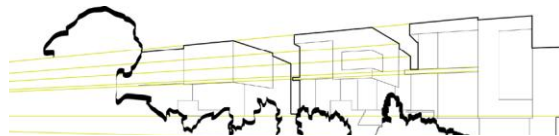


Seattle Built Green Portfolio

Single Family Housing

Analysis and Projections: Strategies and Resource Savings



2008 – 2011



city green building

Seattle Department of Planning & Development

Introduction

The City of Seattle Built Green portfolio is part of a wide-ranging, collaborative effort led by City Green Building to identify and measure the effectiveness of emerging approaches to sustainable development in the city.

The innovative projects included in the Built Green study range from individual single-family homes to large-scale townhome developments. All share a common theme: they are designed and built to respond more efficiently to the environment around them, providing more comfort for occupants while consuming fewer resources.

The report assesses homes within four categories of performance: indoor water use, stormwater control, energy use and construction waste. The projected performance of the homes is measured against an assumption of baseline performance established using available, sourced industry data and projections. Paladino and Company, Inc. developed the database methodology used to generate the report.

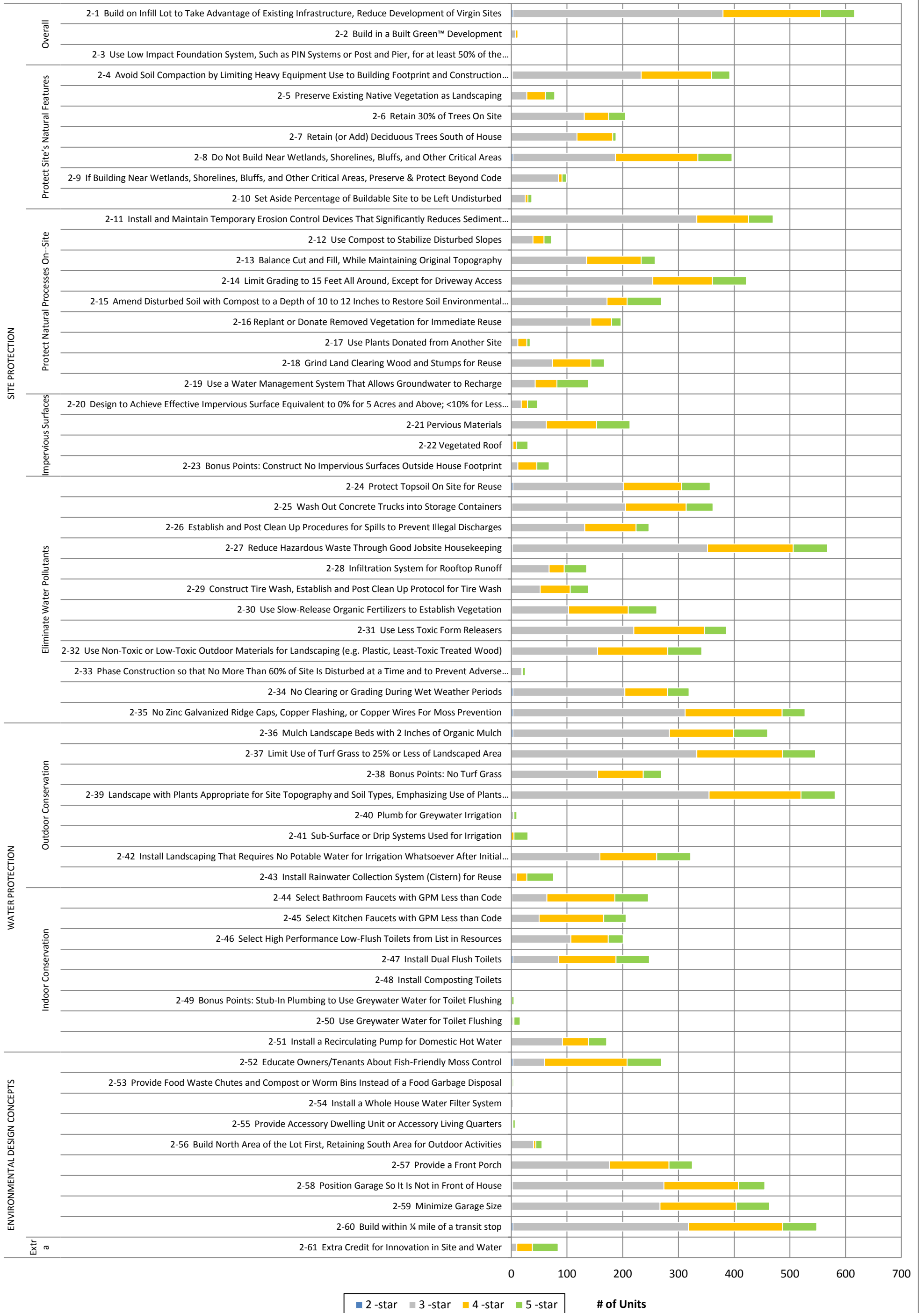
We hope the identified trends - in strategies pursued and projected resource savings - inspire, prompt discussion, and help propel innovation in green building. By providing a snapshot of the leading edge of residential green building today, we hope to help further “green” the homes designed for tomorrow.

----- City Green Building

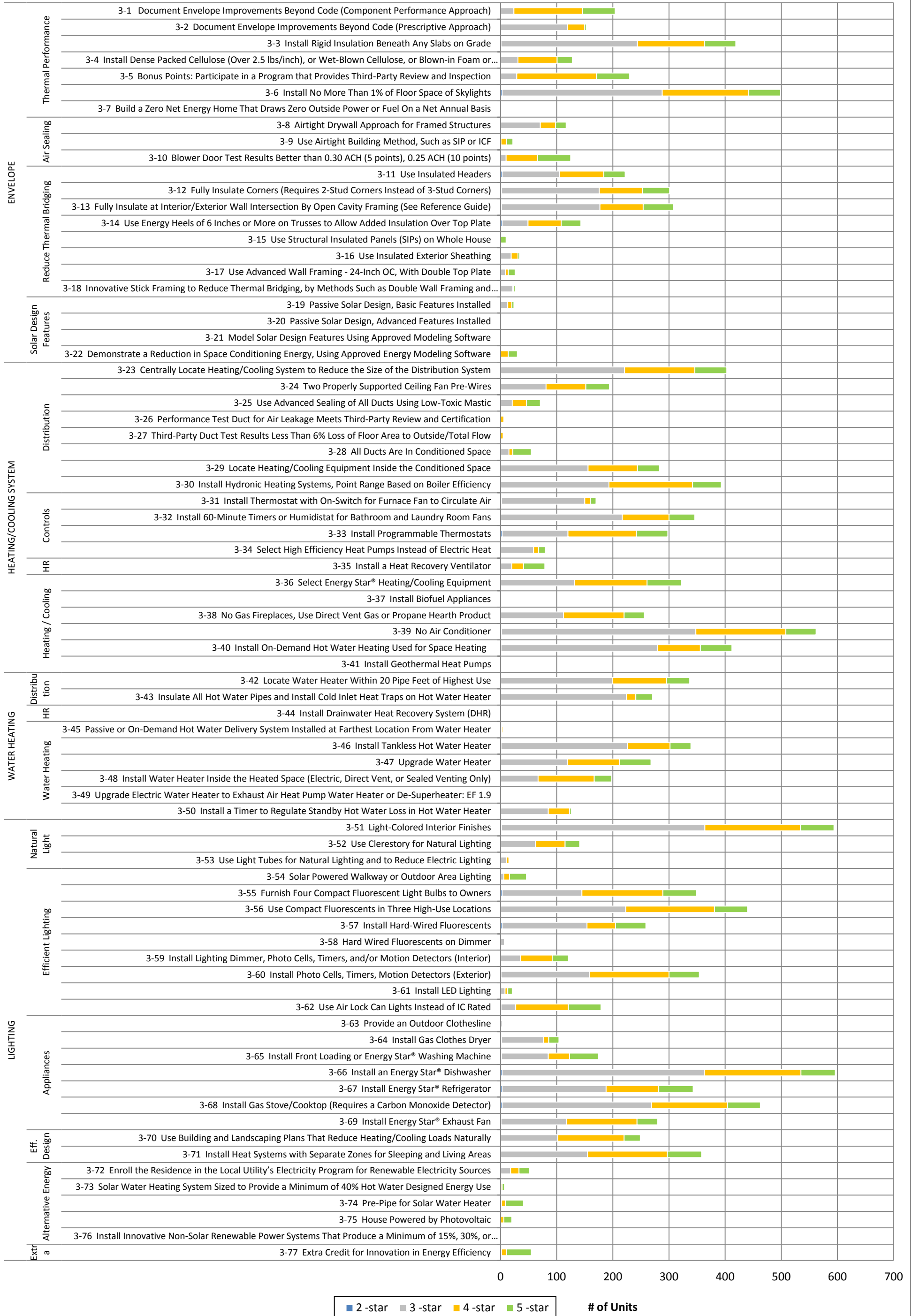


The Seattle Department of Planning and Development City Green Building established this project with the assistance of Built Green.

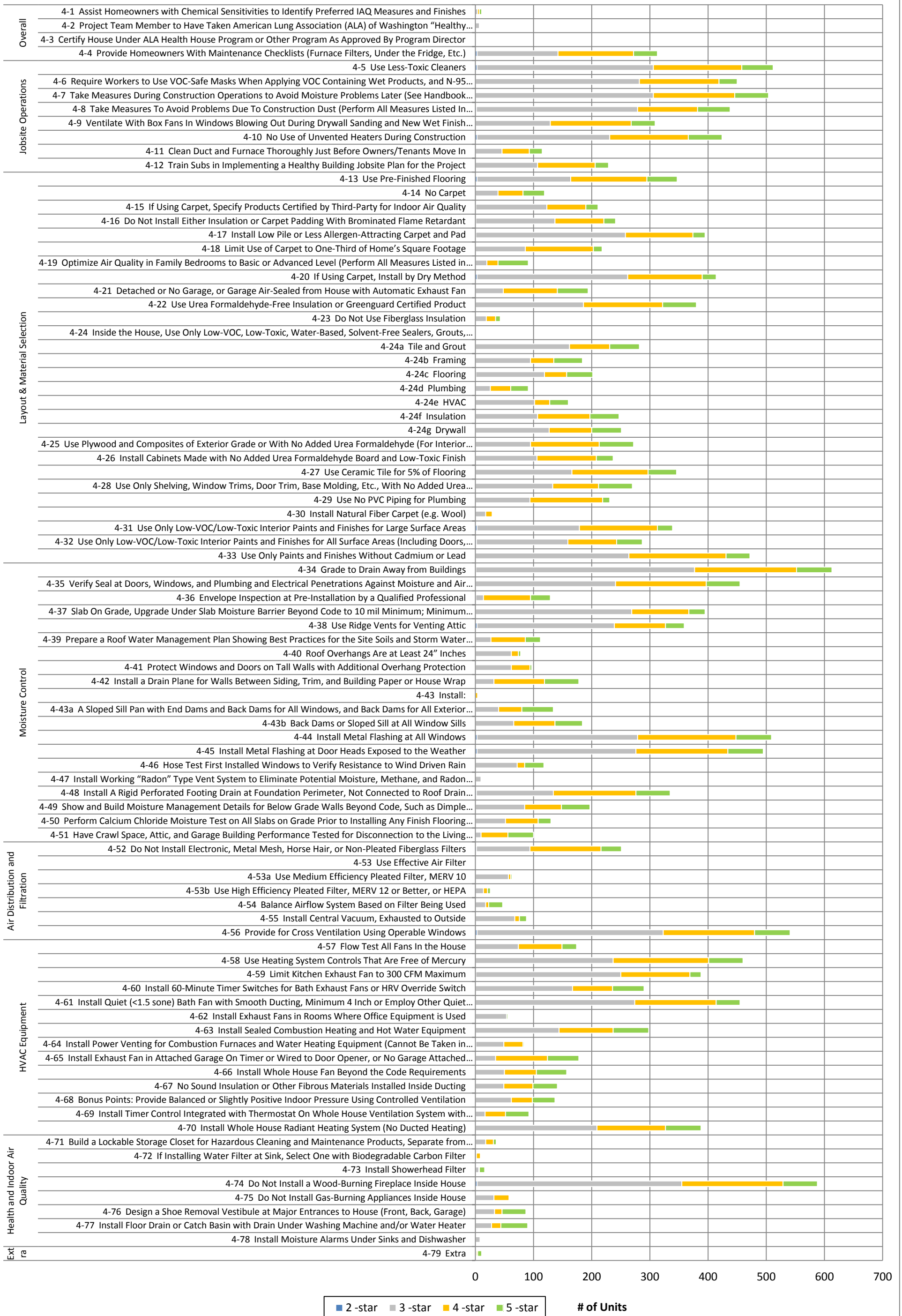
2008 - 2011 Built Green Certified Single Family & Townhome Projects
Credit Achievement Summary: Section 2 - Site & Water (2008 Checklist)



2008 - 2011 Built Green Certified Single Family & Townhome Projects Credit Achievement Summary: Section 3 - Energy Efficiency (2008 Checklist)



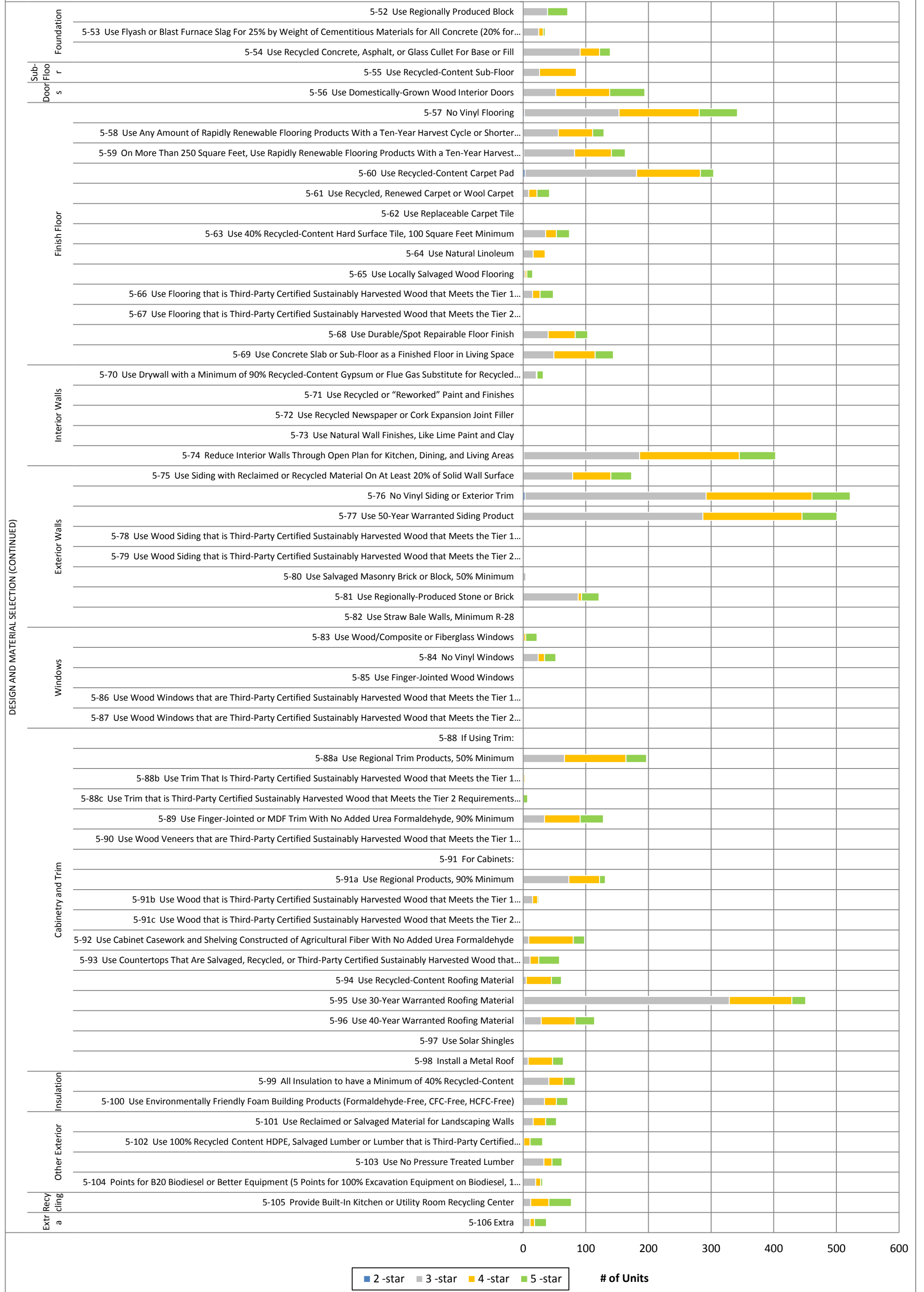
2008 - 2011 Built Green Certified Single Family & Townhome Projects
Credit Achievement Summary: Section 4 - Health & Indoor Air Quality (2008 Checklist)



2008 - 2011 Built Green Certified Single Family & Townhome Projects
Credit Achievement Summary: Section 5 - Materials Efficiency I (2008 Checklist)



2008 - 2011 Built Green Certified Single Family Projects
Credit Achievement Summary: Section 5 - Materials Efficiency II (2008 Checklist)



Seattle Built Green Single Family & Townhome Projects 2008 - 2011

INDOOR WATER USE

Introduction

Achievement of these credits maximizes water efficiency within the home to reduce the burden on municipal water supply and wastewater systems. This analysis evaluates the percentage of projects achieving the credits and estimates the total water savings (in gallons per year). The analysis also categorizes the strategies implemented and estimates water saved by each strategy (in gallons per year).

KEY FINDINGS

Baseline

| | |
|----------------|-----------|
| Total Projects | 629 units |
|----------------|-----------|

Indoor Plumbing Faucet Fixtures

| | |
|---|-----------|
| Units with Built Green Bathroom Faucet Credit | 236 units |
| Units with Built Green Kitchen Faucet Credit | 196 units |
| Units with Both Faucet Credits | 181 units |
| Units with Either or Both Faucet Credits | 251 units |

| | |
|---------------------------------|-----------------------------|
| Baseline Bathroom Faucet Volume | 5,346,400 gallons per year |
| Baseline Kitchen Faucet Volume | 5,346,400 gallons per year |
| Total Baseline Faucet Volume | 10,692,800 gallons per year |

| | |
|----------------------------------|----------------------------|
| Installed Bathroom Faucet Volume | 4,544,000 gallons per year |
| Installed Kitchen Faucet Volume | 4,680,000 gallons per year |
| Total Installed Faucet Volume | 9,224,000 gallons per year |

| | |
|------------------------------------|----------------------------|
| Savings Due to Built Green Faucets | 1,468,800 gallons per year |
|------------------------------------|----------------------------|

Indoor Plumbing Toilet Fixtures

| | |
|--|-----------|
| Units with Built Green High Eff Credit | 195 units |
| Units with Built Green Dual Flush Credit | 241 units |
| Units with Built Green Composting Credit | 0 units |
| Units with Built Green Grey Water Credit | 16 units |

| | |
|------------------------|----------------------------|
| Baseline Toilet Volume | 4,266,600 gallons per year |
|------------------------|----------------------------|

| | |
|-------------------------------|----------------------------|
| Total Installed Toilet Volume | 3,743,600 gallons per year |
|-------------------------------|----------------------------|

| | |
|------------------------------------|--------------------------|
| Savings due to Built Green Toilets | 523,000 gallons per year |
|------------------------------------|--------------------------|

Indoor Water Appliances

| | |
|--|-----------|
| Units with Built Green Clothes Washer Credit | 166 units |
| Units with Built Green Dishwasher Credit | 586 units |
| Units with Both Appliance Credits | 131 units |

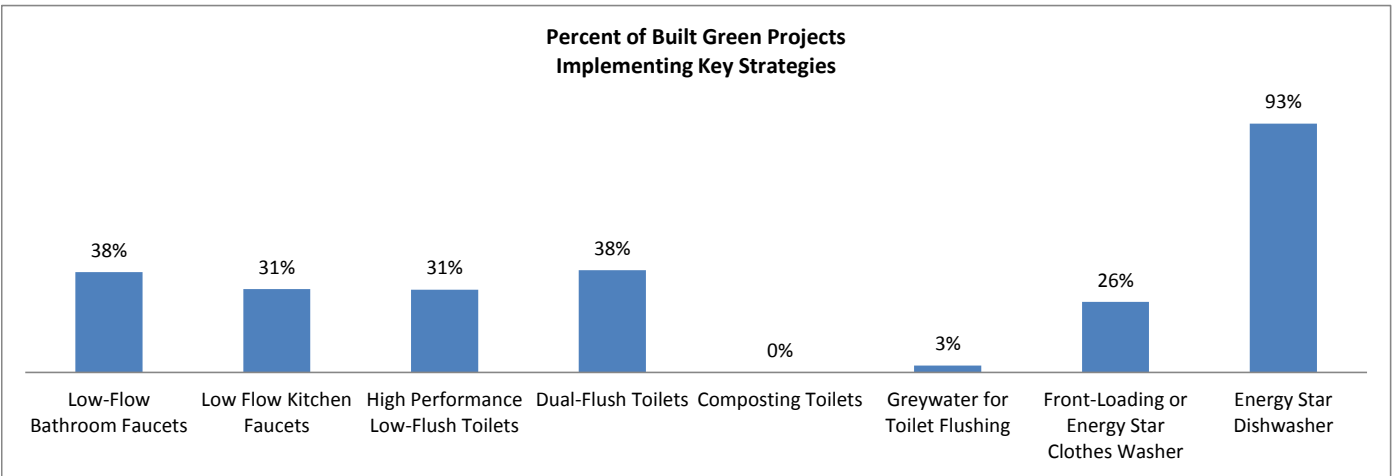
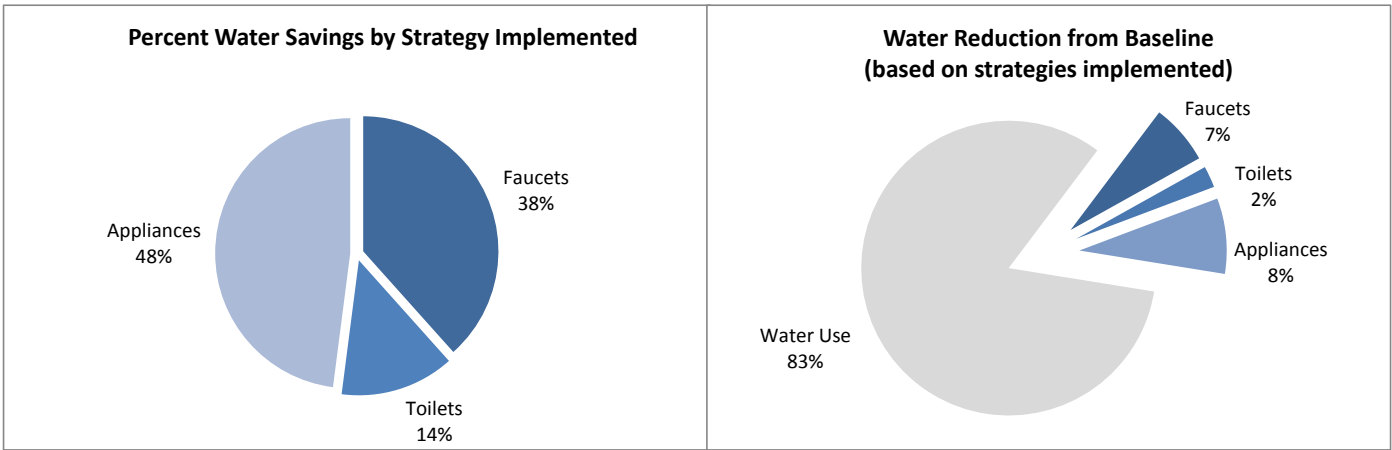
| | |
|---------------------------------|----------------------------|
| Baseline Clothes Washer Volume | 3,017,400 gallons per year |
| Baseline Dishwasher Volume | 4,192,500 gallons per year |
| Total Baseline Appliance Volume | 7,209,900 gallons per year |

| | |
|----------------------------------|----------------------------|
| Installed Clothes Washer Volume | 2,579,400 gallons per year |
| Installed Dishwasher Volume | 2,795,000 gallons per year |
| Total Installed Appliance Volume | 5,374,400 gallons per year |

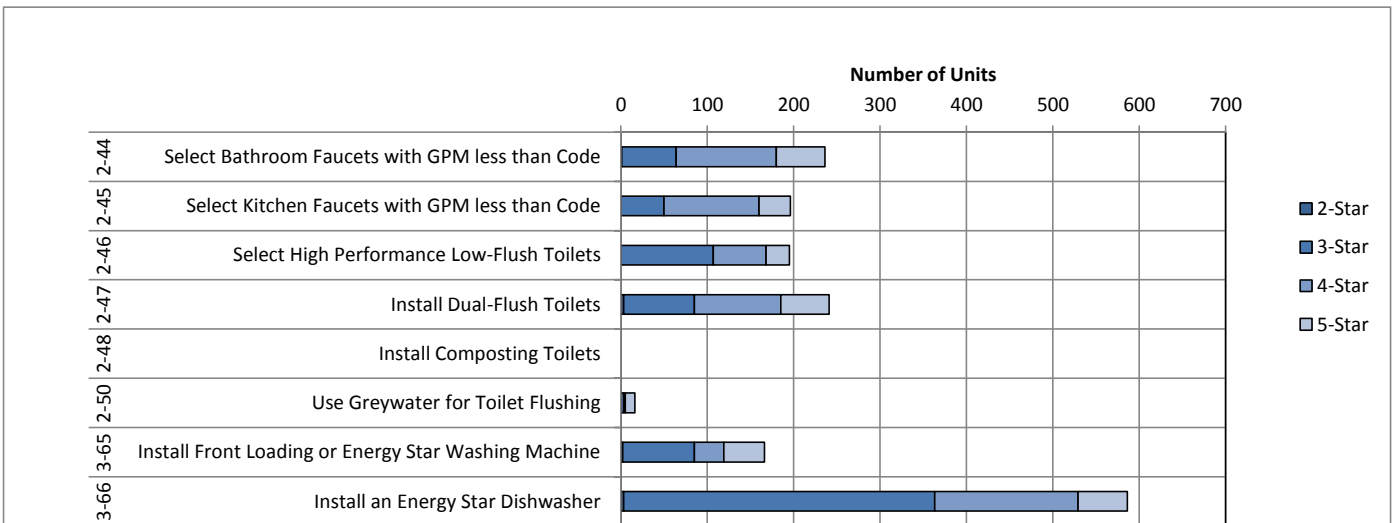
| | |
|---------------------------------------|----------------------------|
| Savings due to Built Green Appliances | 1,835,500 gallons per year |
|---------------------------------------|----------------------------|

Indoor Plumbing Fixtures Water Savings

| | |
|------------------------------|----------------------------|
| Annual Percent Water Savings | 17% |
| Annual Water Savings | 3,827,300 gallons per year |



CREDIT ACHIEVEMENT SUMMARY



ASSUMPTIONS AND CONSTANTS

| Constant | Value | Units | Source |
|----------------------------|-------|---|--------------------------|
| Dwelling Occupancy | 2.3 | occupants per dwelling | Seattle Public Utilities |
| Dwelling Faucet Use | 8.1 | flow minutes per day per dwelling | AWWARF ¹ |
| Percent Kitchen Faucet Use | 50% | ratio of kitchen faucet use to total faucet use | Paladino Assumption |
| Toilet Use | 5.05 | flushes per occupant-day | AWWARF ¹ |
| Standard Faucet | 2.5 | gallons per minute | Seattle Municipal Code |
| Built Green Faucet | 1.5 | gallons per minute | US EPA Water Sense |
| Standard Toilet | 1.6 | gallons per flush | Seattle Municipal Code |
| High Efficiency Toilet | 1.28 | gallons per flush | US EPA Water Sense |
| Dual Flush Toilet | 1.28 | average gallons per flush | US EPA Water Sense |
| Composting Toilet | 0 | gallons per flush | US EPA Water Sense |
| Greywater for Toilets | 0 | gallons per flush | Paladino Assumption |
| Calendar Occupancy | 365 | dwelling-days per year | Paladino Assumption |

| Derived Constant | Value | Units | Source |
|-----------------------------|-------|--|---------------------|
| Percent Lavatory Faucet Use | 50% | ratio of lavatory faucet use to total faucet use | Paladino Assumption |
| Lavatory Faucet Use | 4.05 | flow minutes per occupant-day | AWWARF ¹ |
| Kitchen Faucet Use | 4.05 | flow minutes per occupant-day | AWWARF ¹ |

| Toilet Assumptions for Calculations | Source |
|--|---------------------------|
| Greywater credit: all toilets are considered greywater | Paladino Assumption |
| Composting credit: one toilet is composting | Paladino Assumption |
| High Efficiency credit: all toilets are high efficiency unless other credits are taken | Paladino Assumption |
| Dual Flush credit: calculate # of DF toilets based on number of points achieved | Built Green Rating System |
| Remaining toilets, if any, are considered standard flush | Paladino Assumption |

| Constant | Value | Units | Source |
|--------------------------------|-------|-----------------------------|---|
| Clothes Washer Use | 0.1 | Washes per day per occupant | Flex Your Power: CA Energy Efficiency Marketing Outreach Campaign Product Guides for Washers & Dishwashers www.fypower.org |
| Standard Clothes Washer | 40.0 | gallons per wash | |
| Ave Energy Star Clothes Washer | 18.0 | gallons per wash | |
| Dishwasher Use | 0.9 | Washes per day per occupant | |
| Standard Dishwasher | 9.0 | gallons per wash | |
| Ave Energy Star Dishwasher | 6.0 | gallons per wash | |

¹ American Water Works Association Research Foundation

Seattle Built Green Single Family & Townhome Projects 2008 - 2011

STORMWATER

Introduction

Achievement of these credits limits disruption of natural hydrology by reducing impervious cover and stormwater runoff from buildings. This analysis evaluates the percentage of projects achieving the credits and estimates the total stormwater runoff savings (in gallons per year). The analysis also categorizes the strategies implemented and estimates water saved by each strategy (in gallons per year).

KEY FINDINGS

TOWNHOME PROJECTS STORMWATER PERFORMANCE

The following key findings are for townhomes only. Seattle Municipal Code was used to estimate the area of the site required for building footprint and landscaping, when that information was not available. It is assumed that any remaining area of the site was impervious. Savings are a reduction of impervious area based on Built Green credits achieved.

Baseline

| | |
|--------------------------------|-----------|
| Total Number of Townhome Units | 457 units |
|--------------------------------|-----------|

Building Runoff

| | |
|---|----------|
| Townhomes with vegetative roofing | 25 units |
| Townhomes with roof infiltration system | 85 units |

| | |
|--------------------------|----------------------------|
| Baseline Building Runoff | 4,760,445 gallons per year |
|--------------------------|----------------------------|

| | |
|---|----------------------------|
| Savings in Runoff from Installed Vegetative Roofing | 143,883 gallons per year |
| Savings in Runoff from Installed Roof Infiltration System | 1,516,481 gallons per year |

Non-Roof, Impervious Surface Runoff

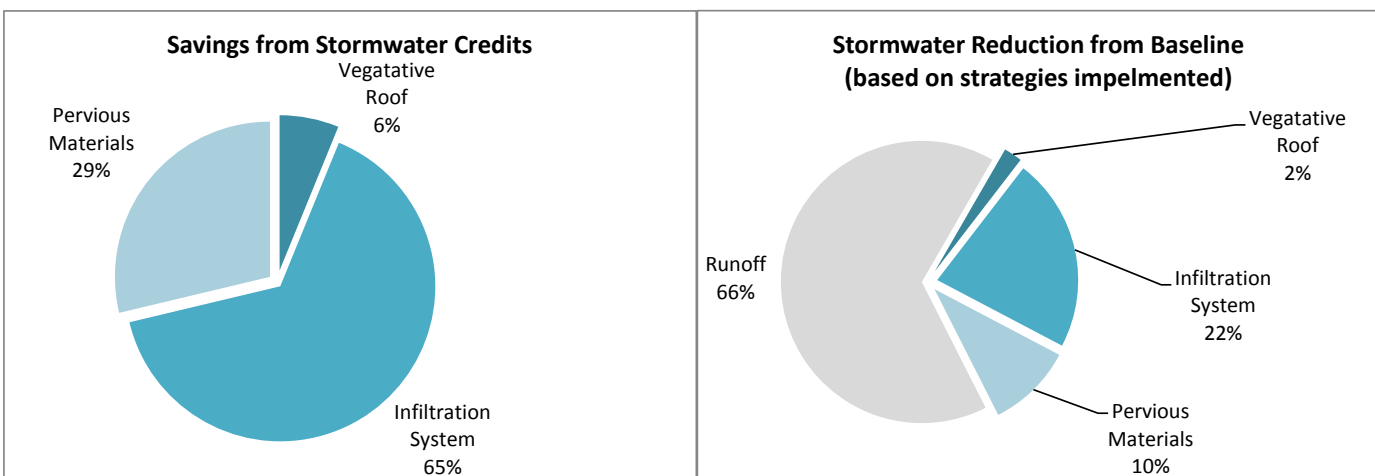
| | |
|---|-----------|
| Townhomes with at least one third pervious surfaces | 162 units |
|---|-----------|

| | |
|---|----------------------------|
| Baseline Runoff for Patio, Path, Driveway Impervious Surfaces | 2,052,008 gallons per year |
|---|----------------------------|

| | |
|--|--------------------------|
| Savings from Installed Pervious Surfaces | 669,264 gallons per year |
|--|--------------------------|

Total Stormwater Runoff Savings

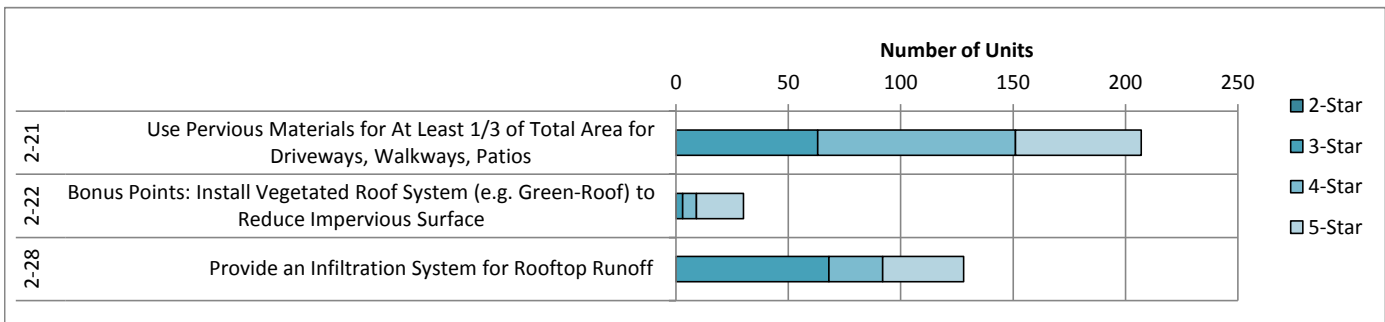
| | |
|-----------------------------|----------------------------|
| Percent Savings to Baseline | 34% |
| Annual Stormwater Savings | 2,329,628 gallons per year |



CREDIT ACHIEVEMENT SUMMARY

ALL PROJECTS

The credit achievement summary graph is for both project types: single-family houses and townhomes.



ASSUMPTIONS AND CONSTANTS

| Constant | Value | Units | Source |
|---|-------|--|---------------------------------|
| Maximum Lot Coverage (for structures) | 50% | Percent | SMC 23.45.010 |
| Ratio of width to depth | 1.0 | (Lots assumed square) | |
| Minimum Landscape area per perimeter | 3.0 | Square Feet Per Linear Foot of Perimeter (feet ² / foot) | SMC 23.45.015 |
| Percent of non-building, non-landscaped covered by pervious | 33% | Percent | Built Green Minimum Requirement |
| Percent of non-building, non-landscaped covered by impervious | 67% | Percent | Built Green Minimum Requirement |
| Percent of water infiltrated for a green roof | 50% | | Built Green Handbook |
| Percent of water infiltrated for a pervious surface | 70% | Percent | U.S. EPA NPDES ¹ |
| Average footprint coverage of green roof installations | 30% | Percent | |
| Average precipitation for King and Snohomish County | 39 | inches per unit area | NOAA Climate Data for Seattle |
| Percent overflow of roof infiltration systems | 0% | Percent | |

¹ U.S. EPA National Pollutant Discharge Elimination System (NPDES) - Infiltration

<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=137&minmeasure=5>

█ Represents a Placeholder Value

Seattle Built Green Single Family & Townhome Projects 2008 - 2011

ENERGY

Introduction

Achievement of these credits reduces overall energy use and improves energy efficiency to meet the heating/cooling load more effectively. The analysis estimates the average savings per unit (in MWH per year), the total energy savings provided by all participating units (in MWH per year), and also estimates the energy saved by each strategy (in MWH per year or k Therms per year). For overall comparisons the energy savings are reported in MBTU (million BTU).

KEY FINDINGS

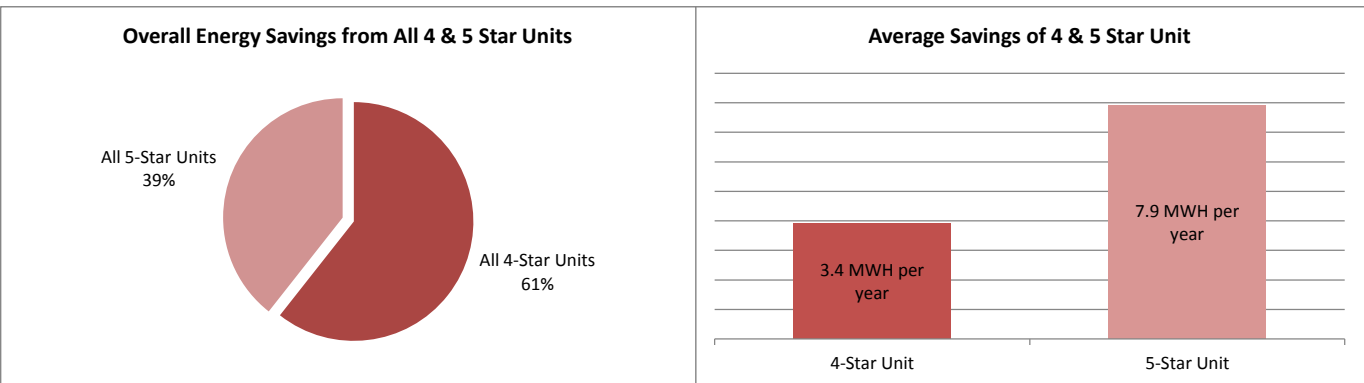
4-STAR & 5-STAR RATED UNITS ENERGY PERFORMANCE

The following energy savings information is reported only for 4-Star and 5-Star rated units. Projects achieving a 4-Star or 5-Star rating must meet Energy Star performance requirements, and the savings from these types of homes has been quantified in a report by Ecotope (please see Assumptions and Constants).

| | |
|------------------------|-----|
| Number of 4-Star Units | 177 |
| Number of 5-Star Units | 57 |

| | | |
|---------------------------------------|------------------|----------------------|
| Total Energy Saving from 4-Star Units | 695 MWh per year | 2370.6 MBTU per year |
| Total Energy Saving from 5-Star Units | 451 MWh per year | 1539.8 MBTU per year |

| | |
|--------------------------------|------------------|
| Average Saving per 4-Star Unit | 3.9 MWh per year |
| Average Saving per 5-Star Unit | 7.9 MWh per year |



2-STAR & 3-STAR RATED UNITS: ESTIMATED ENERGY SAVINGS FROM INDIVIDUAL CREDITS

The following key findings show estimated energy savings from specific credits for units achieving a 2-Star or 3-Star rating. There are no Ecotope energy saving calculations for 2-Star or 3-Star units and therefore savings for these units were estimated using the following calculations and assumptions.

Equipment

High Efficiency Heat Pumps (3-34)

| | |
|---------------------------|--------------------|
| Units Achieving Credit | 59 |
| Lowest Estimated Savings | 44.4 MWh per year |
| Average Estimated Savings | 173.1 MWh per year |

Tankless Hot Water Heater (3-46)

| | |
|------------------------|------------------------|
| Units Achieving Credit | 226 |
| Estimated Savings | 16.7 k Therms per year |

High Efficiency Hot Water Heater (3-47)

| | |
|------------------------|-----------------------|
| Units Achieving Credit | 119 |
| Estimated Savings | 7.6 k Therms per year |

Lighting

Use CFL in Three High-Use Areas (3-56)

| | |
|------------------------|-------------------|
| Units Achieving Credit | 223 |
| Estimated Savings | 22.1 MWh per year |

Appliances

Install Front Loading or Energy Star® Washing Machine (3-65)

| | |
|---------------------------|-------------------|
| Units Achieving Credit | 85 |
| Lowest Estimated Savings | 2.2 MWh per year |
| Average Estimated Savings | 15.3 MWh per year |

Install an Energy Star® Dishwasher (3-66)

| | |
|---------------------------|-------------------|
| Units Achieving Credit | 363 |
| Lowest Estimated Savings | 3.6 MWh per year |
| Average Estimated Savings | 28.3 MWh per year |

Install Energy Star® Refrigerator (3-67)

| | |
|---------------------------|-------------------|
| Units Achieving Credit | 188 |
| Lowest Estimated Savings | 17.1 MWh per year |
| Average Estimated Savings | 43.4 MWh per year |

| | |
|---|----------------------|
| Lowest 2-Star & 3-Star Units Estimated Energy Savings | 2736.5 MBTU per year |
|---|----------------------|

| | |
|---|----------------------|
| Estimated Total Energy Savings (4 & 5 Star Units Total Energy Savings + Lowest 2-Star & 3-Star Units Estimated Energy Savings from Individual Credits) | 6646.8 MBTU per year |
|---|----------------------|

ADDITIONAL SAVINGS CALCULATIONS

4-STAR & 5-STAR RATED UNITS: ESTIMATED ENERGY SAVINGS FROM INDIVIDUAL CREDITS

The following key findings show estimated energy savings from specific credits for units achieving a 4-Star or 5-Star rating.

Equipment

High Efficiency Heat Pumps (3-34)

| | |
|---------------------------|-------------------|
| Units Achieving Credit | 17 |
| Lowest Estimated Savings | 12.8 MWH per year |
| Average Estimated Savings | 49.9 MWH per year |

Tankless Hot Water Heater (3-46)

| | |
|------------------------|-----------------------|
| Units Achieving Credit | 107 |
| Estimated Savings | 7.9 k Therms per year |

High Efficiency Hot Water Heater (3-47)

| | |
|------------------------|-----------------------|
| Units Achieving Credit | 142 |
| Estimated Savings | 8.2 k Therms per year |

Lighting

Use CFL in Three High-Use Areas (3-56)

| | |
|------------------------|-------------------|
| Units Achieving Credit | 208 |
| Estimated Savings | 20.6 MWH per year |

Appliances

Install Front Loading or Energy Star® Washing Machine (3-65)

| | |
|---------------------------|-------------------|
| Units Achieving Credit | 81 |
| Lowest Estimated Savings | 2.1 MWH per year |
| Average Estimated Savings | 14.6 MWH per year |

Install an Energy Star® Dishwasher (3-66)

| | |
|---------------------------|-------------------|
| Units Achieving Credit | 223 |
| Lowest Estimated Savings | 2.2 MWH per year |
| Average Estimated Savings | 17.4 MWH per year |

Install Energy Star® Refrigerator (3-67)

| | |
|---------------------------|-------------------|
| Units Achieving Credit | 145 |
| Lowest Estimated Savings | 13.2 MWH per year |
| Average Estimated Savings | 33.5 MWH per year |

ALL UNITS: ESTIMATED ENERGY SAVINGS FROM INDIVIDUAL CREDITS

The following key findings show estimated energy savings from specific credits for all units

Equipment

High Efficiency Heat Pumps (3-34)

| | |
|---------------------------|--------------------|
| Units Achieving Credit | 76 |
| Lowest Estimated Savings | 57.2 MWH per year |
| Average Estimated Savings | 223.0 MWH per year |

Tankless Hot Water Heater (3-46)

| | |
|------------------------|------------------------|
| Units Achieving Credit | 333 |
| Estimated Savings | 24.6 k Therms per year |

High Efficiency Hot Water Heater (3-47)

| | |
|------------------------|------------------------|
| Units Achieving Credit | 261 |
| Estimated Savings | 16.5 k Therms per year |

Lighting

Use CFL in Three High-Use Areas (3-56)

| | |
|------------------------|-------------------|
| Units Achieving Credit | 431 |
| Estimated Savings | 42.7 MWH per year |

Appliances

Install Front Loading or Energy Star® Washing Machine (3-65)

| | |
|---------------------------|-------------------|
| Units Achieving Credit | 166 |
| Lowest Estimated Savings | 4.3 MWH per year |
| Average Estimated Savings | 29.9 MWH per year |

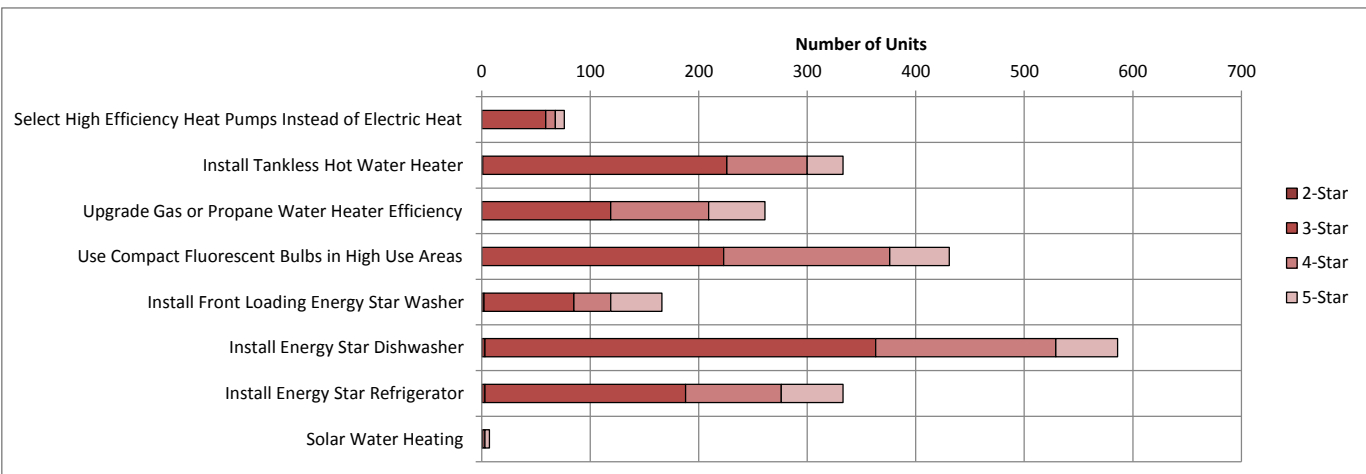
Install an Energy Star® Dishwasher (3-66)

| | |
|---------------------------|-------------------|
| Units Achieving Credit | 586 |
| Lowest Estimated Savings | 5.9 MWH per year |
| Average Estimated Savings | 45.7 MWH per year |

Install Energy Star® Refrigerator (3-67)

| | |
|---------------------------|-------------------|
| Units Achieving Credit | 333 |
| Lowest Estimated Savings | 30.3 MWH per year |
| Average Estimated Savings | 76.9 MWH per year |

CREDIT ACHIEVEMENT SUMMARY (ALL PROJECTS)



ASSUMPTIONS AND CONSTANTS

Units achieving the 3-46 Tankless hot water heater are gas

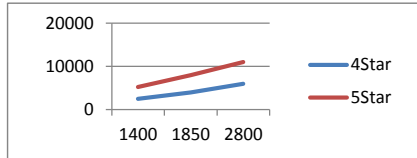
2008 Town Homes (TH) are assumed to be 1400 square feet

2008 Single Family (SF) homes are assumed to be 1850 square feet

Based on data from Ecotope Report¹, a linear relationship between energy savings and building square footage is assumed for 4-Star and 5-Star projects.

4-Star projects assume 2 kWh/sf/year and 5-Star projects assume 4 kWh/sf/year savings

| KWatt Hour per Year ¹ | | |
|----------------------------------|-------|-------|
| SqFt | 4Star | 5Star |
| 1400 | 2500 | 5250 |
| 1850 | 4000 | 8000 |
| 2800 | 6000 | 11000 |



| Constant | Value | Units | Source |
|--|---------|---|------------------------------------|
| 4-Star Savings per SqFt | 2.1 | Kilowatt Hours per Year Savings | Ecotope Report (2008) ¹ |
| 5-Star Savings per SqFt | 4.0 | Kilowatt Hours per Year Savings | Ecotope Report (2008) ¹ |
| kWh to BTU | 3,412 | BTUs per kWh | |
| BTU to Therm | 100,067 | BTUs per Therm (100 ccf of natural gas) | |
| Lowest-Saving of the High-Eff Heat Pump | 752 | Kilowatt Hours per Year Savings | RTF Forum ² |
| Average-Savings of the High-Eff Heat Pumps | 2934 | Kilowatt Hours per Year Savings | RTF Forum ² |
| Savings per gas tankless hot-water heater | 74 | Therms per year | Energy Star ³ |
| Savings per unit achieving any credits for 3-56 CFL lighting | 99 | kWh savings per unit | Seattle City Light |
| Lowest-Saving of the Eff Clothes Washers | 26 | Kilowatt Hours per Year Savings | RTF Forum ² |
| Average-Savings of the Eff Clothes Washers | 180 | Kilowatt Hours per Year Savings | RTF Forum ² |
| Lowest-Saving of the Energy Star Dishwashers | 10 | Kilowatt Hours per Year Savings | RTF Forum ² |
| Average-Savings of the Energy Star Dishwashers | 78 | Kilowatt Hours per Year Savings | RTF Forum ² |
| Lowest-Saving of the Energy Star Refrigerators | 91 | Kilowatt Hours per Year Savings | RTF Forum ² |
| Average-Savings of the Energy Star Refrigerators | 231 | Kilowatt Hours per Year Savings | RTF Forum ² |
| Water Heater Upgrade Savings 3-47, 2 Credits | 18 | Therms per year | Energy Star ³ |
| Water Heater Upgrade Savings 3-47, 4 Credits | 74 | Therms per year | Energy Star ³ |
| Water Heater Upgrade Savings 3-47, 7 Credits | 74 | Therms per year | Energy Star ³ |

¹ Ecotope Residential Energy Comparison: Built Green and LEED; prepared for the City of Seattle; October 16, 2008

² Regional Technical Forum - Planning, Tracking, and Reporting System v2.0

³ Energy Star Residential Water Heaters: Draft Criteria Analysis

http://www.energystar.gov/ia/partners/prod_development/new_specs/downloads/water_heaters/WaterHeaterDraftCriteriaAnalysis.pdf

Seattle Built Green Single Family & Townhome Projects 2008 - 2011

CONSTRUCTION WASTE

Introduction

Achievement of these credits diverts construction and demolition debris from disposal in landfills and incinerators. Recycling waste reduces disposal fees and overall construction costs, and provides "stock" for new materials to be manufactured. This analysis categorizes the method of recycling (source separated or commingled), the percentage of each waste stream diverted, and estimates the total waste diverted from the landfill (in tons).

KEY FINDINGS

COMMINGLED RECYCLING CREDITS

Construction Waste Recycled

| | |
|---|-----------|
| Unit Diverting Waste to 50% Recycling Facility (5-24) | 120 units |
| Unit Diverting Waste to 75% Recycling Facility (5-25) | 123 units |
| Unit Diverting Waste to 85% Recycling Facility (5-26) | 93 units |

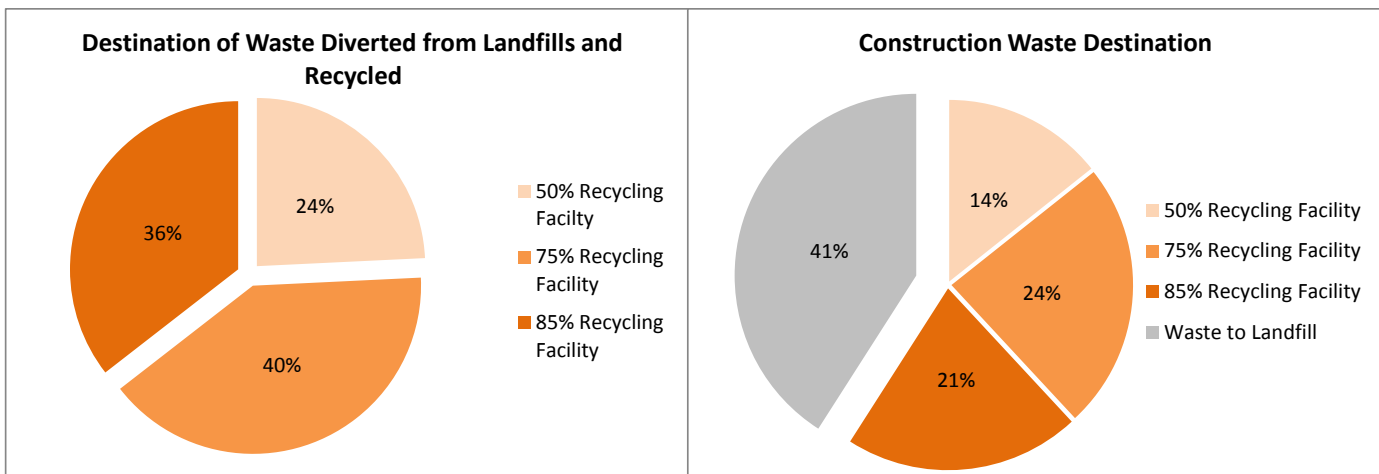
Construction Waste Recycled

| | |
|--|---------------|
| Square Footage of Units Diverting Waste to 50% Recycling Facility (5-24) | 210,825 Sq Ft |
| Square Footage of Units Diverting Waste to 75% Recycling Facility (5-25) | 233,452 Sq Ft |
| Square Footage of Units Diverting Waste to 85% Recycling Facility (5-26) | 181,696 Sq Ft |

| | |
|---|----------|
| Actual Construction Waste to Landfill * | 578 Tons |
|---|----------|

Total Waste Diverted from Land Fill and Recycled

| | |
|---------------------------|----------|
| From 50% Recycling (5-24) | 202 Tons |
| From 75% Recycling (5-25) | 336 Tons |
| From 85% Recycling (5-26) | 296 Tons |
| Total | 834 Tons |

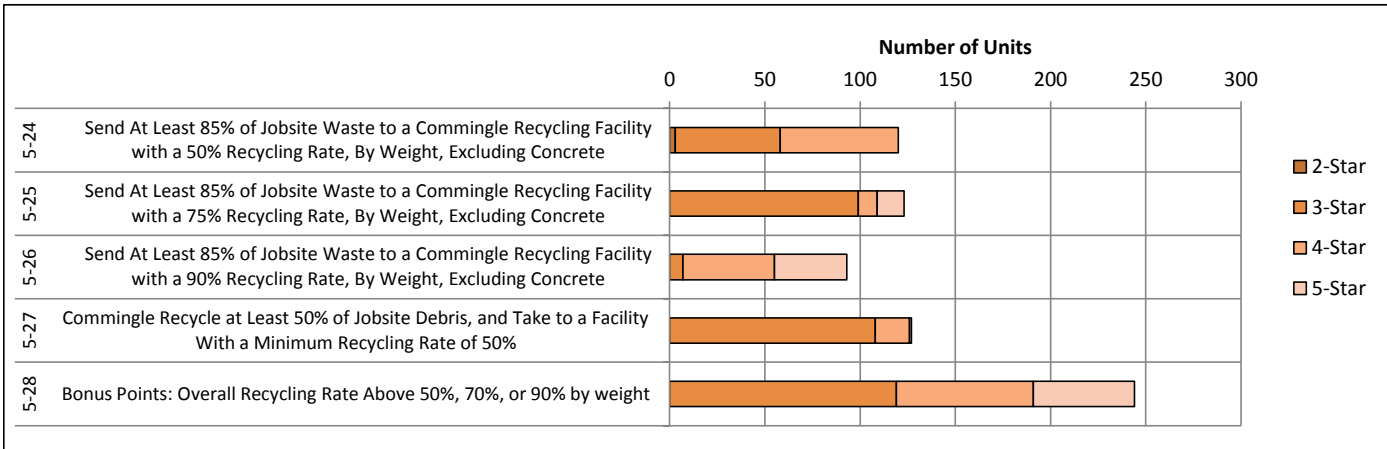


* Does not include information on projects not achieving any credits related to construction waste

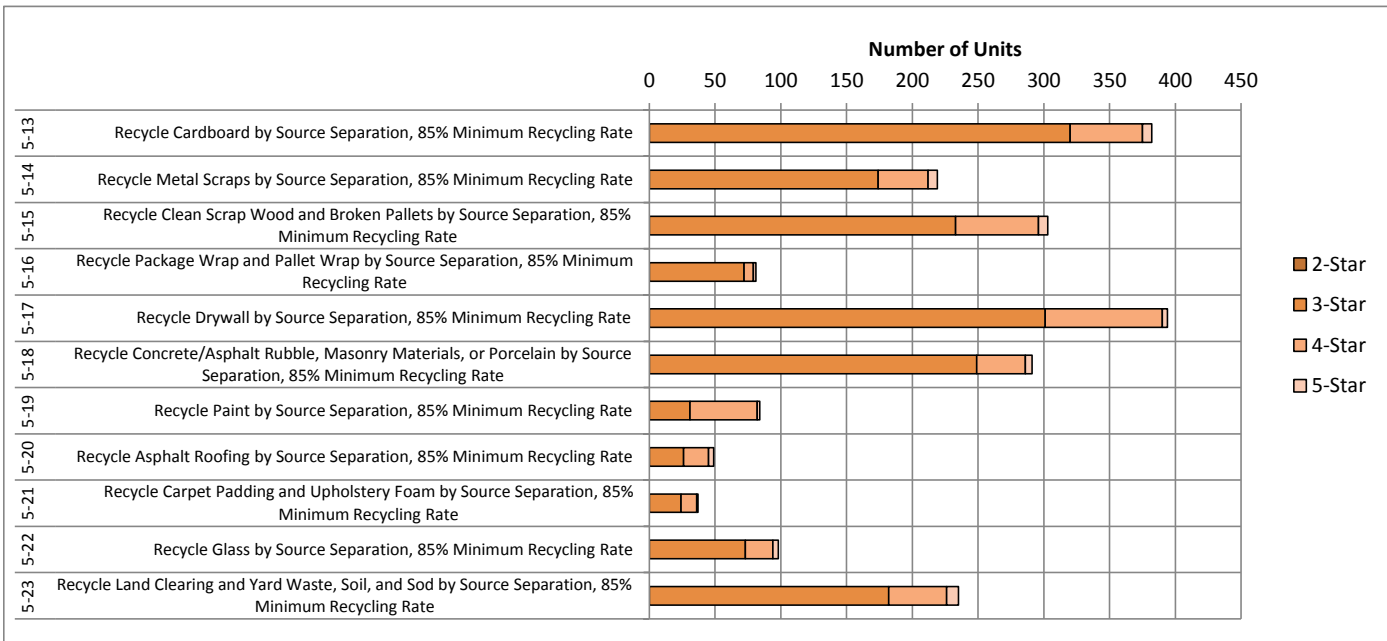
Calculation Method: $85\% \times (\text{Unit Area} \times \text{Unit Waste Rate} \times \text{Facility Recycling Rate}) / (\text{Pounds Per Ton})$

CREDIT ACHIEVEMENT SUMMARY

COMMINGLED RECYCLING CREDITS



SOURCE SEPARATED RECYCLING CREDITS



ASSUMPTIONS AND CONSTANTS

| Constant | Value | Units | Source |
|-------------------------|-------|------------------------|-----------------------|
| Unit Waste Rate | 4.5 | Pounds per Square Foot | U.S. EPA ¹ |
| 5-24 Recycling Rate | 50% | Percent | |
| 5-25 Recycling Rate | 75% | Percent | |
| 5-26 Recycling Rate | 85% | Percent | |
| Pound to Ton Conversion | 2000 | Pounds per Ton | |

¹ EPA Characterization of Building Related C&D Debris in the United States, December 2005