat or timers on all bath fans • <u>Walk-off mats</u> at main entries and all walk-up units • Garage pressure testing • <u>No added urea formaldehyde - NAUF</u> • 14 preferred parking spaces (hybrids) • 6 EV charging stations 	<ul style="list-style-type: none"> • <u>No added urea formaldehyde – NAUF</u> • ENERGY STAR Portfolio Manager utility tracking – energy & water use • 1 EV charging station • Exterior lighting design – meet light pollution requirements 	
<p>Number of Projects in Shoreline</p>	<p align="center">Baseline</p>	<p align="center">11</p>	<p align="center">5</p>	<p align="center">0-1</p>

Appendix

1. Glossary of Terms
2. LEED for Homes Scorecard
3. Built Green Scorecard
4. Passive House Strategies List

Potential Expansion of Deep Green Incentive Program - Attachment A

Appendix 1 - Glossary of Terms

Comparative Analysis of LEED, Built Green, & Passive House

Commissioning - the process of verifying, in new construction, all (or some, depending on scope) of the subsystems for mechanical (HVAC), plumbing, electrical, fire/life safety, building envelopes, interior systems, co-generation, utility plants, sustainable systems, lighting, wastewater, controls, and building security to achieve the owner's project requirements as intended by the building owner and as designed by the building architects and engineers.

Energy Recovery Ventilators - the energy recovery process of exchanging the energy contained in normally exhausted building or space air and using it to treat (precondition) the incoming outdoor ventilation air in residential and commercial HVAC systems.

Hard Costs - include expenses *directly* related to the physical construction a building, including tangible assets that you need to acquire to complete your construction project. These costs cover the materials that go into buildings, including cement, drywall, carpet, sod grass; and labor for grading, site excavation, landscaping, and carpentry.

No Added Urea Formaldehyde (NAUF) – refers to products and materials that do not include the permanent adhesive created by the resin of urea and formaldehyde.

Occupancy Sensors - an indoor motion detecting devices used to detect the presence of a person to automatically control lights or temperature or ventilation systems.

Rough Order of Magnitude (ROM) - an estimation of a project's level of effort and cost to complete. A ROM estimate takes place very early in a project's life cycle — during the project selection and approval period and prior to project initiation in most cases.

Soft Costs - include expenses *indirectly* related to construction of a building. Soft costs include architectural, engineering, financing, and legal fees, and other pre- and post-construction expenses.

Thermoplastic Polyolefin (TPO) - refers to polymer/filler blends usually consisting of some fraction of a thermoplastic, an elastomer or rubber, and usually a filler. Outdoor applications such as roofing frequently contain TPO because it does not degrade under solar UV radiation, a common problem with nylons.

Walk-off Mats - used to describe an entire category of commercial floor mats that either scrape or wipe debris from the under soles of shoes.



LEED for Homes V4 Midrise Project Checklist | 07.25.2018 | Project Goal: Gold

☐ - Known additional cost from baseline

Appendix 2



Yes	Likely	Unlikely	No	65	7	31	12	PROJECT TOTALS pre-certification estimates	Certification Thresholds: Certified 40 points Silver 50 points Gold 60 points Platinum 80+
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Yes	Likely	Unlikely	No	Max. Points
2	0	0	0	2
Integrated Design				
2				2
Credit 1 Integrated Project Planning				

Yes	Likely	Unlikely	No	Max. Points
14	0.5	0.5	0	15
Location and Transportation				
Y				Req'd
Prereq 1 Floodplain Avoidance				
8			-	8
Credit 1 Site Selection				
3				3
Credit 2 Compact Development				
1.5	0.5			2
Credit 3 Community Resources				
1.5		0.5		2
Credit 4 Access to Transit				

Yes	Likely	Unlikely	No	Max. Points
4	0	3	0	7
Sustainable Sites				
Y				Req'd
Prereq 1 Construction Activity Pollution Prevention				
Y				Req'd
Prereq 2 No Invasive Plants				
2				2
Credit 1 Heat Island Reduction				
		3		3
Credit 2 Rainwater Management				
2				2
Credit 3 Non-Toxic Pest Control				

Yes	Likely	Unlikely	No	Max. Points
7	1	2	0	10
Water Efficiency				
Y				Req'd
Prereq 1 Water Metering				
3	1	2		6
Credit 1 Indoor Water Use				
4				4
Credit 2 Outdoor Water Use				

Yes	Likely	Unlikely	No	Max. Points
19	2	15	4	37
Energy and Atmosphere				
Y				Req'd
Prereq 1 Minimum Energy Performance				
Y				Req'd
Prereq 2 Energy Metering				
Y				Req'd
Prereq 3 Education of the Homeowner, Tenant or Bldg Manager				
17	2	8	4	30
Credit 1 Annual Energy Use				
		7		5
Credit 2 Efficient Hot Water Distribution				
2				2
Credit 3 Advanced Utility Tracking				

Yes	Likely	Unlikely	No	Max. Points
4	0	1	6	9
Materials and Resources				
Y				Req'd
Prereq 1 Certified Tropical Wood				
Y				Req'd
Prereq 2 Durability Management				
1				1
Credit 1 Durability Management Verification				
1		1	5	5
Credit 2 Environmentally Preferable Products				
2			1	3
Credit 3 Construction Waste Management				

Yes	Likely	Unlikely	No	Max. Points
10.0	0	7.5	1.5	18
Indoor Environmental Quality				
Y				Req'd
Prereq 1 Ventilation				
Y				Req'd
Prereq 2 Combustion Venting				
Y				Req'd
Prereq 3 Garage Pollutant Protection				
Y				Req'd
Prereq 4 Radon-Resistant Construction				
Y				Req'd
Prereq 5 Air Filtering				
Y				Req'd
Prereq 6 Environmental Tobacco Smoke				
Y				Req'd
Prereq 7 Compartmentalization				
1		2		3
Credit 1 Enhanced Ventilation				
1		0.5	1.5	2
Credit 2 Contaminant Control				
1		2		3
Credit 3 Balancing of Heating and Cooling Distribution Systems				
2		3		3
Credit 4 Enhanced Compartmentalization				
1				2
Credit 5 Enhanced Combustion Venting				
1				1
Credit 6 Enhanced Garage Pollutant Protection				
3				3
Credit 7 Low Emitting Products				
1				1
Credit 8 No Environmental Tobacco Smoke				

Yes	Likely	Unlikely	No	Max. Points
3	3	0	0	6
Innovation				
Y				Req'd
Prereq 1 Preliminary Rating				
1				1
Credit 1 Exemp Perf - LTc2.5 Bike Storage & Network				
1				1
Credit 1 Exemp Perf - Design Charrette or Trades Training				
	1			1
Credit 1 Pilot Credit - Food Production (3800sf on roof)				
1				1
Credit 1 Innovation Credit - Green Vehicles or alternative				
	1			1
Credit 1 Green Power and Carbon Offsets				
	1			1
Credit 2 LEED AP Homes				

Yes	Likely	Unlikely	No	Max. Points
2	0	2	0	4
Regional Priority				
1		1		1
Credit 1 SSc3 Nontoxic Pest Control				
1				1
Credit 2 WEc2 Outdoor Water Use				
	-			1
Credit 3 EAc1 Annual Energy Use				
		1		1
Credit 4 MRc3 Construction Waste Management				
				1
Credit 5 EQc1 Enhanced Ventilation				



Appendix 3

Please indicate:
 Preliminary checklist
 (for own or verifier's use)
 Final checklist
 (for certification review)

Multi-Family Residential New Construction Certification Checklist

Company Name	City of Shoreline Apartments - analysis of the potential for Built Green 4-Star Certification
Project Address	Baseline Building - 17233 15th Ave NE, Shoreline, WA
Number of Units	243

Last updated March 13, 2018

REQUIRED CREDITS

Action Item No.	Possible Points	Credit	Total Points	Comments
THREE-STAR REQUIREMENTS (300 points minimum)				
	<i>required</i>	Built Green assumes building meets local code regulations	★	GOOD
	<i>required</i>	Third-party verification	★	Sustainability consultant fulfills requirements
	<i>required</i>	Achieve a minimum of 50 points from sections 2-5	★	IN PROGRESS
Energy	<i>required</i>	All spot exhaust fans must be ENERGY STAR (See Action Item 3-50)	★	GOOD - LIKELY IN BASELINE BLDG
Energy	<i>required</i>	Install ENERGY STAR refrigerators, dishwashers and clothes washers (if provided by builder) (See Action Items 3-42, 3-47, 3-48)	★	GOOD - IN BASELINE BLDG
Energy	<i>required</i>	Ventilation system flow rates are tested and within 20% of design flows. Controls and settings are consistent with design	★	IN PROGRESS
Energy	<i>required</i>	Building modeled to have 10% better performance than the Washington State Energy Code cycle under which the project is permitted OR achieves additional credits in Section R406 (two credits) or C406 (two options) (above the WSEC requirements) (See Action Items 3-1 and 3-2)	★	IN PROGRESS
IAQ	<i>required</i>	Use only low-VOC/low-toxic interior paints, primers, and finishes for ALL surface areas (See Action Item 4-15)	★	GOOD - LIKELY IN BASELINE BLDG
IAQ	<i>required</i>	Do not install a wood-burning fireplace inside unit or building	★	GOOD
Materials	<i>required</i>	Post jobsite recycling plan on site and maintain at least two bins (one for waste, one for recyclables)	★	GOOD - LIKELY IN BASELINE BLDG
Materials	<i>required</i>	Recycle all clean wood, cardboard, new gypsum scrap, metal, asphalt paving/brick/concrete, electronics, and batteries (See Action Item 5-6, 5-25)	★	GOOD - LIKELY IN BASELINE BLDG
Materials	<i>required</i>	Use no endangered species or old growth wood (See Action Item 5-36)	★	GOOD - LIKELY IN BASELINE BLDG

FOUR-STAR REQUIREMENTS (400 points minimum)

	<i>required</i>	Meet 3-Star requirements	★	IN PROGRESS
	<i>required</i>	Achieve a minimum of 60 points from sections 2-5	★	IN PROGRESS
Site & Water	<i>required</i>	Amend disturbed soil with compost to a depth of min. 10 inches to restore soil environmental functions (See Action Item 2-16)	★	GOOD - LIKELY IN BASELINE BLDG
Site & Water	<i>required</i>	Landscape with plants appropriate for site topography and soil types, emphasizing use of plants with low watering requirements (drought tolerant) (See Action Item 2-41)	★	GOOD - LIKELY IN BASELINE BLDG
Site & Water	<i>required</i>	Install ALL bathroom faucets with gpm 1.5 or less, must be WaterSense labelled	★	NOT IN BASELINE PROJECT
Site & Water	<i>required</i>	Install ALL showerheads with 1.75 gpm or less, must be WaterSense labelled (See Action Item 2-50)	★	NOT IN BASELINE PROJECT
Site & Water	<i>required</i>	Install ALL toilets with 1.28 gpf or less average flush rate, must be WaterSense labelled (See Action Item 2-54)	★	NOT IN BASELINE PROJECT
Energy	<i>required</i>	Building modeled to have 20% better performance than the Washington State Energy Code cycle under which the project is permitted (See Action Item 3-1)	★	IN PROGRESS
Energy	<i>required</i>	Set up automatic energy benchmarking in Portfolio Manager and share data with Built Green	★	GOOD - LIKELY IN BASELINE BLDG
Energy	<i>required</i>	Design for solar readiness (See handbook for details)	★	GOOD - LIKELY IN BASELINE BLDG
Energy	<i>required</i>	80% of installed lighting shall be high efficacy AND listed on an approved "Qualified Products List" (See Action Item 3-40)	★	NOT IN BASELINE PROJECT
IAQ	<i>required</i>	Provide track-off mats, carpets, and/or shoe grates at principle entryways to building (See Action Item 4-69)	★	NOT IN BASELINE PROJECT
IAQ	<i>required</i>	Use CARB II and/or NAUF composite wood products for indoor applications	★	NOT IN BASELINE PROJECT
IAQ	<i>required</i>	Provide range exhaust hood directly over cooking appliance. Exhaust hood shall vent directly to the exterior of the building. General kitchen exhaust or recirculating hoods shall not meet this requirement.	★	GOOD - LIKELY IN BASELINE BLDG
Materials	<i>required</i>	Achieve minimum recycling rate of 50% by weight (See Action Items 5-13 through 5-29)	★	GOOD - LIKELY IN BASELINE BLDG

Potential Expansion of Deep Green Incentive Program - Attachment A

FIVE-STAR REQUIREMENTS (600 points minimum)				
	<i>required</i>	Meet 4-Star requirements	★	
	<i>required</i>	Achieve a minimum of 90 points from sections 2-5	★	
Site & Water	<i>required</i>	Install ALL bathroom faucets with gpm 1.0 or less, must be WaterSense labelled (See Action Item 2-48)	★	
Site & Water	<i>required</i>	Install ALL showerheads with gpm 1.5 or less, must be WaterSense labelled (See Action Item 2-50)	★	
Site & Water	<i>required</i>	Install ALL toilets with 1.1 gpf or less average flush rate, must be WaterSense labelled (See Action Item 2-54)	★	
Site & Water	<i>required</i>	Manage 50% of stormwater on site	★	
Energy	<i>required</i>	Building modeled to have 30% better performance than the Washington State Energy Code cycle under which the project is permitted (See Action Item 3-1)	★	
Energy	<i>required</i>	Install solar PV producing 150 kWh for every 1000 sq ft OR install solar hot water producing 500 kBtu for every 1000 sq ft (See Action Items 3-54 and 3-55)	★	
IAQ	<i>required</i>	All hard surface flooring must contain no orthophthalates (See Action Item 4-22)	★	
IAQ	<i>required</i>	All carpet must contain no fly ash (See Action Item 4-26)	★	
Materials	<i>required</i>	Achieve a minimum recycling rate of 90% of waste by weight	★	

NET ZERO ENERGY LABEL (OPTIONAL)				
	<i>required</i>	Meet any star-level requirements plus point minimum	★	
Energy	<i>required</i>	Demonstrate net zero energy performance over the course of a year	★	
Energy	<i>required</i>	Provide an energy performance disclosure waiver	★	

Check items included this project to qualify for a BUILT GREEN star rating. 2017 version

QUALIFYING CREDITS				
Action Item No.	Possible Points	Credits	Total Points	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 development team and owner to determine Built Green features to be included in the project 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 project's goals and objectives		
1-3	1	Provide all documentation/copies to third-party verifier electronically	1	
BUILT GREEN TEAM SECTION TOTALS			1	

SECTION 2: SITE & WATER				
SITE PROTECTION				
Overall				
2-1	10	Build on an infill lot to take advantage of existing infrastructure and reduce development of virgin sites	10	
2-2	10	Build in a planned Built Green development or certified Built Green Community		
2-3	20	Build on a greyfield or brownfield site	20	
2-4	30	Create a Low Impact Development as defined in handbook		
2-5	5-25	Meet or exceed City of Seattle's Green Factor standards (point tiers in handbook)		NA for projects outside of Seattle
2-6	1-5	Bonus points: Use of Green Factor where it is not part of the project's jurisdictional development requirements	3	LIKELY, LA to do calc
2-7	20	For each acre of development, set aside an equal amount of land as a conservation easement or transfer of development rights		
Subtotal			33	
Protect Site's Natural Features				
2-8	3	Avoid soil compaction by limiting heavy equipment use to building footprint and construction entrance		
2-9	3	Preserve existing native vegetation as landscaping (min. 25% preserved)		
2-10	1-5	Retain trees on site (1 pt per 20% preserved)		
2-11	10 or 12 or 15	Restore percentage of site outside the footprint for the life of the building (10%, 20%, 30%)		
Subtotal			0	
Protect Natural Processes On-Site				
2-12	2	Install and maintain temporary erosion control devices that significantly reduce sediment discharge from the site beyond code requirements		
2-13	3	Use compost to stabilize disturbed slopes during construction		
2-14	2 or 5	Retain all native topsoil in-situ, or stockpile and protect from erosion	2	
2-15	3	Balance cut and fill, while minimizing change to original topography		
2-16	4	Amend disturbed soil with compost to a depth of min. 10 inches to restore soil environmental functions	4	
2-17	2	Replant or donate removed vegetation for immediate reuse		
2-18	2	Use plants salvaged from another site		
2-19	3	Grind land clearing wood and stumps for reuse on site		
2-20	10 or 20 or 30	Manage specified percentage of stormwater from roof and site on site by 60%, 80%, or 100%		
Subtotal			6	

Potential Expansion of Deep Green Incentive Program - Attachment A

Hardscapes				
2-21	5 or 10 or 15	Design to achieve 50%, 75%, or 90% effective pervious surface outside of building footprint		
2-22	10 or 15 or 25	Install vegetated roof system (e.g. green roof) to reduce impervious surface on 25%, 50%, or 90%+ of total roof surface		
2-23	1	Integrate landscaping with parking area beyond code		
Subtotal			0	
Reduce Urban Heat Island Effect				
2-24	5	Install an ENERGY STAR Qualified roof	5	
2-25	5	Provide shading for 30% of hardscapes by using landscape, landscape features, or overhangs		
2-26	5	For all exterior hardscape, including surface parking, use only light-colored pavement for 90% of project area (Solar Reflective Index of .28 or better)		
Subtotal			5	
Eliminate Water Pollutants				
2-27	1	Wash out concrete trucks in slab or pavement subbase areas, or use washout boxes		
2-28	3	Establish and post clean up procedures for spills to prevent illegal discharges	3	
2-29	1	Reduce hazardous waste through good jobsite housekeeping	1	
2-30	2	Construct tire wash, establish and post clean up protocol for use		
2-31	2	Use slow release organic fertilizers to establish vegetation	2	LIKELY
2-32	2	Use less toxic form release agent	2	LIKELY
2-33	8-10	Use non-toxic (10 pts) or low-toxic (8 pts) outdoor materials for all landscaping	8	LIKELY
2-34	5	Use only "Low Hazard" pesticides and herbicides for landscape installation and in Operations & Maintenance Plan		
2-35	5	Do not use galvanized metal, EPDM, or PVC roofing materials		
2-36	2	Use a modified bitumen built-up or TPO membrane roof	2	
2-37	5	No clearing or grading during wet weather periods (November - April)		
2-38	40 or 50	On-site wastewater treatment for greywater only (40 pts) or for blackwater and greywater (50 pts), min. 50% captured		
Subtotal			18	
WATER CONSERVATION				
Outdoor Conservation				
2-39	2	Mulch landscape beds with 4 inches of organic mulch	2	
2-40	3-12	Limit use of turf grass, or use no turf grass (3 pts per 25%)	9	
2-41	5	Landscape with plants appropriate for site topography and soil types, emphasizing use of plants with low watering requirements (drought tolerant)	5	
2-42	2	Install sub-surface or drip systems for irrigation with controls for each zone, including weather or soil moisture-based modulation	2	
2-43	5	Install a WaterSense irrigation system		
2-44	3	Irrigation system commissioned by a professional to ensure no leaks, efficient system		
2-45	10	Install landscaping that requires no potable water for irrigation whatsoever after initial establishment period (approximately 2 years)		
2-46	5-20	Install rainwater collection system (cistern) that reduces water consumption for irrigation (5 pts for each 25% of irrigation needs met by cistern)		
2-47	50	Provide 100% of building and landscaping water use with captured precipitation or reused water purified without the use of chemicals		
Subtotal			18	
Indoor Conservation				
2-48	1-3	Install ALL bathroom faucets with 1.0 gpm (1 pt), 0.5 gpm or less (3 pts), must be WaterSense labelled		
2-49	3	Install ALL kitchen faucets with 1.8 gpm or less	3	
2-50	5-7	Install ALL showerheads with 1.75 gpm (5 pts), 1.5 gpm or less (7 pts), must be WaterSense labelled	5	1.75 gpm showerheads & WaterSense - NOT IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
2-51	10	Stub-in plumbing to use greywater for toilet flushing (must test for leaks)		
2-52	20	Use greywater or rainwater for toilet flushing		
2-53	3	Provide water sub-metering for each unit	3	
2-54	4-12	Install WaterSense labelled toilets (1.28 gpf = 4 pts, 1.1 gpf = 8 pts, 0.8 gpf = 12 pts. All toilets must comply.)	4	1.28 gpf toilets & WaterSense - NOT IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
2-55	4	Install no-cartridge waterless urinals or 1/8 gallon urinals and 1.28 gpf maximum (WaterSense if not flushometer) toilets in all common areas		
2-56	3-5	Limit pipe volume between water heat source and furthest fixture. Pipe run should store no more than than 0.5 gallons (3 pts) or 0.3 gallons (5 pts)		
Subtotal			15	
Eliminate Water Pollutants				
2-57	1	Do not install garbage disposal		
Subtotal			0	
DESIGN ALTERNATIVES				
2-58	10	Follow comprehensive integrated design plan for site and structure (as described in the handbook)		
2-59	5	Provide community common areas accessible to all building occupants	5	
2-60	2	Take advantage of parking reduction credits that are available in your jurisdiction		
2-61	5 or 10	Provide structured parking within the proposed building footprint at a 50% minimum or 100%	10	
Subtotal			15	

Potential Expansion of Deep Green Incentive Program - Attachment A

TRANSPORTATION				
2-62	15	Create a Transit-Oriented Development		
2-63	4	Build within ¼ miles of a transit stop or Park and Ride	4	
2-64	15	Create a mixed-use building	15	NOT IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
2-65	6-10	Provide subsidized bus passes (25% or 50% subsidized)		
2-66	2	Provide bicycle lockers or bicycle storage beyond code		
2-67	2	Provide bus shelters		
2-68	6-12	Provide dedicated parking spots for carpool or car-share vehicles (6 pts for first stall above code, 2 pts for each additional)		
2-69	2	Provide a link to community trails		
2-70	5-20	Provide EV charging station (5 pts for one station, 3 pts for each additional)	5	
Subtotal			24	
BENCHMARKING				
2-71	5	Commit to annual benchmarking of building water consumption using ENERGY STAR Portfolio Manager and to sharing this information with Built Green	5	
2-72	7	Install a prominent water use display in high traffic common area		
Subtotal			5	
EXTRA CREDIT/INNOVATION for Site and Water				
2-73	1-10	Extra credit / innovation for Site and Water		
Subtotal			0	
SITE & WATER TOTAL			139	

SECTION 3: ENERGY				
ENERGY IMPROVEMENT				
3-1	1-70	Document energy improvements beyond code using approved energy modeling software (1 pt per % improvement above code)	20	HOLD FOR NOW - 20 pt automatically w 4-star 20% better performance modelled req'd
3-2	1-20	Document building improvements beyond code using a prescriptive approach (see handbook for how to calculate points)		HOLD FOR NOW
3-3	50	Bonus points: build a net zero energy building that draws zero outside power or fuel on a net annual basis		
Subtotal			20	
SYSTEMS COMMISSIONING				
3-4	5 or 10 or 15	Provide Fundamental Commissioning of building systems (see handbook for point tiers)	10	
Subtotal			10	
AIR SEALING				
3-5	3	Airtight drywall approach for framed structures		
3-6	10	Use airtight building method, such as SIP or ICF for all walls		
3-7	3	Eliminate or airtight seal all air pathways between floors and units		
3-8	5	Use a dense packed blown-in wall insulation system		
3-9	5 or 10 or 15	Conduct blower door test for the whole building with results better than base code requirement (see handbook for point tiers)		
Subtotal			0	
PASSIVE DESIGN FEATURES				
3-10	6 or 12	Passive solar: three of the below strategies (6 pts), or five (12 pts)		
3-10a		East/west orientation		
3-10b		Optimal glazing - majority within 22 degrees of due south		
3-10c		Proper overhang sizing		
3-10d		Glazing with Solar Heat Gain Coefficient of less than .40		
3-10e		Natural shading on south side (trees)		
3-11	7	Model solar design features using approved modeling software		
3-12	2	Operable window area greater than code		
Subtotal			0	
HEATING/COOLING				
Distribution				
3-13	3	Install ENERGY STAR ceiling fans in all units - minimum one per unit	3	
3-14	5 or 10	Third-party total duct leakage performance test (see handbook for point tiers)		
3-15	2	All ducts are in conditioned space	2	
3-16	3	Locate heating/cooling equipment inside the conditioned space		
Subtotal			5	
Controls				
3-17	2	Install programmable thermostats for all individual heating zones	2	
3-18	1	Provide separate switching for bathrooms fan/heat lamp and fan/light combination fixtures	1	GOOD - LIKELY IN BASELINE BLDG
3-19	3	Provide electricity and/or natural gas direct metering for each unit	3	
3-20	5	Install heat systems with separate zones for sleeping and living areas (not including electric resistance heating)		
3-21	3	Black or smart switches in all units for turning off associated outlets		
Subtotal			6	
Heat Recovery				
3-22	5 or 10	Install a heat recovery ventilator (HRV) or an energy recovery ventilator (ERV)		
3-23	10	If HRV or ERV installed, commission and make sure system is balanced, includes fan power		
Subtotal			0	

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Space Heating/Cooling Equipment				
3-24	3 or 5 or 8	Select heat pumps with performance better than ENERGY STAR (see handbook for point tiers)		
3-25	2-4	Select heating system efficiency (natural gas): 96% AFUE (2 pts) or 96% AFUE + Variable Speed/ECM blower motor (4 pts)	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
3-26	3	Select ENERGY STAR heating/cooling equipment		
3-27	2	No gas fireplaces, or use direct vent gas or propane hearth product (AFUE rating)	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
3-28	5	Do not install infrastructure for temporary/portable air conditioners	5	
Subtotal			9	
WATER HEATING				
Overall				
3-29	5	Install drainwater heat recovery system (DHR)		
3-30	2	Install whole building "smart" variable-speed recirculation pump		
3-31	2 or 4	Install ultra-high efficiency central (gas) water heater with 92% (2 pts) or 96% (4 pts) thermal efficiency	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
3-32	2	Install the water heater inside the heated space (electric, direct vent, or sealed venting only)	2	
3-33	8	Install one or more Heat Pump Water Heaters with EF 2.0 or greater		
3-34	25	Install a centralized Heat Pump or Reverse Cycle Chiller to heat the domestic hot water		
Subtotal			4	
Distribution				
3-35	10	Insulate all hot water recirculation lines		
3-36	1	Install heat traps on cold inlet pipes at hot water storage tank		
Subtotal			0	
LIGHTING				
Natural Light				
3-37	1	Light-colored interior finishes	1	
Subtotal			1	
Efficient Lighting				
3-38	1-2	Install lighting dimmer, photo cells, timers, and/or motion detectors for high efficiency fixtures - common areas and in-unit lighting		
3-39	2	Install motion detectors for minimum 90% of exterior fixtures		
3-40	2 or 5 or 7	Install high efficacy lighting that is listed on an approved "Qualified Products List" (see handbook for point tiers)		
3-41	5	Avoid excessive outdoor light levels while maintaining adequate light for security and safe access, meet IESNA Levels	5	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
Subtotal			5	
APPLIANCES				
3-42	2	Install ENERGY STAR clothes washers in all units	2	IN BASELINE PROJECT
3-43	3	Install ENERGY STAR clothes washers in common laundry facilities instead of in each unit		
3-44	1	Install ENERGY STAR clothes dryers in all units		
3-45	2	Install ENERGY STAR clothes dryers in common laundry facilities instead of in each unit		
3-46	5	Provide clotheslines to each tenant and "wet room" or outside space in unit or common area for hang drying clothes		
3-47	1	Install an ENERGY STAR dishwasher in all units	1	IN BASELINE PROJECT
3-48	2 or 4	Install ENERGY STAR, or better, refrigerator in all units	2	IN BASELINE PROJECT
3-49	2	Install induction cooktop in all units	2	IN BASELINE PROJECT
3-50	2	Install ENERGY STAR exhaust fans in all units, with fan sone rating of 0.3 or less at or above the design CFM		
Subtotal			7	
ALTERNATIVE ENERGY				
3-51	7	Participate in the local utility's electricity program for renewable electricity sources (covers minimum 25% of energy used)		
3-52	4	Develop incentive program for tenants to purchase Green-e certified RECs		
3-53	1	Solar-powered or low-voltage walkway or outdoor area lighting		
3-54	5-25	Install photovoltaic system (excluding solar hot water): 5 pts for 300 W/1000 sq ft and 5 pts for each additional 150 W/1000 sq ft.		
3-55	5-25	Install solar thermal for space heating or hot water: 5 pts for 1000 kBtu/1000 sq ft and 5 pts for each additional 500 kBtu/1000 sq ft		
Subtotal			0	
BENCHMARKING				
3-56	5	Include provisions in tenant leases releasing utility consumption and billing data to building owner and authorized agents		
3-57	10	Commit to performing a post-occupancy comparison of modeled vs. actual energy performance and to sharing with Built Green		
Subtotal			0	
EXTRA CREDIT/INNOVATION for Energy				
3-58	1--10	Extra credit / innovation for Energy		
Subtotal			0	
ENERGY TOTAL			67	

SECTION 4: HEALTH & INDOOR AIR QUALITY				
OVERALL				
4-1	5	Builder or architect certified to have taken a minimum 8 hour IAQ training approved by Program Manager		
4-2	15	Certify building under an IAQ program approved by Program Manager		
4-3	1	Building is designated non-smoking	1	
Subtotal			1	

Potential Expansion of Deep Green Incentive Program - Attachment A

JOBSITE OPERATIONS				
4-4	1	Use less-toxic cleaners	1	
4-5	1	Require workers to use VOC-safe masks when applying VOC containing wet products and N-95 dust masks when generating dust	1	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-6	1-5	Take measures during construction operations to avoid moisture problems later (see handbook for examples; 1 pt per action)	5	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-7	2-4	Take measures to avoid problems due to construction dust (see handbook for point tiers)	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-8	3	Ventilate during all new wet finish applications	3	
4-9	2	No use of unvented combustion heaters during construction	2	
4-10	3	Clean duct, furnace, and filter thoroughly before occupancy	3	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-11	3	Institute a jobsite anti-idling program for construction vehicles	3	
4-12	3-12	Use non-diesel alternative fuels in construction equipment: electricity, propane, or natural gas (3 pts per 25% of equipment using alternative fuels)		
4-13	4	Require healthy jobsite plan for workers' compliance	4	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-14	4	Implement construction management plan to ensure healthy jobsite plan is implemented optimally and adhered to	4	
Subtotal			28	
LAYOUT AND MATERIAL SELECTION				
4-15		Inside the building envelope use only low-VOC products for various applications when wet-applied on site:		
4-15a	2	Tiling	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-15b	2	Framing	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-15c	4	Flooring	4	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-15d	4	Plumbing	4	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-15e	2	HVAC	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-15f	2	Insulating	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-15g	2	Drywalling	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-16	3	Use urea formaldehyde-free insulation or Greenguard Gold certified insulation product	3	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-17	1	Do not install insulation or carpet padding that contains brominated flame retardant (BFR)		
4-18	3	Use plywood and composites of exterior grade that is NAF, NAUF, or ULEF (for interior use)	3	
4-19	5	Use only shelving, window trim, door trim, base molding, etc., that is NAF, NAUF, or ULEF	5	
4-20	5	Install cabinets made with board that is NAF, NAUF, or ULEF and has low-toxic finish		
4-21	1	Use pre-finished flooring		
4-22	5	Use hard surface flooring without orthophthalate plasticizers		
4-23	10	No carpet in units		
4-24	2	Limit use of carpet to one-third of unit's square footage	2	
4-25	1	If installing carpet system (carpet, pad, and adhesive), specify and use CRI Green Label Plus or Greenguard certified products	1	
4-26	5	If installing carpet system (carpet, pad, and adhesive), specify and use carpet that does not contain fly ash filler in backing		
4-27	1	If using carpet, install by dry method		
4-28	1	Install low pile or less allergen-attracting carpet and pad	1	
4-29	2	Install untreated natural fiber carpet		
4-30	1	Avoid carpet in environments where it can get wet (kitchen, bathroom, near entries)	1	
4-31	50	Select materials such that the building is free from all of the materials and chemicals listed in the handbook. Please discuss with Program Manager before claiming this point		
Subtotal			34	
MOISTURE CONTROL				
Overall				
4-32	5	Use Building Envelope Consultant during design		
4-33	5	Envelope inspection at various stages of envelope installation by a qualified professional		
4-34	1	Grade to drain away from buildings	1	
Subtotal			1	
Roof				
4-35	6 or 10	Provide 2:12 (9.5 degree) pitch sloped roof surface -for at least 50% of roof (6 pts), or 100% (10 pts)		
Subtotal			0	

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Walls - Above Grade				
4-36	3	Provide continuous air- and weather resistive barrier installed to manufacturer's requirements		
4-37	3	Use prefabricated, liquid applied, or self-adhering flashing at siding transitions and penetrations		
4-38	6	Install rainscreen siding		
4-39	3	In wood-framed structures, use low-toxic mold-inhibitor product		
Subtotal			0	
Below Grade				
4-40	3	For slab on grade, use 10 mil polyethylene vapor barrier or equivalent performance, directly under slab	3	
4-41	2	Perform moisture test for any slab on grade prior to installing any finish to manufacturer's specifications		
4-42	2	Install mechanical ventilation system to control moisture in crawl space		
4-43	1	Install a rigid perforated footing drain at foundation perimeter, not connected to roof drain system	1	
4-44	3	Install moisture management system for below grade walls beyond code, i.e., drainage mat	3	
Subtotal			7	
Openings				
4-45	1	Properly seal building openings and penetrations against moisture and air leaks	1	
4-46		Install additional moisture control measures:		
4-46a	5	sill pans with back dams or slope at windows	5	
4-46b	3	door pans with back dams at doors	3	
4-46c	5	sill flashing extending up sides of windows	5	
4-46d	3	threshold protection at doors	3	
4-46e	1	metal head flashing at windows	1	
4-46f	1	metal head flashing at doors	1	
4-46g	1	min. 18" overhangs at entryways	1	
4-47	3	Provide hose testing or negative pressurization testing to pre-installed sample of each window type to test assembly for moisture control protection - ASTM E1105 or equal		
Subtotal			20	
AIR DISTRIBUTION AND FILTRATION				
4-48	2	No stud or joist cavities used for air conveyance	2	
4-49	2	Do not install electronic, metal mesh, horse hair, or non-pleated fiberglass filters		
4-50	1	Make sure air intakes are placed to avoid intake from air pollutant sources (beyond code)		
4-51	1	No parking within 40 feet of building air intakes	1	
4-52	2 or 5	Use effective media air filter, ensuring the HVAC system is designed for the static pressure drop of the filter: MERV 8 (2 pts) or MERV 12+ (5 pts)	2	
4-53	2	Install operable windows in all occupied spaces, minimum 4% of floor area		
4-54	2	Install CO ₂ detectors in community rooms		
4-55	2	Demand controlled ventilation in all rooms designed for high occupancy		
4-56	10	Utilize a balanced ventilation approach (supply + exhaust/return) in residential units		
Subtotal			5	
HVAC EQUIPMENT				
4-57	1	Design to ensure accessibility of all system components	1	
4-58	1	Design to prevent standing water in ducted HVAC systems	1	
4-59	3	Commission all spot ventilation fans in all units		
4-60	1	Use heating system controls that are free of mercury	1	
4-61	1	Range exhaust hoods shall be ENERGY STAR rated and have a maximum flow rate less than or equal to 300 cfm		
4-62	2	Install an automatic fan control with 20-minute delay timer, motion sensor, or humidistat for bath exhaust fans	2	
4-63	2	Install quiet bath exhaust fan with smooth ducting, minimum 4 inch, with a fan sone rating of .3 or less at or above the design CFM		
4-64	1	No sound insulation or other fibrous materials installed inside ducting		
4-65	3	Install sealed combustion heating and hot water equipment	3	
4-66	3 or 5	Compartmentalization testing of sampling of units (see handbook for point tiers)		
Subtotal			8	
HEALTH AND INDOOR AIR QUALITY				
4-67	1	Install biodegradable carbon filter at sink		
4-68	1	Install showerhead filter in all units, include information in the tenant handbook		
4-69	3	Provide track-off mats, carpets, and/or shoe grates at principle entryways to building	3	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
4-70	2	Provide a shoe removal and storage area at the entrance to each unit		
4-71	1	Do not install gas-burning appliances inside unit or building		
4-72	1	Install floor drain or catch basin with drain under washing machines (and condensing/heat pump dryers if applicable)		
4-73	1-2	Use radon resistant construction using EPA standards (passive) (1 pt) or test for radon and install active system after building is complete (2 pts)	1	
Subtotal			4	
EXTRA CREDIT / INNOVATION for Health and Indoor Air Quality				
4-74	1-10	Extra credit / innovation for Health and Indoor Air Quality		
Subtotal			0	
HEALTH & INDOOR AIR QUALITY TOTAL			108	

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SECTION 5: MATERIALS EFFICIENCY				
OVERALL				
5-1	10 or 15 or 20	Design and build for deconstruction concept - 50% (10 pts), 75% (15 pts), or 90% (20 pts)		
5-2	1-5	Eliminate materials and systems that require finishes or finish materials on a minimum of 100 square feet in common areas (1 pt per 100 sqft)		
Subtotal			0	
JOBSITE OPERATIONS				
5-3	1	Provide weather protection for stored and installed materials	1	
5-4	15	Purchase a one-time carbon offset to account for carbon footprint of materials, minimum of 50% of project footprint		
5-5	2	Use suppliers who offer reusable or recyclable packaging		
Subtotal			1	
REDUCE				
5-6	5	Implement comprehensive construction waste reduction and management plan	5	
5-7	5-20	Reduce total waste generated on site (see handbook for point tiers)		
Subtotal			5	
REUSE				
5-8	15-30	Use deconstruction to dismantle and reuse existing building components on site (see handbook for point tiers)		
5-9	1	Sell, give away, or reuse wood scraps, lumber and land clearing debris		
5-10	1	Donate, sell, or give away reusable finish items		
5-11	1-20	Reuse salvaged materials (1 pt per material, examples listed in handbook)		
5-12	1-20	Use salvaged lumber, 1 pt per 100 board feet		
Subtotal			0	
RECYCLE				
Source Separation Recycling - if points are claimed here, none may be claimed under Commingle Recycling				
5-13	1	Recycle cardboard by source separation, 90% minimum recycling rate		
5-14	2	Recycle metal scraps by source separation, 90% minimum recycling rate		
5-15	5	Recycle clean scrap wood and broken pallets by source separation, 90% minimum recycling rate		
5-16	2	Recycle package wrap and pallet wrap by source separation, 90% minimum recycling rate		
5-17	3	Recycle drywall by source separation, 90% minimum recycling rate		
5-18	2	Recycle concrete/asphalt rubble, masonry materials, or porcelain by source separation, 90% minimum recycling rate		
5-19	1	Recycle paint by source separation, 90% minimum recycling rate		
5-20	4	Recycle asphalt roofing by source separation, 90% minimum recycling rate		
5-21	2	Recycle carpet padding by source separation, 90% minimum recycling rate		
5-22	2	Recycle carpet by source separation, 90% minimum recycling rate		
5-23	1	Recycle glass by source separation, 90% minimum recycling rate		
5-24	3	Recycle land clearing and yard waste, food waste, soil and sod by source separation, 90% minimum recycling rate		
5-25	3	Recycle electronics and batteries		
5-26	1	Provide bin for miscellaneous household waste	1	
Subtotal			1	
Commingle Recycling - if points are claimed here, none may be claimed under Source Separation Recycling				
5-27	10	Send at least 90% of jobsite recyclables (by weight excluding concrete) to an approved commingled recycling facility with 50% recycling rate	10	
5-28	18	Send at least 90% of jobsite recyclables (by weight excluding concrete) to an approved commingled recycling facility with 75% recycling rate	18	MAY NOT BE IN BASELINE PROJECT, BUT COULD BE FOR OTHERS WITHIN JURISDICTION
5-29	24	Send at least 90% of jobsite recyclables (by weight excluding concrete) to an approved commingled recycling facility with 90% recycling rate		
Subtotal			28	
DESIGN AND MATERIAL SELECTION				
Overall				
5-30	1	Use standard dimensions in design of structure	1	
5-31	10	Design and install recycling stations on each floor, including a maintenance service plan	10	
5-32	8	Design and install food waste management system on each floor, including a maintenance service plan	8	
5-33	1-3	Install materials with longer life cycles		
5-34	1-10	Install locally/regionally produced materials (1 pt per material)	5	
5-35	2-6	Use rapidly renewable building materials and products made from plants harvested within a ten-year cycle or shorter (2 pts per material)		
5-36	3	Use no endangered species or old growth wood	3	
5-37	3	Use no PVC, CPVC, or ABS piping for plumbing or sprinklers within the building envelope		
Subtotal			27	

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Framing				
5-38	2	Create detailed take-off and provide as cut list to framer		
5-39	2	Use central cutting area or cut packs	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
5-40	6 or 10	Use dimensional lumber that is third-party certified sustainably harvested wood that meets the Tier 1 (10 pts) or Tier 2 (6 pts) requirements outlined in the handbook, 50% minimum		
5-41	4 or 7	Use sheathing that is third-party certified sustainably harvested wood that meets the Tier 1 (7 pts) or Tier 2 (4 pts) requirements outlined in the handbook, 50% minimum		
5-42	3 or 5	Use beams that are third-party certified sustainably harvested wood that meets the Tier 1 (5 pts) or Tier 2 (3 pts) requirements outlined in the handbook, 50% minimum		
5-43	6	Use factory framed wall panels (panelized wall construction)		
5-44	5	Use advanced wall framing - 24-inch OC, with double top plate		
5-45	3	Use engineered structural products and use no 2xs larger than 2x8, and no 4xs larger than 4x8		
5-46	4-8	Use structural insulated panels (SIPs) (see handbook for point tiers)		
5-47	5	Use insulated concrete forms (ICFs)		
5-48	1	Use finger-jointed framing material (e.g. studs)		
5-49	8	Use Cross Laminated Timber in place of steel or concrete		
Subtotal			2	
Foundation				
5-50	6	Use fly ash or blast furnace slag for 25% by weight of cementitious materials for all concrete		
5-51	2	Use recycled concrete, asphalt, or glass cullet for base or fill		
Subtotal			0	
Sub-Floor				
5-52	1	Use recycled content sub-floor		
Subtotal			0	
Finish Floor				
5-53	2	If using vinyl flooring, use product with recycled content	2	
5-54	4	No vinyl flooring		
5-55	1	Use recycled content carpet pad	1	
5-56	2	Use recycled content carpet	2	
5-57	2 or 4	Use replaceable carpet tile for 50% of carpeted area (2 pts) or 100% of carpeted area (4 pts) (minimum of 50 sqft)		
5-58	5	If using tile, use hard surface tile that is 40% recycled content		
5-59	5	Use natural linoleum		
5-60	3 or 5	Use flooring that is third-party certified sustainably harvested wood for at least 50% of hard surface flooring (see handbook for point tiers)		
5-61	1	Use spot repairable floor finish		
Subtotal			5	
Interior Walls				
5-62	2	Use drywall with a minimum of 95% recycled content synthetic gypsum or 10% if non-synthetic gypsum		
5-63	2 or 3	Use recycled or "reworked" paint and finishes on main surfaces or all surfaces		
Subtotal			0	
Ceilings				
5-64	1	If installing acoustical ceiling tiles, select a recycled content product		
Subtotal			0	
Windows				
5-65	8	Use all wood, composite, or fiberglass windows		
Subtotal			0	
Trim				
5-66		If using wood trim:		
5-66a	2 or 3	Use trim that is third-party certified sustainably harvested wood, 50% minimum (see handbook for point tiers)		
5-66b	3	Use finger-jointed or MDF trim with no added urea formaldehyde, 90% minimum		
5-66c	1 or 2	Use wood veneers that are third-party certified sustainably harvested woods, 50% minimum (see handbook for point tiers)		
Subtotal			0	
Cabinetry and Counters				
5-67		For cabinets:		
5-67a	1 or 2	Use third-party certified sustainably harvested wood for at least 75% of cabinet casework (see handbook for point tiers)		
5-67b	3	Use recycled-content cabinet casework for at least 75% of all casework		
5-67c	1	Use cabinet casework and shelving made with agricultural fiber that is NAUF, NAF, or ULEF for at least 75% of all cabinetry		
5-68	1 or 4	Use resource efficient countertop material in lobby/reception areas (1 pt) or in all areas (4 pts)		
Subtotal			0	
Roof				
5-69	2	Use recycled content roofing material		
5-70	2	Use a modified bitumen built-up roof		
5-71	5	Protect at least 90% of built-up and membrane roofing with ballast, pavers, or vegetated roof systems		
Subtotal			0	
Insulation				
5-72	4	All cavity insulation to have a minimum of 40% post-consumer recycled content		
5-73	5	Use environmentally friendly foam building products (CFC-, HFC-, HCFC-free)		
Subtotal			0	

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Exterior Walls				
5-74	2	Use recycled content sheathing (OSB does not apply)		
5-75	3	Use exterior cladding with reclaimed or recycled material on at least 20% of solid wall surface		
5-76	4	No vinyl siding or exterior trim	4	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
5-77	3	Use 50-year siding product (minimum 20% of solid wall surface)		
5-78	3 or 5	Use wood siding that is third-party certified sustainably harvested wood on at least 20% of solid wall surface (see handbook for point tiers)		
Subtotal			4	
Other Exterior				
5-79	2 or 3	Use 100% recycled content HDPE or lumber that is third-party certified sustainably harvested wood for decking and porches (see handbook for point tiers)		
5-80	2	Use post-consumer recycled content plastic lumber for decking		
5-81	5	If lumber is used, use no pressure treated lumber		
Subtotal			0	
BENCHMARKING				
5-82	5	Commit to annual tracking of building trash using ENERGY STAR Portfolio Manager and to sharing with Built Green		
Subtotal			0	
EXTRA CREDIT / INNOVATION for Materials Efficiency				
5-83	1-10	Extra credit / innovation for Materials Efficiency		
Subtotal			0	
MATERIALS EFFICIENCY TOTAL			73	

SECTION 6: OPERATION, MAINTENANCE & TENANT EDUCATION				
6-1	7	Provide educational materials designed for the public that highlight the green building features and their performance that are included in the project	7	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
6-2	5	Prepare an environmentally friendly operations and maintenance plan for common area facilities	5	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
6-3	5	Prepare an environmentally friendly landscape operations and maintenance plan	5	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
6-4	6	Develop and provide a building-wide food waste disposal strategy		
6-5	7	Require tenants to sign an energy consumption data release form (if separately metered)		
6-6	5	Require tenants to sign a water consumption data release form (if separately metered)		
6-7	7	Conduct training sessions for maintenance staff and/or residents	7	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
6-8	5	Give individual feedback to all tenants about their energy consumption in comparison to others and/or building average		
6-9		Provide tenants with materials including information on:		
6-9a	1	Where to dispose of food waste (compost)	1	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
6-9b	1	Where to dispose of recycleables	1	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
6-9c	1	General practices to conserve water and energy	1	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
6-9d	1	Transportation options and resources	1	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
6-9e	3	EVs, their benefits, and where to charge them	3	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
6-9f	2	Green features and benefits of the buildings	2	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
6-9g	3	Maintenance checklists for their unit	3	MAY NOT BE IN BASELINE PROJECT, BUT LIKELY FOR OTHERS WITHIN JURISDICTION
OPERATION, MAINTENANCE & TENANT EDUCATION TOTAL			36	

PROJECT SUMMARIES	
SECTION 1: BUILT GREEN TEAM	1
SECTION 2: SITE & WATER	139
SECTION 3: ENERGY	67
SECTION 4: HEATH & INDOOR AIR QUALITY	108
SECTION 5: MATERIALS EFFICIENCY	73
SECTION 6: OPERATION, MAINTENANCE & TENANT EDUCATION	36
GRAND TOTAL	
	424

Potential Expansion of Deep Green Incentive Program - Attachment A

Appendix 4 - Passive House Strategies

Comparative Analysis of LEED, Built Green, & Passive House

- **Air Tightness Requirement:** 0.05 CFM50 and 0.08 CFM75 per square foot of gross envelope (WSEC requires 0.40 CFM75). Requires continuous air barriers and a rigorous threshold for the ASTM E779 fan pressure test. Advanced sealing measures: General Contractor estimate required.
- **Source Energy Limit:** 6200 kWh per person per year.
- **Roof Assembly:** target R-81 (WSEC stipulates R-49 for in-roof insulation; R-38 for above-deck insulation).
- **Wall Assembly:** above-grade target R-39 (WSEC stipulates R-21 for wood frame construction). Requires either deeper studs and/or adding exterior, continuous insulation.
- **Space Conditioning:** non-standard mechanical systems are typically required to comply (e.g. Energy Recovery Ventilation [ERV], possible heat-pump heating): Attention to building geometry – less complicated perimeter (e.g. rectangle or L-shape) will be more efficient for thicker insulation & infiltration mitigation.
- **Materials:** thicker/denser insulation, triple pane glazing, additional sealing and thermal bridging strategies, and additional shading strategies.
- **Resources:**
 - <http://www.phius.org/phius-2015-new-passive-building-standard-summary>
 - *PHIUS+ Certification for Multifamily Performance Requirements (v2.0)*
 - http://www.phius.org/PHIUSPlus2015docs/PHIUS-Plus_Multifamily-Certification-Standard-v2.1.pdf

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Amendments to Shoreline Municipal Code Title 20 Chapters 20.20, 20.30, and 20.50 Potential Expansion of Deep Green Incentive Program (DGIP)

20.20.016 D definitions.

Deep Green- refers to an advanced level of green building that requires more stringent standards for energy and water use, stormwater runoff, site development, materials, and indoor air quality than required by the Building Code. With regard to the Deep Green Incentive Program, this definition is divided into tiers based on certification programs as follows:

- Tier 1- International Living Future Institute's (ILFI) Living Building Challenge™ or Living Community Challenge™;
- Tier 2- ILFI's Petal Recognition™ or Built Green's Emerald Star™; and
- Tier 3- US Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Platinum™; Built Green's 5-Star™; or ILFI's Net Zero Energy Building™ (NZEB) or Passive House Institute US's (PHIUS)+Shift Zero™, in combination with Salmon Safe™ where applicable.
- Tier 4- Built Green's 4-Star™ or PHIUS+™.

20.30.080 Preapplication meeting.

A preapplication meeting is required prior to submitting an application for any project requesting departures through the Deep Green Incentive Program to discuss why departures are necessary to achieve certification through International Living Future Institute, Built Green, US Green Building Council, Passive House Institute US, or Salmon Safe programs. A representative from the prospective certifying agency(ies) will be invited to the meeting, but their attendance is not mandatory. If the project would not otherwise require a preapplication meeting, the fee for the preapplication meeting will be waived.

20.30.297 Administrative Design Review (Type A).

1. Administrative Design Review approval of departures from the design standards in SMC 20.50.220 through 20.50.250 and SMC 20.50.530 through 20.50.610 shall be granted by the Director upon their finding that the departure is:
 - a) Consistent with the purposes or intent of the applicable subsections; or
 - b) Justified due to unusual site constraints so that meeting the design standards represents a hardship to achieving full development potential.
2. Projects applying for the Deep Green Incentive Program by certifying through for certification under the Living Building or Community Challenge, Petal Recognition, Emerald Star, LEED-Platinum, 5-Star, 4-Star, PHIUS+, PHIUS+ Source Zero/Salmon Safe, or Net Zero Energy Building/Salmon Safe programs may receive departures from development standards under SMC 20.40, 20.50, 20.60, and/or 20.70 upon the Director's finding that the departures meet A and/or B above, and as further described under 20.50.630. Submittal documents shall include proof of enrollment in the programs listed above.

20.40.046(D) Mixed-Use Residential Zones

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D. ~~Four-Star Built Green construction is required all MUR zones.~~ Construction in MUR zones must achieve green building certification through one of the following protocols: Built Green 4-Star or PHIUS+. If an affordable housing or school project is required to certify through the Evergreen Standard, this protocol shall fulfill the requirement.

20.50.400 Reductions to minimum parking requirements.

B. A project applying for parking reductions under the Deep Green Incentive Program may be eligible for ~~commercial and multi-family projects based on the intended certification they intend to achieve. No parking reductions will be eligible for single-family projects.~~ Parking reductions are not available in R-4 and R-6 zones. Reductions will be based on the following tiers:

1. Tier 1 – Living Building or Living Community Challenge Certification: up to 50% reduction in parking required under 20.50.390 for projects meeting the full International Living Future Institute (ILFI) program criteria;
2. Tier 2 – Living Building Petal or Emerald Star Certification: up to 35% reduction in parking required under 20.50.390 for projects meeting the respective ILFI or Built Green program criteria;
3. Tier 3 - LEED Platinum, 5-Star, PHIUS+ Source Zero/Salmon Safe, or Net Zero Energy Building/Salmon Safe Certification: up to 20% reduction in parking required under 20.50.390 for projects meeting the respective US Green Building Council, Built Green, PHIUS, ~~or~~ ILFI and/or Salmon Safe program criteria.
4. Tier 4- PHIUS+ or 4-Star: up to 5% reduction in parking required under 20.50.390 for projects meeting the PHIUS or Built Green program criteria.

C. In the event that the Director approves reductions in the parking requirement, the basis for the determination shall be articulated in writing.

D. The Director may impose performance standards and conditions of approval on a project, including a financial guarantee.

E. Reductions of up to 50 percent may be approved by the Director for the portion of housing providing low income housing units that are 60 percent of AMI or less as defined by the U.S. Department of Housing and Urban Development.

F. A parking reduction of 25 percent may be approved by the Director for multifamily development within one-quarter mile of the light rail station. These parking reductions may not be combined with parking reductions identified in subsections A, ~~B~~, and ~~E~~ of this section.

~~G. Parking reductions for affordable housing or the Deep Green Incentive Program may not be combined with parking reductions identified in subsection A of this section.~~

Subchapter 9: 20.50.630 – Deep Green Incentive Program (DGIP)

A. **Purpose.** The purpose of this section is to establish an incentive program for Living and Deep Green Buildings in the City of Shoreline. The goal of the DGIP is to encourage development that meets the International Living Future Institute's (ILFI) Living Building Challenge™, Living Community Challenge™, Petal Recognition™, or Net-Zero Energy Building™ (NZEB) programs; Built Green's Emerald Star™ ~~or~~ 5-Star™, or 4-Star™ programs; the US Green Building Council's (USGBC) Leadership in

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Energy and Environmental Design™ (LEED) Platinum program; Passive House Institute US™'s PHIUS+ or PHIUS+Source Zero programs; and/or the Salmon Safe™ program by:

1. encouraging development that will serve as a model for other projects throughout the city and region resulting in the construction of more Living and Deep Green Buildings; and
2. allowing for departures from Code requirements to remove regulatory barriers.

B. Project qualification.

1. Application requirements. In order to request exemptions, waivers, or other incentives through the Deep Green Incentive Program, the applicant or owner shall submit a summary demonstrating how their project will meet each of the requirements of the relevant certification program, such as including an overall design concept, proposed energy balance, proposed water balance, and descriptions of innovative systems.
2. Qualification process. An eligible project shall qualify for the DGIP upon determination by the Director that it has submitted a complete application pursuant to SMC 20.30.297 Administrative Design Review, and has complied with the application requirements of this subsection.
3. The project must be registered with the appropriate third-party certification entity such as the International Living Future Institute, Built Green, US Green Building Council, Passive House Institute US, or Salmon Safe.
4. Projects requesting departures under the DGIP shall meet the current version of the appropriate certification program, which will qualify them for one of the following tiered packages of incentives:
 - a. Tier 1 - Living Building Challenge or Living Community Challenge Certification: achieve all of the Imperatives of the ILFI programs;
 - b. Tier 2 – Emerald Star or Petal Certification: satisfy requirements of Built Green program or three or more ILFI Petals, including at least one of the following- Water, Energy, or Materials; ~~or~~
 - c. Tier 3- LEED Platinum, 5-Star, PHIUS+ Source Zero plus Salmon Safe, or ~~NZEB~~ plus Salmon Safe: satisfy requirements of the respective USGBC, Built Green, PHIUS, ~~or~~ ILFI, and/or Salmon Safe programs. The addition of Salmon Safe certification to PHIUS+ Source Zero or ~~NZEB~~ projects is not required for detached single-family projects; or
 - d. Tier 4- PHIUS+ or 4-Star: achieve all requirements of the PHIUS or Built Green programs.

C. Director's determination. All Shoreline Deep Green Incentive Program projects are subject to review by the Director under Section 20.30.297. Any departures from the Shoreline Development Code (SMC Title 20) must be approved by the Director prior to submittal of building permit application.

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D. Incentives. A project qualifying for the Shoreline Deep Green Incentive Program will be granted the following tiered incentive packages, based on the certification program for which they are applying:

1. A project qualifying for Tier 1 - Living Building Challenge or Living Community Challenge may be granted a waiver of up to 100% City-imposed pre-application and permit application fees. A project qualifying for Tier 2 – Emerald Star or Petal Recognition may be granted a waiver of up to 75% of City-imposed application fees. A project qualifying for Tier 3 – LEED Platinum, 5-Star, PHIUS+ Source Zero/Salmon Safe, or NZEB/Salmon Safe may be granted a waiver of up to 50% of City-imposed application fees. A project qualifying for Tier 4- PHIUS+ or 4-Star may be granted a waiver of up to 25% of City-imposed application fees.
2. Projects qualifying for the DGIP may be granted a reduced Transportation Impact Fee based on a project-level Transportation Impact Analysis.
3. Departures from Development Code requirements when in compliance with SMC 20.50.630(E).
4. Expedited permit review without additional fees provided in SMC Chapter 3.01

E. Departures from Development Code requirements. The following requirements must be met in order to approve departures from Development Code requirements:

1. The departure would result in a development that meets the goals of the Shoreline Deep Green Incentive Program and would not conflict with the health and safety of the community. In making this recommendation, the Director shall consider the extent to which the anticipated environmental performance of the building would be substantially compromised without the departures.
2. A Neighborhood Meeting is required for projects departing from standards in the R-4 or R-6 zones.
3. Departures from the following regulations may be granted for projects qualifying for the Shoreline Deep Green Incentive Program:
 - a. SMC 20.50.020. Residential density limits
 - i. Tier 1 – Living Building Challenge or Living Community Challenge Certification: up to 100% bonus for the base density allowed under zoning designation for projects meeting the full Challenge criteria;
 - ii. Tier 2 – Emerald Star or Living Building Petal Certification: up to 75% bonus for the base density allowed under zoning designation for projects meeting the program criteria;
 - iii. Tier 3 - LEED Platinum, 5-Star, or PHIUS+ Source Zero/Salmon Safe or NZEB/Salmon Safe Certification: up to 50% bonus for the base density allowed under zoning designation for projects meeting the program criteria;
 - iv. Tier 4- PHIUS+ or 4-Star: up to 25% bonus for the base density allowed under zoning designation for projects meeting the program criteria.

Minimum lot size of 10,000 square feet is required in all zones with a density maximum in order to request a density bonus. Density bonus is

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not available in R-4 and R-6 zones. Any additional units granted would be required to be built to the same green building standard as the first.

- b. SMC 20.50.390. Parking requirements (not applicable in R-4 and R-6 zones):
 - i. Tier 1 – Living Building Challenge or Living Community Challenge Certification: up to 50% reduction in parking required under 20.50.390 for projects meeting the full Challenge criteria;
 - ii. Tier 2 – Emerald Star or Living Building Petal Certification: up to 35% reduction in parking required under 20.50.390 for projects meeting the program criteria;
 - iii. Tier 3 - LEED Platinum, 5-Star, PHIUS+ Source Zero/Salmon Safe, or NZEB/Salmon Safe Certification: up to 20% reduction in parking required under 20.50.390 for projects meeting the program criteria.
 - iv. Tier 4- PHIUS+ or 4-Star Certification: up to 5% reduction in parking required under 20.50.390 for projects meeting the program criteria.
- c. Lot coverage standards, as determined necessary by the Director;
- d. Use provisions, as determined necessary by the Director
- e. Standards for storage of solid-waste containers;
- f. Standards for structural building overhangs and minor architectural encroachments into the right-of-way;
- g. Structure height bonus up to 10 feet for development in a zone with height limit of 35 feet. Height bonus is not available in R-4, R-6, R-8, and MUR-35' zones. Structure height bonus up to 20 feet for development in a zone with a height limit of 45 feet or greater; and
- h. A rooftop feature may extend above the structure height bonus provided in SMC 20.50.020 or 20.50.050 if the extension is consistent with the applicable standards established for that rooftop feature within the zone.

F. Compliance with minimum standards.

1. For projects requesting departures, fee waivers, or other incentives under the Deep Green Incentive Program, the building permit application shall include a report from the design team demonstrating how the project is likely to achieve the elements of the program through which it intends to be certified.
2. For projects applying for an ILFI certification (Tiers 1, 2, or 3), after construction and within six (6) months of issuance of the Certificate of Occupancy, the applicant or owner must show proof that an LBC Preliminary Audit has been scheduled; such as a paid invoice and date of scheduled audit. After construction and within twelve months of issuance of Certificate of Occupancy, the applicant or owner must show a preliminary audit report from ILFI demonstrating project compliance with the Place, Materials, Indoor Air Quality, and Beauty/Inspiration Imperatives that do not require a performance period.
3. For projects aiming for Built Green Emerald Star (Tier 2), ~~or~~ 5-Star (Tier 3), or 4-Star (Tier 4) certification, after construction and within six (6) months of issuance of the Certificate of Occupancy, the applicant or owner must show proof that the

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project successfully met Built Green certification by way of the Certificate of Merit from the program.

4. For projects pursuing LEED certification (Tier 3), the applicant or owner must show, after construction and within six (6) months of issuance of the Certificate of Occupancy, that the project has successfully completed the LEED Design Review phase by way of the final certification report.
5. For projects pursuing PHIUS+ (Tier 4) or PHIUS+ Source Zero certification (Tier 3), the applicant or owner must show, after construction and within six (6) months of issuance of the Certificate of Occupancy, that the project has successfully obtained the PHIUS+ or PHIUS+ Source Zero certification.
6. For projects pursuing Salmon Safe certification (Tier 3 in conjunction with ~~NZEB~~ or PHIUS+ Source Zero when applicable), the applicant or owner must show, after construction and within six (6) months of issuance of the Certificate of Occupancy, that the project has successfully obtained the Salmon Safe Certificate.
7. No later than two years after issuance of a final Certificate of Occupancy for the project, or such later date as requested in writing by the owner and approved by the Director for compelling circumstances, the owner shall submit to the Director the project's certification demonstrating how the project complies with the standards contained in this subsection. Compliance must be demonstrated through an independent certification from ILFI, ~~Built Green~~, or USGBC/Green Building Cascadia Institute (GBCI). A request for an extension to this requirement must be in writing and must contain detailed information about the need for the extension.
 - a. For projects pursuing ILFI certification (Living Building Challenge, Living Community Challenge, Petal Recognition, or ~~Net-Zero Energy Building~~), performance based requirements such as energy and water must demonstrate compliance through certification from ILFI within the two year timeframe noted above.
 - ~~b. For projects pursuing Built Green certification post-occupancy compliance must be demonstrated with analysis proving 12 consecutive months of net zero energy performance and/or 70% reduction in occupant water use. It is the owner's responsibility to submit utility information to Built Green so analysis can be conducted and shown to the Director.~~
 - c. For projects pursuing LEED certification, the applicant or owner must show proof of certification by way of the final LEED Construction Review report and LEED Certificate issued by USGBC/GBCI.
8. If the Director determines that the report submitted provides satisfactory evidence that the project has complied with the standards contained in this subsection, the Director shall send the owner a written statement that the project has complied with the standards of the Shoreline Deep Green Incentive Program. If the Director determines that the project does not comply with the standards in this subsection, the Director shall notify the owner of the aspects in which the project does not comply. Components of the project that are included in order to

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comply with the minimum standards of the Shoreline Deep Green Incentive Program shall remain for the life of the project.

9. Within 90 days after the Director notifies the owner of the ways in which the project does not comply, or such longer period as the Director may allow for justifiable cause, the owner may submit a supplemental report demonstrating that alterations or improvements have been made such that the project now meets the standards in this subsection.
10. If the owner fails to submit a supplemental report within the time allowed pursuant to this subsection, the Director shall determine that the project has failed to demonstrate full compliance with the standards contained in this subsection, and the owner shall be subject to penalties as set forth in subsection 20.30.770.