



Fall 2010

LEED neighborhood development assessment: the north anchor

Kailey Kimball

Western Washington University

Dylan Klinesteker

Western Washington University

Arnica Luther

Western Washington University

Chris McCoy

Western Washington University

Kendall Wals

Western Washington University

Follow this and additional works at: https://cedar.wwu.edu/huxley_stupubs



Part of the [Environmental Studies Commons](#)

Recommended Citation

Kimball, Kailey; Klinesteker, Dylan; Luther, Arnica; McCoy, Chris; and Wals, Kendall, "LEED neighborhood development assessment: the north anchor" (2010). *Huxley College Graduate and Undergraduate Publications*. 8.

https://cedar.wwu.edu/huxley_stupubs/8

This Environmental Impact Assessment is brought to you for free and open access by the Huxley College of the Environment at Western CEDAR. It has been accepted for inclusion in Huxley College Graduate and Undergraduate Publications by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.

LEED Neighborhood Development Assessment:

The North Anchor



Leadership in Energy & Environmental Design-ND

This report is a class project performed by students of Western Washington University, Huxley College of Environment. It has not been undertaken at the request of any persons representing local governments or private individuals, nor does it necessarily represent the opinion or position of individuals from government or the private sector.

LEED Neighborhood Development Assessment: The North Anchor

Prepared for ESTU 436 under the supervision of

Troy Abel, Instructor

Huxley College of Environment

Fall 2010

Prepared by:

Kailey Kimball

Dylan Klinesteker

Arnica Luther

Chris McCoy

Kendall Wals

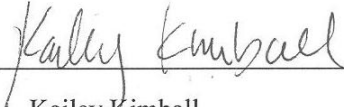
Environmental Impact Assessment
Huxley College of the Environment

I/we grant to Western Washington University the non-exclusive royalty-free right to archive, reproduce, distribute, and display this Environmental Impact Assessment document in any and all forms, including electronic format, via any digital library mechanisms maintained by WWU.


I/we represent and warrant this is original work, and does not infringe or violate any rights of others. I/we warrant that I/we have obtained written permissions from the owner of any third party copyrighted material included in this document.

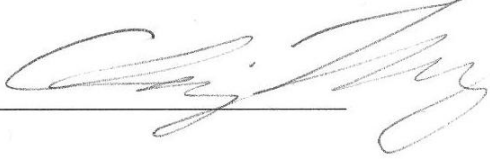
I/we acknowledge that I/we retain ownership rights to the copyright of this work, including but not limited to the right to use all or part of this work in future works, such as articles or books. Library users are granted permission for individual, research and non-commercial reproduction of this work for educational purposes only. Any further digital posting of this document requires specific permission from the author(s).

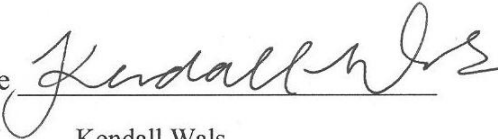
Any copying or publication of this document for commercial purposes, or for financial gain, is not allowed without my/our written permission.

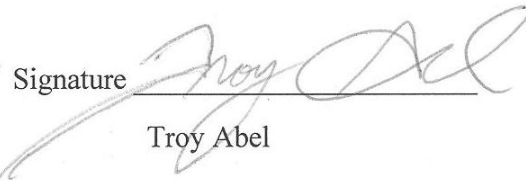
Signature 
Kailey Kimball

Signature 
Dylan Klinesteker

Signature 
Arnica Luther

Signature 
Chris McCoy

Signature 
Kendall Wals

Signature 
Troy Abel

Date 12/1/2010

Table of Contents

Fact Sheet	6
Letter to Citizens	7
Site Map	8
Purpose of LEED-ND	9
Executive Summary	10
Evaluation Matrix	11
A. Smart Location and Linkage (SLL)-27 Points	12
SLL Prerequisite 1: Smart Location and Linkage (SLL) 27 Points	12
SLL Prerequisite 2: Imperiled Species and Ecological Communities Conservation	12
SLL Prerequisite 3: Wetland and Water Body Conservation	13
SLL Prerequisite 4: Agricultural Land Conversion	15
SLL Prerequisite 5: Floodplain Avoidance	15
SLL Credit 1: Preferred Locations	16
SLL Credit 2: Brownfields Redevelopment	19
SLL Credit 3: Locations with Reduced Automobile Dependence	21
SLL Credit 4: Bicycle Network.....	24
SLL Credit 5: Housing and Jobs Proximity	26
SLL Credit 6: Steep Slope Protection	28
SLL Credit 7: Site Design for Habitat or Wetland/Water Body Conservation	29
SLL Credit 8: Restoration of Habitat or Wetlands/Water Bodies	30
SLL Credit 9: Long-term Conservation Management of Habitat or Wetlands/Water Bodies.....	31
B. Neighborhood Pattern and Design (NPD) 44 Points	32
NPD Prerequisite 1: Walkable Streets	32
NPD Prerequisite 2: Compact Development	33
NPD Prerequisite 3: Connected and Open Community	34
NPD Credit 1: Walkable Streets	35
NPD Credit 2: Compact Development	38
NPD Credit 3: Mixed-Use Neighborhood Centers.....	40
NPD Credit 4: Mixed-Income Diverse Communities	42
NPD Credit 5: Reduced Parking Footprint	45
NPD Credit 6: Street Network	47

NPD Credit 7: Transit Facilities	48
NPD Credit 8: Transportation Demand Management	49
NPD Credit 9: Access to Civic and Public Space	51
NPD Credit 10: Access to Recreational Facilities	52
NPD Credit 11: Visitability and Universal Design	53
NPD Credit 12: Community Outreach and Involvement	56
NPD Credit 13: Local Food Production.....	57
NPD Credit 14: Tree-Lined and Shaded Streets	58
NPD Credit 15: Neighborhood Schools	60
C. Green Infrastructure and Building (GIB) 39 Points	61
GIB Prerequisite 1: Certified Green Building	61
GIB Prerequisite 2: Minimum Building Energy Efficiency	62
GIB Prerequisite 3: Minimum Building Water Efficiency	64
GIB Prerequisite 4: Construction Activity Pollution Prevention	65
GIB Credit 1: Certified Green Buildings	66
GIB Credit 2: Building Energy Efficiency	67
GIB Credit 3: Building Water Efficiency	69
GIB Credit 4: Water Efficient Landscape	71
GIB Credit 5: Existing Building Reuse	72
GIB Credit 6: Historic Preservation and Adaptive Use	73
GIB Credit 7: Minimum Site Disturbance in Design and Construction.....	74
GIB Credit 8: Storm Water Management.....	74
GIB Credit 9: Heat Island Reduction	76
GIB Credit 10: Solar Orientation	77
GIB Credit 11: On-site Renewable Energy Sources	78
GIB Credit 12: District Heating and Cooling	79
GIB Credit 13: Infrastructure Energy Efficiency	80
GIB Credit 14: Wastewater Management	81
GIB Credit 15: Recycled Content in Infrastructure.....	82
GIB Credit 16: Solid Waste Management Infrastructure	83
GIB Credit 17: Light Pollution Reduction	84
D. Innovation and Design Process (IDP) 6 Points.....	85
IDP Credit 1: Innovation and Exemplary Performance.....	85
IDP Credit 2: LEED – Accredited Professional.....	86
E. Regional Priority Credit (RPC) 4 Points.....	86
RPC Credit 1: Regional Priority.....	86
Appendix I:.....	88
Appendix II:.....	89
Appendix III:.....	90
Sources	91

Fact Sheet

Title

LEED Neighborhood Development: Revitalization of Cornwall Avenue—North Anchor

Lead Agency

Abel Environmental Consulting
516 High Street
Bellingham, WA 98225

Contributors:

Kailey Kimball
Dylan Klinesteker
Arnica Luther
Chris McCoy
Kendall Wals

Distribution List

Professor Troy Abel, PhD
Huxley College of the Environment
Western Washington University
Bellingham, WA 98225

Acknowledgements

Thank you to the following people who have contributed to our research and design. Without their support this project could not be possible.

Troy Abel – Professor, Western Washington University
Chris Comeau – Transportation Planner, City of Bellingham
Darby Galligan – Planner, City of Bellingham

Issue Date: December 8, 2010

Public Presentation: December 1, 2010

Letter to Citizens

Huxley College of the Environment
Western Washington University
516 High Street, Bellingham WA 98225

December 2010

Dear Concerned Citizens,

As part of our comprehensive curriculum preparing us for professional careers in the burgeoning environmental field, a group of Huxley students from a diverse range of disciplines collaborated as part of our capstone course in Environmental Impact Assessment (ESTU 436) to bring you the following document. The United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design for Neighborhood Development (LEED ND) is a standard established by pioneers in the field of green development designed to ensure sustainable methods are incorporated into elements like site selection, design, and construction. LEED ND is a holistic approach to urban planning that is especially focused on creating strong connections between communities and their built environments.

This checklist is a part of the third phase of the Urban Transitions Studio project, a collaboration between Western Washington University, the City of Bellingham's Office of Planning and Community Development, and the nonprofit organization Sustainable Connections. The focus of this multiphase project has been the revitalization of downtown Bellingham as the retail core of this community. The construction of Bellis Fair mall on Meridian in the 1980s caused major retail anchors to vacate downtown real estate, generating volatility for remaining specialty stores and boutiques. By attracting retail anchors back downtown with strategically placed 'anchor' buildings on the north and south ends, as well as developing alleyways into pedestrian friendly pathways, it would create a retail corridor that would stabilize and benefit the entire downtown business community.

By applying the LEED ND framework to this proposal, we were able to assess the many social and environmental facets of this project from a variety of viewpoints. We believe the following evaluation accurately reflects these impacts, and we hope that you, the citizen, are pleased with the results.

Sincerely,

Kailey Kimball



Dylan Klinesteker



Chris McCoy



Kendall Wals



Arnica Luther



Site Map

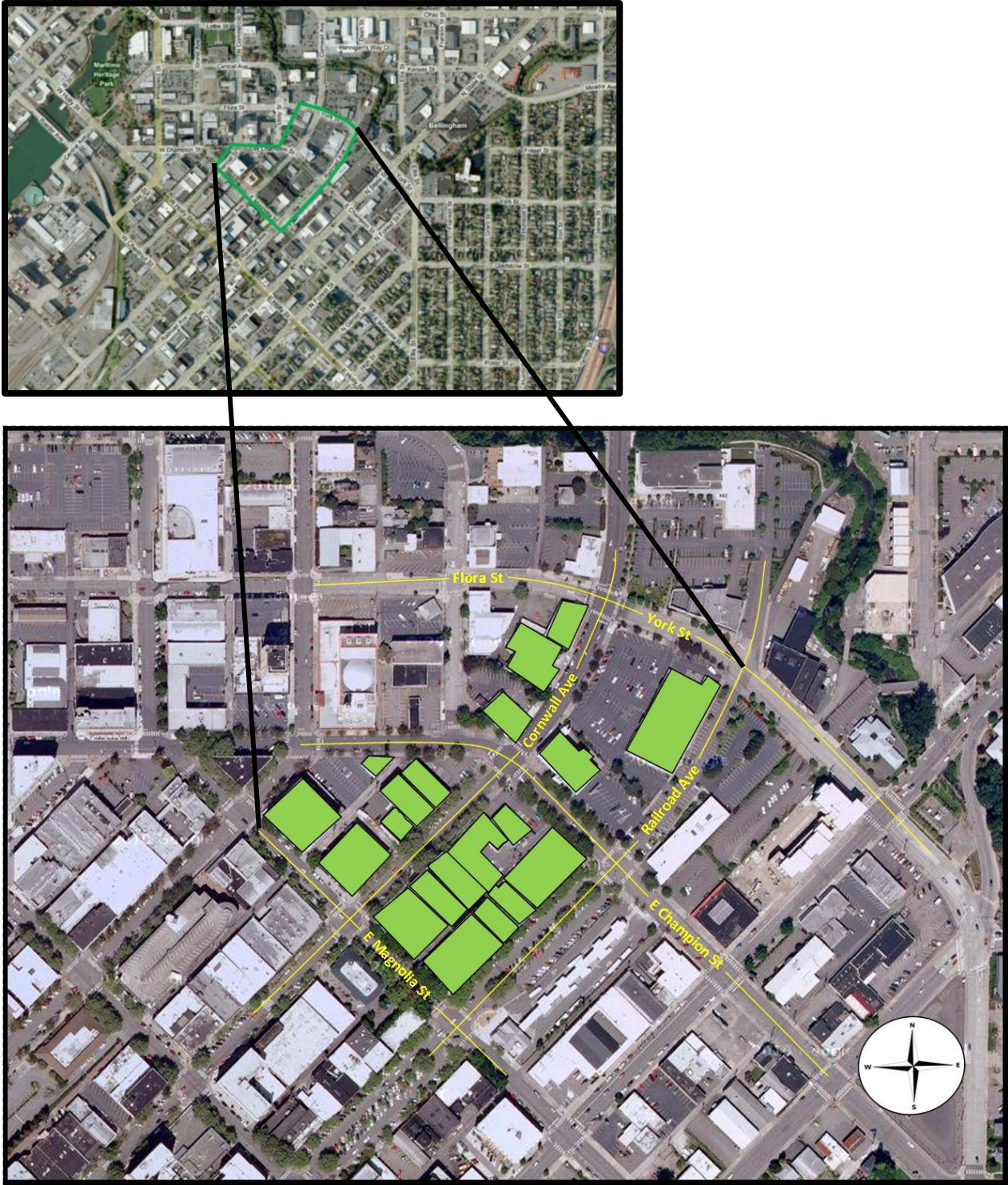


Figure 1: Map displaying the location of our project site.

Purpose of LEED-ND

The Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) Rating System promotes sustainability and green building practices. The main goals of LEED-ND are to reduce gas emissions, decrease dependence on expensive and non-sustainable sources, and to decrease threats to human health. In order to achieve LEED certification a high level of environmental responsibility and sustainable development must be reached. There are four award levels that increase as more points are earned, with 110 maximum points. Earning LEED certification is not required by the state but is used as an evaluation tool and a way to give incentives to developers and businesses. It focuses on four main areas:

- Smart Location and Linkage (SLL)
- Neighborhood Pattern and Design (NPD)
- Green Infrastructure and Building (GIB)
- Innovation and Design (ID)

The LEED credits encourage a balance of development ideas of sprawl and urban sustainability by encouraging walk able developments and infill on unutilized developed land to reduce land consumption. The main goals for LEED-ND are achieved by encouraging daily physical activity through walking and biking availability, and improved land and air quality through sustainable developments.

Executive Summary: Downtown Bellingham is in need of revitalization. For the past 20 years retail stores along Cornwall Avenue have struggled to compete with the Bellis Fair Mall just 2 miles away. In order for Bellingham’s historic downtown to reclaim its position as the retail core of the city, major changes need to occur. Over the past year the City of Bellingham has teamed up with Western Washington University in order to discuss the possibility of bringing vitality to Bellingham’s struggling downtown. The following report discusses the potential LEED-ND certification of the proposed North Anchor Development and the immediate area along Cornwall Ave.

LEED-ND itself is a neighborhood development rating system that incorporates the important traits of smart growth, urbanism and ‘green’ building into its certification. By using this system of rating we can concentrate on strengthening Bellingham’s retail core in a way that reflects the community’s sustainable orientation as well as one that meets the needs of a growing community. The LEED-ND framework was incorporated at every level of the project’s development process, resulting in a conscious development plan.

The location of our project is in an infill site along Cornwall Avenue, removing the trend of urban sprawl. The North end of this site is Flora and York Street, and the South end is Magnolia Street. Within this site the proposed action will be to build a new Anchor retail store and parking structure surrounded by multiple new buildings and renovating previously existing building to more efficiently use space. All new buildings and renovations will strive to become LEED certified, providing the community with less ecological burden.

The North Anchor project site is also located very close to the downtown Whatcom Transit Authority hub, allowing people from all over the community to easily access the site. The North Anchor will be designed at a very human level, allowing pedestrians and cyclists’ easy access and travel in and around the project area. There is also a proposed bike share program, as well as a trolley. Combined these improvements to Bellingham’s downtown will reduce vehicle traffic as well as reduce the communities carbon emissions.

With these and many other progressive ideas the North Anchor retail development will satisfy the requirement for LEED-ND Certification, and with a few other alternative actions the neighborhood has the opportunity to become Platinum LEED-certified. What follows is a breakdown of each credit awarded to the proposed project as well as the alternative actions proposed by the reporting team.

Smart Location and Linkage
Proposed: 9
Alternative: 23

Neighborhood Pattern and Design
Proposed: 19
Alternative: 37

Green Infrastructure and Building
Proposed: 13
Alternative: 28

Evaluation Matrix:

Evaluation Matrix



	Current Action	Alternative Action
	Percent of Credits Earned	
Smart Location and Linkage		
27 credits total	33%	85%
Built Environment	7%	24%
Natural Environment	6%	24%
Social/Economic Impacts	7%	11%
Neighborhood Pattern & Design		
44 credits total	45%	80%
Built Environment	13%	24%
Natural Environment	12%	12%
Social/Economic Impacts	33%	63%
Green Infrastructure and Buildings: 29 credits total	45%	97%
Built Environment	13%	33%
Natural Environment	24%	35%
Social/Economic Impacts	-	-
Total Percentage over all three sub-criteria	37%	75%
Built Environment	34%	81%
Natural Environment	41%	71%
Social/Economic Impacts	41%	74%

Certification Levels	Current Action
Certified: 40-49 credits (38-46 %)	·The development remains the same with no changes.
Silver: 50-59 credits (47-56 %)	
Gold: 60-79 credits (57-74 %)	
Platinum: 80-106 credits (>74%)	
	Alternative Action
	·Potential to meet 75% of credits (Platinum LEED certification). Through more sustainable development practices.



A. Smart Location and Linkage (SLL)-27 Points

SLL Prerequisite 1: Smart Location

Required

Prerequisite is met

Intent:

“To encourage development within and near *existing* communities and public transit infrastructure. To encourage improvement and redevelopment of existing cities, suburbs, and towns while limiting the expansion of the *development footprint* in the region to appropriate circumstances. To reduce vehicle trips and *vehicle miles traveled* (VMT). To reduce the incidence of obesity, heart disease, and hypertension by encouraging daily physical activity associated with walking and bicycling.” (LEED-ND 2009)

Requirements:

Either (a) locate the *project* on a site served by existing *water and wastewater infrastructure* or (b) locate the project within a legally adopted, publicly owned, planned water and wastewater service area, and provide new water and wastewater infrastructure for the project.

And

OPTION 1. Infill Sites

Locate the project on an *infill site*.

Proposed Action:

The proposed development falls within a site served by existing water and wastewater infrastructure. The Development is also located in an infill site, please see the site map on page 8.

SLL Prerequisite 2: Imperiled Species and Ecological Communities Conservation

Required

Prerequisite is met

Intent:

“To conserve imperiled species and ecological communities.” (LEED-ND 2009)

“The Congress finds and declares that...various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation...” (Endangered Species Act of 1973)

Requirements:

FOR ALL PROJECTS

Consult with the state Natural Heritage Program and state fish and wildlife agencies to determine whether species listed as threatened or endangered under the federal Endangered Species Act, the state’s endangered species act, or species or ecological communities classified by NatureServe as GH (possibly extinct), G1 (critically imperiled), or G2 (imperiled) have been or are likely to be found on the *project* site because of the presence of suitable habitat and nearby occurrences. If the consultations are inconclusive and site conditions indicate that imperiled species or ecological communities could be present, using a qualified biologist, perform biological surveys using accepted methodologies during appropriate seasons to determine whether such species or communities occur or are likely to occur on the site.

OPTION 1. Sites without Affected Species or Ecological Community

The prerequisite is satisfied if the consultation and any necessary biological surveys determine that no such imperiled species or ecological communities have been found or have a high likelihood of occurring.

Proposed Action:

The project site is located completely on pre-developed land containing no suitable habitat for local endangered species.

SLL Prerequisite 3: Wetland and Water Body Conservation

Required

Prerequisite is met

Intent:

“To preserve water quality, natural hydrology, habitat, and biodiversity through conservation of *wetlands* and *water bodies*.” (LEED-ND 2009)

Requirements:

Limit development effects on wetlands, water bodies, and surrounding buffer land according to the requirements below.

OPTION 1. Sites with No Wetlands, Water Bodies, Land within 50 Feet of Wetlands, or Land within 100 Feet of Water Bodies

Locate the *project* on a site that includes no wetlands, no water bodies, no land within 50 feet of wetlands, and no land within 100 feet of water bodies.

And

FOR ALL PROJECTS

Comply with all local, state, and federal regulations pertaining to wetland and water body conservation.

Proposed Action:

The project is located more than 100 feet from the nearest body of water.

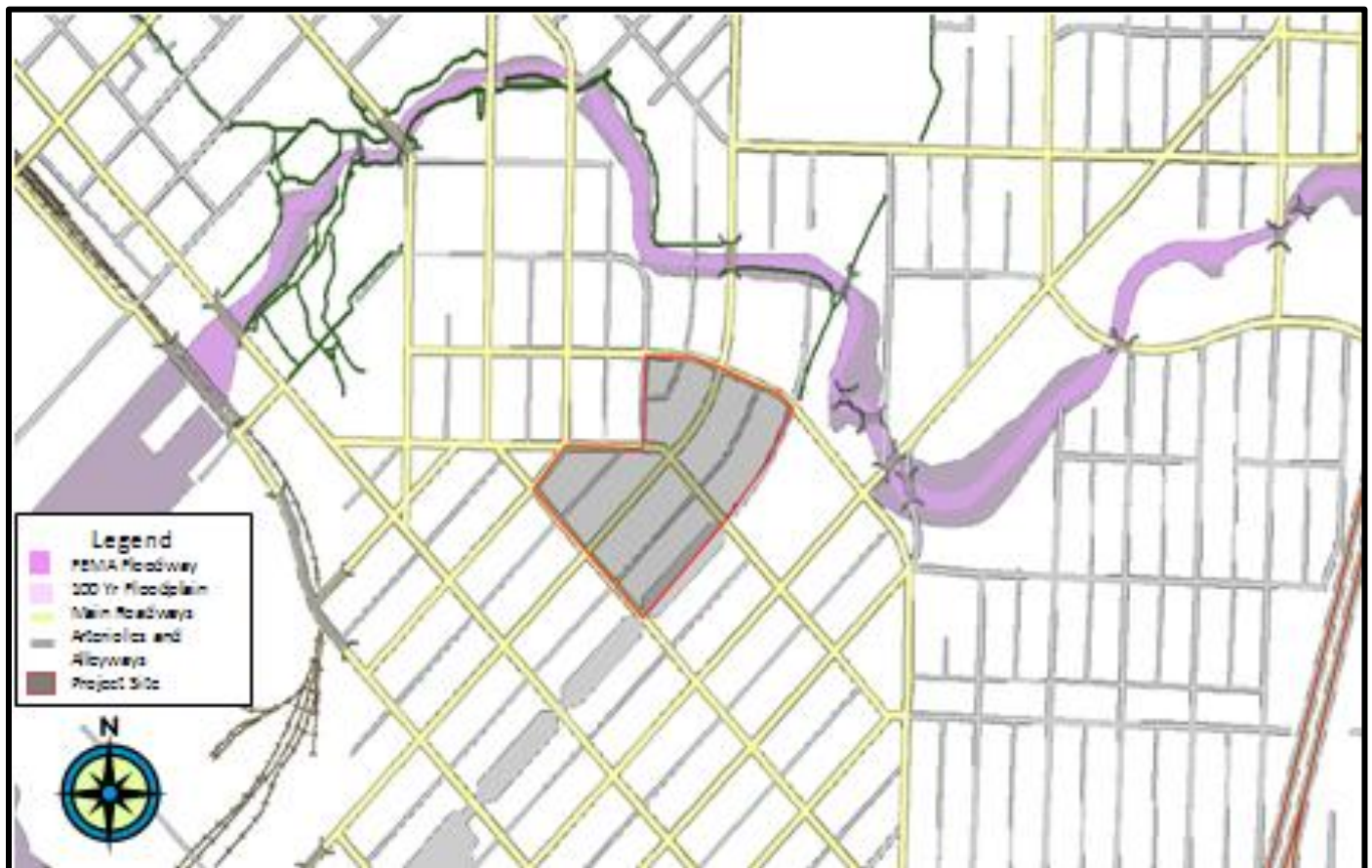


Figure A.1: Map showing project site is not located within 100 year floodplain

SLL Prerequisite 4: Agricultural Land Conservation

Required

Prerequisite is met

Intent:

“To preserve irreplaceable agricultural resources by protecting prime and unique soils on farmland and forestland from development.” (LEED-ND 2009)

“Farmland is a finite natural resource because areas with prime agricultural soils are limited.”
(Washington State Conservation Commission: Office of Farmland Preservation, 2007)

Requirements:

FOR ALL PROJECTS

Locate the *project* on a site that is not within a state or locally designated agricultural preservation district, unless any changes made to the site conform to the requirements for development within the district (as used in this requirement, district does not equate to land-use zoning).

And

OPTION 2. Infill Sites

Locate the project on an *infill site*.

Proposed Action:

The project is not located within a designated agricultural preservation district and is located in an infill site.

SLL Prerequisite 5: Floodplain Avoidance

Required

Prerequisite is met

Intent:

“To protect life and property, promote open space and habitat conservation, and enhance water quality and natural hydrological systems.” (LEED-ND 2009)

Requirement:

OPTION 1. Sites without Floodplains

Locate on a site that does not contain any land within a 100-year high- or moderate-risk floodplain as defined and mapped by the Federal Emergency Management Agency (FEMA) or a state or local floodplain management agency, whichever is more recent.

Proposed Action:

The site does not contain any land within a 100 year high- or moderate- risk floodplain.

SLL Credit 1: Preferred Locations

Proposed Action: 5/10

Alternative Action: 8/10

Intent:

“To encourage development within *existing* cities, suburbs, and towns to reduce adverse environmental and public health effects associated with sprawl. To reduce development pressure beyond the limits of existing development. To conserve natural and financial resources required for construction and maintenance of infrastructure.” (LEED-ND 2009)

“Density and compactness directly translate into much lower energy use, per capita, and lower carbon emissions, air and water pollution, and other resource demands compared with less dense, less compact cities,” (Beatley, 2003)

Requirements:

Projects can receive any combination of the requirements in the following three options:

Option 1: Location Type

- Locate the project in one of the following locations:
 - *A previously developed site* that is not an *adjacent site* or *infill site* (1 point).
 - An adjacent site that is also a previously developed site (2 points).
 - An infill site that is not a previously developed site (3 points).
 - An infill site that is also a previously developed site (5 points).

AND/OR

Option 2: Connectivity

- Locate the project in an area that has existing connectivity within ½ mile of the project boundary as listed in Table 1.

Table 1: Points for connectivity within ½ mile of the project

Intersections per square mile	Points
≥200 and < 250	1
≥250 and <300	2
≥300 and <350	3
≥350 and <400	4
≥400	5

Intersections within the site may be counted if the intersections were not constructed or funded by the developer in the past ten years.

AND/OR

Option 3: Designate High-Priority Locations

- Achieve the following (3 points possible):
 - Earn at least 2 points under NPD Credit 4, Mixed-Income Diverse Communities, Option2, Affordable Housing.
 - In addition, locate the project in one of following high-priority redevelopment areas: EPA National Priorities List, Federal Empowerment Zone, Federal Enterprise Community, Federal Renewal Community, Department of Justice Weed and Seed Strategy Community, Department of the Treasury Community Development Financial Institutions Fund Qualified Low-Income Community (a subset of the New Markets Tax Credit Program), or the U.S. Department of Housing and Urban Development’s Qualified Census Tract (QCT) or Difficult Development Area (DDA).

Proposed Action:

The proposed project site is located in an area that is previously developed and it is proposed that the additional development be infill, therefore earning the first 5 points for the “location type.” The site unfortunately was unable to gain any additional points for its current connectivity because it only has 191 intersections within the ½ mile radius of the project and its boundary. The site’s connectivity points are greatly impacted by the Georgia-Pacific (GP) site on the waterfront because the GP site does not have any publicly accessible roads on the property. Refer to Figure A.2 for supplementary information.

Alternative Action:

As an alternative action, it is proposed that the project consider the proposed street plans for the waterfront redevelopment project. The Waterfront District Draft Sub Area Plan's Multi Modal Circulation and Parking section, is proposing the street plans on the GP site. If these proposed street plans are implemented this project could earn an extra 16 sections of connectivity, giving a total of 207 intersections, and earning 1 point from option two. Please refer to Figure A.3 for a visual representation of the proposed additional connectivity.

In addition, the affordable housing alternative action gained 2 points from NPD Credit 4, Option two. As a result, the alternative action offers the potential of 3 additional points for this credit.

Submittals:

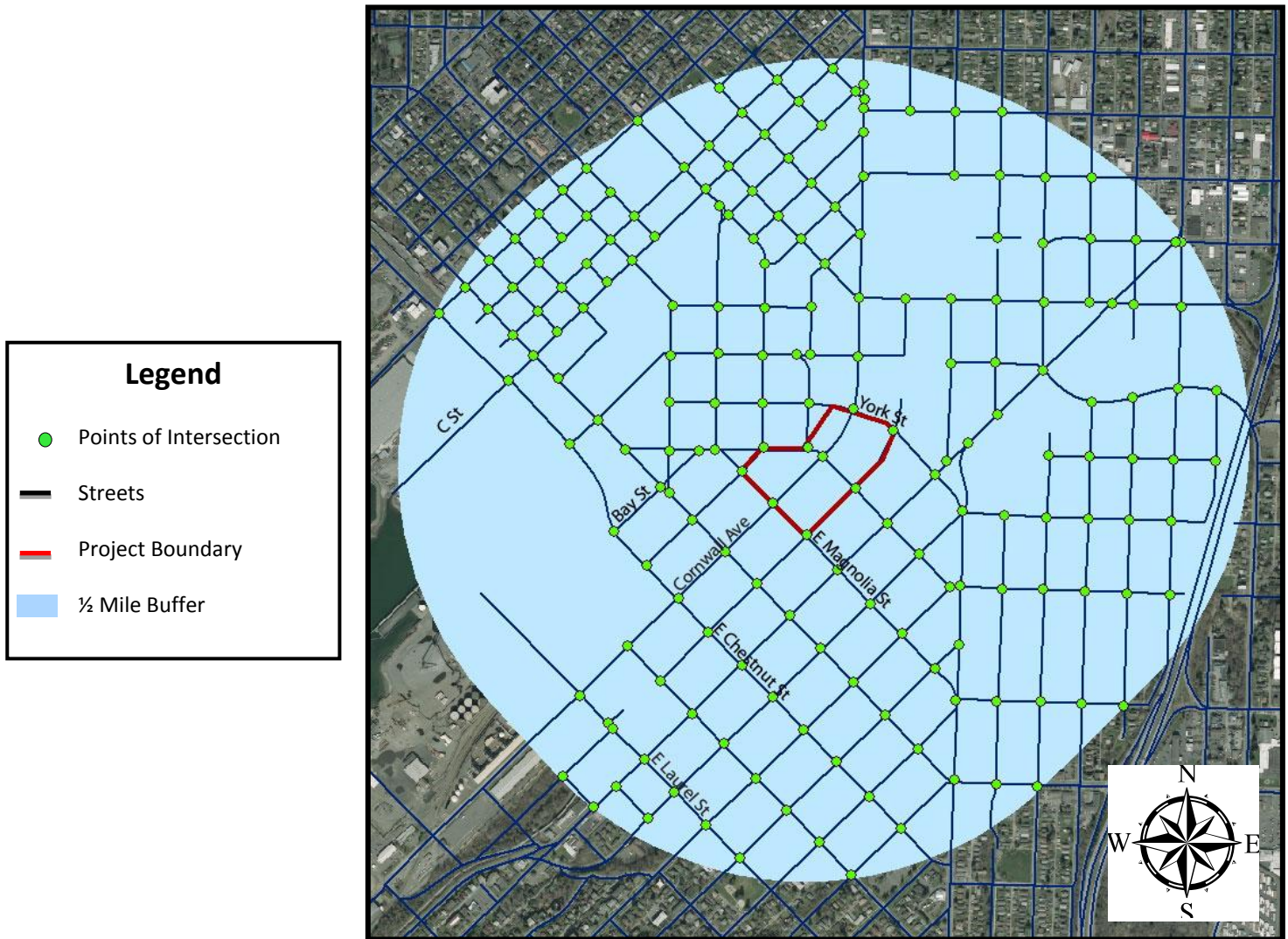


Figure A.2: Map displaying the points of Connectivity within the 1/2 mile buffer of the project area.

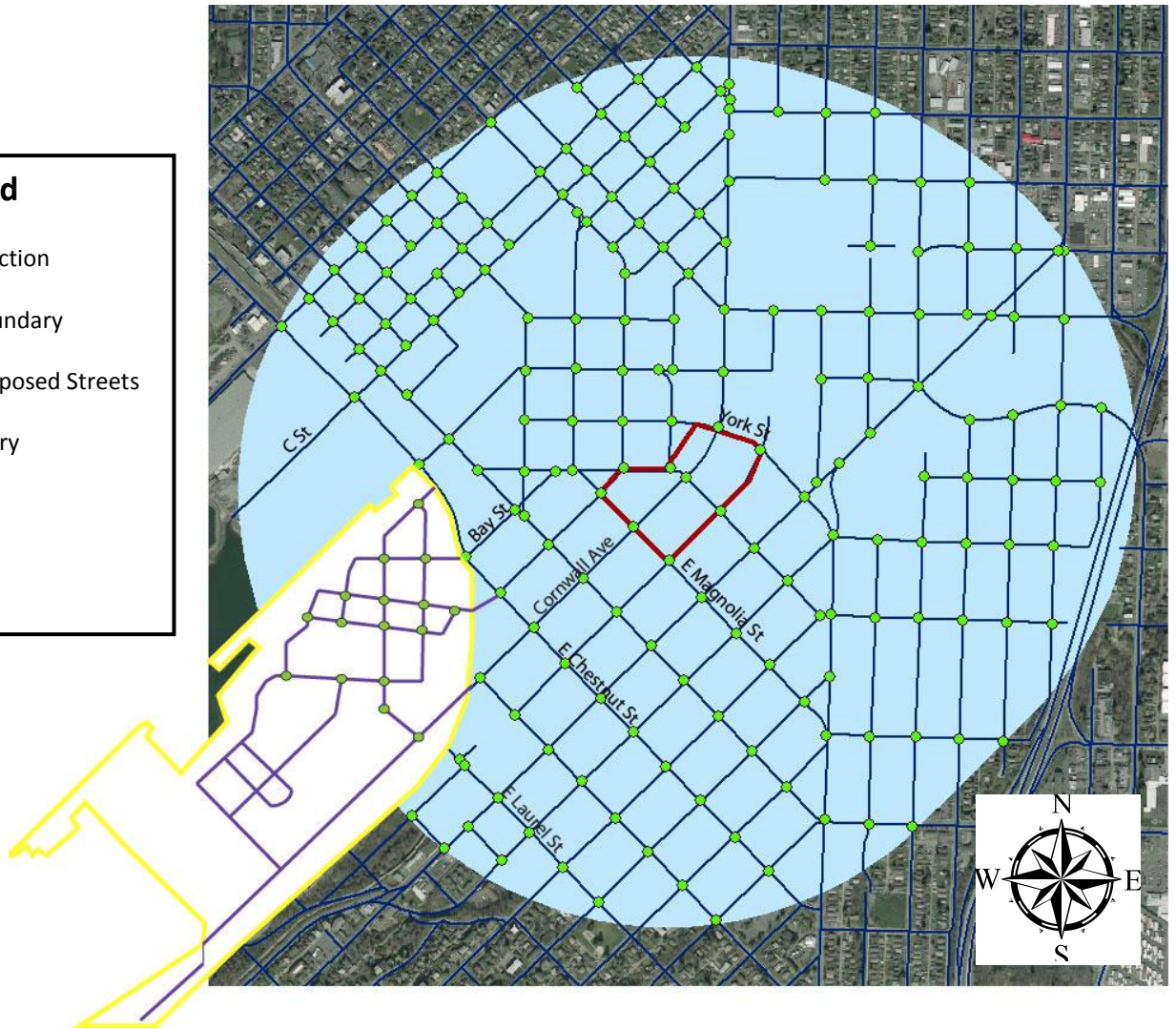
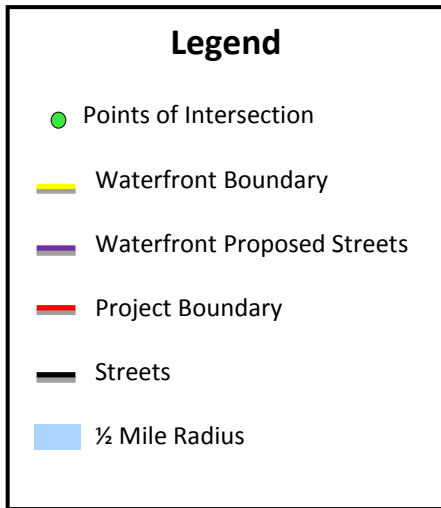


Figure A.3: Map displaying the points of Connectivity with the addition of the proposed waterfront street grid.

SLL Credit 2: Brownfields Redevelopment

Proposed Action: 0/2 Alternative Action: 0/2

Intent:

“To encourage the reuse of land by developing sites that are complicated by environmental contamination, thereby reducing pressure on undeveloped land.” (LEED-ND 2009)

“Cleaning up and reinvesting in these [brownfield] properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands,” (EPA, 2010)

Requirements:

In order to receive these points, the site must achieve the one of the following two options:

Option 1: Brownfield Sites (1 point)

- The project must be located on a site where either part or all of the site is documented as contaminated (by means of an ASTM E1903-97 Phase II Environmental Site Assessment or a local Voluntary Cleanup Program), or on a site defined as a brownfield by a local, state, or federal government agency; and remediate the site contamination in ways that the controlling public authority approves the protective measures and/or cleanup as effective, safe, and appropriate for the future use of the site.

OR

Option 2: High Priority Redevelopment Areas (2 points)

- Gain the points from option 1, AND achieve the next bullet:
- The project must be located in one of the following redevelopment areas: EPA National Priorities List, Federal Empowerment Zone, Federal Enterprise Community, Federal Renewal Community, Department of Justice Weed and Seed Strategy Community, Department of the Treasury Community Development Financial Institutions Fund Qualified Low-Income Community (a subset of the New Markets Tax Credit Program), or the U.S. Department of Housing and Urban Development's Qualified Census Tract (QCT) or Difficult Development Area (DDA).

Proposed Action:

According to the Washington State Department of Ecology's Toxic Cleanup Program, the location of the North Anchor site does not fall within the two categories in receiving the first point. As a result, the proposal cannot receive they points from either option 1 or 2.

Alternative Action:

As an alternative action, the site could be relocated to a location northwest of the site, to the Holly Street landfill site or South to the Central Waterfront site in order to receive points for this credit. However, this is not a recommended action.

SLL Credit 3: Locations with Reduced Automobile Dependence

Proposed Action: 7/7

Alternative Action: 7/7

Intent:

“To encourage development in locations shown to have multimodal transportation choices or otherwise reduced motor vehicle use, thereby reducing greenhouse gas emissions, air pollution, and other adverse environmental and public health effects associated with motor vehicle use.” (LEED-ND 2009)

“Automobile dependency is defined as high levels of per capita automobile travel, automobile oriented land use patterns, and reduced transport alternatives. Automobile dependency increases many costs: higher vehicle expenses, reduced travel choices, increased road and parking facility costs, congestion, accident damages, and a variety of environmental impacts,” (Litman, 2002).

Requirements:

In order to qualify for this credit, the project must accomplish these requirements:

- The project must be located on a site with existing transit service such that at least 50% of dwelling units and nonresidential building entrances (inclusive of existing buildings) are within a ¼-mile walk distance of bus or streetcar stops, or within a ½-mile walk distance of bus rapid transit stops, light or heavy rail stations, or ferry terminals, and the transit service at those stops in aggregate meets the minimums listed in Table 1. Both weekday and weekend trip minimums must be met to earn points at a particular threshold.
- Weekend daily trips must include service on both Saturday and Sunday. Commuter rail must serve more than one metropolitan statistical area (MSA) and/or the area surrounding the core of an MSA.

Table 1: Minimum daily transit service for projects with multiple transit types (bus, streetcar, rail, or ferry)

Weekday trips	Weekend trips	Points
60	40	1
76	50	2
100	65	3
132	85	4

180	130	5
246	150	6
320	200	7

Proposed Action:

The Bellingham Bus station is located one block west of the project proposal site for the North Anchor. As a result, many bus trips are generated in this area, making it an optimal location to reduce automobile dependency, and increase local mass transit use.

Currently in Whatcom County, bus services are not available on Sundays, which is a requirement to earn points from this credit. However, when this proposal was submitted, Sunday services were still running. As a result, the analysis for this credit was accomplished using the current bus schedule, and using the older bus schedule to estimate the total number of trips downtown for weekdays and weekends. After completing this, the project proposal earned the full 7 possible points because there were more than enough bus trips on weekends and weekdays going to the downtown station. There are an estimated 802 bus trips to the Bellingham Bus Station on weekdays and 550 bus trips on the weekends. See Appendix I and the following bus line map for more information.

The project also proposes the inclusion of a new trolley bus system to support the shoppers within the Cornwall vicinity. However, to develop the infrastructure to run a trolley bus system in an area that already has more than enough public bus access it would have greater environmental impacts than the current bus system.

Alternative Action:

No alternative action is required.

Submittals:

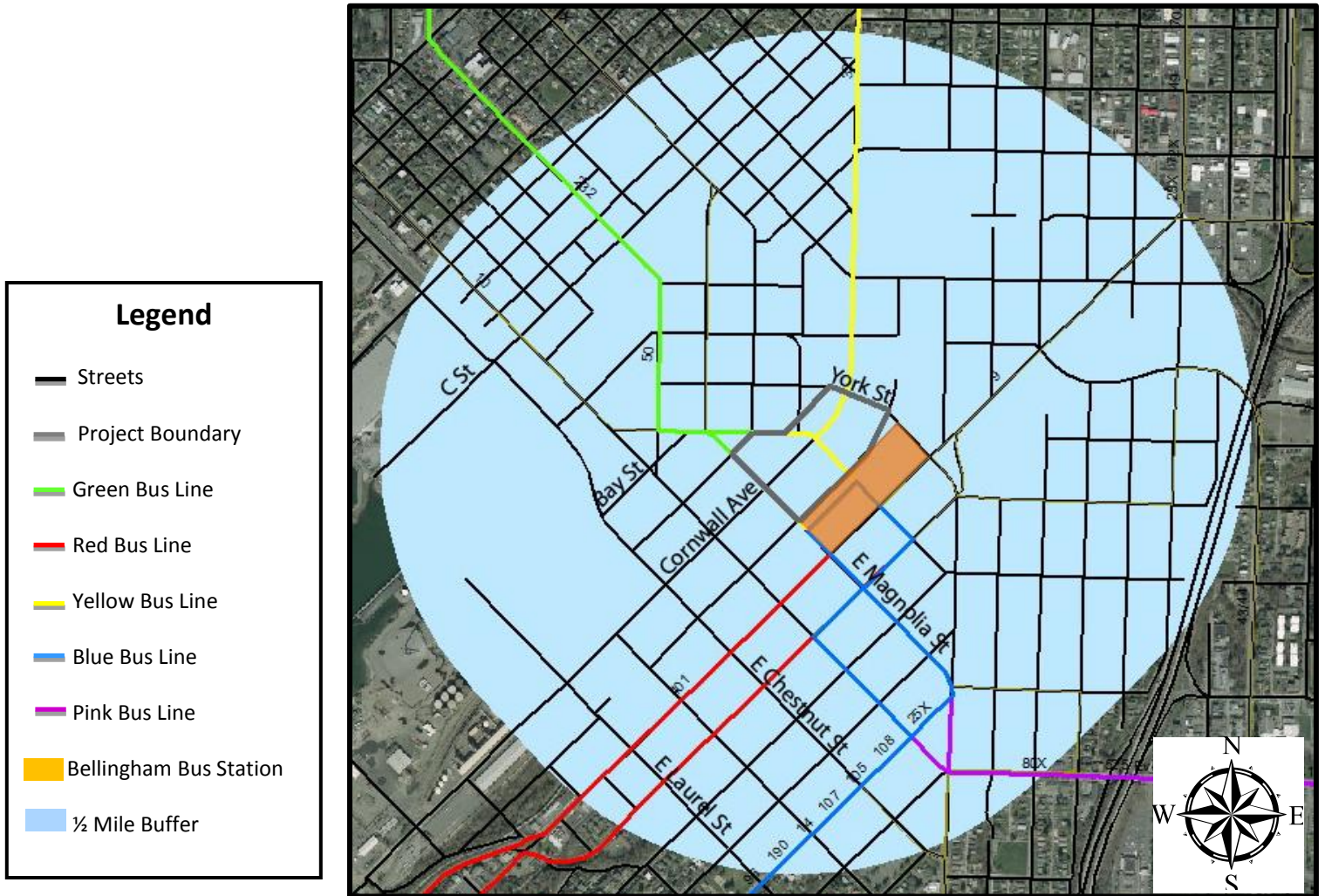


Figure A.4: Map displaying the location of the Bellingham Bus Station and the different bus lines that are within 1/2 mile of the project site.

SLL Credit 4: Bicycle Network and Storage

Proposed Action: 0/1

Alternative Action: 1/1

Intent:

“To promote bicycling and transportation efficiency, including reduced *vehicle miles traveled* (VMT). To support public health by encouraging utilitarian and recreational physical activity.” (LEED-ND 2009)

“By providing incentives to reduce the amount that people travel..., congestion problems can be solved and quality of life improved without building new roads or other infrastructure,” (Wheeler, 1998).

Requirements:

Bicycle Network

- Design and/or locate the project to meet at least one of the requirements below:
 - a. An existing bicycle network of at least 5 continuous miles in length is within ¼-mile distance of the project boundary.
 - b. An existing bicycle network within ¼-mile bicycling distance of the project boundary connects to at least ten diverse uses within 3 miles’ bicycling distance from the project boundary.

AND

- **Bicycle storage**
 - Provide bicycle parking and storage capacity to new buildings as follows:
 - a. **Multiunit residential:** Provide at least one secure, enclosed bicycle storage space per occupant for 30% of the planned occupancy but no fewer than one per unit. Provide secure visitor bicycle racks on-site, with at least one bicycle space per ten dwelling units but no fewer than four spaces per project site.
 - b. **Retail:** Provide at least 1 secure, enclosed bicycle storage space per new retail worker for 10% of retail worker planned occupancy. Provide visitor or customer bicycle racks on-site, with at least one bicycle space per 5,000 square feet of retail space, but no fewer than one bicycle space per business or four bicycle spaces per project site, whichever is greater. Provide at least one on-site shower with changing facility for every 150 new workers thereafter.

- c. **Nonresidential other than retail:** Provide at least one secure, enclosed bicycle space per new occupant for 10% of planned occupancy. Provide visitor bicycle racks on-site with at least one bicycle space per 10,000 square feet of new commercial nonretail space but not fewer than four bicycle spaces per building. Provide at least one on-site shower with changing facility for any development with 100 or more new workers and at least one additional on-site shower with changing facility for every 150 new workers thereafter.

Secure, enclosed bicycle storage areas must be locked and easily accessible to residents and/or workers. Provide informational signage on using the storage facilities.

Visitors' and customers' bicycle racks must be clearly visible from a main entry, located within 100 feet of the door, served with night lighting, and protected from damage from nearby vehicles. If the building has multiple main entries, bicycle racks must be proportionally dispersed within 100 feet of each.

Shower and changing facility requirements may be met by providing the equivalent of free access to on-site health club shower facilities, if the health club can be accessed without going outside. Provide informational signage on using the shower facilities.

Proposed Action:

The project proposal does not meet the initial qualifications for the two sections, and as a result zero points can be awarded. The site meets the requirement of the bicycle network section because there is an existing bicycle network of at least 5 continuous miles in length within ¼-mile distance of the project boundary. However, the proposal does not include bicycle storage in new buildings as part of the project proposal.

Alternative Action:

As an alternative, it is recommended that the project follow the requirements for including bicycle storage in new buildings throughout the site. If the project follows these measures, one point can be awarded.

Submittals:

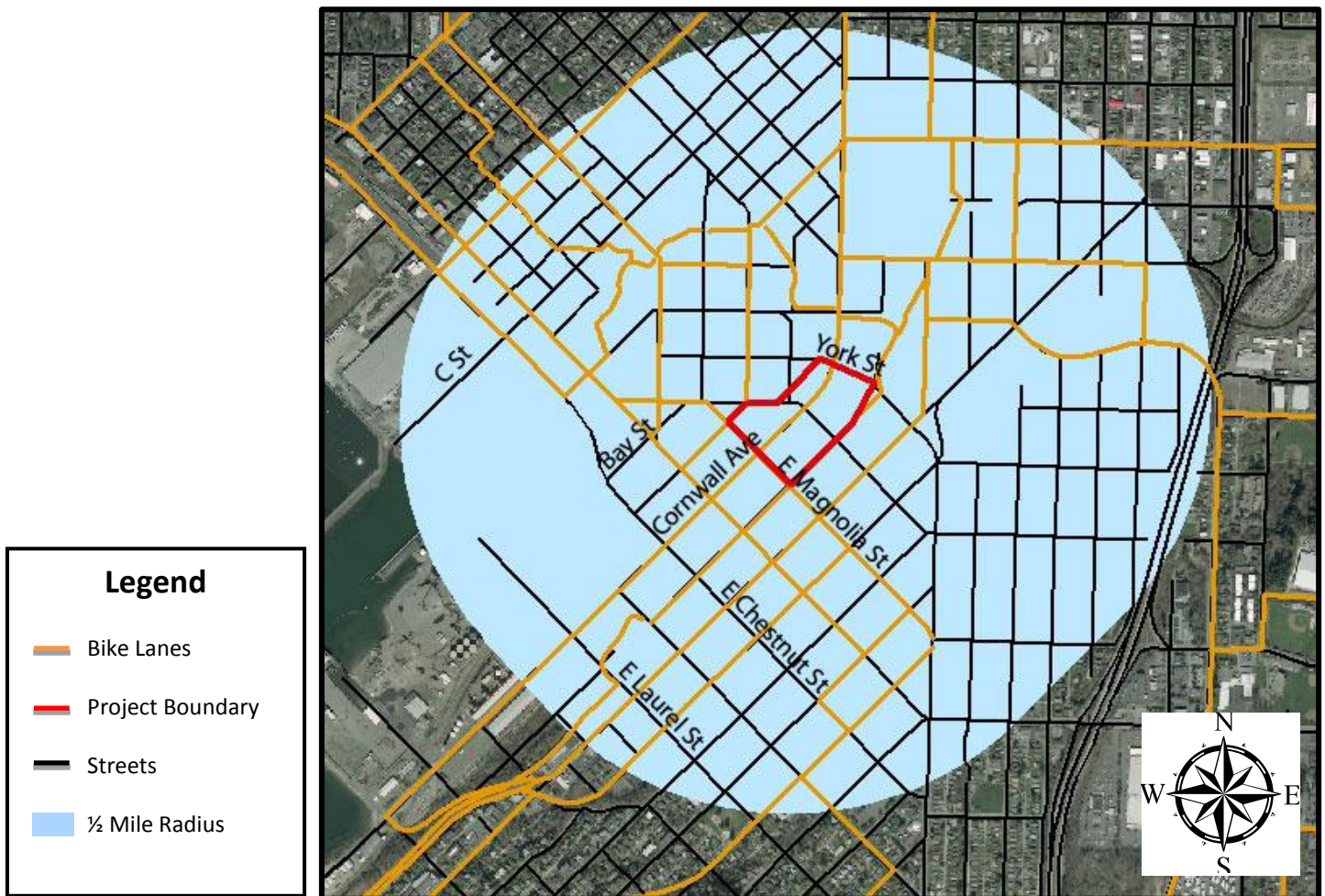


Figure A.5: Map showing the bike lanes around the project area

SLL Credit 5: Housing and Jobs Proximity

Proposed Action: 2/3

Alternative Action: 3/3

Intent:

“To encourage balanced communities with a diversity of uses and employment opportunities.”
(LEED-ND 2009)

“Reduce energy consumption and pollution from motor vehicles by providing opportunities for shorter vehicle trips and/or use of alternative methods of transportation. Locating jobs and

businesses close to residential buildings should reduce travel distances and convert vehicle trips to walking and cycling,” (Amerine et al. 2009)

Requirements:

Option 1: Project with Affordable Residential Component (3 points)

Include a residential component equaling at least 30% of the *project’s* total building square footage (exclusive of parking structures), and locate and/or design the project such that the geographic center (or boundary if the project exceeds 500 acres) is within 1/2-mile *walk distance of existing* full-time-equivalent jobs whose number is equal to or greater than the number of *dwelling units* in the project; and satisfy the requirements necessary to earn at least one point under NPD Credit 4, Mixed-Income Diverse Communities, Option 2, Affordable Housing.

OR

Option 2: Project With Residential Component (2 points)

Include a residential component equaling at least 30% of the project’s total building square footage (exclusive of parking structures), and locate and/or design the project such that the geographic center (or boundary if the project exceeds 500 acres) is within 1/2-mile walk distance of existing full-time-equivalent jobs whose number is equal to or greater than the number of dwelling units in the project.

OR

Option 3: Infill Project with Nonresidential Component (1 point)

Include a nonresidential component equaling at least 30% of the project’s total building square footage (exclusive of parking structures), and locate on an *infill site* whose geographic center (or boundary if the project exceeds 500 acres) is within 1/2-mile walk distance of an existing rail transit, ferry, or tram stop and within 1/2-mile walk distance of existing dwelling units whose number is equal to or greater than 50% of the number of new full-time-equivalent jobs created as part of the project.

Proposed Action:

Using the 2008 info USA data, which was provided to us from the City of Bellingham’s Planning Staff, we assumed the job creation ratios were 600 square feet per office job and 300 square feet per retail job. After evaluating the size of buildings proposed in the Downtown Revitalization project, we estimated that there would be about 1,092 jobs within our boundary, and a total of 151 dwelling units. The dwelling unit sizes range from under 750 square feet, between 750 and 1250 square feet, and over 1250 square feet. As a result, the proposal earns the two points from option 2 because the number of jobs is greater than the number of dwelling units in the project, and the project includes a residential component of at least 30% of the project’s total square footage.

Alternative Action:

In order to earn the full three points for this credit, the project will need to include an affordable housing component for a residential component equaling at least 30% of the projects total square footage. Furthermore, the project must satisfy the requirements necessary to earn at least one point under NPD Credit 4, Mixed-Income Diverse Communities, Option 2, Affordable Housing.

SLL Credit 6: Steep Slope Protection

Proposed Action: 1/1

Alternative Action: 1/1

Intent:

“To minimize erosion to protect habitat and reduce stress on natural water system by preserving steep slopes in a natural, vegetated state.” (LEED-ND 2009)

Requirements:

- This point applies to existing natural or constructed slopes. Portions of project sites with slopes up to 20 feet in elevation, measured from two (a distinct break between a 40% slope and lesser slopes) to top, that are more than 30 feet in any direction from another slope greater than 15% are exempt from the requirements, although more restrictive local regulations may apply.
- Locate on a site that has no existing slopes greater than 15%, or avoid disturbing portions of the site that have existing slopes greater than 15%.

Proposed Action:

Currently, the proposal site qualifies for this credit because it is located on a site that is relatively flat, making it without existing slopes greater than 15%. As a result, the current proposal gains the one available point.

Alternative Action:

No alternative action is necessary because the current proposal already meets the criteria.

SLL Credit 7: Site Design for Habitat or Wetland and Water Body Conservation

Proposed Action: 1/1

Alternative Action: 1/1

Intent:

“To conserve native plants, wildlife habitat, wetlands, and water bodies.” (LEED-ND 2009)

Throughout the last two centuries, studies have found that over half of the wetlands in the United States have been destroyed. As a result, it is more important than ever that these areas be protected and restored. (Driver et. al 2009)

Requirements:

- For sites without significant habitat or wetlands and water bodies:
 - The project must be located on a site that does not have significant habitat. Significant habitat is defined as:
 - a. Habitat for species that are listed or are candidates for listing under state or federal endangered species acts, habitat for species of special concern in the state, and/or habitat for those species and/or ecological communities classified as G1, G2, G3, and/or S1 and S2 species by NatureServe.
 - b. Locally or regionally significant habitat of any size, or patches of predominantly native vegetation at least 150 acres (even if some of the 150 acres lies outside the *project boundary*).
 - c. Habitat flagged for conservation under a regional or state conservation or green infrastructure plan.
 - Project must also be located on land that is not within 100 feet of significant habitat.
 - Proposal must fulfill the requirements of Options 1 or 2 (a) under SLL Prerequisite 3, Wetland and Water Body Conservation.

Proposed Action:

The current project proposal qualifies for the 1 possible point of this credit because it meets all of the listed requirements. The project site is not located on significant habitat, or within 100 feet of significant habitat. The project also fulfills the requirements of Option 1 for the SLL

Prerequisite 3, because it is not located on a site that does not include wetlands, no water bodies, no land within 50 feet of wetlands, and no land within 100 feet of water bodies.

Alternative Action:

No alternative action is necessary because the proposal meets the specified requirements.

SLL Credit 8: Restoration of Habitat or Wetland and Water Bodies

Proposed Action: 0/1

Alternative Action: 1/1

Intent:

“To restore *native plants*, wildlife habitat, *wetlands*, and *water bodies* that have been harmed by previous human activities.” (LEED-ND 2009)

Requirements:

- Using only native plants, restore predevelopment native ecological communities, water bodies, or wetlands on the project site in an area equal to or greater than 10% of the development footprint.
- Work with a qualified biologist to ensure that the restores areas will have the native species assemblages, hydrology, and other habitat characteristics that likely occurred in predevelopment conditions.
- Protect such areas from development in perpetuity by donating or selling the land, or a conservation easement on the land, to an accredited land trust or relevant public agency (a deed covenant is not sufficient to meet this requirement).
- Identify and commit to ongoing management activities, along with parties responsible for management and funding available, so that restored areas are maintained for a minimum of three years after the project is built out or the restoration is completed, whichever is later.
- The requirement for identifying ongoing management activities must also be met by earning SLL Credit 9, Long-Term Conservation Management of Wetlands and Water Bodies. The project does not meet the requirements if it has negative effects on habitat for species identified in Option 2(a) of SLL Credit 7, Site Design for Habitat or Wetland and Water Body Conservation.

Proposed Action:

Currently, the site does not have native plants on at least 10% of the development footprint because of its dense, urban, downtown environment. The proposal also does not specify native plantings in the area as being of importance. As a result, the current site and the proposal does not earn the 1 possible point.

Alternative Action:

It is recommended that native plants be planted on at least 10% of the project site. There are a number of nurseries in Bellingham that provide native plants, including the Sunbreak Nursery on Aldrich Road, Sunrise Nursery on Samish Way, and Fourth Corner Nursery on E Bakerview Road. It is recommended to utilize the local nurseries when including native plantings on the project site.

SLL Credit 9: Long-Term Conservation Management of Habitat or Wetlands and Water Bodies

Proposed Action: 0/1

Alternative Action: 1/1

Intent:

“To conserve native plants, wildlife habitat, wetlands, and water bodies.” (LEED-ND '09)

Requirements:

- Create and commit to implementing a long-term (at least ten-year) management plan for new or *existing* onsite native habitats, water bodies, and/or wetlands and their buffers, and create a guaranteed funding source for management.
- Involve a qualified biologist or a professional from a natural resources agency or natural resources consulting firm in writing the management plan and conducting or evaluating the ongoing management.
- The plan must include biological objectives consistent with habitat and/or water resource conservation, and it must identify
 1. procedures, including personnel to carry them out, for maintaining the conservation areas
 2. estimated implementation costs and funding sources
 3. threats that the project poses for habitat and/or water resources within conservation areas (e.g., introduction of exotic species, intrusion of residents in habitat areas) and measures to substantially reduce those threats.
- The project does not meet the requirements if it has negative effects on habitat for species identified in Option 2(a) of SLL Credit 7, Site Design for Habitat or Wetland and Water Body Conservation.

Proposed Action:

The current proposed plan does not mention the creation or implementation of a long-term management plan for new or existing onsite native habitats, water bodies, and/or wetlands and their buffers. As a result, the project cannot qualify for the points of this credit.

Alternative Action:

The project site is located in a dense downtown environment, therefore it is not recommended that a long-term management plan be created or implemented for this area because of feasibility purposes. However, it is recommended that the developer contribute monetarily to Nooksack Salmon Enhancement Association (NSEA) in order to work towards the goal of habitat restoration since it is not possible within the project site. By taking this action, it can help to balance the environmental effects of developing in this area and restoring natural habitat nearby.

B. Neighborhood Pattern and Design (NPD) 44 Points

NPD Prerequisite 1: Walkable Streets

Required

Prerequisite is met

Intent:

“To promote transportation efficiency, including reduced *vehicle miles traveled* (VMT). To promote walking by providing safe, appealing, and comfortable *street* environments that support public health by reducing pedestrian injuries and encouraging daily physical activity.”
(LEED-ND 2009)

Requirements:

Design and build the *project* to achieve all of the following:

- a. For 90% of new building frontage, a principal *functional entry* on the front façade faces a public space, such as a street, square, *park*, *paseo*, or *plaza*, but not a parking lot, and is connected to sidewalks or equivalent provisions for walking. The square, park, or plaza must be at least 50 feet wide at a point perpendicular to each entry.
- b. At least 15% of *existing* and new street frontage within and bordering the project has a minimum building height-to-street-width ratio of 1:3 (i.e., a minimum of 1 foot of building height for every 3 feet of street width).

- Nonmotorized rights-of-way may be counted toward the 15% requirement, but 100% of such spaces must have a minimum building-height-to-street-width ratio of 1:1.
 - Projects with bordering street frontage must meet only their proportional share of the height-to-width ratio (i.e., only on the project side of the street).
 - Street frontage is measured in linear feet.
 - Building height is measured to eaves or the top of the roof for a flat-roof structure, and street width is measured façade to façade. For *block* frontages with multiple heights and/or widths, use average heights or widths weighted by each segment’s linear share of the total block distance.
 - *Alleys* and driveways are excluded.
- c. Continuous sidewalks or equivalent all-weather provisions for walking are provided along both sides of 90% of streets or frontage within the project, including the project side of streets bordering the project. New sidewalks, whether adjacent to streets or not, must be at least 8 feet wide on retail or mixed-use blocks and at least 4 feet wide on all other blocks. Equivalent provisions for walking include *woonerfs* and all-weather-surface footpaths. Alleys, driveways, and reconstructed existing sidewalks are excluded from these calculations.
- d. No more than 20% of the street frontages within the project are faced directly by garage and service bay openings.

Proposed Action:

100% of all new building frontages will contain a functional entry on the front façade. Sidewalks will meet the 8 foot wide requirement; most will be 15 feet wide. Neighborhood will maintain at least a 1:3 building height to street width ratio.

NPD Prerequisite 2: Compact Development

Required

Prerequisite is met

Intent:

“To conserve land. To promote livability, walkability, and transportation efficiency, including reduced *vehicle miles traveled* (VMT). To leverage and support transit investments. To reduce public health risks by encouraging daily physical activity associated with walking and bicycling.” (LEED-ND 2009)

Requirements:

OPTION 1. Projects in Transit Corridors

For *projects* with *existing* and/or planned transit service (i.e., service with the funding commitments specified in SLL Prerequisite 1, Smart Location) that meets or exceeds the 2-point threshold in SLL Credit 3, Locations with Reduced Automobile Dependence, Option 1, build at the following densities, based on the *walk distances* to the transit service specified in SLL Credit 3:

- a. For residential components located within the walk distances: 12 or more *dwelling units* per acre of buildable land available for residential uses.
- c. For nonresidential components located within the walk distances: 0.80 *floor-area ratio* (FAR) or greater of buildable land available for nonresidential uses.

Proposed Action:

The project site is located within a quarter mile of a WTA transit station. This gives our location all 7 available points for SLL Credit 3.

NPD Prerequisite 3: Connected and Open Community

Required:

Prerequisite is met.

Intent:

“To promote *projects* that have high levels of internal *connectivity* and are well connected to the community at large. To encourage development within *existing* communities that promote transportation efficiency through multimodal transportation. To improve public health by encouraging daily physical activity.” (LEED-ND 2009)

Requirements:

OPTION 1. Projects with Internal Streets

Design and build the project such that its internal connectivity is at least 140 intersections per square mile. All *streets* and sidewalks that are counted toward the connectivity requirement must be available for general public use and not gated. Gated areas are not considered available for public use, with the exception of education and health care campuses and military bases where gates are used for security purposes.

AND

Design and build the project with at least one through-street and/or non-motorized right-of-way intersecting or terminating at the *project boundary* at least every 800 feet, or at existing abutting street intervals and

Intersections, whichever is the shorter distance. Non-motorized rights-of-way may count for no more than 20% of the total. This does not apply to portions of the boundary where connections

cannot be made because of physical obstacles, such as prior platting of property, construction of existing buildings or other barriers, slopes over 15%, *wetlands* and *water bodies*, railroad and

Proposed Action:

Within a quarter mile radius there are 191 intersections, meeting the requirements for option 1. The proposed area contains many through-streets as well as multiple non-motorized right-of-way intersections.

NPD Credit 1: Walkable Streets

Proposed Action: 9/12 Alternative Action: 10/12

Intent:

“To promote transportation efficiency, including reduced *vehicle miles traveled* (VMT). To promote walking by providing safe, appealing and comfortable street environments that support public health by reducing pedestrian injuries and encouraging daily physical activity.” (LEED-ND 2009)

“Better pedestrian infrastructure, including sidewalks and street lighting, [is] related to greater nonautomobile travel.” (Saelens et al., 2003)

Requirements:

A project can earn a maximum of 12 points for the “Walkable Streets” credit. Points are awarded based on the number of items achieved within the “Walkable Streets” criteria. These criteria are divided into four categories.

Items achieved	Points
2-3	1
4-5	2
6-7	3
8-9	4
10	7
11	8
12	9
13	10
14	11
15-16	12

Façades and Entries

- a. At least 80% of the total linear feet of street-facing façades in the project is no more than 25 feet from the property line
 - b. At least 50% of the total linear feet of street-facing building façades in the project is no more than 18 feet from the property line
 - c. At least 50% of the total linear feet of mixed-use and nonresidential street-facing building façades in the project is within 1 foot of a sidewalk or equivalent provision for walking
 - d. *Functional entries* to the building occur at an average of 75 feet or less along nonresidential or mixed-use building or *blocks*.
 - e. Functional entries to the building occur at an average of 30 feet or less along nonresidential or mixed-use buildings or blocks
- **Ground-level Use and Parking**
 - f. All ground-level retail, service and trade uses that face a public space have clear glass on at least 60% of their façades between 3 and 8 feet above grade
 - g. If a façade extends along a sidewalk, no more than 40% of its length or 50 feet, whichever is less, is blank (without windows or doors)
 - h. Any ground-level retail, service, or trade windows must be kept visible (unshuttered) at night; this must be stipulated in covenants, conditions and restrictions or other binding documents
 - i. On-street parking is provided on a minimum of 70% of both sides of all new and existing streets, including the project side of bordering streets. The percentage of on-street parking is calculated by dividing the length of street designated for parking by the total length of the curb along each street, including curb cuts, driveways, and intersection radii. Space within the parking land that is occupied by corn bulb-outs, transit stops and motorcycle or bicycle parking may be counted as designated for parking in this calculation. *Woonerfs* are not considered streets for this subsection.
 - j. Continuous sidewalks or equivalent provisions for walking are available along both sides of all streets within the project, including the project side of streets bordering the project. New sidewalks, whether adjacent to streets or not, must be at least 10 feet wide on retail or mixed-use blocks and at least 5 feet wide on all other blocks. Equivalent provisions for walking include *woonerfs* and all-weather-surface footpaths at least 5 feet wide. Not that these requirements specify wider sidewalks than required by NPD Prerequisite 1, Walkable Streets.
 - k. If the project has ground-floor dwelling units, the principal floor of at least 50% of those units must have an elevated finished floor no less than 24 inches above the sidewalk grade. Below-grade basement spaces and/or accessory dwelling units are exempt from this requirement.
 - l. In nonresidential or mixed-use projects, 50% or more of the total number of office buildings include ground-floor retail along 60% of the length of the street-

level façade; 100% of mixed-use buildings include ground-floor retail, live-work spaces, and/or ground-floor dwelling units along at least 60% of the street-level façade; and all businesses and/or other community services on the ground floor are accessible directly from sidewalks along a public space, such as a street, square, paseo, or plaza, but not a parking lot.

m. At least 40% of all street frontage within the project has a minimum building-height-to-street-width ratio of 1:3 (i.e., a minimum of 1 foot of building height for every 3 feet of street width).

- **Design Speeds for Safe Pedestrian and Bicycle Travel**

n. 75% of new residential-only streets within the project are designed for a target speed of no more than 20 mph.

o. 70% of new nonresidential and/or mixed-use streets within the project are designed for a target speed of no more than 25 mph. A multiway boulevard, with travel lanes separated from access lanes by medians, may apply this requirement to its outer access lanes only (through-lanes are exempt), provided pedestrian crosswalks are installed across the boulevard at intervals no greater than 800 feet.

- **Sidewalk Intrusions**

p. At-grade crossings with driveways account for no more than 10% of the length of sidewalks within the project.

Proposed Action:

As proposed, the project meets the following criteria:

a. At least 80% of the total linear feet of street-facing façades in the project is no more than 25 feet from the property line

b. At least 50% of the total linear feet of street-facing building façades in the project is no more than 18 feet from the property line

c. At least 50% of the total linear feet of mixed-use and nonresidential street-facing building façades in the project is within 1 foot of a sidewalk or equivalent provision for walking

d. *Functional entries* to the building occur at an average of 75 feet or less along nonresidential or mixed-use buildings or *blocks*.

f. All ground-level retail, service and trade uses that face a public space have clear glass on at least 60% of their façades between 3 and 8 feet above grade

g. If a façade extends along a sidewalk, no more than 40% of its length or 50 feet, whichever is less, is blank (without windows or doors)

i. On-street parking accounts for approximately 70% of new and existing streets in the project, including the project side of street's on the projects borders.

- j. Continuous sidewalks or equivalent provisions for walking are available along both sides of all streets within the project, including the project side of streets bordering the project.
- l. All of the proposed buildings, which in the North Anchor are either mixed-use or nonresidential, include ground-floor retail, and all of this retail space is accessible from sidewalks or from the public courtyard.
- m. More than 40% of street frontage within the project achieves the 1:3 height-to-street-width ratio.
- o. At least 70% of nonresidential and mixed-use streets within this project have a speed limit of 25 mph.
- p. At-grade crossings with driveways account for no more than 10% of the length of sidewalks within the project.

Alternative Action:

This project has the potential to earn many of the points for walkable street features. However, in its current form, the proposal needs to specify in much greater detail the quantifying requirements needed to earn these points. The following action should be taken to ensure that the requirements are met in full: It should be stipulated in a binding document such as a covenant that any ground-level windows should be kept unshuttered at night (item h). Although it is likely that this would occur anyway, putting it as a provision in a document will ensure that the point will be earned.

NPD Credit 2: Compact Development

Proposed Action: 0/6

Alternative Action: 4/6

Intent:

“To encourage development in *existing* areas to conserve land and protect farmland and wildlife habitat. To promote livability, walkability, and transportation efficiency, including reduced *vehicle miles traveled* (VMT). To improve public health encouraging daily physical activity associated with alternative modes of transportation and compact development.” (LEED-ND 2009)

“The aspirations of compact development forms – including decreased car use, increased walking and transit – are of unquestioned policy importance in meeting social, environmental, energy and health goals.” (Levine and Frank, 2006)

Requirements:

Design and build the project such that residential and nonresidential components achieve the densities per acre of buildable land listed in the following table:

Residential Density (DU*/acre)	Nonresidential density (FAR**)	Points
>10 and ≤ 13	>0.75 and ≤ 1.0	1
>13 and ≤ 18	>1.0 and ≤ 1.25	2
>18 and ≤ 25	>1.25 and ≤ 1.75	3
>25 and ≤ 38	>1.75 and ≤ 2.25	4
>38 and ≤ 63	>2.25 and ≤ 3.0	5
>63	>3.0	6

*DU = dwelling unit **FAR = floor area ratio

The specified densities must be achieved within five years of the date that the first building of any type is occupied. The scoring of a mixed-use project is calculated with a weighted average, according to the following steps:

1. Determine the total square footage of all residential and nonresidential uses
2. Calculate the percentage residential and percentage nonresidential of the total square footage
3. Determine the density of each component as measured in dwelling units per acre and floor-area ratio, respectively
4. Referring to the table, find the appropriate points for the densities of the residential and nonresidential components
5. If the points are different, multiply the point value of the residential component by its percentage of the total square footage and multiply the point value of the nonresidential component by its percentage
6. Add the two scores

Proposed Action:

The proposed action discusses the development of mixed use building in the North Anchor redevelopment; however it does not specify specific numbers of dwelling units per acre or the floor area ratios required in order to achieve points for this credit.

Alternative Action:

After carefully analyzing the number of units in each building a residential density of 33 units per acre was established, as well a floor area ration of residential to non-residential of 1.98. With these values the North anchor development would earn 4 out of the total 6 points available with this credit.

NPD Credit 3: Mixed-Use Neighborhood Centers

Proposed Action: 4/4 Alternative Action: 4/4

Intent:

“To cluster diverse land uses in accessible neighborhood and regional centers to encourage daily walking, biking, and transit use, reduce vehicle miles traveled and automobile dependence, and support car-free living.” (LEED-ND 2009)

“Higher densities and mixed land uses characteristic of traditional neighborhood developments are associated with reductions in vehicular travel.” (Kitamura et al., 1997)

Requirements:

FOR ALL PROJECTS

Locate and/or design the project such that 50% of its dwelling units are within a ¼ mile walk distance of the number of diverse uses in Table 1, including at least one use from each of the four categories. For projects with no dwellings, 50% of dwelling units within ¼ mile of the project boundary must be within a ¼ mile walk distance of the number of diverse uses specified in Table 1, including at least one food retail store and at least one establishment from each of two other categories. Establishments may be inside or outside the project and may be existing or planned diverse uses.

The specified number of diverse uses must be in place by the time of occupancy according to the percentages indicated in Table 1 (exclusive of portions of parking structures devoted to parking):

Table 1. Points for diverse uses within ¼ mile walk distance, by time of occupancy

Diverse Uses	Percentage occupancy of total square footage	Points
4-6	20%	1
7-10	30%	2
11-18	40%	3
≥ 19	50%	4

Per neighborhood center, the following restrictions apply:

- e. A single establishment may not be counted in two categories (e.g., a place of worship may be counted only once even if it also contains a daycare facility, and a retail store may be counted only once even if it sells products in several categories or as two types of diverse use).
- f. Establishments in a mixed-use building may each count if they are distinctly operated enterprises with separate exterior entrances, but no more than half of

the minimum number of diverse uses can be situated in a single building or under a common roof.

- g. Only two establishments of a single type may be counted (e.g., if five restaurants are within the required distance, only two may be counted)

Proposed Action:

One of the benefits of locating a project in this part of Cornwall Avenue is the proximity to a large number of diverse uses. According to the “Diverse Uses” Appendix in the proposal document, the dwelling units within the project are within ¼ mile of approximately **37** diverse uses, as demonstrated below:

Food Retail

Supermarket: **2** – the Public Market and Grocery Outlet

Community-Serving Retail

Clothing store or department store selling clothes: **2** – proposed North Anchor, Sojourn Clothing

Convenience store: **1** – Smart Stop Shell

Hardware store: **1** – Construction Supply

Pharmacy: **2** – Rite Aid, Cost Cutter

Other retail: **2** – Northwest Handspun Yarns, Griggs Stationers

Services

Bank: **2** – Washington Federal Savings, Banner Bank

Gym, health club, exercise studio: **2** – Presence Studio, Recreational Dance (Northwest Ballet Theater)

Hair care: **2** – Studio Galactica Supply, Morries Club Barbershop

Laundry: **1** – Cascade Laundry

Restaurant, café, diner: **2** – Caffe Adagio, Nona Rosa’s Ristorante

Civic and Community Facilities

Adult or senior care: **1** – The Leopold Retirement Residence

Childcare: **2** – Whatcom Family YMCA Day Camp, Opportunity Council

Cultural arts facility: **2** – American Museum of Radio and Electricity, Bellingham Railway Museum

Educational facility: **2** – Fairhaven Girls School, Explorations Academy

Family entertainment venue: **2** – Mt. Baker Theater, Pickford Cinema

Government office: **2** – US Government Law Enforcement Office, Whatcom County Health Department

Place of worship: **2** – First Baptist Church, Baha’i Faith

Medical clinic or office that treats patients: **1** – Seattle Children’s Hospital: Neurodevelopmental
Police or fire station: **1** – Whatcom County Police
Post office: **1**
Public library: **1** – Bellingham Library
Public park: **1** – Proposed pocket park

The vast majority of these diverse uses are already in place, easily achieving the “50% occupancy of total square footage” requirement needed for all four points. These many diverse uses are and will continue to be beneficial to the community by encouraging walking and biking instead of motor vehicle use.

Alternative Action:

All four points are fulfilled by the proposed action; therefore, no alternative action is needed for this credit.

NPD Credit 4: Mixed-Income Diverse Communities

Proposed Action: 0 /7 Alternative Action: 6 /7

Intent:

“To promote socially equitable and engaging communities by enabling residents from a wide range of economic levels, household sizes, and age groups to live in a community.” (LEED-ND 2009)

“The creation of mixed-income housing...provide[s] a broad range of housing types and price levels to bring people of diverse ages, races and incomes into daily interaction – strengthening the personal and civic bonds essential to an authentic community.” (Kleit, 2005)

Requirements:

Meet the requirements of one or more options below.

OPTION 1. Diversity of Housing Types

Include a sufficient variety of housing sizes and types in the project such that the total variety of planned and existing housing within the project achieves a Simpson Diversity Index score greater than 0.5, using the housing categories below. Projects of less than 125 acres may calculate the Simpson Diversity Index for the area within ¼ mile of the project’s geographic center. The Simpson Diversity Index calculates the probability that any two randomly selected dwelling units in a project will be of a different type.

$$\text{Score} = 1 - \sum (n/N)^2$$

Where n = the total number of dwelling units in a single category, and N = the total number of dwelling units in all categories.

Table 1. Points for housing diversity

Simpson Diversity Index Score	Points
>0.5 to < 0.6	1
≥ 0.6 to < 0.7	2
≥ 0.7	3

Housing categories are defined according to the dwelling unit’s net square footage, exclusive of any garage, as listed in Table 2.

Table 2. Housing categories

Type	Square feet
Detached residential, large	> 1250
Detached residential, small	≤ 1250
Duplex or townhouse, large	> 1250
Duplex or townhouse, small	≤ 1250
Dwelling unit in multiunit building with no elevator, large	> 1250
Dwelling unit in multiunit building with no elevator, medium	> 750 to ≤ 1250
Dwelling unit in multiunit building with no elevator, small	≤ 750
Dwelling unit in multiunit building with elevator, 4 stories or fewer, large	> 1250
Dwelling unit in multiunit building with elevator, 4 stories or fewer, medium	> 750 to ≤ 1250
Dwelling unit in multiunit building with elevator, 4 stories or fewer, small	≤ 750
Dwelling unit in multiunit building with elevator, 5 to 8 stories, large	> 1250
Dwelling unit in multiunit building with elevator, 5 to 8 stories, medium	> 750 to ≤ 1250
Dwelling unit in multiunit building with elevator, 5 to 8 stories, small	≤ 750
Dwelling unit in multiunit building with elevator, 9 stories or more, large	> 1250
Dwelling unit in multiunit building with elevator, 9 stories or more, medium	> 750 to ≤ 1250
Dwelling unit in multiunit building with elevator, 9 stories or more, small	≤ 750
Live-work space, large	> 1250
Live-work space, small	≤ 1250
Accessory dwelling unit, large	

Accessory dwelling unit, small	≤ 1250
--------------------------------	--------

For the purpose of this credit, townhouse and live-work units may have individual ground-level entrances and/or be within a multiunit or mixed-use building. Double counting is prohibited; each dwelling may be classified in only one category. The number of stories in a building is inclusive of the ground floor regardless of its use.

AND/OR

OPTION 2. Affordable Housing

Include a proportion of new rental and/or for-sale dwelling units priced for households earning below the area median income (AMI). Rental units must be maintained at affordable levels for a minimum of 15 years. Existing dwelling units are exempt from requirement calculations. A maximum of 3 points may be earned by meeting any combination of thresholds in Table 3.

Table 3. Points for affordable housing

Rental dwelling units				For-sale dwelling units			
Priced up to 60% AMI*		Priced up to 80% AMI		Priced up to 100% AMI		Priced up to 120% AMI	
% of total rental units	Points	% of total rental units	Points	% of total for-sale units	Points	% of total for sale units	Points
5	1	10	1	5	1	8	1
10	2	15	2	10	2	12	2
15	3	25	3	15	3	--	--

*AMI = area median income

AND/OR

OPTION 3. Mixed-Income Diverse Communities

A project may earn 1 additional point by earning at least 2 points in OPTION 1 and at least 2 points in OPTION 2 (at least one of which must be for providing housing at or below 100% AMI).

Proposed Action:

The existing North Anchor development plan does not address the number or distribution of dwelling units in the proposed mixed use buildings.

Alternative Action:

After evaluating the total number of units in each of the proposed mixed use building and creating a distribution of the size of units we were able to achieve a Simpson Diversity Index

Score of 0.65 which grants us two points for that part of the credit. Also we propose that 15% of all rental units are priced up to 60% of the AMI as well as 15% of for sale dwellings priced at 100% of AMI. With these stipulations the North Anchor redevelopment will be able to achieve 6 out of the 7 possible points for this credit. See Table 1 in the appendix for a breakdown of residential units in each proposed mixed use building.

NPD Credit 5: Reduced Parking Footprint

Proposed Action: 0/1

Alternative Action: 1/1

Intent:

“To design parking to increase the pedestrian orientation of projects and minimize the adverse environmental effects of parking facilities. To reduce public health risks by encouraging daily physical activity associated with walking and bicycling.” (LEED-ND 2009)

“Moderate-intensity physical activity acquired through more nonmotorized transport...would have [a] significant public health impact. The potential to enhance physical activity in entire communities...should be taken seriously.” (Saelens et al., 2003)

Requirements:

New nonresidential or multiunit residential buildings should either not have any new off-street parking lots, or should locate any new off-street surface parking lots at the side or rear of buildings.

AND

No more than 20% of the total development footprint area should be used for new off-street surface parking facilities. In addition, no individual surface parking lot may exceed 2 acres in size. Ground-level garages are included in this requirement EXCEPT when they are under habitable building space. On-street parking is exempt from this limitation.

AND

Bicycle parking and storage capacity should be provided for new building in the following ways:

- a. Multiunit residential: Provide at least one secure, enclosed bicycle storage space per occupant for 30% of the planned occupancy. Provide secure visitor bicycle racks on-site, with at least one bicycle space per ten dwelling units but no fewer than four spaces per project site.
- b. Retail: provide at least one bicycle storage space per new retail worker for 10% of retail worker planned occupancy. Provide visitor or customer bicycle racks on-site, with at least one bicycle space per 5000 square feet of retail space, but no

fewer than one bicycle space per business or four bicycle spaces per project site, whichever is greater. Provide at least one on-site shower with changing facility for any development with 100 or more new workers and at least one additional on-site shower with changing facility for every 150 new workers thereafter.

- c. Nonresidential other than retail: provide at least one bicycle storage space per new occupant for 10% of planned occupancy. Provide visitor bicycle racks on-site with at least one bicycle space per 10,000 square feet of new commercial nonretail space but no fewer than four bicycle spaces per building. Provide at least one on-site shower with changing facility for any development with 100 or more new workers and at least one additional on-site shower with changing facility for every 150 new workers thereafter.

Bicycle storage areas must be locked and easily accessible to residents and/or workers. Informational signage about using the storage areas should be provided.

Visitors' and customers' bicycle racks must be clearly visible from a main entry, located within 100 feet of the door, served with night lighting and protected from damage from nearby vehicles. If the building has multiple main entries, racks must be proportionally dispersed within 100 feet of each.

Shower and changing facility requirements may be met by providing the equivalent of free access to on-site health club shower facilities, if the health club can be accessed without going outside. Informational signage regarding the use of shower facilities should be provided.

AND

Provide carpool and/or shared-use vehicle parking spaces equivalent to 10% of the total automobile parking for each nonresidential and mixed-use building on the site. Signage indicating such parking spots must be provided, and the parking spots must be within 200 feet of entrances to the buildings served.

Proposed Action:

The proposed project does locate the new off-street parking at the side of the project boundary. In addition, this added parking space does not account for more than 20% of the total development footprint area (for the North Anchor development, the added parking counts for 19.763% of the total area footprint). This parking area is 1.147 acres in size, easily fitting under the 2-acre maximum size limit.

The project also discusses the positive impacts of designated carpool parking spots, but only states that "carpool spaces will be added or removed from available parking as warranted by need and regular use." In addition, the project as proposed only mentions bicycle storage facilities and showering for bicyclists briefly, and with very little detail.

Alternative Action:

In order to earn this point, the project must specify certain things about the bike-storage and carpooling components of the North Anchor. Although carpool spaces are mentioned in the proposal, the project needs to ensure that the necessary quantifications are allowed for: 10% of the parking spaces for mixed-use buildings must be designated for carpooling, and these spots must be located within 200 feet of the North Anchor buildings. In addition, the proposal must be much more specific about the bicycle storage facilities it provides. If the numbers stipulated in the requirements are met with regard to bicycle storage and shower and changing opportunities for commuters, this point can easily be achieved.

NPD Credit 6: Street Network

Proposed Action: 0/2 Alternative Action: 0/2

Intent:

“To promote projects that have high levels of internal connectivity and are well connected to the community at large. To encourage development within existing communities, thereby conserving land and promoting multimodal transportation. To improve public health by encouraging daily physical activity and reducing the negative effects of motor vehicle emissions.” (LEED-ND 2009)

“The high-walkability neighborhood...includ[es] residential density, land use mix-diversity, land-use mix access, and street connectivity.” (Saelens et al., 2003)

Requirements:

Design and/or locate the project such that a through-street and /or nonmotorized right-of-way intersects or terminates at the project boundary at least every 400 feet or at existing abutting street intervals and intersections, whichever is the shorter distance. Include a pedestrian or bicycle through-connection in at least 90% of any new culs-de-sac. This does not apply to portions of the boundary where connections cannot be made because of physical obstacles, such as prior platting property, construction of existing buildings or other barriers, slopes of 15%, wetlands and water bodies, railroad and utility rights-of-way, existing limited-access motor vehicle rights-of way, and parks and dedicated open space.

AND

Locate and/or design the project such that its internal connectivity and/or the connectivity within a ¼-mile distance of the project boundary falls within one of the ranges listed in Table 1.

Table 1. points for connectivity

Street intersections per square mile	Points
>300 and ≤ 400	1
>400	2

All streets and sidewalks that are counted toward the connectivity requirement must be available for general public use and not gated. Gated areas are not considered available for public use, with the exception of education and health care campuses, and military bases where gates are used for security purposes.

Proposed Action:

Not all streets and sidewalks which intersect or terminate at the project boundary do so at least every 400 feet. In addition, the amount of connectivity in the project, including a ¼ mile boundary from the project, is not enough to qualify for any points in this credit. Therefore neither of these two points can be achieved.

Alternative Action:

No alternative action can be made to achieve these points, short of adding a number of new streets and sidewalks.

NPD Credit 7: Transit Facilities

Proposed Action: 0/1 Alternative Action: 1/1

Intent:

“To encourage transit use and reduce driving by providing safe, convenient, and comfortable transit waiting areas and safe and secure bicycle storage facilities for transit users.” (LEED-ND 2009)

Requirements:

Work with the transit agency serving the project to identify transit stop locations within and/or bordering the project boundary where transit agency-approved shelters and any other agency-required improvements will be installed no later than construction of 50% of total project square footage. At those locations, install approved shelters and any required improvement, or provided funding to the transit agency for their installation. Shelters must be covered, be at least partially enclosed to buffer wind and rain, and have seating and illumination. Any required bicycle racks must have a two-point support system for locking the frame and wheels and be securely affixed to the ground or a building.

AND

Work with the transit agency to identify locations within and bordering the project boundary where the agency determines that transit stops will be warranted within two years of project completion, either because of increased ridership on existing service resulting from the project or because of planned future transit. At those locations, reserve space for transit shelters and any required improvements. In lieu of or in addition to new stops, this requirement can be satisfied with a commitment from the transit agency to provide increased service to the transit stops that will have been installed at the time of 50% build-out.

AND

Work with the transit agency to provide kiosks, bulletin boards, and/or signs that display transit schedules and route information at each public transit stop within and bordering the project.

Proposed Action:

The proposal does not provide any stipulation regarding transit facilities within the project boundaries.

Alternative Action:

This point can be earned if the project includes the necessary requirements: safe and comfortable transit stop shelters, secure bicycle racks, information for transit riders, and an evaluation of any new transit stops should all be incorporated into the project to ensure that those using alternative transportation are further encouraged to do so.

NPD Credit 8: Transportation Demand Management

Proposed Action: 0/2 Alternative Action: 2/2

Intent:

“To reduce energy consumption, pollution from motor vehicles, and adverse public health effects by encouraging multimodal travel.” (LEED-ND 2009)

“It is clear how TDM strategies such as ridesharing reduce congestion...lower parking costs for carpools or vanpools can provide an incentive for people to use those modes of travel. Allowing people to cash out the value of their parking space, use a rideshare mode, and pocket the savings can provide another incentive. Employers with variable work hours...can allow people to alter their arrival times to avoid peak-period congestion.” (Winters, 2000)

Requirements:

Earn one point for every two options achieved. For the purposes of this credit, existing buildings and their occupants are exempt from the requirements.

OPTION 1. TDM Program

Create and implement a comprehensive TDM program for the project that reduced weekday peak-period motor vehicle trips by at least 20% compared with a baseline case, and fund the program for a minimum of three years following build-out of the project. The TDM program must be prepared by a qualified transportation professional. Any trip reduction effects of Options 2-5 may not be included in calculating the 20% threshold.

OR

OPTION 2. Transit Passes

Provide transit passes valid for at least one year, subsidized to be half of regular price or cheaper, to each occupant locating within the project during the first three years of project occupancy (or longer). Publicize the availability of subsidized transit passes.

OR

OPTION 3. Developer-Sponsored Transit

Provide year-round, developer-sponsored private transit service from at least one central point in the project to other major transit facilities, and/or other destinations such as a retail or employment center, with service no less frequent than 45 daily weekday trips and 30 daily weekend trips. The service must begin by the time the project total square footage is 20% occupied and must be guaranteed for at least three years beyond project build-out. 20% occupancy is defined as residents living in 20% of the dwelling units and/or employees working in 20% of the total nonresidential square footage.

Provide transit stop shelters and bicycle racks adequate to meet projected demand but no less than one shelter and one bicycle rack at each transit stop. Shelters must be covered, be at least partially enclosed to buffer wind and rain, and have seating and illumination. Bicycle racks must have a two-point support system for locking the frame and wheels and must be securely affixed to the ground or a building.

OR

OPTION 4. Vehicle sharing

Locate the project such that 50% of the dwelling units and nonresidential building entrances are within a ¼ mile walk distance of at least one vehicle in a vehicle-sharing program. For each vehicle, dedicate one parking space accessible to vehicle-sharing members. Through signage and other means, publicize the availability and benefits of the vehicle-sharing program. IF the project has more than 100 dwelling units and/or employees and has a minimum transit service of 60 daily weekday trips and 40 daily weekend trips, at least one additional vehicle and parking space for every 100 dwelling units and/or employees must be available. If the project has more than 100 dwelling units and/or employees but does not have transit service at the

frequencies specified above, at least one additional vehicle and parking space for every 200 dwelling units and/or employees must be available. Where new vehicle locations are created, a vehicle sharing program must begin by the time the project total square footage is 20% occupied; commit to providing vehicles to the locations for at least two years.

OR

OPTION 5. Unbundling of Parking

For 90% of multiunit residential units and/or nonresidential square footage, the associated parking spaces are sold or rented separately from the dwelling units and/or nonresidential square footage.

Proposed Action:

No transportation demand management strategies are mentioned in the proposal, save for a brief mention of designated hybrid and carpool parking. This alone is not enough to achieve any of the points associated with this credit.

Alternative Action:

The proposed project can earn both points in this credit if it stipulates the quantifications needed to fulfill OPTION 4. In addition, the project should include a TDM program to reduce peak-period motorized vehicle use (OPTION 1), the provision of transit passes to project occupants to encourage public transit use (OPTION 2), and the unbundling of parking spaces from dwelling units as a further incentive to use public transit over private motor vehicle transportation.

NPD Credit 9: Access to Civic and Public Space

Proposed Action: 1/1 Alternative Action: 1/1

Intent:

“To improve physical and mental health and social capital by providing a variety of open spaces close to work and home to facilitate social networking, civic engagement, physical activity, and time spent outdoors.” (LEED-ND 2009)

“Public space [is] the common ground where people carry out the functional and ritual activities that bind a community...there are pressing needs that public space can help people to satisfy, significant human rights that it can be shaped to define and protect, and special cultural meanings that it can best convey.” (Carr et al., 1992)

Requirements:

Locate and/or design the project such that a civic or passive-use space, such as a square, park, paseo, or plaza, at least 1/6 acre in area lies within a ¼-mile walk distance of 90% of planned and existing dwelling units and nonresidential building entrances. Spaces less than 1 acre must have a proportion no narrower than 1 unit of width to 4 units of length.

AND

For projects larger than 7 acres, locate and/or design the project such that the median size of civic or passive-use spaces within and/or contiguous to the project is at least ½ acre.

Proposed Action:

As proposed, the project would incorporate a centrally-located courtyard slightly more than 1/6 acre in size in the middle of the north anchor retail block. This courtyard would be a shared public and private space, and is intended to promote pedestrian connectivity through various pathways leading to different parts of the anchor. This courtyard is sufficient to earn this point.

Alternative Action:

No alternative action is needed: in addition to the courtyard, the public has access to the proposed pocket park.

NPD Credit 10: Access to Recreation Facilities

Proposed Action: 1/1 Alternative Action: 1/1

Intent:

“To improve physical and mental health and social capital by providing a variety of recreational facilities close to work and home to facilitate physical activity and social networking.” (LEED-ND 2009)

“[A] dimension of the built environment that has been shown to correlate to adult physical activity is access to recreation facilities such as parks, trails, swimming pools, and gyms. The proximity and availability of recreation facilities has been shown to be positively related to adult physical activity levels.” (Norman, et al., 2006)

Requirements:

Locate and/or design the project such that a publicly accessible outdoor recreation facility at least 1 acre in area, or a publicly accessible indoor recreational facility of at least 25,000 square feet, lies within a 1/2-mile walk distance of 90% of new and existing dwelling units and nonresidential building entrances. Outdoor recreation facilities must consist of physical improvements and may include “tot lots,” swimming pools, and sports fields.

Proposed Action:

The project is located ½ mile away from Battersby Field, an outdoor recreation facility 3.8 acres in size.

Alternative Action:

No alternative action is needed for the purposes of this point.

NPD Credit 11: Visitability and Universal Design

Proposed Action: 0/1

Alternative Action: 1/1

Intent:

To enable the widest spectrum of people, regardless of age or ability, to more easily participate in community life by increasing the proportion of areas usable by people of diverse abilities.” (LEED-ND 2009)

“Concern for usability may be the next frontier in design, one that will set apart competitors in upcoming decades...more people are living with disabilities now than at any time in history. Universal design will become even more important as these trends persist. The challenge inherent in the universal design approach should be taken as an inspiration for good design and not an obstacle.” (Story et al., 1998)

Requirements:

OPTION 1. Projects with Dwelling Units

For each new project dwelling unit of the following residential building types, design to the applicable requirements specified:

Single dwelling unit buildings. Design a minimum of 20% of the dwelling units (and not less than 1) in accordance with ICC/ANSI A117.1, Type C, VISIBLE Unit, each of which has an open-space plan for primary functions (an area for cooking, eating, and social gathering), as well as a sleeping area and a full bathroom.

Multiunit building with two or three dwelling units. Design a minimum of 20% of the dwelling units (and not less than one) in accordance with ICC/ANSI A117.1, Type C, VISIBLE Unit, each of which has a kitchen, dining area, living area, full bathroom, and bedroom on the accessible level. If a project has both attached and detached single dwelling unit buildings, the requirements apply to each type separately. Similarly, if a project has both 2- and 3-dwelling unit buildings, the requirements apply to each type.

Multiunit buildings with four or more dwelling units. This category includes mixed-use buildings with dwelling units. Design a minimum of 20% of the dwelling units (and not less than one) to incorporate the universal design requirements stated below, or comply with Option 2. Choose at least one of the following three strategies for universal design:

- a. Throughout the home, include at least five of the following universal design features to facilitate universal function, access, and user ability:
 - Easy-to-grip lever door handles
 - Easy-to-grip cabinet and drawer loop handles
 - Easy-to-grip locking mechanisms on doors and windows
 - Easy-to-grip single-lever faucet handles
 - Easy-touch rocker or hands-free switches
 - Motion-detector lighting at entrance, in hallways and stairwells, and in closets, and motion-detector light switches in garages, utility spaces, and basements.
 - Large, high-contrast print for controls, signals, and the house or unit numbers
 - A built-in shelf, bench, or table with knee space below, located outside the entry door with weather protection overhead, such as porch or stoop with roof, awning, or other overhead covering
 - A minimum 32-inch clear door opening width for all doorways
 - Tread at the entrance, on stairs, and other areas where slipping is common, with color contrast difference between stair treads and risers
 - Interior floor surfaces (e.g., low-pile carpets, hard-surface flooring) that provide easy passage for a wheelchair or walker, with color contrast between floor surfaces and trim. No carpet is permitted in a kitchen, bathroom, or other wet areas of the dwelling unit.

OR

- b. On the main floor of the home (or on another floor, if an elevator or stair lift is provided), provide a kitchen with hard-surface flooring, plumbing with single-lever controls, a 5-foot turning radius, and at least four of the following universal design features to facilitate universal function, access, and user-ability:
 - Variable-height (28- to 42-inch) or adjustable work surfaces, such as countertops, sinks, and/or cooktops
 - Clear knee space under sink and cooktops (this requirement can be met by installing removable base cabinets or fold-back or self-storing doors), cooktops and ranges with front or side-mounted controls, and wall-mounted ovens at a height to accommodate a seated adult.
 - A toe kick area at the base of lower cabinets with a minimum height of 9 inches, and full-extension drawers and shelves in at least half (by volume) of the cabinets

- Contrasting color treatment between countertops, front edges, and floor
- Adjustable-height shelves in wall cabinets
- Glare-free tasklighting to illuminate work areas without too much reflectivity

OR

- c. On the main floor of the building (or on another floor, if an elevator or stair lift is provided), include all of the following:

In at least one accessible bedroom,

- Size the room to accommodate a twin bed with a 5-foot turning radius around the bed
- Install a clothes closet with a 32-inch clear opening with adjustable-height closet rods and shelves

In at least one full bathroom on the same floor as the bedroom,

- Provide adequate maneuvering space with a 30-by-48-inch clear floor space at each fixture
- Center the toilet 18 inches from any side wall, cabinet, or tub, and allow a 3-foot clear space in front
- Install broad blocking in walls around toilet, tube and/or shower for future placement and relocation of grab bars
- Provide knee space under the lavatory
- Install a long mirror whose bottom is no more than 36 inches above the finished floor and whose top is at least 72 inches high

In addition, all bathrooms must have hard-surface flooring, all plumbing fixtures must have single-lever controls, and tubs or showers must have hand-held shower heads.

OR

OPTION 2. Projects with Noncompliant Public Rights-of-Way or Accessible Travel Routes

For projects with only nonresidential components, or residential components that are not within the scope of OPTION 1, but have public rights-of-way or other publicly accessible travel routes within the project that are not in compliance with the Americans with Disabilities Act (for private sector and local and state government facilities) or the Architectural Barriers Act (for federally funded facilities), design, construct, and/or retrofit 100% of the rights-of-way and/or travel routes in accordance with the ADA-ABA Accessibility Guidelines, as applicable.

Proposed Action:

The project does not specify any information regarding accessibility or universal design.

Alternative Action:

This point could be achieved easily enough if an effort is made to incorporate universal design concepts into the construction of the dwelling units within the project. It is recommended that all three strategies in OPTION 1 (a, b and c) are pursued for maximum visitability and accessibility for diverse residents. If it is decided that only one strategy in OPTION 1 is pursued, it is recommended that strategy a) is chosen because of its incorporation of a number of essential universal design features.

NPD Credit 12: Community Outreach and Involvement

Proposed Action: 0/2

Alternative Action: 2/2

Intent:

“To encourage responsiveness to community needs by involving the people who live or work in the community in project design and planning and in decisions about how it should be improved or how it should change over time.” (LEED-ND 2009)

“The revitalization (of three neighborhoods in Portland, OR) illustrates the benefits of strong community involvement in urban design, a field that has traditionally been dominated by planners, architects, and developers. [These kinds of] projects [can connect] individuals in the dynamic experience of planning and implementing creative and attractive gathering places, and serve as examples of how communities can intentionally design vibrant places that are restorative to their own well-being.” (Semenza et al., 2006)

Requirements:

OPTION 1. Community Outreach (1 point)

Meet with adjacent property owners, residents, business owners, and workers; local planning and community development officials; and any current residents or workers at the project site to solicit and document their input on the proposed project prior to commencing a design.

AND

Work directly with community associations and/or the local government to advertise an open community meeting, other than an official public hearing, to generate comments on project design from the beginning.

AND

Host an open community meeting, other than an official public hearing, to solicit and document public input on the proposed project at the beginning of project design.

AND

Modify the project’s conceptual design as a direct result of community input, or if modifications are not made, explain why community input did not generate design modifications.

AND

Establish ongoing means for communication between the developer and the community throughout the design and construction phases and, in cases where the developer maintains any control during the post-construction phase.

OR

OPTION 2. Charrette (2 points)

Comply with OPTION 1 and conduct a design charrette or interactive workshop of at least two days and open to the public that includes, at a minimum, participation by a representative group of nearby property owners, residents, business owners, and workers in the preparation of conceptual project plans and drawings.

OR

OPTION 3. Local Endorsement Pursuant to Evaluation Program (2 points)

Comply with OPTION 1 and obtain an endorsement from an ongoing local or regional nongovernmental program that systematically reviews and endorses smart growth development projects under a rating and/or jury system.

Proposed Action:

As proposed, the project does not incorporate public input or community outreach.

Alternative Action:

Both points associated with this credit could easily be achieved if the developer of this project complies with the requirements outlined in OPTION 1 and in addition fulfills the requirements for either OPTION 2 or 3. It is recommended that, in order to get the second point, the developer conducts a charrette to encourage intensive involvement of property owners, business owners, workers, residents and others in the planning and analysis of project proposals.

NPD Credit 13: Local Food Production

Proposed Action: 1/1 Alternative: 1/1

Intent

“To promote community-based food production, improve nutrition through increased access to fresh produce, support preservation of small farms producing a wide variety of crops, reduce the negative environmental effects of large-scale industrialized agriculture, and support local

economic development that increases the economic value and production of farmlands and community gardens.” (LEED-ND 2009)

“The long-term health of a community’s food system is an important indicator of its vitality and sustainability. A logical and appropriate way to revitalize a community is by the development of a local food economy.” (Feenstra, 1997)

Requirements

FOR ALL PROJECTS

Establish covenants, conditions, and restrictions (CC&R) or other forms of deed restrictions that do not prohibit the growing of produce in project areas, including greenhouses, any portion of residential front, rear, or side yards; or balconies, patios, or rooftops. Greenhouses but not gardens may be prohibited in front yards that face the street.

AND

OPTION 3. Proximity to Farmers’ Market

Locate the project’s geographic center within a 1/2-mile walk distance of an existing or planned farmers’ market that is open or will operate at least once weekly for at least five months annually. Farmers’ market vendors may sell only items grown within 150 miles of the project site. A planned farmers’ market must have firm commitments from farmers and vendors that the market will meet all the above requirements and be in full operation by the time of 50% occupancy of the project’s total square footage

Proposed Action:

There will be development of green roofs throughout the site mainly incorporating sedums that will reduce the amount and effects of storm water runoff associated with the development. The Public Market and office structure rooftop will contain an urban agricultural garden, growing produce sold on site at Terra Organica. There is however, Bellingham Farmers Market within a 1/2-mile walking distance of the project site. This runs at least once a week for 9 months annually, and all products and produce are farmed locally. This fulfills option three.

Alternative Action:

No alternative action is needed for this credit.

NPD Credit 14: Tree-Lined and Shaded Streets

Proposed Action: 2/2 Alternative Action: 2/2

Intent

“To encourage walking, bicycling, and transit use and discourage excessive motoring speeds. To reduce urban heat island effects, improve air quality, increase evapotranspiration, and reduce cooling loads in buildings.” (LEED-ND 2009)

“Opportunities to enhance the green cover (in urban areas) should be taken where structural change is taking place, for example, in urban regeneration projects and new development. Mature trees [are] very important for the roles they play in providing shade and intercepting rainfall. Climate change is already with us and there is an urgent need to develop adaptive strategies. The creative use of green infrastructure is one of the most promising opportunities for adaptation.” (Gill et al., 2007)

Requirements

OPTION 1. Tree-Lined Streets (1 point)

Design and build the project to provide street trees on both sides of at least 60% of new and existing streets within the project and on the project side of bordering streets, between the vehicle travel way and walkway, at intervals averaging no more than 40 feet (excluding driveways and utility vaults).

AND

FOR ALL PROJECTS INVOLVING STREET TREE PLANTINGS

Obtain a registered landscape architect’s determination that planting details are appropriate to growing healthy trees, taking into account tree species, root medium, and width and soil volume of planter strips or wells, and that the selected tree species are not considered invasive in the project context according to USDA or the state agricultural extension service.

Proposed action:

There are proposed to have trees on both sides and in the middle of all existing streets. This fulfills option 1 for full credit.

Alternative action:

No alternative action is needed for this credit.

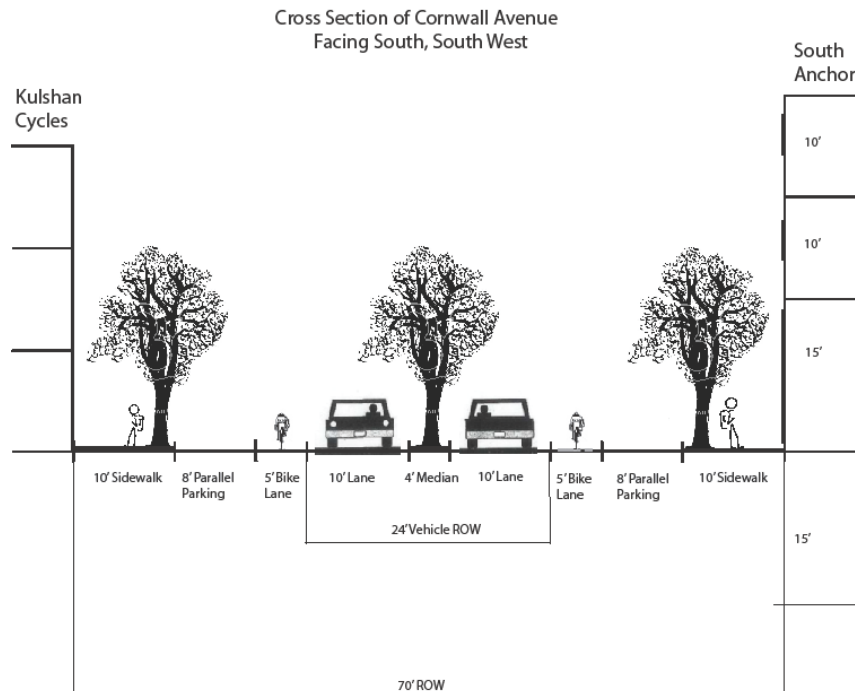


Figure C.1: Cross-section of Cornwall Avenue

NPD Credit 15: Neighborhood Schools

Proposed Action: 1/1 Alternative Action: 1/1

Intent

“To promote community interaction and engagement by integrating schools into the neighborhood. To support students’ health by encouraging walking and bicycling to school.” (LEED-ND 2009)

“Long distances and dangerous motor-vehicle traffic pose the most common barriers to children walking or biking to school. Public health and community-based efforts that encourage walking and biking to school should address these barriers.” (DHHS, 2002)

Requirements

Include in the project a residential component that constitutes at least 30% of the project’s total building square footage, and locate or design the project such that at least 50% of the dwelling units are within a 1/2-mile walk distance of an existing or new elementary or middle school building entrance or within a 1-mile walk distance of an existing or new high school building entrance. For any new school, the school district or equivalent organization must

commit in a legally binding warrant that the school will be open by the time of occupancy of 50% of the project dwelling units.

Streets within and/or bordering the project boundary that lead from dwelling units to the school site must have a complete network of sidewalks on both sides and either bicycle lanes or traffic control and/or calming measures. If the school is planned as part of the project, it must be designed such that pedestrians and cyclists can easily reach building entrances without crossing bus zones, parking entrances, and student drop-off areas.

AND

New school campuses must not exceed the following:

- High schools, 15 acres.
- Middle schools, 10 acres.
- Elementary schools, 5 acres.

Schools combining grade levels from more than one category may use the grade level with the higher allowable acreage.

Facilities on the school site for which there is a formal joint-use agreement with another entity, such as athletic facilities, playgrounds, and multipurpose spaces in buildings, may be deducted from the total site area of the school.

Proposed Action:

Bellingham High School is located less than one mile walking distance from the project site. It has sidewalks and bikeways along both sides of every road between the site and the school allowing for safe and easy access for students. The schools area is less than the allotted 15 acres.

Alternative Action:

No alternative action is needed for this credit.

C. Green Infrastructure and Building (GIB) 29 Points

GIB Prerequisite 1: Certified Green Building

Required

Prerequisite is met

Intent:

“To encourage the design, construction, and retrofit of buildings that utilize green building practices.” (LEED-ND 2009)

Requirements:

Design, construct, or retrofit one whole building within the *project* to be certified through LEED for New Construction, LEED for Existing Buildings: Operations & Maintenance, LEED for Homes, LEED for Schools, LEED for Retail: New Construction, or LEED for Core and Shell (with at least 75% of the floor area certified under LEED for Commercial Interiors or LEED for Retail: Commercial Interiors), or through a green building rating system requiring review by independent, impartial, third-party certifying bodies as defined by ISO/IEC 17021.

Proposed Action:

The project did not specify these requirements, though by stating that “Any new construction should strive to be LEED certified.” they implied intent to the fulfillment of this prerequisite. (Urban Transition Studio, 2010)

GIB Prerequisite 2: Minimum Building Energy Efficiency

Required

Prerequisite is met

Intent:

“To encourage the design and construction of energy-efficient buildings that reduce air, water, and land pollution and adverse environmental effects from energy production and consumption.” (LEED-ND 2009)

Requirements:

The following requirement applies to 90% of the building floor area (rounded up to the next whole building) of all nonresidential buildings, mixed-use buildings, and *multiunit residential* buildings four stories or more constructed as part of the *project* or undergoing major renovations as part of the project. New buildings must demonstrate an average 10% improvement over ANSI/ASHRAE/IESNA Standard 90.1–2007 (with errata but without addenda). Buildings undergoing major renovations must demonstrate an average 5% improvement over ANSI/ASHRAE/IESNA Standard 90.1–2007.

Projects must document building energy efficiency using one or a combination of the following:

- Produce a LEED-compliant energy model following the methodology outlined in the LEED rating system appropriate to each building’s scope, including demonstration by a whole

building project computer simulation using the building performance rating method in Appendix G of ANSI/ASHRAE/IESNA Standard 90.1–2007. Appendix G requires that the energy analysis done for the building performance rating method include all energy costs associated with the building project. Projects in California may use Title 24–2005, Part 6, in place of ANSI/ASHRAE/IESNA Standard 90.1–2007.

b. Comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide listed below, appropriate to each building’s scope. Comply with all applicable criteria as established in the guide for the climate zone in which the project is located.

- ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004 (office occupancy buildings less than 20,000 square feet).
- ASHRAE Advanced Energy Design Guide for Small Retail Buildings 2006 (retail occupancy buildings less than 20,000 square feet).
- ASHRAE Advanced Energy Design Guide for Small Warehouses and Self-Storage Buildings 2008 (warehouse or self-storage occupancy less than 50,000 square feet).
- ASHRAE Advanced Energy Design Guide for K–12 School Buildings (K–12 school occupancy less than 200,000 square feet).
- For buildings less than 100,000 square feet, comply with the prescriptive measures identified in the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute, as follows:
- Comply with Section 1, Design Process Strategies, and Section 2, Core Performance Requirements, of the Core Performance Guide.
- Health care, warehouse and laboratory projects are ineligible for this path. LEED 2009 for Neighborhood Development 79

If method (a) is used for all of the floor area evaluated in this prerequisite, the total percentage improvement is calculated as a sum of energy costs for each building compared with a baseline. If any combination of methods (a), (b), and (c) is used, the total percentage improvement is calculated as a weighted average based on building floor area. In determining the weighted average, buildings pursuing (a) will be credited at the percentage value determined by the energy model. Buildings pursuing (b) or (c) will be credited at 12% better than ANSI/ASHRAE/IESNA Standard 90.1–2007 for new buildings and 8% better for *existing* building renovations.

AND

For new *single-family residential* buildings and new multiunit residential buildings three stories or fewer, 90% of the buildings must meet ENERGY STAR or equivalent criteria. Projects may demonstrate compliance with ENERGY STAR criteria through the prescriptive requirements of a Builder Option Package, the *Home Energy Rating System (HERS)* index, or a combination of the two.

Proposed Action:

The project did not specify these requirements, though by stating that “Any new construction should strive to be LEED certified.” they implied intent to the fulfillment of this prerequisite. (Urban Transition Studio, 2010)

GIB Prerequisite 3: Minimum Building Water Efficiency

Required

Prerequisite is met

Intent:

“To reduce effects on natural water resources and reduce burdens on community water supply and wastewater systems.” (LEED-ND 2009)

“This just in! With water resources more scarce than ever, we urge our listeners to conserve water.” (The Teenage Mutant Ninja Turtles, 1990)

Requirements:

For nonresidential buildings, mixed-use buildings, and multifamily residential buildings four stories or more:

Indoor water usage in new buildings and buildings undergoing major renovations as part of the *project* must be an average 20% less than in baseline buildings. The baseline usage is based on the requirements of the Energy Policy Act of 1992 and subsequent rulings by the Department of Energy, the requirements of the Energy Policy Act of 2005, and the fixture performance standards in the 2006 editions of the Uniform Plumbing Code or International Plumbing Code as to fixture performance. Calculations are based on estimated occupant usage and include only the following fixtures and fixture fittings (as applicable to the project scope): water closets (toilets), urinals, lavatory faucets, showers, kitchen sink faucets, and prerinse spray valves.

The water efficiency threshold is calculated as a weighted average of water usage for the buildings constructed as part of the project based on their conditioned square footage. Projects may also follow the LEED for Multiple Buildings and On-Campus Building Application Guide alternative calculation methodology to show compliance with this prerequisite.

AND

For new *single-family residential* buildings and new *multiunit residential* buildings three stories or fewer, 90% of buildings must use a combination of fixtures that would earn 3 points under LEED for Homes 2008 Credit 3, Indoor Water Use.

Proposed Action:

The project did not specify these requirements, though by stating that “Any new construction should strive to be LEED certified.” they implied intent to the fulfillment of this prerequisite. (Urban Transition Studio, 2010)

GIB Prerequisite 4: Construction Activity Pollution Prevention

Required

Prerequisite is met

Intent:

“To reduce pollution from construction activities by controlling soil erosion, waterway sedimentation, and airborne dust generation.” (LEED-ND 2009)

Requirements:

Create and implement an erosion and sedimentation control plan for all new construction activities associated with the *project*. The plan must incorporate practices such as phasing, seeding, grading, mulching, filter socks, stabilized site entrances, preservation of *existing* vegetation, and other best management practices (BMPs) to control erosion and sedimentation in runoff from the entire project site during construction. The plan must list the BMPs employed and describe how they accomplish the following objectives:

- a. Prevent loss of soil during construction by stormwater runoff and/or wind erosion, including but not limited to stockpiling of topsoil for reuse.
- b. Prevent sedimentation of any affected stormwater conveyance systems or receiving streams.
- c. Prevent polluting the air with dust and particulate matter.

The erosion and sedimentation control plan must describe how the project team will do the following:

- a. Preserve vegetation and mark clearing limits.
- b. Establish and delineate construction access.
- c. Control flow rates.
- d. Install sediment controls.
- e. Stabilize soils.
- f. Protect slopes.
- g. Protect drain inlets.
- h. Stabilize channels and outlets.
- i. Control pollutants.
- j. Control dewatering.
- k. Maintain the BMPs.
- l. Manage the erosion and sedimentation control plan.

The BMPs must be selected from the Washington State Department of Ecology’s *Stormwater Management Manual for Western Washington, Volume II, Construction Stormwater Pollution Prevention* (2005 edition), or a locally approved equivalent, whichever is more stringent, and must comply with all federal, state, and local erosion and sedimentation control regulations.

Proposed Action:

The project did not specify these requirements, though by stating that “Any new construction should strive to be LEED certified.” they implied intent to the fulfillment of this prerequisite. (Urban Transition Studio, 2010)

GIB Credit 1: Certified Green Buildings

Proposed Action: 5/5 Alternative Action: 5/5

Intent:

“To encourage the design, construction, and retrofit of buildings that utilize green building practices.” (LEED-ND 2009)

Requirements:

- Design, construct, or retrofit a percentage of the total project building square footage, beyond the prerequisite requirement, to be certified under one of the LEED green building rating systems listed above or through a green building rating system requiring review by independent, impartial, third-party certifying bodies as defined by ISO/IEC 17021.

Table 1.

Percentage of square footage certified	Points	Points for green building certification
≥ 10% and < 20%		1 point
≥ 20% and < 30%		2 points
≥ 30% and < 40%		3 points
≥ 40% and < 50%		4 points
≥ 50%		5 points

AND

- Accessory dwelling units must be counted as separate buildings unless they are attached to a main building.

Proposed Action:

The current plan for the North Anchor redevelopment has proposed that any newly built buildings will be LEED certified. There are more than ten buildings in the proposed action area, and over 50% of the square footage will be LEED certified. Thus, all 5 points are awarded.

Alternative Action:

No alternative action is needed for this credit.

GIB Credit 2: Building Energy Efficiency

Proposed Action: 0/2 Alternative Action: 2/2

Intent:

“To encourage the design and construction of energy-efficient buildings that reduce air, water, and land pollution and adverse environmental effects from energy production and consumption.” (LEED-ND 2009)

Requirements:

The following requirement applies to 90% of the building floor area (rounded up to the next whole building) of all nonresidential buildings, mixed-use buildings, and multiunit residential buildings four stories or more constructed as part of the project or undergoing major renovations as part of the project.

New buildings must demonstrate an average 18% (1 point) or 26% (2 points) improvement over ANSI/ASHRAE/IESNA Standard 90.1–2007 (with errata but without addenda). Buildings undergoing major renovations as part of the project must demonstrate an average 14% (1 point) or 22% (2 points) improvement over ANSI/ASHRAE/IESNA Standard 90.1–2007.

Projects must document building energy efficiency using one or a combination of the following:

- a. Produce a LEED-compliant energy model following the methodology outlined in the LEED rating system appropriate to each building’s scope, including demonstration by a whole building project computer simulation using the building performance rating method in Appendix G of ANSI/ASHRAE/IESNA Standard 90.1–2007. Appendix G requires that the energy analysis done for the building performance rating method include all energy costs associated with the building project. Projects in California may use Title 24–2005, Part 6, in place of ANSI/ASHRAE/IESNA Standard 90.1–2007.

b. Comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide listed below, appropriate to each building's scope. Comply with all applicable criteria as established in the guide for the climate zone in which the project is located.

- ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004 (office occupancy buildings less than 20,000 square feet).
- ASHRAE Advanced Energy Design Guide for Small Retail Buildings 2006 (retail occupancy buildings less than 20,000 square feet).
- ASHRAE Advanced Energy Design Guide for Small Warehouses and Self-Storage Buildings 2008 (warehouse or self-storage occupancy less than 50,000 square feet).
- ASHRAE Advanced Energy Design Guide for K–12 School Buildings (K–12 school occupancy less than 200,000 square feet).

c. For buildings less than 100,000 square feet, comply with the prescriptive measures identified in the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute, as follows:

- Comply with Section 1, Design Process Strategies, and Section 2, Core Performance Requirements, of the Core Performance Guide.
- Health care, warehouse and laboratory projects are ineligible for this path.

If method (a) is used for all of the floor area evaluated in this prerequisite, the total percentage improvement is calculated as a sum of energy costs for each building compared with a baseline. If any combination of methods (a), (b), and (c) is used, the total percentage improvement is calculated as a weighted average based on building floor area. In determining the weighted average, buildings pursuing (a) will be credited at the percentage value determined by the energy model. Buildings pursuing (b) or (c) will be credited at 12% better than ANSI/ASHRAE/IESNA Standard 90.1–2007 for new buildings and 8% better for existing building renovations. AND For new single-family residential buildings and new multiunit residential buildings three stories or fewer, 90% of the buildings must achieve a Home Energy Rating System (HERS) index score of at least 75. Project teams wishing to use ASHRAE-approved addenda for the purposes of this credit may do so at their discretion. Addenda must be applied consistently across all LEED credits.

Proposed Action:

The sum energy costs for each building are not known and are not specified in the proposal. The baseline for many of the buildings is unknown because they are abandoned buildings.

Alternative Action:

If the new buildings demonstrate an average 18% (1 point) or 26% (2 points) improvement over ANSI/ASHRAE/ IESNA Standard 90.1–2007 and buildings undergoing major renovations demonstrate an average 14% (1 point) or 22% (2 points) improvement over ANSI/ASHRAE/IESNA Standard 90.1–2007, then up to 2 points can be awarded.

GIB Credit 3: Building Water Efficiency

Proposed Action: 0/1 Alternative Action: 1/1

Intent:

“To reduce effects on natural water resources and reduce burdens on community water supply and wastewater systems.” (LEED-ND 2009)

Requirements:

For nonresidential buildings, mixed-use buildings, and multifamily residential buildings four stories or more:

Indoor water usage in new buildings and buildings undergoing major renovations as part of the project must be an average 40% less than in baseline buildings. The baseline usage is based on the requirements of the Energy Policy Act of 1992 and subsequent rulings by the Department of Energy, the requirements of the Energy Policy Act of 2005, and the fixture performance standards in the 2006 editions of the Uniform Plumbing Code or International Plumbing Code as to fixture performance. Calculations are based on estimated occupant usage and include only the following fixtures and fixture fittings (as applicable to the project scope): water closets (toilets), urinals, lavatory faucets, showers, kitchen sink faucets, and pre-rinse spray valves.

The water efficiency threshold is calculated as a weighted average of water usage for the buildings constructed as part of the project based on their conditioned square footage. Projects may also follow the LEED for Multiple Buildings and On- Campus Building Application Guide alternative calculation methodology to show compliance with this credit.

Table 1. National efficiency baselines

Commercial fixtures, fittings, or appliances	Baseline water usage
Commercial toilet	1.6 gpf ¹ Except blow-out fixtures, 3.5 gpf
Commercial urinal	1.0 gpf
Commercial lavatory (restroom) faucet	2.2 gpm at 60 psi, private applications only (hotel-motel guest rooms, hospital patient rooms) 0.5 gpm at 60 psi ² all others except private applications 0.25 gallons per cycle for metering faucets
Commercial pre-rinse spray valve (for food service applications)	Flow rate ≤ 1.6 gpm (no pressure specified; no performance requirement)

¹ EPA Act 1992 standard for toilets applies to both commercial and residential models.

2 In addition to EAct requirements, the American Society of Mechanical Engineers standard for public lavatory faucets is 0.5 gpm at 60 psi (ASME A112.18.1-2005). This maximum has been incorporated into the national Uniform Plumbing Code and the International Plumbing Code.

Residential Fixtures, Fittings, and Appliances	Baseline water usage
Residential toilet	1.6 gpf ³
Residential lavatory (bathroom) faucet	2.2 gpm at 60 psi
Residential kitchen faucet	
Residential showerhead	2.5 gpm at 80 psi per shower stall ⁴

gpf = gallons per flush; psi = pounds per square inch.

Source: Adapted from information developed and summarized by the U.S. EPA Office of Water.

³ EAct 1992 standard for toilets applies to both commercial and residential models.

⁴ Residential shower compartment (stall) in dwelling units: The total allowable flow rate from all flowing showerheads at any given time, including rain systems, waterfalls, body sprays, body spas, and jets, shall be limited to the allowable showerhead flow rate as specified above (2.5-gpm) per shower compartment, where the floor area of the shower compartment is less than 2,500 sq.in. For each increment of 2,500 sq.in. of floor area thereafter or part thereof, an additional showerhead with total allowable flow rate from all flowing devices equal to or less than the allowable flow rate as specified above shall be allowed. Exception: Showers that emit recirculated non-potable water originating from within the shower compartment while operating are allowed to exceed the maximum as long as the total potable water flow does not exceed the flow rate as specified above.

The following fixtures, fittings, and appliances are outside the scope of the water use reduction calculation:

- a. Commercial steam cookers.
- b. Commercial dishwashers.
- c. Automatic commercial ice makers.
- d. Commercial (family-sized) clothes washers.
- e. Residential clothes washers.
- f. Standard and compact residential dishwashers.

AND

For new single-family residential buildings and new multiunit residential buildings three stories or fewer, 90% of buildings must use a combination of fixtures that would earn 5 points under LEED for Homes 2008 Credit 3, Indoor Water Use.

Proposed Action:

The current North Anchor redevelopment plan calls for efficient water usage but the proposal has no specificity on current baseline water usage and proposed fixtures/appliances that will include water use.

Alternative Action:

If the new constructed buildings are able to average less than 40% of the baseline, then this point will be awarded.

GIB Credit 4: Water-Efficient Landscaping

Proposed Action: 1/1 Alternative Action: 1/1

Intent:

“To limit or eliminate the use of potable water and other natural surface or subsurface water resources on project sites, for landscape irrigation.” (LEED-ND 2009)

Requirements:

Reduce water consumption for outdoor landscape irrigation by 50% from a calculated midsummer baseline case. Reductions may be attributed to any combination of the following strategies, among others:

- a. Plant species, plant density, and microclimate factor.
- b. Irrigation efficiency.
- c. Use of captured rainwater.
- d. Use of recycled wastewater.
- e. Use of water treated and conveyed by a public agency specifically for non-potable uses.
- f. Use of other non-potable water sources, such as storm water, air-conditioning condensate, and foundation drain water.

Projects with no new or existing landscape irrigation requirements automatically meet the credit requirements.

Groundwater seepage that is pumped away from the immediate vicinity of buildings slabs and foundations can be used for landscape irrigation and meet the intent of this credit. However, it must be demonstrated that doing so does not affect site storm water management systems.

Proposed Action:

There is no new landscape irrigation in the proposed development so the credit requirement is automatically met.

Alternative Action:

No alternative action is needed for this credit.

GIB Credit 5: Existing Building Reuse

Proposed Action: 1/1 Alternative Action: 1/1

Intent:

“To extend the life cycle of existing building stock to conserve resources, reduce waste, and reduce adverse environmental effects of new buildings related to materials manufacturing and transport.” (LEED-ND 2009)

Requirements:

Reuse the existing habitable building stock, achieving the greater of the following two benchmarks (based on surface area):

- a. 50% of one existing building structure (including structural floor and roof decking) and envelope (including exterior skin and framing but excluding window assemblies and nonstructural roofing material).
- b. 20% of the total existing building stock (including structure and envelope, as defined above). Hazardous materials that are remediated as a part of the project scope must be excluded from the calculations.

AND

FOR ALL PROJECTS

Do not demolish any historic buildings, or portions thereof, or alter any cultural landscapes as part of the project.

An exception is granted only if such action has been approved by an appropriate review body. For buildings listed locally, approval must be granted by the local historic preservation review board, or equivalent. For buildings listed in a state register or in the National Register of Historic Places, approval must appear in a programmatic agreement with the State Historic Preservation Office.

Proposed Action:

All historic buildings in the area are incorporated and retained in the new proposed development. They also intend to use the structural flooring of old buildings, but will be developing lots of parking space into retail and mixed-use buildings. The greater benchmark that is fulfilled will be the reuse of 20% of the total existing building stock.

Alternative Action:

No alternative action is needed for this credit.

GIB Credit 6: Historic Resource Preservation and Adaptive Use

Proposed Action: 1/1 Alternative Action: 1/1

Intent:

“To encourage the preservation and adaptive use of historic buildings and cultural landscapes that represent significant embodied energy and cultural value, in a manner that preserves historic materials and character-defining features.” (LEED-ND 2009)

Requirements:

To achieve this credit, at least one historic building or cultural landscape must be present on the project site.

Do not demolish any historic buildings, or portions thereof, or alter any cultural landscapes as part of the project.

An exception is granted only if such action has been approved by an appropriate review body. For buildings or landscapes listed locally, approval must be granted by the local historic preservation review board, or equivalent. For buildings or landscapes listed in a state register or in the National Register of Historic Places, approval must appear in a programmatic agreement with the State Historic Preservation Office.

If any historic building in the project site is to be rehabilitated, rehabilitate in accordance with local review or federal standards for rehabilitation, whichever is more restrictive, using one of the following approaches:

- a. Obtain approval, in the form of a “certificate of appropriateness,” from a locally appointed historic preservation commission or architectural review board for any exterior alterations or additions.
- b. If federal funds are used for the project, obtain confirmation from a state historic preservation office or the National Park Service that the rehabilitation satisfies the Secretary of the Interior’s Standards for Rehabilitation.
- c. If a building or site is listed in or determined eligible for the National Register of Historic Places but is not subject to federal or local review board review, include on the project team a preservation professional who meets the federal qualifications for historic architect and attests to conformance to the Secretary of the Interior’s Standards for the Treatment of Historic Properties.

Proposed Action:

There are several historic buildings in this proposed development area:

Federal Building (1912-1913) 104 West Magnolia Street

Montague & McHugh (1927) 114 W. Magnolia

BPOE Building - Elks Club (1912) 1414 Cornwall Avenue

Mount Baker Theatre (1927) 106 N. Commercial Street

These buildings are on the National Register of Historic Buildings. None of these buildings are proposed to be demolished. There will be additions to some of the buildings and changes in the building usage, but all structures will remain intact and on the National Historic Register.

Alternative Action:

No alternative action is needed.

GIB Credit 7: Minimized Site Disturbance in Design and Construction

Proposed Action: 1/1 Alternative Action: 1/1

Intent:

“To preserve existing noninvasive trees, native plants, and pervious surfaces.” (LEED-ND 2009)

Requirements:

OPTION 1. Development Footprint on Previously Developed Land

Locate 100% of the development footprint on areas that are previously developed and for which 100% of the construction impact zone is previously developed.

Proposed Action:

All proposed buildings will be built upon previously develop land and the construction impact zone will be completely on previously developed land.

Alternative Action:

No alternative action is required.

GIB Credit 8: Storm Water Management

Proposed Action: 2/4 Alternative Action: 4/4

Intent:

“To reduce pollution and hydrologic instability from storm water, reduce flooding, promote aquifer recharge, and improve water quality by emulating natural hydrologic conditions.” (LEED-ND 2009)

Requirements:

Implement a comprehensive storm water management plan for the project that retains on-site, through infiltration, evapotranspiration, and/or reuse, the rainfall volumes listed in Table 1. Rainfall volume is based on the project's development footprint, any other areas that have been graded so as to be effectively impervious, and any pollution generating pervious surfaces, such as landscaping, that will receive treatments of fertilizers or pesticides. The percentile rainfall event (Table 1) is the total rainfall on a given day in the record that is greater than or equal to X percent of all rainfall events over a 20- to 40+-year period. For example, a 95th percentile event in a particular region might be 1.5 inches, which would then be the volume to retain. To determine the volume to be retained, projects may use NOAA's published national rainfall data, run an approved storm water model, or independently gather local rain gauge data and rank rainfall events. One hundred percent of the water volume from rainfall events up to the X percentile event must not be discharged to surface waters unless the harvested and reused runoff is authorized for discharge or allowed to be discharged into sanitary treatment systems. Table 1. Points for retaining storm water on-site Percentile rainfall event (total volume to be retained) Points

Percentile rainfall event (total volume to be retained)	Points
80%	1
85%	2
90%	3
95%	4

Projects that earn at least 2 points under this credit may earn 1 additional point by meeting each of the following site characteristics:

- a. The project is located on a previously developed site (1 point).
- b. The project is located on a site that meets the definition of brownfield in SLL Credit 2, Brownfields Redevelopment (1 point).
- c. The project is designed to be transit ready by achieving the following (1 point):
 - At least 2 points under NPD Credit 1, Walk able Streets.
 - At least 2 points under NPD Credit 2, Compact Development.
 - At least 2 points under NPD Credit 3, Mixed-Use Neighborhood Centers.

The BMPs for the comprehensive storm water management plan must be selected from the Washington State Department of Ecology's Storm water Management Manual for Western Washington, Volume V, Runoff Treatment (2005 edition), or locally approved equivalent, whichever is more stringent, and must comply with all federal, state, and local regulations. The plan must include season-specific maintenance that ensures continuous performance of the storm water management system. For storm water reuse systems not on a combined storm water and sewer system, the total water reused for indoor use must not exceed 90% of the average annual rainfall. Storm water BMPs (except cisterns) must be designed to drain down within 72 hours.

Proposed Action:

The current North Anchor redevelopment plan calls for green roofs on all of the new buildings as well as urban rooftop gardens on certain buildings. These sorts of storm water mitigation measures will be effective in offsetting the amount of storm water that comes off the site by retaining it and evapo-transpiring it through naturally implemented measures. The site is also to be built on a previously developed site which earns another point for this credit.

Alternative Action:

In addition to the green roof systems storm water should be diverted into cisterns as a part of catchment systems that store all rooftop runoff so that it can be used for a variety of gray water purposes, like watering and cleaning. All paths and street level improvements should be made out of pervious materials like pavers or pervious concrete. Given these measures the North anchor redevelopment area will be able to manage all its storm water on site and obtain full points for this credit.

GIB Credit 9: Heat Island Reduction

Proposed Action: 1/1 Alternative Action: 1/1

Intent:

“To reduce heat islands to minimize effects on the microclimate and human and wildlife habitat.” (LEED-ND 2009)

Requirements:

OPTION 1. Non-roof Measures

Use any combination of the following strategies for 50% of the non-roof site hardscape (including roads, sidewalks, courtyards, parking lots, parking structures, and driveways):

- a. Provide shade from open structures, such as those supporting solar photovoltaic panels, canopied walkways, and vine pergolas, all with a solar reflectance index (SRI) of at least 29.
- b. Use paving materials with an SRI of at least 29.
- c. Install an open-grid pavement system that is at least 50% pervious.
- d. Provide shade from tree canopy (within ten years of landscape installation).

OR

OPTION 2. High-Reflectance and Vegetated Roofs

Use roofing materials that have an SRI equal to or greater than the values in Table 1 for a minimum of 75% of the roof area of all new buildings within the *project*; or install a vegetated (“green”) roof for at least 50% of the roof area of all new buildings within the project. Combinations of SRI-compliant and vegetated roofs can be used provided they collectively cover 75% of the roof area of all new buildings (use the equation in Option 3).

Table 1. Minimum solar reflectance index value, by roof slope

Roof slope	SRI
Low ($\leq 2:12$)	78
Steep ($> 2:12$)	29

OR

OPTION 3. Mixed Non-roof and Roof Measures

Use any of the strategies listed under Options 1 and 2 that in combination meet the following criterion:

$\frac{\text{Area of Nonroof Measures}}{0.5} + \frac{\text{Area of SRI Roof}}{0.75} + \frac{\text{Area of Vegetated Roof}}{0.5} \geq \frac{\text{Total Site Hardscape Area}}{\text{Total Roof Area}}$

Proposed Action:

The proposed plan for the North anchor incorporated green roofs on all but one of the new buildings. These however will not fulfill the requirements for this credit unless they cover 75% of the roof area of all new buildings

Alternative Action:

Design the green roof systems to either cover at least 75% of all new buildings or specify roofing materials to have an SRI of 78 which is in accordance with the low roof slope SRI requirement.

GIB Credit 10: Solar Orientation

Proposed Action: 0/1 Alternative Action: 0/1

Intent:

“To encourage energy efficiency by creating optimum conditions for the use of passive and active solar strategies.” (LEED-ND 2009)

Requirements:

OPTION 2; Building Orientation (Available for All Projects) Design and orient 75% or more of the project’s total building square footage (excluding existing buildings) such that one axis of each qualifying building is at least 1.5 times longer than the other, and the longer axis is within 15 degrees of geographical east-west. The length-to-width ratio applies only to walls enclosing conditioned spaces; walls enclosing unconditioned spaces, such as garages, arcades, or porches, cannot contribute to credit LEED 2009 for Neighborhood Development 97.

Proposed Action:

The proposed redevelopment of the North Anchor area of downtown addresses the use of building orientation to capitalize on passive solar gains; however the current layout of the buildings does not have the proper orientation ratio in order to achieve points for this credit.

Alternative Action:

The buildings have already been designed and would have to be redesigned to the proper proportional orientation to earn points for this credit.

GIB Credit 11: Onsite Renewable Energy Sources

Proposed Action: 1/3 Alternative Action: 3/3

Intent:

“To encourage on-site renewable energy production to reduce the adverse environmental and economic effects associated with fossil fuel energy production and use.” (LEED-ND 2009)

Requirements:

Incorporate on-site nonpolluting renewable energy generation, such as solar, wind, geothermal, small-scale or micro hydroelectric, and/or biomass, with production capacity of at least 5% of the project’s annual electrical and thermal energy cost (exclusive of existing buildings), as established through an accepted building energy performance simulation tool. Points are awarded as listed in Table 1.

Table 1. Points for on-site renewable energy generation

Percentage of annual electrical and thermal energy cost	Points
5%	1
12.5%	2
20%	3

Proposed Action:

The proposed redevelopment of the North Anchor area of downtown has incorporated the use of photo voltaic (PV) solar panels to provide electricity that could be used for electricity needs as well as the heating systems of the new buildings. Depending on the scale and efficiency of these PV arrays they may be able to provide enough energy to reach the required 5% to get a point for this credit. This system also has the potential to offset a larger amount of overall electric needs for the re-development depending on the size and efficiency of the system.

Alternative Action:

The PV system in this project in tandem with a small scale anaerobic digester on site could work concurrently to offset heating cooling and electric needs. These renewable energy systems require significant startup capital however over time the benefits outweigh the costs and become a profitable investment. Depending on the size and available capital to invest in the systems 20% or more offset of annual electrical and thermal energy cost is an achievable amount that will grant this project full points for this credit.

GIB Credit 12: District Heating and Cooling:

Proposed Action: 0/2 Alternative Action: 2/2

Intent:

“To encourage the development of energy-efficient neighborhoods by employing district heating and cooling strategies that reduces energy use and adverse energy-related environmental effects.” (LEED-ND 2009)

Requirements:

Incorporate a district heating and/or cooling system for space conditioning and/or water heating of new buildings (at least two buildings total) such that at least 80% of the *project's* annual heating and/or cooling consumption is provided by the district plant. *Single-family residential* buildings and *existing* buildings of any type may be excluded from the calculation. Each system component that is addressed by ANSI/ASHRAE/IESNA Standard 90.1–2007 must have an overall efficiency performance at least 10% better than that specified by the standard's prescriptive requirements.

Additionally, annual district pumping energy consumption that exceeds 2.5% of the annual thermal energy output of the heating and cooling plant (with 1 kWh of electricity equal to 3,413 Btus) must be offset by increases in the component's efficiency beyond the specified 10% improvement. Combined heat and power (CHP) district systems can achieve this credit by demonstrating equivalent performance.

Proposed Action:

The proposed redevelopment of the North Anchor area of downtown has incorporated the use of photo voltaic (PV) solar panels to provide electricity that could be used for the heating systems of the new buildings. Depending on the scale and efficiency of these PV arrays they may be able to provide enough energy to reach the required 80% of the projects annual heating and cooling needs. Without designing these PV systems to specific standards of LEED no points will be achieved.

Alternative Action:

The PV system that is proposed for the North Anchor development consists of rooftop application on one of the new buildings. With the current efficiencies of PV systems a much more extensive system would be required to provide the amount of electricity needed in order to meet these requirements. Based on a rough estimate it would take over four times the amount of the proposed PV array at a cost of near 8 million dollars (<http://sunmatesolarpanels.com>). Also seasonal available sunlight changes would compromise the system's ability to consistently provide the energy needs of the development area. There are other potential systems that may be paired with the smaller PV array such as a small scale anaerobic digester that could supplement the energy demands for heating and cooling. If the significant investment were made it is possible for this project to receive full points for this credit.

GIB Credit 13: Infrastructure Energy Efficiency

Proposed Action: 0/1 Alternative Action: 1/1

Intent:

“To reduce adverse environmental effects from energy used for operating public infrastructure.” (LEED-ND 2009)

Requirements:

Design, purchase, or work with the municipality to install all new infrastructure, including but not limited to traffic lights, *street* lights, and water and wastewater pumps, to achieve a 15% annual energy reduction below an estimated baseline energy use for this infrastructure. The baseline is calculated with the assumed use of lowest first cost infrastructure items.

Proposed action:

The current North Anchor development plan does not address the use of energy efficient infrastructure systems in order to reduce energy consumption.

Alternative Action:

The amount of infrastructure improvements that will be required in order to build the propose north anchor redevelopment is large enough that it should be fairly simple to integrate energy efficient systems that achieve the required 15% reduction in energy use. Stop lights, street lights, freshwater and wastewater pumping systems are all aspects of infrastructure improvements that can be specified to be more energy efficient. Also controls of the systems to turn them off when not necessary can also help reduce the energy use even further.

GIB Credit 14: Wastewater Management

Proposed Action: 0/2 Alternative Action: 2/2

Intent:

“To reduce pollution from wastewater and encourage water reuse.” (LEED-ND 2009)

Requirements:

Design and construct the *project* to retain on-site at least 25% of the average annual wastewater generated by the project (exclusive of *existing* buildings), and reuse that wastewater to replace *potable water*. An additional point may be awarded for retaining and reusing 50%. Provide on-site treatment to a quality required by state and local regulations for the proposed reuse. The percentage of wastewater diverted and reused is calculated by determining the total wastewater flow using the design case after the GIB Prerequisite 3 calculations, and determining how much of that volume is reused on-site.

Proposed Action:

Currently all wastewater from the north anchor site is diverted through public utilities to the local waste water treatment plant.

Alternative Action:

Alternative waste water treatment strategies could be implemented in order to achieve this credit. Tertiary waste water treatment on site is the most viable way to treat the waste water coming from the North Anchor development area. These systems are typically designed and engineered specifically to each project’s needs. Locally 2020 Engineering has worked on several of these tertiary waste water treatment systems with much success. If this sort of tertiary treatment is implemented and able to treat at least 50% of waste water coming from the new development the North Anchor will be able to get both points for this credit.

GIB Credit 15: Recycled Content Infrastructure

Proposed Action: 0/1 Alternative Action: 1/1

Intent:

“To use recycled and reclaimed materials to reduce the adverse environmental effects of extracting and processing virgin materials.” (LEED-ND 2009)

Requirements:

Use materials for new infrastructure such that the sum of postconsumer recycled content, in-place reclaimed materials and one-half of the pre consumer recycled content constitutes at least 50% of the total mass of infrastructure materials. Count materials in all of the following infrastructure items as applicable to the project:

- a. Roadways, parking lots, sidewalks, unit paving, and curbs.
- b. Water retention tanks and vaults.
- c. Base and sub base materials for the above.
- d. Storm water, sanitary sewer, steam energy distribution, and water piping. Recycled content is defined in accordance with ISO/IEC 14021, Environmental labels and declaration, Self-declared. Environmental claims (Type II environmental labeling).

Proposed Action:

The proposed action is on three blocks of already developed infrastructure. The recycled content of this infrastructure is not enough to meet the requirements for this credit. The proposed action plan does not address the use of recycled content for new infrastructure specifically.

Alternative Action:

Depending on the need and the cost of infrastructure improvements required for this project it is possible to increase the total recycled content in these materials up to the required amount in order to achieve the point available for this credit.

GIB Credit 16: Solid Waste Management Infrastructure

Proposed Action: 0/1 Alternative Action: 1/1

Intent:

“To reduce the volume of waste deposited in landfills. To promote the proper disposal of hazardous wastes.” (LEED-ND 2009)

Requirements:

Meet four or more of requirements:

- a. Locate the project in an area that provides recycling services or provide at least one recycling and reuse station available to all occupants, recyclable materials must include material paper, corrugated cardboard, glass, plastics and metals.
- b. Locate the project in an area that provides hazardous waste collection services or Include on site at least on site drop of point for potential hazardous wastes. These include paints, solvents, oil, and batteries. Establish a plan for post collection disposal.
- c. Locate the project in an area that provides composting services or provide a at least one composting station available to all occupants for the collection and composting of food and yard waste. Establish a post collection use plan.
- d. On every mixed-use or nonresidential block or at least every 800 feet, whichever is shorter, provide recycling containers that are adjacent to other receptacles or provide receptacles that integrate recycling into them.
- e. Recycle and/or salvage at least 50% of non-hazardous construction waste and demolition debris. Develop and implement a construction waste management plan that at least identifies what materials will be diverted from disposal and specifies whether the materials will be stored on-site or comingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume but must be consistent throughout.

Proposed Action:

Currently in the proposed area there are recycling services provided that meets the requirement. Also there are recycling receptacles adjacent to other receptacles on every block in the area so that requirement has already been met. The other requirements however are not met or specifically addressed by the current action plan so inclusion of at least two additional requirements will need to be required in order to gain points in this area.

Alternative Action:

Development or adoption of a construction waste management plan is a requirement that would have a double benefit of applying to not only LEED ND credit but for individual buildings LEED ratings as well. There are a lot of restaurants in the area that produce food waste as well as oil waste so inclusion of composting and toxic waste collection bins would be especially valuable in this area. If all of these actions were taken then the proposed action would meet all of the requirements and earn the point available in this area.

GIB Credit 17: Light Pollution Reduction

Proposed Action: 0/1 Alternative Action: 1/1

Intent:

“To minimize light trespass from project sites, reduce sky-glow to increase night sky access, improve nighttime visibility through glare reduction, and reduce adverse effects on wildlife environments.” (LEED-ND 2009)

Requirements:

- Public or private shared areas must have motion sensors lighting controls on at least 50% of luminaries. These controls must reduce lighting levels by at least 50% after 15 min without activity.
- In all shared areas additional lighting controls must be implemented to turn off exterior lights during the day and when they are not needed at night. These lights must meet the required lighting power allowances stated by the LEED lighting zone requirement
- The third requirement is to identify all lighting zones that are part of the proposed action as well as lighting zones to adjacent properties. For the proposed North anchor portion of downtown the LZ2 applies to the whole area and surrounding area because it consists of solely neighborhood business districts and or residential mixed-use buildings.
- The final requirement is to stipulate all covenants, conditions, and restrictions (CC&R) and other binding documents to meet the all lighting requirements of the area.

Proposed Action:

The existing plan for the North Anchor redevelopment site has no specific stipulations toward meeting the lighting requirements of the LEED ND system. The buildings are however proposed to be LEED certified which will make compliance with LEED ND easier because there are similar lighting requirements between the two programs.

Alternative Action:

Development of a lighting plan that delineates lighting zones in and around the proposed redevelopment will be generated and designed in compliance with LEED ND standards. Specification of luminaries to be used will be included as part of the lighting plans as well as building and electrical blueprints.

D. Innovation and Design Process (IDP) 6 Points

IDP Credit 1: Innovation and Exemplary Performance

Proposed Action: 0/5 Alternative Action: 0/5

Intent:

To encourage exemplary performance above the requirements set by the LEED for Neighborhood Development Rating System and/or innovative performance in green building, smart growth, or new urbanist categories not specifically addressed by the LEED for Neighborhood Development Rating System. (LEED-ND 2009)

Requirements:

In writing, identify the intent of the proposed innovation credit, the proposed requirement for compliance, the proposed submittals to demonstrate compliance, and the design approach and strategies that might be used to meet the requirements. One point is awarded for each IDP Credit 1 earned, up to a total of 5. No more than 3 exemplary performance credits will be awarded in the Innovation and Design Process category.

Proposed Action:

The proposed North anchor redevelopment plan does not address the use of innovation and design process of the LEED ND framework.

Alternative Action:

There are a few areas within the scope of our alternative actions that may be able to earn credit for this particular credit. However since we were able to reach the platinum rating without needing to specify these elements we have chosen not to peruse these credits.

IDP Credit 2: LEED® Accredited Professional

Proposed Action: 0/1 Alternative Action: 1/1

Intent:

To support the integrated planning and design required for a LEED for Neighborhood Development *project* and to streamline the application and certification process. (LEED-ND 2009)

Requirements:

At least one principal member of the project team must be a LEED Accredited Professional.

Proposed Action:

The current north anchor redevelopment plan does not specify the projects as a LEED ND project so a LEED ND professional would not necessarily be involved.

Alternative Action:

A qualified LEED ND professional would be incorporated into the project team oversee the certification process.

E. Regional Priority Credit (RPC) 4 Points

RPC Credit 1: Regional Priority

Proposed Action: 0/4 Alternative Action: 4/4

Intent:

To encourage strategies that address geographically specific environmental, social equity, and public health priorities. (LEED-ND 2009)

Requirements:

Earn up to four of the six Regional Priority credits. These credits have been identified by subject matter experts representing the U.S. Green Building Council (regional councils and chapters), the Congress for the New Urbanism (chapters and membership in regions without chapters), and Smart Growth America (members of Smart Growth America's State and Local Caucus or their designees) as having additional regional importance for the project's location. A database of Regional Priority credits and their geographic applicability will be available on the USGBC

website, www.usgbc.org. One point is awarded for each Regional Priority credit earned, up to a maximum of 4. Non-U.S. projects are not eligible for Regional Priority credits.

Proposed Action:

The north anchor redevelopment plan does not address the incorporation of the LEED ND regional priority credits for our region.

Alternative Action:

We achieved all the required points necessary to gain all four points for this credit. For a spreadsheet of regional priority credits see Table 1 in Appendix II.

Appendix I:


Weekday Trips	Weekend Trips	Total Points Earned
802	550	7

Table 1: Estimated daily and weekend bus trips to the Bellingham Station.

Bus Number	Route Destination
3	Maplewood
4	Hospital
14	Fairhaven/Downtown
15	Cordata Station/WCC Downtown
25x	Lynden/Bellingham
43/44	Yew St. A.M./Yew St. P.M.
49	Bakerview Spur/ Downtown
50	Gooseberry Pt./Downtown
70x	Blaine/Bellingham
71x	Everson/Nooksack/Sumas/Bellingham
72x	Kendall/Bellingham
80x	Bellingham/Mt Vernon
105	Fairhaven/Downtown
107	WWU
108	Samish Way
190	Lincoln Creek/Downtown
196	WWU-Lincoln/ Lincoln-Downtown
197	Lincoln-WWU/ Downtown
232	Downtown/Cordata Station
331	Cordata Station/WCC/Downtown
401	Fairhaven/Downtown
512	Sudden Valley/ Downtown
525	Barkley/ Downtown
540	Silver Beach/ Downtown

Table 2: List of bus routes that go to the Bellingham Bus Station.

Appendix II:



Regional Priority Credit Lookup: LEED for Neighborhood Development 2009

Enter Your Zip Code: (Note: Press the "Enter" key after typing in the zip code of your project location)

State:

Regional Priority Credit 1:

Regional Priority Credit 2:

Regional Priority Credit 3:

Regional Priority Credit 4:

Regional Priority Credit 5:

Regional Priority Credit 6:

Figure 1. Regional Priority Credits for area code 98225.

Location	Ft ² per floor	Ft ² jobs	Number of Retail Jobs (ft ² /300)	residential ft ²	floors	Ft ²	Unit Size			Total Sq Ft
							<750	750 - 1250	>1250	
1421	1421	6112	20	0	1	6112				
1417	7560	7560	25	7560	2	####	2	2	3	7250
1413	2852	2852	10	2852	2	5704	3			2250
100	12000	36000	120	0	3	####				0
1400	13716	13716	46	27432	3	####	10	10	8	27500
1408	6875	6875	23	6875	2	####	4	3	1	7250
1414	6875	6875	23	13750	3	####	4	4	5	13250
1418	6875	6875	23	13750	3	####	4	4	5	13250
1426	6660	6660	22	13320	3	####	4	4	5	13250
1430	13051	13051	44	0	1					0
S 1	9891	9891	33	19782	3	####	8	7	5	19250
S 2	5213	5213	17	10426	3	####	4	4	3	10750
N 3	6457	6457	22	12914	3	####	8	3	3	12750
N 2	4259	4259	14	8518	3	####	2	3	3	8250
N 1	5874	5874	20	11748	3	####	8	4	1	11250

Table 1: Buildings by street address on Cornwall with estimated total square footage and breakdown of residential units.

Appendix III:

LEED 2009 for Neighborhood Development Project Scorecard		Project Name:		Date:		
Smart Location and Linkage 27 Points Possible		Green Infrastructure and Buildings, Continued				
Y	Prereq1 Smart Location	Required	5	5	Credit1 Certified Green Building	5
Y	Prereq2 Impaired Species and Ecological Communities	Required	0	2	Credit2 Building Energy Efficiency	2
Y	Prereq3 Wetland and Water Body Conservation	Required	0	1	Credit3 Building Water Efficiency	1
Y	Prereq4 Agricultural Land Conservation	Required	1	1	Credit4 Water-Efficient Landscaping	1
Y	Prereq5 Floodplain Avoidance	Required	1	1	Credit5 Existing Building Use	1
5	Credit1 Preferred Location	10	1	1	Credit6 Historic Resource Preservation and Adaptive Reuse	1
0	Credit2 Brownfield Redevelopment	2	1	1	Credit7 Minimized Site Disturbance in Design and Construction	1
0	Credit2 Location with Reduced Automobile Dependence	7	2	4	Credit8 Stormwater Management	4
0	Credit4 Bicycle Network and Storage	1	1	1	Credit9 Heat Island Reduction	1
2	Credit5 Housing and Job Proximity	3	0	0	Credit10 Solar Orientation	1
1	Credit6 Steep Slope Protection	1	1	3	Credit11 On-Site Renewable Energy Sources	3
1	Credit7 Site Design for Habitat or Wetland and Water Body Conservation	1	0	2	Credit12 District Heating and Cooling	2
0	Credit8 Restoration of Habitat or Wetland and Water Bodies	1	0	1	Credit13 Infrastructure Energy Efficiency	1
0	Credit9 Long-Term Conservation Management of Habitat or Wetland or	1	0	2	Credit14 Stormwater Management	2
19	Neighborhood Pattern and Design 44 Points Possible		0	1	Credit15 Recycled Content in Infrastructure	1
Y	Prereq1 Walkable Streets	Required	0	1	Credit16 Solid Waste Management Infrastructure	1
Y	Prereq2 Compact Development	Required	0	1	Credit17 Light Pollution Reduction	1
Y	Prereq3 Connected and Open Community	Required	Innovation and Design Process 6 Points			
9	Credit1 Walkable Streets	12			Credit1.1 Innovation and Exemplary Performance: Provide Specific Title	1
0	Credit2 Compact Development	6			Credit1.2 Innovation and Exemplary Performance: Provide Specific Title	1
4	Credit3 Mixed-Use Neighborhood Centers	4			Credit1.3 Innovation and Exemplary Performance: Provide Specific Title	1
0	Credit4 Mixed-Income Diverse Communities	7			Credit1.4 Innovation and Exemplary Performance: Provide Specific Title	1
0	Credit5 Reduced Parking Footprint	1	0	0	Credit1.5 Innovation and Exemplary Performance: Provide Specific Title	1
0	Credit6 Street Network	2	0	1	Credit2 LEED® Accredited Professional	1
0	Credit7 Transit Facilities	1	Regional Priority Credit 4 Points			
0	Credit8 Transportation Demand Management	2	4	4	Credit1.1 Regional Priority Credit: Region Defined	1
1	Credit9 Access to Civic and Public Spaces	1			Credit1.2 Regional Priority Credit: Region Defined	1
1	Credit10 Access to Recreation Facilities	1	1	1	Credit1.3 Regional Priority Credit: Region Defined	1
0	Credit11 Walkability and Universal Design	1			Credit1.4 Regional Priority Credit: Region Defined	1
0	Credit12 Community Outreach and Involvement	2	1	1		
1	Credit13 Local Food Production	1	1	1		
2	Credit14 Tree-Lined and Shaded Streets	2				
1	Credit15 Neighborhood Schools	1				
13	Green Infrastructure and Buildings 29 Points Possible		Project Totals (Certification estimates) 110 Points			
Y	Prereq1 Certified Green Building	Required	Certified: 40-43 points, Silver: 50-53 points, Gold: 60-73 points, Platinum: 80+			
Y	Prereq2 Minimum Building Energy Efficiency	Required				
Y	Prereq3 Minimum Building Water Efficiency	Required				
Y	Prereq4 Construction Activity Pollution Prevention	Required				

Table 1: Excel Spreadsheet with points for each credit green numbers are proposed and gray numbers are alternative.

Sources:

American Farmland Trust, "Why save Farmland?" 2007. ofp.scc.wa.gov.
<http://ofp.scc.wa.gov/index.php/about-us>. Dec. 7, 2010.

Amerine, Courtney, Mason Fidino, Amne Hiraiwa, Ethan Rommen, Michael Stephen-McRae. (2009). *LEED Neighborhood Development Assessment: The Fountain District*. Western Washington University.

Beatley, Thomas. (2003) Planning for Sustainability in European Cities: A Review of Practice in Leading Cities. In Richard T. LeGates and Frederic Stout (Ed.), *The City Reader* (pp. 411-421). London: Routledge.

"Brownfields | US EPA." *US Environmental Protection Agency*. (2010). Web. 06 Dec. 2010.
<<http://www.epa.gov/brownfields/>>.

Carr, Stephen, Mark Francis, Leanne G. Rivlin and Andrew M. Stone. (1992). *Environment and Behavior Series: Public Space*. Cambridge University Press, New York.

Department of Health and Human Services (DHHS), Centers for Disease Control. (2002). Barriers to Children Walking and Biking. *Morbidity and Mortality Weekly Report*, 51(32), 701-705.

Driver L.J., Adams G.L., Adams S.R. (2009). Fish Assemblage of a Cypress Wetland within an Urban Landscape. *Southeastern Naturalist*. 8(3):527-536.

Endangered Species Act of 1973, § 2 (1973). epw.senate.gov. <http://epw.senate.gov/esa73.pdf>. Dec. 7, 10

Feenstra, Gail W. (1997). Local Food Systems and Sustainable Communities. *American Journal of Alternative Agriculture*, 12, 28-36.

Gill, S.E., J.F. Handley, A.R. Ennos and S. Pauleit. (2007). Adapting Cities for Climate Change: the Role of the Green Infrastructure. *Built Environment*, 33(1), 115-133.

Kitamura, Ryuichi, Patricia L. Mokhtarian and Laura Laidet. (1997). A Micro-analysis of Land Use and Travel in Five Neighborhoods in the San Francisco Bay Area. *Transportation*, 24, 125-158.

Kleit, Rachel Garshick. (2005). HOPE VI New Communities: Neighborhood Relationships in Mixed-income Housing. *Environment and Planning*, 37, 1413-1441.

LEED ND 2009. LEED 2009 for Neighborhood Development Rating System, Created by the Congress for the New Urbanism, Natural Resources Defense Council, and the U.S. Green Building Council (Updated July 2010)

Levine, Jonathan and Lawrence D. Frank. (2006). Transportation and Land-use Preferences and Residents' Neighborhood Choices: the Sufficiency of Compact Development in the Atlanta Region. *Transportation*, 34, 255-274.

Litman, Todd. (2002). "The Costs of Automobile Dependency and the Benefits of Balanced Transport," Victoria Transport Policy Institute.

Murakami-Wolf-Swenson Film Productions Inc., prod. (1990). "Turtle Tip #12." *Teenage Mutant Ninja Turtles*. CBS. Television.

Norman, Gregory J., Sandra K. Nutter, Sherry Ryan, James F. Sallis, Karen J. Kalfas and Kevin Patrick. (2006). Community Design and Access to Recreational Facilities as Correlates of Adolescent Physical Activity and Body-Mass Index. *Journal of Physical Activity and Health*, 3, 118-128.

Saelens, Brian E., James F. Sallis, Jennifer B. Black and Diana Chen. (2003). Neighborhood-Based Differences in Physical Activity. *American Journal of Public Health*, 93(9), 1552-1558.

Saelens, Brian E., James F. Sallis and Lawrence D. Frank. (2003). Environmental Correlates of Walking and Cycling: Findings from the Transportation, Urban Design and Planning Literatures. *Annals of Behavioral Medicine*, 25(2), 80-91.

Semenza, Jan C., Tanya L. March, and Brian D. Bontempo. (2006). Community-Initiated Urban Development: an Ecological Intervention. *Journal of Urban Health*, 84(1), 8-20.

Story, Molly Follette, James L. Mueller, and Ronald L. Mace. (1998). The Urban Design File: Designing for People of All Ages and Abilities. *National Institute on Disability and Rehabilitation Research*.

The Waterfront District Draft Sub Area Plan. (2010). Port of Bellingham. USA.

Wheeler, Stephen. (1998). Planning Sustainable and Livable Cities. In Richard T. LeGates and Frederic Stout (Ed.), *The City Reader* (pp. 411-421). London: Routledge.

Winters, Philip L. (2000). Transportation Demand Management. *Committee on Transportation Demand Management*, 1-7

Urban Transition Studio. (2010) *Revitalization of Cornwall Avenue: A Retail Corridor Overlay Plan for Downtown Bellingham, WA*. Western Washington University.