

# SUNSET AREA COMMUNITY PLANNED ACTION

FINAL NEPA/SEPA ENVIRONMENTAL IMPACT STATEMENT • VOLUME 2 • APRIL 2011



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Community & Economic Development





Appendix A

**Preferred Alternative Evaluation Planned Action Goals  
and Objectives and LEED ND Qualitative Review**

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# Appendix A-1

## Preferred Alternative Evaluation: Goals & Objectives

### Sunset Area Community Planned Action

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#### Overview

The environmental impact statement (EIS) addresses the Sunset Area Community Planned Action, which includes redevelopment of RHA's Sunset Terrace public housing community and associated neighborhood growth and revitalization (proposal). The proposal goals and objectives below guided the preparation of the EIS alternatives as described in Final EIS Chapter 2. The consistency of the Preferred Alternative with these goals and objectives is evaluated below.

#### Planned Action Study Area Goals and Objectives

Transformation of private and public properties in the Planned Action Study Area (see Chapter 2, Figures 2-1 and 2-4) is expected to meet the Sunset Area Community vision, as expressed in the Highlands Phase II Task Force Recommendations<sup>1</sup> and the Community Investment Strategy.<sup>2</sup>

- The Highlands is a destination for the rest of the city and beyond.
- The neighbors and businesses here are engaged and involved in the community.
- Neighborhood places are interconnected and walkable.
- The neighborhood feels safe and secure.
- Neighborhood growth and development is managed in a way that preserves quality of life.
- The neighborhood is an attractive place to live and conduct business.
- The neighborhood is affordable to many incomes.
- The neighborhood celebrates cultural and ethnic diversity.

*Evaluation: The elements of the Preferred Alternative implement the Community Investment Strategy developed by neighbors and businesses.*

*The Preferred Alternative would enhance the Sunset Area Planned Action Study Area as a destination by creating a multi-modal NE Sunset Boulevard with landscaping, transit, pedestrian, and bicycle amenities; enhancing neighborhood streets to serve as Green Connections for improved pedestrian environments as well as water quality; and redeveloping Sunset Terrace as a mixed use, mixed income development with attractive features for the broader Highlands community, including a relocated and larger library at Harrington Avenue NE and NE Sunset Boulevard, a "central park," and public plaza.*

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<sup>1</sup> City of Renton. 2008. *Report and Recommendations: Highlands Phase II Task Force*. December. Adopted by Renton City Council in 2009. Available: <<http://www.rentonwa.gov/business/default.aspx?id=10946>>. Accessed: September 20, 2010.

<sup>2</sup> City of Renton. 2009. *Sunset Area Community Investment Strategy*. November 18, 2009. Prepared by Mithun, Inc. on behalf of the City of Renton Community and Economic Development Department.

*Public investments described above are intended to spur private reinvestment in the neighborhood that is integrated and managed according to City standards for design intending to create an attractive place to live and conduct business.*

*The Preferred Alternative includes a range of housing styles – single family, townhomes, and flats – that would meet the needs of a range of households. Some housing would be public, affordable, and/or market rate. Sunset Terrace redevelopment as well as the family village will be models and catalysts for private investment in housing at all income levels and serving a diverse population.*

For each of the major components of the proposal, the following specific goals and objectives were developed to be consistent with this vision.

1. Through designation of a Planned Action and infrastructure investments, support and stimulate public and private development.

*Evaluation: The Preferred Alternative includes adoption of a Planned Action Ordinance and infrastructure investments including NE Sunset Boulevard complete street improvements, green infrastructure developed according to a drainage master plan, parks and recreation space, and water and sewer system upgrades. The level of investment is the highest evaluated in the EIS Alternatives and the corresponding level of growth is very similar to the upper bookend of growth evaluated (within 7% of the maximum).*

2. Ensure that redevelopment is planned to conform to the City's Comprehensive Plan.

*Evaluation: The redevelopment will conform to the City's adopted Comprehensive Plan land use map and zoning. Consistency amendments in terms of capital facilities improvements would be adopted at the time of the Planned Action Ordinance.*

3. Through the Planned Action and early environmental review, accelerate the transformation of the Potential Sunset Terrace Redevelopment Subarea with mixed-income housing and mixed uses together with places for community gathering. This will also be accomplished in part by using this EIS to achieve a NEPA Record of Decision, which will enable RHA to submit a HUD Demolition and Disposition application in 2011.

*Evaluation: The Preferred Alternative includes adoption of a SEPA Planned Action Ordinance and site-specific NEPA review of the Sunset Terrace public housing community's redevelopment into a mixed income, mixed use place with community amenities, with a NEPA Record of Decision anticipated by mid 2011.*

4. Ensure that the Planned Action covers environmental review of Sunset Area roadway, drainage, parks and recreation, and other infrastructure improvements, and analyze impacts of anticipated private development in addition to Sunset Terrace.

*Evaluation: The Planned Action EIS evaluates improvements to NE Sunset Boulevard, stormwater improvements, parks and recreation facilities and needs, water and sewer, and a range of public services.*

5. Build on previous City, RHA, and Renton School District efforts and current projects. Leverage relationships and partner with existing community outreach activities and resources. Recognize community desires documented in:

- *Report and Recommendation of the Highlands Area Citizen's Zoning Task Force* (City of Renton 2006),
- *Report and Recommendation of the Highlands Phase II Task Force* (City of Renton 2008a),
- *Highlands Action Plan* (City of Renton 2009c),
- *Sunset Area Community Investment Strategy* (City of Renton 2009b),
- *Renton Trails and Bicycle Master Plan* (City of Renton 2009d),
- *Renton Parks, Recreation, Open Space and Natural Resources Plan* (estimated completion date September 2011),
- Utility system plans, and
- Library replacement (in process).

*Evaluation: Task Force and other City plans formed the basis for the proposals studied in the EIS and included in the Preferred Alternative, such as NE Sunset Boulevard multimodal improvements, green infrastructure improvements, water and sewer upgrades, library relocation, and other features. The City, RHA, and the Renton School District have coordinated on the planning for the study area, including the family village. The results of the City's parks, recreation, open space, and natural resources planning, including public outreach and inventory information has been shared with other City departments and the EIS consultant team; City park level of service standards were considered in the enlarged central park included in the Sunset Terrace redevelopment concepts.*

6. Create a Great Street<sup>3</sup> on NE Sunset Boulevard, as described in the CIS. Implement the City Complete Streets policy for the NE Sunset Boulevard corridor and the Sunset Area Green Connections.<sup>4</sup> Extend conceptual design of improvements between the Interstate 405 limited access right-of-way and Monroe Avenue NE, and include them in the Planned Action effort.

*Evaluation: The Preferred Alternative would comply with the City Complete Streets standards for NE Sunset Boulevard. In one location, the City would consider an exception, allowed with City decision-maker approval, where there is an existing wall between Edmonds Avenue NE and Harrington Avenue NE. At this constrained location, the Preferred Alternative would keep the existing curb and 5-foot-wide sidewalk (no planter) and right-of-way would be acquired from the north side (Sunset Terrace) up to 14 feet. East of 10th Street NE, there appears to be sufficient right-of-way width along NE Sunset Boulevard to accommodate the Complete Street cross section.*

7. Encourage low-impact stormwater management methods and areawide solutions as part of a master drainage plan to support development.

*Evaluation: The Preferred Alternative includes green infrastructure and the development of a master drainage plan. Several residential streets (designated as Green Connections) in the neighborhood*

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<sup>3</sup> A "Great Street" has numerous characteristics, including: accommodating multiple motorized and nonmotorized modes, exhibiting quality urban design and architecture, offering a variety of interesting activities and uses, promoting environmental sustainability, and incorporating design elements that facilitate maintenance. The CIS suggests that the NE Sunset Boulevard "[i]mprovements would create a gateway and sense of place for the area, as well as enhanced pedestrian safety through traffic calming using improved crossings and landscaped medians."

<sup>4</sup> The term "green connections" refers to public stormwater facility development serving desired new private development as well as public facilities and rights-of-way per the CIS.

would be transformed to improve pedestrian mobility, mitigate stormwater (both for water quality and flow reduction), and create an inviting corridor to enhance the neighborhood. Harrington Avenue NE, including portions of NE 16th and NE 9th streets, has been identified as a high priority green connection project that would provide enhanced pedestrian connectivity between Hillcrest Terrace, McKnight Middle School, Sunset Terrace (including the relocated King County Library), Highlands Elementary, and Highlands Community Center. This corridor would be enhanced by narrowing through-traffic lanes to calm traffic, create wide planter areas to accommodate large trees and rain gardens to mitigate stormwater runoff, and create wider sidewalks. This project would be implemented as a public infrastructure retrofit project pending available funds. The remaining Green Connections projects would likely be implemented as revised roadway standards to require incremental redevelopment of the frontage as redevelopment occurs (constructed either by future developers or the City, depending on availability of funds). In addition to the Green Connections projects, the City will implement regional detention/retention improvements to provide advance mitigation for future increases in impervious area that could result from redevelopment. Locations of the regional facilities could include the western margin of the newly created park at Sunset Terrace and/or the northern corner of Highlands Park (beyond the outfield of the existing baseball/softball field).

The use of flow control BMPs and other low impact development standards would be implemented where feasible and allowed by the City in accordance with City surface water design standards and other standards. The regional detention/retention improvements and Green Connections funding is dependent upon the City obtaining grants from various sources and the availability of City funds. There also is the option that the Green Connections and the regional detention/retention improvements could be funded as part of the redevelopment projects.

8. Engage the community in a transparent process using available outreach opportunities and tools successfully used in prior planning efforts.

*Evaluation: The Preferred Alternative was developed following public review of the Draft EIS alternatives at public meetings. Additional public comment opportunities occurred within a 45-day Draft EIS comment period extending from December 17, 2010, to January 31, 2011. Following direct mail and posting of notices, RHA held a meeting for Sunset Terrace residents on January 4, 2011, at which more than 25 participants attended. After mailing postcards in English and Spanish, posting notices, and publishing notice in the City's local newspaper, a public hearing was held before the Planning Commission at Renton City Hall on January 5, 2011, at which eight persons spoke. During the 45-day comment period 12 pieces of correspondence were received. Please see Chapter 5 of this Final EIS for more information about the comments and responses.*

9. Optimize funding strategies by leveraging partnerships, innovation and sustainable development for a healthy community. Recognize the importance and timing of integrating housing, transportation, infrastructure, expanded economic opportunity, parks and recreation, and the environment.

*Evaluation: The Preferred Alternative depends on a partnership between the City, RHA, the Renton School District and others, and these agencies have been coordinating through this process to ensure that investments are leveraged. The Preferred Alternative integrates housing, transportation, parks and recreation, infrastructure, and environmental benefits and mitigation to create opportunities for economic and housing growth in the community.*

## Potential Sunset Terrace Redevelopment

As well as being a key part of the overall Planned Action Study Area revitalization strategy, the Sunset Terrace redevelopment is intended to meet the following goals and objectives.

- Replace at a 1:1 ratio the existing 100 Sunset Terrace public housing units: 20 one-bedroom, 36 two-bedroom, 36 three-bedroom, and eight four-bedroom units. Some will be replaced on site and some off site within the Planned Action Study Area.
- Provide new affordable and market-rate housing to accommodate a mixed-income community that includes the Sunset Terrace property and nearby RHA- or City-owned sites.
- Maximize the visibility and location of the redevelopment as the heart of Sunset Area Community.
- Act as a catalyst for improvements and investments in the Sunset Area Community.
- Integrate the Sunset Terrace site and residents with the surrounding neighborhood.
- Provide amenities to be shared by the Sunset Area Community neighborhood and other Renton residents, employees, and visitors, including a “third place” for all to gather, and park and open space opportunities such as active recreation and community garden space.
- Improve the pedestrian realm and connection across NE Sunset Boulevard.
- Provide a mix of uses, including residential, open space, and potential for community, civic, retail, or commercial.

*Evaluation: The Preferred Alternative would redevelop the Sunset Terrace public housing community into a mixed-income, mixed-use development according to a master plan, which features a “central” park of approximately 2.65 acres and a loop road.*

*The existing 100 public housing units would be replaced at a 1-to-1 ratio. Replacement of the public housing units would occur on the current public housing site and elsewhere in the Planned Action Study Area. In particular, some potential sites for replacement housing include Sunset Court Park (as the park space would be relocated at Sunset Terrace), RHA-owned property along Kirkland Avenue NE, and the existing library site once it is relocated though another possible use for the library site would be for agency use (e.g. offices, maintenance).*

*The Preferred Alternative would provide approximately 78% public and affordable, and 22% market-rate dwelling units. Housing styles would include flats in mixed-use and residential-only buildings and townhomes. It is expected that, with the Sunset Terrace property and associated properties owned or purchased by RHA, up to 266 additional new units could be created, would be public, affordable, and/or market rate. The total 376 dwellings would result in a density of approximately 33 units per acre.*

*The Preferred Alternative would create a more prominent mixed use character. The central park and loop road would create a central feature for the development and the community, providing a sense of openness to the Sunset Terrace site. In addition, buildings on the site would be arranged to place 2-story townhomes adjacent to the park and taller multifamily residential buildings along NE Sunset Boulevard. At NE Sunset Boulevard visible community features include a relocated library and mixed use commercial/community/residential buildings.*

*The Sunset Terrace redevelopment would act as a catalyst for the broader neighborhood as it would be located in a visually prominent area, be an example of a mixed use, mixed income development, and create a density and urban form that represents the vision of the Center Village designation.*

*The Preferred Alternative Sunset Terrace redevelopment would be integrated into the community – it would add public features including a park and library for all broader Highlands residents, improve pedestrian connectivity with a loop public street system and extension of Green Connections, and buildings would face NE Sunset Boulevard and invite residents to businesses and community facilities.*

*Public amenities would be integrated with the residential development and could include the following: a central park including a vacated Harrington Avenue NE (at Sunset Lane NE), an elder day health center, a new public library along a Sunset Lane NE that would occasionally serve as an active plaza, commercial retail or service space, and green infrastructure. The park and library/plaza as well as the central park could act as a “third place.”*

*The pedestrian realm would be enhanced by a network of complete streets, particularly NE Sunset Boulevard as well as the Green Connections, improved landscaping and street furniture, and more active civic and commercial uses, e.g. library and retail uses.*





Appendix A-3

# Preferred Alternative Evaluation: LEED for Neighborhood Development Design Elements Sunset Area Community Planned Action

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## Introduction

The purpose of this analysis is to provide a qualitative review of the proposed Sunset Area Community Planned Action including the Potential Sunset Terrace Redevelopment Subarea in terms of the proposals' alignment with general principles of the Leadership in Environmental and Energy Design (LEED) rating system for Neighborhood Development. The official 2009 LEED ND project scorecard published by the U.S. Green Building Council is used as a guide to address green design issues in relation to the proposed redevelopment. For each criteria group on the scorecard, a brief discussion of how the proposed redevelopment is consistent with the principles of LEED ND is provided.

## Smart Location and Linkage

The intent of the Smart Location and Linkage criteria of the LEED ND rating system is to encourage development to occur within and near existing communities and established public transit infrastructure, as well as reduce vehicle trips. Development in smart locations also encourages a greater degree of walking or bicycling, which has personal health benefits.

The Sunset Terrace site is located along a major transportation and transit corridor within the City of Renton. Redevelopment of the site under the Final EIS Preferred Alternative would create a mixed-use, mixed-income development already served by the full range of public services on a previously developed infill site on a major transit corridor, fully meeting the U.S. Green Building Council's (USGBC's) definition of a "smart location." Multimodal improvements to Sunset Boulevard, including a multi-use trail, would also strengthen pedestrian and bicycle linkages to surrounding development, increasing resident access to neighborhood services and amenities.

## Neighborhood Pattern and Design

The intent of the Neighborhood Pattern and Design criteria of the LEED ND rating system is to promote safe, diverse, walkable, compact neighborhoods with high-quality design with a mix of land uses. Redevelopment of Sunset Terrace as described in the Final EIS Preferred Alternative would increase the walkability of the area through improvements both to internal circulation paths and surrounding sidewalks and streetscapes. Redevelopment would transform the site to host a mix of retail, community service, recreational, and residential uses, which is encouraged by the LEED standards. Residential development would consist of mixed-income housing at a variety of densities, including both townhomes and flats. The Preferred Alternative would reduce parking requirements in the planned action study area and provide additional transit facilities, such as

transit-priority lanes and bus shelters. Increased access to civic and public space would also be provided under the Preferred Alternative, which includes a central park on the Sunset Terrace site; a relocated library and a new community center would be located adjacent to the park.

## Green Infrastructure and Buildings

The intent of the Green Infrastructure and Buildings criteria is to encourage development that implements green building practices or introduces green infrastructure. This includes using certified green building techniques, increasing building water and energy efficiency, controlling pollution from construction activities, implementing adaptive reuse of historic buildings, and using green methods of stormwater management.

The Preferred Alternative would implement a number of these principles, both through project design and through mitigation measures included in this EIS. These would include:

- **Construction Emission Control:** The Final EIS recommends that the City require all construction contractors to implement air quality control plans for construction activities in the study area, including measures for reducing engine emissions and fugitive dust. (See Draft EIS Section 4.2 and Final EIS Appendix E for additional detail.)
- **Green Connections for Stormwater Management:** The Preferred Alternative would include public investment in Green Connections throughout the Planned Action Study Area. The exact form of these Green Connections would be determined in a drainage master plan for the study area.
- **Energy Efficiency:** The Final EIS recommends that the City encourage or require implementation of energy and greenhouse gas reduction measures in the study area such as compliance with the Northwest ENERGY STAR Homes program and the Seattle Energy Code for non-residential buildings. (See Draft EIS Section 4.5 and Final EIS Chapter 1 and Appendix E for additional detail.)

Appendix B  
**Land Capacity Analysis**

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## **Data and Assumptions**

The purpose of the land capacity analysis is to document the calculation of growth numbers for alternatives. The methodology identifies possible development and redevelopment opportunities, but ultimately the level of growth will be based on individual property owner decisions and market forces within the framework of City zoning and other development regulations.

The methods rely on 2007 Buildable Lands spreadsheets provided by Michael Hubner of Suburban Cities Association and address vacant and redevelopable lands within the Sunset Area Community Planned Action Study Area.

King County parcel data as of 2010 was used to prepare draft maps and identify parcels within the various zones that are categorized as vacant, redevelopable, and developed. In addition, King County data was used to eliminate other parcels from consideration in the buildable lands analysis, such as religious institutions, government or institutional facilities similar to the 2007 Buildable Lands analysis. However, Renton Housing Authority (RHA) parcels were not excluded.

King County IMap and aerial photos were reviewed to verify status on parcels and to categorize parcels that did not have enough information in King County's data to assess a category.

King County parcel data (2010) was also used to provide existing development figures such as dwelling units and commercial square footage, which were subtracted from redevelopable parcels.

## **Summary of Land Capacity Findings**

Table 1 below provides a land capacity analysis broken into subareas. See Final EIS Figure 2-1 for a map of the subareas and Final EIS Figure 2-3 for a zoning map. The attached spreadsheet provides a breakdown of capacity by zoning districts.

**Table 1. Summary of Land Capacity – Net Additional Growth above Existing**

Subarea	Dwelling Units/Jobs	Alternative 1	Alternative 2 <sup>1</sup>	Alternative 3	Preferred Alternative
Potential Sunset Terrace Redevelopment	Dwelling units	168–175 <sup>2</sup>	310	479	266
	Jobs	49 <sup>3</sup>	164	182	79–117 <sup>8</sup>
Sunset Mixed Use	Dwelling units	1,109	1,052	1,509	1,481
	Jobs	410–652	1,728	2,875	2,802
Central, North and South	Dwelling units	206	296	518	592
	Jobs	152–213	273	273	273
Total Study Area	Dwelling units <sup>4</sup>	1,483–1,490	1,658	2,506	2,339
	Population <sup>5</sup>	3,430–3,442	3,830	5,789	5,403
	Employment SF	251,700	844,351	1,310,113	1,247,444–1,259,944 <sup>8</sup>
	Jobs <sup>6</sup>	611–914 <sup>7</sup>	2,165	3,330	3,154–3,192 <sup>8</sup>

<sup>1</sup> The EIS technical analysis for transportation, water, and sewer models studied two more net units in the Potential Sunset Terrace Redevelopment Subarea under Alternatives 1 and 3, and a slightly different mix of dwellings and jobs in the Potential Sunset Terrace Redevelopment Subarea under Alternative 2 (12 more dwellings and 38 fewer jobs). These differences are negligible and represent a less than 2% difference across the Planned Action Study Area.

<sup>2</sup> The lower range represents proposed concepts on RHA's two vacant sites based on funding applications. The upper range represents the results of a land capacity analysis.

<sup>3</sup> The estimate is based on a 90%/10% housing/employment split between residential and service uses; the housing/employment share based on example proposed developments prepared for RHA's two vacant sites in the Sunset Terrace subarea.

<sup>4</sup> Includes 217 dwellings and approximately 8 jobs associated with Harrington Square. The first building was constructed in Summer 2010, and the other is under construction to be completed in spring/summer 2011.

<sup>5</sup> Applies an average household size of 2.31, an average of two census tracts 252 and 254.

<sup>6</sup> Includes retail, service, and education jobs.

<sup>7</sup> The lower figure shown is based on a commercial employment rate of 400 square feet per employee for retail and service jobs. If applying a commercial employment rate of 250 square feet per employee, the employment would equal the upper range. This latter figure is more similar to Renton Transportation Zone assumptions.

<sup>8</sup> The lower figure assumes less commercial/service space, whereas the higher includes more commercial/service space. The Final EIS studies the lower number of jobs (38 fewer) in the technical analysis for transportation, water, and sewer models though this is considered a negligible difference from the upper range (less than 2%) and is captured in the range of the EIS analysis for all alternatives.

Alternative 1 reflects existing assumptions in the 2007 King County Buildable Lands Report as applied to the adopted zoning and Alternative 3 modifies some of the residential-commercial mix assumptions of the 2007 King County Buildable Lands Report and adds properties that could be redeveloped. These present the bookends. Alternative 2 represents moderate growth within the bookends, by refining Alternative 3 assumptions. The relationship of the land capacity assumptions to the bookends is addressed later in this memo.

## Alternative 1

Generally speaking, the existing buildable lands methodology developed by King County and the City of Renton was applied to 2010 King County parcel data to produce Alternative 1 figures for dwelling units and jobs. The 2007 Buildable Lands included the following assumptions for relevant zones listed in Table 2:

**Table 2. Alternative 1 Land Capacity Assumptions**

Zone	Assumed Future Residential Densities	Assumed Future FAR (Non-Residential)	Mixed-Use Assumed Future % Residential-Commercial	ROW %	Public Purpose %	Market Factor (%) <sup>1</sup>
R-8	6.64	N/A	N/A	14.5%	11.5%	V = 10%, R=15%
R-10	8.44	N/A	N/A	14.5%	11.5%	V = 10% R=15%
R-14	12.34	N/A	N/A	5%	5%	V = 10% R=15%
RM-F	19.00	N/A	N/A	2%	1%	V = 10% R=15%
CN	N/A	0.15	N/A	0%	0%	V = 10% R=15%
CV	78.34	1.86	80%-20%	0%	0%	V = 10% R=15%

<sup>1</sup> V= Vacant, properties with an improvement value of less than \$5000

R=Redevelopable

Redevelopable – Single Family: Parcels with adequate acreage to accommodate future development

Redevelopable – Multifamily and Commercial: Properties with an improvement to land value of less than 0.5

The land capacity analysis applied the assumptions to eligible properties as follows:

- Vacant, redevelopable, and developed property classifications were generally consistent with the 2007 Buildable Lands assumptions.
  - Single-family residential methods were used for R-8 and R-10 zones
  - An assessment of improvement to land value of less than 0.5 was used for commercial and multifamily zones.
  - Parks, community centers, library, fire station, and churches were excluded from calculations.
  - The small parcels that make up the Walgreens site on Sunset Boulevard appeared as “vacant.” These were corrected to “developed” category.
  - A handful of small access or associated parking parcels were also reclassified from “vacant” to “developed” based upon a review of an aerial and information contained in King County data.

- The Harrington Square project that is under construction is shown as a pipeline project with 217 dwelling units and 8 jobs (3,349 s.f. of commercial space divided by 400 s.f./employee found in buildable lands).

Results were tabulated by subareas. See Table 1 for a breakdown by subarea and the attachment for a summary by zoning district.

## Alternative 3

For Alternative 3, the 2007 Buildable Lands methodology was adjusted to assume a greater level of redevelopment along the NE Sunset Boulevard corridor on the Center Village (CV) zoned parcels that were either categorized as redevelopable under Alternative 1 above, or newly categorized as redevelopable using two methods: 1) a review of King County parcel data on age of structures (1990 or earlier) and review of aerial data in relation to existing assumed redevelopable parcels; and 2) a draft methodology developed by the Suburban Cities Association that considers parcels with 25% of the assumed future floor area ratio and a structure age older than 1995.

For purposes of Alternative 3, these parcels were called “CV2” and they were assumed to redevelop with a 50% commercial-50% residential mix in consideration of their orientation to Sunset Boulevard.

A higher density redevelopment assumption was also applied in the R-14 zoned “family village” area identified in the Sunset Area Community Investment Strategy (CIS), and for the current Highlands public library site recognizing possible density bonuses. For these parcels alone, density was assumed at 18 du/acre on the library site and 24 du/acre on the “family village” site. Also, the market factor was removed to account for a complete transformation of these sites.

Additional detailed assumptions are described below.

## Potential Sunset Terrace Redevelopment Subarea

For the Potential Sunset Terrace Redevelopment Subarea, the Bumgardner Architecture Concept Master Plan (Final EIS Figure 2-10) was used to develop the total.

- The number of dwelling units was included from the new development summary shown on Bumgardner’s Sunset Terrace Redevelopment: Concept Master Plan.
- Commercial building square footages were taken from the Sunset Terrace Redevelopment: Concept Master Plan and translated to jobs using the average of the City of Renton’s Buildable Lands employees/square foot range of 250-400. The figure used for this calculation was approximately 325 employees/square foot.
- Employment estimates using this process varies between 97 employees and 182 depending upon whether or not the 27,500 s.f. of community space is considered in the employment mix.

## North Subarea

The “family village” redevelopment concept would, if implemented, redevelop RHA property and contiguous School District and City park properties located in the North Subarea (total of approximately 15 acres). Assumptions for this redevelopment included:

- Apply 24 du/acre in R-14 zone (considered a practical maximum for townhouse densities; allowed with density bonus provisions for affordable housing),
- Eliminate the market factor for this redevelopment since it is assumed to occur on this single parcel.
- Deduct approximately 3 acres of land as an estimate for education facility and park space in the redevelopment.

## Central Subarea

The existing site of the Highlands Branch Public Library is expected to redevelop with housing once the library is moved to the redeveloped Sunset Terrace site. Assumptions for redevelopment of the library site (approximately 1.4 acres, when excluding the associated alley extending north of the library site) include:

- Apply maximum 18 du/acre allowed in R-14 zone (allowed with density bonus provisions for affordable housing and community facilities),
- Eliminate the market factor for this redevelopment since it is assumed to occur on this single parcel.

## Alternative 2 and the Bookends

Alternative 3 is considered to be an upper bookend for the analysis. It provides a best-case scenario for employment and residential growth. It captures a range of land use options included in the Renton Sunset Area Community Investment Strategy such as the Sunset Terrace redevelopment and the “family village” concept. Alternative 1 is considered to be a lower bookend. It recognizes more incremental infill redevelopment of vacant and selected properties that appear to have a combination of land and improvement values that could result in redevelopment that takes advantage of adopted zoning. Alternative 2 is a mid-range option that includes the following assumptions:

- a similar amount of redevelopable acreage as Alternative 3, excluding the family village concept and increasing the amount of acres that could be acquired for public parks and recreation
- a lower intensity Sunset Terrace redevelopment, and
- a reduced density and floor area ratio on remaining properties (e.g. a density in the range of the minimum and maximum 20-80 du/ac respectively, and a FAR of less than 1.86 – specifically an average density of approximately 69 dwellings per acre and an FAR of approximately 1.5).

## Preferred Alternative

The Preferred Alternative is similar to Alternative 3 and also falls within the bookends noted above. Key changes to assumptions for the Preferred Alternative in comparison to Alternative 3 include:

- A lower intensity Sunset Terrace redevelopment that assumes additional open space in exchange for redevelopment of Sunset Court Park in the Central Subarea. This results in fewer new dwelling units and jobs than found in Alternative 3;
- Redevelopment of Sunset Court Park parcel in the Central Subarea with 80 new dwelling units, as the open space on the existing park site is transferred to the Sunset Terrace Subarea;

- Removing a 1.1 acre vacant parcel that is shown as a Native Growth Protection Easement from development capacity in the North Subarea, resulting in reduction of 6 dwelling units of capacity in that area; and
- Assuming about half of the previously assumed land capacity on the St. Vincent de Paul site in the Sunset Mixed-Use Subarea due to eligibility as a historic resource which may mean a future site design that avoids the structure resulting in lower dwelling units and employment assumptions within this Subarea.

## **Attachment – Land Capacity by Zone**

Land capacity by zone is shown on the attached spreadsheets.

**Land Capacity Results**

**Alternative 1**

A Zoning	B Housing Capacity (Units) on:		
	Vacant Land	Redevelopable Land	Total
<b>Single-Family</b>			
R-10	10	0	11
R-14	6	27	33
<b>Subtotal</b>	<b>16</b>	<b>27</b>	<b>43</b>
<b>Multifamily</b>			
RM-F	20	5	26
<b>Subtotal</b>	<b>20</b>	<b>5</b>	<b>26</b>
<b>Mixed-Use</b>			
CV	265	938	1,203
Capacity in pipeline		217	217
<b>Subtotal</b>	<b>265</b>	<b>1,155</b>	<b>1,420</b>
<b>Total</b>			<b>1,489</b>
<b>Zoning</b>	<b>Employment Capacity (Jobs) on:</b>		
	Vacant Land	Redevelopable Land	Total
<b>Commercial</b>			
CN	7	3	10
<b>Subtotal</b>	<b>7</b>	<b>3</b>	<b>10</b>
<b>Mixed-Use</b>			
CV	146	699	845
Capacity in pipeline		8	8
<b>Subtotal</b>	<b>146</b>	<b>707</b>	<b>853</b>
<b>Total</b>	<b>153</b>	<b>710</b>	<b>863</b>
Education			51
New total			914

**Alternative 2**

A Zoning	B Housing Capacity (Units) on:		
	Vacant Land	Redevelopable Land	Total
<b>Single-Family</b>			
R-10	10	0	10
R-14	3	96	99
Sunset Terrace R-14		n/a	0
<b>Subtotal</b>	<b>13</b>	<b>96</b>	<b>109</b>
<b>Multifamily</b>			
RM-F	20	5	26
<b>Subtotal</b>	<b>20</b>	<b>5</b>	<b>26</b>
<b>Mixed-Use</b>			
CV	42	131	173
CV2	14	808	821
Sunset Terrace CV	0	312	312
Capacity in pipeline		217	217
<b>Subtotal</b>	<b>55</b>	<b>1,468</b>	<b>1,523</b>
<b>Total</b>			<b>1,658</b>
<b>Zoning</b>	<b>Employment Capacity (Jobs) on:</b>		
	Vacant Land	Redevelopable Land	Total
<b>Commercial</b>			
CN	4	2	6
<b>Subtotal</b>	<b>4</b>	<b>2</b>	<b>6</b>
<b>Mixed-Use</b>			
CV	27	50	76
CV2	29	1,729	1,759
Sunset Terrace	0	164	164
Capacity in pipeline		8	8
<b>Subtotal</b>	<b>56</b>	<b>1,951</b>	<b>2,007</b>
<b>Total</b>			<b>2,013</b>
Education			152
New total			2,165

**Alternative 3**

A Zoning	B Housing Capacity (Units) on:		
	Vacant Land	Redevelopable Land	Total
<b>Single-Family</b>			
R-10	10	0	10
R-14	3	318	321
Sunset Terrace R-14		6	6
<b>Subtotal</b>	<b>13</b>	<b>324</b>	<b>338</b>
<b>Multifamily</b>			
RM-F	20	5	26
<b>Subtotal</b>	<b>20</b>	<b>5</b>	<b>26</b>
<b>Mixed-Use</b>			
CV	65	314	379
CV2	18	1,054	1,072
Sunset Terrace CV	0	475	475
Capacity in pipeline		217	217
<b>Subtotal</b>	<b>83</b>	<b>2,060</b>	<b>2,143</b>
<b>Total</b>			<b>2,507</b>
<b>Zoning</b>	<b>Employment Capacity (Jobs) on:</b>		
	Vacant Land	Redevelopable Land	Total
<b>Commercial</b>			
CN	4	2	6
<b>Subtotal</b>	<b>4</b>	<b>2</b>	<b>6</b>
<b>Mixed-Use</b>			
CV	42	168	210
CV2	46	2,726	2,772
Sunset Terrace	0	0	0
Capacity in pipeline		8	8
<b>Subtotal</b>	<b>89</b>	<b>2,902</b>	<b>2,990</b>
<b>Total</b>			<b>3,178</b>
Education			152
New total			3,330

**Preferred Alternative**

A Zoning	B Housing Capacity (Units) on:		
	Vacant Land	Redevelopable Land	Total
<b>Single-Family</b>			
R-10	4	0	4
R-14	3	320	323
Sunset Terrace R-14		6	6
<b>Subtotal</b>	<b>7</b>	<b>326</b>	<b>334</b>
<b>Multifamily</b>			
RM-F	20	5	26
<b>Subtotal</b>	<b>20</b>	<b>5</b>	<b>26</b>
<b>Mixed-Use</b>			
CV	145	314	459
CV2	18	1,026	1,044
Sunset Terrace CV	0	260	260
Capacity in pipeline		217	217
<b>Subtotal</b>	<b>163</b>	<b>1,817</b>	<b>1,980</b>
<b>Total</b>			<b>2,339</b>
<b>Zoning</b>	<b>Employment Capacity (Jobs) on:</b>		
	Vacant Land	Redevelopable Land	Total
<b>Commercial</b>			
CN	4	2	6
<b>Subtotal</b>	<b>4</b>	<b>2</b>	<b>6</b>
<b>Mixed-Use</b>			
CV	42	168	210
CV2	46	2,653	2,699
Sunset Terrace	0	79	79
Capacity in pipeline		8	8
<b>Subtotal</b>	<b>89</b>	<b>2,907</b>	<b>2,996</b>
<b>Total</b>			<b>3,002</b>
Education			152
Community services adjustment in Sunset Terrace			38
New total			3,192

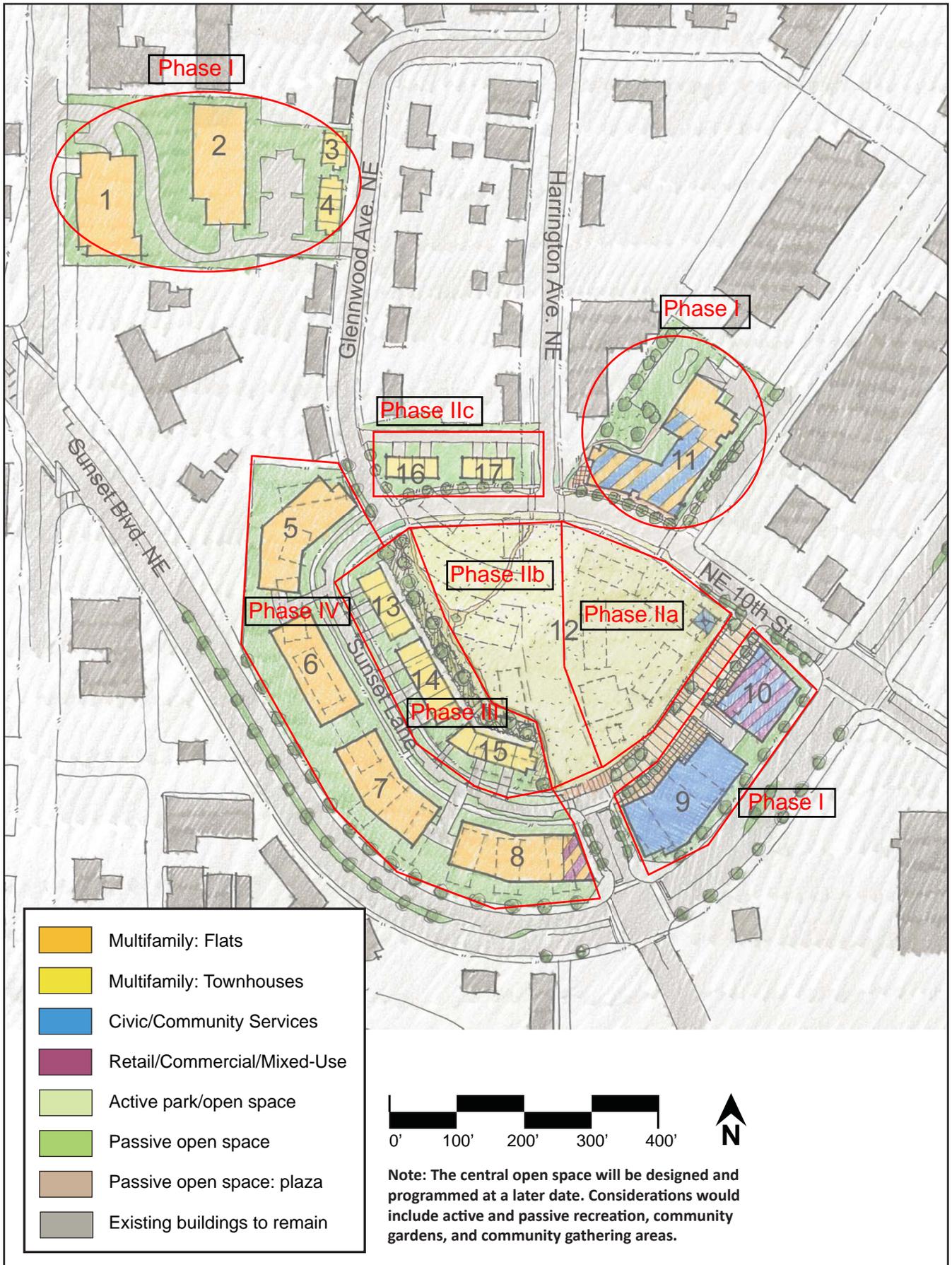


Appendix C

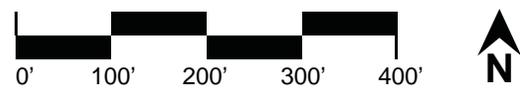
**Potential Preferred Alternative Phasing and  
Variants of Sunset Terrace Redevelopment Conceptual  
Plans Similar to Preferred Alternative**

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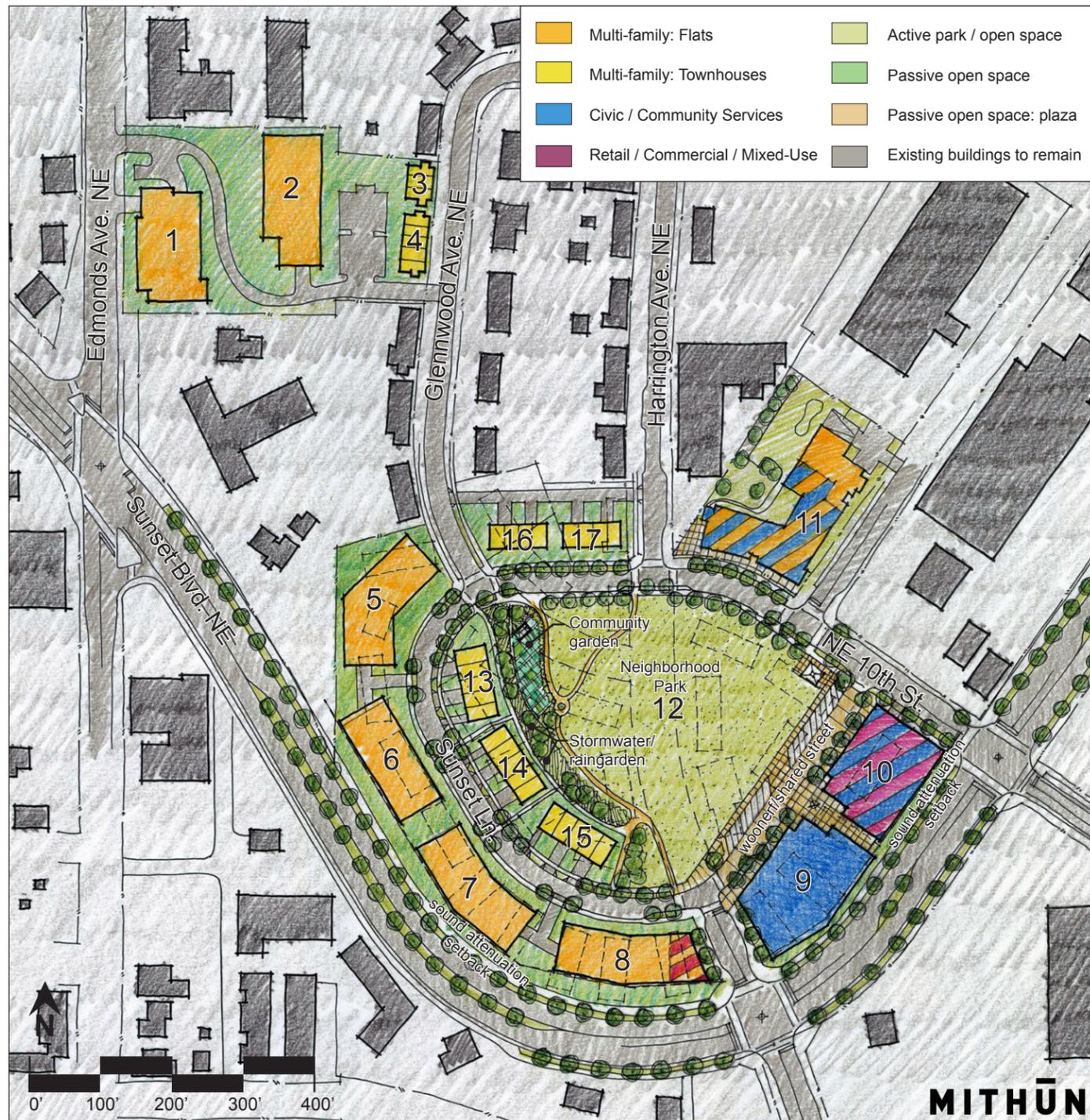


- Multifamily: Flats
- Multifamily: Townhouses
- Civic/Community Services
- Retail/Commercial/Mixed-Use
- Active park/open space
- Passive open space
- Passive open space: plaza
- Existing buildings to remain



**Note:** The central open space will be designed and programmed at a later date. Considerations would include active and passive recreation, community gardens, and community gathering areas.





Sunset Terrace Redevelopment Area (STRA): Final Preferred Alternative Program Summary						
Building Number/ Use	Stories	Built GSF	Units	Parking Off-street	Parking On-street	Open space GSF
1. Multi-family: Flats and Townhomes	4	46,433	42	63	6	
2. Multi-family: Flats	4	44,000	40	54		
3. Multi-family: Townhomes	2	4,395	3	4	8	
4. Multi-family: Townhomes	2	7,325	5	9		
5. Multi-family: Flats	4	42,000	40	32	20	
6. Multi-family: Flats	4	42,000	36	32		
7. Multi-family: Flats	4	47,600	36	32		
8. Mixed use: Retail and Multi-family Flats	4	R: 1,000 Mf: 46,600	40	40		
9. Library	1	15,000	0	116	23	Woonerf: 12,000 Plaza: 2,000
10. Mixed use: Community Service/ Retail and Multi-family Flats	4	Cs/R: 15,000 Mf: 45,000	45			
11. Mixed use: Community Service / Multi-family Flats	4	Cs: 12,500 Mf: 77,600	80	136	6	
12. Neighborhood Park					16	100,000
13. Multi-family: Townhomes	2	7,325	5	10		
14. Multi-family: Townhomes	2	7,325	5	10		
15. Multi-family: Townhomes	2	7,325	5	10		
16. Multi-family: Townhomes	2	5,860	4	8		
17. Multi-family: Townhomes	2	5,860	4	8		
<b>TOTAL NEW DEVELOPMENT</b>		<b>440,548</b>	<b>390*</b>	<b>564</b>	<b>79</b>	<b>114,000</b>

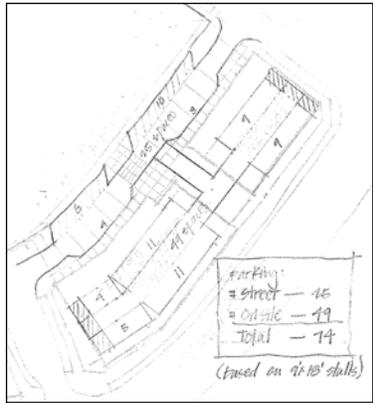
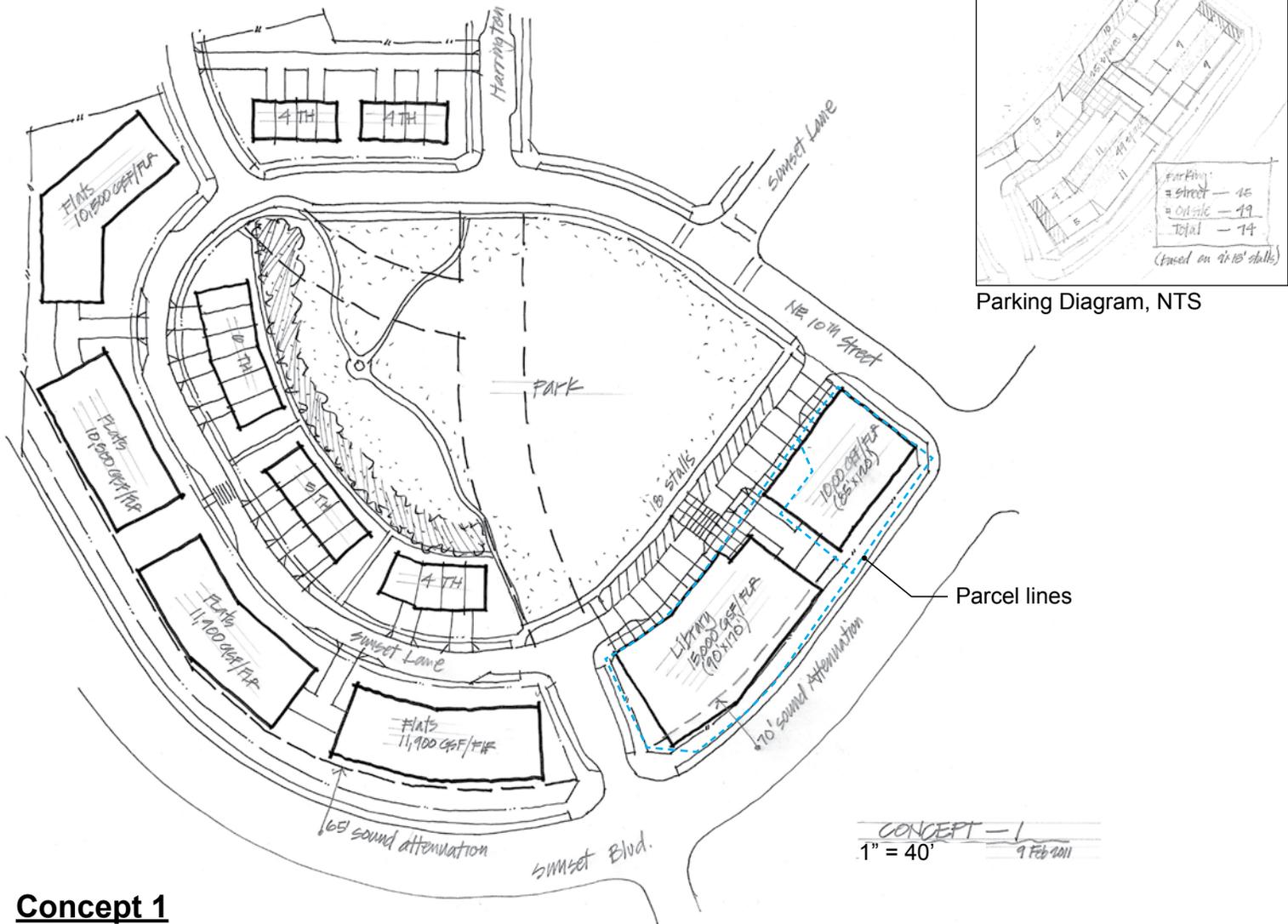
\*RHA is committed to 1:1 replacement of the 100 existing public housing units. Total New Development in the Sunset Terrace Redevelopment Area includes replacement public housing units. Up to 20% of the replacement housing units may be provided outside of the Sunset Terrace redevelopment, but within the Sunset neighborhood.

**Sunset Terrace Redevelopment Goals:**

- 1:1 replacement of existing 100 Sunset Terrace public housing units: (20) 1 bedroom, (36) 2 bedrooms, (36) 3 bedrooms, (8) 4 bedrooms
- Provide new affordable and market rate rental housing to accommodate a mixed-income community that includes Sunset Terrace property and nearby RHA or City owned sites
- Maximize the visibility and location – the heart of Sunset Area
- Act as a catalyst for improvements and investments in the Sunset Area
- Integrate Sunset Terrace site and residents with the surrounding neighborhood
- Provide amenities to be shared by neighborhoods, including a “third place” for all to gather, and open space opportunities such as active recreation and community garden space
- Improve the pedestrian realm and connection across Sunset Boulevard
- Provide a mix of uses, including residential, open space, and potential for community, civic, retail, or commercial

**Sunset Area Planned Action EIS**  
FEIS: Sunset Terrace Redevelopment Area  
3/14/11 Final Preferred Alternative





Parking Diagram, NTS

**Concept 1**

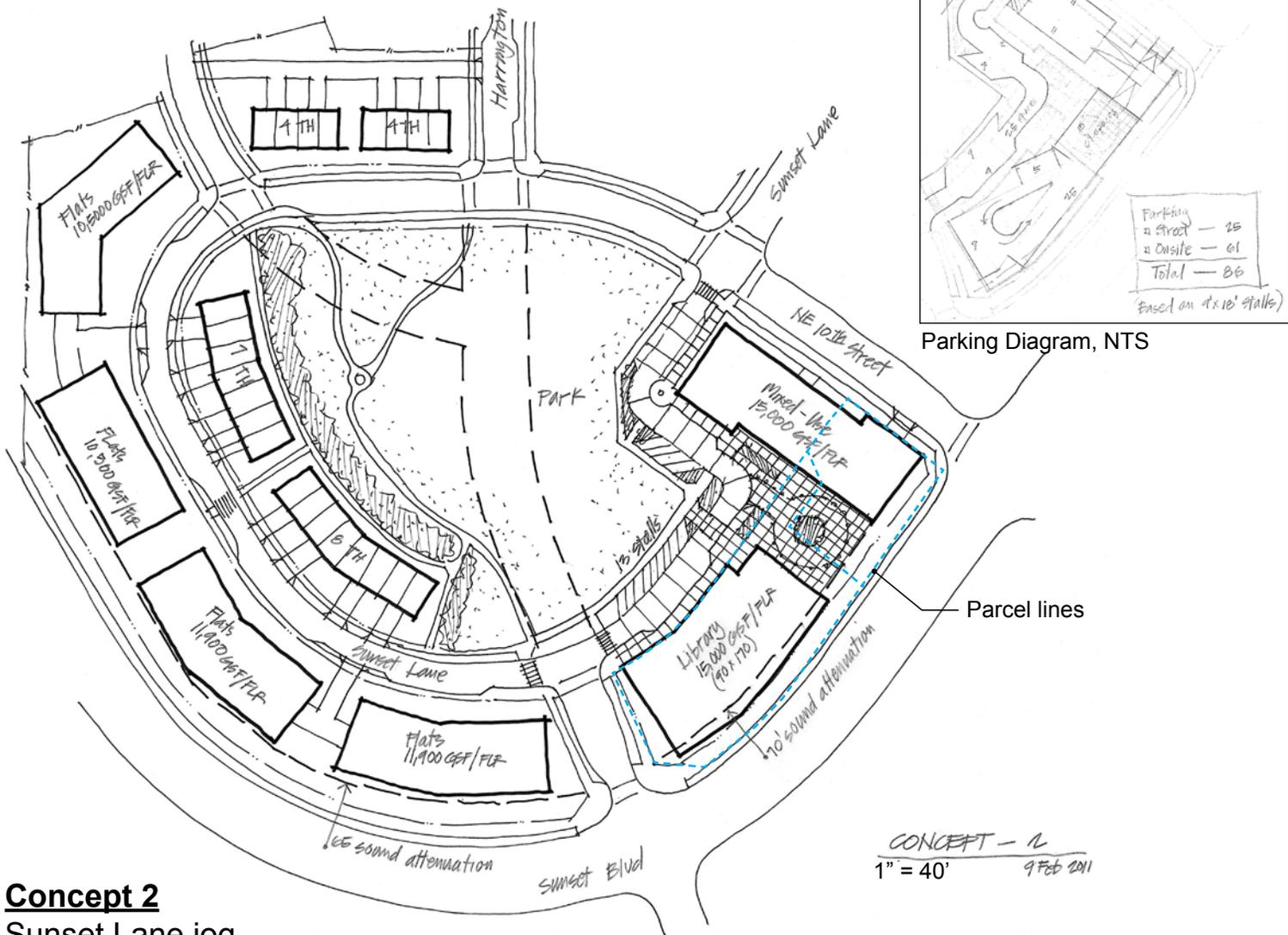
**Adjusted setbacks at library and building 10**

- Adjusted library footprint
- 10,000 sf footprint for Building 10
- On-street parking provided on Sunset Lane east of Harrington: 25 stalls
- Off-street parking provided: 49 stalls (31 at library; 18 at bldg 10)
- Total parking provided: 74 stalls (assumes 1 level of underground parking)
- Parking required: Total: 101 stalls: Library (45 stalls), Building 10 (56 stalls, assuming 30 units = 36stalls + 10K office = 20 stalls) *does not include shared parking or other reductions*
- Park area: 2.4 acres

**Sunset Area Planned Action EIS**  
 EIS: Sunset Terrace Redevelopment Area  
 Studies  
 2/10/11

*Note: Sound Attenuation numbers are reversed east and west of Harrington Avenue NE - should be 65 and 70 feet respectively.*





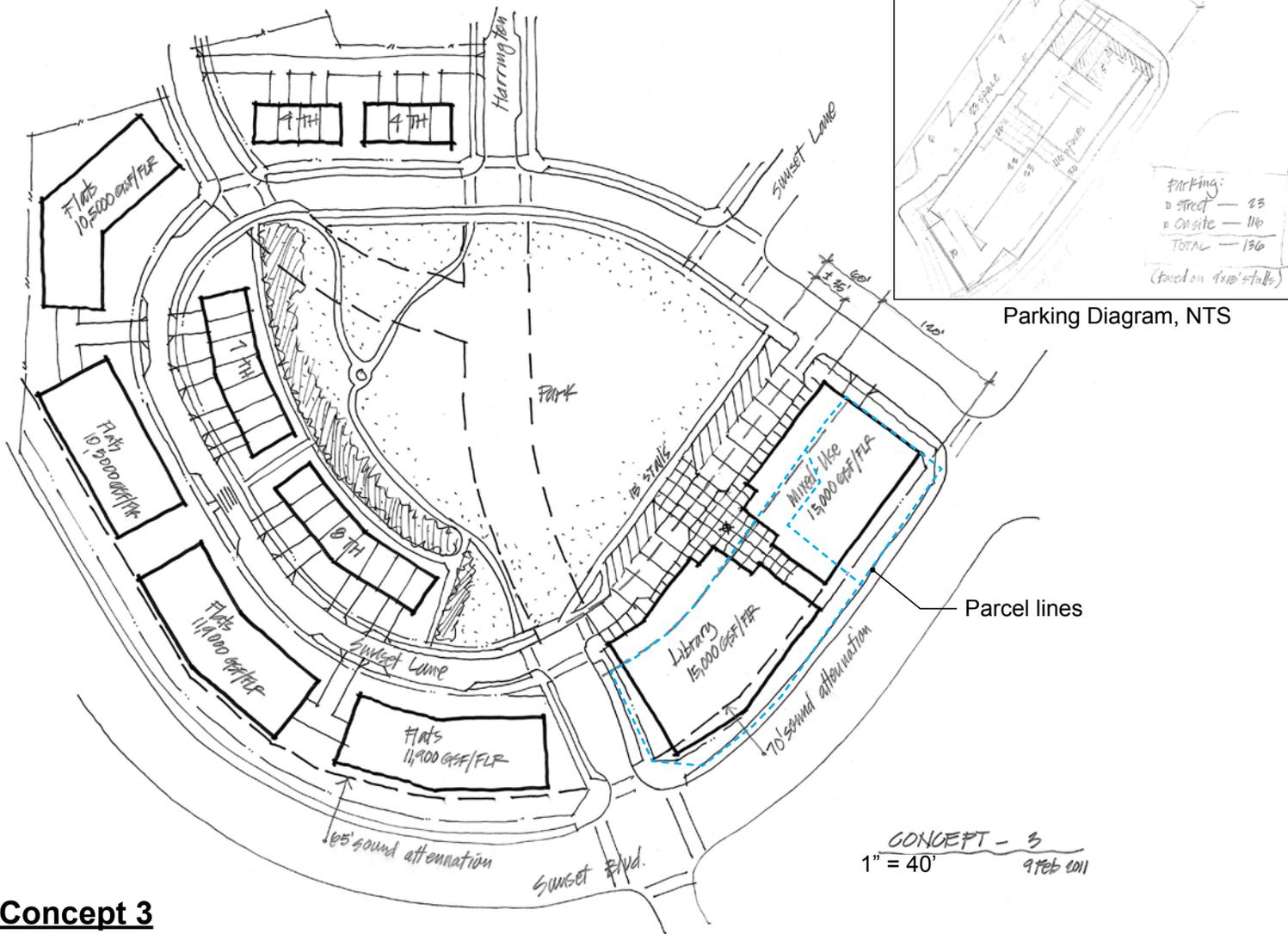
**Concept 2**  
Sunset Lane jog

- Adjusted library footprint
- New Building 10 configuration: 15,000 sf footprint
- Shared access underground parking (one level) accessed from 10th Street
- Plaza/3rd place/ drop off area
- On-street parking provided on Sunset Lane east of Harrington: 25 stalls
- Off-street parking provided: 61 stalls (39 at library; 10 at plaza; 22 at bldg 10)
- Total parking provided: 86 stalls (assumes 1 level underground parking)
- Parking required: Total: 132 stalls: Library (45 stalls), Building 10 (87 stalls, assuming 45 units = 54 stalls + 10K office = 20 stalls, 5K retail = 13 stalls) *does not include shared parking or other reductions*
- Park area: 2.1 acres

**Sunset Area Planned Action EIS**  
EIS: Sunset Terrace Redevelopment Area  
Studies  
2/10/11

*Note: Sound Attenuation numbers are reversed east and west of Harrington Avenue NE - should be 65 and 70 feet respectively.*





### Concept 3

#### Realigned Sunset Lane

- Sunset Lane realigned north to accommodate 120' deep building and double loaded parking garage
- Adjusted library footprint
- New Building 10 configuration: 15,000 sf footprint
- Shared access underground parking (one level) accessed from 10th Street
- Plaza/3rd place
- On-street parking provided on Sunset Lane east of Harrington: 23 stalls
- Off-street parking provided: 116 stalls (shared parking garage podium)
- Total parking provided: 136 stalls
- Parking required: Total: 132 stalls: Library (45 stalls), Building 10 (87 stalls, assuming 45 units = 54 stalls + 10K office = 20 stalls, 5K retail = 13 stalls) *does not include shared parking or other reductions*
- Park area: 2.3 acres

**Sunset Area Planned Action EIS**  
 EIS: Sunset Terrace Redevelopment Area  
 Studies  
 2/10/11

*Note: Sound Attenuation numbers are reversed east and west of Harrington Avenue NE - should be 65 and 70 feet respectively.*



Appendix D  
**Hillcrest Worksession**

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Creative opportunities for a healthy, intergenerational community

## **SUNSET AREA: HILLCREST WORKSESSION**

**NOVEMBER 22, 2010**

Prepared by Mithun, Inc.

RENTON. AHEAD OF THE CURVE.

City of  
**Renton**  
Community & Economic Development



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# SUNSET AREA HILLCREST WORKSESSION REPORT

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- I. Acknowledgements
- II. Purpose and Background
- III. Partner Updates and Activities
- IV. Worksession Summary:
  - Hillcrest Guiding Principles
  - Program Elements
  - Program and Operations Partnering Opportunities
  - Site and Infrastructure Opportunities

## APPENDICES

- Precedents: Learning and Family Development Centers
  - New Holly Neighborhood Campus
  - Neighborhood House's High Point Center
  - Gladstone Center for Families and Children

Worksession Agenda

# I. ACKNOWLEDGEMENTS

## Thank you to the Worksession Participants:

Terry Higashiyama	City of Renton, Community Services, Administrator
Alex Pietsch	City of Renton, Community & Economic Development, Administrator
Leslie Betlach	City of Renton, Community Services, Parks Planning and Natural Resources Director
Kelly Beymer	City of Renton, Community Services, Parks and Golf Course Director
Suzanne Dale Estey	City of Renton, Community & Economic Development, Economic Development Director
Chip Vincent	City of Renton, Community & Economic Development, Planning Director
Todd Black	City of Renton, Community Services, Capital Projects Coordinator
Erika Conkling	City of Renton, Community & Economic Development, Senior Planner
Mark Santos-Johnson	City of Renton, Community & Economic Development, Senior Economic Development Specialist
Rocale Timmons	City of Renton, Community & Economic Development, Associate Planner
Randy Matheson	Renton School District, Executive Director, Community Relations
Rick Stracke	Renton School District, Executive Director, Facilities & Operations
Doug DuCharme	BLRB Architects
Calvin Gasaway	Greene Gasaway Architects
Brad Medrud	AHBL
Tod McBryan	Heffron Transportation
Mark Gropper	Renton Housing Authority, Deputy Executive Director
Joel Ing	Shelter Resources, Inc.

## Facilitated by:

Stephen Antupit	Mithun
Erin Christensen	Mithun
Jeff Benesi	Mithun
Chris Webb	Chris Webb and Associates, Inc.
Dustin Atchison	CH2M Hill

## II. PURPOSE and BACKGROUND of HILLCREST SUPERBLOCK WORKSESSION

In late 2009, a Community Investment Strategy (CIS) for the Sunset Area of Renton Highlands was adopted by Renton City Council. The CIS recommended further study of the Hillcrest "Superblock" to explore potential for leveraging City, Renton School District, and Renton Housing Authority resources. The "Family Village" concept presented in the CIS study suggested a vision of coordinated educational and open space/ recreation amenities, programming, and potential new housing on the 17-acre block of publicly owned land. The study also expressed potential for an intergenerational center. The City convened a worksession for these partners to explore shared opportunities at the Hillcrest "Superblock," and in conjunction with both the Renton School District planning for the Hillcrest Elementary School site, and the continued planning of the Sunset Area by the City of Renton and the Renton Housing Authority through the Sunset Area Planned Action EIS. The worksession was held the afternoon of October 27, 2010.

## III. PARTNER UPDATES AND ACTIVITIES

As presented at the Worksession:

### City of Renton:

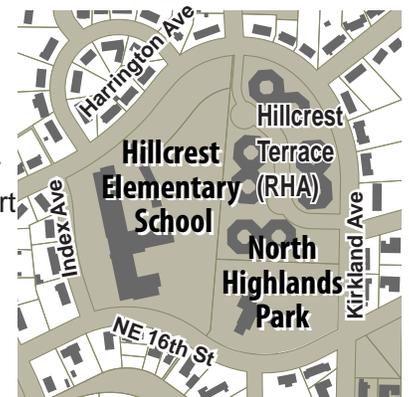
- The City and the Housing Authority are conducting a joint Planned Action EIS for the Sunset Area, which will be completed in spring of 2011. It includes consideration of impacts of future redevelopment of the Hillcrest "Superblock". This Planned Action EIS presents an opportunity for consistency with the Hillcrest "Superblock" vision as developed by the stakeholders.
- Community Services is working with several service organizations to build an inclusive playground. Currently, the City has preliminarily identified the North Highlands Community Center site as a potentially promising location.
- The City is currently updating the Parks, Recreation, Open Space, and Natural Resource Plan which will inform the future role of the North Highlands Community Center, as well as providing updated data on recreation and open space needs in the Sunset Area. The North Highlands Community Center is one of the oldest facilities owned by the City. It is well used by the community meeting and recreation activities.

### Renton School District:

- Hillcrest Elementary School has been identified as a likely site for construction of a new Early Childhood Learning Center (ECLC), serving preschool and special needs. This new facility will also include outdoor play space. RSD anticipates this facility will be constructed and operational in about two to three years.

### Renton Housing Authority:

- RHA currently owns and operates 60 senior public housing units on the Superblock at Hillcrest Terrace. RHA plans to construct a new 2,200 square foot laundry and community facility to serve these units on site. Hillcrest Terrace includes a one-acre parking area which is currently under utilized and could be an opportunity for a land swap or development as part of a broader vision. RHA also owns a one-acre property southeast of the Hillcrest block.
- RHA is planning the redevelopment of Sunset Terrace, a 100-unit public housing project located at Sunset Boulevard and Harrington Avenue. As part of redevelopment, the Housing Authority will provide replacement units, and is actively seeking opportunities to construct larger family units, such as townhouse unit types, in the Sunset Area. RHA plans to submit a Demo/Dispo application in April 2011 for Sunset Terrace.



"Superblock" at Hillcrest; existing ownership includes the City, Renton School District, and Renton Housing Authority

## Sunset Area: Hillcrest Worksession



Hillcrest Early Childhood Education Center



North Highlands Community Center



McKnight Middle School

Hillcrest Early Childhood Education Center

Hillcrest Terrace

N Highlands Community Center



Play structures at N Highlands Park and Hillcrest School separated by fences

## IV. WORKSESSION SUMMARY

A large group discussion of leverage opportunities resulted in the following guiding principles for consideration of the Hillcrest “Superblock”.

### Hillcrest Guiding Principles:

1. Seek ways to provide **coordinated services and amenities for families**; the City, RSD, and RHA all use public money to serve the same populations.
2. Support **Intergenerational services** provided through coordinated service delivery. This desire is supported by the resident input during the City’s Highlands Phase II Task Force, and is supported by RHA because of the large number of senior residents in this area.
3. Provide **flexibility in use** of or access to spaces for community events. RSD wants to be an educator and a “service”; schools should be considered community use spaces.
4. **Align** with School Board **goals** while taking advantage of new partnerships.
5. **Seek efficiency in site development and infrastructure** improvements, such as sharing parking or stormwater facilities.
6. Consider the Hillcrest “Superblock” in the **context of the Sunset Area** neighborhood; accommodate program elements from the Sunset Area.
7. Ensure the Hillcrest “Superblock” is **walkable and connected** to all residents, providing security, within the “Superblock” itself.
8. Seek to provide **new large-family/ground-related housing** units; if possible with available land.
9. Willingness to **try new** arrangements and new ideas, while keeping projects **on time and on budget**.
10. **Pursue green** construction, low impact development (LID), geothermal and energy opportunities as a **means to save money, attract funding**, and provide **educational opportunities**.



Interagency Hillcrest Worksession October 27, 2010

## PROGRAM ELEMENTS

The Interagency group discussed the potential program elements that could be included in the long-term vision for the Hillcrest “Superblock”, as well as their priorities and alignment between the agencies.

PROGRAM ELEMENTS	PARTNERS	RSD	CITY	RHA	NOTES
<b>OUTDOOR SPACE</b>					
<b>Open space/ fields</b>	Desired Space	Secure playground; casual open space	Pick-up for frisbee, playing catch, etc. especially for youth	Accessible to seniors to view activity from safe distance	
<b>Play area</b>	Desired Space	During school must be exclusive use	Inclusive play area; could be accessible to school or with supervision	With large family population would be desired	
<b>Hard court area</b>	Desired Space		Half-court basketball/ tennis wall; high visibility especially for basketball	With large family population would be desired	
<b>Covered play space</b>	Desired Space	Yes	Hard court options	With large family population would be desired	
<b>Community garden</b>	Desired Space	Teaching resource with McKnight	Priority	Priority	
<b>Natural Stormwater management</b>	Desired Space		Shared use with no reduction in access to year-round recreation opportunities		Rain gardens in vicinity of Hillcrest Terrace & distributed across block
<b>Dog walking</b>	Desired Space	Yes	Yes	Path that is accessible	
<b>Gathering space</b>					Movies; festive; grass amphitheater
<b>CIRCULATION</b>					
<b>Parking and Student Drop-off</b>	Desired Space	Approx. 100 spaces for employees and drop-off	For park/rec center less than 5 spaces for a stand-alone use. More would be needed if a joint-use facility were proposed, but could be shared parking.		70 staff; parents and drop off space needed
	Shared Opps	Yes	Yes		
<b>Bus unload zone (separate from parking &amp; drop-off)</b>	Desired Space	Up to 12 buses at once (8 full size and 4 short buses)		Access vans (dedicated drop-off space not needed)	Max. should be about 500 students

PROGRAM ELEMENTS	PARTNERS	RSD	CITY	RHA	NOTES
<b>INDOOR SPACE</b>					
<b>Meeting rooms</b>	Desired Space	2-3 conference rooms	Yes		
	Shared Opps	Yes	Yes		
<b>Admin. Offices and workroom</b>	Desired Space	2-3 workrooms	Yes		
	Shared Opps	No			
<b>Classrooms</b>	Desired Space	Yes	Potential after-school programs		
	Shared Opps	Not likely	Preferred		
<b>Age-specific indoor recreation space</b>	Desired Space	2 indoor play spaces	Opportunity to share space outside school hours preferred	With large family population would be desired	
<b>Kitchen &amp; support space</b>	Desired Space		Consider Summer Lunch and community garden classes opportunities for nutrition education		
<b>Dining facility</b>	Desired Space		?		RHA provides a lunch 3x per week at Evergreen for wider residents including Hillcrest currently
<b>Gym</b>	Desired Space	2 indoor play spaces	2 gyms	With large family population would be desired	
	Shared Opportunities	Yes; not limited to school age	Yes; not limited to school age		
<b>Restrooms</b>	Desired Space		Yes; public access		
	Shared Opportunities	Would consider	For outdoor park users and indoor use		
<b>Storage</b>	Desired Space	Yes	Yes		
<b>HOUSING</b>					
<b>Families</b>	Desired Space			Yes; Sunset Terrace replacement units	Significant existing senior housing in area

**Sunset Area: Hillcrest Worksession**

## PROGRAM AND OPERATIONS PARTNERING OPPORTUNITIES

Part of the worksession's small group exercise included discussion of opportunities for the three agencies (and other service providers) to partner in ways that support complementary operations and programs, as well as avoiding duplicate activities.

This theme built on a shared acknowledgment that the City, RSD, and RHA all serve many of the same families, sometimes just at different times of day or year, or through different points of contact.

The small group exploration of possibilities also built on a presentation of several precedent projects:

- The New Holly Neighborhood Campus
- Neighborhood House's High Point Center
- The Gladstone Center for Children and Families

While each of these example precedents varied greatly in ownership, governance and facility development specifics, they all illustrated successful solutions in co-location and service delivery coordination.

(Detailed synopses of the three precedents presented can be found in the Appendix to this report).



Interagency Hillcrest Worksession October 27, 2010

Sunset Area: Hillcrest Worksession

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**Sunset Area: Hillcrest Worksession**



## SITE AND INFRASTRUCTURE OPPORTUNITIES

During the worksession, participants brainstormed opportunities in three small groups. A few basic concepts were discussed, which include a range of sharing opportunities between a new Early Childhood Learning Center (ECLC), community service spaces, open space, and play areas. These range from co-locating within a shared facility to creating two separate facilities with shared infrastructure and parking including open space between them.

Several elements were common to the conceptual layout options:

- Passive open space serving daytime and resident users will be designed to allow flexible use by a variety of user groups, from dog-walking to casual recreational use and gardening
- Landscape elements will serve multiple purposes, including reduction of stormwater treatment facilities required, aesthetic enjoyment, and delineating various connections and use areas on the “Superblock” and to the wider community
- RHA’s housing stock will be complemented by additional ground-related large family units, to take advantage of the rich availability of supportive services developed on the superblock
- Coordinated delivery of family support services will engage RHA, City of Renton, RSD, and other partner providers (Refer to Appendix for precedent examples)
- To the extent possible, parking will be shared amongst user groups to reduce the area and stormwater infrastructure required, while taking care to clearly delineate access points and ensure safety for students and youth activities

Option A requires RSD to relocate the current Hillcrest School programs temporarily off-site during construction. The new ECLC programs would be complemented by co-locating community services above a portion of the ECLC in an upper level structure with controlled access. Additional housing adjacent to open space, community gardens, play areas, and ECLC supports large families on the current site of the North Highlands Neighborhood Center in a walkable, connected community.

-  ECLC
-  Community Service (upper level in Opt A)
-  Play area
-  Community Garden
-  Open Space
-  Housing

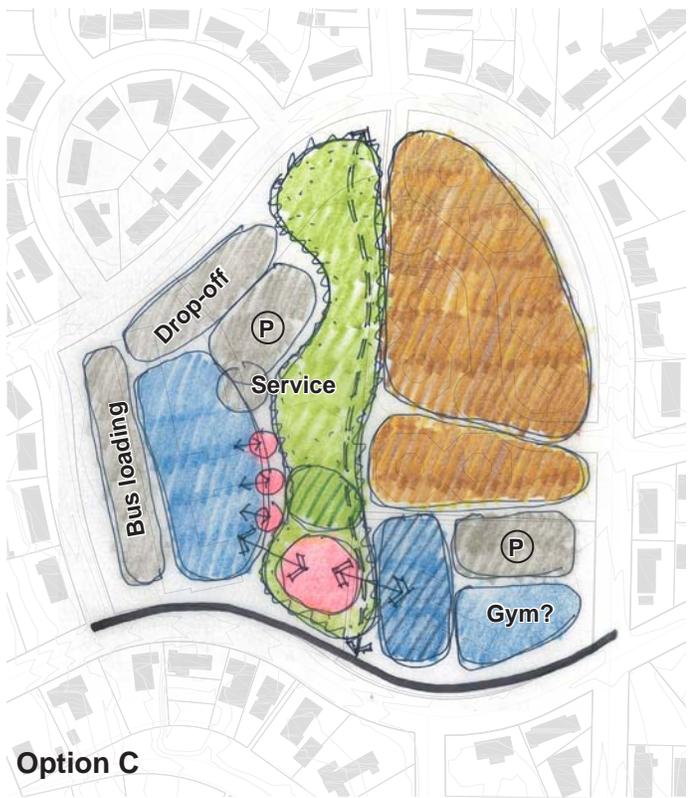
Option A

Option B allows RSD to operate current on-site programs in Hillcrest School until completion of the new ECLC on the adjacent area of the superblock. Community services would co-locate adjacent to, and in coordinated delivery with, RSD's family support function in the new facility. Existing North Highlands Neighborhood Center would be displaced during construction. The portion of the site currently occupied by Hillcrest School would be reconfigured to provide destination inclusive play area, community garden, and some large family housing in ground related units, within a walkable and well connected community.

-  ECLC
-  Community Service
-  Play area
-  Community Garden
-  Open Space
-  Housing

Option B

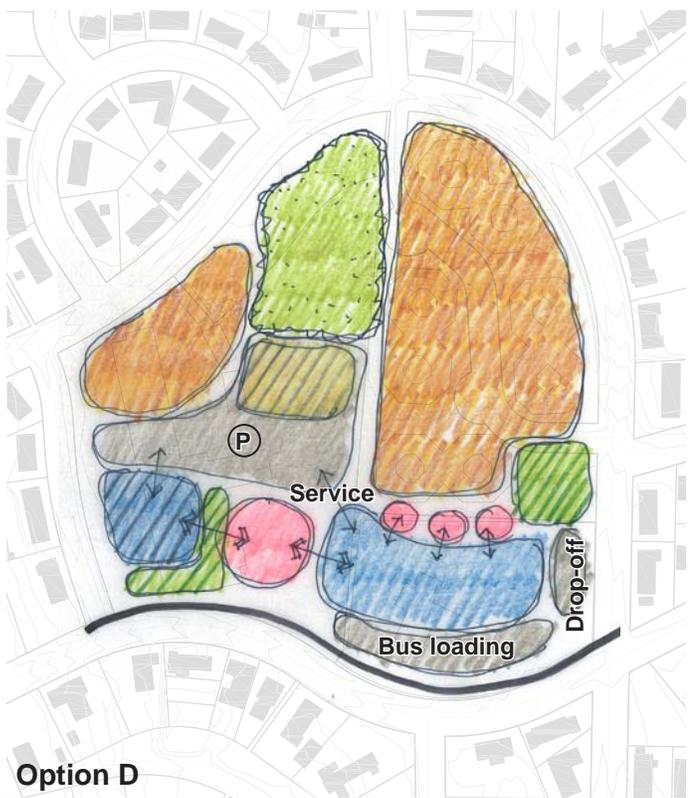
Option C focuses the new ECLC and community services around a shared green space and play area. A new ECLC on the existing Hillcrest School site would require a temporary off-site location for RSD programs. A separate structure for community services and a shared gymnasium would also increase infrastructure and parking needs, since co-location sharing opportunities would be reduced. However, providing a second gymnasium would be duplicative and costly. Additional housing, conveniently located next to open space, community services, and ECLC, serves large families with ground related choices and supportive services in a walkable, connected community.



-  ECLC
-  Community Service
-  Play area
-  Community Garden
-  Open Space
-  Housing

Option C

Option D separates a new ECLC structure from a future Community Service center, allowing new construction of RSD's ECLC to be completed on (current) city property before removal of the existing Hillcrest School building. Once removed, that site would accommodate a Community Service center, sharing with the ECLC a centrally-located destination play area. Shared parking opportunities would be possible only after demolition of the current Hillcrest School, but could also potentially serve an increment of additional ground-related family housing on the northwestern edge of the superblock. Informal open space for casual community use would be located near the existing school play field.



-  ECLC
-  Community Service
-  Play area
-  Community Garden
-  Open Space
-  Housing
-  Sport court / overflow parking

Option D

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**Sunset Area: Hillcrest Worksession**





**Precedents: Learning and Family Development Centers  
New Holly Neighborhood Campus**



- Child Development
  - Megumi Pre-School
  - Neighborhood House - Early Head Start
  - Neighborhood House - Head Start
- Citizenship
  - Center for Career Alternatives
- Community Building
  - Community Building Office
- Counseling
  - Atlantic Street Center: Youth & Family Counseling
- Education
  - Catholic Community Services: Youth Tutoring Program
  - East African Community Services
  - Horn of Africa Services
  - South Seattle Community College: Learning Center at New Holly
  - Vietnamese Friendship Association
- Employment
  - The Job Connection
- Health
  - Seattle University School of Nursing
- Library
  - Seattle Public Library
- Teens
  - Atlantic Street Center: Teen Center
- Youth & Family
  - Atlantic Street Center: Family Center
  - Girl Scouts: Skills for Life
- Neighborhood House: Family and Social Services

**Appendix**

## Precedents: Learning and Family Development Centers Neighborhood House's High Point Center



Neighborhood House's High Point Center provides services that strengthen High Point families and support the development of a healthy, vibrant and green community.

The center is also a place where families from all walks of life can gather and share food, stories and experiences. It's a community living room for everything from town meetings to neighborhood potlucks, book clubs to Head Start classes.

Services  
0 - 3 Years  
3 - 5 Years  
Children  
Teens  
Adults  
Seniors  
The Family Center

The Family Center is dedicated to supporting families by providing programs that strengthen and foster relationships among individuals, children and communities.

The multilingual, multicultural staff engage, educate and empower the community in its mission to help families attain self-sufficiency. This is achieved through a wide range of interactive, development-focused Family Center programs:

- Play and Learn
- Family Night
- Cambodian Community Club
- Vietnamese Tea
- ESL/Citizenship Class
- Community Leadership Program
- Art and Block
- Family Advisory Council
- Arts & Crafts Workshop



### Appendix

## Precedents: Learning and Family Development Centers Gladstone Center for Children and Families



Gladstone Center for Children and Families

First facility in Oregon that provides a continuum of services for young children and their families in one location.

30,000 square foot Early Childhood facility (former Thriftway store) combines:

- District's Kindergarten classes with
- County Education Services District's Early Childhood Program and
- Head Start Classes

Other partners include Healthy Start of Clackamas County, Community College, County Department of Human Services and County Mental Health.

## Appendix

## Renton Sunset Area/Hillcrest Worksession October 27<sup>th</sup>, 2010

### Meeting Agenda

- 1 PM Intros / Review Agenda / Ground Rules / Goals for the day
- 1:15 Partner Updates – 5 min. each
  - City Sunset Area PA/EIS and North Highlands Neighborhood Center
  - RSD Bond/Early Childhood Programs
  - RHA Sunset Terrace / Hillcrest Terrace
- 1:30 Precedents – 10 min.(Stephen A.)
- 2:10 Hillcrest Goals and Matrix – Large Group / Input – 45 min (Mithun Team facilitates)
- 3:00 3 Small Groups
  - More work on Matrix--Program & Operations Partnering Opportunities – 25 min
  - Site Opportunities: Shared Infrastructure, Program adjacencies – 25 min
  - Timeline: Phasing / Critical Path – 10 min
- 4:00 Report Out  
10 minutes each group
- 4:30 Synthesis / Commitment to next steps
- 5:00 ADJOURN

### Appendix

Appendix E  
**Proposed Planned Action Ordinance**

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# March 2011 - Proposed

## ORDINANCE NO. \_\_\_\_\_

**AN ORDINANCE** of the City Council of the City of Renton, Washington, establishing a Planned Action for the Sunset Area Community pursuant to the State Environmental Policy Act

WHEREAS, the State Environmental Policy Act (“SEPA”) and implementing rules provide for the integration of environmental review with land use planning and project review through designation of “Planned Actions” by jurisdictions planning under the Growth Management Act, RCW 36.70A (“GMA”); and

WHEREAS, the City has adopted a 2004 Comprehensive Plan complying with the GMA; and

WHEREAS, the City has engaged in extensive subarea planning for the Sunset Area since 2005 and adopted a Community Investment Strategy in 2009 to guide the area’s growth and redevelopment, and revitalization of the Sunset Area is desirable and in the best interest of the City; and

WHEREAS, the City adopted regulations and design guidelines for the Sunset Area in 2007; and

WHEREAS, the Sunset Area includes the Sunset Terrace public housing project which will be proposed for redevelopment by the Renton Housing Authority; and

WHEREAS, the Sunset Area Community Planned Action EIS identifies impacts and mitigation measures associated with planned development in the area; and

WHEREAS, the Draft EIS was issued on December 17, 2010 and subject to a 45-day comment period; and

WHEREAS, the Final EIS was issued on April 1, 2011 and received a 30-day review period; and

WHEREAS, the City has adopted development regulations which will help protect the environment, and has adopted zoning regulations specific to the Sunset area which will guide the amount, location, form, and quality of desired development; and

WHEREAS, designation of a Planned Action expedites the permitting process for subsequent, implementing projects whose impacts have been previously addressed in a Planned Action environmental impact statement (“EIS”), and thereby encourages desired growth and economic development; and

## March 2011 - Proposed

WHEREAS, the Renton Planning Commission held a public hearing on January 5 and April 6, 2011 regarding the proposed Planned Action; and

WHEREAS, the Sunset Area Community is deemed to be appropriate for designation of a Planned Action.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF RENTON, WASHINGTON, DOES HEREBY ORDAIN AS FOLLOWS:

**SECTION 1.** - *Purpose.* The City Council declares that the purposes of this ordinance are to:

A. Combine analysis of environmental impacts with the City's development of plans and regulations;

B. Designate the Sunset Area Community as a Planned Action for purposes of environmental review and permitting of subsequent, implementing projects pursuant to the State Environmental Policy Act (SEPA), RCW 43.21C.031;

C. Determine that the EIS prepared for the Sunset Area Community meets the requirements of a Planned Action EIS pursuant to SEPA;

D. Establish criteria and procedures, consistent with state law, that will determine whether subsequent, implementing projects qualify as Planned Actions;

E. Provide the public with information about Planned Actions and how the City will process applications for implementing projects;

F. Streamline and expedite the land use review and approval process for qualifying projects by relying on the EIS completed for the Planned Action; and

G. Apply the City's development regulations together with the mitigation measures described in the EIS and this Ordinance to address the impacts of future development contemplated by the Planned Action.

**SECTION 2.** - *Findings.* The City Council finds as follows:

A. The City is subject to the requirements of the Growth Management Act (GMA, RCW 36.70A), and is located within an Urban Growth Area;

B. The City has adopted a Comprehensive Plan complying with the GMA, and is amending the Comprehensive Plan to address transportation improvements and capital facilities specific to the Sunset Area

C. The City has adopted a Community Investment Strategy, development regulations and design guidelines specific to the Sunset Area which will guide growth and revitalization of the area, including the Sunset Terrace public housing project;

## March 2011 - Proposed

D. The City has prepared an EIS for the Sunset Area (“Sunset Area Community Planned Action EIS”), and finds that this EIS adequately addresses the probable significant environmental impacts associated with the type and amount of development planned to occur in the designated Planned Action area;

E. The mitigation measures identified in the Planned Action EIS and attached to this ordinance as Exhibit B, together with adopted City development regulations, will adequately mitigate significant impacts from development within the Planned Action area;

F. The Comprehensive Plan and Planned Action EIS identify the location, type and amount of development that is contemplated by the Planned Action;

G. Future projects that are implemented consistent with the Planned Action will protect the environment, benefit the public and enhance economic development;

H. The City has provided numerous opportunities for meaningful public involvement in the proposed Planned Action, has considered all comments received, and, as appropriate, has modified the proposal or mitigation measures in response to comments;

I. The Sunset Area Planned Action is not an essential public facility as defined by RCW 36.70A.200(1);

J. The Planned Action area applies to a defined area that is smaller than the overall City boundaries; and

K. Public services and facilities are adequate to serve the proposed Planned Action.

### **SECTION 3. - Procedures and Criteria for Evaluating and Determining Projects as Planned Actions.**

**A. Planned Action Area.** The Planned Action designation shall apply to the area shown in Exhibit A.

**B. Environmental Document.** A Planned Action determination for a site-specific implementing project application shall be based on the environmental analysis contained in the Draft EIS issued by the City on December 17, 2010 and the Final EIS published on April 1, 2011. The Draft and Final EISs shall comprise the Planned Action EIS. The mitigation measures contained in Exhibit B are based upon the findings of the Planned Action EIS and shall, along with adopted City regulations, provide the framework that the City will use to impose appropriate conditions on qualifying Planned Action projects.

## March 2011 - Proposed

**C. *Planned Action Designated.*** Land uses and activities described in the Planned Action EIS, subject to the thresholds described in subsection 3.D and the mitigation measures contained in Exhibit B, are designated Planned Actions or Planned Action Projects pursuant to RCW 43.21C.031. A development application for a site-specific Planned Action project located within the Sunset Area shall be designated a Planned Action if it meets the criteria set forth in subsection 3.D of this ordinance and applicable laws, codes, development regulations and standards of the City.

**D. *Planned Action Qualifications.*** The following thresholds shall be used to determine if a site-specific development proposed within the Sunset Area is contemplated by the Planned Action and has had its environmental impacts evaluated in the Planned Action EIS:

(1) Land Use.

(a) The following general categories/types of land uses are considered Planned Actions:

Single family and multi-family residential; schools; parks; community and public facilities; office and conference; retail; entertainment and recreation; services; utilities; and mixed-use development incorporating more than one use category where permitted.

(b) Individual land uses considered as Planned Actions shall include those uses specifically listed in RMC 4-2-060 as permitted or conditionally permitted in the zoning classifications applied to properties within the Planned Action area provided they are consistent with the general categories/types of land uses in (1)(a).

(2) Development Thresholds.

(a) The following amount of various new land uses are anticipated by the Planned Action:

Land Use	Development Amount	
	Alternative 3	FEIS Preferred Alt
Residential	2,506 units	2,339 units
Schools	57,010 gross square feet	57,010 gross square feet
Parks	0.25 acres	3 acres
Office/Service	776,805 gross square feet	745,810 gross square feet
Retail	476,299 gross square feet	457,119 gross square feet
Utilities	Tbd	Tbd

(b) Shifting development amounts between categories of uses may be permitted so long as the total build-out does not exceed the aggregate amount of development and trip generation reviewed in the EIS, and so long as the impacts of that development have been identified in the Planned Action EIS and are mitigated consistent with Exhibit B.

(c) If future development proposals in the Sunset Planned Action area exceed the development thresholds specified in this ordinance, further environmental review may be required pursuant to WAC 197-11-172. Further, if proposed development would alter the

## March 2011 - Proposed

assumptions and analysis in the Planned Action EIS, further environmental review may be required.

(3) Building Height. Building height shall not exceed those permitted by the applicable zoning district, as permitted in the Renton Municipal Code.

(4) Transportation.

(a) *Trip Ranges & Thresholds*. The number of new PM Peak Hour Trips anticipated in the Planned Action Area and reviewed in the EIS are as follows:

<b>Alternative/Period</b>	<b>PM Peak Hour Trips*</b>
2006	2,082 trips
2030 Alternative 3	5,555 trips
2030 Preferred Alt	5,386 trips
Net increase from 2006 -> 2030 Alternative 3	3,473 trips
Net increase from 2006 -> 2030 Preferred Alternative	3,304 trips

\*all P.M. peak hour trips with at least one end (origin, destination, or both) in TAZs containing the study area

Uses or activities that would exceed the range of maximum trip levels will require additional SEPA review.

(b) *Concurrency*. The determination of transportation impacts shall be based on the City's concurrency management program contained in RMC 4-6-070.

(c) *Off-Site Mitigation*. As provided in the EIS and RMC 4-6-070, in order to mitigate transportation related impacts, all Planned Action Projects shall pay an environmental mitigation fee to participate in and pay a proportionate share of off-site improvements unless otherwise waived by the City Council. Off-site improvements are identified in Attachment B.

(d) *Administrator Discretion*. The Administrator of Community and Economic Development or his/her designee shall have discretion to determine incremental and total trip generation, consistent with the Institute of Traffic Engineers (ITE) Trip Generation Manual (latest edition) or an alternative manual accepted by the Administrator at his sole discretion, for each project permit application proposed under this Planned Action.

(5) Elements of the Environment and Degree of Impacts. A proposed project that would result in a significant change in the type or degree of impacts to any of the elements of the environment analyzed in the Planned Action EIS, shall not qualify as a Planned Action.

(6) Changed Conditions. Should environmental conditions change significantly from those analyzed in the Planned Action EIS, the City's SEPA Responsible Official

## March 2011 - Proposed

may determine that the Planned Action designation is no longer applicable until supplemental environmental review is conducted.

### *E. Planned Action Review Criteria.*

(1) The City's Environmental Review Committee may designate as "planned actions", pursuant to RCW 43.21C.030, applications that meet all of the following conditions:

(a) the proposal is located within the Planned Action area identified in Exhibit A of this ordinance;

(b) the proposed uses and activities are consistent with those described in the Planned Action EIS and Section 3.D of this ordinance;

(c) the proposal is within the Planned Action thresholds and other criteria of Section 3.D of this ordinance;

(d) the proposal is consistent with the City of Renton Comprehensive Plan and applicable zoning regulations;

(e) the proposal's significant adverse environmental impacts have been identified in the Planned Action EIS;

(f) the proposal's significant impacts have been mitigated by application of the measures identified in Exhibit B, and other applicable city regulations, together with any modifications or variances or special permits that may be required;

(g) the proposal complies with all applicable local, state and/or federal laws and regulations, and the Environmental Review Committee determines that these constitute adequate mitigation; and

(h) the proposal is not an essential public facility as defined by RCW 36.70A.200(1).

(2) The City shall base its decision on review of a SEPA checklist, or an alternative form approved by the Department of Ecology, and review of the application and supporting documentation.

(3) A proposal that meets the criteria of this section shall be considered to qualify and be designated as a planned action, consistent with the requirements of RCW 43.21C.030, WAC 197-11-164 et seq, and this ordinance.

### *F. Effect of Planned Action.*

(1) Designation as a planned action project means that a qualifying proposal has been reviewed in accordance with this ordinance and found to be consistent with its development parameters and thresholds, and with the environmental analysis contained in the Planned Action EIS.

(2) Upon determination by the City's Environmental Review Committee that the proposal meets the criteria of Section 3.D and qualifies as a planned action, the proposal shall not require a SEPA threshold determination, preparation of an EIS, or be subject to further review pursuant to SEPA.

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***G. Planned Action Permit Process.*** Applications for planned actions shall be reviewed pursuant to the following process:

(1) Development applications shall meet all applicable requirements of the Renton Municipal Code (RMC). Applications for planned actions shall be made on forms provided by the City and shall include a SEPA checklist, or an approved Planned Action checklist.

(2) The City's Development Services Division shall determine whether the application is complete as provided in RMC 4-8-100.

(3) If the application is for a project within the Planned Action Area defined in Exhibit A, the application will be reviewed to determine if it is consistent with the criteria of this ordinance and thereby qualifies as a Planned Action project. The Environmental Review Committee shall notify the applicant of its decision. If the project is determined to qualify as a Planned Action, it shall proceed in accordance with the applicable permit review procedures specified in RMC 4-8-080G and 4-9, except that no SEPA threshold determination, EIS or additional SEPA review shall be required. The decision of the Environmental Review Committee regarding qualification as a Planned Action shall be final.

(4) Public notice and review for projects that qualify as Planned Actions shall be tied to the underlying permit. The review process for the underlying permit shall be as provided in RMC 4-8-080G and 4-9. If notice is otherwise required for the underlying permit, the notice shall state that the project has qualified as a Planned Action. If notice is not otherwise required for the underlying permit, no special notice is required by this ordinance.

(5) If a project is determined to not qualify as a Planned Action, the Environmental Review Committee shall so notify the applicant and prescribe a SEPA review procedure consistent with the City's SEPA regulations and the requirements of state law. The notice shall describe the elements of the application that result in failure to qualify as a Planned Action.

(6) Projects that fail to qualify as Planned Actions may incorporate or otherwise use relevant elements of the Planned Action EIS, as well as other relevant SEPA documents, to meet their SEPA requirements. The Environmental Review Committee may limit the scope of SEPA review for the non-qualifying project to those issues and environmental impacts not previously addressed in the Planned Action EIS.

### **SECTION 4. - *Monitoring and Review.***

A. The City shall monitor the progress of development in the designated Planned Action area to ensure that it is consistent with the assumptions of this ordinance and the

## March 2011 - Proposed

Planned Action EIS regarding the type and amount of development and associated impacts, and with the mitigation measures and improvements planned for the Sunset Area.

B. This Planned Action Ordinance shall be reviewed no later than five years from its effective date by the Environmental Review Committee to determine the continuing relevance of its assumptions and findings with respect to environmental conditions in the Planned Action area, the impacts of development, and required mitigation measures. Based upon this review, the City may propose amendments to this ordinance and/or may supplement or revise the Planned Action EIS.

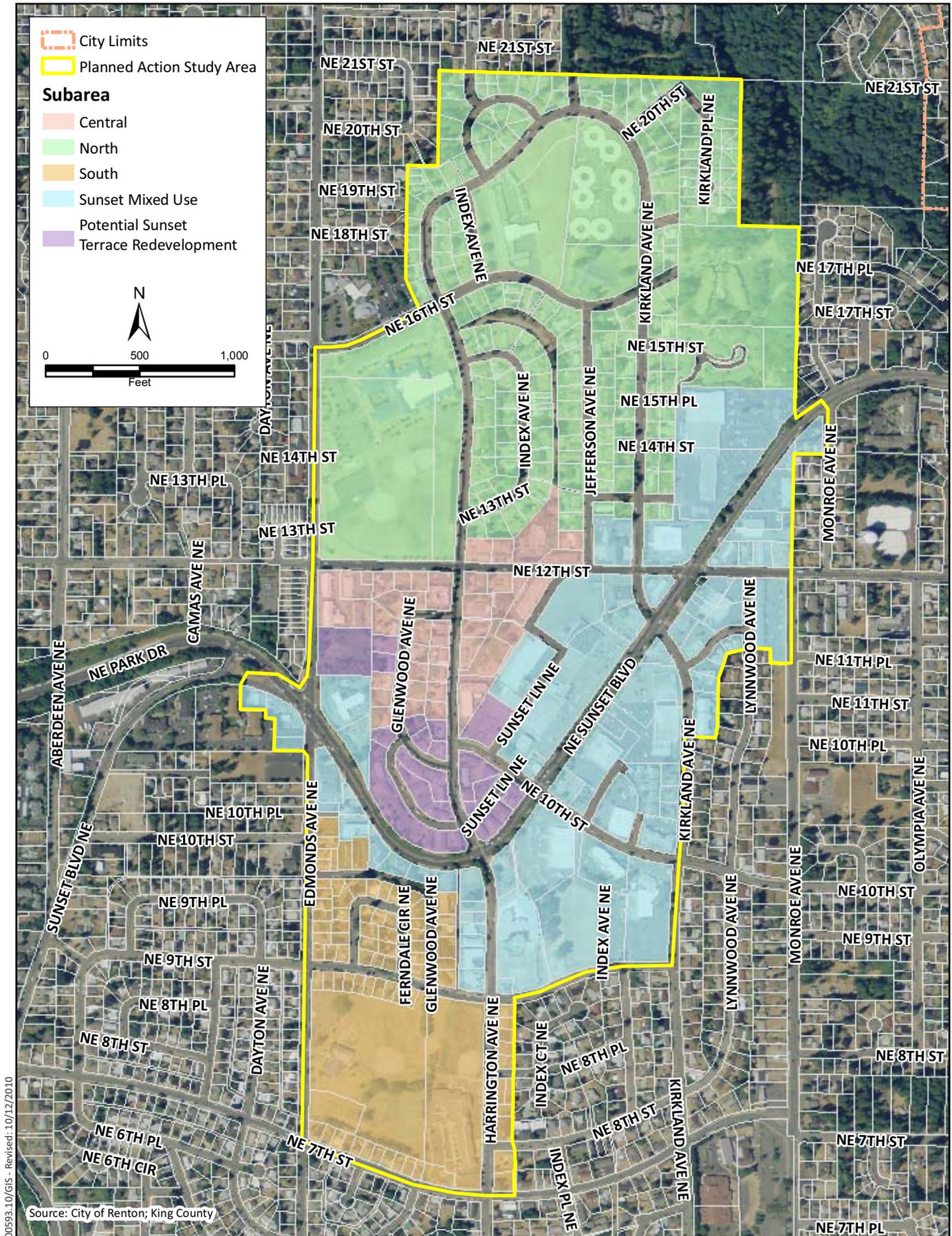
**SECTION 5.** - *Conflict.* In the event of a conflict between this Ordinance or any mitigation measure imposed thereto, and any ordinance or regulation of the City, the provisions of this ordinance shall control EXCEPT that the provision of any Uniform Code shall supersede.

**SECTION 6.** - *Severability.* Should any section, subsection, paragraph, sentence, clause or phrase of this Ordinance or its application be declared to be unconstitutional or invalid by a court of competent jurisdiction, such decision shall not affect the constitutionality or validity of the remaining portions of this ordinance or its application to any other person or situation.

**SECTION 7.** - *Effective Date.* This ordinance, being an exercise of a power specifically delegated to the City legislative body, is not subject to referendum, and shall take effect five (5) days after its passage, approval and publication as provided by law.

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**EXHIBIT A  
PLANNED ACTION AREA**



00593.10/GIS - Revised: 10/12/2010



**Figure 2-1**  
 Planned Action Study Area  
 Sunset Area Community Planned Action Final NEPA/SEPA EIS

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**EXHIBIT B**  
**PLANNED ACTION EIS MITIGATION MEASURES**



# Exhibit B: Sunset Area Community Planned Action EIS Mitigation Measures

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## Introduction and Purpose

The State Environmental Policy Act (SEPA) requires environmental review for project and non-project proposals that are likely to have adverse impacts upon the environment. In order to meet National Environmental Policy Act (NEPA) and SEPA requirements, the City of Renton issued the *Draft Environmental Impact Statement (DEIS) for the City of Renton Sunset Area Community Planned Action* on December 17, 2010 and the *Final Environmental Impact Statement (FEIS) for the City of Renton Sunset Area Community Planned Action* on April 1, 2011. The Draft together with the Final EIS is referenced herein as the "EIS". The EIS has identified significant beneficial and adverse impacts that are anticipated to occur with the future development of the Planned Action area, together with a number of possible measures to mitigate those significant adverse impacts.

The purpose of this Mitigation Document is to establish specific mitigation measures, based upon significant adverse impacts identified in the EIS. The mitigation measures shall apply to future development proposals which are consistent with the Planned Action scenarios reviewed in the EIS, and which are located within the Renton Sunset Area Community Planned Action Study Area (see Exhibit A).

## SEPA Terms

As used in this document, the words action, planned action, or proposal are defined as described below.

- "Action" means projects or programs financed, licensed, regulated, conducted or approved by a governmental Agency. "Project actions" involve decisions on a specific project such as a construction or management activity for a defined geographic area. "Non-project" actions involve decisions about policies, plans or programs. (see WAC 197-11-704)
- "Planned Action" refers to types of project actions that are designated by ordinance for a specific geographic area and addressed in an EIS, in conjunction with a comprehensive plan or subarea plan, a fully contained community, a master planned resort, a master planned development or phased project. (see WAC 197-11-164)
- "Proposal" means a proposed action that may be an action and regulatory decision of an agency, or any action proposed by applicants. (see WAC 197-11-784)

## General Interpretation

Where a mitigation measure includes the words "shall" or "will," inclusion of that measure in project plans is mandatory in order to qualify a project as a Planned Action. Where "should" or "would" appear, the mitigation measure may be considered by the project applicant as a source of additional mitigation, as feasible or necessary, to ensure that a project qualifies as a Planned Action.

Unless stated specifically otherwise, the mitigation measures that require preparation of plans, conduct of studies, construction of improvements, conduct of maintenance activities, etc., are the responsibility of the applicant or designee to fund and/or perform.

# Summary of Proposal, Alternatives, and Land Capacity

## Proposal and Alternatives

The proposal is to redevelop the Sunset Terrace public housing community and promote associated neighborhood growth and revitalization as part of a Planned Action. Redevelopment of the public housing community and adoption of a Planned Action Ordinance would encourage redevelopment in the Planned Action Study Area through land use transformation and growth, public service and infrastructure improvements, and a streamlined environmental review process. The Renton Housing Authority (RHA) is the proponent of the proposal's primary development action, redevelopment of the existing Sunset Terrace public housing community; however, RHA would likely redevelop the property in partnership with other public and private non-profit and for-profit developers and agencies. The City of Renton (City) is responsible for public service and infrastructure improvements for Sunset Terrace and the broader Sunset Area Community neighborhood, is the agency responsible for streamlining local permitting and environmental review through this Planned Action, and is the agency that would regulate private neighborhood redevelopment in accordance with its Comprehensive Plan and development regulations.

The City analyzed three alternatives (Alternatives 1, 2, and 3) as part of the Draft EIS to determine its Preferred Alternative. The Preferred Alternative is evaluated in the Final EIS. All four alternatives are described below.

*Alternative 1 (No Action).* RHA would develop affordable housing on two vacant properties, but it would not redevelop the Sunset Terrace public housing property. Very limited public investment would be implemented by the City, resulting in lesser redevelopment across the Planned Action Study Area. A Planned Action would not be designated. The No Action Alternative is required to be studied under NEPA and SEPA.

*Alternative 2.* This alternative represents a moderate level of growth in the Planned Action Study Area based on investment in mixed-income housing and mixed uses in the Potential Sunset Terrace Redevelopment Subarea, targeted infrastructure and public services throughout the Planned Action Study Area, and adoption of a Planned Action Ordinance.

*Alternative 3.* This alternative represents the highest level of growth in the Planned Action Study Area, based on investment in the Potential Sunset Terrace Redevelopment Subarea with a greater number dwellings developed in a mixed-income, mixed-use style, major public investment in study area infrastructure and services, and adoption of a Planned Action Ordinance.

*Preferred Alternative.* This alternative represents neighborhood growth similar to and slightly less than Alternative 3 in the Planned Action Study Area, based on investment in the Potential Sunset Terrace Redevelopment Subarea with a moderate number dwellings developed in a mixed-income, mixed-use style oriented around a larger park space and loop road, major public investment in study area infrastructure and services, and adoption of a Planned Action Ordinance.

## Land Capacity

To determine future growth scenarios for the next 20 years, a land capacity analysis was prepared. The alternatives produce different future growth estimates. Each would affect different amounts of property.

- Alternative 1 assumes that about 16% (35 acres) of the 213 net acres of Planned Action Study Area parcels would infill or redevelop.
- Alternative 2 assumes that about 32% (68 acres) of the Planned Action Study Area parcels would infill or redevelop.
- Alternative 3 assumes that approximately 40% (84 acres) of the Planned Action Study Area parcels would infill or redevelop.
- The Preferred Alternative assumes that approximately 40% (84 acres) of the Planned Action Study Area parcels would infill or redevelop.

The latter two alternatives – Alternative 3 and the Preferred Alternative which is similar – represent the higher growth levels studied in the EIS and differ by about 7%; these two alternatives are considered for the purposes of this mitigation document to be the “Planned Action Alternatives.” This mitigation document is based on the range of growth considered in the Planned Action Alternatives. More details on the components of the alternatives can be found in Final EIS Chapter 2.

**Table 1. Summary of Land Capacity— Planned Action Alternatives**

Dwelling Units/Jobs	Net New Growth	
	Alternative 3	Preferred Alternative
Dwelling units	2,506	2,339
Population	5,789	5,403
Employment SF	1,310,113	1,247,444–1,259,944
Jobs	3,330	3,154–3,192

## Location

The Sunset Terrace public housing community is generally bounded by Sunset Lane NE and Glenwood Avenue NE on the north, NE 10th Street on the east, NE Sunset Boulevard (State Route [SR] 900) on the south, and Edmonds Avenue NE on the west. See Exhibit A of the Planned Action Ordinance.

The Sunset Terrace public housing community is part of the Sunset Area Community neighborhood. This broader neighborhood is the Planned Action Study Area considered in the EIS; it is generally bounded by NE 21st Street on the north, Monroe Avenue NE on the east, NE 7th Street on the south, and Edmonds Avenue NE. See Exhibit A of the Planned Action Ordinance.

## Mitigation Document

Based on the EIS, this Mitigation Document identifies significant adverse environmental impacts that are anticipated to occur as a result of development of planned action projects. Mitigation measures identified in the EIS are reiterated here for inclusion in proposed projects to mitigate related impacts and to qualify as Planned Action projects.

Consistency review under the Planned Action, development plan review, and other permit approvals will be required for specific development actions under the Proposed Action pursuant to WAC 197-

11-172. Additional project conditions may be imposed on planned action projects based upon the analysis of the proposal in relationship to independent requirements of the City, state or federal requirements or review criteria.

Any applicant for a project within the Planned Action area may propose alternative mitigation measures, if appropriate and/or as a result of changed circumstances, in order to allow equivalent substitute mitigation for identified impacts. Such modifications shall be evaluated by the City’s SEPA Responsible Official prior to any project approvals by the City.

In combination, regulations applicable to each element of the environment and mitigation measures identified in the EIS and documented in this Mitigation Document that are applied to any planned action proposal will adequately mitigate all significant environmental impacts associated with planned action proposals, except for those impacts that are identified as “significant unavoidable adverse impacts.”

Provided below for each element of the environment analyzed in the EIS for the proposed action are:

- (a) summary of significant environmental impacts (construction, operation, indirect and cumulative);
- (b) a summary of unavoidable adverse impacts;
- (c) mitigation measures established by this mitigation document for both the Planned Action Study Area as a whole as well as the Potential Sunset Terrace Redevelopment Subarea; and
- (d) a list of City policies/regulations on which mitigation measures are based.

Advisory notes are included at the end of the document to list the federal, state, and local laws that act as mitigation measures.

# 1. Earth

## Significant Impacts

**Table 2. Earth Significant Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	Erosion could increase as a result of soil disturbance; however, much of the existing soils are glacial outwash materials with low erosion potential. Codified best management practices minimize the potential for both erosion and erosion transport to waterways.	Same as Planned Action Study Area
	Construction could require import and export of earth materials; however, with minimal planning and protection, the outwash soils in most of the study area could be reused as backfill, minimizing import and export.	Similar to Planned Action Study Area. The underlying glacial outwash soils have the highest potential for reuse within the Planned Action Study Area and consequently the subarea.
	There is an increased risk of landsliding	There are no mapped geologic hazards,

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	due to soil disturbance, changing drainage, or temporarily oversteepening slopes. However, a relatively small proportion of the study area is considered either steep slope or erosion hazard. Both the glacial outwash and till soils are generally strong and of low concern regarding slope instability.	and thus a low potential for impacts.
<i>Operations</i>	Active seismicity in the Planned Action Study Area would require that inhabited structures, including buildings, bridges, and water tanks, be designed to withstand seismic loading.	Same as Planned Action Study Area
<i>Indirect</i>	The major steep slope, erosion, and landslide hazard areas within the Planned Action Study Area extend beyond the study area boundaries. Development on the slope above (inside) the study area boundary could increase the risk of erosion and landsliding downslope (outside) of the study area.	There are no mapped geologic hazards, and thus a low potential for impacts.
<i>Cumulative</i>	Same as indirect impacts above; intensive development around this hazard area outside of the Planned Action Study Area by other projects is not currently anticipated, but could increase the risk of erosion and landsliding.	There are no mapped geologic hazards, and thus a low potential for impacts.

## Unavoidable Adverse Impacts

There are no significant unavoidable adverse earth impacts.

## Mitigation Measures

**Table 3. Earth Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>The following mitigation measures shall apply to development throughout the Planned Action Study Area.</p> <ul style="list-style-type: none"> <li>Apply erosion-control best management practices (BMPs), as described in Appendix D of the <i>City of Renton Amendments to the King County Surface Water Design Manual</i><sup>1</sup>.</li> </ul>	<p>Mitigation measures shall be the same as the Planned Action Study Area, except that there are no geologic hazard areas to avoid.</p>

<sup>1</sup> City of Renton. 2010. *City of Renton Amendments to the King County Surface Water Design Manual*. February. Appendix D, Erosion and Sedimentation Control Standards.

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<ul style="list-style-type: none"> <li>Limit development in geologic hazard areas and their buffers, or require rigorous engineered design to reduce the hazard, as currently codified.</li> </ul> <p>Planned Action applicants shall identify in their applications the source of earth material to be used in construction and shall consider earth material reuse and provide information to the City regarding why earth material reuse is not feasible if it is not proposed. The City may condition the planned action application to provide for earth material reuse where feasible.</p>	

## Nexus

City of Renton Comprehensive Plan

RMC 4-3-050 Critical Areas Regulations

RMC 4-4-030 Development Guidelines and Regulations – General

RMC 4-4-060 Grading, Excavation and Mining Regulations

RMC 4-5-050 International Building Code

RMC 4-6-030 Drainage (Surface Water) Standards

## 2. Air Quality

### Significant Impacts

**Table 4. Air Quality Significant Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	Dust from excavation and grading could cause temporary, localized increases in the ambient concentrations of fugitive dust and suspended particulate matter.	Same as Planned Action Study Area
	Construction activities would likely require the use of diesel-powered, heavy trucks and smaller equipment such as generators and compressors. These engines would emit air pollutants that could slightly degrade local air quality in the immediate vicinity of the activity.	Same as Planned Action Study Area
	Some construction activities could cause odors detectable to some	Same as Planned Action Study Area

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Operations</i>	people in the vicinity of the activity, especially during paving operations using tar and asphalt. Such odors would be short-term and localized.	Area
Emissions from Commercial Operations	Construction equipment and material hauling could temporarily increase traffic flow on city streets adjacent to a construction area. If construction delays traffic enough to significantly reduce travel speeds in the area, general traffic-related emissions would increase.	Same as Planned Action Study Area
Emissions From Vehicle Travel	Stationary equipment, mechanical equipment, and trucks at loading docks at office and retail buildings could cause air pollution issues at adjacent residential property. However, new commercial facilities would be required to register their pollutant-emitting equipment and to use best available control technology to minimize emissions.	Same as Planned Action Study Area
	Tailpipe emissions from vehicles would be the major source of air pollutant emissions associated with growth. The net increases in vehicle miles travelled (VMT) forecast as a result of Planned Action alternatives are inconsequentially small compared to the Puget Sound regional VMT and its implied impact on regional emissions and photochemical smog. This would not alter Puget Sound Regional Council's conclusion that future regional emissions will be less than the allowable emissions budgets of air quality maintenance plans.	The forecasted VMT from the subarea is only a small fraction of the Puget Sound regional totals. Future emissions from increased population and motor vehicles in the subarea would not cause significant regional air quality impacts.

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Air Quality Attainment Status	Land use density and population would increase in the Planned Action Study Area; however, these increases represent only a small fraction of the Puget Sound regional totals. Furthermore, this alternative would not result in land use changes that include unusual industrial developments. Therefore, development in the Planned Action Study Area would not cause a substantial increase in air quality concentrations that would result in a change in air quality attainment status.	Same as Planned Action Study Area.
Greenhouse Gas Emissions: Study Area and Subarea	Planned Action alternatives are estimated to result in this alternative would result in an estimated 43,050 to 45,766 metric tons/year of greenhouse gas (GHG) emissions for the Planned Action Study Area.	Planned Action Alternatives would result in an estimated 3,760 to 6,612 metric tons/year of GHG emissions.
Outdoor Air Toxics	The Planned Action Study Area is in a mixed-use residential and commercial zone that does not include unusual sources of toxic air pollutants. The major arterial street through the Planned Action Study Area (NE Sunset Boulevard) does not carry an unusually high percentage of heavy-duty truck traffic. Thus, the Planned Action Alternatives would not expose existing or future residents to disproportionately high concentrations of toxic air pollutants generated by local emission sources.	Impacts on outdoor air toxics would be similar to those described for the Planned Action Study Area.
Indoor Air Toxics	See Potential Sunset Terrace Redevelopment Subarea	RHA development would be constructed according to local building codes that require adequate insulation and ventilation. Regardless, studies have shown that residents at lower-income developments often suffer higher rates of respiratory ailments than the general public. Therefore, the City and RHA will explore measures to improve indoor air quality beyond what is normally

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Indirect and Cumulative</i>		achieved by simply complying with building codes.
Greenhouse Gas Emissions: Subarea, Study Area, and Region	With the highest level of transit-oriented development in the study area of the studied alternatives, Planned Action Alternatives would provide the greatest regional GHG emission reductions, a net reduction of 3,907-4,164 metric tons/year, compared with the No Action Alternative studied in the EIS.	With the highest level of transit-oriented development in the subarea of the alternatives studied, Planned Action Alternatives would provide the greatest reduction in regional GHG emissions, a net reduction of 150-467 metric tons/year, compared with the No Action Alternative studied in the EIS.

## Unavoidable Adverse Impacts

No significant unavoidable adverse impacts on regional or local air quality are anticipated. Temporary, localized dust and odor impacts could occur during the construction activities. The regulations and mitigation measures described below are adequate to mitigate any adverse impacts anticipated to occur as a result of study area growth increases.

## Mitigation Measures

**Table 5. Air Quality Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p><i>Construction Emission Control</i></p> <p>The City shall require all construction contractors to implement air quality control plans for construction activities in the study area. The air quality control plans shall include BMPs to control fugitive dust and odors emitted by diesel construction equipment.</p> <p>The following BMPs shall be used to control fugitive dust.</p> <ul style="list-style-type: none"> <li>• Use water sprays or other non-toxic dust control methods on unpaved roadways.</li> <li>• Minimize vehicle speed while traveling on unpaved surfaces.</li> <li>• Prevent trackout of mud onto public streets.</li> <li>• Cover soil piles when practical.</li> <li>• Minimize work during periods of high winds when practical.</li> </ul>	<p>In addition to the mitigation measures for air quality described under the Planned Action Study Area, the following mitigation measures apply:</p> <ul style="list-style-type: none"> <li>• Should the phases of the Potential Sunset Terrace Redevelopment Subarea occur concurrently rather than in a phased and sequential manner, the City and RHA will consider adding the Northeast Diesel Collaborative Diesel Emission Controls in Construction Projects – Model Contract Specifications or an equivalent approach<sup>2</sup> as additional mitigation measures.</li> <li>• The City and RHA and other public or private applicants within the subarea should explore measures to improve indoor air quality beyond what is normally achieved by simply complying with building codes. For example, grant programs such as the Breath Easy Homes program could provide funding to foster construction methods that reduce dust, mold,</li> </ul>

<sup>2</sup> Northeast Diesel Collaborative. December 2010. Diesel Emission Controls in Construction Projects, Model Contract Specification. Available: <<http://www.northeastdiesel.org/pdf/NEDC-Construction-Contract-Spec.pdf>> Accessed: March 14, 2011.

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>The following mitigation measures shall be used to minimize air quality and odor issues caused by tailpipe emissions.</p> <ul style="list-style-type: none"> <li>• Maintain the engines of construction equipment according to manufacturers' specifications.</li> <li>• Minimize idling of equipment while the equipment is not in use.</li> </ul> <p>Where feasible, Applicants shall schedule haul traffic during off-peak times (e.g., between 9:00 a.m. and 4:00 p.m.) to have the least effect on traffic and to minimize indirect increases in traffic related emissions. This shall be determined as part of traffic control plans required in Section 14 of this mitigation document.</p> <p>Burning of slash or demolition debris shall not be permitted without express approval from Puget Sound Clean Air Agency (PSCAA). No slash burning is anticipated for any construction projects in the Planned Action Study Area.</p> <p><i>Greenhouse Gas Reduction Measures</i> Please see text and Table 6 below.</p>	<p>and air toxics concentrations in the homes, such as the following:</p> <ul style="list-style-type: none"> <li>○ use of low-VOC [volatile organic compounds] building materials and coatings,</li> <li>○ enhanced building ventilation and room air filtration, and</li> <li>○ installation of dust-free floor materials and low-pile carpeting to reduce dust buildup.</li> </ul> <ul style="list-style-type: none"> <li>• Planned Action applicants for residential developments shall provide information regarding the feasibility and applicability of indoor air quality measures. The City may condition Planned Action applications to incorporate feasible indoor air quality measures.</li> </ul>

## Greenhouse Gas Reduction Measures

The City shall require development applicants to consider the reduction measures shown in Table 6 for their projects, and as part of their application explain what reduction measures are included and why other measures found in the table are not included or are not applicable. The City may condition Planned Action applications to incorporate feasible GHG reduction measures.

**Table 6. Potential Greenhouse Gas Reduction Measures**

Reduction Measures	Comments
<b>Site Design</b>	
Plant trees and vegetation near structures to shade buildings.	Reduces on-site fuel combustion emissions and purchased electricity, and enhances carbon sinks.
Minimize building footprint.	Reduces on-site fuel combustion emissions and purchased electricity consumption, materials used, maintenance, land disturbance, and direct construction emissions.
Design water efficient landscaping.	Minimizes water consumption, purchased energy, and upstream emissions from water management.
Minimize energy use through building orientation.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
<b>Building Design and Operations</b>	
Construct buildings according to City of Seattle energy code.	The City of Seattle code is more stringent than the current City of Renton building code.

Reduction Measures	Comments
Apply Leadership in Energy and Environmental Design (LEED) standards (or equivalent) for design and operations.	Reduces on-site fuel combustion emissions and off-site/indirect purchased electricity, water use, waste disposal.
Purchase Energy Star equipment and appliances for public agency use.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
Incorporate on-site renewable energy production, including installation of photovoltaic cells or other solar options.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
Design street lights to use energy-efficient bulbs and fixtures.	Reduces purchased electricity.
Construct “green roofs” and use high-albedo roofing materials.	Reduces on-site fuel combustion emissions and purchased electricity consumption.
Install high-efficiency heating, ventilation, and air-conditioning (HVAC) systems.	Minimizes fuel combustion and purchased electricity consumption.
Eliminate or reduce use of refrigerants in HVAC systems.	Reduces fugitive emissions. Compare refrigerant usage before/after to determine GHG reduction.
Maximize interior day lighting through floor plates, increased building perimeter and use of skylights, celestries, and light wells.	Increases natural/day lighting initiatives and reduces purchased electrical energy consumption.
Incorporate energy efficiency technology such as super insulation motion sensors for lighting and climate-control-efficient, directed exterior lighting.	Reduces fuel combustion and purchased electricity consumption.
Use water-conserving fixtures that surpass building code requirements.	Reduces water consumption.
Reuse gray water and/or collect and reuse rainwater.	Reduces water consumption with its indirect upstream electricity requirements.
Use recycled building materials and products.	Reduces extraction of purchased materials, possibly reduces transportation of materials, encourages recycling and reduction of solid waste disposal.
Use building materials that are extracted and/or manufactured within the region.	Reduces transportation of purchased materials.
Use rapidly renewable building materials.	Reduces emissions from extraction of purchased materials.
Conduct third-party building commissioning to ensure energy performance.	Reduces fuel combustion and purchased electricity consumption.
Track energy performance of building and develop strategy to maintain efficiency.	Reduces fuel combustion and purchased electricity consumption.
<b>Transportation</b>	
Size parking capacity to not exceed local parking requirements and, where possible, seek reductions in parking supply through special permits or waivers.	Reduced parking discourages auto-dependent travel, encouraging alternative modes such as transit, walking, and biking. Reduces direct and indirect VMT.
Develop and implement a marketing/information program that includes posting and distribution of ridesharing/transit information.	Reduces direct and indirect VMT.

Reduction Measures	Comments
Subsidize transit passes. Reduce employee trips during peak periods through alternative work schedules, telecommuting, and/or flex time. Provide a guaranteed-ride-home program.	Reduces employee VMT.
Provide bicycle storage and showers/changing rooms.	Reduces employee VMT.
Use traffic signalization and coordination to improve traffic flow and support pedestrian and bicycle safety.	Reduces transportation emissions and VMT.
Apply advanced technology systems and management strategies to improve operational efficiency of local streets.	Reduces emissions from transportation by minimizing idling and maximizing transportation routes/systems for fuel efficiency.
Develop shuttle systems around business district parking garages to reduce congestion and create shorter commutes.	Reduces idling fuel emissions and direct and indirect VMT.
Source: Washington State Department of Ecology 2008b VMT = vehicle miles travelled.	

## Nexus

City of Renton Comprehensive Plan

RMC 4-4-030 Development Guidelines and Regulations – General

RMC 4-4-060 Grading, Excavation and Mining Regulations

## 3. Water Resources

### Significant Impacts

**Table 7. Water Resources Significant Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	Construction impacts on water resources would be addressed through compliance with Core Requirement #5 for Erosion and Sediment Control in the Renton Stormwater Manual and compliance with Ecology’s NPDES Construction Stormwater General Permit, if the project results in 1 acre or more of land-disturbing activity. Also see Section 1, Earth, above.	Same as Planned Action Study Area
<i>Operations</i>		
Water Quality and Land	Implementation of the green	All untreated pollution-generating

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Cover	connections and the NE Sunset Boulevard reconstruction project is estimated to result in a net reduction of approximately 14.7-15.7 acres of untreated pollution-generating impervious area and approximately 3.1-6.6 acres of effective impervious area.	impervious surfaces within the subarea would be eliminated, resulting in a reduction of 1.83 acres of untreated pollution-generating surface from the Johns Creek Basin. The estimated change in effective impervious area would result in a decrease of approximately 0.51 acre (11%) to 1.07 acres (23%) compared to existing conditions.
<i>Indirect and Cumulative</i>	The operations analysis above presents cumulative impacts in terms of total impervious surfaces and potential water quantity and quality impacts, as well as indirect impacts on receiving water bodies outside of the study area. The Planned Action Alternatives would implement a drainage master plan and mitigation would be provided in advance through the self-mitigating public stormwater infrastructure features including a combination of green connections, regional stormwater flow control, and possible public-private partnership opportunities for retrofits.	Same as the Planned Action Study area. In particular, the City proposes to construct a regional stormwater facility that would be designed to maintain active and open recreation space allowing water to be treated within a series of distributed of small integrated rain gardens along the edge of the proposed Sunset Terrace Park and connecting the subsurface to an underground infiltration bed beneath open space. This will mitigate impacts in the subarea as well as portions of the larger Planned Action Study Area.

## Unavoidable Adverse Impacts

None of the alternatives would have significant unavoidable adverse impacts on water resources, because the redevelopment would likely result in an improvement of runoff and recharge water quality. In addition, the net change in effective impervious area can be adequately mitigated through the self-mitigating features of the Planned Action alternatives and through implementation of the stormwater code, as described below.

## Mitigation Measures

All of the alternatives would involve redevelopment and reduction of existing pollution-generating impervious surfaces in the Planned Action Study Area. In addition, per the requirements of the stormwater code, the redeveloped properties would be required to provide water quality treatment for all remaining pollution-generating impervious surfaces. The net reduction in untreated pollution-generating impervious surfaces throughout the study area is, therefore, considered to result in a net benefit to surface water quality. Therefore, no additional mitigation measures are proposed. Each of the alternatives would result in a slight increase in the effective impervious area of the Planned Action Study Area.

Self mitigating features of the Planned Action Alternatives are listed below:

- Under Alternative 3, mitigation would be provided in advance or incrementally through the self-mitigating public stormwater infrastructure features including a combination of green connections, regional stormwater flow control, and possible public-private partnership opportunities for retrofits. Conceptual design and planning of the public stormwater infrastructure would be developed under a drainage master plan for the Study Area. It could be developed in advance of (likely through grants or city funds) or incrementally as development occurs depending on opportunity costs of constructing the improvements. The extent and form of the public infrastructure projects would be refined through the drainage master plan development and further design. The goal under Alternative 3 would be to provide sufficient advance public infrastructure improvements to balance the anticipated increase in effective impervious area. This strategy would only require that future developments implement flow-control BMPs, but could eliminate on-site flow control through a development fee or similar funding structure to compensate for the off-site mitigation provided by the public infrastructure investment.
- The Preferred Alternative mitigation would be similar to Alternative 3. Harrington Avenue NE, including portions of NE 16th and NE 9th streets, has been identified as a high priority Green Connection project. This corridor would be enhanced by narrowing through-traffic lanes to calm traffic, create wide planter areas to accommodate large trees and rain gardens to mitigate stormwater runoff, and create wider sidewalks. This project would be implemented as a public infrastructure retrofit project pending available funds. The remaining green connections projects would likely be implemented as revised roadway standards to require incremental redevelopment of the frontage as redevelopment occurs (constructed either by future developers or the City, depending on availability of funds). In addition to the Green Connections projects, the City will implement regional detention/retention improvements to provide advance mitigation for future increases in impervious area that could result from redevelopment. Locations of the regional facilities would include the western margin of the newly created park at Sunset Terrace and/or the northern corner of Highlands Park (beyond the outfield of the existing baseball/softball field). A drainage master plan will be developed for the Preferred Alternative.

Planned Actions shall implement the City's adopted drainage master plan and be consistent with the City stormwater regulations in effect at the time of application.

## **Nexus**

City of Renton Comprehensive Plan

RMC 4-3-050 Critical Areas Regulations

RMC 4-4-030 Development Guidelines and Regulations – General

RMC 4-6-030 Drainage (Surface Water) Standards

## 4. Plants and Animals

### Significant Impacts

**Table 8. Plants and Animals Significant Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	Individual redevelopment projects would result in short-term loss of vegetation cover, along with noise and activity levels that would result in little or no use of the construction areas by wildlife during the period of construction. Redevelopment actions would be required to comply, during construction, with City regulations requiring temporary erosion and sedimentation controls to prevent water quality impacts from work site stormwater runoff.	Same as Planned Action Study Area
<i>Operations</i>	Redevelopment activities that would be facilitated under the planned action ordinance would have a limited effect on plant or wildlife habitat in the Planned Action Study Area. New development being designed as Low Impact Development (LID) is likely to result in a measurable decline in total vegetated area, accompanied by a measurable improvement in plant diversity and quality of the remaining habitat. Green connections and urban forestry plans offset to some degree by greater redevelopment, the net result is likely to be a reduction in habitat connectivity and a decline in total vegetated area, albeit with some improvement in plant diversity and quality of the remaining habitat. Largely due to the absence of impacts on special-status species, effects on wildlife would be less than significant.	Same as Planned Action Study Area
<i>Indirect</i>	Planned Action Alternatives	Same as Planned Action Study Area

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	<p>would result in an indirect impact on plants and wildlife by contributing to a substantial increase in the human population within the area. This can be expected to result in effects such as increased wildlife mortality due to road kill and predation by pets, and reduced wildlife diversity due to increases in opportunistic species such as starlings, crows, and rats. These indirect impacts can be expected to result in reduced numbers, vigor, and diversity of plant and wildlife species.</p> <p>The stormwater commitments incorporated in Planned Action Alternatives would be sufficient to avoid substantial impacts on aquatic habitats and fish.</p>	
<i>Cumulative</i>	No impact	No impact

### Unavoidable Adverse Impacts

No significant unavoidable adverse impacts would occur for plants and animals under any alternative.

### Mitigation Measures

With implementation of proposed stormwater features or standards, no mitigation is required.

### Nexus

- City of Renton Comprehensive Plan
- RMC 4-6-030 Drainage (Surface Water) Standards
- RMC 4-3-050 Critical Areas Regulations
- RMC 4-4-030 Development Guidelines and Regulations – General
- RMC 4-4-130 Tree Retention and Land Clearing Regulations

## 5. Energy

### Significant Impacts

**Table 9. Energy Significant Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	During construction, energy would be consumed by demolition and reconstruction activities. These activities would include the manufacture of construction materials, transport of construction materials to and from the construction site, and operation of machinery during demolition and construction.	Same as Planned Action Study Area
<i>Operations</i>		
Energy Usage: Study Area and Subarea	The annual energy usage is estimated at 255,845 to 275,529 million British thermal units (Btu).	The annual energy usage is estimated at 21,338 to 43,654 million British thermal units (Btu).
<i>Indirect and Cumulative</i>		
Energy Usage: Subarea, Study Area, and Region	With high levels of transit-oriented and high-density development the Planned Action Alternatives would provide the greatest estimated regional energy usage reduction for the study area compared to the No Action Alternative: 26,383 to 29,194 million Btu.	With high levels of transit-oriented and high-density development the Planned Action Alternatives would provide the greatest estimated regional energy usage reduction for the subarea compared to the No Action Alternative: 1,145 to 3,624 million Btu.

### Unavoidable Adverse Impacts

Additional energy would be consumed and would contribute to increases in demand associated with the growth and development of the region. As described in the Utilities Element of the City Comprehensive Plan, it is anticipated that existing and planned infrastructure of affected energy utilities could accommodate growth. Energy conservation features would be incorporated into building design as required by the current City building codes. For the Potential Sunset Terrace Redevelopment Subarea, HUD encourages public housing authorities such as RHA to use Energy Star, renewable energy, and green construction practices in public housing. As such, no significant unavoidable adverse impacts on energy use are anticipated.

## Mitigation Measures

**Table 10. Energy Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>Although the growth and development would result in increased energy demand in the Planned Action Study Area under all of the alternatives, expanding the beneficial transit-oriented development and high-density housing development within the study area would reduce regional energy usage. Therefore, all alternatives would provide a net benefit rather than adverse impact with regards to energy usage. However, to further reduce energy consumption, the City shall encourage future developers to implement additional trip-reduction measures and energy conservation measures. For example, energy and GHG reductions can be achieved through implementation of the following energy conservation techniques or equivalent approaches.</p> <ul style="list-style-type: none"> <li>• An energy reduction of 12% can be achieved by implementing sufficient strategies established by the Northwest Energy Star Homes program for multifamily residential buildings. The Northwest ENERGY STAR Homes program (U.S. Environmental Protection Agency 2010) is designed to help builders construct energy-efficient homes in Washington, Oregon, Idaho, and Montana to meet energy-efficiency guidelines set forth by the EPA.</li> <li>• An energy reduction of 10% would comply with Seattle Energy Code for non-residential buildings.</li> </ul> <p>See also Air Quality mitigation measures. The City shall require development applicants to consider trip-reduction measures and energy conservation, and as part of their application explain what reduction measures are included and which ones are not included (based on that are part of Table 6 or Table 10). The City may condition Planned Action applications to incorporate feasible trip reduction and energy conservation measures.</p>	<p>In addition to the mitigation measures described for the Planned Action Study Area, according to the King County proposed GHG reduction regulation, energy reductions can be provided with the implementation of the following basic requirements of the <i>American Society of Heating, Refrigerating and Air-Conditioning Engineers Advanced Buildings Core Performance Guide</i> for residential and non-residential building in the subarea:</p> <ul style="list-style-type: none"> <li>• 30% energy reduction for residential dwelling that are 50% of average size; and 15% energy reduction for residential dwelling that are 75% of average size; and</li> <li>• 12% energy reduction for office, school, retail, and public assembly buildings that are smaller than 100,000 square feet in floor area.</li> </ul>

## Nexus

City of Renton Comprehensive Plan

## 6. Noise

### Significant Impacts

**Table 11. Noise Significant Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	Development in the study area would require demolition and construction activity, which would temporarily increase noise levels at residences close to the development site. This type of activity could cause annoyance and speech interference at outdoor locations adjacent to the construction sites, and could cause discernible noise.	Same as Planned Action Study Area
<i>Operations</i>		
Noise from New Commercial Operations	Unless properly controlled, mechanical equipment (e.g., rooftop air conditioning units) and trucks at loading docks of office and retail buildings in the study area could cause ambient noise levels at nearby residential housing units to exceed the City noise ordinance limits.	Same as Planned Action Study Area
<i>Indirect and Cumulative</i>		
Noise from Increased Traffic: Proposal with Future Traffic Levels	For most residents adjacent to roadways in the study area, increased traffic would result in the greatest increase in ambient noise levels, caused by moving traffic and vehicles idling at intersections. Development would result in noise increase from vehicles traveling on NE Sunset Boulevard and local streets.	Development would result in noise increase from vehicles traveling on NE Sunset Boulevard and local streets. The estimated day-night noise levels from NE Sunset Boulevard at the adjacent buildings indicates they would be exposed to “normally unacceptable” noise levels exceeding U.S. Department of Housing and Urban Development’s (HUD’s) outdoor day-night noise criterion of 65 dBA. The noise levels at these first row residential dwellings currently exceed the HUD noise criterion and would continue to exceed

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
		the criterion under Planned Action Alternatives.

## Unavoidable Adverse Impacts

No significant unavoidable adverse construction or operational traffic noise impacts are anticipated in the Planned Action Study Area with the implementation of mitigation measures noted below. No significant unavoidable adverse traffic noise impacts are anticipated at residences along NE Sunset Boulevard in the Planned Action Study Area per WSDOT criteria, because the noise increase caused by NE Sunset Boulevard traffic is less than the WSDOT “substantial increase” impact threshold.

Portions of the Potential Sunset Terrace Redevelopment Subarea, even under existing conditions and the No Action Alternative, would be deemed normally unacceptable under the HUD noise criteria without implementation of noise attenuation mitigation, due to traffic noise from the adjacent street (NE Sunset Boulevard). No significant unavoidable adverse noise impacts are anticipated in this subarea, if the noise control measures noted below are implemented to reduce anticipated future traffic noise to levels suitable for residential uses under the HUD criteria.

## Mitigation Measures

**Table 12. Noise Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p><i>Construction Noise</i></p> <p>To reduce construction noise at nearby receivers, the following mitigation measures shall be incorporated by Planned Action applicants into construction plans and contractor specifications.</p> <ul style="list-style-type: none"> <li>• Locate stationary equipment away from receiving properties.</li> <li>• Erect portable noise barriers around loud stationary equipment located near sensitive receivers.</li> <li>• Limit construction activities to between 7:00 a.m. and 10:00 p.m. to avoid sensitive nighttime hours.</li> <li>• Turn off idling construction equipment.</li> <li>• Require contractors to rigorously maintain all equipment.</li> <li>• Train construction crews to avoid unnecessarily loud actions (e.g., dropping bundles of rebar onto the ground or dragging steel plates across pavement) near noise-sensitive areas.</li> </ul> <p><i>New Commercial Operation Noise</i></p> <p>The City shall require all prospective future</p>	<p>Mitigation measures described in the Planned Action Study Area would also apply to this subarea.</p> <p>Site design approaches shall be incorporated to reduce potential noise impacts including the following.</p> <ul style="list-style-type: none"> <li>• Concentrating park and open space uses are away from NE Sunset Boulevard.</li> <li>• Where park and open space uses must be located near NE Sunset Boulevard, avoiding activities that require easily understood conversation (e.g., instructional classes), or other uses where quiet conditions are required for the primary function of the activity.</li> <li>• Allowing for balconies on exterior facing units only if they do not open to a bedroom.</li> </ul> <p>According to HUD noise guidebook, noise attenuation from various building materials are calculated using sound transmission class (STC) rating. Although the standard construction approaches can normally achieve the STC rating of more than 24 dBA as demonstrated in Final EIS Appendix E, the City shall require a STC rating of 30 dBA reduction for these first row residential</p>

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>developers to use low-noise mechanical equipment adequate to ensure compliance with the City’s daytime and nighttime noise ordinance limits where commercial uses are abutting residential uses and where there is a potential to exceed noise ordinance limits. Depending on the nature of the proposed development, the City shall require the developer to conduct a noise impact study to forecast future noise levels and to specify appropriate noise control measures. Compliance with the noise ordinance would ensure this potential impact would not be significant.</p> <p><i>Traffic Noise Mitigation</i></p> <p>Although traffic noise is exempt from City noise ordinance, based on site-specific considerations, the City may at its discretion require the new development to install double-pane glass windows or other building insulation measures using its authority under the Washington State Energy Code (RMC 4-5-040).</p>	<p>dwellings because the HUD noise guidebook shows that the sound reduction achieved by different techniques may be a little optimistic<sup>3</sup>.</p>

## Nexus

City of Renton Comprehensive Plan

RMC 4-4-030 Development Guidelines and Regulations – General

RMC 4-4-060 Grading, Excavation and Mining Regulations

RMC Title 8 Chapter 7 Noise Level Regulations

## 7. Environmental Health

### Significant Impacts

**Table 13. Environmental Health Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	Potential construction impacts include releasing existing contaminants to the environment by ground-disturbing or dewatering activities, encountering underground storage tanks (USTs) or leaking USTs, generating hazardous building materials that require	Existing subsurface contaminations have not been identified on the redevelopable properties and, therefore, are not expected to be encountered during construction. Hazardous building materials such as lead-based paint and asbestos-containing materials (ACMs)

<sup>3</sup> HUD noise guidebook, Chapter 4, page 33” ... use the STC ratings with a bit of caution and remain aware of the possible 2-3 dB overstating that you may get with the STC rating system.”

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	special disposal, and accidentally releasing hazardous substances.	could be generated from demolition of the existing Sunset Terrace buildings. If there are lead-based paints or ACMs at the complex, appropriate permits and precautions would be required. Accidental release of hazardous substances during construction could still occur as in all construction projects.
<i>Operations</i>	If development occurs on contaminated sites, where appropriate clean-up measures were not completed or residual contaminations were present, then there is a potential risk to public health for people using the site.	No impact
<i>Indirect</i>	No impact	No impact
<i>Cumulative</i>	No impact	No impact

## Unavoidable Adverse Impacts

No significant unavoidable adverse impacts are identified at the programmatic level throughout the Planned Study Area or for the Sunset Terrace Redevelopment Subarea for any of the studied alternatives. Contaminated sites would be avoided during project design when possible; implementing the mitigation approaches described below would minimize or eliminate adverse effects on human health and the environment.

## Mitigation Measures

**Table 14. Environmental Health Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<ul style="list-style-type: none"> <li>Since encountering unreported spills or unreported underground fuel tanks is a risk when performing construction, contractors shall be required to provide hazardous materials awareness training to all grading and excavation crews on how to identify any suspected contaminated soil or groundwater, and how to alert supervisors in the event of suspected contaminated material. Signs of potential contaminated soil include stained soil, odors, oily sheen, or the presence of debris.</li> <li>Contractors shall be required to implement a contingency plan to identify, segregate, and dispose of hazardous waste in full</li> </ul>	The construction and operation mitigation measures identified for the Planned Action Study Area are applicable to the subarea.

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Planned Action Study Area

Potential Sunset Terrace Redevelopment Subarea

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accordance with the Model Toxics Control Act (MTCA)(WAC 173-340) and the Dangerous Waste (WAC 173-303) regulations.

- Contractors shall be required to develop and implement the Stormwater Pollution Prevention Plan, BMPs, and other permit conditions to minimize the potential for a release of hazardous materials to soil, groundwater, or surface water during construction.
  - Contractors shall be required to follow careful construction practices to protect against hazardous materials spills from routine equipment operation during construction; prepare and maintain a current spill prevention, control, and countermeasure plan, and have an individual on site designated as an emergency coordinator; and understand and use proper hazardous materials storage and handling procedures and emergency procedures, including proper spill notification and response requirements.
  - All asbestos-containing materials (ACM) and lead-based paint will be identified in structures prior to demolition activities in accordance with 24 CFR Part 35. If ACM or lead-based paint is identified, appropriately trained and licensed personnel will contain, remove, and properly dispose of the ACM and/or lead-based paint material according to federal and state regulations prior to demolition of the affected area.
  - If warranted, contractors shall conduct additional studies to locate undocumented underground storage tank (USTs) and fuel lines before construction of specific development projects (areas of concern include current and former commercial and residential structures) and will permanently decommission and properly remove USTs from project sites before commencing general construction activities.
  - Prior to acquisition of known or potentially contaminated property, the City shall require appropriate due diligence be performed to identify the presence and extent of soil or groundwater
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Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
contamination. This can help to prevent or manage liabilities for any long-term clean-up activities that might be ongoing during project operations. If contamination is discovered, the project proponent will comply with all state and federal regulations for contaminated sites.	

## Nexus

City of Renton Comprehensive Plan

RMC 4-4-030 Development Guidelines and Regulations – General

RMC Title 4 Chapter 5 Building and Fire Prevention Standards

## 8. Land Use

### Significant Impacts

**Table 15. Land Use Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	The incremental nature of development over the planning period would minimize the number of nearby residents exposed to temporary construction impacts including dust emissions, noise, construction traffic, and sporadic interference with access to adjacent residences and businesses.	Same as Planned Action Study Area
<i>Operations</i>		
Land Use Patterns	Planned Action Alternatives would provide more than 2,300 to 2,500 dwelling units and 1.2 to 1.3 million square feet of commercial space compared to existing conditions. Redevelopment would provide more commercial development than residential development. This alternative would also provide more than two times as many residential dwellings as currently exist in the study area.	Planned Action Alternatives would provide about 266-479 more dwelling units than existing conditions in a mixed-use development that integrates commercial and civic spaces.
Plans and Policies	Planned Action Alternatives provide the greatest degree of	Planned Action Alternatives provide the greatest degree of

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Indirect and Cumulative</i>	<p>consistency among the alternatives with the City Comprehensive Plan goals, objectives, and policies by implementing the development types envisioned in the City's land use and zoning designations within the study area. Anticipated growth would help the City meet its 2031 housing and employment targets.</p> <p>Public investments would need to be accounted for in amendments to the City's Transportation and Capital Facilities elements.</p> <p>No indirect or cumulative land use impacts are anticipated outside the study area. The City applies its policies and development regulations to create a planned land use pattern. Density is most intense at the center of the study area and least along its boundaries with single-family residential land use patterns; it is unlikely to alter patterns or plans along the edges of the study area. The City will, as part of its regular comprehensive plan review and amendment updates, control the monitoring, evaluation, and amendment process.</p>	<p>consistency with the City's land use element goals and policies of all alternatives by promoting the redevelopment of the Sunset Terrace public housing community. It also does more than other alternatives to develop the Center Village. Development in the subarea under this alternative has a similar consistency as the study area for other City goals and policies, providing a greater degree of consistency with those goals and policies than other alternatives.</p> <p>Redevelopment of the subarea under this alternative would serve as an incentive for other redevelopment opportunities near the study area.</p>

## Unavoidable Adverse Impacts

Although intensification of land uses in the Planned Action Study Area, including the Potential Sunset Terrace Redevelopment Subarea, would occur and density would increase, this change would be consistent with applicable plans, zoning, and land use character. Plan consistency can be addressed by Comprehensive Plan amendments using the City's legislative process. Therefore, there would be no significant adverse impacts.

## Mitigation Measures

**Table 16. Land Use Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Under all alternatives, the City shall require planned action applicants to implement appropriate construction mitigation measures, including but not limited to dust control and	Construction mitigation would be the same as described under the Planned Action Study Area. The City and RHA should coordinate on future

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>construction traffic management.</p> <p>The City should make efforts to minimize property acquisition that affects buildings as part of its refinement of study area streetscape designs while balancing Complete Streets principles.</p> <p>As part of the Planned Action Ordinance adoption process, the City should amend its Comprehensive Plan's Transportation and Capital Facilities elements to ensure that planned public investments and their funding sources are accounted for and programmed.</p>	<p>Sunset Terrace redevelopment and Planned Action Study Area streetscape improvements to ensure that property acquisition that affects buildings is minimized.</p> <p>The City shall require construction plans to:</p> <ul style="list-style-type: none"> <li>• Locate the majority of the most intensive non-residential development along or near NE Sunset Boulevard, where possible.</li> <li>• Implement proposed open space and landscape features to offset the proposed intensification of land uses on the site.</li> <li>• Provide new opportunities for public open space area.</li> <li>• As part of site design, emphasize transitions in density, with less intense densities where abutting lower-intensity zones.</li> </ul>

## Nexus

City of Renton Comprehensive Plan

RMC Title 4 Chapter 2 Zoning Districts – Uses and Standards

## 9. Socioeconomics

### Significant Impacts

**Table 17. Socioeconomics Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	<p>Construction activities could temporarily increase congestion and reduce parking, local access for businesses and residents, and access near the construction activities, which could negatively affect businesses; however, businesses located close to construction activities could experience an increase in revenue from spending by construction workers.</p>	<p>The demolition of the Sunset Terrace complex to allow for the subarea redevelopment would require the relocation of the tenants.</p> <p>Moreover, the relocation of the tenants could affect some local businesses during construction, if the tenants are relocated outside of the immediate area; however, since the total number of relocations represents a small portion of the overall population any impact would likely be small in scale.</p>
<i>Operations</i>	<p>The higher number of dwelling units and jobs would result in greater intensities in development</p>	<p>The Planned Action Alternatives would increase dwelling units and jobs by 266-479 net dwelling</p>

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	<p>and economic benefits. Improvements in the streetscape along NE Sunset Boulevard and the other civic and infrastructure improvements would make the study area more desirable to investment, which could lead to additional opportunities for employment as more businesses are attracted to the study area. The facilities that would be added under Alternative 3 include a family village and a wider reconstruction of NE Sunset Boulevard. The family village would include housing, education, recreation, and supportive services that would be designed to promote a healthy and walkable neighborhood.</p>	<p>units and 79- 117 jobs. The subarea would be developed with new park, street, and civic improvements that would promote a healthy and walkable neighborhood.</p>
<i>Indirect</i>	<p>Construction spending would result in positive indirect effects on the economic elements of employment and income in the study area and the regional economy as businesses that support the construction effort would likely see increased spending. The additional public and private investment and associated economic benefits would be greater due to the increased spending.</p>	<p>Increased spending is anticipated with the mixture of affordable and market-rate units, which would result in positive impacts on the businesses in the area as well as local tax revenues.</p>
<i>Cumulative</i>	<p>Cumulative effects would be positive with the addition of new development that would continue to enhance the area and continue to improve the neighborhood vitality.</p>	<p>As the area changes and new housing is provided, no existing public units would be lost and improvements in the neighborhood would likely continue as new developments are constructed.</p>

### Unavoidable Adverse Impacts

No long-term significant unavoidable adverse impacts are anticipated. Planned Action alternatives would encourage new development in the both the Planned Action Study Area and the Potential Sunset Terrace Redevelopment Subarea that would result in beneficial changes to the socioeconomic conditions.

Under Planned Action Alternatives, relocation of the tenants of the Sunset Terrace complex would result in short-term impacts; however, these impacts would be mitigated. The creation of new jobs

and spending in the subarea during construction of new developments would result in short-term benefits.

## Mitigation Measures

**Table 18. Socioeconomics Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>Mitigation measures to minimize dust, noise, aesthetics, and transportation impacts during construction are identified in Sections 2, 6, 12, and 14, respectively, of this Mitigation Document. These measures would address many of the construction-related impacts that could negatively affect the study area businesses. In addition, with the reconstruction of NE Sunset Boulevard, or with any new development, if access to businesses is affected, the following measures should be addressed by the City or WSDOT:</p> <ul style="list-style-type: none"> <li>• Provide detour, open for business, and other signage, as appropriate.</li> <li>• Provide business cleaning services on a case-by-case basis, as needed.</li> <li>• Establish promotions or marketing measures to help affected businesses maintain their customer base during construction.</li> <li>• Maintain access, as much as possible, to each business and, if access needs to be limited, coordinate with the affected businesses.</li> </ul> <p>Mitigation measures to address indirect impacts on housing affordability are addressed in Section 10 of this Mitigation Document.</p>	<p>In addition to mitigation measures described for the Planned Action Study Area, the following mitigation measures apply:</p> <ul style="list-style-type: none"> <li>• Public housing tenants shall be provided relocation assistance under the Uniform Relocation Act.</li> <li>• RHA should consider phased demolition and reconstruction to minimize the need to relocate all the residents at the same time, or the new affordable housing development could be constructed prior to demolition to provide opportunities to relocate tenants within the subarea.</li> </ul>

## Nexus

City of Renton Comprehensive Plan

## 10. Housing

### Significant Impacts

**Table 19. Housing Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	Construction of commercial, residential, and civic uses in the study area would create temporary noise, dust, and	Construction of residential and civic uses would create temporary noise, dust, and construction traffic, which would affect

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Operations</i>	construction traffic, which would affect current residents.	adjacent residents to the subject properties.
	The Planned Action Alternatives assume 40% of the study area acreage would infill or redevelop. This would result in the greatest number of dwellings replaced at 299.	In this subarea, 110 public housing and duplex dwellings would be eliminated. There would be a 1:1 replacement of public housing units on site and in the Planned Action Study Area.
<i>Indirect</i>	The Planned Action Alternatives would add up to approximately 2,339 to 2,507 new dwellings. In the study area there is a potential for additional market rate dwellings as well as affordable and public dwellings. Most new units would be multifamily.	The number of units added would be 266-479 above existing dwellings, for a total of 376-589 units. About three quarters of the units would be affordable or public, and another approximate quarter would be market-rate dwelling units.
	Increased housing could increase local resident spending at businesses in the study area, and could also create an increased demand for parks and recreation, public services, and utilities.	The potential for residents to help support local businesses as well as to create a demand for services is similar to the Planned Action Study Area.
<i>Cumulative</i>	Growth in the study area would be consistent with the City's Comprehensive Plan and would contribute to meeting growth targets for the City's next Comprehensive Plan Update for the year 2031.	The support of the new dwellings to assist the City in meeting growth targets is similar to the Planned Action Study Area.

## Unavoidable Adverse Impacts

Housing in the Planned Action Study Area would likely redevelop to some degree to take advantage of adopted plans and zoning. However, the alternatives would allow for the construction of new dwelling units to replace those that are eliminated. Lower-cost housing could be replaced with more costly housing. Implementation of City regulatory incentives and use of federal, state, and local housing funds and programs could reduce potential affordability impacts. Through its regular Comprehensive Plan review cycles, the City could monitor housing trends in the neighborhood and adapt measures to promote affordability.

During construction and in the short-term, residents would be subject to construction activities and the tenants of the Sunset Terrace complex would be required to relocate during demolition and construction. However, relocation assistance mitigation measures for RHA units would mitigate impacts.

## Mitigation Measures

**Table 20. Housing Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>Renton Municipal Code (RMC) 4-4-030(C) identifies construction hours intended to address noise in sensitive time periods. See Section 6, Noise, of this Mitigation Document regarding other noise mitigation measures for construction periods.</p> <p>When federal funds are being used for a proposal, displaced tenants shall be offered relocation assistance in compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended.</p> <p>The City and RHA should apply for federal, state, and local funding programs described in Draft EIS Section 3.10, Housing, to promote new housing opportunities for low and very low-income housing.</p> <p>RHA should establish a local preference for rental assistance. For example, RHA could establish a priority list for Section 8 vouchers for displaced low-income tenants in the Planned Action Study Area (in addition to the relocation assistance to be provided by RHA to the Sunset Terrace residents). Unit replacement and relocation assistance for the family village would be the same as described for the Potential Sunset Terrace Redevelopment Subarea.</p>	<p>Construction mitigation would be as described for the Planned Action Study Area.</p> <p>RHA has committed to replacement housing for the Sunset Terrace public housing units at a 1:1 ratio, consistent with the existing proportion of units by number of bedrooms. Such replacement housing could occur on site and/or off site.</p> <p>During the time replacement housing is under construction, Section 8 vouchers, or equivalent measures, shall be used to relocate tenants.</p>

## Nexus

City of Renton Comprehensive Plan

RMC Title 4 Chapter 2 Zoning Districts – Uses and Standards

RMC 4-4-030 Development Guidelines and Regulations – General

## 11. Environmental Justice

### Significant Impacts

**Table 21. Environmental Justice Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	Residents near construction activities would likely be affected by temporary noise, dust, and visual impacts due to	The demolition of the Sunset Terrace complex and construction of the proposed conceptual plans would require the relocation of

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Operations</i>	<p>construction; these impacts would be short-term in nature. The population of the study area is predominately non-minority and non-low-income and any negative impacts would likely occur on these populations to a greater degree than the minority and low-income populations.</p> <p>Residential, commercial, and recreational development and civic and infrastructure improvements under Planned Action Alternatives would improve the overall neighborhood, making it a more cohesive and desirable place to live for all populations in the community, including minority and low-income populations. The family village would be beneficial for all populations in the Planned Action Study Area, but these benefits could accrue to a greater degree for minority and low-income populations due to the close proximity, especially for those without access to a vehicle.</p>	<p>the tenants of the Sunset Terrace complex likely through Section 8 vouchers. Because the tenants are low-income and predominately minority, this would constitute a greater impact on these populations than other populations.</p> <p>Planned Action Alternatives would have a number of beneficial effects on minority and low-income populations in the subarea, including the redevelopment of the existing dwelling units, construction of additional units, transportation improvements, and the addition of other community facilities (i.e., senior day health, library, parks). These changes would result in improvements to public health and to the aesthetics of the area. These would all improve community cohesion for subarea residents.</p>
<i>Indirect</i>	<p>The introduction of new retail and commercial space within the study area would increase employment opportunities. These opportunities would benefit all study area populations, but could benefit minority and low-income populations to a greater degree. The Planned Action Alternatives would increase the variety of residential unit types and affordability levels would reduce the concentration of low-income households in the subarea, and thereby reduce or eliminate some of the social consequences of such concentrations.</p>	<p>Housing types and affordability would be more varied. New retail and commercial space would provide new employment opportunities could be seen as more beneficial to subarea residents who may be unemployed or not have a their own vehicle and would, therefore, benefit more from the proximity.</p>
<i>Cumulative</i>	<p>Cumulative impacts would primarily be beneficial. As the area continues to redevelop with new investments, public and private, it would become more desirable for the residents and</p>	<p>Adverse impacts are not anticipated. New dwelling units would be affordable, public, and market-rate units. The beneficial cumulative impacts identified under the Planned Action Study</p>

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	would continue to create new jobs. The new development and addition of more market-rate units could cause the study area to become less affordable to lower-income populations, which could result in these populations needing to relocate outside of the study area.	Area would be similar.

## Unavoidable Adverse Impacts

There are no long-term significant unavoidable adverse impacts related to environmental justice. The Planned Action alternatives would result in primarily beneficial impacts associated with new dwelling units, new civic facilities and parks, improvements in nonmotorized transportation, and new employment opportunities in the surrounding area.

During construction and in the short-term residents would be subject to construction activities and the tenants of the Sunset Terrace complex would be required to relocate during demolition and construction. However, construction mitigation and relocation assistance mitigation measures (for the RHA units) would minimize impacts.

## Mitigation Measures

**Table 22. Environmental Justice Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
There are no specific mitigation measures related to environmental justice during construction or operation. During construction, mitigation measures related to noise, dust, traffic congestion, and visual quality shall be applicable to all populations. These measures are described in Sections 2, 6, 12, and 14, respectively, of this Mitigation Document.	Mitigation measures during construction include the need for replacement housing for the residents of Sunset Terrace. It is likely that the tenants would be relocated under a potential Section 8 voucher strategy during construction. See Section 9, Socioeconomics, of this Mitigation Document.

## Nexus

City of Renton Comprehensive Plan

RMC 4-4-030 Development Guidelines and Regulations – General

## 12. Aesthetics

### Significant Impacts

**Table 23. Aesthetic Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
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Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	<p>The demolition of existing structures and construction of new buildings would expose nearby residents to visual impacts, including dust, the presence of construction equipment, stockpiles of construction materials, localized increases in vehicular traffic, and on-site construction activities. For each alternative, these activities would occur sporadically at various locations throughout the Planned Action Study Area, would be localized to the construction site, and would be temporary in nature.</p>	<p>Same as Planned Action Study Area</p>
<p><i>Operations</i> Visual Character</p>	<p>The extensive public investment under the Planned Action Alternatives would result in widespread changes to the visual character of the Planned Action Study Area affecting about 40% of parcel acres. Private development would take full advantage of the current development regulations, resulting in a transition to a mixed-use, pedestrian-oriented neighborhood.</p> <p>The application of adopted design standards as new construction gradually replaces older buildings would result in an overall improvement of the visual environment in the Planned Action Study Area.</p>	<p>The visual character of the Potential Sunset Terrace Redevelopment Subarea would change from its current state to a pedestrian-oriented community with a mix of residential, ground-floor commercial, and community uses linked by public spaces and landscaped pedestrian pathways. The Preferred Alternative concept would focus less residential development in the subarea than Alternative 3, making room for a larger neighborhood park.</p>
Height and Bulk	<p>The subarea would experience moderate increases in height and bulk over existing conditions. Heights would range from two to four stories, and buildings would generally be located closer to the street than under current conditions. The tallest building heights under the Preferred Alternative would occur on property zoned Center Village.</p>	<p>Building height and bulk within the Potential Sunset Terrace Redevelopment Subarea would range from one to four stories. The Preferred Alternative, however, would provide much more park space than Alternative 3, providing a sense of openness to the Sunset Terrace site. In addition, buildings on the site would be arranged to place 2-story townhomes adjacent to the park and taller multifamily residential buildings along NE</p>

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Shade and Shadow	Because heights in the Planned Action Study Area would generally increase, shading effects would also become more pronounced, though only to a moderate degree. Increased building heights within the Planned Action Study Area could result in increased shading of pedestrian areas and public spaces, particularly along NE Sunset Boulevard, which is likely to see some of the most intense commercial and mixed-use development.	Sunset Boulevard. Taller buildings along NE Sunset Boulevard would cast longer shadows on the interior of the subarea to the north, potentially shading sidewalks along Sunset Lane NE. Dependent on final design, building may potentially shade sidewalks along Sunset Lane NE and Glenwood Avenue NE at various times of the day. With the Preferred Alternative, the increased size of the central park, as well as the placement of 2-story townhomes adjacent to the park, reduces the potential for adverse shading effects compared to Alternative 3.
<i>Indirect/ Cumulative</i>	While redevelopment of the public facilities discussed under the various alternatives would be a coherent effort, private development throughout the study area would occur piecemeal. Individual private developments are likely to be of higher density, greater height, and a different architectural style than existing development, and have the potential to create temporary aesthetic conflicts where they are located adjacent to older structures. Over time, as more properties redevelop, the temporary conflicts would be less frequent and less noticeable.	Redevelopment of the Sunset Terrace housing facility would be a localized action, but additional private development is anticipated to occur in response to this public investment, and each private development project would contribute to the overall transformation of the area's aesthetic character.

## Unavoidable Adverse Impacts

With the application of adopted development regulations and recommended mitigation measures, no significant unavoidable adverse aesthetic impacts are anticipated.

## Mitigation Measures

**Table 24. Aesthetic Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
In both the Planned Action Study Area and Potential Sunset Terrace Redevelopment Subarea, mitigation	See Planned Action Study Area.

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>measures will be necessary to minimize impacts associated with increased height, bulk, and shading. Future development occurring under any of the alternatives shall conform to the Renton Municipal Code design standards, including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Urban design standards contained in RMC 4-3-100,</li> <li>• Residential Design and Open Space Standards contained in RMC 4-2-115, and</li> <li>• Lighting Standards contained in RMC 4-4-075.</li> </ul> <p>As described in RMC 4-3-100B3, portions of the Planned Action Study Area do not currently lie within an established Urban Design District, most notably those properties north of NE 16th Street and west of Kirkland Avenue NE, where the family village proposed under the Planned Action Alternatives would be located. To ensure that future redevelopment exhibits quality urban design, the City should consider either including this area in Design District D or creating a new design district for this purpose. Prior to the enactment of new design standards, the City may condition development north of NE 16th Street to meet appropriate standards of Design District D in RMC 4-3-100.</p>	

**Nexus**

- City of Renton Comprehensive Plan
- RMC Title 4 Chapter 2 Zoning Districts – Uses and Standards
- RMC 4-3-100 Urban Design Regulations
- RMC 4-4-075 Lighting, Exterior On-Site

**13. Historic/Cultural**

**Significant Impacts**

**Table 25. Historic/Cultural Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	Typical project impacts that could disrupt or adversely affect cultural resources in the Planned Action Study Area include demolition, removal, or substantial alteration without	No significant cultural resources are known to exist in the Potential Sunset Terrace Redevelopment Subarea.

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Operations, Indirect, and Cumulative Impacts</i>	<p>consideration of historic and archaeological sites and/or features.</p> <p>Development could occur on or near parcels in the Planned Action Study Area that contain previously identified or unknown cultural resources. This development would likely involve ground disturbance and modifications to buildings and structures, which could result in a potentially significant impact on cultural resources. Because of the potential to impact unknown cultural resources, a detailed review of potential impacts on cultural resources would be required on a project-specific basis.</p>	<p>Future development in the subarea would have no impact any known National Register of Historic Places (NRHP)-eligible archaeological or historic resources, and the likelihood of impacts on unknown cultural resources is considered low.</p>

## Unavoidable Adverse Impacts

The impacts on cultural resources caused by new development associated with any alternative could be significant and unavoidable, depending on the nature and proximity of the proposed development project. Implementation of mitigation measures set forth in Draft EIS Section 4.13.2 as amended in the Final EIS would identify potential impacts on cultural resources, at which point measures to reduce them to less than significant could be taken.

## Mitigation Measures

**Table 26. Historic/Cultural Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<ul style="list-style-type: none"> <li>In the event that a proposed development site within the study area contains a building at least 50-years of age that is not listed in or determined eligible for listing in the National Register of Historic Places (NRHP) or Washington Heritage Register (WHR), the project shall be required to undergo review to determine if the property is considered eligible for listing.</li> <li>It is recommended that the City adopt a historic preservation ordinance that considers the identification and treatment of historic resources listed in or determined eligible for listing in the NRHP or WHR, or locally designated. Until such time an ordinance is</li> </ul>	<p>Since no native "A" horizon was identified at the Edmonds-Glenwood site and throughout the Sunset Terrace public housing complex, no further archaeological investigations are recommended for these areas. Although a buried, native "A" horizon was identified on RHA's Piha site (east of Harrington Avenue NE), the potential for an archaeological discovery is very low. The project should proceed with no further archaeological investigations. If archaeological materials are discovered during ground disturbing excavations, the contractor shall halt excavations in the vicinity of the find and contact DAHP.</p> <p>If human skeletal remains are discovered, or if during excavation archaeological materials are</p>

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>adopted, the City must enter into consultation with DAHP regarding potential impacts on historic resources in the study area that are listed in or determined eligible for listing in the NRHP or WHR.</p> <ul style="list-style-type: none"> <li>For future projects that involve significant excavation in the study area the City must enter into consultation with Washington State Department of Archaeology and Historic Preservation (DAHP) to determine the likelihood of and recommendations for addressing potential archaeological resources. It may be necessary to complete archaeological testing prior to significant excavation in the study area, such as digging for footings or utilities. Archaeological project monitoring may be recommended for subsurface excavation and construction in high probability areas.</li> <li>In the event that a future development project in the study area is proposed on or immediately surrounding a site containing an archaeological resource, the potential impacts on the archaeological resource must be considered and, if needed, a study conducted by a qualified archaeologist to determine whether the project would materially impact the archaeological resource. If the project would disturb an archaeological resource, the City shall impose any and all measures to avoid or substantially lessen the impact. If avoidance of the archaeological resource is not possible, an appropriate research design must be developed and implemented with full data recovery of the archaeological resource prior to the development project. The avoidance of archaeological resources through selection of project alternatives and changes in design of project features in the specific area of the affected resource(s) would eliminate the need for measuring or mitigating impacts.</li> <li>Non-site-specific mitigation could include developing an educational program, interpretive displays, and design guidelines that focus on compatible materials, and professional publications.</li> </ul>	<p>uncovered, the proponent will immediately stop work and notify agencies as outlined in the Unanticipated Discovery Plan provided in Draft EIS Appendix J and as amended by Final EIS Chapter 4 (and provided as Attachment 1 of this Exhibit B). If the project would disturb an archaeological resource, the City shall impose any and all measures to avoid or substantially lessen the impact. If avoidance of the archaeological resource is not possible, an appropriate research design must be developed and implemented with full data recovery of the archaeological resource prior to the development project. The avoidance of archaeological resources through selection of project alternatives and changes in design of project features in the specific area of the affected resource(s) would eliminate the need for measuring or mitigating impacts.</p>

## Nexus

### City of Renton Comprehensive Plan

# 14. Transportation

## Significant Impacts

**Table 27. Transportation Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	<p>Potential impacts that could result from construction activities include increased traffic volumes, increased delays, detour routes, and road closures.</p> <p>Lane closures in both directions of NE Sunset Boulevard could be required during construction roadway improvements associated with the Planned Action Alternatives. This reduction in capacity would likely increase travel times, and may force reroutes through local streets.</p>	Same as Planned Action Study Area
<i>Operations</i>		
Traffic Operations	<p>At Edmonds Avenue NE and NE 12th Street LOS F conditions are predicted in both 2015 and 2030. At Harrington Avenue NE and NE 12th Street LOS F conditions are expected in 2030.</p>	<p>Delay times in the subarea could worsen slightly due to the increase in trips generated, but intersections would likely operate better than the LOS D threshold.</p>
Transit	<p>At both Edmonds Avenue NE and at NE 10th Street, expanded bus zones in both directions of travel would provide larger waiting areas for transit users and would be conveniently located near residential or retail land uses. Bus zones and existing bus stops could include shelters with adequate lighting and street furniture.</p>	Same as Planned Action Study Area
Nonmotorized	<p>Planned Action Alternatives include improved nonmotorized facilities such as bicycle lanes, sidewalks, and marked crosswalks. Design elements such as bike route signage, bike storage lockers, and bicycle detection at signalized intersections are included to promote bike ridership and safety.</p> <p>The Preferred Alternative includes a 5-foot-wide eastbound</p>	Same as Planned Action Study Area

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Sustainability	<p>bicycle lane, rather than bicycle lanes in both directions (as in Alternative 3).</p> <p>Sidewalk connections from NE Sunset Boulevard to side streets would be improved, strengthening the connectivity between the residential areas and NE Sunset Boulevard. To improve safety for pedestrians crossing the roadways, the Preferred Alternative includes special paving at crosswalks and intersections.</p> <p>The Planned Action Alternatives score a minimum of 33 with a maximum of up to 99 out of 118 points in the Greenroads metric; therefore, the alternatives meet the minimum Greenroads certification level and could achieve the highest level of certification.</p> <p>The Planned Action Alternatives score most strongly in the "Access and Equity" section of the Greenroads evaluation, as improving access for pedestrians, bicyclists, and transit users are important elements of this alternative.</p> <p>The Planned Action Alternatives typically include higher levels of improvements or higher quality of improvements such as wider sidewalks, wider planting areas, and special paving.</p>	Same as Planned Action Study Area
<i>Indirect and Cumulative</i>	<p>Growth would increase in comparison to Comprehensive Plan land use estimates; however, the Planned Action Alternatives' operational analysis is based on a model that addresses growth cumulatively on the City's current and planned roadway system and any operational deficiencies can be mitigated to meet City of Renton thresholds.</p>	Same as Planned Action Study Area

## Unavoidable Adverse Impacts

The alternatives are expected to contribute to a cumulative increase in traffic volumes within the study area, which could degrade some roadway operations. The increase in traffic volumes due to activities in the study area is considered unavoidable, but the roadway operation and LOS can be mitigated to meet applicable LOS standards.

## Mitigation Measures

**Table 28. Transportation Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p><i>Operational Mitigation</i></p> <p>Planned Action applicants shall pay a Transportation Impact Fee as determined by the Renton Municipal Code at the time of payment, payable to the City as specified in the Renton Municipal Code.</p> <p>Planned Action applicants shall implement transportation mitigation measures identified below when required to meet concurrency management regulations in RMC 4-6-070 Transportation Concurrency Requirements:</p> <ul style="list-style-type: none"> <li>● Edmonds Avenue NE and NE 12th Street: an additional southbound left-turn pocket and westbound right-turn pocket would improve operations to LOS E, while added pedestrian- and bicycle-oriented paths or multi-use trails to encourage mode shifts would likely improve operations to LOS D.</li> <li>● At the Harrington Avenue NE and NE 12th Street intersection: the eastbound and westbound approaches could be restriped to increase the number of lanes and, therefore, the capacity of the intersection. With implementation, this intersection would improve to LOS D.</li> </ul>	<p>No permanent mitigation measures are recommended within Potential Sunset Terrace Redevelopment Subarea. The intersection operations under action alternatives are expected to be within the LOS D threshold. During construction, mitigation measures are those described for the Planned Action Study Area. Flaggers, advance warning signage to alert motorists of detours or closures, and reduced speed zones would likely benefit traffic operations.</p>
<p><i>Construction Mitigation</i></p> <p>Temporary mitigation during construction may be necessary to ensure safe travel and manage traffic delays. The following mitigation measures shall be implemented prior to or during construction within the Planned Action Study Area.</p> <ul style="list-style-type: none"> <li>● Prior to construction: <ul style="list-style-type: none"> <li>○ Assess pavement and subsurface condition of roadways being proposed for transport of construction materials and equipment. Ensure pavement can support loads. Adequate pavement quality would likely reduce the occurrence of potholes and would help maintain travel speeds.</li> <li>○ Alert landowners and residents of potential</li> </ul> </li> </ul>	

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
	<p>construction. Motorists may be able to adjust schedules and routes to avoid construction areas and minimize disruptions.</p> <ul style="list-style-type: none"> <li>○ Develop traffic control plans for all affected roadways. Outline procedures for maintenance of traffic, develop detour plans, and identify potential reroutes.</li> <li>○ Place advance warning signage on roadways surrounding construction locations to minimize traffic disturbances.</li> </ul> <ul style="list-style-type: none"> <li>● During construction: <ul style="list-style-type: none"> <li>○ Place advance warning signage on NE Sunset Boulevard and adjacent arterials to warn motorists of potential vehicles entering and exiting the roadway. Signage could include “Equipment on Road,” “Truck Access,” or “Slow Vehicles Crossing.”</li> <li>○ Use pilot cars as dictated by the Washington State Department of Transportation (WSDOT).</li> <li>○ Encourage carpooling among construction workers to reduce traffic volume to and from the construction site.</li> <li>○ Employ flaggers, as necessary, to direct traffic when vehicles or large equipment are entering or exiting the public road system to minimize risk of conflicts between trucks and passenger vehicles.</li> <li>○ Maintain at least one travel lane at all times, if possible. Use flaggers to manage alternating directions of traffic. If lane closures must occur, adequate signage for potential detours or possible delays should be posted.</li> <li>○ Revisit traffic control plans as construction occurs. Revise traffic control plans to improve mobility or address safety issues if necessary.</li> </ul> </li> </ul>

**Nexus**

Renton Comprehensive Plan

RMC 4-6-060 Street Standards

# 15. Parks and Recreation

## Significant Impacts

**Table 29. Parks and Recreation Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	Construction could temporarily disrupt pedestrian access to existing park properties. Active construction sites also represent opportunities for creative play and attractive adventure for young people in the community.	No parks and recreation facilities exist in this subarea and no construction impacts are anticipated.
<i>Operations</i>	Although there is an increase in community park acreage there would continue to be a deficiency in neighborhood and community park acreage in the Planned Action Study Area. Deficiencies are less than for the Preferred Alternative than Alternative 3 which has a similar population but less proposed park facilities. Ballfield and sport court LOS standards are applied citywide; thus a lack of such facilities within the Planned Action Study Area or the Potential Sunset Terrace Redevelopment Subarea does not indicate an LOS deficiency. NE Sunset Boulevard would be improved to include bike lanes, intersection improvements, and sidewalks, providing a more walkable corridor and more direct access between residential areas and park land	With Alternative 3, portions of Harrington Avenue NE right-of-way within the subarea would be converted to 0.25 acres of passive open space. Under the Preferred Alternative, Sunset Court Park would be relocated to the Sunset Terrace Subarea. Additionally, this park would be expanded from 0.5 acres to 2.65 acres and would have a vacation of Harrington Avenue NE similar to Alternative 3. This increases the acreage in neighborhood park land for this subarea and the Planned Action Study Area. Additionally, a library would be constructed in the subarea.
<i>Indirect</i>	Indirect impacts are expected to mostly fall on the City’s regional and communitywide parks and recreation facilities. For example, as the population increases in the Planned Action Study Area, there will be a growing deficiency of Neighborhood and Community Parks. Due to proximity, those demands would likely be displaced to nearby regional facilities such as Gene Coulon Park as well as in surrounding communities.	Facility deficiencies in this subarea would also likely lead to spillover demand for active playfields for team sports in other parts of Renton as well as in surrounding communities.

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Cumulative</i>	Increased demands for park and recreation facilities and services generated by the forecast population growth under each of the alternatives would add to those created by general population growth throughout the Renton community.	Same as Planned Action Study Area

## Unavoidable Adverse Impacts

Under studied alternatives for the Planned Action Study Area and Potential Sunset Terrace Redevelopment Subarea, there would be an increased demand for parks and recreation facilities. With the application of mitigation measures, no significant unavoidable impacts are anticipated.

## Mitigation Measures

**Table 30. Parks and Recreation Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>During construction, impacts adjacent to or in parks within the Planned Action Study Area, such as an increase in noise, dust, and access limitations, shall be mitigated as per a construction mitigation plan developed by Planned Action applicants and approved by the City.</p> <p>Planned Action Applicants shall pay a Parks and Recreation Impact fee as determined by the Renton Municipal Code at the time of payment, payable to the City as specified by the Renton Municipal Code.</p> <p>The following four mitigation measures would help improve the availability or access to parks and recreation facilities in the Planned Action Study Area.</p> <ul style="list-style-type: none"> <li>• The City is initiating a parks, recreation, open space and natural resources plan for completion in 2011. That plan could identify alternative LOS standards and parks and recreation opportunities inside or outside of the Planned Action Study Area that could serve the local population.</li> <li>• The City is considering amendments to its development codes that would provide for payment of a fee-in-lieu for required common open space. As proposed, the fee-in-lieu option could be executed when development sites are located within 0.25 mile of a public park and when that park can be safely</li> </ul>	<p>With the prevalence of public facilities in the Planned Action Study Area as a whole, and the addition of a central park and a library in the Potential Sunset Terrace Redevelopment Subarea, there is opportunity to manage the current facilities in a manner that maximizes their beneficial parks and recreation uses for future population growth. The mitigation measures proposed for the Planned Action Study Area shall apply to the Potential Sunset Terrace Redevelopment Subarea.</p>

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p>accessed by pedestrians. The City’s package of amendments also includes park impact fees.</p> <ul style="list-style-type: none"> <li>• The City and Renton School District could develop a joint-use agreement for public use of school grounds for parks and recreation purposes during non-school hours. Joint-use agreements between the City and Renton School District could also be used to, at least partially, address the LOS deficiencies in existing recreation facilities.</li> <li>• The City could add parks and recreation facilities such as: <ul style="list-style-type: none"> <li>○ The City could convert current public properties no longer needed for their current uses to parks and recreation uses, such as the Highlands Library that is intending to move and expand off site. Draft EIS Figure 4.15-2 shows properties in public use.</li> <li>○ The City could purchase private property for parks and recreation use. An efficient means would be to consider properties in the vicinity of existing parks and recreation facilities or where additional population growth would be greatest. Draft EIS Figure 4.15-2 shows locations where future demand could be greater and where the City could focus acquisition efforts.</li> </ul> </li> </ul>	

## Nexus

Renton Comprehensive Plan

Parks, Recreation, Open Space and Natural Resources Plan

## 16. Public Services

### Significant Impacts

**Table 31. Public Services Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>		
Police	The Renton Police Department could experience an increase in calls for service related to construction site theft, vandalism, or trespassing relating to	Same as Planned Action Study Area

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Fire and Emergency Medical Services	<p>construction.</p> <p>Construction impacts on fire protection and emergency medical services could include increased calls for service related to inspection of construction sites and potential construction-related injuries.</p>	Same as Planned Action Study Area
Education	<p>The McKnight Middle School expansion would occur similar to other alternatives. In addition, changes would occur at the Hillcrest Early Childhood Center and the reconfigured Hillcrest Early Childhood Center would be part of a family village concept that would include recreation and housing. The expansion of McKnight Middle School is not expected to disrupt student attendance at the campus.</p>	No impact
Health Care	<p>There may be temporary changes to nonmotorized and motorized access to health care services during infrastructure construction (e.g., NE Sunset Boulevard), but alternative routes would be established.</p>	Same as Planned Action Study Area
Social Services	<p>There may be temporary changes to nonmotorized and motorized access to social services during infrastructure construction (e.g., NE Sunset Boulevard), but alternative routes would be established.</p> <p>Construction at the Hillcrest Early Childhood Center as part of the family village redevelopment, would require relocation of the Friendly Kitchen weekly meal program that meets at that site. The Friendly Kitchen program would either be relocated permanently as a part of the redevelopment or may be accommodated as part of the range of social services provided at the family village.</p>	<p>Redevelopment of the Sunset Terrace housing development would displace the existing on-site community meeting space that is currently used for on-site social service programs. However, the space would be replaced onsite or nearby with a larger and more modern facility, and with appropriate phasing of development, disruption to on-site social service programs can be minimized or avoided.</p>
Solid Waste	<p>Planned Action Alternatives would result in construction-related waste generation.</p>	Same as Planned Action Study Area

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Library	When the library is relocated, library services may be temporarily unavailable in the study area, but services would be available at other branches.	Same as Planned Action Study Area
<i>Operations</i>		
Police	Applying the Renton Police Department staffing per population standard to the anticipated population increase would result in a need for an estimated 8.6 to 9.3 additional police officers to address increase in service calls related to growth.	Applying the Renton Police Department standard to the anticipated population increase would account for 1.0 to 1.8 of the approximately 8.6 to 9.3 additional police officers to address population growth study area.
Fire and Emergency Medical Services	Applying the fire service's staffing ratio to growth in the study area would result in the need for an additional 1.2 to 1.3 firefighter full-time equivalents (FTEs) compared to existing conditions to maintain the City's existing staffing ratio.	Applying the fire service's staffing ratio to growth in the study area to the population growth of in this subarea would result in the need for less than 0.14 to 0.2 of the 1.2 to 1.3 firefighter FTEs needed in the overall Planned Action Study Area to maintain the City's existing staffing ratio.
Education	Population growth would result in an increase in approximately 526 to 567 students in the Renton School District compared to existing conditions. The district's planned opening of Honey Dew Elementary, as well as construction of additions to McKnight Middle School and Hazen High School, would accommodate this increase in student population. New students within the study area would include a higher than average number of students speaking English as a second language, increasing demands on the district's English Language Learners Program.	Population growth would result in approximately 60 to 107 additional students compared to existing conditions. It is anticipated that this additional increment of students would be accommodated by the district's planned capital improvements, including opening Honey Dew Elementary, expansion of McKnight Middle School, and redeveloping the Hillcrest Early Childhood Center which would provide additional student capacity in addition to early education programs that currently exist on the site.
Health Care	Increase in study area population would increase the need for hospital beds in the Valley Medical Center (VMC) service area by approximately 4.1 to 4.4 beds, based on the current ratio of hospital beds to district service area population. Additional population growth may also	Based VMC's existing ratio of hospital beds to district population, the anticipated population increase would result in a small increase of approximately 0.5 to 0.8 hospital beds of the total assumed for the entire study area.

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Social Services	<p>result in increased demand at VMC's nearby primary care and urgent care clinics.</p> <p>Planned Action Alternatives include major public investments, which could expand upon or enhance social services in the study area. Among the key components outside of Potential Sunset Terrace Redevelopment Subarea is development of a family village in the North Subarea.</p>	<p>The subarea's new affordable housing development for seniors would include enriched senior services on site, including elder day-health for off-site patients in a 12,500-square-foot space on the northeastern vacant RHA parcel. The increased population of affordable housing and, in particular, affordable senior housing would increase the demand for social services, including senior services accessible to the subarea. Additional community space at the family village, would be located outside but nearby the subarea.</p>
Solid Waste	<p>Solid waste generation is expected to increase by around 129,689 to 139,000 pounds per week compared to existing conditions. A portion of this waste stream would be diverted to recyclables.</p>	<p>Solid waste generation from the subarea would increase by about 14,750 to 9,300 pounds per week compared to existing conditions. A percentage of this waste would be diverted to recycling.</p>
Library Services	<p>Anticipated growth would create a demand for an additional 1,940 to 2,079 square feet of library space compared to existing conditions.</p>	<p>Anticipated growth in the subarea would account for approximately 221-397 square feet of library facilities to meet the growth in demand.</p>
<i>Indirect and Cumulative</i>	<p>All alternatives increase growth above existing conditions and would add to a citywide increase in demand for public services; however, the alternatives are accommodating an increment of growth already anticipated in the Comprehensive Plan at a citywide level, and planned growth to the year 2031 will be addressed in the City's 2014 Comprehensive Plan update..</p>	<p>Same as Planned Action Study Area</p>

## Unavoidable Adverse Impacts

Demand for public services will continue to increase in conjunction with population growth. With advanced planning and implementation of mitigation measures, no significant unavoidable adverse

impacts related to police, fire/emergency medical, education, health care, social services, solid waste, or library services are anticipated.

## Mitigation Measures

**Table 32. Public Services Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p><i>Police</i></p> <p>During construction, security measures shall be implemented by developers to reduce potential criminal activity, including on-site security surveillance, lighting, and fencing to prevent public access. Such measures shall be detailed in a construction mitigation plan prepared by Planned Action Applicants and approved by the City.</p> <p>Planned Action applicants shall design street layouts, open space, and recreation areas to promote visibility for residents and police. Street and sidewalk lighting would discourage theft and vandalism, and enhance security.</p> <p><i>Fire and Emergency Medical Services</i></p> <p>Developers will construct all new buildings in compliance with the International Fire Code and Renton Development Regulations (RMC Title 4), including provision of emergency egress routes and installation of fire extinguishing and smoke detection systems. All new buildings will comply with accessibility standard for people with disabilities, per the requirements of the Americans with Disabilities Act.</p> <p>Planned Action applicants shall pay a Fire Impact Fee as determined by the Renton Municipal Code at the time of payment, payable to the City as specified in the Renton Municipal Code.</p> <p><i>Education</i></p> <p>During renovation of the Hillcrest Early Childhood Center, the Renton School District shall provide temporary transportation or take other equivalent measures to ensure accessibility of the early education program to area children who attend the program.</p> <p>Since the school district typically plans for a shorter-term horizon than the 20 years envisioned for the Planned Action, the district will continue to monitor student generation rates into the future and adjust its facility planning accordingly. The district will continue to implement existing plans to expand permanent student capacity at area schools. In addition, the district may utilize portable classrooms or shift attendance boundaries to address student</p>	<p><i>Police</i></p> <p>Mitigation measures described for the Planned Action Study Area also apply to this Subarea.</p> <p><i>Fire and Emergency Medical Services</i></p> <p>Mitigation measures described for the Planned Action Study Area also apply to this Subarea.</p> <p><i>Education</i></p> <p>No mitigation measures are necessary or proposed.</p> <p><i>Health Care</i></p> <p>No mitigation measures are necessary or proposed.</p> <p><i>Social Services</i></p> <p>RHA’s provision of community space that could be used for social services or community meeting space for community organizations would serve as mitigation. See the discussion under the Planned Action Study Area.</p> <p>RHA should maintain a community meeting space within or near the subarea during construction phase of Sunset Terrace redevelopment that allows for on-site social service programs to continue to meet within the subarea.</p> <p><i>Solid Waste</i></p> <p>Mitigation measures described for the Planned Action Study Area also apply to this Subarea.</p> <p><i>Public Library</i></p> <p>The King County Library System should continue to monitor growth within its geographic clusters, and adjust plans for facility sizing and spacing according to shifting trends in population growth.</p>

capacity issues that arise on a shorter term basis. The district will also continue monitoring growth in the number of English Language Learner students in the district, and plan additional capacity in that program to meet growing demands for that service, particularly in schools with high percentages of English Language Learners, such as Highlands Elementary. The school district imposes a school impact fee for new residential construction. This funding source can be used to help provide expanded school facilities needed to serve the growth anticipated under all alternatives (RMC 4-1-160).

*Health Care*

There are no mitigation measures needed or proposed for health care due to the negligible change in the number of beds.

*Social Services*

The City's planned improvements to the streetscape and transit facilities that make walking, bicycling, and taking transit more viable modes of transportation would improve accessibility of social services located outside the Planned Action Study Area to area residents. RHA, Renton School District, and the City should work together to relocate the Friendly Kitchen community feeding program when the Hillcrest Early Childhood Center campus, the current site of this program, is redeveloped as part of a family village. Relocation should occur at an accessible location nearby to maintain service to the existing community that relies upon the Friendly Kitchen services. If possible, Renton School District and RHA should incorporate space for the continuation of the Friendly Kitchen Program within the family village. RHA and the City should consider developing a community center facility as part of Sunset Terrace redevelopment or the family village development or at another location in the Planned Action Study Area. The center would provide an accessible on-site space for a comprehensive range of social services for residents in the Planned Action Study Area, focused on alleviating poverty, and addressing the needs of some of the more predominant demographic groups found within the Planned Action Study Area—seniors, individuals living with disabilities, those speaking English as a Second Language, and youth.

*Solid Waste*

The City shall require development applicants to consider recycling and reuse of building materials

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
when redeveloping sites, and as part of their application explain what measures are included. The City may condition Planned Action applications to incorporate feasible recycling and reuse measures.	
<i>Public Library</i>	
The King County Library System should continue to monitor growth within its geographic clusters, and adjust plans for facility sizing and spacing according to shifting trends in population growth.	

## Nexus

Renton Comprehensive Plan

RMC Title IV Chapter 1 Administration and Enforcement

RMC Title IV Chapter 5 Building and Fire Prevention Standards

## 17. Utilities

### Significant Impacts

**Table 33. Utilities Impacts**

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Construction</i>	<p>Where new construction occurs, it is anticipated that existing telecommunication lines would be removed, replaced, or abandoned in place. Redevelopment would require coordination with service providers regarding the location of proposed structures, utilities, and site grading.</p> <p>To accommodate the required demand and capacity for water and sewer services for new development and redevelopment in the study area, existing water and sanitary sewer lines would be abandoned in place or removed and replaced with new and larger lines. New and larger water and sewer mains would be installed in existing and/or future dedicated public rights-of-way or within dedicated utility easements to the City, and would connect with the existing</p>	Same as Planned Action Study Area

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<i>Operations</i>	distribution network. Existing utility lines would continue to service the site during construction, or temporary bypass service would be implemented until the distribution or collection system is complete and operational.	
Telecommunications	Increased capacity requirements with increased levels of population and commercial activity in each of the alternatives could require new fiber within the Planned Action Study Area and coordination with telecommunication providers as development occurs should be performed so that appropriate facilities can be planned.	Same as Planned Action Study Area
Water	<p>The increase in the average daily demand (ADD) is projected to be 0.56 to 0.59 million gallons per day within the Planned Action Study Area.</p> <p>The growth projected would increase the storage requirements for the Highlands 435 and 565 pressure zones and further increase the existing storage deficit in the Highlands 435 pressure zone. In addition, the development that is projected for the Planned Action Study Area would increase the fire-flow requirements with more multifamily development and commercial development. The capacity of the existing water distribution system to meet these higher fire flows is inadequate if system improvements are not constructed.</p>	<p>The increase in ADD for this subarea is 0.05 to 0.09 million gallons per day. The increase in the peak daily demand (PDD) for this subarea is 0.09 to 0.16 million gallons per day.</p> <p>The primary significant impact of subarea development on the water distribution system would be related increased fire-flow requirements. These increased fire flow requirements are substantial and cannot be met by the existing distribution system serving the subarea. Water system pressure provided by the 435 pressure zone within the subarea is not adequate for multistory development and/or for development with fire sprinkler systems. New water mains extended from the higher-pressure 565 pressure zone system to service the subarea would need to be phased to accommodate growth.</p>

Type of Impact	Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
Wastewater	<p>The increase in wastewater load for the Planned Action Study Area is 0.59 to 0.63 million gallons per day.</p> <p>This increase in wastewater load is not expected to affect the wastewater interceptors that provide conveyance of wastewater from the Planned Action Study Area but it could increase surcharging that is currently experienced and observed within the Planned Action Study Area.</p>	<p>The increase in wastewater flow in this subarea is 0.05 to 0.10 million gallons per day. Similar to the Planned Action Study Area, no impacts on the interceptors that provide conveyance from the subarea are expected, but the increased sewer load could impact local sewers within the subarea.</p>
<i>Indirect and Cumulative</i>	<p>Demands on utilities would increase as a result of cumulative development. No significant cumulative impacts are anticipated as long as the replacement of water and sewer infrastructure is properly planned, designed, and constructed, and funding strategies are identified and approved by City Council.</p>	<p>Same as Planned Action Study Area</p>

## Unavoidable Adverse Impacts

All studied alternatives are anticipated to increase demand for water, wastewater, and telecommunication services. Increased growth in the Planned Action Study Area has the potential to exacerbate existing water and wastewater system deficiencies. However, with application of mitigation measures, no significant unavoidable adverse impacts are anticipated.

## Mitigation Measures

**Table 34. Utilities Mitigation Measures**

Planned Action Study Area	Potential Sunset Terrace Redevelopment Subarea
<p><b>Water</b></p> <p>To mitigate the current and projected water storage deficit in the pressure zones that serve the study area, the City completed the construction of the 4.2-million-gallon Hazen Reservoir in the Highlands 565 pressure zone in March 2009. The City also completed a water distribution storage feasibility study to develop conceptual options and planning level cost estimates for expanding the storage capacity at two existing City-owned sites: the Highlands Reservoirs site and the Mt. Olivet Tank site</p>	<p><b>Water</b></p> <p>The mitigation measures that are required in the Potential Sunset Terrace Redevelopment Subarea are similar to those noted for the Planned Action Study Area. The water storage deficit would be met with an increase in storage at the existing Highlands Reservoirs site, and fire-flow requirements would require the new 12-inch-diameter pipe loop throughout this subarea and realignment of the Highlands 435 and Highlands 565 pressure zones. As noted previously, the City has recently installed a new 12-inch-diameter main for development</p>

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Planned Action Study Area

(HDR, Inc. 2009). Financial strategies for the planning, design, and construction of the storage-capacity expansion have not been determined at this time.

To mitigate the fire-flow requirements for the proposed level of development and redevelopment within the Planned Action Study Area, larger diameter (12-inch) piping is required throughout the Planned Action Study Area to convey the higher fire-flow requirements. The new water mains will be looped for reliability and redundancy of service, as required by City policies and water design standards. The larger mains will be installed within the dedicated right-of-way in a north-to-south and east-to-west grid-style water system. Additional mains within the development sites will also be required to provide water to hydrants and water meters, and should be looped within the development site around buildings. To provide the water pressure requirements for multistory buildings and to support the pressure requirements for fire sprinkler systems, the new water mains will be connected to the higher-pressure Highlands 565 pressure zone. The options to address fire flow within the Planned Action Study Area are further described below.

The Highlands 565 pressure zone typically has enough pressure to meet the pressure needs for fire-flow requirements for the proposed development and redevelopment in the Planned Action Study Area, but is limited in providing the fire-flow rate due to the size of the existing water mains that are generally smaller than 12 inches in diameter. The Highlands 435 pressure zone operates at lower pressures and has smaller-diameter pipes in this area of the pressure zone and, therefore, cannot meet both the pressure requirements and the fire-flow capacity (flow) requirements. The options developed to remedy fire-flow and pressure inadequacies are shown in Draft EIS Section 4.17, Figure 4.17-1 and summarized below.

A 12-inch-diameter pipeline loop shown in Draft EIS Section 4.17, Figure 4.17-1 was developed to extend the Highlands 565 pressure zone into the existing Highlands 435 pressure zone. This 12-inch-diameter loop was also extended north of NE 12th Street in the existing Highlands 565 pressure zone to improve the conveyance capacity throughout

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Potential Sunset Terrace Redevelopment Subarea

adjacent to this subarea, and as development occurs in the subarea, the pipe network would need to be extended to serve the development. A more detailed discussion of needed system improvements is provided in Attachment 2.

**Wastewater Collection**

The sewers within the Potential Sunset Terrace Redevelopment Subarea are also identified for replacement based on age and condition in the City's Long Range Wastewater Management Plan. Based on the increased wastewater load within the Potential Sunset Terrace Redevelopment Subarea, the local sewers may need to be replaced with upsized pipe to manage the increased wastewater load from the subarea. A more detailed discussion of needed sewer system improvements is provided Attachment 2.

the Planned Action Study Area. This 12-inch-diameter loop improvement builds on the City's recent extension of the Highlands 565 pressure zone into the Highlands 435 pressure zone to support fire-flow requirements for the Harrington Square Development.

In addition to the 12-inch-diameter pipe loop shown in Draft EIS Section 4.17, Figure 4.17-1, additional piping improvements for each development served from the 12-inch-diameter loop are expected to be required to provide sufficient fire flow and pressure throughout each development. The sizing and layout of this additional piping will depend on the development layout, but will require that the development piping be looped around buildings and be sufficient in size to maintain the fire-flow requirements of the development.

#### **Wastewater Collection**

The local wastewater collection system in the Planned Action Study Area is scheduled for replacement based on age and condition as noted in the *City of Renton Long Range Wastewater Management Plan* (City of Renton 2009b). The local sewers have reached the end of their useful life and have been identified as high priority replacements due to leaks and current surcharging. However, the increased wastewater load with the development in the Planned Action Study Area could require that the local sewers be replaced with larger diameter pipe to provide sufficient capacity to the wastewater interceptors that serve the Planned Action Study Area. The locations where lines would be improved are identified in Draft EIS Section 4.17.

## **Nexus**

Renton Comprehensive Plan

RMC Title IV Chapter 1 Administration and Enforcement

RMC Title IV Chapter 6 Street and Utility Standards

## **Advisory Notes**

The EIS identified potentially applicable federal, state, and local laws and rules that apply to Planned Actions and that can serve to mitigate adverse environmental impacts. It is assumed that all applicable federal, state, and local regulations would be applied. The primary set of applicable local

regulations is the Renton Municipal Code. A list of specific requirements included in Chapter 3 of the Draft EIS.

# Attachment 1: Draft EIS, Cultural Resources Appendix J, Plan and Procedures for Dealing with the Unanticipated Discovery

## Plan and Procedures for Dealing with the Unanticipated Discovery of Human Skeletal Remains or Cultural Resources during Redevelopment of the Edmonds-Glenwood Lot, Harrington Lot, and Sunset Terrace Public Housing Complex in Renton, Washington

Any human skeletal remains that are discovered during this project will be treated with dignity and respect.

- A. If any City of Renton employee or any of the contractors or subcontractors believes that he or she has made an unanticipated discovery of human skeletal remains or cultural resources, all work adjacent to the discovery shall cease. The area of work stoppage will be adequate to provide for the security, protection, and integrity of the human skeletal remains, in accordance with Washington State Law. The City of Renton project manager will be contacted.
- B. The City of Renton project manager or the City of Renton representative will be responsible for taking appropriate steps to protect the discovery. At a minimum, the immediate area will be secured to a distance of thirty (30) feet from the discovery. Vehicles, equipment, and unauthorized personnel will not be permitted to traverse the discovery site.
- C. If skeletal remains are discovered, the City of Renton will immediately call the King County Sheriff's office, the King County Coroner, and a cultural resource specialist or consultant qualified to identify human skeletal remains. The county coroner will determine if the remains are forensic or non-forensic (whether related to a criminal investigation). The remains should be protected in place until this has been determined.
- D. If the human skeletal remains are determined to be non-forensic, the King County Coroner will notify the Washington State Department of Archaeology and Historic Preservation. DAHP will take jurisdiction over the remains. The State Physical Anthropologist will make a determination of whether the remains are Native American or Non-Native American. DAHP will handle all consultation with the Muckleshoot Indian Tribe as to the treatment of the remains.
- E. If cultural resources are uncovered, such as stone tools or flakes, fire-cracked rocks from a hearth feature, butchered animal bones, or historic-era objects (e.g., patent medicine bottles, milk tins, clay pipes, building foundations), the City of Renton will arrange for a qualified professional archaeologist to evaluate the find. Again, the cultural resources will be protected in place until the archaeologist has examined the find.
- F. If the cultural resources find is determined to be significant, the City of Renton cultural resource specialist/archaeologist or consulting archaeologist will immediately contact the Washington State Department of Archaeology and Historic Preservation and the Muckleshoot Indian Tribes

to seek consultation regarding the eligibility of any further discovery for inclusion in the National Register of Historic Places.

### **CONTACT INFORMATION**

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516 Third Avenue, Room W-150  
Seattle, WA 98104-2312  
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Laura Murphy  
Muckleshoot Tribe Cultural Resources  
39015 172nd Avenue SE  
Auburn, WA 98092  
Phone: (253) 876-3272

# **Attachment 2: Figure 3.17-1 Potential Subarea Utility Improvements and Phasing**

## Water

The mitigation measures that are required in the Potential Sunset Terrace Redevelopment Subarea are similar to those noted for the Planned Action Study Area. The water storage deficit would be met with an increase in storage at the existing Highlands Reservoirs site, and fire-flow requirements would require the new 12-inch-diameter pipe loop throughout this subarea and realignment of the Highlands 435 and Highlands 565 pressure zones. As noted previously, the City has recently installed a new 12-inch-diameter main for development adjacent to this subarea, and as development occurs in the subarea, the pipe network would need to be extended to serve the development. A more detailed discussion of needed system improvements is provided below.

## Overview

Renton fire and building codes mandate minimum fire flows, durations, and pressure prior to occupancy of new structures. In the case of the Potential Sunset Terrace Redevelopment Subarea these mandated flows dictate substantial upgrades to the water distribution system. When the fire flow required for a new development exceeds 2,500 gallons per minute (gpm), the City also requires that the mains providing that fire flow be looped. Looped water mains provide more reliability and higher pressures under fire-flow conditions. City regulations also require installation of fire hydrants along all arterials such as NE Sunset Boulevard.

Taken together these code requirements would lead to a series of new water mains connected to the 565 pressure zone and extended to the various redevelopment projects within the subarea. It is not possible to predict the precise timing and sequencing of these redevelopment projects. The following paragraphs illustrate one scenario of water main sequencing that could meet fire-flow requirements.

## Edmonds-Glenwood Phase 1

Phase 1 of the Edmonds-Glenwood redevelopment project consists of townhomes along Glenwood Avenue NE. Fire-flow requirements for this project are expected to be in the range of 2,500 gpm. The existing water system in Glenwood Avenue NE cannot provide that amount of fire flow. A new 12-inch-diameter water main would be required to be extended from Harrington Avenue NE and NE 12th Street in the 565 pressure zone, south along Harrington Avenue NE, and continuing along Glenwood Avenue NE past and through the project site, about 800 feet of new pipe (Segment A on Figure 3.17-1).

## New Library

A new library is proposed in the northeast quadrant of NE Sunset Boulevard and Harrington Avenue NE. If the fire-flow requirements for the new library are about 2,500 gpm or less, then the existing 12-inch-diameter main in NE Sunset Boulevard could meet that requirement.

## **New Mixed-Use Building Adjacent to New Library**

A new mixed-use community service/retail/residential structure is proposed adjacent to the new library between NE Sunset Boulevard, NE 10th Street, and Sunset Lane NE. It is reasonable to expect that the combination of additional structure size and exposure (to the library) would mandate fire flows for this building in excess of 2,500 gpm. In that case, a looped system of mains from the 565 pressure zone would be required. This could be achieved by extending new mains from the existing 12-inch-diameter main in NE Sunset Boulevard northwesterly on both Harrington Avenue NE and NE 10th Street to Sunset Lane NE. The loop could then be connected by installing a new 12-inch-diameter main in Sunset Lane NE from Harrington Avenue NE to NE 10th Street. The existing water main in Sunset Lane NE could then be abandoned in place. This new loop would be about 700 feet in total length (Segment B on Figure 3.17-1).

## **RHA's Piha Site**

Fire flows required for the PIHA site development have not been established. If the flow requirement is 2,500 gpm or less, then it could be met by extending a new 12 inch main in NE 10<sup>th</sup> Street past the site to Harrington Avenue NE. The extension could either be from NE Sunset Boulevard (if the project precedes the mixed use development adjacent to the library). Or it could be from Sunset Lane NE, if the project occurs after the mixed use development adjacent to the library. The length of pipe required from Sunset Boulevard would be about 500 feet; from Sunset Lane NE it would be about 350 feet. (Segment C on Figure 3.17-1)

It is possible that required fire flows for the PIHA site would exceed 2,500 gpm. In that situation a looped main system would be necessary. There are multiple scenarios to meet the looping requirements. Those fire flow looping scenarios depend largely on the timing and sequencing of the PISA site project; i.e. does it precede or follow other redevelopment projects contemplated for the project area.

Under one scenario, if the PIHA site development precedes construction of Phase II and III of the Sunset Terrace redevelopment looping could be achieved by extending another main (in addition to Segment C, discussed above) north on Harrington Avenue NE to Glenwood Avenue NE (Segment H on Figure 3.17-1). If PIHA site development follows Phases II and III of Sunset Terrace, looping could be achieved by simply connecting the PIHA main extension in NE 10<sup>th</sup> Street (Segment C) with Segment E at the intersection of Harrington Avenue NE and NE 10<sup>th</sup> Street.

Under another scenario, the PIHA site development could proceed before all other projects. In that case the cost of looping would not be shared with other projects as described in the preceding paragraphs and the PIHA site project would need to install either a "long-term" or a "temporary" 12 inch diameter "stand alone" water main loop.

The "long-term" alignment would be to extend a 12-inch main in Harrington Avenue NE connecting to the existing high-pressure water line in NE Sunset Blvd. This option would result in the installation of a new water main in the section of Harrington Avenue NE that is proposed to be vacated to help create the Sunset Terrace Redevelopment Neighborhood Park. The new 12-inch water main would be looped around the west and north side of the new PIHA site building and extended southerly in Sunset Lane NE to NE 10<sup>th</sup> Street, then southeasterly in NE 10<sup>th</sup> Street to connect back to the existing 12-inch line in Sunset Boulevard NE. (Segment P1 on Figure 3.17-1) This new looped water main would be able to deliver about 5,000 gpm.

A temporary route (which is not the preferred option) to provide 5,000 gpm to the same site would be to extend two parallel 12-inch water lines in NE 10<sup>th</sup> Street from the existing 12-inch line in Sunset Boulevard NE, along with a looped water main around the west and north side of the building, and a 12-inch line in Sunset Lane NE connecting back to the second new 12-inch main in NE 10<sup>th</sup> Street. (Segment P2 on Figure 3.17-1)

## Sunset Terrace Redevelopment

It is reasonable to assume that the fire flows required for the Sunset Terrace redevelopment would exceed 2,500 gpm, mandating installation of a looped system. In addition, Sunset Terrace abuts NE Sunset Boulevard, triggering the requirement to install hydrants every 400 feet along that arterial.

It may be possible to phase the Sunset Terrace redevelopment in a manner that would allow early elements of the redevelopment to be constructed without looping the water mains (see Edmonds-Glenwood Phase 1, above). In any case, all mains serving the redevelopment would be extended from the 565 pressure zone.

Initially, a new water main would be installed in Sunset Lane NE from Harrington Avenue NE to Glenwood Avenue NE (about 750 feet). This presumes that the new main in Harrington Avenue NE discussed in the Mixed-Use Building section, above, has been installed. The existing water main in Sunset Lane NE could be abandoned in place (Segment D on Figure 3.17-1).

Looping the system could be achieved by extending the main from the intersection of Sunset Lane NE and Glenwood Avenue NE along the newly aligned NE 10<sup>th</sup> Street to Harrington Avenue NE (about 250 feet) (Segment E on Figure 3.17-1). This presumes that the water main extension in NE 10<sup>th</sup> Street to serve RHA's Piha site has already been installed.

There are two ways to install the required fire hydrants along NE Sunset Boulevard. One option would be to extend the 12-inch-diameter main in NE Sunset Boulevard from Harrington Avenue NE along the Sunset Terrace frontage (about 800 feet). This would be the most expensive option. Another option would be to extend fire hydrant leads southwesterly through the Sunset Terrace project from Sunset Lane NE to NE Sunset Boulevard at the appropriate intervals (Segments F on Figure 3.17-1). This would be the least expensive option for two reasons. First, the pipes would not be installed in a street avoiding significant restoration costs. Second, the pipes could be smaller because they would be single purpose and not part of the City's transmission/distribution system.

## Edmonds-Glenwood Phase 2

Fire-flow requirements for the Edmonds-Glenwood Phase 2 project are expected to be about 4,000 gpm, triggering the requirement to loop the water system. There are two options to meet this looping requirement: north or south.

The north option would involve extending the 12-inch-diameter main from Phase 1 westerly through the site to Edmonds Avenue NE. From there, the main would be extended north in Edmonds Avenue NE to NE 12<sup>th</sup> Street, then east in NE 12<sup>th</sup> Street to Harrington Avenue NE, a distance of more than 1,500 feet (Segment G on Figure 3.17-1).

The south option would begin in the same manner by extending the Phase 1 main through the project site. Looping would be achieved by installing two new mains. One would extend from Sunset Lane NE north in Glenwood Avenue NE to the Phase 1 pipe. The other would extend

northwesterly in easements adjacent to NE Sunset Boulevard and Edmonds Avenue NE from the northern-most fire hydrant lead installed for the Sunset Terrace project through the Phase 2 site. (A more expensive option would be to install this same section of pipe in the rights-of-way of NE Sunset Boulevard and Edmonds Avenue NE.) These loops would also comprise more than 1,500 feet of new pipe (Segment H on Figure 3.17-1).

## Water Main Costs

The cost of installation for new water mains is driven by a number of factors. Water mains installed in roads are more expensive than water mains installed within project or open space areas, because of the cost savings of avoiding conflicting utilities and restoring the road surface.

New water main costs are also affected by whether they are stand-alone or part of a suite of infrastructure improvements. If the project is only installing a new water main, then all of the excavation, bedding, installation, and other costs are borne by that project. If the project involves installation of the other underground utilities such as sewers or storm sewers, the costs common to the project can be spread across each utility facility being installed.

The cost of water mains is also affected by the project sponsor. If the project is being constructed by a private developer, new water mains are less expensive. If the project is sponsored by a government agency, numerous statutes make new water main projects more expensive.

The City's recent experience with stand-alone water main projects in a major arterial indicate costs per foot of about \$200 to \$250. Applying these costs to the water main improvement described above would indicate costs in the range of \$1 to 1.2 million. The improvements would be implemented with City and developer funding.

## Wastewater Collection

### Overview

The sewers within the Potential Sunset Terrace Redevelopment Subarea are also identified for replacement based on age and condition in the City's Long Range Wastewater Management Plan. Based on the increased wastewater load within the Potential Sunset Terrace Redevelopment Subarea, the local sewers may need to be replaced with upsized pipe to manage the increased wastewater load from the subarea. A more detailed discussion of needed sewer system improvements is provided below.

### Detailed Discussion

Mitigation issues related to wastewater fall into three broad categories: upsizing, rehabilitation, and relocation.

Wastewater flows (forecast for the Planned Action Study Area, including the Potential Sunset Terrace Redevelopment Subarea) indicate that some existing sewer pipes must be replaced with larger pipes. One of those pipes is in Harrington Avenue NE. This sewer pipe would be replaced by the City as part of the overall Sunset Terrace redevelopment to accommodate forecast flows.

Manholes along the Harrington alignment would be carefully designed and located to avoid interference with the planned park.

The collection sewers in Sunset Lane NE are at or near the end of their design life. The condition of these sewers would be assessed to determine if they can be rehabilitated in place or if new pipes would need to be installed.

The redevelopment concept proposes narrowing and shifting the alignment of Sunset Lane NE. If this action leaves the existing sewers too close to new structures, then the City would require that a new sewer main be installed within the new right-of-way of Sunset Lane NE.



**Figure 3.17-1**  
 Fireflow Phasing—Potential Sunset Terrace Redevelopment Subarea  
 Sunset Area Community Planned Action Final NEPA/SEPA EIS

**Noise Analysis and Criteria—Preferred Alternative**

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# Memorandum

<b>Date:</b>	February 23, 2011
<b>To:</b>	Erika Conkling, Senior Planner, City of Renton
<b>Cc:</b>	Jim Wilder, PE, ICF Lisa Grueter, Senior Planner, ICF
<b>From:</b>	Kai-Ling Kuo, PE, ICF
<b>Subject:</b>	<b>Documentation of Meeting HUD Noise Criteria Potential Sunset Terrace Redevelopment Subarea</b>

This memorandum documents and demonstrates that the proposed housing developments in Potential Sunset Terrace Redevelopment Subarea meet the US Department of Housing and Urban Development (HUD) noise criteria as outlined under 24 CFR 51, Subpart B – Noise Abatement and Control. In summary, the project meets the exterior noise standards in Section 51.103, by satisfying special circumstances under Section 51.105(a), which shift the acceptable threshold from 65 dBA Ldn to 70 dBA Ldn. The project will employ additional attenuation measures, where feasible, to satisfy Section 51.104(a) and meet HUD's interior noise goals in Section 51.101(9).

## **Section 51.103 – Criteria and Standards.**

(c) Exterior standards. (2) The noise environment inside a building is considered acceptable if: (i) The noise environment external to the building complies with these standards, and (ii) the building is constructed in a manner common to the area or, if of uncommon construction, has at least the equivalent noise attenuation characteristics.

*According to Section 51.103(c), the Site Acceptability Standard of 65 dBA Ldn may be shifted to 70 dB in special circumstances pursuant to Section 51.105(a). The Preferred Alternative would result in exterior noise levels of 68-69 dBA Ldn. The Preferred Alternative satisfies special circumstances pursuant to Section 51.105(a); therefore the noise environment external to the proposed buildings comply with the Site Acceptability Standard of 70 dBA Ldn. The building is constructed in a manner common to the Pacific Northwest area, which complies with Section 51.103(c)(ii). (See further discussion below.)*

## **Section 51.104 – Special Requirements.**

(a)(1) Noise attenuation. Noise attenuation measures are those required in addition to attenuation provided by buildings as commonly constructed in the area, and requiring open windows for ventilation. Measures that reduce external noise at a site shall be used wherever practicable in preference to the incorporation of additional noise attenuation in buildings. Building designs and construction techniques that provide more noise attenuation than typical construction may be employed also to meet the noise attenuation requirements. (2) Normally unacceptable noise zones

and unacceptable noise zones. Approvals in Normally Unacceptable Noise Zones require a minimum of 5 decibels additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 decibels but does not exceed 70 decibels, or a minimum of 10 decibels of additional sound attenuation if the day-night average sound level is greater than 70 decibels but does not exceed 75 decibels. Noise attenuation measures in Unacceptable Noise Zones require the approval of the Assistant Secretary for Community Planning and Development, or the Certifying Officer for activities subject to 24 CFR part 58. (See Section 51.104(b)(2).)

*The Preferred Alternative would result in exterior noise levels of 68-69 dBA Ldn. According to Section 51.104(a), 5 dB additional sound attenuation is required for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 decibels but does not exceed 70 decibels. According to the HUD Noise Guidebook, the standard construction approaches with closed windows can normally achieve the sound attenuation of more than 24 dBA to meet the interior noise standard of 45 dBA Ldn. To comply with Section 51.104(a), the project mitigation is to provide minimum attenuation of 30 dBA. (See attachment for assumptions.)*

#### **Section 51.101 – General Policy.**

(9) Interior noise goals. It is a HUD goal that the interior auditory environment shall not exceed a day-night average sound level of 45 decibels. Attenuation measures to meet these interior goals shall be employed where feasible. Emphasis shall be given to noise sensitive interior spaces such as bedrooms. Minimum attenuation requirements are prescribed in Section 51.104(a).

*The proposed buildings comply with Section 51.101(9), because according to the HUD noise guidebook, the standard construction approaches with closed windows can normally achieve the sound attenuation of more than 24 dBA to meet the interior noise standard of 45 dBA Ldn. Although opening of windows will expose the units adjacent to Sunset Boulevard to levels above the HUD interior noise standard of 45 dBA Ldn, on an average day, the project meets the HUD interior noise goals with following reasons.*

- *The noise environment external to the building complies with the Site Acceptability Standards of Section 51.103(c).*
- *The building will be constructed in a manner common to the area, Section 51.103(c)(ii). Therefore, there is no mechanical ventilation or air conditioning present in the rest of the building.*
- *When windows are closed, the building will employ additional attenuation measures to satisfy Section 51.104(a) and meet the HUD's Interior noise goals in Section 51.101(9).*
- *Occasionally, under excessive temperatures, the residents may choose to open windows; however, the average interior noise levels will still meet interior noise standard of 45 dBA Ldn.*
- *The City proposes to include in mitigation measure a conservative performance standard – STC rating of 30 dBA – to ensure reasonable attempts will be made to meet the HUD Interior Noise Goals when windows are unopened with §51.101(9), which state that "It is a HUD goal that the interior auditory environment shall not exceed a day-night average sound level of 45 decibels.*

#### **Section 51.105 – Exceptions.**

(a) Flexibility for non-acoustic benefits. Where it is determined that program objectives cannot be achieved on sites meeting the acceptability standard of 65 decibels, the Acceptable Zone may be shifted to Ldn 70 on a case-by-case basis if all the following conditions are satisfied:

(1) The project does not require an Environmental Impact Statement under provisions of Section 51.104(b)(1) and noise is the only environmental issue.

(2) The project has received a Special Environmental Clearance and has received the concurrence of the Environmental Clearance Officer.

(3) The project meets other program goals to provide housing in proximity to employment, public facilities and transportation.

(4) The project is in conformance with local goals and maintains the character of the neighborhood.

(5) The project sponsor has set forth reasons, acceptable to HUD, as to why the noise attenuation measures that would normally be required for new construction in the Ldn 65 to Ldn 70 zone cannot be met.

(6) Other sites which are not exposed to noise above Ldn 65 and which meet program objectives are generally not available.

*Response:*

- *The Sunset Terrace redevelopment did not require an EIS. Section 51.104(b)(1) refers to greenfield redevelopment rather than redevelopment within an urban context. Also, according to thresholds in 24 CFR Part 58 Section 58.37, the size of the Sunset Terrace redevelopment (maximum dwellings in the most intensive concept included 589 dwellings) does not exceed the thresholds for an EIS under NEPA. The City and RHA elected to prepare an EIS as they were seeking to use a tool allowed under Washington State Environmental Policy Act – a planned action – which facilitates future development.*
- *The City is the responsible entity and is granting the Special Environmental Clearance on the basis of the EIS noise analysis and the characteristics of the proposals .*
- *The project is a mixed use development with residential, commercial, and civic uses along a major transportation and transit route (SR 900). The project includes improvements to the civic and transportation facilities (e.g. library, green stormwater infrastructure, new water/sewer lines, streetscape and pedestrian improvements) to facilitate employment and housing investment in the neighborhood and to reinforce transit services.*
- *The project is in conformance with City plans (see Draft EIS Section 3.8/4.8 and Final EIS Section 3.8) and matches the character of the neighborhood (see Draft EIS Section 3.12/4.12 and Final EIS Section 3.12).*
- *The noise analysis in Draft EIS Section 3.6/4.6 and Final EIS Section 3.6 shows that sound walls are not feasible due to the height and location and lack of benefit to upper storey uses; the mixed use character of the development close to sidewalks and roads intended to invite community use. The shallow nature of the property, topography, lot pattern, and the road system as well as zoning requirements mean that the building setbacks from NE Sunset Boulevard are the most that can be achieved and are greater than the current development.*
- *Other sites meeting program objectives are not available. The objectives are to transform and integrate Sunset Terrace into a new mixed use, mixed income development with public amenities serving the broader community and serving as a catalyst for positive private investment in the community. The present site is the most appropriate.*

## Attachment: HUD STC Ratings and Noise Levels

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The US Department of Housing and Urban Development (HUD) published *The Noise Guidebook*<sup>1</sup> which includes Sound Transmission Class (STC) Guidance for different construction types (Chapter 4 Supplement). This attachment presents calculations using HUD's STC method to determine whether standard construction can achieve sound reduction sufficient to achieve HUD's interior noise standard of 45 dBA.

### Assumptions

The STC for a standard exterior wall – 39 db (Table 3 on page 38 of Chapter 4 - 5/8" plywood siding, fiberglass insulation, 2x4 studs 16" o.c., 1/2" insulation board sheathing, 1/2" Gypsum board)

The STC for an aluminum single hung window, closed, glazed with 7/16" insulating glass – 25 dB (Table 3 on page 38 of Chapter 4)

Percentage of wall occupied by window – 30%

### Results

With an exterior noise level over 68 dBA under all the action and no action alternatives, the proposed buildings would be required to achieve a minimum 24 dBA reduction to meet the interior standard of 45 dBA. Based on the assumptions above the resulting STC from the building equals 32 dB (Figure 17 on page 25 of Chapter 4). Thus, the building structure itself with closed windows can provide enough STC rating to meet the interior standard of 45 dBA.

However, an STC rating of 30 dBA is recommended for first-row residential dwellings because the HUD Noise Guidebook shows that the sound reduction achieved by different techniques may be a little optimistic.<sup>2</sup>

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<sup>1</sup> 1985. *The Noise Guidebook*. A Reference Document for Implementing the Department of Housing and Urban Development's Noise Policy. Environmental Planning Division, Office of Environment and Energy. Available: <http://www.hud.gov/offices/cpd/environment/training/guidebooks/noise/>. Accessed: January 11, 2011.

<sup>2</sup> HUD noise guidebook, Chapter 4, page 33 "... use the STC ratings with a bit of caution and remain aware of the possible 2–3 dB overstating that you may get with the STC rating system."

Appendix G

## **Cultural Resources—Three Sites Study**

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STATE OF WASHINGTON

**DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION**

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501  
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343  
(360) 586-3065 • Fax Number (360) 586-3067 • Website: [www.dahp.wa.gov](http://www.dahp.wa.gov)

February 24, 2011

Mr. Gregg Zimmerman  
Community & Economic Development  
City of Renton  
1055 South Grady Way  
Renton, Washington 98057

Re: Multifamily/ Institutional Bldgs. Project  
Log No.: 022411-06-HUD

Dear Mr. Zimmerman:

Thank you for contacting our department. We have reviewed the professional archaeological survey report for the proposed Multifamily/ Institutional Buildings Project at 2902 NE 12<sup>th</sup> Street, 1150 Harrington Ave. NE, and Kirkland Ave NE –NE15<sup>th</sup> and NE 16<sup>th</sup> Streets, Renton, King County, Washington.

We concur with the determination of No Historic Properties Affected.

We would appreciate receiving any correspondence or comments from concerned tribe's cultural committee or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity must stop, the area secured, and this department and the tribe's cultural committee notified. These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in compliance with the Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations 36CFR800.4. Should additional information become available, our assessment may be revised, including information regarding historic properties that have not yet been identified. Thank you for the opportunity to comment and a copy of these comments should be included in subsequent environmental documents.

Sincerely,

Robert G. Whitlam, Ph.D.  
State Archaeologist  
(360)586-3080  
email: [rob.whitlam@dahp.wa.gov](mailto:rob.whitlam@dahp.wa.gov)



Denis Law  
Mayor

# City of Renton



Department of Community and Economic Development  
Alex Pietsch, Administrator

February 18, 2011

Ms. Allyson Brooks, PhD  
State Historic Preservation Officer  
ATTN: Mr. Russell Holter  
Department of Archaeology & Historic Preservation  
1063 S. Capitol Way, Suite 106  
Olympia, WA 98501

**Subject: Section 106 Review—Renton Housing Authority Development Projects at 2902 Northeast 12th Street, 1150 Harrington Avenue NE, and Kirkland Ave NE between NE 15<sup>th</sup> and NE 16<sup>th</sup> streets**

Dear Ms. Brooks and Mr. Holter:

The City of Renton and the Renton Housing Authority are proposing to use federal funds to construct multifamily dwellings and/or institutional buildings (e.g., government offices) at three locations in the city of Renton. These locations include the Renton Highlands Library property at 2902 Northeast 12th Street, Sunset Court Park at 1104 Harrington Avenue NE, and three vacant lots located along Kirkland Ave NE between NE 15<sup>th</sup> and NE 16<sup>th</sup> streets. The new buildings will be funded by U. S. Department of Housing and Urban Development (HUD) capital funds per Section 26 of the U.S. Housing Act of 1937 (U.S. Government Code (USC), Title 42, Section 1437x) in connection with projects assisted under Section 9. HUD is the lead federal agency responsible for compliance with Section 106 of the National Historic Preservation Act (NHPA). In accordance with specific statutory authority and HUD's regulations at Section 24 Part 58 of the Code of Federal Regulations, the City of Renton is completing the necessary environmental review under the National Environmental Policy Act and Section 106 of the NHPA.

ICF International is assisting the City in meeting these requirements, and has conducted a cultural resources survey for the undertaking. The study is comprised of archaeological investigations and a historic resources survey at each of the three project locations. A copy of the resulting survey report summarizing the findings is attached. The investigations identified no historic properties eligible for listing in the National Register of Historic Places located in the established Area of Potential Effects (APE) for the undertaking. Based on these findings, we have concluded that the proposed undertaking would have "no effect" on historic properties in the APE.

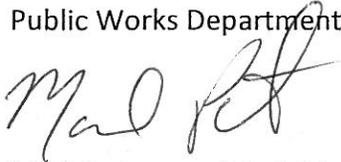
With this letter, we would like to initiate formal consultation with you under Section 106 of the NHPA and hereby request your concurrence on the project APE and our finding that the proposed project will have no effect on historic properties. Notice of the undertaking and copies of this documentation have also been provided to the Muckleshoot Indian Tribe.

Thank you for your assistance with this review. Please feel free to contact me at (425) 430-6578 should you have any questions.

Sincerely,  
City of Renton Environmental Review Committee



Gregg Zimmerman, Administrator  
Public Works Department



Mark Peterson, Administrator  
Fire & Emergency Service Department



Terry Higashiyama, Administrator  
Community Services Department



Alex Pietsch, Administrator  
Community and Economic Development Department

**Enclosure:** Cultural Resources Survey Report

Denis Law  
Mayor

City of  
**Renton**



February 18, 2011

Department of Community and Economic Development  
Alex Pietsch, Administrator

Ms. Virginia Cross  
Chairperson of the Muckleshoot Tribal Council  
Muckleshoot Indian Tribe  
39015 172nd Avenue SE  
Auburn, WA 98092-9763

**Subject: Section 106 Review—Renton Housing Authority Development Projects at 2902 Northeast 12th Street, 1150 Harrington Avenue NE, and Kirkland Ave NE between NE 15<sup>th</sup> and NE 16<sup>th</sup> streets**

Dear Ms. Cross:

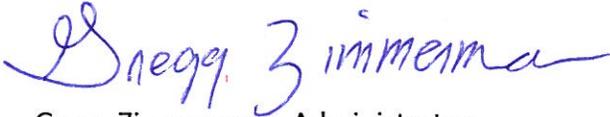
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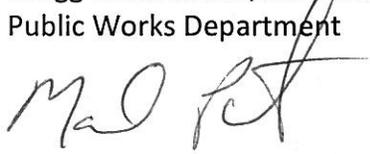
With this letter, we would like to initiate formal consultation with you under Section 106 of the NHPA, and invite you to comment on our determination of the undertaking's proposed APE and our finding that the undertaking would have no effect on historic properties. We understand and respect the sensitive nature of cultural resources and traditional cultural properties and will not disseminate any specific site or area location information to the general public. Such information will be withheld from any public documentation prepared for the undertaking.

Thank you for your assistance with this review. Please feel free to contact me at (425) 430-6578 should you have any questions.

Sincerely,  
City of Renton Environmental Review Committee



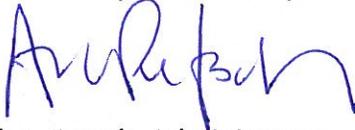
Gregg Zimmerman, Administrator  
Public Works Department



Mark Peterson, Administrator  
Fire & Emergency Service Department



Terry Higashiyama, Administrator  
Community Services Department



Alex Pietsch, Administrator  
Community and Economic Development Department

**Enclosure:** Cultural Resources Survey Report

cc:

Denis Law  
Mayor

City of  
**Renton**



Department of Community and Economic Development  
Alex Pietsch, Administrator

February 18, 2011

Muckleshoot Indian Tribe  
Cultural Resources Program  
Attn: Laura Murphy, Archaeologist  
39015 172nd Avenue SE  
Auburn, WA 98092-9763

**Subject: Section 106 Review—Renton Housing Authority Development Projects at 2902 Northeast 12th Street, 1150 Harrington Avenue NE, and Kirkland Ave NE between NE 15<sup>th</sup> and NE 16<sup>th</sup> streets**

Dear Ms. Murphy:

The City of Renton and the Renton Housing Authority are proposing to use federal funds to construct multifamily dwellings and/or institutional buildings (e.g., government offices) at three locations in the city of Renton. These locations include The Renton Highlands Library property at 2902 Northeast 12th Street, Sunset Court Park at 1104 Harrington Avenue NE, and three vacant lots located along Kirkland Ave NE between NE 15<sup>th</sup> and NE 16<sup>th</sup> streets. The new buildings will be funded by U. S. Department of Housing and Urban Development (HUD) capital funds per Section 26 of the U.S. Housing Act of 1937 (U.S. Government Code (USC), Title 42, Section 1437x) in connection with projects assisted under Section 9. HUD is the lead federal agency responsible for compliance with Section 106 of the National Historic Preservation Act (NHPA). In accordance with specific statutory authority and HUD's regulations at Section 24 Part 58 of the Code of Federal Regulations, the City of Renton is completing the necessary environmental review under the National Environmental Policy Act and Section 106 of the NHPA.

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Public Works Department



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Fire & Emergency Service Department



Terry Higashiyama, Administrator  
Community Services Department



Alex Pietsch, Administrator  
Community and Economic Development Department

Enclosure: Cultural Resources Survey Report





# **CULTURAL RESOURCES SURVEY REPORT DEVELOPMENT OF THREE PROJECT SITES IN THE RENTON SUNSET TERRACE NEIGHBORHOOD**

## **PREPARED FOR:**

City of Renton  
NEPA Responsible Entity and SEPA Lead Agency  
Department of Community and Economic Development  
1055 S. Grady Way  
Renton, WA 98057

*In partnership with*  
Renton Housing Authority  
2900 Northeast 10th Street  
Renton, Washington 98056

## **PREPARED BY:**

Alexander E. Stevenson, J. Tait Elder, MA, Melissa Cascella, MA, and  
Christopher Hetzel, MA  
ICF International  
710 Second Avenue, Suite 550  
Seattle, WA 98104  
Contact: Christopher Hetzel  
206.801.2817

**February 2011**



Alexander E. Stevenson, J. Tait Elder, MA, Melissa Cascella, MA, and Christopher Hetzel, MA. 2011. Cultural Resources Survey Report—Development of Three Project Sites in the Renton Sunset Neighborhood. February. (ICF 593.10) Seattle, WA. Prepared for City of Renton, in partnership with Renton Housing Authority, Renton, WA.

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## Acronyms and Abbreviations

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APE	Area of Potential Effects
APN	Assessor Parcel Number
BP	before present
CFR	Code of Federal Regulations
City	City of Renton
DAHP	Washington State Department of Archaeology and Historic Preservation
GPS	global positioning system
HUD	U. S. Department of Housing and Urban Development
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
RHA	Renton Housing Authority
SEPA	Washington State Environmental Policy Act
SHPO	State Historic Preservation Officer
USC	United States Code
WHR	Washington Heritage Register
WISAARD	Washington Information System for Architectural and Archaeological Records Database



## Project Description

The City of Renton (City) and the Renton Housing Authority (RHA) are proposing a series of activities to revitalize an area known as the Sunset Area Community, located in the vicinity of NE Sunset Boulevard (SR 900) east of Interstate 405 in the city of Renton, Washington. The activities would include the redevelopment of three separate properties in the Sunset Terrace neighborhood (proposed projects). Each of the proposed projects is anticipated to receive federal funding from the U. S. Department of Housing and Urban Development (HUD). HUD is the lead federal agency responsible for compliance with Section 106 of the National Historic Preservation Act (NHPA) (16 United States Code [USC] 470 et seq.). In accordance with specific statutory authority and HUD's regulations at Section 24 Part 58 of the Code of Federal Regulations (CFR), the City is completing the necessary environmental review under the National Environmental Policy Act (NEPA) (42 USC 4321–4347) and Section 106 of the NHPA. ICF International (ICF) conducted a cultural resources study for each of the three projects, consolidated in this report, to assist the City in fulfilling these requirements. The studies comprised archaeological investigations and historic resources surveys at each of the three project sites.

The proposed projects would take place at three locations: on Kirkland Avenue NE between 15th and 16th streets; at 2902 NE 12th Street; and 1104 Harrington Avenue NE. Parcels at each of these locations would be redeveloped for either multifamily housing units, or, in the case of the Harrington Avenue NE property, potentially a building intended for institutional use (e.g., government office).

## Project Background

### Personnel

Christopher Hetzel, MA, architectural historian, served as cultural lead for this project and principal investigator for the consideration of built environment resources. J. Tait Elder, MA, archaeologist, was principal investigator for archaeology. Alexander Stevenson led the field crew during the archaeological investigations. Melissa Cascella, MA, assisted the principal investigators in drafting this cultural resources survey report, and Patrick Reed assisted with the field investigation and literature search.

### Location

The proposed projects are located in the city of Renton, King County, Washington, in the Northwest Quarter of Section 9, Township 23, Range 5 East (Figure 1-1). It is in an area known as the Sunset Area Community, situated in the vicinity of NE Sunset Boulevard, east of Interstate 405. The project activities would include redevelopment of the following properties:

- the Renton Highlands Library property at 2902 Northeast 12th Street (Assessor Parcel Number [APN]: 7227802040);
- vacant lots on Kirkland Avenue between NE 15th and NE 16th streets (APNs: 7227800200, 7227800185 and 7227800190.; and
- Sunset Court Park at 1104 Harrington Avenue NE (APN: 7227801781)

## Area of Potential Effects

The Area of Potential Effects (APE) is defined as the geographic area or areas within which the proposed projects may directly or indirectly cause change of character or use of historic properties (i.e., archaeological sites, traditional cultural properties, and/or built environment resources). It includes the horizontal and vertical extents of the project activities at the three project sites (Figure 1-2). The depth of the anticipated ground disturbance would vary depending on the design the proposed development.

## Regulatory Context

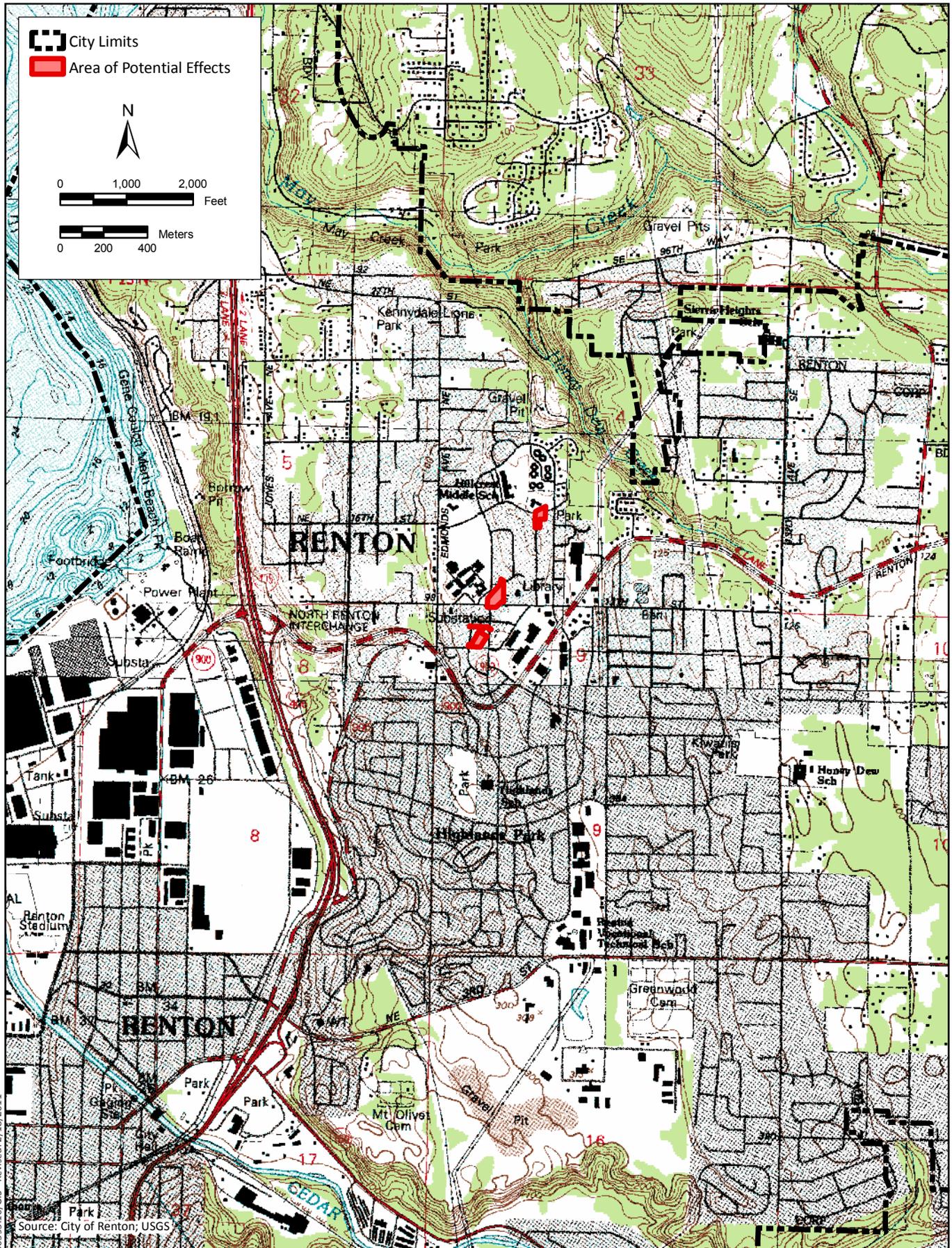
Federal, state, and local regulations recognize the public's interest in cultural resources and the public benefit of preserving them. These laws and regulations require analysts to consider how a project might affect cultural resources and to take steps to avoid or reduce potential damage to them. A cultural resource can be considered as any property valued (e.g., monetarily, aesthetically, religiously) by a group of people. Valued properties can be historical in character or date to the prehistoric past (i.e., the time prior to written records).

The proposed projects require federal funding and, therefore, must satisfy the requirements established under NEPA and Section 106 of the NHPA. The NHPA is the primary mandate governing projects under federal jurisdiction that might affect cultural resources. The purpose of this report is to identify and evaluate cultural resources in the APE, fulfilling the requirements of NEPA and Section 106 of the NHPA, and to assess the potential effects of the proposed projects on cultural resources.

## Federal

### National Environmental Policy Act

NEPA requires the federal government to carry out its plans and programs in such a way as to preserve important historic, cultural, and natural aspects of our national heritage by considering, among other things, unique characteristics of the geographic area such as proximity to historic or cultural resources (40 CFR 1508.27(b)(3)) and the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) (40 CFR 1508.27(b)(8)). Although NEPA does not define standards specific to cultural resource impact analyses, the implementing regulations of NEPA (40 CFR 1502.25) state that, to the fullest extent possible, "agencies shall prepare draft environmental impact statements concurrently with and integrated with environmental impact analyses and related surveys and studies required by...the National Historic Preservation Act of 1966 (16 USC 470 et seq.)."

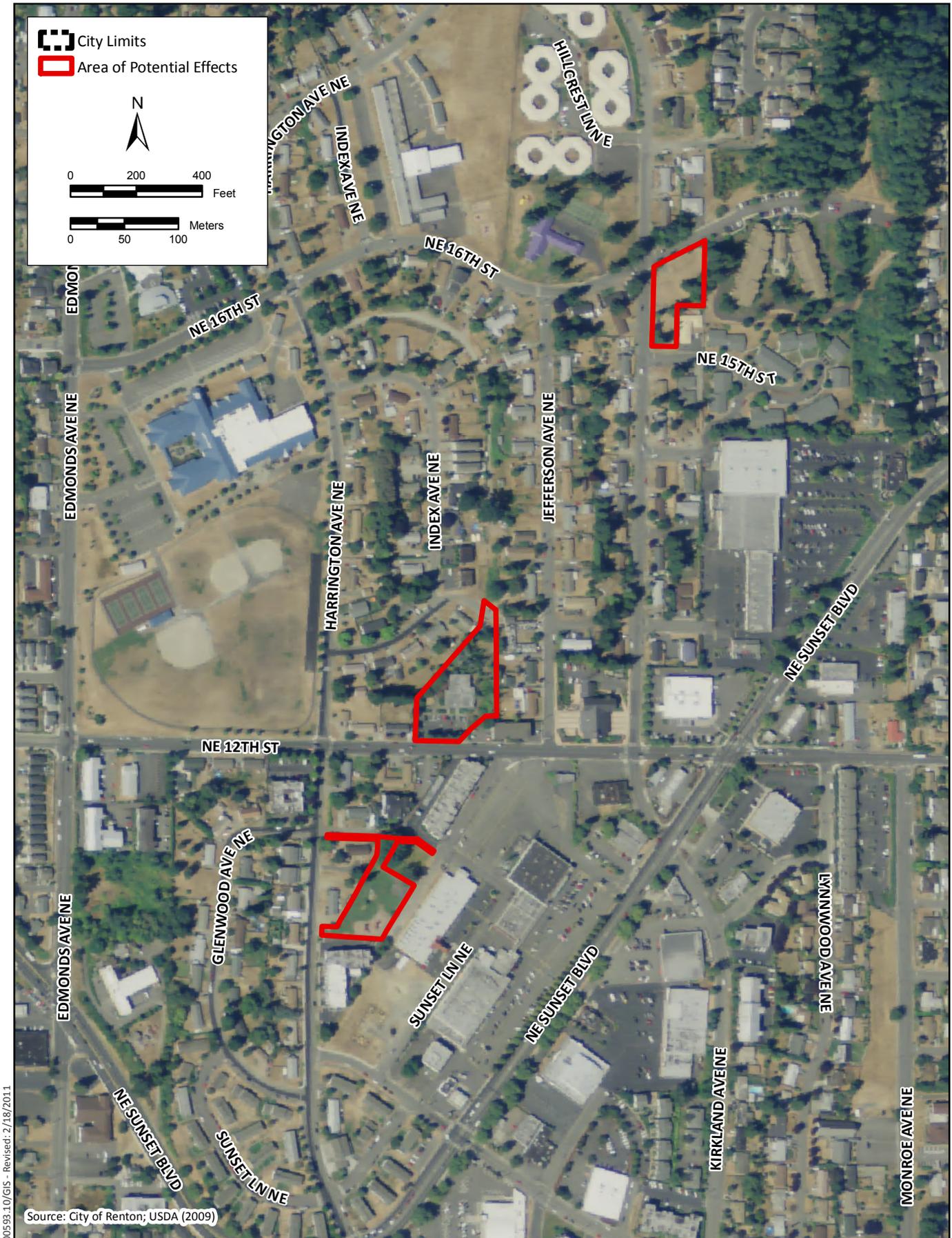


00593.10/GIS - Revised: 2/18/2011

Figure 1-1

Project Location and Area of Potential Effects

Cultural Resources Survey Report - Development of Three Project Sites in the Renton Sunset Neighborhood



00593-10/GIS - Revised: 2/18/2011



**Figure 1-2**  
Area of Potential Effects  
Cultural Resources Survey Report - Development of Three Project Sites in the Renton Sunset Neighborhood

Although NEPA statutes and implementing regulations do not contain detailed information concerning cultural resource impact analyses, Section 106 of the NHPA, with which NEPA must be coordinated, details standards and processes for such analyses. The implementing regulations of Section 106 states, “Agency officials should ensure that preparation of an environmental assessment (EA) and finding of no significant impact (FONSI) or an EIS and record of decision (ROD) includes appropriate scoping, identification of historic properties, assessment of effects upon them, and consultation leading to resolution of any adverse effects” (36 CFR 800.8[a][3]). Section 106, therefore, typically forms the crux of federal agencies’ NEPA cultural resources impact analyses and the identification, consultation, evaluation, effects assessment, and mitigation required for both; NEPA and Section 106 compliance should be coordinated and completed simultaneously. This practice is followed in the present analysis.

### **Section 106 of the National Historic Preservation Act**

Section 106 requires federal agencies to consider the effects of undertakings (acts which are federally funded, approved, or take place on federally administered lands) that have the potential to affect any district, site, building, structure, or object that is listed or is eligible for listing in the NRHP. Under Section 106, the lead federal agency must provide an opportunity for the State Historic Preservation Officer (SHPO), affected tribes, and other stakeholders to comment. Pursuant to the HUD’s regulations at 24 CFR 58, the City is authorized to assume responsibility for environmental review, decision making, and action that would otherwise apply HUD under NEPA, which includes NEPA lead agency responsibility. The Section 106 process is codified in 36 CFR 800 and consists of four basic steps:

1. Initiation of the process by coordinating with other environmental reviews, consultation with the SHPO, identification and consultation with interested parties, and identification of points in the process to seek input from the public and to notify the public of proposed actions.
2. Identification of cultural resources and evaluation of these resources for NRHP eligibility (the process for which is explained below), resulting in the identification of historic properties.
3. Assessment of effects of the project on historic properties.
4. Resolution of adverse affects which includes continued consultation with SHPO/Tribal Historic Preservation Officer and other interested parties and mitigation measures, such as public outreach or data recovery excavation.

An adverse effect on a historic property is found when an activity may alter, directly or indirectly, any of the characteristics of the historic property that render it eligible for inclusion in the NRHP. The alteration of characteristics is considered an adverse effect if it may diminish the integrity of the historic property’s location, design, setting, materials, workmanship, feeling, or association. The assessment of effects on historic properties is conducted in accordance with the guidelines set forth in 36 CFR 800.5.

### **National Register of Historic Places**

First authorized by the Historic Sites Act of 1935, the NRHP was established by the NHPA as “an authoritative guide to be used by federal, state, and local governments; private groups; and citizens to identify the nation’s cultural resources and to indicate what properties should be considered for

protection from destruction or impairment.” The NRHP recognizes properties that are significant at the national, state, and local levels, based on the following evaluation criteria (National Register of Historic Places 1997):

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of significant persons in or past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded or may be likely to yield, information important in history or prehistory.

The guidelines further state that “Ordinarily, birthplaces, cemeteries, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years are not considered eligible for the NRHP”, unless they satisfy certain conditions.

The NRHP requires that a resource not only meet one of these criteria, but that it must also possess integrity. Integrity is the ability of a property to convey historical significance. The evaluation of a resource’s integrity must be grounded in an understanding of that resource’s physical characteristics and how those characteristics relate to its significance. The NRHP recognizes seven aspects or qualities that, in various combinations, define the integrity of a property, including: location, design, setting, materials, workmanship, feeling, and association.

An adverse effect on a historic property is found when an activity may alter, directly or indirectly, any of the characteristics of the historic property that render it eligible for inclusion in the NRHP. The alteration of characteristics is considered an adverse effect if it could diminish the integrity of the historic property’s location, design, setting, materials, workmanship, feeling, or association. The assessment of effects on historic properties is conducted in accordance with the guidelines set forth in 36 CFR 800.5.

## State

### Washington State Environmental Policy Act

The Washington State Environmental Policy Act (SEPA) requires that all major actions sponsored, funded, permitted, or approved by state and/or local agencies be planned so that environmental considerations—such as impacts on cultural resources—are considered when state-agency-enabled projects affect properties of historical, archaeological, scientific, or cultural importance (Washington Administrative Code 197-11-960). These regulations closely resemble NEPA.

Under SEPA, the Washington State Department of Archaeology and Historic Preservation (DAHP) is the specified agency with the technical expertise to consider the effects of a proposed action on cultural resources and to provide formal recommendations to local governments and other state agencies for appropriate treatments or actions. The degree to which an action may adversely affect districts, sites, buildings, structures, and objects listed or eligible for listing in the NRHP is the primary criterion for determining significant impacts under SEPA. Secondary criteria include whether an alternative has the potential to affect districts, sites, buildings, structures, and objects

listed in or eligible for listing in the Washington Heritage Register (WHR), the state equivalent of the NRHP.

### **Washington Heritage Register**

The WHR is an official listing of historically significant sites and properties found throughout the state. The list is maintained by DAHP and includes districts, sites, buildings, structures, and objects that have been identified and documented as being significant in local or state history, architecture, archaeology, engineering or culture. To qualify for placement on the WHR, the resource must meet the following criteria.

- A building, site, structure or object must be at least 50 years old. If newer, the resource should have documented exceptional significance.
- The resource should have a high to medium level of integrity (i.e., it should retain important character-defining features from its historic period of construction).
- The resource should have documented historical significance at the local, state, or federal level.

Sites listed on the NRHP are automatically added to the WHR; hence, a separate nomination form does not need to be completed.

### **Governor's Executive Order 05-05**

Washington State Executive Order 05-05—which requires state agencies with capital improvement projects to integrate DAHP, the Governor's Office of Indian Affairs, and concerned tribes into their capital project planning processes—was signed into action by Governor Chris Gregoire in November 2005. All state agency capital construction projects or land acquisitions, not otherwise reviewed under federal law, must comply with this executive order, if the projects or acquisitions have the potential to affect cultural resources. Agencies with projects or acquisitions subject to review under the executive order must consult with DAHP and concerned tribes and invite their participation in project planning. If cultural resources are present, then reasonable steps to avoid, minimize, or mitigate potential effects must be taken.

### **Other Archaeological Resource Laws**

Other state laws that govern the protection of archaeological resources include:

- RCW 27.44, Indian Graves and Records, provides protection for Native American graves and burial grounds, encourages voluntary reporting of said sites when they are discovered, and mandates a penalty for disturbance or desecration of such sites.
- RCW 27.53, Archaeological Sites and Resources, governs the protection and preservation of archaeological sites and resources and establishes DAHP as the administering agency for these regulations.
- RCW 36.70A.020 includes a goal to “Identify and encourage the preservation of lands, sites, and structures that have historical, cultural, and archaeological significance.” Cities planning under the Washington State Growth Management Act must consider and incorporate this historic preservation goal.
- RCW 68.60, Abandoned and Historic Cemeteries and Historic Graves, provides for the protection and preservation of abandoned and historic cemeteries and historic graves.

## **Local**

The City currently does not have a local historic preservation ordinance.

## **Environmental Setting**

### **Geologic Background**

The APE is located within the Puget Lowland, a structural and topographic basin that lies between the Cascade Range and Olympic Mountains. The modern topography of the Puget Lowland is primarily the result of surface scouring and moraine formation caused by the most recent glacial advance, known as the Vashon stade of the Fraser glaciation, which took place between 14,000 and 20,000 years before present (BP) (Booth et al. 2009; Easterbrook 2003). As a result of this glacial activity, the APE is characterized as a moderately glacial drift upland, composed of glacial till (Mullineaux 1965). In the modern era, the surface of the APE has been modified to accommodate for development.

### **Flora and Fauna**

The APE is located in the Puget Sound area subtype western hemlock (*Tsuga heterophylla*) vegetation zone. Softwoods such as Douglas-fir (*Pseudotsuga menziesii*), western hemlock, and western red cedar (*Thuja plicata*) are the dominant tree species in the region; hardwoods such as red alder (*Alnus rubra*) and bigleaf maple (*Acer macrophyllum*) are generally subordinate and found near water courses or riparian habitats. Garry oak (*Quercus garryana*) groves are found at lower elevations. In some areas, stands of pines (*Pinus* spp.) are major forest constituents, along with Douglas-fir (Franklin and Dyrness 1988:72). Understory shrubs with potential food and resource value in the western hemlock zone include, but are not limited to, swordfern (*Polystichum muritum*), bracken fern (*Pteridium aquilinum*), Oregon grape (*Mahonia aquifolium*), vine maple (*Acer circinatum*), huckleberry (*Vaccinium* spp.), blackberry (*Rubus* spp.), ocean spray (*Holodiscus discolor*), salal (*Gaultheria shallon*), blueberries and huckleberries (*Vaccinium* sp.), wapato (*Sagittaria latifolia*) and red elderberry (*Sambucus racemosa*).

Terrestrial faunal resources in the region include, but are not limited to, mule deer (*Odocoileus hemionus*), elk (*Cervus elaphus*), cougar (*Puma concolor*), wolf (*Canis lupus*), coyote (*Canis latrans*), black bear (*Ursus americanus*), squirrels (*Sciurus* sp.), muskrat (*Ondatra* sp.), and raccoon (*Procyon lotor*) (Dalquest 1948).

## **Cultural Setting**

### **Precontact**

Cultural developments in the Puget Sound area have been summarized by a number of reviewers (Kidd 1964; Greengo and Houston 1970; Nelson 1990; Larson and Lewarch 1995; Ames and Maschner 1999; Blukis Onat et al. 2001; Forsman and Lewarch 2001), and most recently by Kopperl (2004). The archaeological record and cultural histories of the prehistory of Puget Sound and

surrounding areas generally divide the prehistoric cultural sequence into multiple phases or periods from about 13,000 BP to AD 1700. These phases are academic in nature and do not necessarily reflect tribal viewpoints. A summary of the phases is provided below, based on the periods proposed by Kopperl (2004).

- **Paleo-Indian Period (11,000 to 8,000 BP).** Generalized resource development in a post-glacial environment. Site contents consist of large lithic bifaces and bone technology.
- **Early Period (8,000 to 5,000 BP).** Inland sites with lithic artifacts, rarely found with associated plant or animal remains, or hearth structures.
- **Middle Period (5,000 BP to 2,500 BP).** Increase socioeconomic complexity, exploitation of a wider range of environments, and utilization of marine resources.
- **Late Period (2,500 BP to European contact).** The establishment of large semi-sedentary populations, increased diversity of hunting, fishing, plant processing, and woodworking tools, followed by European contact.

## Ethnographic and Ethnohistoric

Ethnographic information recorded during the early part of the twentieth century indicates that the APE is located within the territory of a Native American group traditionally known as the Duwamish. The Duwamish people traditionally spoke the Southern Lushootseed language, which is one of two Coast Salish languages spoken in the Puget Sound (Suttles and Lane 1990:486). They inhabited areas that encompassed Salmon Bay, Lake Union, Portage Bay, Union Bay, Lake Washington, and their tributary streams (Blukis Onat and Kiers 2007:6).

The Duwamish people hunted deer, elk, bear, ducks, geese, and other game animals and waterfowl, when available. Inland of the Puget Sound, they fished for salmon when available (Duwamish Tribe 2010). Plant foods such as sprouts, roots, bulbs, berries, and nuts were collected as well (Suttles and Lane 1990:489) Although ethnographic village locations and place names are documented south of the APE along the Cedar River, no ethnographically documented villages or place names are known to exist within the the APE (Hilbert et al. 2001)

European American settlement of the Puget Sound area in the 1850s severely disrupted the Duwamish way of life. Early contact between the Duwamish and European Americans was cordial, and the Duwamish were essential to the survival of many early settlers. As the city of Seattle and the surrounding towns grew, natural resources on which the Duwamish relied became increasingly scarce and other traditional areas became inaccessible as a result of development. Further urban expansion, combined with the banning of native urban residence in 1865, resulted in many of the Duwamish people moving away from, or being forced out of, the Seattle area. Many of the Duwamish people went to reservations where they had relatives, including the Muckleshoot, Suquamish, Tulalip, Lummi, or Snoqualmie reservations (Blukis Onat et al. 2005). Today, some of the descendents of the Duwamish people are now members of several federally recognized tribes including the Muckleshoot Indian Tribe, Suquamish, Tulalip Tribe of Indians, and Snoqualmie Tribe, whereas others remain enrolled with the Duwamish Tribe, although it is not a federally recognized tribe (Duwamish Tribe 2010).

## Historic Context

### Early Beginnings

The first European American settler in the Renton area was Henry Tobin, who arrived in 1853 and established a 320-acre claim on the Black River (Buerge 1989:22–24; City of Renton 1989:4). Tobin, together with three partners, subsequently established the Duwamish Coal Company and built the area's first sawmill to obtain the lumber necessary for the mining tunnel supports. The sawmill was in operation by 1854, but conflicts with Native American groups in the region soon caused an end to this early business venture (Buerge 1989:22).

Over the few short years of European American settlement in the Puget Sound area, Native Americans had witnessed areas important to their traditional lifeways occupied and altered by the new settlers (Thrush 2007:79–80). After establishment of the Washington Territory in 1853, the new territorial governor began drafting agreements that required the removal of the area's remaining Native American populations, to make the land available for further European American settlement. Enacted in two councils called the Medicine Creek Treaty and the Point Elliott Treaty, the agreements called for lands to be handed over to the state in exchange for rights to traditional gathering areas, money and the relocation of native peoples to designated reservations (Buchanan 1859; Buerge 1989:22–23; Pierce 1855; Slauson 2006:3).

After signing the Point Elliott Treaty, local tribal chief Keokuck returned to the Black River area to find his people deeply divided between feelings of friendship to settlers they knew in the area, and feelings of resentment and betrayal for being forced to surrender their traditional homelands. Several regional tribes, including the Yakama and Wenatchee, united together to confront encroaching settlers, resulting in the conflict referred to as the Yakima Indian War of 1855. Crossing the mountains, warriors raided settlements and even launched an attack on the city of Seattle itself. After the Treaty of Point Elliott was ratified by Congress in 1859, the remaining Duwamish living along the Black River were forced from their land and relocated to reservations (Buerge 1989:23).

### The Birth of Renton

After the signing of the Treaty of Point Elliott and the forced removal of the native Duwamish, an increasing number of settlers entered the area (Buerge 1989:23). In 1856, Erasmus M. Smithers acquired Tobin's earlier claim by marrying his widow, and purchased an additional 160 acres in 1857 (Buerge 1989:24; City of Renton 1989:4; Slauson 2006:2). Smithers' substantial land holdings eventually became the center of a burgeoning community that would eventually form the city of Renton. During the 1860s, several additional families settled in the area, and schools and a post office were established.

Rich deposits of coal found in the mountains surrounding the small community in the 1860s and 1870s furthered its prosperity. Wealthy entrepreneurs, such as Captain William Renton, took interest in the area. Renton, who had built an enormous and prosperous sawmill on Bainbridge Island, invested heavily in the area's coal and transportation industries. These investments allowed the fledgling community's economy to boom (Buerge 1989:24–27; Slauson 2006:6).

In 1875, Smithers and two partners filed the town plat for the new community and named it Renton in honor of the investor's financial backer (The Boeing Company et al. 2001:5; Buerge 1989:27; City of Renton 1989:4; Slauson 2006:7). The coal-mining and logging industries continued to draw new

residents to the area (Buerge 1989:30–32; City of Renton 1989:4–5). In 1875, less than 50 people lived in Renton, but by 1900, 1,176 people called it home (City of Renton 1989:4). Renton was fully incorporated on September 6, 1901 (The Boeing Company et al. 2001:5; Buerge 1989:37).

## Industrial Development

At the turn of the twentieth century, the area's coal-mining industry began to decline in importance, soon to be replaced by a new set of industries. The discovery of superior quality clay deposits at the south end of Lake Washington led to the establishment of the Renton Clay Works in 1902. By 1917, this company was the largest brick manufacturing plant in the world (The Boeing Company et al. 2001:5; City of Renton 1989:5). Addressing the growing needs of the railroad, logging, and later military during the two World Wars, the Pacific Car & Foundry was established during this period, supplying steel, pig iron, and other equipment for the production of railroad boxcars, tanks, and later, wing spans for aircraft. The company acquired Kenworth Motor Trucks in 1945 and Peterbilt Motors in 1958, merging them into one company called PACCAR in 1972 (City of Renton 1989:5).

One of the greatest influences on the development of Renton occurred during World War II with the establishment of the Boeing Company aircraft manufacturing plant at the south end of Lake Washington (City of Renton 1989:6). Built in 1940, the Renton Boeing plant manufactured B-29 Superfortress bombers and increased exponentially in size through the course of the war (The Boeing Company et al. 2001:12). At its height in 1942, the plant employed 44,754 people and produced approximately 90 planes each month, with a total of 6,981 planes completed before the war's end (Slauson 2006:126).

Development in Renton boomed with the flood of jobs and new residents brought by Boeing and other manufacturers. After the war, Boeing continued to employ as many as 35,000 workers and PACCAR was the city's second largest employer (Buerge 1989:82). Dubbed the "Hub City of Enterprise," Renton was one of the most important manufacturing centers in the state at this time (Buerge 1989:82). In the postwar era, new housing, retail shops, schools, churches, and civic services were established to provide for the population increases, and the federal government provided nearly \$4 million in funds for the construction of new housing alone (Buerge 1989:75–79).

Boeing continued to play a prominent role in Renton's economy through the rest of the twentieth century, producing commercial airplanes including the 737, 747, 757, and 767 and employing as many 25,000 (City of Renton 1989:6). Today, Renton's economy is shifting towards a greater economic diversification with technology firms, microbreweries, and the Wizards of the Coast, a game and card company, emerging as important sectors of the economy (The Boeing Company et al. 2001:19; Buerge 1989:88).

## Renton Highlands

Despite Renton's rapid growth in the early twentieth century, the area encompassing the APE remained largely undeveloped until the 1940s. The area was logged starting in 1883 (Slauson 2006:42) and Primary State Highway 2 (PSH 2), later known as the Sunset Highway or SR 900, was established just south of the APE from 1909 through 1910. The route was first paved in 1920, becoming the principal highway between Seattle and the Snoqualmie Pass prior to the construction of the Lake Washington Floating Bridge in 1940 (Buerge 1989:67; Morning Olympian 1909:3).

Although development in Renton's downtown grew with the arrival of the highway, the area in the vicinity of the APE remained primarily rural. With the arrival of the Renton Boeing plant and its tens

of thousands of workers in the 1940s, however, housing development exploded. Many of Renton's existing residential neighborhoods were first established during World War II.

During World War II, population migrations to urban centers combined with the rapid development of wartime industries caused increasing demand for housing that was much greater than in prior decades (Madison 1971:i-ii). Although the Federal Housing Administration was initially created during the 1930s, it was not until the postwar era that the federal government enacted "the most significant housing legislation ever passed" to meet the growing housing needs (Lord 1977:10). In the Housing Act of 1949, a goal was set by the federal government to provide "a decent home and suitable living environment for every American family" (Lord 1977:10). The act outlined an ambitious goal, authorizing the construction of 810,000 new homes over the next 6 years (Lord 1977:10).

In Renton, the federal government embarked on a series of housing projects (Buerge 1989:75). Known as the "Highlands" south of the highway and as the "North Highlands" north of the highway, the development of these two neighborhoods relied heavily on federal loans, grants, and other programs (City of Renton 1989:34). During this period, the Highlands development centered on housing projects while the North Highlands constructed a mix of commercial and multi-use family housing along the highway (City of Renton 1989:34-35).

Overnight, retail and social services emerged to serve the bustling new community. The Highlands area received its own post office and fire station in the fall of 1943 (Slauson 2006:45, 85), and a large recreational complex complete with tennis courts, ball fields, and a small gymnasium was completed in 1949 (Slauson 2006:81). Later improvements included the move of a prominent Methodist church from downtown Renton to the Highlands area in 1958 and construction of a new branch of the library in 1979 (Slauson 2006:62, 97). By 1975, the area was almost fully developed (City of Renton 1989:34-35; Renton History Museum 1975).



## Existing Data and Background Data

### Records Research

A record search was conducted using the Washington Information System for Architectural and Archaeological Records Database (WISAARD) to identify previously documented archaeological, ethnographic, and historic resources within 1 mile of the APE. WISAARD contains all records and reports on file with DAHP recorded since 1995. No previously completed cultural resources studies and no previously documented archaeological sites are located in the APE.

One historic resource, the building at 2615 NE Sunset Boulevard, was previously identified within 1 mile of the APE. The building's NRHP eligibility was not previously evaluated. Eleven previously completed cultural resources surveys and one archaeological site were identified within a 1-mile radius of the APE boundary. A summary of these cultural resources studies is provided in Table 3-1.

**Table 3-1. Cultural Resources Surveys within 1 Mile of the Area of Potential Effects**

NADB #	Authors/Year	Report Title	Description	Cultural Resources
1339887	Juell 2001	Cultural Resources Inventory of the proposed Washington Light Lanes Project	Literature search and windshield survey of I-405 corridor	None
1352447	Bundy 2008	Interstate 405 Corridor Survey: Phase I Interstate 5 to State Route 169 Improvements Project	Survey of I-405 corridor and shovel testing	None
1351994	Goetz 2008	Archaeological Assessment, Dayton Avenue NE/NE 22nd Street Stormwater System Project	Excavated a total of six shovel probes	None
1353126	Chatters 2009	Recovery of Two Early 20th Century Graves from Renton, WA	Exhumed remains of young male and older probable female from residential area	Site 45KI686; NRHP eligible, but site completely removed through excavation
1348842	Hodges 2007a	Cultural Resources	Monitoring of 20, 4 inch bore holes	None

NADB #	Authors/Year	Report Title	Description	Cultural Resources
1349666	Stipe 2007	Assessment for the Proposed Lowe's of Renton Verizon Wireless SEA Renton Voc-Tech Cellular Tower Cultural Resources Review	through fill Records search and pedestrian archaeological survey	None
1349929	Miss 2007	Archaeological Monitoring for the South Lake Washington Roadway Improvement Project	Monitoring of excavated trenches	None
1349789	Hodges 2007b	Archaeological Resource Assessment for the South Lake Washington Roadway Improvement Project	29 backhoe excavated through fill trenches	None
1340681	Cooper 2001	Antennas on an Existing Transmission Tower 12612 Southeast 96th Street	Survey around footprint of transmission tower and one shovel test	None
1354969	Elder et al. 2010	Cultural Resources Survey Report – Potential Sunset Terrace Redevelopment Subarea and NE Sunset Boulevard	Archaeological pedestrian survey; excavation of shovel probes; and historic resources survey	NRHP eligible property identified at 2825 NE Sunset Boulevard

NADB = National Archaeological Database

One known archaeological site is located within a 1-mile radius of the APE. Site 45KI686 is a disturbed historic internment, which contained European-American remains in a coffin (Rooke 2008). The site is located northwest of the APE. The NRHP eligible property at 2825 NE Sunset Boulevard consists of a former Safeway supermarket building, situated southeast of the APE. It is eligible under NRHP Criterion C for its architectural design.

## Objectives and Expectations

Review of existing archaeological records of the area within 1 mile of the APE reveals that all known archaeological sites are located in areas for which the geomorphology indicates a high probability for containing precontact archaeological sites (e.g., floodplains and lake margins). In contrast, the APE is located on a glacial till plain, which has a low probability for precontact archaeological sites. Precontact archaeological sites on upland terraces tend to be very old relative to valley floor sites, and contain lithic artifacts, with rare instances of bone or plant remains.

Analysis of previous geologic research conducted in the vicinity of the APE reveals that sediments deposited during the Pleistocene epoch should be encountered at or near the modern ground surface in areas that have not been modified in the historic or modern period. Since there is only evidence for human occupation in the Puget Sound area during the Holocene epoch, all cultural materials should be encountered on or just below ground surface in areas that have not been modified during the historic or modern period, or at the fill/naturally deposited sediment interface in areas that have been filled during the historic and modern period.

Given the examination of the existing archaeological and geologic information, the likelihood for encountering prehistoric archaeological sites was considered very low. It was expected that any precontact archaeological sites encountered during archaeological investigations would be surface lithic scatters. Where topsoil has been removed, it was expected that no archaeological materials would be encountered.

## Research Methods

### Archaeological Investigations

ICF archaeologists conducted a cultural resources survey of the APE, using standard DAHP-accepted methods appropriate for finding and recording cultural resources. The field survey included walking 20 meter transects across each of the three parts of the APE and excavating shovel tests to find exposed and buried archaeological deposits and historic features. The purpose of this survey was to identify any visible archaeological materials and to characterize the vertical extent of each of the three parts of the APE. Shovel test pits (50 centimeters in diameter) were excavated in areas not covered in asphalt, concrete, buildings, or other impenetrable modern features. The pits were excavated to the depth of Pleistocene sediments or dense gravel deposits of obstructing rocks, when encountered. In some shovel tests, excavations exceeded the depth of Pleistocene sediments. These units were excavated to confirm that Pleistocene sediments had not been redeposited over younger Holocene-aged sediments. All shovel tests were excavated by hand and sediments screened through 6-millimeter (0.25-inch) mesh hardware cloth. Upon completion of excavation, shovel tests were photographed using a digital camera and backfilled.

Representative photographs are presented in Appendix A. Shovel tests were mapped using a Trimble GeoXH global positioning system (GPS) unit.

## **Historical Resources Survey**

The historic resources survey involved examining and photographing buildings and structures in the APE determined to be 45 years of age or older. None were identified in the APE.

## Archaeological Investigations

On February 2, 2011, ICF archaeologists Alexander E. Stevenson and Patrick Reed conducted an archaeological investigation of the three parts of the APE, under the supervision of J. Tait Elder, MA. The investigation included pedestrian survey of each of the parcels and the excavation of 12 shovel test pits (Figure 5-1). A summary of these shovel tests is included in Appendix A.

### Kirkland Ave NE between 15th and 16th

A pedestrian survey revealed no surface evidence of archaeological deposits.

Five shovel tests were excavated in this portion of the APE (STP1–STP5). Three of these STPs (1–3) consisted of a weakly developed “A” horizon, in approximately 20 centimeters of coarse sand with rounded gravels. Below this, approximately 30 centimeters of a dark gray to black coarse sand with modern debris, such as bottle glass and brick fragments, were observed. These shovel tests were terminated in coarse olive brown sand with rounded gravels, indicative of glacial outwash. STPs 4 and 5 were similar in sediment characteristics but no modern debris layer was encountered within them. These STPs were terminated in gray brown glacial outwash which exhibited no evidence of soil development.

### 2902 NE 12th Street

A portion of this parcel was covered by asphalt, concrete, and a building, which impeded excavation. Pedestrian survey revealed no surface evidence of archaeological deposits.

Two shovel test pits were excavated in this portion of the APE (STP6 and STP7). Highly compacted, gray glacial till was encountered at a depth of 9 centimeters below ground surface in STP 6. This sediment was not encountered in STP 7, which consisted of approximately 60 centimeters of fill, with a weakly developed “A” horizon. Below this fill level was coarse brown or olive brown sand with rounded gravels that extended to a depth of greater than 150 centimeters below ground surface and represented glacial outwash sediments. Weathering characteristic of a “B” horizon was noted throughout this profile, indicating that sediments probably represented a fill event. Gray brown glacial outwash sediments were noted from 150 to 175 centimeters below ground surface in this shovel test pit.

No cultural resources were observed within either of these shovel test pits.

### 1104 Harrington Avenue NE

A pedestrian survey revealed no surface evidence of archaeological deposits.

Five shovel test pits were excavated in this area (STP8–STP12). A weakly developed “A” horizon was present at the top of each STP, followed by a layer of dark gray or black sediment with modern and historic debris. This debris included bottle glass fragments, brick fragments, and miscellaneous

metal. Based on the presence of melted glass and charcoal this debris had at some point been burned. Coarse brown sand with rounded gravels, representing glacial outwash sediments, was observed below this debris layer. Weathering characteristic of a “B” horizon was noted in three STPs (10, 11, and 12) to a depth of approximately 65 centimeters below ground surface. Evidence of this soil development was not observed within the other STPs (8 and 9) as a result of historic and modern debris. STP 8 was terminated on highly compacted sediment. The remaining STPs were terminated in gray brown glacial outwash which exhibited no evidence of soil development.

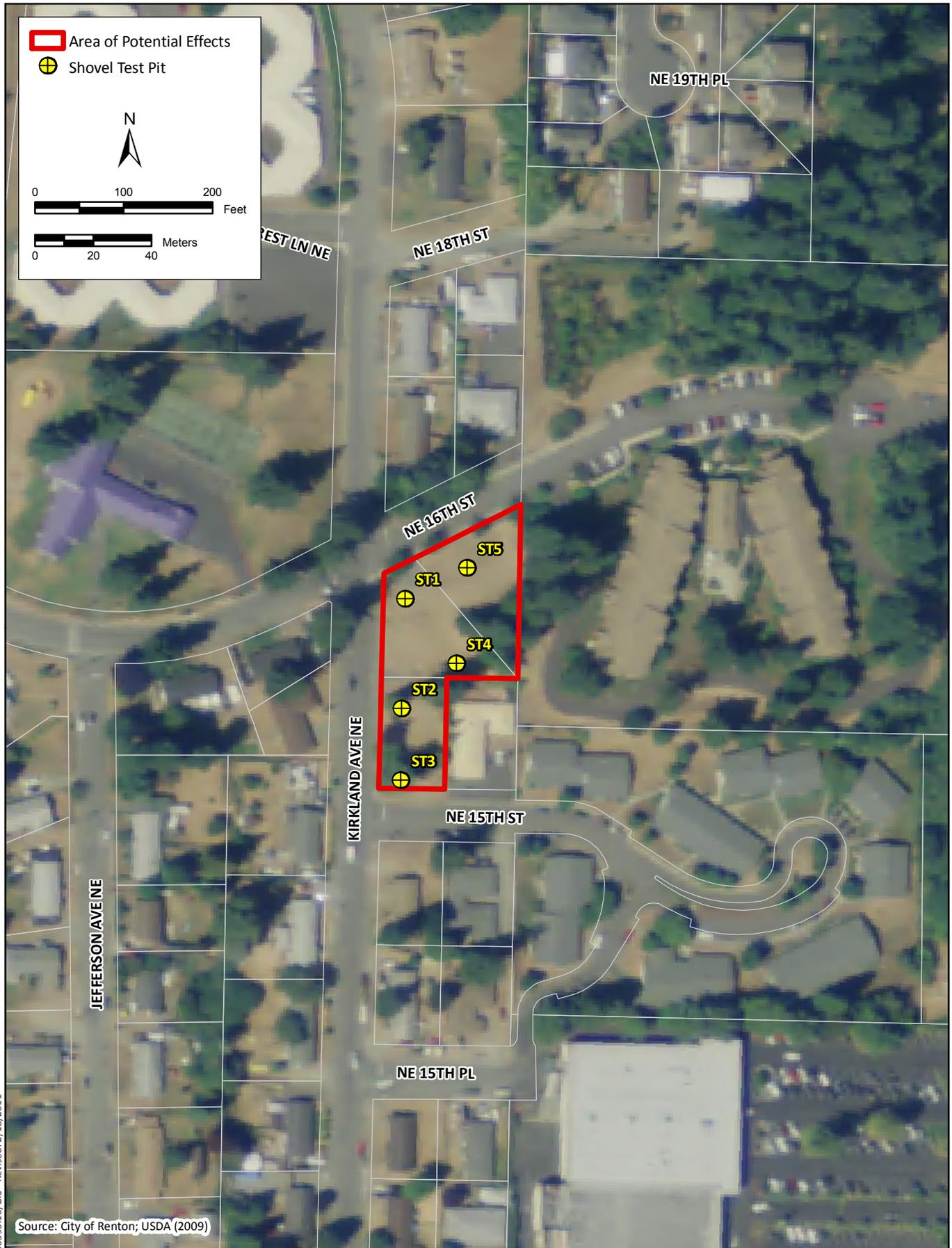
## Historic Resources Survey

The reconnaissance-level historic resources survey revealed the presence of only one developed property within the APE. This property was the Renton Highlands Library located at 2902 NE 12th Street. The building is less than 50 years old, according to the King County Tax Assessor.

## Summary of Results

A pedestrian survey of the APE revealed no surface evidence of archaeological deposits. Shovel test pit excavations revealed the presence of modern/historic fill events in two portions of the APE (Kirkland Avenue NE and 1104 Harrington Avenue NE). A weakly developed “A” horizon was noted in each of the three portions of the APE, and the presence of “B” horizons developed within glacial outwash sediments was also noted in each location. A heavy amount of landscape disturbance was noted as evidenced by soil development and debris deposits in fill contexts.

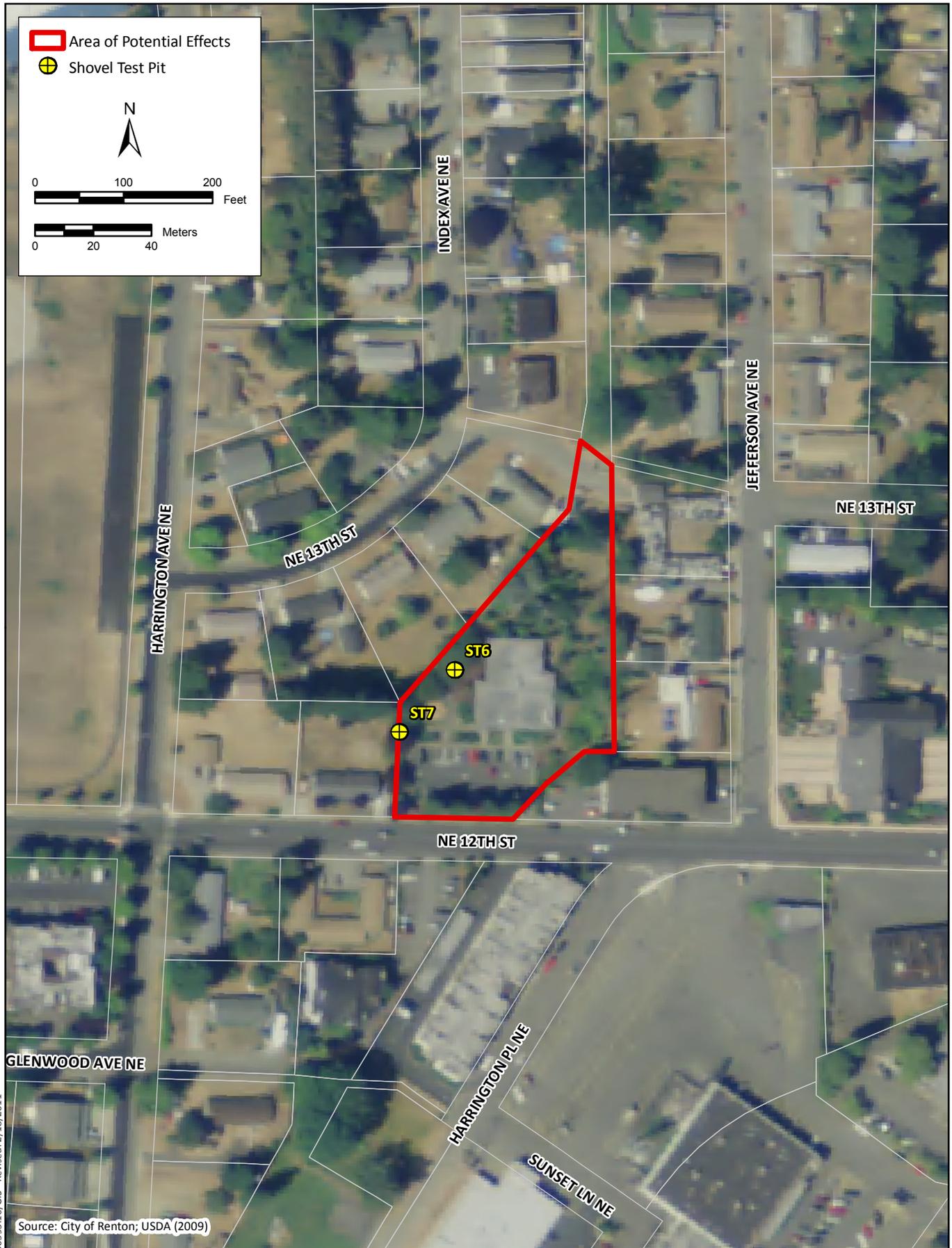
No NRHP-eligible buildings were identified within the APE.



**Figure 5-1**

Shovel Test Locations at Kirkland Avenue NE Site

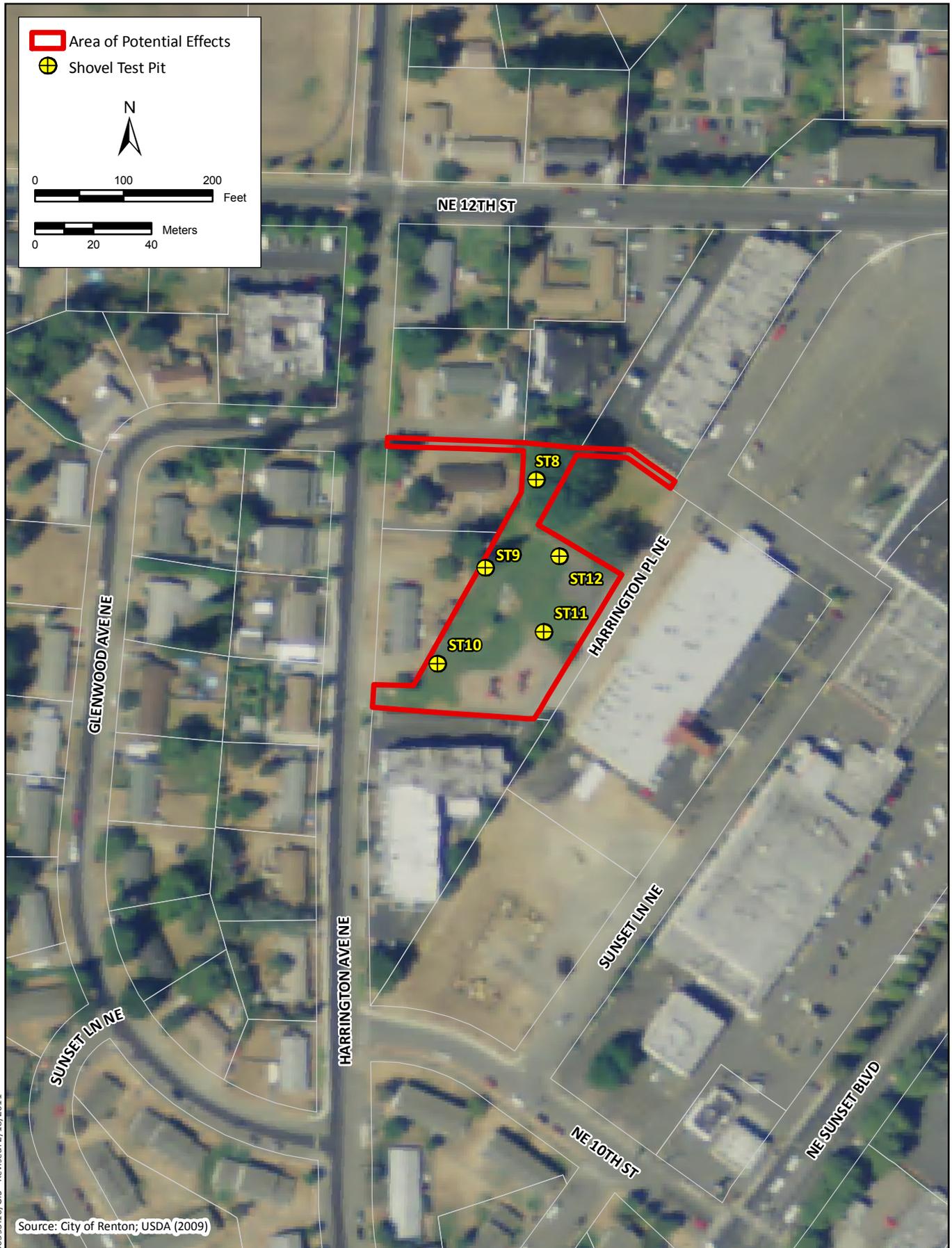
Cultural Resources Survey Report - Development of Three Project Sites in the Renton Sunset Neighborhood



**Figure 5-2**

Shovel Test Locations at 2902 NE 12th Street Site

Cultural Resources Survey Report - Development of Three Project Sites in the Renton Sunset Neighborhood



**Figure 5-3**

Shovel Test Locations at 1150 Harrington Avenue NE Site  
 Cultural Resources Survey Report - Development of Three Project Sites in the Renton Sunset Neighborhood



## Chapter 6 Analysis

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Archaeological investigations in all three portions of the APE revealed that the modern ground surface has been heavily modified. The parcels on Kirkland Avenue were bulldozed after RHA took ownership of the land (Mcarty pers. comm.). The presence of weakly developed “A” horizons in each site with little to no other soil development indicates the removal or disturbance of previously developed soils at each location. The presence of historic and modern debris in fill context provides further evidence that the APE is a heavily modified and disturbed landscape. The sediments in which the “B” horizon formed consist of moderately compacted gravelly silty sand, indicating its likely origin as glacial outwash rather than glacial till. Since the sediments within which soil formation occurred were deposited during the Pleistocene epoch, a period for which there is no record of human occupation in the Puget Sound, excavations were terminated once an intact “B” horizon was encountered. Because all visible surface within the lot has been modified, archaeological excavations revealed weakly developed or absent “A” horizons, and Pleistocene-age sediments are found just below ground surface, the likelihood of discovering intact cultural resources at any of the sites is considered very low, and any discovery would be on or just below the surface.



## Chapter 7

# Conclusions and Recommendations

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## Conclusions

No archaeological sites were identified during the archaeological survey of the APE. Archaeological excavations at each of the sites revealed mixed or imported sediments or soils that would not have the potential to contain archaeological resources. The potential for the discovery of archaeological deposits within the APE is considered very low.

No NRHP-eligible buildings were observed in the APE.

Based on the cultural resources investigations, the proposed projects would have no effect on any known NRHP-eligible archaeological resources or historic resources in the APE.

## Recommendations

Because a predevelopment “A” horizon was not identified in the APE, no further archaeological investigations are recommended. If archaeological materials are discovered during ground-disturbing excavations, the contractor will halt excavations in the vicinity of the find and contact DAHP. For DAHP contact information, see the *Unanticipated Discovery Plan* (Appendix B).

If human skeletal remains are discovered, the King County Sheriff and DAHP will be notified immediately. If archaeological materials are uncovered during excavation, the proponent will immediately stop work and notify the City, DAHP, and affected Indian tribes, as outlined in the *Unanticipated Discovery Plan* (Appendix B).



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## **Appendix A**

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### Photographs





**Kirkland Avenue NE and NE 16th Street: Overview Looking South, Site of Demolished Duplexes**



**STP2 with Typical Deposits for this Area**



**Renton Highlands Library**



**STP7 with Auger through Compacted Deposits**



**Park Between Harrington Avenue NE and Harrington Place NE**



**STP12 in Park: Typical Deposits for this Area**

## **Appendix B**

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### Shovel Test Data



Test #	Width (cm)	Depth (cm)	Soil Description	Artifacts (Yes/No)	Comments
1	40	0-25	Dark brown to dark gray coarse, poorly sorted sand with some rounded to subrounded gravels; burned wood, charcoal, etc.	Yes	Burned glass, glass bottle fragments, brick fragments, marble; modern fill
		25-44	Grayish brown poorly sorted coarse sand with rounded to subrounded gravels	No	Glacial outwash
		44-80	Orange brown poorly sorted coarse sand with rounded to subrounded gravels	No	Glacial outwash
2	43	0-19	Brown-gray coarse poorly sorted sand with rounded gravels, fragments of wood, rootlets	Yes	Toothbrush, little to no "A" horizon
		19-47	Grayish brown poorly sorted coarse sand with rounded to subrounded gravels; rootlets	No	Glacial outwash
		47-78	Orange brown poorly sorted coarse sand with rounded to subrounded gravels	No	Glacial outwash; terminated in primary deposit
3	45	0-15	Dark brown sand with slight silt content	No	"A" horizon
		15-50	Gray brown poorly sorted sand, coarse, with some rounded to subrounded pebbles	Yes	May be a slight B glass from Pepsi bottle
		50-55	Black coarse sand burned abrupt upper boundary	No	
		55-57	Light gray sand highly compacted some subrounded gravels, abrupt upper boundary	No	Glacial outwash; primary deposit
4		0-11	Dark brown, brown coarse sand with little silt. some rounded to subrounded gravels, grass/moss rootlets	No	"A" horizon
		11-28	Grayish brown poorly sorted coarse sand with rounded to subrounded gravels	No	Charcoal flecks
		28-90	Orange brown poorly sorted coarse sand with rounded to subrounded gravels	No	Glacial outwash
		90-98	Dense gray/olive mottled sand-coarse	No	Glacial outwash
5		0-11	Dark brown poorly sorted sand and silt	No	Weak "A" horizon
		11-38	Gray-gray brown coarse sand with few rounded to subrounded gravels	No	Glacial outwash
		38-40	Dense gray/olive mottled coarse sand	No	Glacial outwash
6		0-9	Bark-landscaping duff	No	Fill
		9-13	Very compact coarse sand/clay till	No	Glacial till
7	Auger	0-50	Olive brown poorly sorted coarse sand with rounded to subrounded gravels; large root	No	Glacial outwash; Fill/distrubed
		50-150	Same as above; jumbled fill	Yes	Aluminum foil at 55 cm
		150-160	Light gray brown poorly sorted coarse sand, slight silt content, some rounded to subrounded gravels	Yes	Glacial outwash; primary deposit

Test #	Width (cm)	Depth (cm)	Soil Description	Artifacts (Yes/No)	Comments
8	40	0-10	Dark brown, moderate grain sand with rounded pebbles to gravel	No	Weak "A" horizon
		10-25	Dense/very compact orange-ish brown sand with gravels; rounded to subround	No	"B" horizon
		25-37	Very dark brown to very dark gray, extremely compacted coarse sand	No	Fill; terminated due to compactness
9		0-18	Dark brown medium-coarse sand with high organic content	Yes	Weak "A" horizon; bricks, glass; Fill
		18-34	Dark olive brown, coarse sand, poorly sorted rounded to subrounded gravels; diffuse; abrupt lower boundary	No	Fill
		34-53	Dark brown- black coarse sand with burned material	Yes	Numerous glass fragments, brick; fill
		53-92	Olive brown coarse sand with few subrounded gravels	No	
		92-130	Olive brown coarse sand with few subrounded gravels	No	Glacial outwash; terminated on cobble
10		0-19	Dark brown med-coarse sand with dense rootlets	No	"A" horizon
		19-68	Dark olive brown, coarse sand, poorly sorted; rounded to subrounded gravels	Yes	Glass fragments to 30 cm
		68-89	Gray brown, coarse sand, poorly sorted; rounded to subrounded gravels	No	
		90	Gray/olive mottled coarse sand dense/compact	No	Glacial outwash; primary deposit
11		0-20	Dark brown coarse sand with organics	Yes	Glass fragments; Weak "A" horizon
		20-23	Olive brown coarse poorly sorted sand fill	Yes	Glass fragments; "B" horizon
		23-41	Dark gray brown coarse sand, poorly sorted fill	Yes	Glass fragments
		41-60	Olive brown coarse sand with some rounded to subrounded gravels	No	"B" horizon
		60-75	Light olive gray coarse sand	No	Glacial outwash; primary deposit
12		0-18	Dark brown coarse sand with rootlets	No	"A" horizon
		18-49	Olive brown coarse sand, roots dense rounded gravels to cobbles	No	"B" horizon
		49-67	Olive gray to brown coarse sand, moderate to compact with rounded to subrounded gravels to cobbles	No	
		67-77	Very compact gray to olive gray coarse sand and larger gravels	No	Terminated due to gravels and compactness

## **Appendix C**

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### Unanticipated Discovery Plan



**Plan and Procedures for Dealing with the Unanticipated Discovery of Human Skeletal Remains or Cultural Resources during the Redevelopment of Properties at Kirkland Avenue NE Between 15th and 16th Streets, 2902 NE 12th Street, and 1150 Harrington Avenue NE in Renton, Washington**

Any human skeletal remains that are discovered during this project will be treated with dignity and respect.

- A. If any City of Renton employee or any of the contractors or subcontractors believes that he or she has made an unanticipated discovery of human skeletal remains or cultural resources, all work adjacent to the discovery shall cease. The area of work stoppage will be adequate to provide for the security, protection, and integrity of the human skeletal remains, in accordance with Washington State Law. The City of Renton project manager will be contacted.
- B. The City of Renton project manager or the City of Renton representative will be responsible for taking appropriate steps to protect the discovery. At a minimum, the immediate area will be secured to a distance of thirty (30) feet from the discovery. Vehicles, equipment, and unauthorized personnel will not be permitted to traverse the discovery site.
- C. If skeletal remains are discovered, the City of Renton will immediately call the King County Sheriff's office, the King County Coroner, and a cultural resource specialist or consultant qualified to identify human skeletal remains. The county coroner will determine if the remains are forensic or non-forensic (whether related to a criminal investigation). The remains should be protected in place until this has been determined.
- D. If the human skeletal remains are determined to be non-forensic, the King County Coroner will notify the Washington State Department of Archaeology and Historic Preservation. DAHP will take jurisdiction over the remains. The State Physical Anthropologist will make a determination of whether the remains are Native American or Non-Native American. DAHP will handle all consultation with the Muckleshoot Indian Tribe as to the treatment of the remains.
- E. If cultural resources are uncovered, such as stone tools or flakes, fire-cracked rocks from a hearth feature, butchered animal bones, or historic-era objects (e.g., patent medicine bottles, milk tins, clay pipes, building foundations), the City of Renton will arrange for a qualified professional archaeologist to evaluate the find. Again, the cultural resources will be protected in place until the archaeologist has examined the find.
- F. If the cultural resources find is determined to be significant, the City of Renton cultural resource specialist/archaeologist or consulting archaeologist will immediately contact the Washington State Department of Archaeology and Historic Preservation and the Muckleshoot Indian Tribes to seek consultation regarding the eligibility of any further discovery for inclusion in the National Register of Historic Places.

## CONTACT INFORMATION

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516 Third Avenue, Room W-150  
Seattle, WA 98104-2312  
Phone: (206) 296-4155 (non-emergency)

Laura Murphy  
Muckleshoot Tribe Cultural Resources  
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Auburn, WA 98092  
Phone: (253) 876-3272

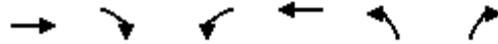
**Transportation Analysis—Preferred Alternative**

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HCM Signalized Intersection Capacity Analysis  
 1: NE Sunset Blvd./NE Park & NE Sunset Blvd.

2/10/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Volume (vph)	1544	87	174	1033	60	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	3.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3506		1770	3539	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3506		1770	3539	1770	1583
Peak-hour factor, PHF	0.99	0.83	0.81	0.95	0.78	0.85
Adj. Flow (vph)	1560	105	215	1087	77	272
RTOR Reduction (vph)	5	0	0	0	0	239
Lane Group Flow (vph)	1660	0	215	1087	77	33
Turn Type			Prot			Prot
Protected Phases	2		1	6	4	4
Permitted Phases						
Actuated Green, G (s)	44.3		14.0	62.3	8.7	8.7
Effective Green, g (s)	46.3		15.0	64.3	9.7	9.7
Actuated g/C Ratio	0.58		0.19	0.80	0.12	0.12
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	5.0		3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	2029		332	2844	215	192
v/s Ratio Prot	c0.47		c0.12	0.31	c0.04	0.02
v/s Ratio Perm						
v/c Ratio	0.82		0.65	0.38	0.36	0.17
Uniform Delay, d1	13.5		30.1	2.2	32.3	31.5
Progression Factor	0.37		0.65	0.06	1.00	1.00
Incremental Delay, d2	3.3		3.8	0.3	1.0	0.4
Delay (s)	8.3		23.3	0.5	33.3	32.0
Level of Service	A		C	A	C	C
Approach Delay (s)	8.3			4.2	32.3	
Approach LOS	A			A	C	

Intersection Summary

HCM Average Control Delay	9.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 2: NE Sunset Blvd & Edmonds AV NE

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↘		↗	↘	
Volume (vph)	145	1410	95	45	950	8	56	27	31	6	44	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	11	12	12	11	12
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3495		1770	3532		1770	1678		1770	1615	
Flt Permitted	0.95	1.00		0.95	1.00		0.32	1.00		0.65	1.00	
Satd. Flow (perm)	1770	3495		1770	3532		596	1678		1217	1615	
Peak-hour factor, PHF	0.85	0.95	0.71	0.86	0.89	0.58	0.84	0.52	0.72	0.63	0.66	0.84
Adj. Flow (vph)	171	1484	134	52	1067	14	67	52	43	10	67	148
RTOR Reduction (vph)	0	5	0	0	1	0	0	36	0	0	125	0
Lane Group Flow (vph)	171	1613	0	52	1080	0	67	59	0	10	90	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	15.6	50.1		5.4	39.9		11.5	11.5		11.5	11.5	
Effective Green, g (s)	16.6	52.1		6.4	41.9		12.5	12.5		12.5	12.5	
Actuated g/C Ratio	0.21	0.65		0.08	0.52		0.16	0.16		0.16	0.16	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	367	2276		142	1850		93	262		190	252	
v/s Ratio Prot	0.10	c0.46		0.03	c0.31			0.03			0.06	
v/s Ratio Perm							c0.11			0.01		
v/c Ratio	0.47	0.71		0.37	0.58		0.72	0.22		0.05	0.36	
Uniform Delay, d1	27.8	9.0		34.9	13.1		32.1	29.5		28.7	30.2	
Progression Factor	0.89	0.70		1.08	0.44		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	1.2		2.0	1.2		25.3	0.6		0.2	1.2	
Delay (s)	25.6	7.5		39.8	6.9		57.3	30.1		28.9	31.4	
Level of Service	C	A		D	A		E	C		C	C	
Approach Delay (s)		9.2			8.4			41.4			31.2	
Approach LOS		A			A			D			C	

### Intersection Summary

HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 3: NE Sunset Blvd & Harrington AV NE

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	1351	51	85	1102	4	43	10	79	2	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.92			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3515		1770	3534			1687			1746	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.95	
Satd. Flow (perm)	1770	3515		1770	3534			1559			1675	
Peak-hour factor, PHF	0.75	0.90	0.72	0.86	0.92	0.38	0.90	0.50	0.75	0.67	0.57	0.59
Adj. Flow (vph)	33	1501	71	99	1198	11	48	20	105	3	5	5
RTOR Reduction (vph)	0	3	0	0	1	0	0	87	0	0	4	0
Lane Group Flow (vph)	33	1569	0	99	1208	0	0	86	0	0	9	0
Turn Type	Prot		Prot		Perm			Perm				
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	2.4	49.6		7.2	54.4			10.2			10.2	
Effective Green, g (s)	3.4	51.6		8.2	56.4			11.2			11.2	
Actuated g/C Ratio	0.04	0.65		0.10	0.70			0.14			0.14	
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0			4.0	
Vehicle Extension (s)	4.0	6.0		4.0	6.0			4.0			4.0	
Lane Grp Cap (vph)	75	2267		181	2491			218			235	
v/s Ratio Prot	0.02	c0.45		c0.06	c0.34							
v/s Ratio Perm								c0.06			0.01	
v/c Ratio	0.44	0.69		0.55	0.49			0.40			0.04	
Uniform Delay, d1	37.4	9.1		34.1	5.3			31.3			29.7	
Progression Factor	0.71	0.27		0.65	0.68			1.00			1.00	
Incremental Delay, d2	4.3	1.4		3.3	0.5			1.6			0.1	
Delay (s)	30.7	3.8		25.5	4.1			32.9			29.8	
Level of Service	C	A		C	A			C			C	
Approach Delay (s)		4.4			5.7			32.9			29.8	
Approach LOS		A			A			C			C	

### Intersection Summary

HCM Average Control Delay	6.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 4: NE 10th St & NE Sunset Blvd

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Volume (vph)	23	60	55	133	41	39	45	1165	161	82	1034	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.97		1.00	0.98		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1752			1757		1770	3461		1770	3535	
Flt Permitted		0.90			0.67		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1600			1219		1770	3461		1770	3535	
Peak-hour factor, PHF	0.65	0.92	0.96	0.67	0.77	0.63	0.68	0.96	0.77	0.83	0.94	0.88
Adj. Flow (vph)	35	65	57	199	53	62	66	1214	209	99	1100	9
RTOR Reduction (vph)	0	26	0	0	11	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	131	0	0	303	0	66	1407	0	99	1109	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		1	6		5	2	
Permitted Phases	4			4	4							
Actuated Green, G (s)		22.4			22.4		4.8	37.4		7.2	39.8	
Effective Green, g (s)		23.4			23.4		5.8	39.4		8.2	41.8	
Actuated g/C Ratio		0.29			0.29		0.07	0.49		0.10	0.52	
Clearance Time (s)		4.0			4.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)		5.0			5.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		468			357		128	1705		181	1847	
v/s Ratio Prot							0.04	c0.41		0.06	c0.31	
v/s Ratio Perm		0.08			c0.25							
v/c Ratio		0.28			0.85		0.52	0.83		0.55	0.60	
Uniform Delay, d1		21.8			26.6		35.7	17.4		34.1	13.3	
Progression Factor		0.98			1.00		0.60	0.34		1.39	0.47	
Incremental Delay, d2		0.7			18.3		3.5	3.6		3.6	1.2	
Delay (s)		22.1			45.0		25.0	9.6		51.0	7.5	
Level of Service		C			D		C	A		D	A	
Approach Delay (s)		22.1			45.0			10.3			11.1	
Approach LOS		C			D			B			B	

### Intersection Summary

HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Unsignalized Intersection Capacity Analysis

## 5: NE Sunset Blvd & Kirkland Ave NE

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	68	1162	7	0	892	4	0	0	33	0	0	89
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.90	0.50	0.50	0.90	0.25	0.75	0.25	0.33	0.90	0.25	0.63
Hourly flow rate (vph)	86	1291	14	0	991	16	0	0	100	0	0	141
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1086			344							
pX, platoon unblocked	0.77			0.72			0.84	0.84	0.72	0.84	0.84	0.77
vC, conflicting volume	1007			1305			2107	2477	653	1917	2476	504
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	420			656			710	1152	0	482	1151	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			100			100	100	87	100	100	83
cM capacity (veh/h)	877			671			206	148	784	315	148	838

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	86	861	444	661	346	100	141
Volume Left	86	0	0	0	0	0	0
Volume Right	0	0	14	0	16	100	141
cSH	877	1700	1700	1700	1700	784	838
Volume to Capacity	0.10	0.51	0.26	0.39	0.20	0.13	0.17
Queue Length 95th (ft)	8	0	0	0	0	11	15
Control Delay (s)	9.6	0.0	0.0	0.0	0.0	10.3	10.2
Lane LOS	A					B	B
Approach Delay (s)	0.6			0.0		10.3	10.2
Approach LOS						B	B

### Intersection Summary

Average Delay		1.2	
Intersection Capacity Utilization	42.3%		ICU Level of Service
Analysis Period (min)	15		A

# HCM Signalized Intersection Capacity Analysis

## 6: NE 12th St & NE Sunset Blvd

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔↔		↔	↔↔	
Volume (vph)	193	167	12	92	88	51	34	1042	119	91	792	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	12	12	12	12	12	12
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frt		0.99			0.96		1.00	0.98		1.00	0.97	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3318			3222		1770	3480		1770	3447	
Flt Permitted		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3318			3222		1770	3480		1770	3447	
Peak-hour factor, PHF	0.92	0.82	0.63	0.77	0.84	0.63	0.78	0.94	0.86	0.76	0.91	0.82
Adj. Flow (vph)	210	204	19	119	105	81	44	1109	138	120	870	182
RTOR Reduction (vph)	0	4	0	0	49	0	0	11	0	0	19	0
Lane Group Flow (vph)	0	429	0	0	256	0	44	1236	0	120	1033	0
Turn Type	Split		Split		Prot		Prot					
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		15.3			11.4		4.3	28.7		7.6	32.0	
Effective Green, g (s)		16.3			12.4		5.3	30.7		8.6	34.0	
Actuated g/C Ratio		0.20			0.16		0.07	0.38		0.11	0.42	
Clearance Time (s)		4.0			4.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		676			499		117	1335		190	1465	
v/s Ratio Prot		c0.13			c0.08		0.02	c0.36		0.07	c0.30	
v/s Ratio Perm												
v/c Ratio		0.63			0.51		0.38	0.93		0.63	0.71	
Uniform Delay, d1		29.1			31.0		35.8	23.6		34.2	18.9	
Progression Factor		1.00			1.00		1.20	0.42		1.00	1.00	
Incremental Delay, d2		2.2			1.2		1.9	9.3		7.5	2.9	
Delay (s)		31.3			32.2		44.8	19.1		41.7	21.8	
Level of Service		C			C		D	B		D	C	
Approach Delay (s)		31.3			32.2			20.0			23.8	
Approach LOS		C			C			B			C	

### Intersection Summary

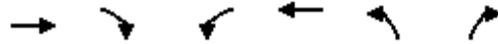
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 7: NE Sunset Blvd & Monroe Ave NE

2/10/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Volume (veh/h)	1272	14	4	1032	0	18
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.50	0.25	0.90	0.90	0.63
Hourly flow rate (vph)	1413	28	16	1147	0	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	1166					
pX, platoon unblocked			0.72		0.72	0.72
vC, conflicting volume			1441		2033	721
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			822		1648	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	96
cM capacity (veh/h)			575		63	776

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	942	499	16	573	573	29
Volume Left	0	0	16	0	0	0
Volume Right	0	28	0	0	0	29
cSH	1700	1700	575	1700	1700	388
Volume to Capacity	0.55	0.29	0.03	0.34	0.34	0.07
Queue Length 95th (ft)	0	0	2	0	0	6
Control Delay (s)	0.0	0.0	11.4	0.0	0.0	15.0
Lane LOS	B			C		
Approach Delay (s)	0.0		0.2	15.0		
Approach LOS						C

Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			45.6%	ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 8: NE 12th St & Edmonds AV NE

2/10/2011

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	46	6	45	55	248	14	159	58	387	123	8
Peak Hour Factor	0.82	0.82	0.82	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Hourly flow rate (vph)	5	56	7	48	59	267	15	169	62	425	135	9
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total (vph)	68	374	184	62	569							
Volume Left (vph)	5	48	15	0	425							
Volume Right (vph)	7	267	0	62	9							
Hadj (s)	-0.05	-0.40	0.04	-0.70	0.14							
Departure Headway (s)	7.4	6.1	7.1	6.3	6.1							
Degree Utilization, x	0.14	0.64	0.36	0.11	0.97							
Capacity (veh/h)	449	572	491	545	575							
Control Delay (s)	11.6	19.2	12.8	8.9	54.2							
Approach Delay (s)	11.6	19.2	11.8		54.2							
Approach LOS	B	C	B		F							
Intersection Summary												
Delay			33.2									
HCM Level of Service			D									
Intersection Capacity Utilization			74.8%	ICU Level of Service	D							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9: NE 12th St & Harrington AV NE

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	36	318	11	18	308	72	18	18	14	50	18	4
Peak Hour Factor	0.63	0.74	0.38	0.63	0.80	1.00	0.63	0.42	0.33	0.39	0.42	0.25
Hourly flow rate (vph)	57	430	29	29	385	72	29	43	42	128	43	16

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	516	486	114	187
Volume Left (vph)	57	29	29	128
Volume Right (vph)	29	72	42	16
Hadj (s)	0.02	-0.04	-0.14	0.12
Departure Headway (s)	6.0	6.0	7.3	7.3
Degree Utilization, x	0.86	0.81	0.23	0.38
Capacity (veh/h)	588	582	432	451
Control Delay (s)	34.6	29.1	12.5	14.6
Approach Delay (s)	34.6	29.1	12.5	14.6
Approach LOS	D	D	B	B

Intersection Summary			
Delay		27.8	
HCM Level of Service		D	
Intersection Capacity Utilization	44.8%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis  
 10: NE 12th St & Kirkland Ave NE

2/10/2011

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	18	326	10	7	240	36	21	46	4	72	36	14
Peak Hour Factor	0.42	0.87	0.33	0.50	0.87	0.50	0.58	0.65	0.25	0.71	0.42	0.50
Hourly flow rate (vph)	43	375	30	14	276	72	36	71	16	101	86	28
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	230	218	152	210	123	215						
Volume Left (vph)	43	0	14	0	36	101						
Volume Right (vph)	0	30	0	72	16	28						
Hadj (s)	0.13	-0.06	0.08	-0.21	0.01	0.05						
Departure Headway (s)	6.3	6.1	6.4	6.1	6.4	6.2						
Degree Utilization, x	0.40	0.37	0.27	0.35	0.22	0.37						
Capacity (veh/h)	545	564	534	561	496	536						
Control Delay (s)	12.3	11.4	10.5	11.2	11.2	12.8						
Approach Delay (s)	11.9		10.9		11.2	12.8						
Approach LOS	B		B		B	B						
Intersection Summary												
Delay			11.7									
HCM Level of Service			B									
Intersection Capacity Utilization			40.5%		ICU Level of Service		A					
Analysis Period (min)			15									

# HCM Signalized Intersection Capacity Analysis

## 1: NE Sunset Blvd./NE Park & NE Sunset Blvd.

2/10/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↗
Volume (vph)	1695	96	191	1135	65	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	3.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3506		1770	3539	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3506		1770	3539	1770	1583
Peak-hour factor, PHF	0.99	0.83	0.81	0.95	0.78	0.85
Adj. Flow (vph)	1712	116	236	1195	83	299
RTOR Reduction (vph)	5	0	0	0	0	262
Lane Group Flow (vph)	1823	0	236	1195	83	37
Turn Type			Prot			Prot
Protected Phases	2		1	6	4	4
Permitted Phases						
Actuated Green, G (s)	44.0		14.0	62.0	9.0	9.0
Effective Green, g (s)	46.0		15.0	64.0	10.0	10.0
Actuated g/C Ratio	0.58		0.19	0.80	0.12	0.12
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	5.0		3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	2016		332	2831	221	198
v/s Ratio Prot	c0.52		c0.13	0.34	c0.05	0.02
v/s Ratio Perm						
v/c Ratio	0.90		0.71	0.42	0.38	0.19
Uniform Delay, d1	15.1		30.5	2.4	32.1	31.4
Progression Factor	0.41		0.64	0.06	1.00	1.00
Incremental Delay, d2	6.5		5.8	0.4	1.1	0.5
Delay (s)	12.7		25.2	0.5	33.2	31.8
Level of Service	B		C	A	C	C
Approach Delay (s)	12.7			4.6	32.1	
Approach LOS	B			A	C	

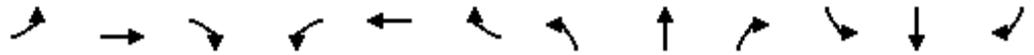
### Intersection Summary

HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 2: NE Sunset Blvd & Edmonds AV NE

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	1549	105	50	1043	9	62	30	34	7	48	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	11	12	12	11	12
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3495		1770	3532		1770	1680		1770	1614	
Flt Permitted	0.95	1.00		0.95	1.00		0.30	1.00		0.63	1.00	
Satd. Flow (perm)	1770	3495		1770	3532		562	1680		1180	1614	
Peak-hour factor, PHF	0.85	0.95	0.71	0.86	0.89	0.58	0.84	0.52	0.72	0.63	0.66	0.84
Adj. Flow (vph)	188	1631	148	58	1172	16	74	58	47	11	73	162
RTOR Reduction (vph)	0	5	0	0	1	0	0	39	0	0	130	0
Lane Group Flow (vph)	188	1774	0	58	1187	0	74	66	0	11	105	0
Turn Type	Prot		Prot		Perm			Perm				
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4			4		
Actuated Green, G (s)	15.5	48.7		5.6	38.8		12.7	12.7		12.7	12.7	
Effective Green, g (s)	16.5	50.7		6.6	40.8		13.7	13.7		13.7	13.7	
Actuated g/C Ratio	0.21	0.63		0.08	0.51		0.17	0.17		0.17	0.17	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	365	2215		146	1801		96	288		202	276	
v/s Ratio Prot	0.11	c0.51		0.03	c0.34			0.04			0.06	
v/s Ratio Perm							c0.13			0.01		
v/c Ratio	0.52	0.80		0.40	0.66		0.77	0.23		0.05	0.38	
Uniform Delay, d1	28.2	10.9		34.8	14.5		31.7	28.6		27.7	29.4	
Progression Factor	0.89	0.74		1.04	0.48		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	1.6		2.1	1.7		32.5	0.6		0.2	1.2	
Delay (s)	25.9	9.7		38.1	8.7		64.2	29.2		27.9	30.6	
Level of Service	C	A		D	A		E	C		C	C	
Approach Delay (s)		11.2			10.0			43.6			30.5	
Approach LOS		B			B			D			C	

### Intersection Summary

HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 3: NE Sunset Blvd & Harrington AV NE

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Volume (vph)	27	1483	56	93	1209	4	47	10	86	2	4	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.92			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3515		1770	3535			1685			1737	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.96	
Satd. Flow (perm)	1770	3515		1770	3535			1554			1681	
Peak-hour factor, PHF	0.75	0.90	0.72	0.86	0.92	0.38	0.90	0.50	0.75	0.67	0.57	0.59
Adj. Flow (vph)	36	1648	78	108	1314	11	52	20	115	3	7	8
RTOR Reduction (vph)	0	3	0	0	0	0	0	90	0	0	7	0
Lane Group Flow (vph)	36	1723	0	108	1325	0	0	97	0	0	11	0
Turn Type	Prot		Prot		Perm			Perm				
Protected Phases	1	6		5	2			4				4
Permitted Phases							4			4		
Actuated Green, G (s)	3.6	49.9		6.4	52.7			10.7			10.7	
Effective Green, g (s)	4.6	51.9		7.4	54.7			11.7			11.7	
Actuated g/C Ratio	0.06	0.65		0.09	0.68			0.15			0.15	
Clearance Time (s)	4.0	5.0		4.0	5.0			4.0			4.0	
Vehicle Extension (s)	4.0	6.0		4.0	6.0			4.0			4.0	
Lane Grp Cap (vph)	102	2280		164	2417			227			246	
v/s Ratio Prot	0.02	c0.49		c0.06	0.37							
v/s Ratio Perm								c0.06			0.01	
v/c Ratio	0.35	0.76		0.66	0.55			0.43			0.05	
Uniform Delay, d1	36.3	9.7		35.1	6.4			31.1			29.4	
Progression Factor	0.65	0.43		0.66	0.74			1.00			1.00	
Incremental Delay, d2	1.9	1.6		7.4	0.6			1.8			0.1	
Delay (s)	25.5	5.8		30.4	5.4			32.9			29.5	
Level of Service	C	A		C	A			C			C	
Approach Delay (s)		6.2			7.3			32.9			29.5	
Approach LOS		A			A			C			C	

### Intersection Summary

HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 4: NE 10th St & NE Sunset Blvd

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Volume (vph)	25	67	58	146	45	43	50	1280	177	91	1136	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.95			0.97		1.00	0.98		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1755			1757		1770	3461		1770	3535	
Flt Permitted		0.90			0.66		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1592			1197		1770	3461		1770	3535	
Peak-hour factor, PHF	0.65	0.92	0.96	0.67	0.77	0.63	0.68	0.96	0.77	0.83	0.94	0.88
Adj. Flow (vph)	38	73	60	218	58	68	74	1333	230	110	1209	10
RTOR Reduction (vph)	0	24	0	0	11	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	147	0	0	333	0	74	1546	0	110	1219	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			4		1	6		5	2	
Permitted Phases	4			4	4							
Actuated Green, G (s)		23.4			23.4		4.8	36.4		7.2	38.8	
Effective Green, g (s)		24.4			24.4		5.8	38.4		8.2	40.8	
Actuated g/C Ratio		0.30			0.30		0.07	0.48		0.10	0.51	
Clearance Time (s)		4.0			4.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)		5.0			5.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		486			365		128	1661		181	1803	
v/s Ratio Prot							0.04	c0.45		0.06	c0.34	
v/s Ratio Perm		0.09			c0.28							
v/c Ratio		0.30			0.91		0.58	0.93		0.61	0.68	
Uniform Delay, d1		21.3			26.8		35.9	19.6		34.4	14.7	
Progression Factor		0.98			1.00		0.60	0.37		1.28	0.82	
Incremental Delay, d2		0.7			27.5		5.2	8.0		5.3	1.7	
Delay (s)		21.7			54.2		26.9	15.2		49.4	13.6	
Level of Service		C			D		C	B		D	B	
Approach Delay (s)		21.7			54.2			15.7			16.6	
Approach LOS		C			D			B			B	

### Intersection Summary

HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Unsignalized Intersection Capacity Analysis

## 5: NE Sunset Blvd & Kirkland Ave NE

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	75	1276	8	0	981	4	0	0	36	0	0	98
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.90	0.50	0.50	0.90	0.25	0.75	0.25	0.33	0.90	0.25	0.63
Hourly flow rate (vph)	95	1418	16	0	1090	16	0	0	109	0	0	156
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		1086			344							
pX, platoon unblocked	0.73			0.65			0.79	0.79	0.65	0.79	0.79	0.73
vC, conflicting volume	1106			1434			2316	2722	717	2106	2722	553
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	399			595			578	1093	0	311	1093	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			100			100	100	85	100	100	80
cM capacity (veh/h)	842			636			230	149	706	376	149	790

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	95	945	489	727	379	109	156
Volume Left	95	0	0	0	0	0	0
Volume Right	0	0	16	0	16	109	156
cSH	842	1700	1700	1700	1700	706	790
Volume to Capacity	0.11	0.56	0.29	0.43	0.22	0.15	0.20
Queue Length 95th (ft)	9	0	0	0	0	14	18
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	11.0	10.7
Lane LOS	A					B	B
Approach Delay (s)	0.6			0.0		11.0	10.7
Approach LOS						B	B

### Intersection Summary

Average Delay	1.3
Intersection Capacity Utilization	45.5%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Signalized Intersection Capacity Analysis

## 6: NE 12th St & NE Sunset Blvd

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕		↕	↕↕	
Volume (vph)	212	183	14	101	97	56	37	1144	131	100	870	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	12	12	11	12	12	12	12	12	12	12
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frt		0.99			0.96		1.00	0.98		1.00	0.97	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3317			3222		1770	3480		1770	3447	
Flt Permitted		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3317			3222		1770	3480		1770	3447	
Peak-hour factor, PHF	0.92	0.82	0.63	0.77	0.84	0.63	0.78	0.94	0.86	0.76	0.91	0.82
Adj. Flow (vph)	230	223	22	131	115	89	47	1217	152	132	956	200
RTOR Reduction (vph)	0	5	0	0	49	0	0	11	0	0	19	0
Lane Group Flow (vph)	0	470	0	0	286	0	47	1358	0	132	1137	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		15.8			12.1		4.0	27.5		7.6	31.1	
Effective Green, g (s)		16.8			13.1		5.0	29.5		8.6	33.1	
Actuated g/C Ratio		0.21			0.16		0.06	0.37		0.11	0.41	
Clearance Time (s)		4.0			4.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		697			528		111	1283		190	1426	
v/s Ratio Prot		c0.14			c0.09		0.03	c0.39		0.07	c0.33	
v/s Ratio Perm												
v/c Ratio		0.67			0.54		0.42	1.06		0.69	0.80	
Uniform Delay, d1		29.1			30.7		36.1	25.2		34.4	20.5	
Progression Factor		1.00			1.00		1.18	0.46		1.00	1.00	
Incremental Delay, d2		2.8			1.4		2.1	37.0		11.3	4.7	
Delay (s)		31.9			32.1		44.6	48.7		45.7	25.2	
Level of Service		C			C		D	D		D	C	
Approach Delay (s)		31.9			32.1			48.5			27.3	
Approach LOS		C			C			D			C	

### Intersection Summary

HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 7: NE Sunset Blvd & Monroe Ave NE

2/10/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Volume (veh/h)	1396	16	4	1134	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.50	0.25	0.90	0.90	0.63
Hourly flow rate (vph)	1551	32	16	1260	0	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)	1166					
pX, platoon unblocked			0.69		0.69	0.69
vC, conflicting volume			1583		2229	792
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			936		1877	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	96
cM capacity (veh/h)			499		42	744

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1034	549	16	630	630	32
Volume Left	0	0	16	0	0	0
Volume Right	0	32	0	0	0	32
cSH	1700	1700	499	1700	1700	372
Volume to Capacity	0.61	0.32	0.03	0.37	0.37	0.09
Queue Length 95th (ft)	0	0	2	0	0	7
Control Delay (s)	0.0	0.0	12.4	0.0	0.0	15.6
Lane LOS	B			C		
Approach Delay (s)	0.0		0.2	15.6		
Approach LOS						C

Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			49.1%	ICU Level of Service	A	
Analysis Period (min)	15					

# HCM Unsignalized Intersection Capacity Analysis

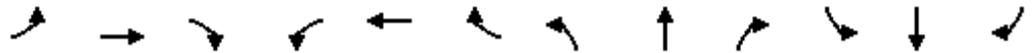
## 8: NE 12th St & Edmonds AV NE

2/10/2011

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	51	7	50	60	272	16	174	64	425	135	9
Peak Hour Factor	0.82	0.82	0.82	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Hourly flow rate (vph)	5	62	9	54	65	292	17	185	68	467	148	10
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total (vph)	76	411	202	68	625							
Volume Left (vph)	5	54	17	0	467							
Volume Right (vph)	9	292	0	68	10							
Hadj (s)	-0.05	-0.40	0.04	-0.70	0.14							
Departure Headway (s)	7.6	6.2	7.2	6.5	6.4							
Degree Utilization, x	0.16	0.71	0.41	0.12	1.11							
Capacity (veh/h)	423	564	467	525	556							
Control Delay (s)	12.0	23.1	13.9	9.2	96.3							
Approach Delay (s)	12.0	23.1	12.7		96.3							
Approach LOS	B	C	B		F							
Intersection Summary												
Delay			53.6									
HCM Level of Service			F									
Intersection Capacity Utilization			80.5%		ICU Level of Service	D						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 9: NE 12th St & Harrington AV NE

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	39	350	12	20	338	79	20	20	16	55	20	4
Peak Hour Factor	0.63	0.74	0.38	0.63	0.80	1.00	0.63	0.42	0.33	0.39	0.42	0.25
Hourly flow rate (vph)	62	473	32	32	422	79	32	48	48	141	48	16

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	566	533	128	205
Volume Left (vph)	62	32	32	141
Volume Right (vph)	32	79	48	16
Hadj (s)	0.02	-0.04	-0.14	0.12
Departure Headway (s)	6.4	6.4	7.9	7.7
Degree Utilization, x	1.01	0.94	0.28	0.44
Capacity (veh/h)	547	554	433	445
Control Delay (s)	67.1	49.7	13.9	16.7
Approach Delay (s)	67.1	49.7	13.9	16.7
Approach LOS	F	E	B	C

Intersection Summary			
Delay		48.6	
HCM Level of Service		E	
Intersection Capacity Utilization	48.3%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis  
 10: NE 12th St & Kirkland Ave NE

2/10/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	357	12	8	263	39	23	51	4	79	39	16
Peak Hour Factor	0.42	0.87	0.33	0.50	0.87	0.50	0.58	0.65	0.25	0.71	0.42	0.50
Hourly flow rate (vph)	48	410	36	16	302	78	40	78	16	111	93	32

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	253	242	167	229	134	236
Volume Left (vph)	48	0	16	0	40	111
Volume Right (vph)	0	36	0	78	16	32
Hadj (s)	0.13	-0.07	0.08	-0.20	0.02	0.05
Departure Headway (s)	6.6	6.4	6.7	6.4	6.8	6.5
Degree Utilization, x	0.46	0.43	0.31	0.41	0.25	0.43
Capacity (veh/h)	525	544	512	537	471	514
Control Delay (s)	13.9	12.8	11.4	12.5	12.0	14.2
Approach Delay (s)	13.4		12.0		12.0	14.2
Approach LOS	B		B		B	B

Intersection Summary	
Delay	13.0
HCM Level of Service	B
Intersection Capacity Utilization	43.5%
ICU Level of Service	A
Analysis Period (min)	15

## Greenroads Sustainability Performance Metric

FEIS Preferred Alternative



No.	Title	Points	Improvements						
<b>Project Requirements (PR)</b>									
PR-1	Environmental Review Process	Req	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PR-2	Lufe Cycle Cost Analysis (LCCA)	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PR-3	Life Cycle Inventory (LCI)	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PR-4	Quality Control Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD
PR-5	Noise Mitigation Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD
PR-6	Waste Management Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PR-7	Pollution Prevention Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD
PR-8	Low-Impact Development (LID)	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD
PR-9	Pavement Management System	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PR-10	Site Maintenance Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PR-11	Educational Outreach	Req	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
<b>Environment &amp; Water (EW)</b>									
EW-1	Environmental Management System	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
EW-2	Runoff Flow Control	3	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
EW-3	Runoff Quality	3	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
EW-4	Stormwater Cost Analysis	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD
EW-5	Site Vegetation	3	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
EW-6	Habit Restoration	3	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
EW-7	Ecological Connectivity	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
EW-8	Light Pollution	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
<b>EW Subtotal:</b>		<b>21</b>		<b>9</b>				<b>1</b>	

No.	Title	Points	Improvements						
<b>Access &amp; Equity (AE)</b>									
AE-1	Safety Audit	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
AE-2	Intelligent Transportation Systems (ITS)	5	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
AE-3	Context Sensitive Planning	5	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
AE-4	Traffic Emissions Reduction	5	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
AE-5	Pedestrian Access	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
AE-6	Bicycle Access	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
AE-7	Transit/HOV Access	5	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
AE-8	Scenic Views	2	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
AE-9	Cultural Warranty	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
<b>AE Subtotal:</b>		<b>30</b>		<b>23</b>					
<b>Construction Activities (CA)</b>									
CA-1	Quality Management System	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
CA-2	Environmental Training	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
CA-3	Site Recycle Plan	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
CA-4	Fossil Fuel Use Reduction	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
CA-5	Equipment Emission Reduction	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
CA-6	Paver Emission Reduction	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
CA-7	Water Use Tracking	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
CA-8	Contractor Warranty	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
<b>CA Subtotal:</b>		<b>14</b>							
<b>Materials &amp; Resources (MR)</b>									
MR-1	Life Cycle Assessment (LCA)	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
MR-2	Pavement Reuse	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
MR-3	Earthwork Balance	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
MR-4	Recycled Materials	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
MR-5	Regional Materials	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
MR-6	Energy Efficiency	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD

No.	Title	Points	Improvements						
<b>MR Subtotal:</b>		<b>23</b>							
<b>Pavemnet Technologies (PT)</b>									
PT-1	Long-Life Pavement	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PT-2	Permeable Pavement	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PT-3	Warm Mix Asphalt (WMA)	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PT-4	Cool Pavement	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PT-5	Quiet Pavement	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
PT-6	Pavement Performance Tracking	1	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
<b>PT Total:</b>		<b>20</b>							
<b>Custom Credits (CC)</b>									
CC-1	Custom Credits	10	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD
<b>CC Subtotal:</b>		<b>10</b>							
<b>Greenroads Total:</b>		<b>118</b>	<b>33 included or TBI and 66 TBD</b>						

## Greenroads Sustainability Performance Metric

ALTERNATIVE 3



No.	Title	Points	Improvements							
<b>Project Requirements (PR)</b>										
PR-1	Environmental Review Process	Req	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
PR-2	Lufe Cycle Cost Analysis (LCCA)	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PR-3	Life Cycle Inventory (LCI)	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PR-4	Quality Control Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD	<input type="checkbox"/>
PR-5	Noise Mitigation Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD	<input type="checkbox"/>
PR-6	Waste Management Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PR-7	Pollution Prevention Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD	<input type="checkbox"/>
PR-8	Low-Impact Development (LID)	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD	<input type="checkbox"/>
PR-9	Pavement Management System	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PR-10	Site Maintenance Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PR-11	Educational Outreach	Req	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
<b>Environment &amp; Water (EW)</b>										
EW-1	Environmental Management System	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
EW-2	Runoff Flow Control	3	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
EW-3	Runoff Quality	3	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
EW-4	Stormwater Cost Analysis	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD	<input type="checkbox"/>
EW-5	Site Vegetation	3	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
EW-6	Habit Restoration	3	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
EW-7	Ecological Connectivity	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
EW-8	Light Pollution	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
<b>EW Subtotal:</b>		<b>21</b>		<b>9</b>				<b>1</b>		<b>6</b>
<b>Access &amp; Equity (AE)</b>										
AE-1	Safety Audit	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-2	Intelligent Transportation Systems (ITS)	5	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-3	Context Sensitive Planning	5	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>

No.	Title	Points	Improvements							
AE-4	Traffic Emissions Reduction	5	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-5	Pedestrian Access	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-6	Bicycle Access	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-7	Transit/HOV Access	5	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-8	Scenic Views	2	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-9	Cultural Warranty	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
<b>AE Subtotal:</b>		<b>30</b>		<b>23</b>						

<b>Construction Activities (CA)</b>										
CA-1	Quality Management System	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-2	Environmental Training	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-3	Site Recycle Plan	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-4	Fossil Fuel Use Reduction	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-5	Equipment Emission Reduction	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-6	Paver Emission Reduction	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-7	Water Use Tracking	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-8	Contractor Warranty	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
<b>CA Subtotal:</b>		<b>14</b>							<b>14</b>	

<b>Materials &amp; Resources (MR)</b>										
MR-1	Life Cycle Assessment (LCA)	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
MR-2	Pavement Reuse	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
MR-3	Earthwork Balance	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
MR-4	Recycled Materials	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
MR-5	Regional Materials	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
MR-6	Energy Efficiency	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
<b>MR Subtotal:</b>		<b>23</b>							<b>23</b>	

<b>Pavement Technologies (PT)</b>										
PT-1	Long-Life Pavement	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PT-2	Permeable Pavement	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PT-3	Warm Mix Asphalt (WMA)	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PT-4	Cool Pavement	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PT-5	Quiet Pavement	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>

No.	Title	Points	Improvements							
PT-6	Pavement Performance Tracking	1	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
<b>PT Total:</b>		<b>20</b>							<b>19</b>	
<b>Custom Credits (CC)</b>										
CC-1	Custom Credits	10	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
<b>CC Subtotal:</b>		<b>10</b>							<b>10</b>	
<b>Greenroads Total:</b>		<b>118</b>	<b>33 included or TBI and 66 TBD</b>							

## Greenroads Sustainability Performance Metric

ALTERNATIVE 2



No.	Title	Points	Improvements							
<b>Project Requirements (PR)</b>										
PR-1	Environmental Review Process	Req	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
PR-2	Lufe Cycle Cost Analysis (LCCA)	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PR-3	Life Cycle Inventory (LCI)	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PR-4	Quality Control Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD	<input type="checkbox"/>
PR-5	Noise Mitigation Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD	<input type="checkbox"/>
PR-6	Waste Management Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PR-7	Pollution Prevention Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD	<input type="checkbox"/>
PR-8	Low-Impact Development (LID)	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD	<input type="checkbox"/>
PR-9	Pavement Management System	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PR-10	Site Maintenance Plan	Req	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PR-11	Educational Outreach	Req	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
<b>Environment &amp; Water (EW)</b>										
EW-1	Environmental Management System	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
EW-2	Runoff Flow Control	3	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
EW-3	Runoff Quality	3	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
EW-4	Stormwater Cost Analysis	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input checked="" type="checkbox"/>	TBD	<input type="checkbox"/>
EW-5	Site Vegetation	3	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
EW-6	Habit Restoration	3	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
EW-7	Ecological Connectivity	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
EW-8	Light Pollution	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
<b>EW Subtotal:</b>		<b>21</b>		<b>9</b>				<b>1</b>		<b>6</b>
<b>Access &amp; Equity (AE)</b>										
AE-1	Safety Audit	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-2	Intelligent Transportation Systems (ITS)	5	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-3	Context Sensitive Planning	5	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>

No.	Title	Points	Improvements							
AE-4	Traffic Emissions Reduction	5	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-5	Pedestrian Access	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-6	Bicycle Access	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-7	Transit/HOV Access	5	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-8	Scenic Views	2	Included	<input type="checkbox"/>	Not Included	<input checked="" type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
AE-9	Cultural Warranty	2	Included	<input checked="" type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input type="checkbox"/>
<b>AE Subtotal:</b>		<b>30</b>		<b>23</b>						

<b>Construction Activities (CA)</b>										
CA-1	Quality Management System	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-2	Environmental Training	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-3	Site Recycle Plan	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-4	Fossil Fuel Use Reduction	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-5	Equipment Emission Reduction	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-6	Paver Emission Reduction	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-7	Water Use Tracking	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
CA-8	Contractor Warranty	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
<b>CA Subtotal:</b>		<b>14</b>								<b>14</b>

<b>Materials &amp; Resources (MR)</b>										
MR-1	Life Cycle Assessment (LCA)	2	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
MR-2	Pavement Reuse	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
MR-3	Earthwork Balance	1	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
MR-4	Recycled Materials	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
MR-5	Regional Materials	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
MR-6	Energy Efficiency	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
<b>MR Subtotal:</b>		<b>23</b>								<b>23</b>

<b>Pavemnet Technologies (PT)</b>										
PT-1	Long-Life Pavement	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PT-2	Permeable Pavement	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PT-3	Warm Mix Asphalt (WMA)	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PT-4	Cool Pavement	5	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>
PT-5	Quiet Pavement	3	Included	<input type="checkbox"/>	Not Included	<input type="checkbox"/>	TBI	<input type="checkbox"/>	TBD	<input checked="" type="checkbox"/>

No.	Title	Points	Improvements				
PT-6	Pavement Performance Tracking	1	Included <input type="checkbox"/>	Not Included <input checked="" type="checkbox"/>	TBI <input type="checkbox"/>	TBD <input type="checkbox"/>	
<b>PT Total:</b>		<b>20</b>					19
<b>Custom Credits (CC)</b>							
CC-1	Custom Credits	10	Included <input type="checkbox"/>	Not Included <input type="checkbox"/>	TBI <input type="checkbox"/>	TBD <input checked="" type="checkbox"/>	
<b>CC Subtotal:</b>		<b>10</b>					10
<b>Greenroads Total:</b>		<b>118</b>	<b>33 included or TBI and 66 TBD</b>				



# Complete Streets: Exception Criteria

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## Background

The Preferred Alternative will include full compliance with the City's complete streets ordinance with some modification in the portion of Sunset where topography prevents full implementation. At Edmonds Avenue NE and Harrington Avenue NE, the Preferred Alternative would keep the existing curb and 5-foot-wide sidewalk (no planter) and right-of-way would be acquired from the north side (Sunset Terrace) up to 14 feet. East of 10th Street NE, there appears to be sufficient right-of-way width along NE Sunset Boulevard to accommodate the Complete Street cross section, though in some places parking improvements encroach into the existing right-of-way. See Final EIS Figure 2-13 for Preferred Alternative cross sections.

The City allows for exemptions from Complete Streets standards for pedestrian and bicycle facilities if certain criteria are met in RMC 4-6-060. This document provides the criteria and preliminary discussion of the preferred alternative cross section. A more complete analysis will be prepared at the time design-level plans are prepared.

## Criteria

### 4-6-060 STREET STANDARDS

#### G. COMPLETE STREETS:

1. Complete Streets: The City of Renton will plan for, design, and construct transportation projects to appropriately provide accommodations for pedestrians, bicyclists, and transit riders of all ages and abilities, and freight and motor vehicles, including the incorporation of such facilities into transportation plans and programs.
2. Exemptions: Pedestrian and bicycle facilities are not required to be established when it is concluded by the Administrator of the Department of Community and Economic Development and/or designee that application of complete streets principles is unnecessary or inappropriate:
  - a. Where their establishment would be contrary to public safety; or
  - b. When the cost would be excessively disproportionate to the need or probable use; or
  - c. Where there is no identified long-term need; or
  - d. Where the establishment would violate Comprehensive Plan policies; or
  - e. Where the Administrator of the Department of Community and Economic Development and/or designee grants a documented exemption which may only be authorized in specific situations where conditions warrant. Such site-specific exemptions shall not constitute general changes to the minimum street standards established in this Section.

## Discussion

The reduction in nonmotorized elements of the NE Sunset Boulevard cross section on the south side of NE Sunset Boulevard between Edmonds Avenue NE and Harrington Avenue NE appears to meet criteria G.2.b and e, and potentially criteria a, due to:

- topographic constraints and the presence of a retaining wall,
- the anticipated cost of moving the retaining wall compared to the need or probable use,
- the ability to provide full nonmotorized facilities on the north side of NE Sunset Boulevard and most improvements on the south side of the roadway.

**Parks and Recreation Analysis—Preferred Alternative**

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**Appendix I - Parks and Recreation Level of Service Calculations**

<b>LOS Standards</b>			
<b>Park LOS</b>			
<b>Neighborhood Park</b>			
0.5 mile study area			
1.2 acres/1,000 persons			
<b>Community Park</b>			
1-2 mile study area (1 mile used for report)			
2.5 acres/1,000 persons			
<b>Recreation Facilities LOS</b>			
<b>Baseball/softball fields</b>			
1 field/2,250 persons			
<b>Football/soccer fields</b>			
1 field/3,000 persons			
<b>Tennis Courts</b>			
1 court/2,500 persons			
<b>Walking/hiking trails</b>			
.2 miles/1,000 persons			
<b>Swimming pools (not evaluated in report)</b>			
1 pool/40,000 persons			
<b>Planned Action Study Area Total</b>			
<b>Alternative</b>	<b>Population*</b>	<b>Dwellings</b>	<b>Jobs</b>
Existing**	2,978	1,289	1,306
Alternative 1	6,417	2,778	2,220
Alternative 2	6,808	2,947	3,471
Alternative 3	8,768	3,796	4,636
Preferred Alternative	8,381	3,628	4,460

\*Basis for LOS analysis. \*\* Jobs 2006 TAZ data; Other 2010 data

<b>North Highlands Park LOS</b>					
Existing: 2.64 acres					
Type: Neighborhood Park					
<b>Study Area inside Service Area (blue area)</b>			<b>Outside Study area, inside Service Area (blue area)</b>		
Study area	11,675,946				
Study area clip	8,328,915				
Percent area	71%				
		SA Pop <sup>a</sup>	Total SA Pop <sup>b</sup>		
2010 population	2,124	2,369	4,493		
Alt 1 population	4,578	3,381	7,959		
Alt 2 population	4,856	3,275	8,131		
Alt 3 population	6,255	3,574	9,829		
Preferred Alt. population	5,978	3,540	9,518		
<b>LOS in Study Area</b>		<b>LOS in Service Area</b>			
	LOS	Suplus / Deficiency	LOS	Surplus / Deficiency	
LOS 2010	2.55	0.09	5.39	-2.75	
LOS Alt 1	5.49	-2.85	9.55	-6.91	
LOS Alt 2	5.83	-3.19	9.76	-7.12	
LOS Alt 3	7.51	-4.87	11.79	-9.15	
LOS Preferred Alt	7.17	-4.53	11.42	-8.78	

<b>Recreation Facilities LOS</b>											
	Count with <sup>c</sup>	Count without <sup>d</sup>	Existing LOS	Alt 1 LOS	Alt 2 LOS	Alt 3 LOS	Preferred Alt				
Baseball/softball fields	6	1	1.32	2.85	3.03	3.90	3.72				
Football/soccer fields	4	1	0.99	2.14	2.27	2.92	2.79				
Tennis courts	6	3	1.19	2.57	2.72	3.51	3.35				
Walking/hiking trails	0.35	0.35	0.60	1.28	1.36	1.75	--				
Multi-use trail (Pref Alt.)	1.2	1.2	--	--	--	--	1.68				
			With Schools					Without Schools			
	Existing <sup>e</sup>	Alt 1 <sup>e</sup>	Alt 2 <sup>e</sup>	Alt 3 <sup>e</sup>	Pref Alt. <sup>e</sup>	Existing <sup>e</sup>	Alt 1 <sup>e</sup>	Alt 2 <sup>e</sup>	Alt 3 <sup>e</sup>	Pref Alt. <sup>e</sup>	
Baseball/softball fields	4.68	3.15	2.97	2.10	2.28	-0.32	-1.85	-2.03	-2.90	-2.72	
Football/soccer fields	3.01	1.86	1.73	1.08	1.21	0.01	-1.14	-1.27	-1.92	-1.79	
Tennis courts	4.81	3.43	3.28	2.49	2.65	1.81	0.43	0.28	-0.51	-0.35	
Walking/hiking trails	-0.25	-0.93	-1.01	-1.40	-0.48	-0.25	-0.93	-1.01	-1.40	-0.48	

<sup>a</sup> "SA Pop" = Service area population outside study area  
<sup>b</sup> "Total SA Pop" = Total service area population  
<sup>c</sup> Number of facilities, including school facilities  
<sup>d</sup> Number of facilities, not including school facilities  
<sup>e</sup> Negative value = deficiency, positive value = surplus

<b>Highlands Park LOS</b>					
Existing: 10.4 acres					
Type: Community Park					
<b>Study Area inside Service Area (blue area)</b>			<b>Outside Study Area, inside Service Area (blue area)</b>		
Study area	11,675,946				
Study area clip	11,675,946				
Percent area	100%				
		SA Pop <sup>a</sup>	Total SA Pop <sup>b</sup>		
2010 population	2,978	16,664	19,642		
Alt 1 population	6,417	24,885	31,302		
Alt 2 population	6,808	24,837	31,645		
Alt 3 population	8,768	25,254	34,022		
Preferred Alt. population	8,381	25,193	33,574		
<b>LOS in Study Area</b>		<b>LOS in Service Area</b>			
	LOS	Suplus/Deficiency	LOS	Surplus/Deficiency	
LOS 2010	7.45	2.96	49.11	-38.71	
LOS Alt 1	16.04	-5.64	78.26	-67.86	
LOS Alt 2	17.02	-6.62	79.11	-68.71	
LOS Alt 3	21.92	-11.52	85.06	-74.66	
LOS Preferred Alt	20.95	-10.55	83.94	-73.54	

<b>Sunset Court Park LOS</b>					
Existing: 0.5 acres					
Preferred Alt.: 2.65 acres					
Type: Neighborhood Park					
<b>Existing Sunset Court Park</b>		<b>Outside Study Area, inside Service Area (blue area)</b>		<b>Relocated/Larger Sunset Court Park (Pref. Alt. only)</b>	
<b>Study Area inside Service Area (blue area)</b>		<b>Study Area inside Service Area (blue area)</b>		<b>Study Area inside Service Area (blue area)</b>	
Study area	11,675,946				
Study area clip	11,086,172				
Percent area	95%				
		SA Pop <sup>a</sup>	Total SA Pop <sup>b</sup>		
2010 population	2,828	2,801	5,629		
Alt 1 population	6,093	4,210	10,303		
Alt 2 population	6,464	4,215	10,679		
Alt 3 population	8,325	4,512	12,837		
Preferred Alt. population	6,950	4,967	11,917		
<b>LOS in Study Area</b>		<b>LOS in Service Area</b>			
	LOS	Suplus/Deficiency	LOS	Surplus/Deficiency	
LOS 2010	3.39	-2.89	6.75	-6.25	
LOS Alt 1	7.31	-6.81	12.36	-11.86	
LOS Alt 2	7.76	-7.26	12.81	-12.31	
LOS Alt 3	9.99	-9.49	15.40	-14.90	
LOS Preferred Alt	8.34	-5.69	14.30	-11.65	

