4.2 SCENIC VIEWS AND THE AESTHETIC ENVIRONMENT

SEPA (WAC 197-11) requires all major actions sponsored, funded, permitted, or approved by state and/or local agencies to undergo planning to ensure that environmental considerations, such as impacts related to scenic views and the aesthetic environment, are given due weight in decision-making. The Phase 1 Draft EIS provides a programmatic assessment of impacts to visual character; changes to views, *viewpoints*, and visual resources; and light, glare, and exhaust impacts (see Chapter 11 of the Phase 1 Draft EIS). The Phase 2 Draft EIS provides a project-level assessment of impacts to scenic views and the aesthetic environment for a range of viable segments and options (see Section 3.2.5 of the Phase 2 Draft EIS). This Final EIS provides a project-level analysis of impacts to scenic views and the aesthetic environment resulting from PSE's Proposed Alignment.

Key Changes from the Phase 2 Draft EIS

The scenic views and aesthetic environment analysis has been updated to reflect PSE's Proposed Alignment. This includes

- Revised and detailed pole height and configuration information.
- Updated the visual simulations.
- Analyzed the new Newcastle Option 2.
- Reassessed visual compatibility and scenic view obstruction.
- Added mitigation reflecting current Newcastle Municipal Code.
- Added mitigation discussion of how pole finish could work in various locations.

The methodology used for this assessment is the same as what is described in Section 3.2.3 of the Phase 2 Draft EIS; that information is incorporated into this Final EIS by reference, as well as included in Appendix C-1 (which was revised for the Final EIS). The study area is defined as the area within 0.25 mile from the centerline of the existing corridor (Figure 4.2-1). This study area is specific to the scenic views and the aesthetic environment assessment and is independent of other elements of the environment. Therefore, when other elements are described in this section (e.g., water bodies, parks and trails, land uses, etc.), the discussion of these resources may be different than what is described elsewhere in the Final EIS. For instance, the study area used for this assessment is larger than the one used for the recreation analysis (Section 4.6). As a result, more recreational resources are described in the analysis of scenic views and aesthetic environment than are evaluated in Section 4.6, *Recreation*.

4.2.1 Relevant Plans, Policies, and Regulations

The Phase 1 Draft EIS provides an overview of the planning policies and regulations pertinent to the protection of views and visual resources (see Section 11.2 in the Phase 1 Draft EIS). For the Phase 2 Draft EIS, the policies and regulations considered were updated to incorporate changes to the Newcastle 2035 Comprehensive Plan (City of Newcastle, 2016) and include applicable subarea plan policies (see Appendix C-1). Private covenants were not reviewed unless determined by the Partner Cities to uphold broader City policies. In general, the Partner Cities do not have SEPA policies that provide authority to enforce private covenants. However, covenants can affect the physical environment, and where they do, they are relevant in consideration of the impacts that the project could have. See Section 4.2.2.1 for more information regarding how covenants in the Somerset area were considered for this analysis. The Final EIS draws from the planning policies and regulations

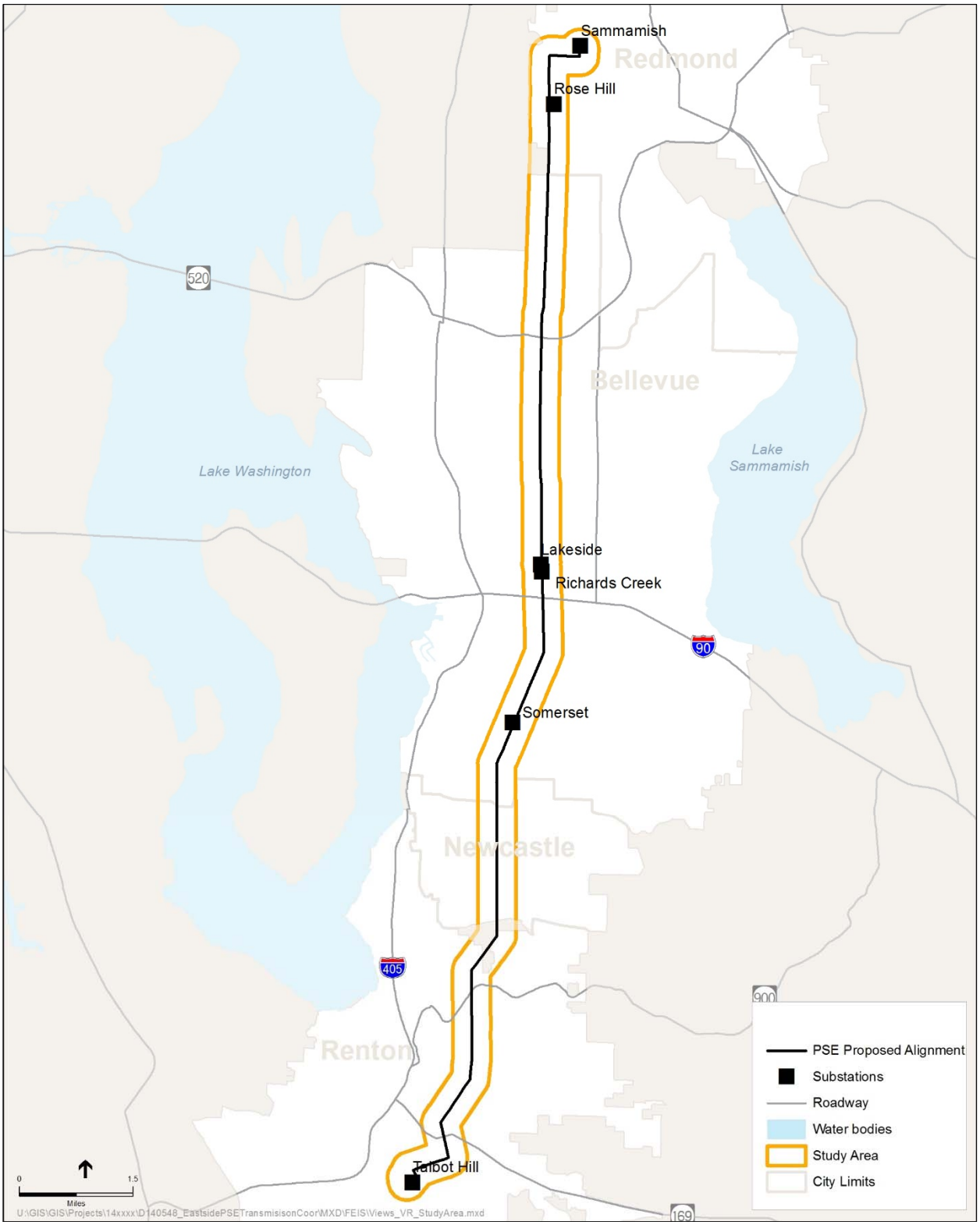
described in the Phase 2 Draft EIS and has been updated to include regulatory requirements from Newcastle that PSE would need to comply with (NMC 18.44.052.C.1 and 18.44.052.D).

4.2.2 Scenic Views and the Aesthetic Environment in the Study Area

Scenic views and the aesthetic environment in the study area are described in the Phase 2 Draft EIS. The study area used for the Phase 2 Draft EIS included route options in central and south Bellevue outside of PSE's existing corridor. These are not included in the Final EIS because the Final EIS focuses on PSE's Proposed Alignment, which is entirely within the existing corridor. Information on the affected environment (including relevant plans, policies, and regulations) and the description of scenic views and the aesthetic environment presented in the Phase 2 Draft EIS is incorporated into this Final EIS by reference, and is not repeated here. A revised study area map for PSE's Proposed Alignment is provided below (see Figure 4.2-1). Any corrections to the Phase 2 Draft EIS noted in the Errata section of this Final EIS are also reflected in this section.

4.2.2.1 Bellevue South Segment - Somerset Area Covenants

Although discussed in the impact analysis in the Phase 2 Draft EIS, the effect of view covenants on the Somerset area was not discussed in the affected environment section of the Phase 2 Draft EIS. Therefore, the following section provides background on the existing conditions in the Somerset neighborhood along the Bellevue South Segment. The Somerset neighborhood has neighborhood covenants that protect views (i.e., the View Guideline for Somerset [Somerset, 2016]). These neighborhood covenants represent a "custom" in that they are a form of social contract between residents of the community to follow certain guidelines to protect community interests, in this case residential views. Based on the methodology for the EIS analysis, the viewer sensitivity assessment should consider customs along with other locally adopted guidance for aesthetic and viewer preferences. Although the transmission line is not subject to the covenants, incompatibility between the height of the project and the neighborhood covenants would likely increase *viewer awareness* of the impact (see Section 3.2.3.3 of the Phase 2 Draft EIS). The City of Bellevue Comprehensive Plan states that distinctive neighborhood character within Bellevue's diverse neighborhoods should be protected (see policies in Table 3.2-4 of the Phase 2 Draft EIS). The distinctive character of the Somerset neighborhood is described and protected through the neighborhood's View Guideline, which limits building and vegetation height to preserve existing views. The View Guideline is not an adopted SEPA policy. However, higher viewer awareness does affect the potential significance of an impact. In addition to the higher awareness of the impact, the covenants also have shaped the physical character of the Somerset community, resulting in shorter buildings than would otherwise be allowed and, most notably, far fewer tall trees than are found in most neighborhoods on the Eastside. These physical characteristics are expected to continue because the covenants are permanent and binding on properties within the Somerset neighborhood.



Source: King County, 2015; Ecology, 2014.

Figure 4.2-1. Study Area for the Analysis of Scenic Views and Aesthetic Environment

4.2.3 Long-term (Operation) Impacts Considered

The EIS analysis examines two types of visual impacts: (1) impacts to the aesthetic environment, and (2) impacts to scenic views. It also addresses viewer sensitivity, which applies to both the aesthetic environment and scenic views. The analysis lists potential mitigation measures that could be used to minimize or eliminate project impacts to scenic views and the aesthetic environment. The analysis in the Final EIS focuses on PSE's Proposed Alignment.

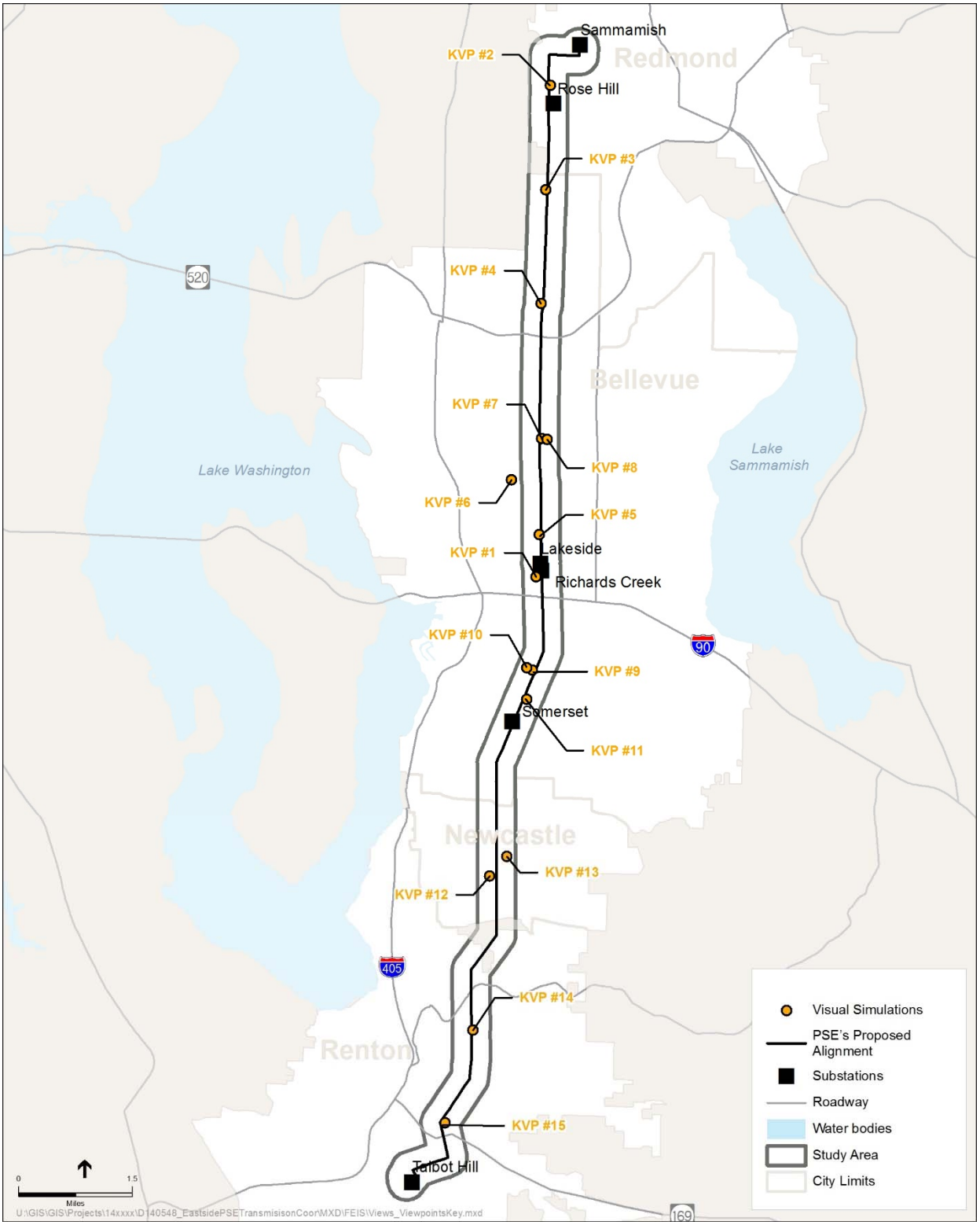
4.2.3.1 Impacts to Visual Quality of the Aesthetic Environment

To help assess changes to the aesthetic environment, over 30 viewpoints were selected at various locations along PSE's Proposed Alignment to show different ways the Energize Eastside project could impact the natural and built environments. Areas identified as sensitive during public scoping and the Phase 2 Draft EIS comment period were also considered during the selection of key viewpoints. Visual simulations of the project for each of the viewpoints were prepared by Power Engineers (Power Engineers, 2017). Methods for preparing the visual simulations are detailed in Appendix C-1. For this EIS, simulations for 15 key viewpoints (KVPs) are used to illustrate impact conclusions (see Section 4.2.5, *Long-term Impacts*). They are listed in Table 4.2-1, and their locations are shown on (Figure 4.2-2**)**. Appendix C-3 incudes simulations for all KVPs and a map showing their locations.

Table 4.2-1. Key Viewpoints Selected for the Visual Quality Analysis in the Final EIS

KVP	Location	Segment/ Option	Reason for Selecting Viewpoint
1	Richards Creek Substation	Richards Creek Substation site	• Shows the new substation, taking into account grading and clearing.
2	Redmond Way	Redmond	• Representative of the natural environment along the segment (topography and vegetation). • Representative of the built environment.
3	13540 NE 54th Pl	Bellevue North	• Representative of the natural environment along the segment (topography and vegetation). • Representative of the built environment (single-family residential development; project configuration and height for most of the segment).
4	13508 NE 29th Pl	Bellevue North	• Commenters requested another simulation of the Bellevue North Segment. • Shows a different pole configuration than what would be typical. • Shows an area where there is a bend in the corridor, change in topography, and where a higher degree of vegetation removal would be required than other areas of the segment.

KVP	Location	Segment/ Option	Reason for Selecting Viewpoint
5	2160 135th Pl SE	Bellevue Central	• Shows pole variation near substation.
6	703 130th Pl SE	Bellevue Central	• From Kelsey Creek Park. • Developed in response to comments on the Phase 2 Draft EIS.
7	13606 Main St	Bellevue Central	• Shows project from rise in topography looking along the transmission line corridor. • Is identified in the Wilburton Subarea Plan as a key view.
8	13636 Main St	Bellevue Central	• Shows a profile view of the project on a rise in topography. • Is identified in the Wilburton Subarea Plan as a key view.
9	4411 Somerset Drive SE	Bellevue South	• Shows project surrounded by single-family residential development and placed on a ridge. • Identified via public comment.
10	13300 SE 44th Pl	Bellevue South	• Shows project looking east toward Somerset from downhill.
11	4730 Somerset Drive SE	Bellevue South	• Identified via public comment; shows typical view from downhill residential street.
12	8446 128th Ave SE	Newcastle – Options 1 & 2	• Representative of the built environment (single-family residential development; project configuration and height for entire segment). • Shows the project from the ridge near the corridor.
13	Lake Boren Park	Newcastle – Options 1 & 2	• View from recreational use. • Shows the project from a lower elevation looking up at the project.
14	1026 Monroe Ave NE	Renton	• Shows project surrounded by institutional and single-family development.
15	318 Glennwood Court SE	Renton	• Shows project on a ridge surrounded by single-family residential development.



Source: King County, 2015; Ecology, 2014.

Figure 4.2-2. Locations of Key Viewpoints used in the Aesthetic Environment Analysis

4.2.3.2 Obstruction of Scenic Views

Impacts to scenic views include the potential for the project to obstruct views of the visual resources identified in the Phase 2 Draft EIS. To identify areas where project-related view impacts would be most likely, an updated geographic information system (GIS) analysis was performed for the Final EIS using only the pole heights for PSE's Proposed Alignment (see Appendix C-1).

4.2.3.3 Viewer Sensitivity

Viewer sensitivity was assessed as high, moderate, or low, using the methodology described in the Phase 2 Draft EIS. Section 3.2.3.3 of the Phase 2 Draft EIS (and Appendix C-1) provides more information about how viewer sensitivity was determined. For the Phase 2 Draft EIS, a high-level understanding of what pole types would occur in various locations was provided. As a result, the assessment of visual coherence of the utility lines themselves focused primarily on where the general pole types would change in each segment (i.e., where there would not be consistent height and form). For this Final EIS, due to design refinements, there is a greater understanding of what pole types would be used within each segment than was known during the Draft EIS. Because of the greater diversity of pole types used within each segment, there is a higher likelihood of inconsistent height and form (non-coherence). For the Final EIS, additional analysis was conducted to determine whether or not lack of utility coherence would result in a significant adverse impact to the aesthetic environment. For more information on the methodology used, see Appendix C-1.

4.2.3.4 Magnitude of Impact

For this analysis, the potential magnitude of project-related impacts is classified as being significant or less-than-significant using the significance criteria listed below (the same criteria used in the Phase 2 Draft EIS):

Less-than-Significant:

- **Aesthetic environment -** The degree of *contrast* between the project and the existing aesthetic environment would be minimal, or viewer sensitivity is low.
- **Scenic views -** The area with impacted scenic views would not include a substantial number of sensitive viewers, defined as residential viewers, viewers from parks and trails, or viewers from outdoor recreation facilities; or the degree of additional obstruction of views compared to existing conditions would be minimal.

Significant:

- **Aesthetic environment -** The degree of contrast between the project and the existing aesthetic environment would be substantial, and viewer sensitivity is high.
- **Scenic views -** The area with impacted scenic views includes a substantial number of sensitive viewers, defined as residential viewers, viewers from parks and trails, or viewers from outdoor recreation facilities; and the degree of additional obstruction of views compared to existing conditions would be substantial.

4.2.4 Long-term Impacts: No Action Alternative

The assessment of impacts to scenic views and the aesthetic environment under the No Action Alternative is the same as was presented in the Phase 2 Draft EIS. Under the No Action Alternative, no substantial new infrastructure would be introduced into the aesthetic environment, and no substantial changes to the visual character or visual quality of the study area would occur. No impacts to scenic views are anticipated.

4.2.5 Long-term Impacts: PSE's Proposed Alignment

4.2.5.1 Impacts Common to All Project Components

Visual Quality of the Aesthetic Environment

Impacts to visual quality of the aesthetic environment were assessed for each segment and option based on the contrast (with either the natural environment or the built environment) that the project would produce, as described in Section 3.2.5.1 of the Phase 2 Draft EIS. Contrast can result from vegetation removal, changes in topography (i.e., grading), the project not blending with the natural setting, incompatible height and form with the surrounding built environment, inconsistent project height and form, and visual clutter.

Several commenters throughout the EIS process have described impacts of the project on the visual quality of the aesthetic environment as resulting in "blight." While SEPA dos not provide a definition of blight, as defined in RCW 35.81.015, a "blighted area" means:

> *An area which, by reason of the substantial physical dilapidation, deterioration, defective construction, material, and arrangement and/or age or obsolescence of buildings or improvements, whether residential or nonresidential;…inappropriate uses of land or buildings; existence of overcrowding of buildings or structures; …deterioration of site;… or any combination of such factors…[that] substantially impairs or arrests the sound growth of the municipality or its environs...*

In general, this is interpreted to mean areas that have been abandoned and fallen into disrepair; the project is not expected to result in blight or other significant impacts on land use (see Section 4.1.5).

Typical pole heights were used when describing the change in height from existing to proposed. Typical pole heights vary throughout the corridor depending on the pole configuration used, differences in topography, and other factors. For this Final EIS, consistent form means that the pole configuration would continuously be either single-circuit or double-circuit. In general, single-circuit poles are used in pairs and have typical heights between 50 and 96 feet. Double-circuit monopoles are singular (not in pairs) and have typical heights between 95 and 99 feet (see Tables 2.1-1 and 2.1-2). However, these typical pole heights vary depending on the segment. Segment-specific typical pole heights are presented in the analysis below and can be taller than the typical heights presented for the whole project. Consistent form generally correlates with consistent height in a given segment. Areas with higher contrast can occur where there is a variety of single-circuit and double-circuit poles in close proximity.

Although it was assumed in the Phase 2 Draft EIS that all of the pole configurations would be made of steel with patina applied to provide a rust-colored look, the Final EIS considers various finishes as being equally likely, including galvanized (light gray), self-weathering (reddish brown), or painted (powder coat). Finishes could be specified by location to better blend with the background or sky.

Section 4.2.6 of the Final EIS describes considerations for selecting pole finishing that can be used by PSE and the Partner Cities to determine which finishing type would contrast less with the surrounding environment.

Cellular Equipment

Comments on the Phase 2 Draft EIS requested more detailed analysis of the appearance of cellular equipment on the 230 kV poles. As stated in Section 2.1.2, cellular equipment exists in eight locations spaced through the project corridor. PSE has proposed replacing existing cellular equipment, if requested by the cellular provider. One of the locations has been identified for decommissioning, so cellular equipment is proposed to be placed in seven locations. Table 4.2-2 lists cell carriers that are expected to move or replace their existing equipment on the new transmission line poles (as of November 2017). Figure 4.2-3 shows existing cellular equipment on a stand-alone pole (under existing conditions) and what it would look like if the cell equipment were placed in the middle wire zone. Appendix C-2 includes a diagram that shows what it would look like if cellular equipment were placed above the wire zone (approximately 10 feet higher than if it were placed in the middle wire zone). The potential for adverse aesthetic impacts is greater if the cellular equipment is located in the above wire zone because taller poles are necessary. This is only proposed on the pole near Newcastle Way at the north end of the Newcastle Segment.

Table 4.2-2. Potential Placement of Cellular Equipment on Project Facilities

Location	Segment	Cell Companies	Location on the Pole
Overlake 13460 NE 40th St	Bellevue North	AT&T	Below wire zone
Kelsey Creek 13601 SE 10th St	Bellevue Central	AT&T/Sprint	Below wire zone
Tyee Middle School 3858 136th Ave SE	Bellevue South	Sprint	Middle wire zone (see Figure 4.2-3)
Somerset Rec Center 4445 136th Pl SE	Bellevue South	T-Mobile	Below wire zone
Somerset substation 5200 Coal Creek Parkway SE	Bellevue South	Sprint and T-Mobile	To be determined
Newcastle Way 12833 Newcastle Way	Newcastle	T-Mobile	Above wire zone
4th St (old Cemetery Rd) 3205 NE 4th St	Renton	Sprint	Below wire zone

Source: PSE, 2017.

Existing Transmission Pole Height: ~60 feet

Figure 4.2-3a. Existing Conditions for Cellular Equipment at 13630 SE Allen Road, Bellevue, Looking Northeast

Proposed Transmission Pole Height: ~95 feet
NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-3b. Proposed Conditions for Cellular Equipment at 13630 SE Allen Road, Bellevue, Looking Northeast

Obstruction of Scenic Views

Where scenic views would be obstructed, the obstruction could be caused by the placement of a pole in a new location; increased diameter of the pole, blocking more of a scenic view than under existing conditions; increased pole height resulting in poles protruding into scenic views; or lines being raised into a spot on the horizon where they would impact previously unobstructed scenic views.

Viewer Sensitivity

As described in Section 3.2.3 of the Phase 2 Draft EIS, viewer sensitivity applies to both the aesthetic environment and scenic views. Relevant plans, policies, and regulations were reviewed as part of the Phase 2 analysis to identify potential impacts that would affect more sensitive viewers (Table 3.2-4 of the Phase 2 Draft EIS, which is incorporated into the Final EIS by reference).

Impact Analysis by Segment in the Final EIS

The following pages summarize the potential impacts on scenic views and the aesthetic environment for PSE's Proposed Alignment, presented for the Richards Creek substation and by segment. For the Redmond, Bellevue North, Bellevue Central, and Renton Segments, the analysis included a review of refined project design details for PSE's Proposed Alignment and updated simulations, with results revised relative to the Phase 2 Draft EIS to reflect the new information. For these segments, the new information and analysis have not altered the conclusions presented in the Phase 2 Draft EIS regarding significant impacts to scenic views and the aesthetic environment.

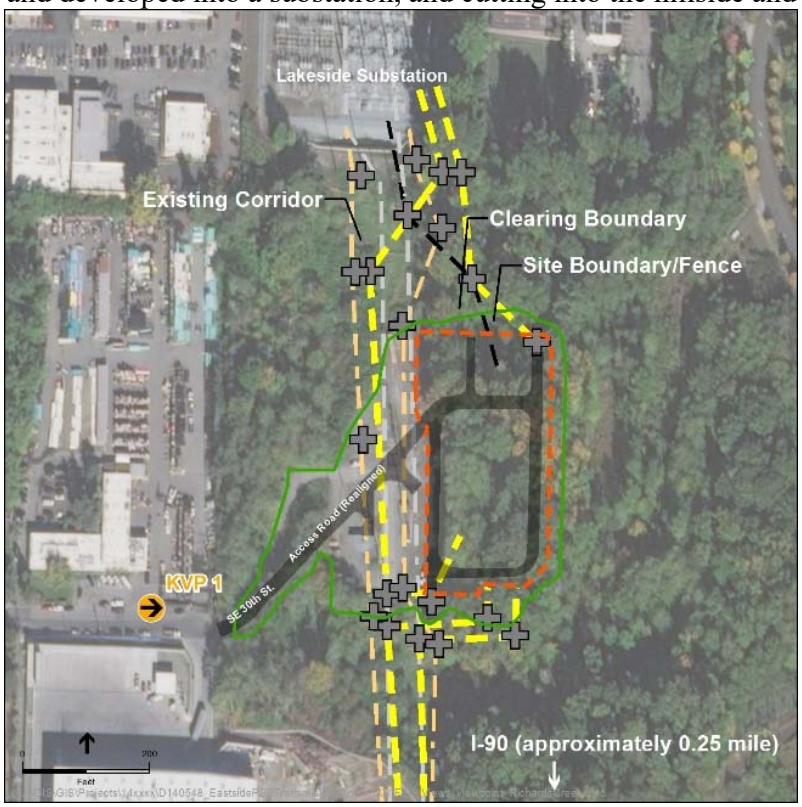
For the Richards Creek substation site and the Bellevue South and Newcastle Segments, the analysis included a review of the project design as presented in the permit applications submitted to Bellevue and Newcastle (PSE, 2017b and 2017c, respectively), as well as updated simulations (Power Engineers, 2017). The results below have been revised relative to the Phase 2 Draft EIS, incorporating the more detailed information in the permit applications on pole locations and vegetation clearing. The new information and analysis have not altered the conclusions presented in the Phase 2 Draft EIS regarding significant impacts to scenic views and the aesthetic environment.

4.2.5.2 New Richards Creek Substation

This analysis has been revised since the release of the Phase 2 Draft EIS to incorporate changes in the pole height, placement, and form associated with PSE's Proposed Alignment. However, impacts to the aesthetic environment would be less-than-significant at the Richards Creek substation site as described in the Phase 2 Draft EIS because the site is within PSE's existing corridor, and the degree of contrast with the existing environment would be minimal. Viewer sensitivity is low because there would be few sensitive viewers, and the utility infrastructure is consistent with existing plans and policies.

There would be no impacts to scenic views because no scenic views were identified at the site.

- **Visual Quality of the Aesthetic Environment:** A new substation would be introduced into the visual environment in an area that currently includes both cleared open space (utility yard) and wooded hillside. Clearing and grading associated with site development would result in new contrast in the aesthetic environment (see Figure 4.2-4, showing KVP 1). Visual quality of the natural environment would change from current conditions as parts of the undeveloped wooded area to the east would be cleared and developed into a substation, and cutting into the hillside and redistribution of fill material would result in a long-term change to the topography of the site. Visual quality of the built environment would not be adversely impacted because the new substation would not contrast with the surrounding built environment. The substation would be constructed immediately to the south of the existing Lakeside substation, and 115 kV transmission lines currently cross the site heading north and south. Because the project would be built adjacent to similar development, it would add to the existing visual clutter. In addition, the variation in pole type would be high at the Richards Creek substation, with multiple lines entering and exiting the substation. However, this would not result in significant impacts to the aesthetic environment, largely because the site would remain screened by vegetation from areas with differing visual character. Therefore, impacts to the visual quality of the aesthetic environment would be less-than-significant.



- **Scenic Views:** There are no scenic views in the vicinity of the proposed substation; impacts to scenic views would be less-than-significant.

- **Viewer Sensitivity:** There are few sensitive viewers in the vicinity of the substation site. The closest residential use is multi-family housing approximately 450 feet to the northeast of the substation site, but residents would not be able to see the new substation due to topography and vegetation. The playground and field associated with Chestnut Hill Academy is roughly 200 feet to the north of the substation site. Although the existing dense tree stands would keep the site from being visible, tree removal at the Lakeside and Richards Creek substations would potentially make both substations more visible from the school property. The proposed substation would not be inconsistent with any study area plans or policies (see Appendix C-1). Therefore, viewer sensitivity is low.

Existing Pole Height: ~65-70 feet

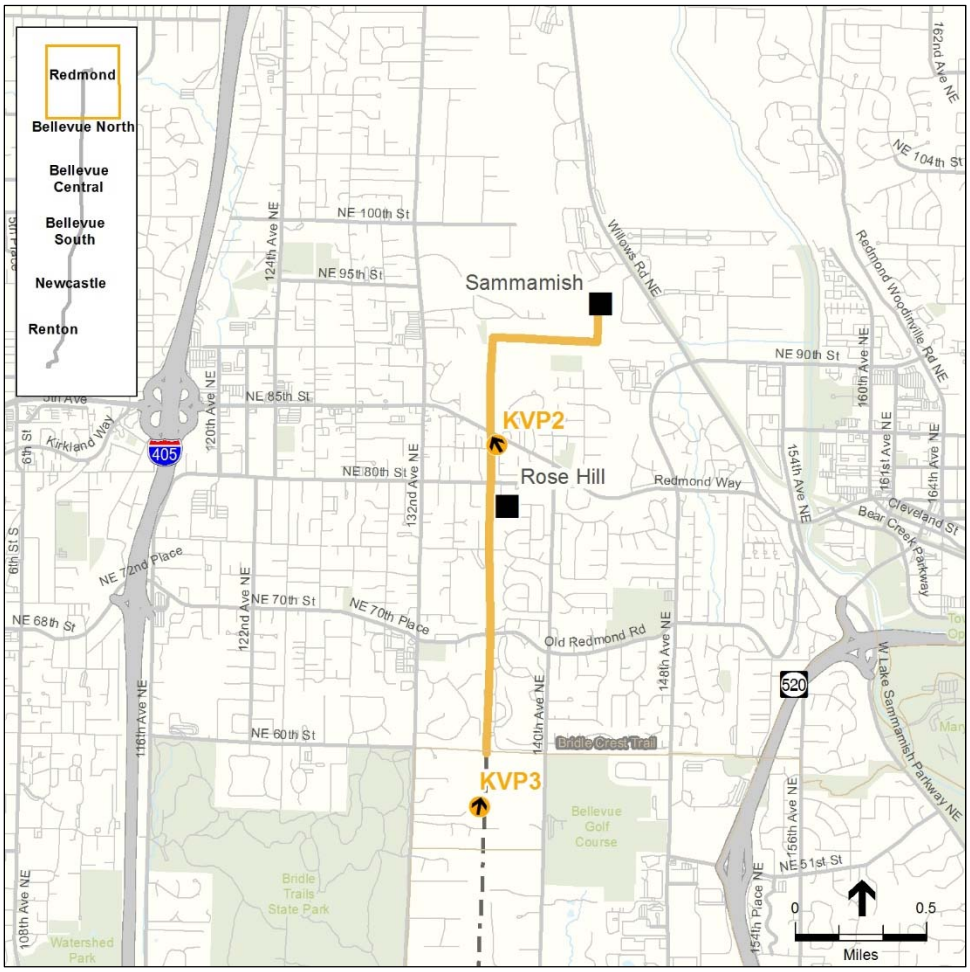
Proposed Pole Height: ~70-100 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-4. KVP 1, Existing and Proposed Conditions of Richards Creek Substation from SE 30th Street Looking East

4.2.5.3 Redmond Segment

Analysis of this segment was revised for the Final EIS to incorporate changes in the pole height and form associated with PSE's Proposed Alignment. However, impacts to the scenic views and the aesthetic environment in the Redmond Segment would still be characterized as less-than-significant, as described in the Phase 2 Draft EIS. The segment is located within PSE's existing corridor, and the degree of contrast with the existing environment would be minimal. Impacts to scenic views are unlikely due to the presence of dense vegetation and tall tree stands. The project would be consistent with existing plans and policies.



- **Visual Quality of the Aesthetic Environment:** Contrast with the natural environment would increase because the poles would be approximately 30 to 40 feet taller than the existing poles, with a typical pole height of 91 to 102 in the Redmond Segment depending on the pole configuration. The new poles would be taller than much of the surrounding vegetation, and additional clearing would be required, particularly in areas where a large number of trees are within the transmission line corridor. Tree removal would be most noticeable south of Redmond Way and from Old Redmond Road to the southern terminus of the segment. Because the tree removal would occur within the existing corridor, the degree of contrast created by the clearing would be minor. The pole height and configuration would increase the contrast with surrounding

residential development. Despite the height increase and additional clearing, the built environment would be unchanged because transmission lines already exist in the corridor.

The new transmission lines would have consistent height and form, except where the transmission lines change direction from heading east-west within the existing 500-foot easement to heading north-south in the 100-foot easement (approximately 0.5 mile southwest of the Sammamish substation), at which point the lines transition from being on two single-circuit monopoles to one double-circuit monopole. This change would occur in an area that is buffered by vegetation and has few viewers. Single-circuit monopoles would also be placed south of NE 80th Street (west of the Rose Hill substation). The degree of contrast would be low because the substation would be in the background and there would be a 500- to 700-foot distance between poles where the lines would transition back to double-circuit monopoles. In addition, viewer sensitivity would be low because the single-circuit monopoles would be visible from only a few residences. The project would reduce visual clutter in the corridor by reducing the number of poles from existing conditions (see Figure 4.2-5, showing KVP 2). Installing a new transformer and other ancillary equipment at the Rose Hill substation is not expected to increase contrast because the site already hosts a 115 kV to 12.5 kV substation.

Impacts to the visual quality of the aesthetic environment would be less-than-significant.

- **Scenic Views***:* The City of Redmond has policies to protect scenic views from public places. Specific public view corridors are codified in RZC 21.42.060. The project would not impact any scenic views from parks, trails, or outdoor recreation facilities. None of the public view corridors identified in RZC 21.42.060 are within the study area. There is the potential for some residential view impacts, but such impacts would be minor due to the presence of dense vegetation and tall tree stands. Impacts to scenic views would be less-than-significant.
- **Viewer Sensitivity:** Primary viewers are residential viewers, who would be sensitive to changes to woodland views. Other sensitive viewers include users of the Bridle Crest Trail. Policies in the Redmond Comprehensive Plan call for protecting woodland views in residential neighborhoods. Trees would be removed, which could potentially change the wooded character of the area. Tree removal would occur within an existing transmission corridor that is already mostly cleared. Therefore, the overall appearance of tree stands and woodland views is not expected to be adversely impacted.

  Some residential viewers may view the increased height of the poles positively because the lines would be higher than at present and therefore out of their line of sight, while others would not view the change as beneficial because the lines would be more visible than under existing conditions.

  Although the project would directly cross the Bridle Crest Trail, it would occur at a location where the existing 115 kV line traverses the trail. The Redmond Zoning Code protects the appearance of public ways. The project would not impact the appearance of public ways because it would be replacing one transmission line infrastructure with another in an existing utility corridor. Viewer sensitivity is moderate.

Existing Pole Height: ~50 feet

Proposed Pole Height: ~100 feet

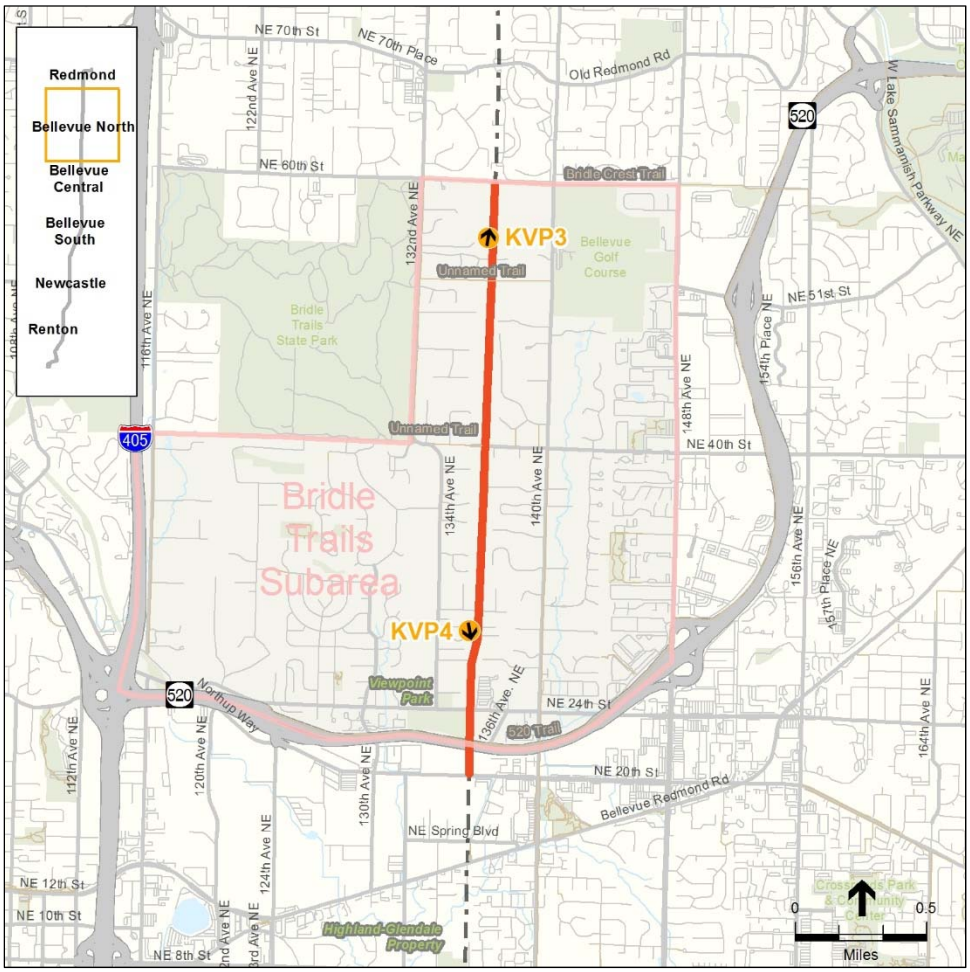
NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-5. KVP 2, Existing and Proposed Conditions from Redmond Way Looking Northwest

4.2.5.4 Bellevue North Segment

Analysis of this segment was revised for the Final EIS to incorporate changes in the pole height and form associated with PSE's Proposed Alignment. Impacts to the scenic views and the aesthetic environment in the Bellevue North Segment would be less-than-significant, as described in the Phase 2 Draft EIS. The transmission lines would be in the existing corridor, and there would be minimal contrast with existing conditions. Viewer sensitivity is low because there are few sensitive viewers. The project would be consistent with existing plans and policies because the tree removal (0.5 percent of trees within the Bridle Trails Subarea) is not expected to substantially change the existing wooded, natural, rural, and equestrian character of the Bridle Trails Subarea (see Appendix C-1). In addition, no trees would be removed from the lower slopes of the bluff adjacent to SR 520 at approximately 136th Avenue NE, so the existing visual separator between residential areas and the freeway would not be removed (see Appendix C-1).

There would be no impacts to scenic views because the degree of additional obstruction of views from the transmission line would be minimal.



- **Visual Quality of the Aesthetic Environment:** Contrast with the natural environment would be minimal because the approximately 93-foot poles in the Bellevue North Segment would in most cases be shorter than the surrounding vegetation or would appear shorter than surrounding vegetation due to vegetation density (see Figure 4.2-6, showing KVP 3). In general, the topography does not affect the visibility of the transmission lines along this segment because

dense, tall vegetation obscures the view of the transmission lines (see Figure 4.2-7, showing KVP 4). Within the built environment the poles would be approximately 40 feet taller than existing conditions, and the pole diameter would be larger than existing conditions, contrasting more with the surrounding houses and existing utility infrastructure. The new transmission lines would have consistent form and height throughout most of the segment, and would reduce visual clutter by reducing the number of poles. The one exception would be where pairs of single-circuit monopoles would be used south of NE 24th Street to cross SR 520. This would not create significant adverse impacts because it would be in a highly vegetated area to the north of SR 520 and in a commercial area abutting SR 520 to the south. Overall, impacts would be less-than-significant.

- **Scenic Views:** No scenic views from parks, trails, or outdoor recreation facilities would be significantly impacted. There are occasional views of the Cascades along the transmission corridor, views of the Olympics from Northup Way, and views of Mount Rainier along SR 520. Changes in the transmission infrastructure from 115 kV transmission lines to 230 kV transmission lines are not expected to negatively impact views from those locations because the change would occur within an existing transmission corridor, and the increase in height would move the wires farther above drivers' line of sight of visual resources. Impacts would be less-than-significant.
- **Viewer Sensitivity:** Sensitive viewers along the Bellevue North Segment are primarily residential viewers and users of the two unnamed trails, the 520 bike trail, and Viewpoint Park. In general, because of the high density of tall vegetation, only residential viewers close to the transmission lines would be able to view the lines. The closer that viewers are to the transmission lines, the less likely they are to view the lines because increasing the existing pole height by 40 feet would raise the lines out of their line of sight. The presence of dense vegetation also reduces the likelihood that the transmission lines would be visible from any of the recreational resources, except where the lines directly cross them. In addition, none of these resources are identified as having scenic qualities, and a transmission line already crosses these resources. The Bridle Trails Subarea Plan protects the wooded, natural, rural, and equestrian character of the subarea, and it encourages retention of vegetation on the lower slopes of the bluff adjacent to SR 520 at approximately 136th Avenue NE to provide a visual separator between residential areas and the freeway (City of Bellevue, 2015). Approximately 0.5 percent of the trees in the Bridle Trails Subarea as a whole would be removed for the project. No trees would need to be removed directly north of SR 520. Overall, viewer sensitivity is low.

Existing Pole Height: ~55 feet

Proposed Pole Height: ~90 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-6. KVP 3, Existing and Proposed Conditions from 13540 NE 54th Place Looking Northeast

Existing Pole Height: ~55 feet

Proposed Pole Height: ~100 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-7. KVP 4, Existing and Proposed Conditions from 13508 NE 29th Place Looking South

4.2.5.5 Bellevue Central Segment (Revised Existing Corridor Option)

Analysis of this segment was revised in the Final EIS to incorporate changes in the pole height and form associated with PSE's Proposed Alignment. Impacts to the scenic views and the aesthetic environment along the Bellevue Central Segment would be less-than-significant (as described in the Phase 2 Draft EIS) because the transmission lines would be within the existing corridor, and contrast with the existing environment would be minimal. Viewer sensitivity is low because the project would not be inconsistent with study area plans or policies.

Scenic view impacts along this segment would be less-than-significant.

- **Visual Quality of the Aesthetic Environment:** Contrast with the natural environment would be most noticeable where tall vegetation is not present or is limited (e.g., at the Glendale Country Club). Most of the vegetation removal would occur south of the Lake Hills Connector. In general, the visibility of the lines from the west would be limited because views would be partially to fully blocked by vegetation in the foreground. Near the Lakeside substation, contrast would also be more noticeable because approximately 43 trees would be removed. Contrast with the built environment would be slightly greater than existing conditions because the poles would typically be approximately 40 feet taller and the pole diameter would be larger than the existing poles. A transmission line already exists in the corridor, and the new transmission lines would have consistent form and height throughout the segment, except for where the lines would cross

Bel-Red Road and would cross the Lakeside substation and tie into the Richards Creek substation. The change in pole configuration at the Bel-Red Road crossing would not result significant adverse effects because it would be in a commercial parking lot, with the primary viewers being drivers on Bel-Red Road. In residential areas north of the Lakeside substation, increased clutter would be created through the addition of more poles at the substation and the introduction of new pole configurations (see Figure 4.2-8, showing KVP 5). This would be visible to only a few residential viewers, and the degree of additional clutter would not dominate the aesthetic environment to the degree that significant adverse impacts would occur. In general, the project would reduce visual clutter by reducing the number of poles. Therefore, impacts would be less-than-significant.

- **Scenic Views:** Scenic view impacts along this segment would be minimal because topography and vegetation obscure scenic views from most of the study area.
- **Viewer Sensitivity***:* Sensitive viewers along the segment are residential viewers and recreational users. Kelsey Creek Park is the only recreational resource identified by the City as being used for its natural setting. Kelsey Creek Park hosts a high number of recreational visitors and is used year-round. The presence of dense vegetation reduces the visibility from Kelsey Creek Park; however, it would be visible from some locations (see Figure 4.2-9, showing KVP 6). Where visible, it is likely that only the upper portion of the transmission lines could be seen. Due to the distance between the transmission lines and the park (approximately 0.34 mile), the project would not substantially alter the natural setting of Kelsey Creek Park. The project would directly cross and/ or follow the SE 3rd Trail, the SE 10th Trail, unnamed trail(s), the Highland–Glendale Property, and Skyridge Park. Because none of these resources are identified by the City as being used for their views or natural setting, and a transmission line already crosses these resources, viewer sensitivity to the change is expected to be low. The project would not be inconsistent with the Wilburton/NE 8th Street Subarea Plan because it would not substantially change the following key views: From SE 1st Street and Main Street at the transmission line right-of-way at 136th Avenue (see Figure 4.2-10, showing KVP 7, and Figure 4.2-11, showing KVP 8). A transmission line already exists, and the project would change only the height and form of the line. Chestnut Hill Academy is less than 100 feet to the east. Tree removal would make the Lakeside substation more visible; however, because the majority of the tree removal would be located further south, impacts would be minor. Overall, viewer sensitivity is low.

Existing Pole Height: ~55 feet

Proposed Pole Height: ~100 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-8. KVP 5, Existing and Proposed Conditions from 2160 135th Place SE Looking Southeast

Existing Pole Height: ~75 feet

Proposed Pole Height: ~90 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-9. KVP 6, Existing and Proposed Conditions from 703 130th Place SE (Kelsey Creek Park) Looking Northeast

Existing Pole Height: ~50 feet

Proposed Pole Height: ~95 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-10. KVP 7, Existing and Proposed Conditions from 13606 Main Street Looking North

Existing Pole Height: ~55 feet

Proposed Pole Height: ~95 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

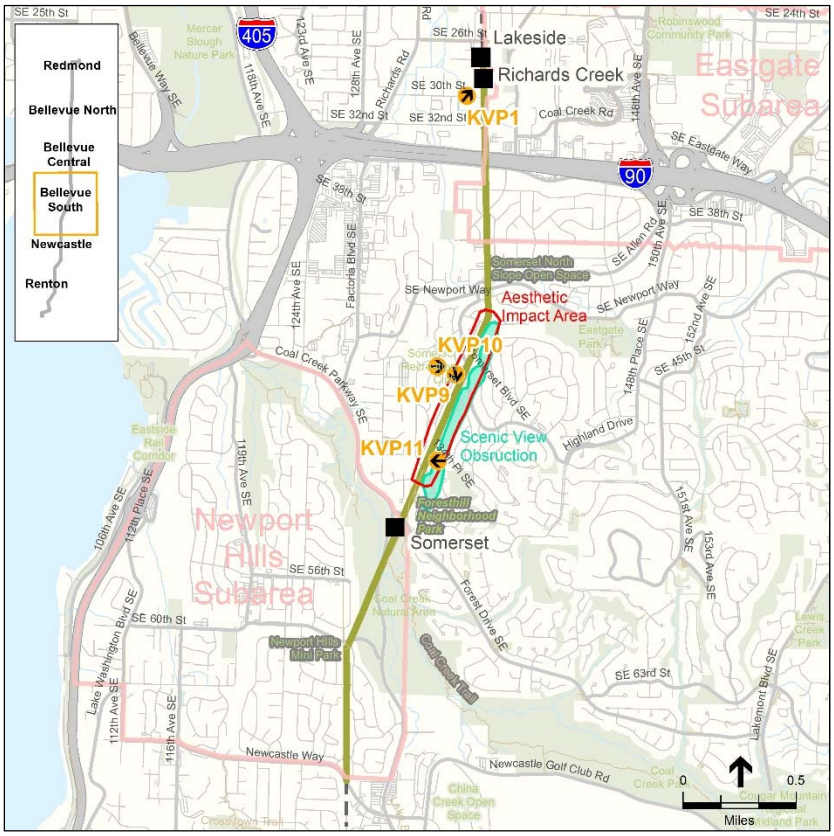
Figure 4.2-11. KVP 8, Existing and Proposed Conditions from 13636 Main Street Looking West

4.2.5.6 Bellevue South Segment (Revised Willow 1 Option)

Analysis of this segment was revised for the Final EIS to incorporate changes in the pole height and form associated with PSE's Proposed Alignment. Impacts to the scenic views would be less-than-significant, as indicated in the Phase 2 Draft EIS, but moderate impacts affecting scenic views in limited areas are discussed in detail below. Impacts to the aesthetic environment would be significant along the Bellevue South Segment, as was described in the Phase 2 Draft EIS.

Contrast with the existing aesthetic environment would generally be low through this segment because the transmission lines would be within the existing corridor. The exception to this is where the transmission lines would traverse the Somerset neighborhood. Building and vegetation heights are lower in the Somerset neighborhood than other areas of the corridor, making the existing aesthetic environment within that neighborhood unique in this segment and when compared to other neighborhoods in Bellevue that are affected by the project. As a result, the degree of contrast created by the taller poles is substantial.

Viewer sensitivity is generally high along this segment, particularly where it traverses the Somerset neighborhood and the Coal Creek Natural Area. However, impacts to the Coal Creek Natural Area would be less-than-significant because vegetation removal would be limited.



In the Somerset neighborhood, the combination of high viewer sensitivity and substantial contrast created by the taller poles would mean that significant impacts to visual quality are expected along that portion of the Bellevue South Segment.

The new, taller poles would result in scenic view impacts east of the transmission lines, relative to existing conditions, primarily in the Somerset portion of the Bellevue South Segment. However, these impacts would be less-than-significant due to the limited degree of obstruction produced by the

wires, the relatively small number of residences impacted, and the lack of policy supporting protection of private residential views. The neighborhood immediately south of SE Newport Way would also potentially experience some scenic view impacts, but taller existing vegetation would limit the impacts.

- **Visual Quality of the Aesthetic Environment:** The segment would be entirely within the existing corridor, which has been partially cleared and managed. A substantial number of trees in the existing corridor have been identified for potential removal, including within residential areas north and south of the Coal Creek Natural Area (including Newport Hills Mini-Park). This would change the vegetated appearance for residential viewers immediately adjacent to the corridor. Because those areas are within an existing, managed corridor, the degree of contrast produced by each clearing would be low; therefore, these impacts would be less-than-significant. Contrast with the natural environment may occur where large amounts of vegetation are removed or the poles are taller than the surrounding vegetation.

  The existing 115 kV transmission lines and approximately 60-foot H-frame structures along the existing corridor would be removed and replaced by one or two monopoles at each location (see the Segment Sheet for the Bellevue South Segment in Chapter 2, page 2-27). North of SE Newport Way and south of the Somerset substation, double-circuit 95-foot tall steel monopoles would be used. South of SE Newport Way to the Somerset substation, pairs of single-circuit, 79-foot tall monopoles would be used. Except for the locations where the lines would transition between single-circuit monopoles to double-circuit monopoles, the height and form of the transmission line would be consistent. Contrast with the built environment would be less-than-significant, except for where the transmission lines would cross the Somerset neighborhood.

  Based on additional analysis conducted for the Final EIS, Figure 4.2-12 shows the aesthetic impact area and scenic view obstruction area along the Bellevue South Segment. Although the new transmission lines would be within an existing transmission corridor, and the height and form of the transmission lines would be consistent through the Somerset area, there would be a substantial degree of contrast between the low-scale buildings and vegetation within the Somerset neighborhood (e.g., see Figure 4.2-13, showing KVP 9). The Somerset neighborhood has covenants that impose height restrictions and make the existing aesthetic environment within the neighborhood unique. Because the aesthetic environment of the Somerset neighborhood is comprised of height-restricted features, the difference in height between the new poles and the surrounding built environment would be more pronounced than in other areas along the segment where buildings and vegetation are taller. This is where changes to the aesthetic environment would be the most notable, and significant impacts to the aesthetic environment would occur (immediately uphill and downhill of the line) in the aesthetic impact area shown on Figure 4.2-12. This impact would dissipate with distance (see Figure 4.2-14, showing KVP 10). Within the aesthetic impact area, significant impacts to the aesthetic environment would occur.

- **Scenic Views:** Most of the scenic views in this segment are from the Somerset neighborhood and are of the Olympics, Lake Washington, and the Bellevue and Seattle skylines. This is an area with a relatively high population density (see Appendix C-1). The degree of scenic view obstruction is expected to be higher in the Somerset neighborhood because the poles would protrude approximately 20 feet higher than under existing conditions, and because this area has preserved views through property covenants requiring lower vegetation and building heights than in other areas in Bellevue and the Eastside. The increased pole height would raise the lines above the viewshed of some residential viewers (those nearest the lines), and into the viewshed of

others farther uphill. Figure 4.2-12 shows the area of Somerset where these impacts on scenic views would be most pronounced. This area includes approximately 110 residences. For viewers uphill of the area shown, impacts would be far less pronounced because the proposed taller poles would be below the horizon and would be farther away. There also could be scenic view impacts to drivers on streets within the area shown on Figure 4.2-12 that slope down to the west. In the neighborhood immediately south of SE Newport Way, residences could experience impacts, but most residents would not experience adverse impacts due to the presence of tall vegetation, which limits scenic views as well as potential views of the poles. Impacts to scenic views along the Bellevue South Segment would be less-than-significant because of the limited number of residences that would experience view obstruction, and because the transmission lines would alter views but would not completely block them.

- **Viewer Sensitivity:** Sensitive viewers along this segment are residential viewers and recreational users. Coal Creek Natural Area is the only recreational resource identified by the City as being used for its natural setting. It is also a highly used year-round recreational resource. Approximately 20 trees would be removed near the Coal Creek to SE 60th Street segment of the Lower Coal Creek Trail. The tree removal would diminish the natural setting and make Coal Creek Parkway more visible to trail users. Although not identified as being used for their natural settings, the Forest Hill Neighborhood Park, Somerset North Slope Open Space, and Newport Hills Mini Park would be directly crossed by the project. Because these recreation areas are already traversed by the existing transmission line corridor, viewer sensitivity is lower for users along the corridor. Sensitivity is expected to be high at the Somerset North Slope Open Space and Newport Hills Mini Park, where park users would view a higher degree of contrast as the new transmission lines would be a change in height and form.

  The placement of higher poles in the existing corridor has the potential to impact views from adjacent single-family areas in the Eastgate Subarea. The increase in pole height (approximately 35 feet) would reduce the existing obstruction of scenic views for abutting residences because the wires would be higher, and out of the line of sight from those residences. There is the potential for inconsistency with the Newport Hills Subarea Plan, which emphasizes the preservation of existing trees on protected slopes and hilltops as a distinct visual element. Within the Newport Hill Subarea, protected slopes are primarily associated with the Coal Creek ravine. Fewer than 40 trees would likely be removed from priority steep slopes, priority steep slope buffers, and landslide hazard areas (PSE, 2017b). Tree removal would be dispersed and surrounded by retained trees stands. Therefore, the appearance of the vegetation as a distinct visual element is not anticipated to change. Tree removal would occur within the Coal Creek ravine; however, the number of trees removed, when compared to the number of trees within the ravine as a whole, is not expected to impact the aesthetics of the Coal Creek Natural Area to the degree that it would no longer be considered a "distinct visual element" (see Table 3.2-4 of the Phase 2 Draft EIS).

  The segment also traverses the Somerset neighborhood, which has shorter buildings and vegetation than other study area neighborhoods as a result of the covenants described in Section 4.2.2.1. Although the transmission lines are not subject to the covenants, the covenants would likely increase viewer awareness of the impact (see Figure 4.2-15, showing KVP 11). As such, viewer sensitivity to changes in the views from those residences would be high. Overall, viewer sensitivity for the Bellevue South Segment is moderate, but it is high within the Somerset neighborhood.

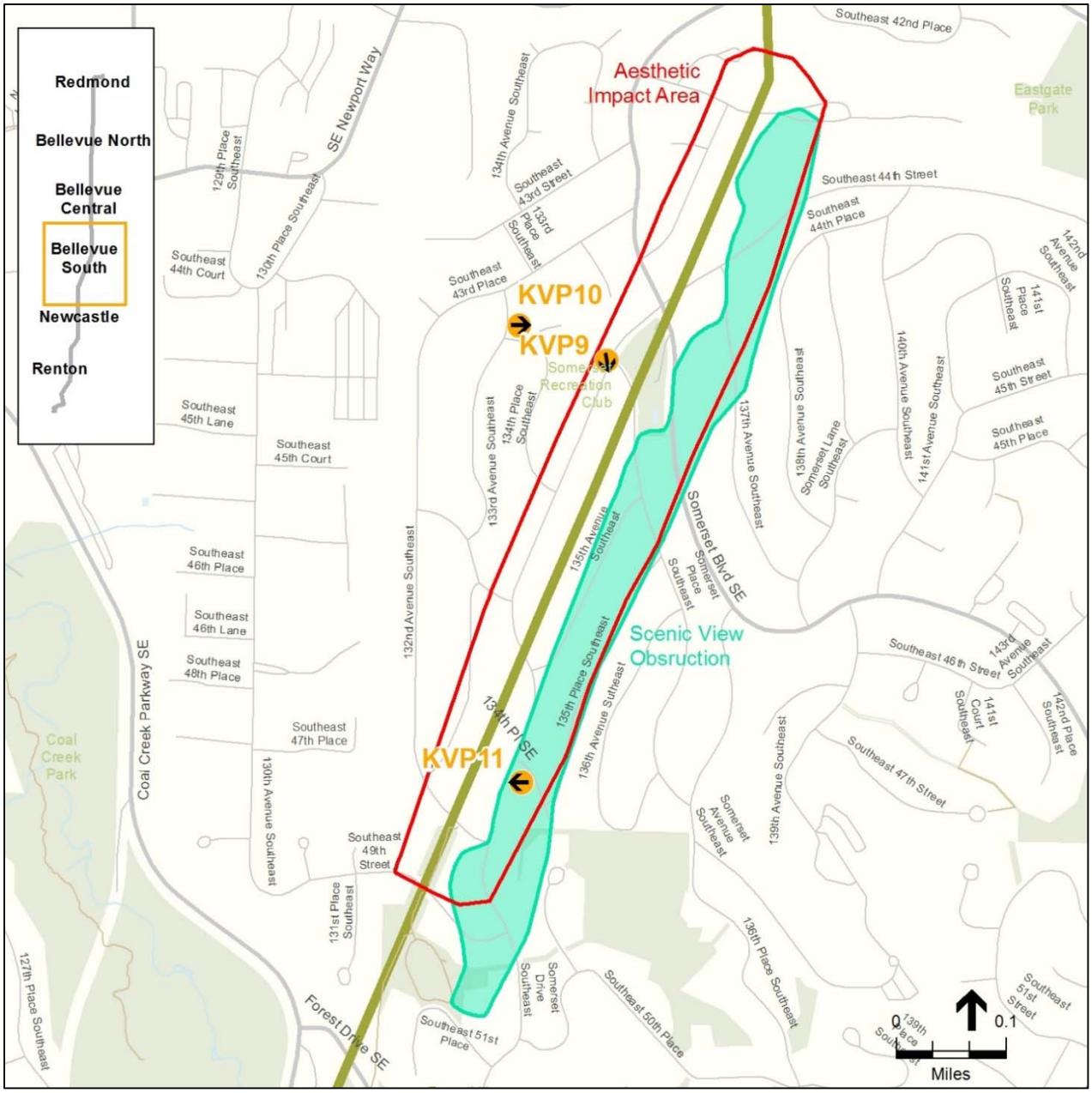


Figure 4.2-12. Bellevue South Segment - Aesthetic Impact Area and Scenic View Obstruction Area in the Somerset Neighborhood

Existing Pole Height: ~55 feet

Proposed Pole Height: ~75 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-13. KVP 9, Existing and Proposed Conditions from 4411 Somerset Drive SE Looking Southeast

Existing Pole Height: ~55 feet

Proposed Pole Height: ~75 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-14. KVP 10, Existing and Proposed Conditions from 13300 SE 44th Place, Looking East

Existing Pole Height: ~44 feet

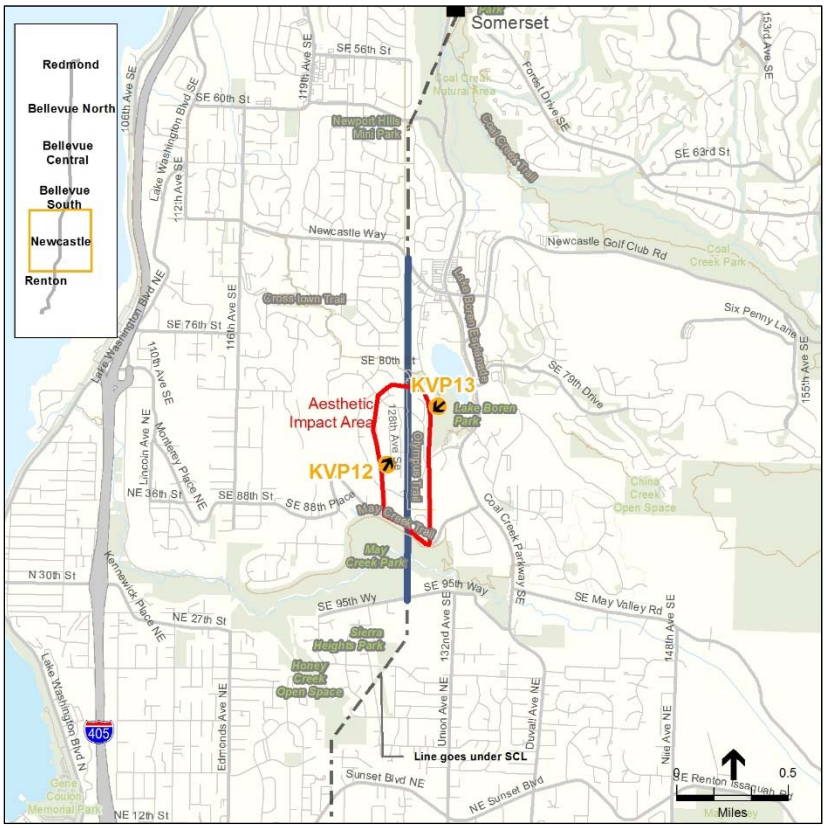
Proposed Pole Height: ~75 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-15. KVP 11, Existing and Proposed Conditions from 4730 Somerset Drive SE Looking West

4.2.5.7 Newcastle Segment – Option 1 (No Code Variance)

Two options are analyzed in the Final EIS for the Newcastle Segment: one that would not require a code variance, and one that would require a code variance. Option 1 (No Code Variance) has a similar pole height and configuration to the Newcastle Segment described in the Phase 2 Draft EIS. Therefore, the assessment below is the same as presented in the Phase 2 Draft EIS. North of the May Creek ravine, project impacts on the aesthetic environment of the Newcastle Segment Option 1 would be significant. Although the proposed project would be placed in the existing transmission line corridor, the poles would be almost double the height (from 55 feet to approximately 95 feet) of the existing poles, making it more visible from neighboring residences and residential streets. When coupled with placement of the project on the ridge, this would make the new transmission lines a defining feature that contrasts strongly with the existing built environment. This portion of the project would adversely affect neighborhood character, in conflict with the Newcastle Comprehensive Plan. The Comprehensive Plan protects the scale and character of existing neighborhoods through policies that call for transmission lines to be sited and designed to minimize visual impacts to adjacent land uses. The portion of the option within the May Creek ravine would result in less-than-significant aesthetic impacts due to the topography of the ravine and the presence of tall, dense vegetation, both of which would reduce the degree of contrast between the project and the surrounding aesthetic environment.



Impacts to scenic views would be less-than-significant because there would be a low degree of additional view obstruction compared to existing conditions. No scenic views from recreational facilities would be impacted. Based on additional analysis conducted for the Final EIS, Figure 4.2-16 shows the aesthetic impact area and scenic view obstruction area along the Newcastle Segment.

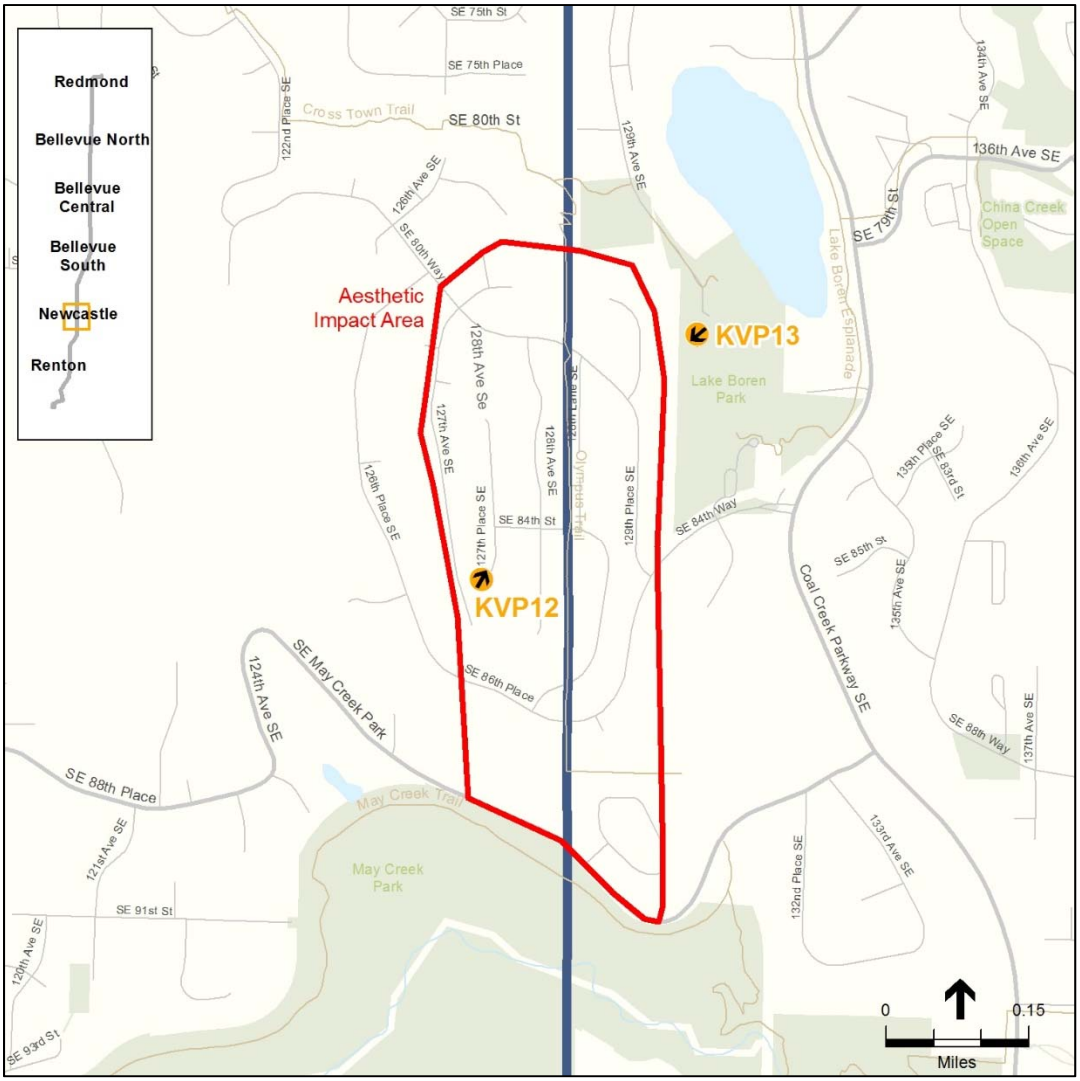


Figure 4.2-16. Aesthetic Impact Area resulting from the Newcastle Segment Option 1 (No Code Variance)

- **Visual Quality of the Aesthetic Environment:** In general, the poles and wires would be more noticeable where the transmission lines are on a ridge with low vegetation (e.g., the portion of the option north of May Creek) than other conditions where the topography and presence of dense, taller tree stands result in the poles and wires being less visible (e.g., in the May Creek ravine). Currently, the existing poles are minimally noticeable north of May Creek because of their height (approximately 55 feet) and placement within the center of the corridor. Under the proposed project, the poles would nearly double in height (to approximately 95 feet), making them more visible from residential streets and less likely to be concealed by vegetation due to their proximity to residences. When coupled with the placement of the line on the top of a ridge, this would result in the poles contrasting more with the surrounding houses and utility infrastructure due to the pronounced prominence of the transmission lines. This would substantially change the residential character of the surrounding neighborhood as the transmission lines would become a defining visual feature of the neighborhood (see Figure 4.2-17, showing KVP 12). Although transmission lines already exist in the corridor, and the new transmission lines would have

consistent height and form throughout the option, the degree of contrast with the built environment would result in significant adverse impacts to visual quality within the residential portion of Newcastle identified in Figure 4.2-16. Within the May Creek ravine, project-related impacts to the visual quality of the aesthetic environment would be less-than-significant because the topography and presence of dense vegetation would reduce the degree of contrast between the project and the surrounding aesthetic environment. On the pole near Newcastle Way, the pole would be approximately 10 feet taller (above the wire zone) to accommodate proposed cellular equipment. The pole would be below the ridge, but the cell equipment would protrude above it, making it visible from residences on the ridge that currently have little if any view of the transmission line. While no significant impacts would result from this pole due to limited viewer extent (one pole), it would introduce a higher degree of contrast between the project and the existing aesthetic environment than similar poles to the south.

- **Scenic Views:** Most views from the Olympus neighborhood are of the Cascades, the Olympics, and in some places Mount Rainier. Views of the Cascades, Cougar Mountain, and Mount Rainier from this residential area could be impacted, including places with high population density (see Appendix C-1). The degree of scenic view obstruction is expected to be low due to the presence of other obstructions, such as trees and buildings, and the limited number of pole locations. No scenic views from parks, trails, or outdoor recreation facilities would be impacted. Impacts to scenic views would be less-than-significant.
- **Viewer Sensitivity:** Primary viewers are residential viewers and users of Lake Boren Park, Lake Boren Esplanade, May Creek Natural Area (May Creek Park and May Creek Trail), Cross Town Trail, and Olympus Trail. Because the project would be on a ridge, it would be visible by much of the Newcastle population. The highest density of residential viewers in the study area along the Newcastle Segment Option 1 is in the north portion of Newcastle, between Newcastle Way and SE 80th Way (see Appendix C-1). Although viewer sensitivity is lower within the existing corridor than elsewhere in Newcastle, overall viewer sensitivity is high, based on the extent of affected viewers and Newcastle's policies regarding aesthetic impacts from transmission lines. The City of Newcastle Comprehensive Plan protects the scale and character of existing neighborhoods through policies that call for transmission lines to be sited and designed to minimize visual impacts to adjacent land uses (e.g., Policy UT-P10, UT-P14) (City of Newcastle, 2016). From some vantage points, such as from Lake Boren Park, the distance from the lines would diminish the perceptible differences in height and inconsistency with the surrounding built environment (see Figure 4.2-18, showing KVP 13). Within the neighborhoods surrounding the transmission lines, the new transmission lines would become a defining visual feature and significantly impact the visual character of the residential area (see Figure 4.2-17, showing KVP 12). Therefore, the project would be inconsistent with the Newcastle Comprehensive Plan Policy UT-P10 and would result in significant impacts.

Existing Pole Height: ~55 feet

Proposed Pole Height: ~95 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-17. KVP 12, Existing and Proposed Conditions from 8446 128th Avenue SE Looking Northeast (Option 1)

Existing Pole Height: ~50 feet

Proposed Pole Height: ~95 feet

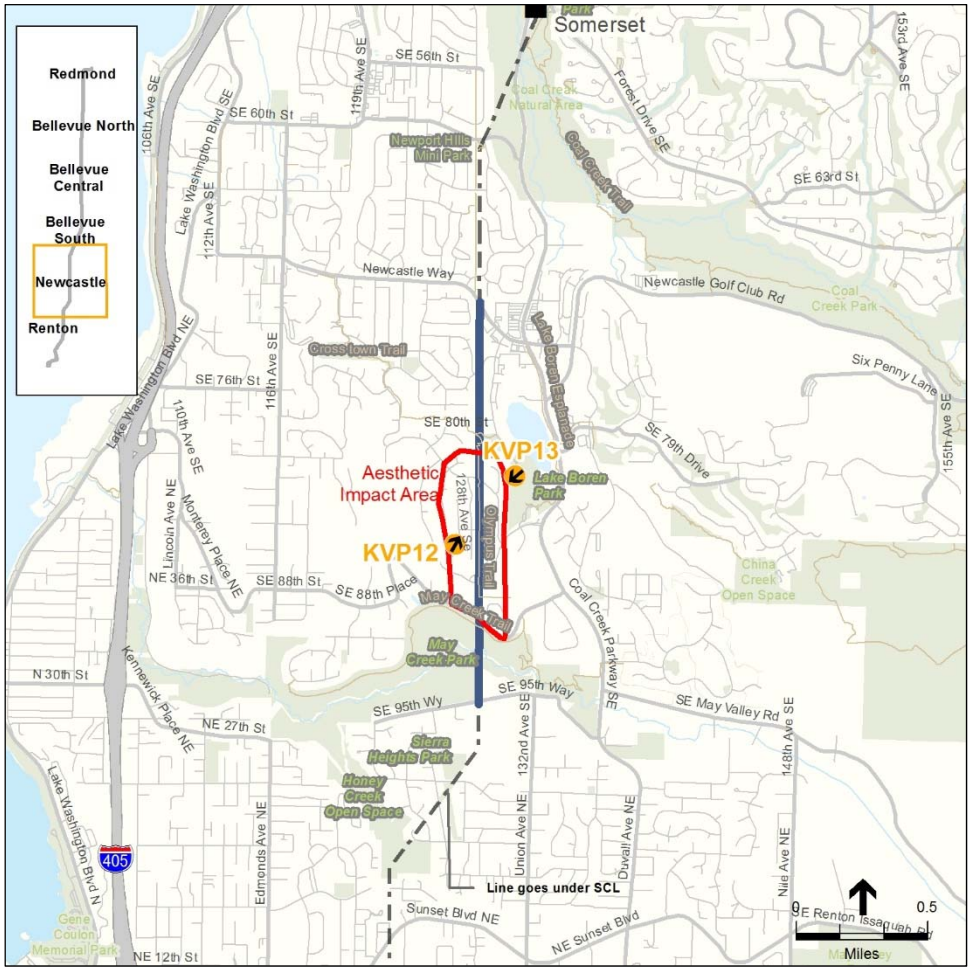
NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-18. KVP 13, Existing and Proposed Conditions from Lake Boren Park Looking Southwest (Option 1)

4.2.5.8 Newcastle Segment – Option 2 (Code Variance)

A code variance would be required for the Newcastle Segment, Option 2. Option 2 would use the same route in the existing corridor as Option 1, but would have a different pole configuration and height, and would be placed more centrally within the corridor. Although this would reduce aesthetic impacts compared to Option 1, Option 2 would result in significant impacts to the aesthetic environment due to the change in neighborhood character.

Impacts to scenic views would be less-than-significant because there would be a low degree of additional view obstruction compared to existing conditions. No scenic views from recreational facilities would be impacted.



- **Visual Quality of the Aesthetic Environment:** The new poles would be approximately 14 feet shorter than those proposed under Option 1 (and approximately 25 feet taller than the existing 55-foot H-frame poles). In addition, approximately half of the new poles would be placed closer to the center of the transmission corridor under Option 2 because the 5-foot setback from the pipeline easement would be waived or reduced by the variance approval. Placement of the poles more centrally within the corridor would reduce the degree of contrast from neighboring residences and roadways because the increased distance between the poles and the houses would make the difference in height between the two structures appear to be less. Although the project

would increase the height of the transmission line poles and use larger diameter poles than the existing poles, it would use fewer poles, and would not become a defining feature of the neighborhood in the way Option 1 would (see Figure 4.2-19, showing KVP 12). The project would significantly impact the visual character of the surrounding residential neighborhood because of the increase in pole height and increased prominence of the transmission line within the neighborhood (see Figure 4.2-19, showing KVP 12). The aesthetic impact area would be the same as Option 1 (see Figure 4.2-16), with areas outside of the impact area experiencing less-than-significant impacts (see Figure 4.2-20, showing KVP 13). Within the May Creek ravine, project-related impacts to the visual quality of the aesthetic environment would be less-than-significant because the topography and presence of dense vegetation would reduce the degree of contrast between the project and the surrounding aesthetic environment.

- **Scenic Views:** The potential for impacts to scenic views would be less than under Option 1 because the poles would be shorter. Similar to Option 1, impacts to scenic views would be less-than-significant under Option 2.
- **Viewer Sensitivity:** Viewer sensitivity is the same as under Option 1. Under Option 2, the project would still significantly impact the visual character of the residential area (see Figure 4.2-19, showing KVP 12). Therefore, the project would be inconsistent with the Newcastle Comprehensive Plan policies regarding visual impacts of major utilities.

Existing Pole Height: ~55 feet

Proposed Pole Height: ~85 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-19. KVP 12, Existing and Proposed Conditions from 8446 128th Avenue SE Looking Northeast (Option 2)

Existing Pole Height: ~50 feet

Proposed Pole Height: ~80 feet

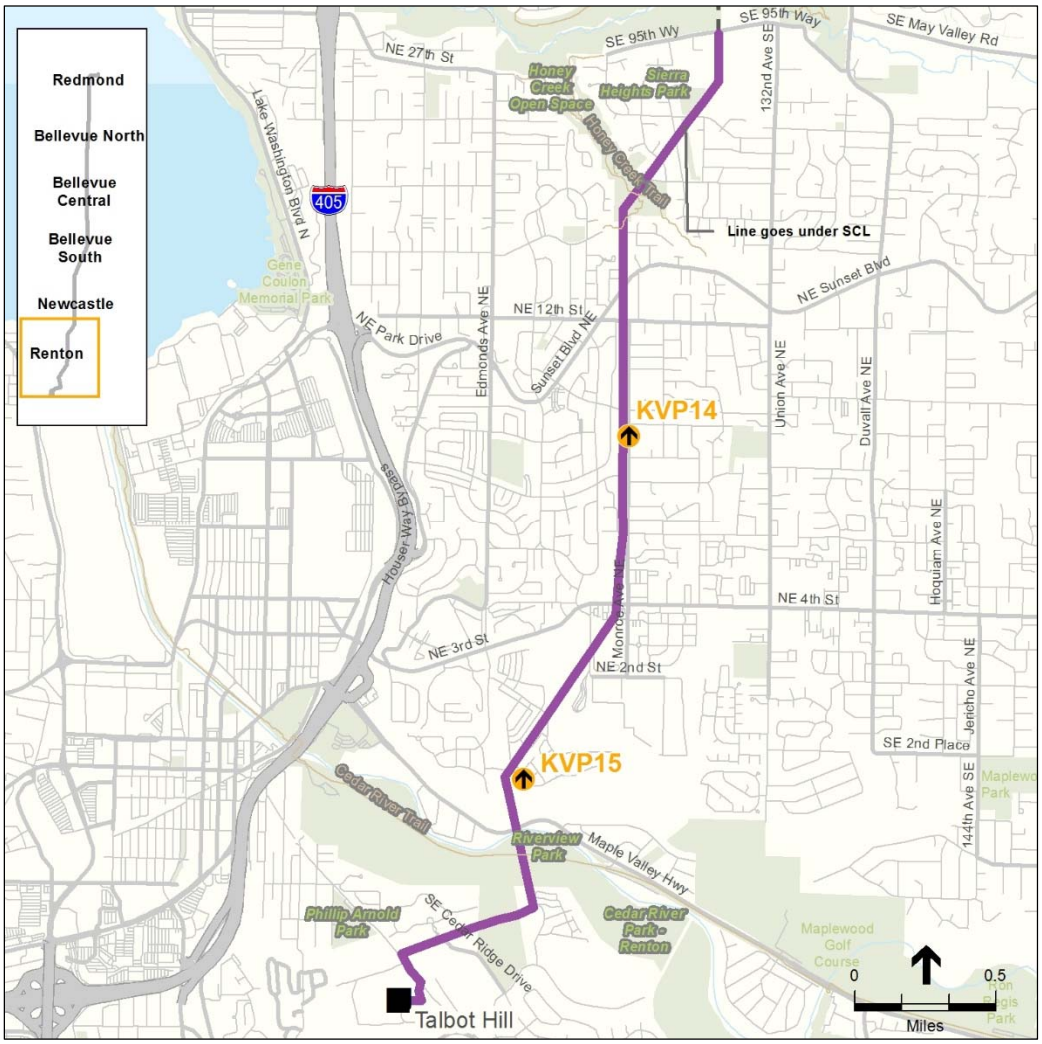
NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-20. KVP 13, Existing and Proposed Conditions from Lake Boren Park Looking Southwest (Option 2)

4.2.5.9 Renton Segment

Analysis of this segment was revised for the Final EIS to incorporate changes in the pole height and form associated with PSE's Proposed Alignment. Impacts to the scenic views and the aesthetic environment in the Renton Segment would be less-than-significant, as described in the Phase 2 Draft EIS. Overall, impacts to the aesthetic environment from the Renton Segment would be less-than-significant. Although the poles would typically be taller (up to 40 feet taller depending on the pole location and configuration) and larger in diameter than existing poles, the segment would be located entirely within PSE's existing corridor, resulting in low contrast with existing conditions. Although adopted policies address general aesthetic qualities and public views, overall viewer sensitivity is considered low because development in the area has all occurred around the existing transmission lines, and the project would not be inconsistent with policies related to aesthetics and public views. Impacts to the aesthetic environment would be less-than-significant.

Impacts to scenic views would be less-than-significant because the degree of additional obstruction would be minimal compared with existing conditions.



- **Visual Quality of the Aesthetic Environment:** Contrast with the natural environment would be high as there is little vegetation along the segment, except near Honey Creek and the Cedar

River. Near the creek and river, the poles would blend with the natural environment because they would have similar or shorter height than the abutting tree stands. Although the corridor width would not change, tree removal would be required, particularly within the Honey Creek ravine. None of the trees in the Cedar River valley would need to be removed because the transmission lines would be well above the tops of trees (as is the case with the existing line), and would not need to be removed under PSE's Vegetation Management Program (The Watershed Company, 2016).

In general, poles are more visible when a transmission line is on a ridge with low vegetation (such as the Liberty Ridge neighborhood), or in areas where it is generally flat and adjacent to a roadway (e.g., Renton Technical College) than other topographic and vegetation conditions (see Figures 4.2-21 and 4.2-22, showing KVPs 14 and 15, respectively). Poles and wires are marginally visible from within ravines (such as the Honey Creek ravine) under existing conditions. This would continue to be the case under the project. Contrast with the built environment would be slightly more than existing conditions because the typical pole heights would range from 5 feet shorter than existing conditions to 40 feet taller, with the tallest poles associated with the double-circuit monopoles south of Honey Creek. Pole diameter would also be larger than existing poles, but the number of poles would be reduced.

Visual clutter would be increased in the area north of Honey Creek and near the Talbot Hill substation. In the 0.29-mile section of the segment that goes past Sierra Heights Elementary School to the end of Sierra Heights Park, there would be four different pole types, resulting in a high degree of contrast due to increased visual clutter (see the Segment Sheet for the Renton Segment in Chapter 2, page 2-33). The portion of the segment that directly crosses Sierra Heights Park would host three different pole types varying in typical height from 50 to 84 feet. Sierra Heights Park already hosts a variety of transmission lines of different heights and forms. Therefore, viewers would be less sensitive to the change in visual clutter produced by the project. The existing SCL transmission line would not need to change to accommodate the project.

In general, visual clutter along the segment would be lessened south of the SCL crossing due to the reduced number of poles.

Near the Talbot Hill substation, there would be a variety of pole types within many views, including double-circuit monopoles and two types of single-circuit pairs. Visual clutter near substations is typical and likely to be expected, and viewer sensitivity is low. Changes to the built environment would be less-than-significant because transmission lines already exist in the corridor; however, they would be replaced with new transmission lines with a different height and form.

Elsewhere along the segment, the height and form would be consistent. The poles in all locations would be taller than the existing poles. The form would also change from an H-frame configuration to a monopole configuration, changing the look of the transmission lines. Some viewers may positively perceive the increased height of the poles because the lines would be moved up and out of their line of sight, while others would not view the change as beneficial.

Overall, impacts to the visual quality of the aesthetic environment would be less-than-significant.

- **Scenic Views:** Areas with the highest density of scenic views are on Talbot Hill, which has low population density. The only public recreation site from which scenic views have the potential to be impacted is along the Cedar River Trail. Changes to the existing corridor are not expected to

result in significant impacts. The height and location of the proposed poles and transmission lines would not obscure views of the Cedar River from the trail. Impacts to scenic views would be less-than-significant.

- **Viewer Sensitivity***:* Primary viewers are residential viewers and recreational users of the Cedar River Natural Zone (Cedar River Park and Cedar River Trail), Honey Creek Open Space (including Honey Creek Trail), Philip Arnold Park, Riverview Park, and Sierra Heights Park. These recreational resources are already traversed by a transmission line corridor, so changes to the aesthetics for these viewers would be associated with any vegetation clearing or changes in the height and appearance of the transmission lines. The new poles would be approximately 40 feet taller than existing poles, but the change would not be noticeable from the Cedar River Park, Cedar River Trail, Honey Creek Open Space, Honey Creek Trail, Philip Arnold Park, or Riverview Park due to the distance from common viewpoints, topography, and presence of dense vegetation. The corridor directly crosses Sierra Heights Park. Within the park, the three different new pole types would vary in height from 50 to 84 feet.

  No vegetation clearing would be required where the project crosses the Cedar River Park, Cedar River Trail, or Riverview Park because the topography of the Cedar River valley provides sufficient clearance between the lines and the vegetation below. Figure 4.2-23 (not a KVP) shows the appearance of the existing lines from the Cedar River Trail, as well as the existing pole structure from the trail. The distance between the trail and the pole (approximately 1,000 feet) would make the change in form (from two adjacent wooden H-frame structures to one taller steel monopole) less noticeable. The height of the lines is expected to stay the same. Although the diameter of the wires would be slightly larger, it is not expected that the difference would be perceivable from the trail (Figure 4.2-23) (also see Appendix C-2, which includes a figure that compares the diameters of the existing wire and the new wires in the proposed project). The City of Renton Comprehensive Plan protects natural forms, vegetation, distinctive stands of trees, natural slopes, and scenic areas that "contribute to the City's identity, preserve property values, and visually define the community neighborhoods" (City of Renton, 2015). Changes to the appearance of those features would be minor because an existing corridor would be used. The City of Renton also has comprehensive plan policies stating that change should be accommodated "in a way that maintains Renton's livability and natural beauty" (City of Renton, 2015). Because the project would utilize an existing transmission line corridor, the project would be consistent with the plan. In general, viewer sensitivity along this segment is moderate along the Cedar River Trail and low elsewhere.

Existing Pole Height: ~55 feet

Proposed Pole Height: ~90 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

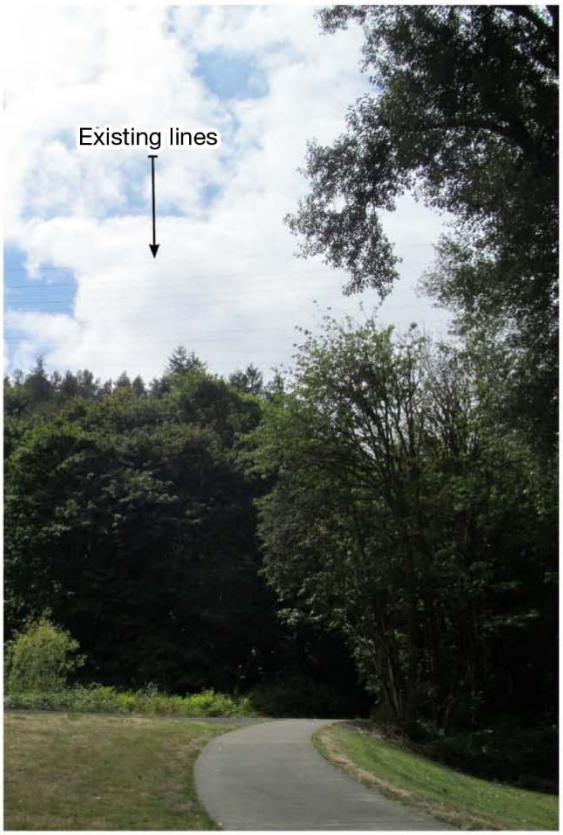
Figure 4.2-21. KVP 14, Existing and Proposed Conditions from 1026 Monroe Avenue NE Looking North

Existing Pole Height: ~50-70 feet

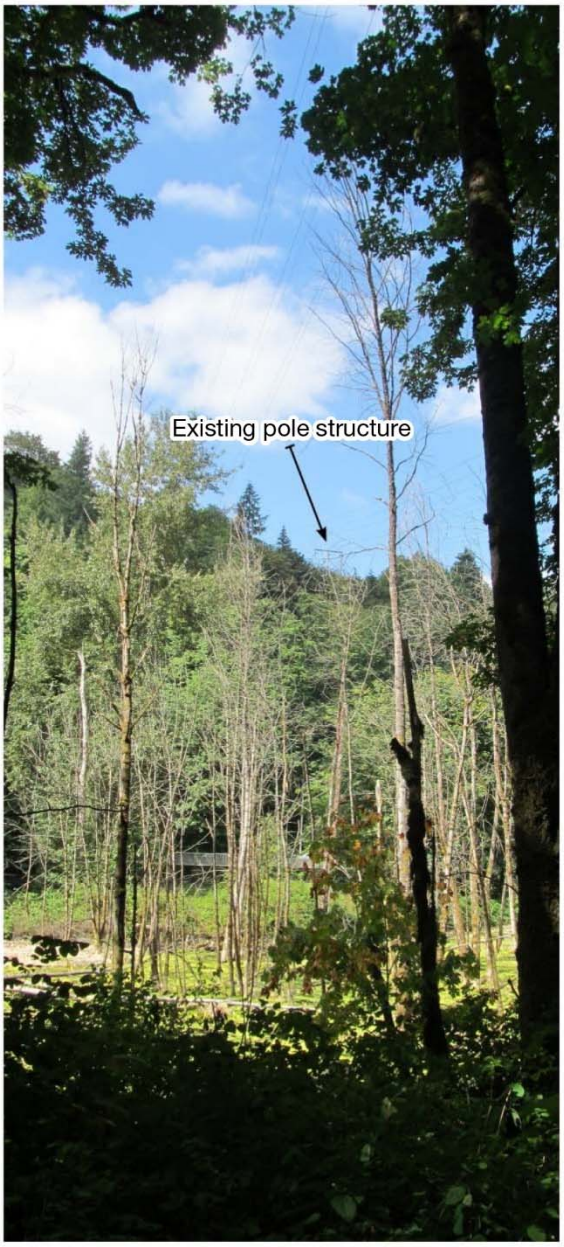
Proposed Pole Height: ~75 feet

NOTE: Simulated pole heights are site-specific and may differ from the typical pole heights described in Chapter 2 due to topography and other factors. Pole finishes could vary throughout the project corridor and have not been selected at this point.
Source: Power Engineers, 2017

Figure 4.2-22. KVP 15, Existing and Proposed Conditions from Glennwood Court SE Looking North



View of the existing transmission lines from the Cedar River Trail



View of the existing pole structure from the Cedar River Trail

Figure 4.2-23. Existing Views from the Cedar River Trail

4.2.6 Mitigation Measures

For scenic views and the aesthetic environment, regulations and comprehensive plan policies were reviewed to identify mitigation measures. Mitigation measures specified by code would be required, whereas mitigation measures based on comprehensive plan policies would be at the discretion of the applicant to adopt or the local jurisdictions to impose as a condition of project approval. Each jurisdiction's discretionary decision-making will be informed by the analysis and comparison of the options set forth above. All mitigation measures would be determined during the permitting process, but may be applied prior to construction, during construction, or during operation of the project. For instance, some mitigation measures (such as co-locating utilities with existing utility corridors whenever possible) have already been incorporated into the project design. Alternatively, PSE may make commitments to certain measures (such as using landscaping to screen above-ground utility facilities to diminish visual impacts) but may not actually execute them until the project has been constructed.

Section 4.2.6.1 details the regulatory requirements that PSE would need to meet. Section 4.2.6.2 describes potential mitigation measures that could be used to reduce impacts. Section 4.2.6.3 provides information to assist decision-makers with selection of pole finishes based on different background colors. Section 4.2.6.4 describes considerations that would need to be taken into account if placing the transmission lines underground is used as a mitigation measure.

4.2.6.1 Regulatory Requirements

Local regulations would require some mitigation of project-related impacts to the aesthetic environment, and would be implemented during the design stage (prior to construction) and as long-term mitigation strategies (e.g., maintenance of screening vegetation). The applicable regulations are listed below based on the stage when they would be applied. Requirements are summarized below by jurisdiction and would be required to be incorporated into the design prior to construction. (Note: The Cities of Redmond and Renton do not have regulations that directly address mitigation of impacts to scenic views or the aesthetic environment that would be produced by this project.)

Within the City of Bellevue, the project (other than the conductors) would need to be sight-screened through landscaping and fencing (Bellevue City Code 20.20.255). In the City of Newcastle, the project would need to be designed and operated to minimize impacts to surrounding uses, the environment, and the city (Newcastle Municipal Code [NMC] 18.44.052.C.1). PSE would also need to work with the City of Newcastle to adopt any conditions imposed relating to the location, development, design, use, or operation of a utility facility to mitigate environmental, public safety, or other identifiable impacts. Mitigation measures may include, but are not limited to, natural features that may serve as buffers, or other site design elements such as fencing and site landscaping (NMC 18.44.052.D).

4.2.6.2 Potential Mitigation Measures

Potential mitigation measures are summarized below based on City of Bellevue, City of Newcastle, and City of Renton's comprehensive plans. (Note: plans and policies of the City of Redmond do not directly address mitigation of impacts to scenic views or the aesthetic environment that would be produced by this project. However, general policies for all communities support application of the measures listed below.) The applicable policies are presented based on the stage at which they would be applied. Additional mitigation measures are also proposed by the EIS Consultant Team based on their ability to reduce contrast.

Prior to Construction

- Ensure siting and location of transmission facilities is accomplished in a manner that minimizes adverse impacts on the environment and adjacent land uses (City of Renton Plan Policy U-72).
- Consolidate utility facilities and co-locate multiple utilities (City of Newcastle Plan Policy UT-P3).
- Implement new and expanded transmission and substation facilities in such a manner that they are compatible and consistent with the local context and the land use pattern established in the Comprehensive Plan (City of Bellevue Plan Policy UT-95).
- Design, construct, and maintain facilities to minimize their impact on surrounding neighborhoods (City of Bellevue Plan Policy UT-8).
- Conduct a siting analysis for new facilities and expanded facilities at sensitive sites (areas in close proximity to residentially-zoned districts) (City of Bellevue Plan Policy UT-96).
- New development should install a dense visual vegetative screen along Richards Road (City of Bellevue Plan Policy S-RV-31).
- Consider neighborhood character in planting appropriate varieties and trimming tree limbs around overhead lines (City of Newcastle Plan Policy UT-P9).
- Design overhead transmission lines in a manner that is aesthetically compatible with surrounding land uses (City of Newcastle Plan Policy UT-P10). This could include design measures such as changes to pole height, spacing, location, or color.
- Minimize visual and other impacts of transmission towers and overhead transmission lines on adjacent land uses through careful siting and design (City of Newcastle Plan Policy UT-P14).
- Design transmission structures to minimize aesthetic impacts appropriate to the immediate surrounding area whenever practical (City of Newcastle Plan Policy UT-P16).
- Underground sections of the transmission lines where unavoidable significant impacts to scenic views or the aesthetic environment would otherwise occur.
- Position poles and adjust pole height to minimize impacts to the greatest extent possible. In Newcastle, a variance from the setback requirements would allow the poles to be positioned farther away from the houses. This would also allow for shorter poles.
- Specify poles with an aesthetic treatment (such as paint or a self-weathering finish) to reduce contrast with the surrounding environment (see Section 4.2.6.3 below).

During Construction

- Retain or replace trees to the greatest extent possible.

During Operation

- Limit disturbance to vegetation within major utility transmission corridors to what is necessary for the safety and maintenance of transmission facilities (City of Newcastle Plan Policy UT-P8). In areas where vegetation disturbance is unavoidable, replant with vegetation that would be compatible with vegetation clearance requirements, preventing future vegetation removal or maintenance in the future.

- Use landscape plantings to screen or improve the appearance of areas surrounding above-ground utility facilities and to diminish visual impacts vegetation clearing in the corridor (City of Newcastle Plan Policy UT-P20).
- Require the reinstalled telecommunications facilities to be in the same approximate locations as they were previously and to comply with the requirements of Chapter 80.54 RCW, Chapter 480-54 WAC, and local jurisdiction regulations.

4.2.6.3 Considerations for Selecting Pole Finishes

PSE's Proposed Alignment would include poles that could have various finishes, including galvanized (light gray), self-weathering (dark reddish brown), or painted (powder coat of any color). Finishes could be specified by location to better blend with the surrounding environment. Table 4.2-3 provides information to assist decision-makers with selection of pole finishes based on different background colors.

Background color is not uniform, so it may be helpful to employ a professional with experience in evaluating visual character, such as a landscape architect or urban designer, to determine the dominant background color. Background color and the color of the surrounding features will also vary depending to the viewpoint considered. When determining appropriate pole finishes, decision-makers should consider a variety of viewpoints along the segment and locations of sensitive viewers for which they wish to reduce contrast.

PSE has indicated that its preferred finish is the self-weathering finish because it requires the least maintenance. This finish has the least contrast of the three finishes in areas with trees, which are common along much of the corridor.

In some areas, where there are few trees as tall as the transmission line poles (and therefore the poles would be mostly viewed against the sky), or where the background is otherwise light in color, galvanized poles could have lower contrast than poles with self-weathering finish.

In some instances, such as commercial districts with distinctive character, a painted pole as an accent color may be desired, to work with an overall urban design theme or similar objective. Depending on the paint color selected, it could either reduce or increase contrast. Use of a painted pole could reduce contrast if a site-specific, natural color were selected. However, it is more likely that a painted pole would increase contrast. In areas where viewer sensitivity is low, a painted pole in a contrasting color could be used to accentuate the existing built character (e.g., if sited in a district with set design standards and painted an appropriate color). An example of this is shown in Figure 4.2-24, where a transmission pole was painted the same color as one of the neighboring high school's school colors, along a busy road within a commercial district.

Table 4.2-3. Considerations for Selecting Pole Finishing

Consideration	Galvanized Steel Pole Finish	Self-weathering Pole Finish	Painted Poles
Background Color			
Darker due to presence of vegetation or development	Produces more contrast.	Produces less contrast.	Can produce more or less contrast depending on the color selected.
Lighter due to absence of vegetation or development	Produces less contrast.	Produces more contrast.	Can produce more or less contrast depending on the color selected.
Color of Surrounding Features			
Surrounded by taller, darker features	Produces more contrast.	Produces less contrast.	Can produce more or less contrast depending on the color selected.
Surrounded by no features; light features; or shorter, darker features	Produces less contrast.	Produces more contrast.	Can produce more or less contrast depending on the color selected.
Surrounding Land Use			
Surrounded by a natural landscape	Can produce more or less contrast depending on background color and color of surrounding features.	Can produce more or less contrast depending on background color and color of surrounding features.	Can produce more or less contrast depending on the color selected.
Surrounded by a residential neighborhood	Can produce more or less contrast depending on background color and color of surrounding features.	Can produce more or less contrast depending on background color and color of surrounding features.	Can produce more or less contrast depending on the color selected.
Part of district with set design standards	Can produce more or less contrast depending on background color and color of surrounding features.	Can produce more or less contrast depending on background color and color of surrounding features.	Can be a defining feature that accentuates existing district character depending on color selected.

Figure 4.2-24. Example of a Painted 115 kV Transmission Line Pole in Bellevue (near the intersection of NE 24th Street and Bel-Red Road)

4.2.6.4 Considerations for Choosing to Underground the Transmission Lines

Although proposed as a potential mitigation measure, installing the transmission lines underground involves several technical challenges, as well as the potential for other impacts to the environment.

An underground line would require a new corridor to avoid co-location with the Olympic Pipeline system (Power Engineers, 2014). This new corridor would need to be in a street or on other public or private property that PSE would have to obtain rights to use. An agency requiring an underground segment would need to coordinate with PSE on design, including finding places where a transition point can be made to the overhead lines at each end. PSE has indicated that their tariff (as described in Section 2.2 of the Phase 2 Draft EIS) requires that a requesting party pay the additional costs for design, construction, and operation of the underground line. For portions in public right-of-way, utility conflicts must be evaluated and can contribute to substantial costs, construction duration, and technical challenges, including effects of stray current and corrosion.

There are aesthetic and other considerations for design of underground transmission lines. Trees cannot be planted on top of underground lines because heat from the lines can damage tree roots, and roots can inhibit access to the lines if needed for repair. Construction could require removal of trees whose roots would be damaged. Transition stations, where the lines change from overhead to underground, are described in Section 11.6.3.8.1 of the Phase 1 Draft EIS. Technical requirements make these structures more massive and encumbered with equipment than typical overhead poles. In addition, underground access *vaults* about 25 feet in length would be needed every quarter of a mile, and cannot have plantings or structures near or over them that would obstruct access to them.

The Energize Eastside project has an objective of being developed in time to address an anticipated capacity deficiency in the near future. Several factors related to undergrounding a portion of the line could cause substantial delay in completing the project. Developing a design could take several months. Gaining permission to cross private property, if necessary, could require legal action that would delay construction. Materials for underground lines are different from those for overhead lines and can have lead times of many months for delivery. Construction of an underground segment also takes longer than an overhead segment. Given all these factors, construction of an underground segment could lag behind the rest of the project by many months to years. One potential way to address the timing issues would be to allow the overhead lines to be built on the condition that they be replaced at a later date with underground lines. This would add to construction cost and construction impacts.

Construction costs (not including right-of-way costs) for underground installation of a 230 kV transmission line for the Energize Eastside project were estimated to be approximately $23 million to $28 million per mile, as compared to $3 million to $4 million per mile for an overhead line (Power Engineers, 2014). This would be based on PSE's tariff, which PSE has indicated places the burden of any cost above that of the most economical design on the requesting party.