A new terminal building, with improvements to accommodate passenger facilities, airport management operations, and pilot services would be located closer to Mt. Baker Road for better access from the land side and the air side of the building. Parking conveniently near the terminal would be provided. As previously mentioned, utility services such as water, waste water, gas, electric power, and telecommunications will need to be extended to this area.

The Southeast Development Area would also include a deicing facility/sunshade structure, a helipad, and tie-downs for transient aircraft. Taxilanes would allow for simultaneous operations of passenger aircraft at the terminal building and cargo aircraft moving through the area. A long-term parking area, sufficient to address the inadequacy of current parking facilities, would be located on the east side of the Southeast Development Area with a large landscaping buffer between it and North Beach Road. These facilities will be connected to the existing trail system providing easy access to the community of Eastsound.

After review by the public and the Port it is understood that the SE Development Alternative 2 would be significantly opposed and is currently not accommodated on the eastern portion by the current zoning standards for the intended proposed development.

4.3.6 West Development Area

New lease lots, hangar space, turf tiedowns, and ground access would be provided on existing airport property west of the runway. The deicing facility/sunshade structure could possibly be located in this area, but the Southeast Development Area is the preferred location for it. Utility service would need to be extended to this area. Coordination with San Juan County would be required to improve Seaview Street for improved vehicle and pedestrian access. In addition, the functional classification of Seaview Street may need to be upgraded in accordance with the WSDOT Guidelines for Amending Functional Classification in Washington State. **Figure 4.7** shows a possible configuration for this area.

4.3.7 Brandt's Landing Lane and Nina Lane

The purpose of a Runway Protection Zone (RPZ) is to protect people and property on the ground. The presence of Brandt's Landing Lane and Nina Lane in the RPZ for Runway 16 is considered an incompatible land use as it presents a conflict between vehicles on the ground and arriving and departing aircraft. As shown in **Figure 4.8** land on the north end of the runway would be acquired and these two roads would be closed to eliminate the safety hazard presented by the conflict. **Figure 4.8** also shows a B-II runway pad.

4.3.8 Mt. Baker Road

As with Brandt's Landing Lane and Nina Lane in the Runway 16 RPZ, the presence of Mt. Baker Road in the RPZ for Runway 34 is considered an incompatible land use as it presents a conflict between aircraft and ground vehicles that compromises safety standards. FAA guidance requires a continual effort to remove or mitigate the risk of existing incompatible land uses in an RPZ to the extent practical.

Mt. Baker Road is part of a major roadway that connects the east and west sides of Orcas Island and is a designated truck route around the community of Eastsound. The segment of Mt. Baker Road adjacent to the airport is one of the most heavily traveled sections of road on the island. In evaluating options to remove or mitigate the conflict between Mt. Baker Road and the RPZ, considerable thought was given to maintaining or increasing the traffic volume capacity and safety of the road while minimizing impacts to connections with existing streets, adjacent landowners, wetlands in the area, and other competing interests. Ideas briefly considered and discarded were: shortening the runway or moving it farther north to shift all of the RPZ to the north side of Mt. Baker Road, putting Mt. Baker Road in a tunnel under the RPZ, implementing Declared Distances to establish approach and departure RPZs, installation of an Engineered Materials Arresting System (EMAS) to shorten the required Runway Safety Area (RSA), and other methods of mitigating the conflict. Some options for relocating Mt. Baker Road are shown in **Figure 4.9**. Although multiple alignments for the road are shown as options, only one alignment will be constructed.

4.3.9 Environmental Review of Alternatives

Environmental impacts of each alternative was considered and reviewed prior to determining the preferred alternative. Consideration was given to the baseline condition, potential impacts on the environment, environmental studies likely needed before the project could proceed and permit requirements. See **Table 4.2** for full analysis and review.

Figure 4.7. Westside Development

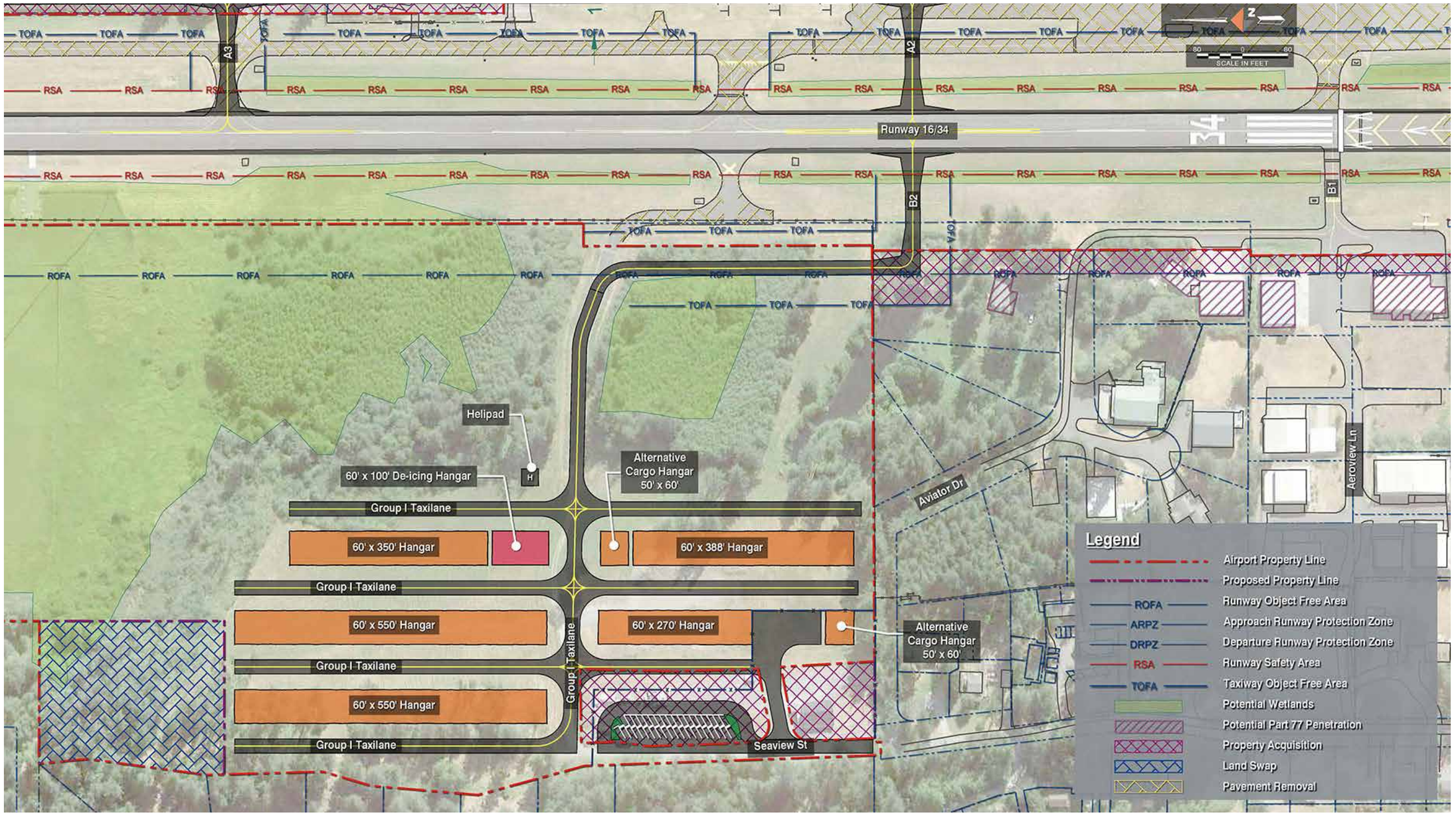


Figure 4.8. Runway 16 RPZ

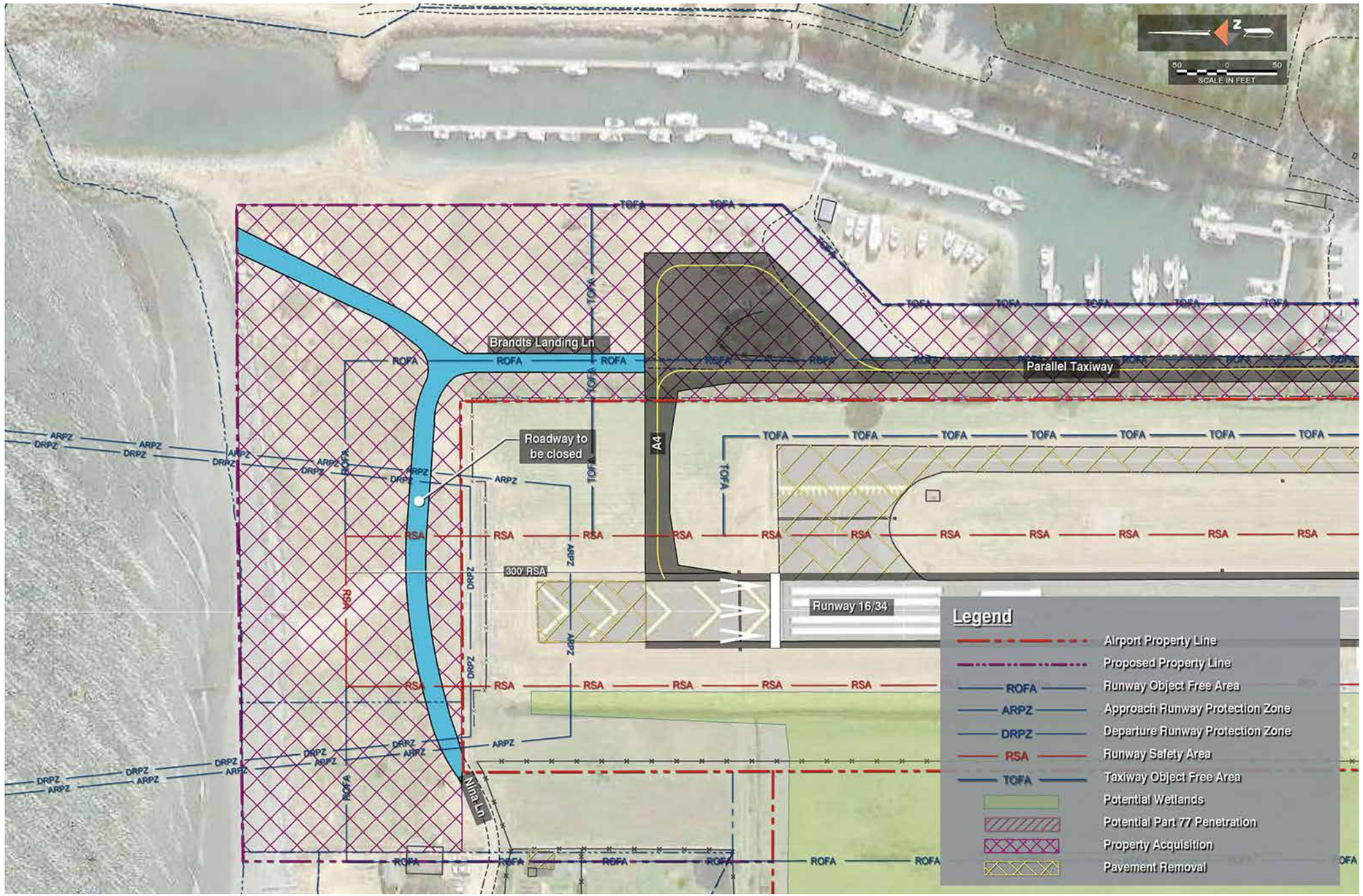


Figure 4.9. Runway 34 RPZ Alternatives

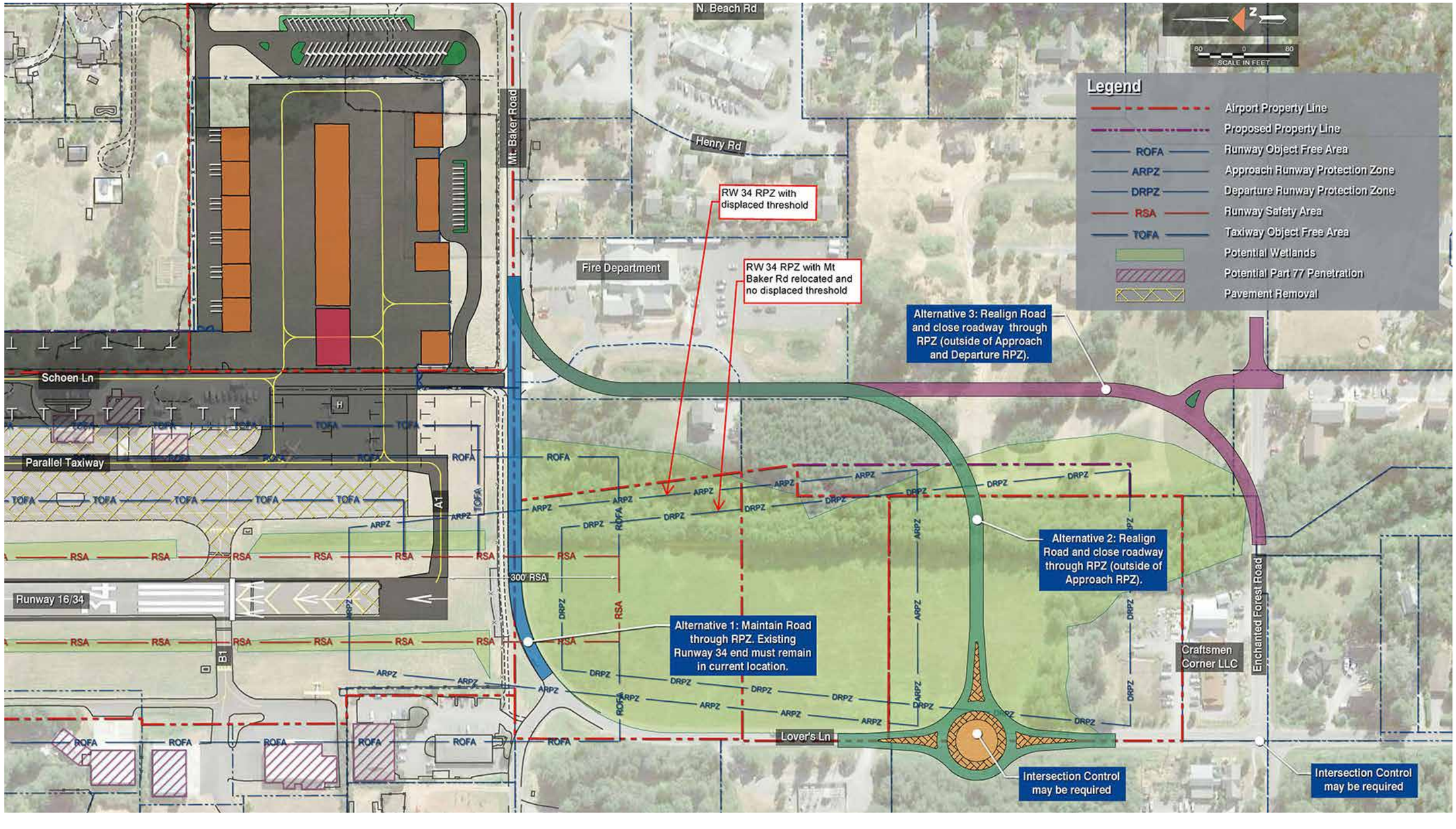


Table 4.2: Potential Environmental Impacts of Proposed Projects

Proposed Project / Environmental Conditions	Baseline Condition	Potential Impacts	Likely Environmental Studies	Permit Requirements
Runway Alternative 1: No Action	WRI 2015 identified two linear wetlands between runway and parallel taxiway, and two linear wetlands immediately west of runway in southern half of airport.	None	None	None
Runway Alternative 2: Widen runway to 75'	Same as described under Runway Alternative 1: No Action	Possible fill or potential construction-related impacts to wetlands during runway widening; increase impervious surface leading to increased run-off and potential water quality impacts	Wetland boundary verification; wetland impact mitigation plan: stormwater analysis	HPA; Clean Water Act Sections 401 and 404; San Juan County Critical Areas
Runway Alternative 3: Widen runway to 75'; displace thresholds for more useable runway length	Same as described under Runway Alternative 1: No Action	Possible fill or potential construction-related impacts to wetlands during runway widening; increase impervious surface leading to increased run-off and potential water quality impacts	Wetland boundary verification; wetland impact mitigation plan: stormwater analysis	HPA; Clean Water Act Sections 401 and 404; San Juan County Critical Areas
Runway Alternative 4: Widen runway to 75'; displace thresholds for more useable runway length; rotate runway 0.82 degrees to the west	Same as described under Runway Alternative 1: No Action	Possible fill or potential construction-related impacts to wetlands during runway widening; increase impervious surface leading to increased run-off and potential water quality impacts	Wetland boundary verification; wetland impact mitigation plan: stormwater analysis	HPA; Clean Water Act Sections 401 and 404; San Juan County Critical Areas
Taxiway Alternative 1: No Change	WRI identified a Type Np stream east of taxiway at north end of airport; San Juan County CAO mapping identified potential non-tidal wetlands; Brandt's Landing Marina's excavated boat slip channel is located off-site and east of the taxiway; the excavated channel is identified as a deep water habitat, a water of the US, a water of the State, a Shoreline of the State, and likely a critical area under San Juan County Critical Areas Ordinance.	None	None	None
Taxiway Alternative 2: relocate taxiway east 156' from runway centerline	Same as described under axiway Alternative 1: No Change			
Taxiway Alternative 3: Relocate taxiway east 240' from runway centerline	Same as described under axiway Alternative 1: No Change	Likely relocation or piping of stream; filling of excavated boat slip channel; increased impervious surface leading to increased run-off and potential water quality impacts.	OHWM determination; mitigation plan; stormwater analysis	HPA; Clean Water Act Sections 401 and 404; San Juan County Critical Areas; Shoreline Permit; likely a BA due to federally-listed species (bulltrout, dolly varden, and orca in Puget Sound)
Taxiway Alternative 4: Relocate taxiway east 240' from runway centerline (based on realigned runway)	Same as described under Taxiway Alternative 1: No Change			
SE Development Alt 1: Hangars/Terminal Tie-Downs with auto parking along N. Beach Road	West portion of this area is paved. San Juan County CAO identifies potential non-tidal wetlands; field studies have not identified wetlands in this area.	Large area of new impervious surface leading to increased run-off and potential water quality impacts	Wetland investigation to verify no wetland impacts; stormwater analysis	
SE Development Alternative 2: Hangars/Terminal Tie-Downs with auto parking along Mt Baker Road	Same as described under SE Development Alternative 1: No Change	Large area of new impervious surface leading to increased run-off and potential water quality impacts	Wetland investigation to verify no wetland impacts; stormwater analysis	
Westside Development Alternative 1: No Action	Extensive areas of wetland mapped by NWI and San Juan County CAO; WRI 2015 identified wetlands north and east of the area.	None	None	None
Westside Development Alt 2: New hangars	Same as described under Westside Development Alt 1: No Change	Large area of new impervious surface--water quality; potential impact to wetlands delineated over 5 years ago; increase impervious surface (more run-off = water quality consideration); mitigation site located here--has implementation of mitigation begun here?	Updated wetland delineation; mitigation plan if impacts are anticipated; stormwater analysis.	HPA; Clean Water Act Sections 401 and 404; San Juan County Critical Areas
16 RPZ Alt 1: No Action	This is currently a paved surface.	None	None	None
16 RPZ Alt 2: Displace threshold	This is currently a paved surface.	No anticipated impacts to aquatic resources	No environmental studies anticipated	No environmental permits anticipated
34 RPZ Alt 1: No Action	WRI 2015 identified extensive wetlands and a type Np stream south of Mt Baker Road; tree removal and conversion of forested wetland to shrub-dominated wetland has been implemented.	None	None	None
Property Acquisition SW of current airport property north of Mt Baker Road	Extensive areas of wetland mapped by NWI and San Juan County CAO.	Tree removal from Part 77 surface	None anticipated	San Juan County clearing permit

LEGEND: **Preferred Alternative**

4.4 Preferred Development Alternative

The preferred alternative for ORS is the result of a combination of formal comments received from the Orcas Island Airport Master Plan Advisory Committee, Port of Orcas Commission, Airport staff, other interested stakeholders, the public, and the FAA regarding the alternatives previously described. The preferred alternative has many elements that are the same or very similar to elements in those alternatives, as well as a few that are obviously different. **Figure 4.11** depicts the short-term development needed for the preferred alternative and **Figure 4.12** depicts the mid-term development. The implementation of the preferred alternative will be further described in Chapter 6. The ultimate development for the airport in the preferred alternative is shown in **Figure 4.10.** It includes the acquisition of land on the north end of the runway and closure of Brandt's Landing Lane to eliminate the incompatible land use within the RPZ.

4.4.1 Runway

In the preferred alternative the runway would be widened from its current 60 feet, the standard for B-I airports, to 75 feet, the B-II standard. To achieve this increase, the runway pavement would be reconstructed with an additional 7.5 feet on each side, while the runway centerline remains in its present position. New medium-intensity runway lights (MIRL) and Runway End Identifier Lights (REILs) will be installed to replace the existing lighting.

As stated previously, the runway length required to serve 100 percent of the fleet of aircraft currently operating at Orcas Island Airport is 3,400 feet. This length is justified by the remote location of the island and that options for access to it are limited. A 3,400-foot runway, however, would require that Mt. Baker Road be relocated south to merge with Enchanted Forest Road to remain out of the Runway 34 RPZ (**see Figure 4.9**). This alignment of Mt. Baker Road would greatly increase costs by requiring the acquisition of additional private property. Also, it would probably need a traffic signal at the intersection of Enchanted Forest Road with Lovers Lane, which would adversely affect the flow of traffic.

The runway length shown in the preferred alternative is 3,255 feet. The end of Runway 34 will remain in its existing location. Due to significant community feedback and the complications of relocating Mt. Baker Road (land acquisition, environmental impacts, and disrupting the flow of traffic), Mt. Baker Road will not be relocated in this plan. Mt. Baker Road is an incompatible land use within the Runway 34 RPZ and will need to be addressed in a future planning study. Runway 34 will not have a displaced threshold, but the threshold of Runway 16 will be displaced by approximately 191 feet to provide clearance over potential obstacles offshore and to maintain current instrument approach minimums. The runway length available for takeoff will be 3,255 feet, and for landing it will be 3,064 feet. The north end of the runway will be raised approximately three feet to resolve longitudinal and transverse slope issues and to meet design standards for the runway, the taxiways, and the safety areas.

4.4.2 Taxiways

The parallel taxiway will be reconstructed east of its present location to achieve a runway-taxiway separation distance of 240 feet. This construction will require acquisition of a portion of the Brandt's Landing Marina parcel, a portion of the Parnell parcel, and a portion of the Larson parcel along the east side of the north end of the runway. This project could be coordinated with improvements to the marina for ease of permitting and construction phasing.

Connecting taxiways A1 and A4 will be relocated to the new runway ends, and the remaining pavement outside of those limits will be removed. An aircraft holding apron will be constructed at the north end of the parallel taxiway at A4. To minimize the impact to the adjacent marina property, the holding apron is sized for aircraft not larger than Runway Design Code B-I, and property acquisition has been reduced to include only that which is necessary for airfield safety areas.

Connecting taxiways A2, B2, and A3 will be reconstructed outside of the "high energy" middle third of the runway in accordance with current FAA design standards. Taxiway B2 will be opposite A2 and will be on existing airport property. Taxiway B2 will connect to a short section of

Figure 4.10. Ultimate Development (20+ Years)

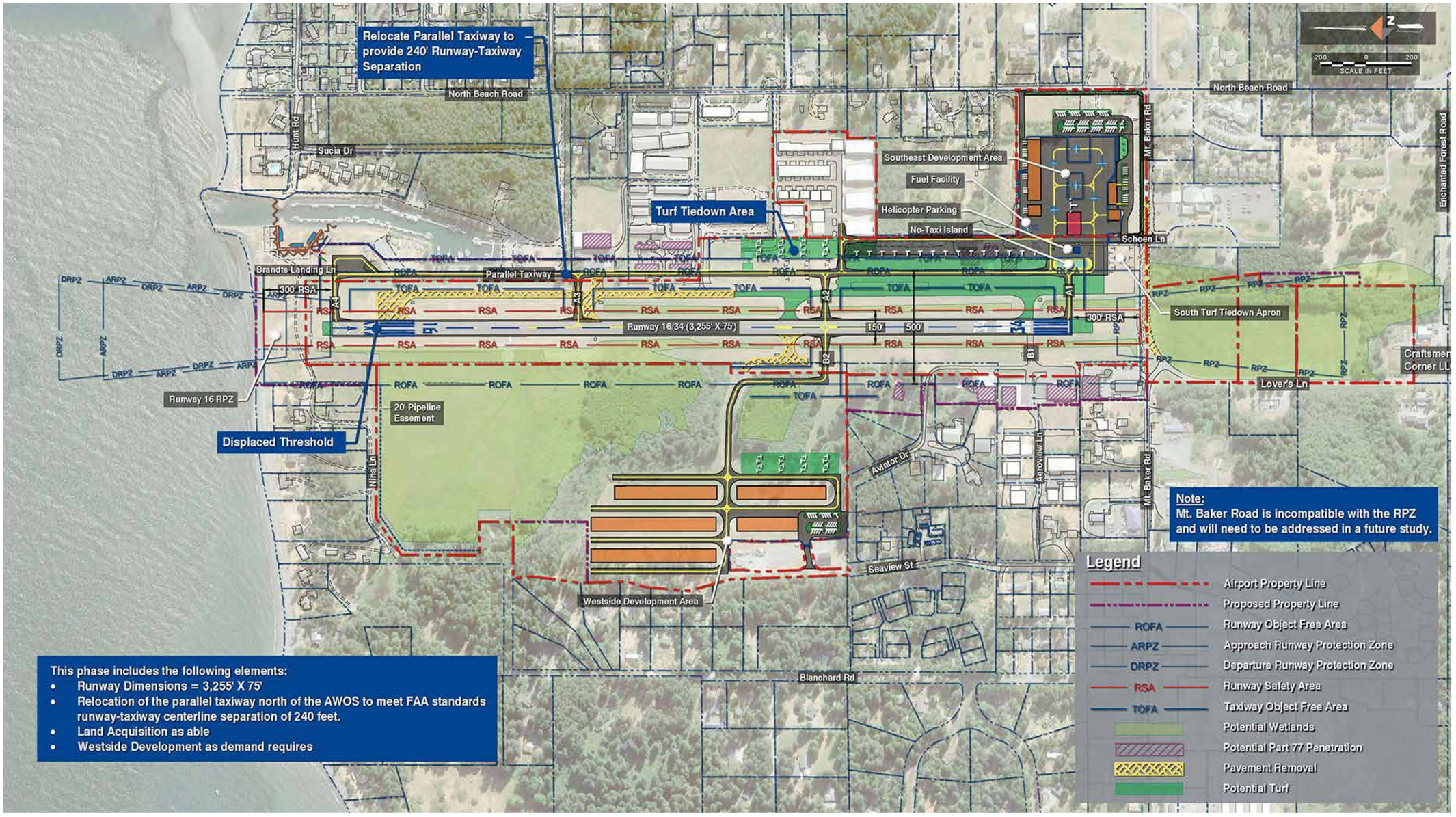


Figure 4.11. Short-Term Development (<8 Years)

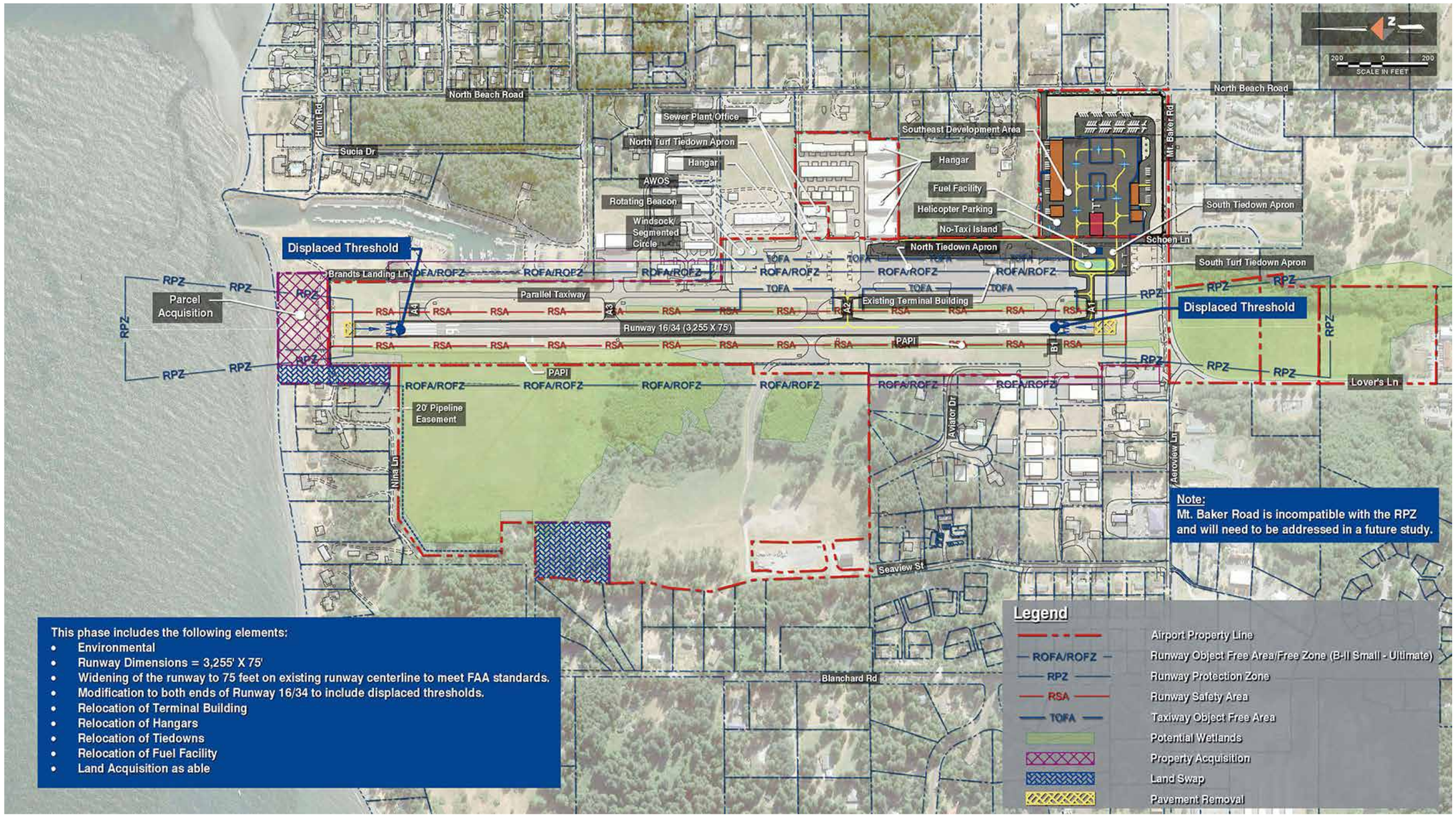


Figure 4.12. Mid-Term Development (8-19 Years)

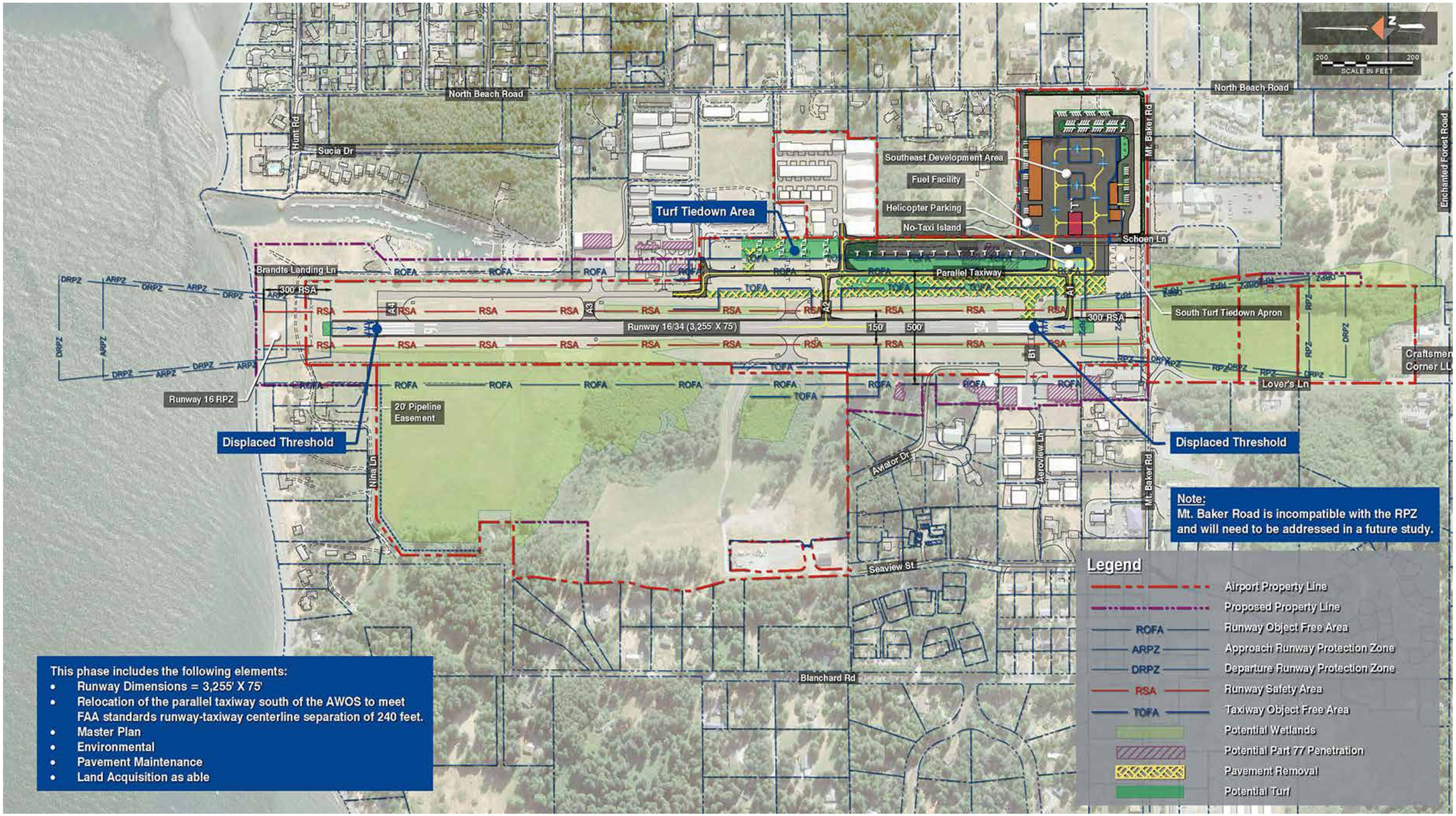


Figure 4.13. SE Development

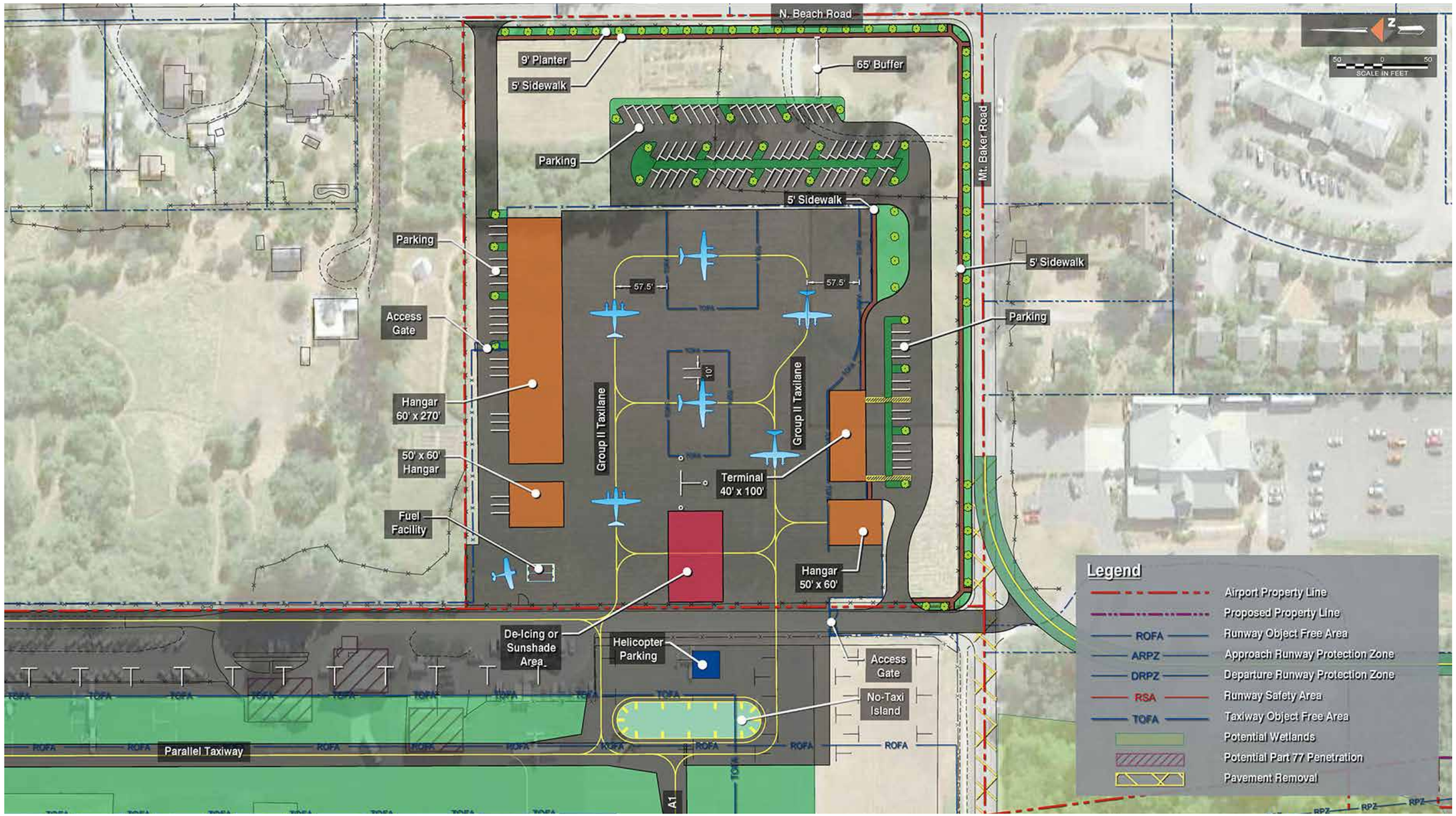
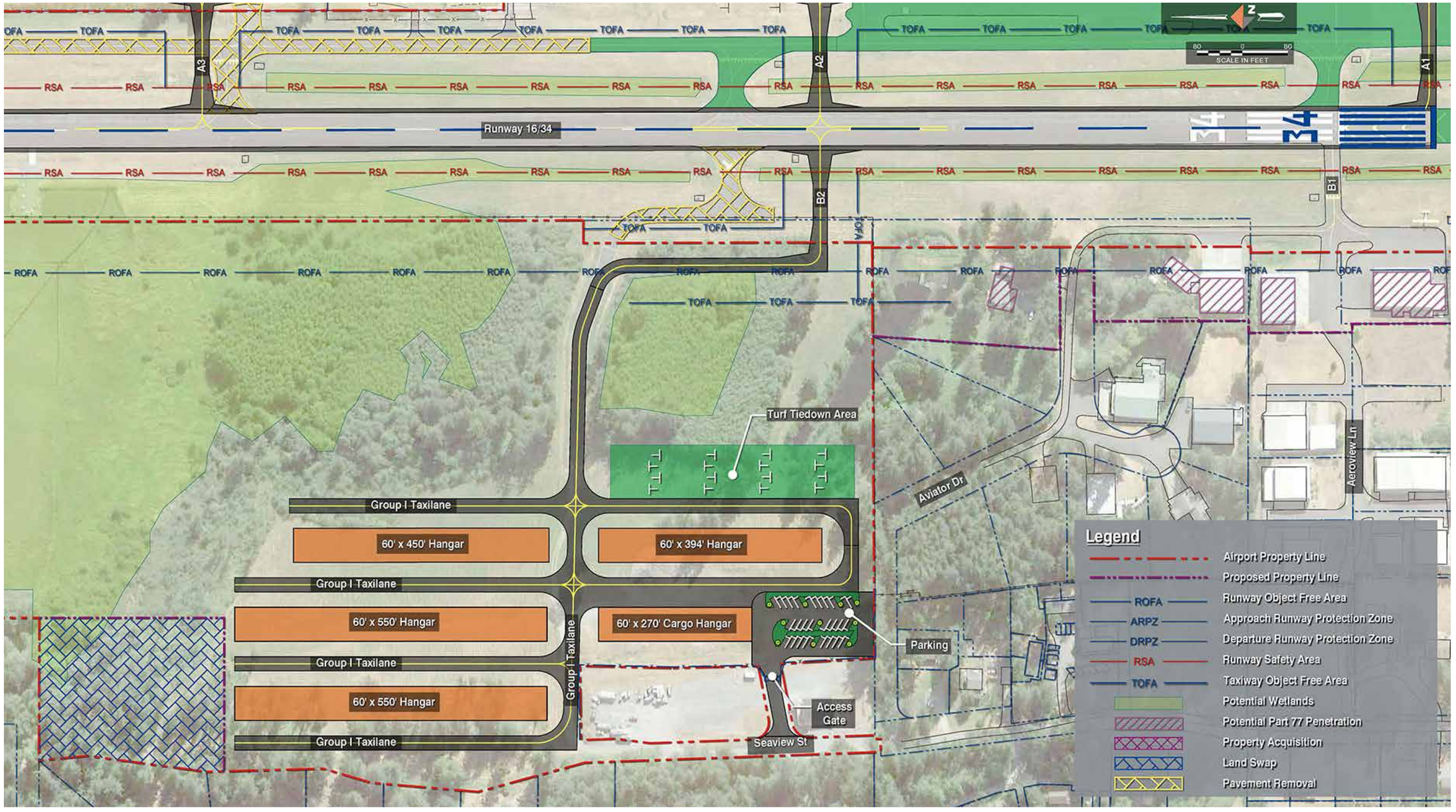


Figure 4.14. Westside Development



parallel taxiway (Taxiway B) to provide access to the West Development Area. Taxiway B will be located at the required runway-taxiway separation distance of 240 feet. The existing Taxiway B pavement north and south of B1 will be removed after the necessary property acquisitions in that area. Taxiways A, A1, A2, A3, and A4 will include new medium-intensity taxiway lighting (MITL) to replace the existing lights.

4.4.3 Southeast Development Area

The terminal building, vehicle parking, two hangars, the fuel facility, the helicopter landing area, and aircraft tie-downs will be relocated to the Southeast Development Area as shown in **Figure 4.13**. Utility services will be extended to serve the new facilities. This development will also include a deicing facility/sunshade structure, and tie-downs for transient aircraft. A de-icing shelter/sunshade was selected as the most environmentally friendly way to accommodate de-icing needs to prevent the use of chemicals and requirements for stormwater controls. Taxilanes would allow for simultaneous operations of passenger aircraft at the terminal building and cargo aircraft moving through the area. A long-term parking area would be located on the east side of the area with a large landscaped buffer between it and North Beach Road. Pedestrian access will be provided to the community of Eastsound via connections to the existing trail system.

4.4.4 Westside Development Area

New lease lots, hangar space, turf tiedowns, and ground access will be provided on existing airport property as shown in **Figure 4.14**. As previously mentioned, utility service would need to be extended to this area, and improvements to Seaview Street will need to be coordinated with San Juan County and in accordance with the WSDOT Guidelines for Amending Functional Classification in Washington State to provide better vehicle and pedestrian access. Westside development will be demand driven and much of the development will likely occur using private funding.

4.5 Environmental Considerations

The following is a screening-level evaluation of environmental impacts that would potentially result from the projects included in the preferred development alternative. The purpose of this evaluation is to evaluate the airport alternatives and to provide information that will help expedite subsequent environmental processes, including a National Environmental Policy Act (NEPA) evaluation. This evaluation addresses only those environmental impact categories outlined in FAA Order 5050.4, NEPA Implementing Instructions for Airport Projects, that are likely to be affected by the preferred development alternatives under consideration as part of the Airport Master Plan Update. A comparison of the environmental impacts associated with each Alternative described earlier in this chapter is presented in **Table 4.3**.

4.5.1 Air Quality

The airport is located within an area designated as being "in attainment" for all criteria pollutants under the NAAQS. The proposals presented as a part of the recommended development plan are not anticipated to result in substantively different assessments related to Air Quality. Air quality, including construction emissions, would need to be considered for any future project during the environmental documentation process in compliance with FAA's National Environmental Policy Act (NEPA) guidelines.

4.5.2 Biological Resources

Threatened and Endangered Species.

As provided in the Inventory chapter, according to the USFWS's Information for Planning and Conservation (IPAC) website, no candidate, threatened, or endangered species are likely to be present on the airport, nor is any critical habitat found within the airport property. Migratory birds are known to occur on and around the airport, but these species are not currently listed as federally threatened or endangered.

Two threatened fish species are known to occur in San Juan County, Bull Trout (*Salvelinus confluentus*) and Dolly Varden (*Salvelinus malma*). Even though these species and their habitat are unlikely to be present on the airport, they could be negatively impacted by the increased areas of impervious surface associated with the proposed construction and operation of the Southeast Development Area, Westside Development Area, runway widening (including filling of the excavated boat slip channel at Brandt's Landing marina), and taxiway relocation projects. Stormwater runoff

Table 4.3: Potential Environmental Impacts of Preferred Alternative

Proposed Project / Environmental Conditions	Baseline Condition	Potential Impacts	Likely Environmental Studies	Permit Requirements
Runway Alternative 3: widen runway to 75'; displace thresholds for more useable runway length	WRI 2015 identified two linear wetlands between runway and parallel taxiway, and two linear wetlands immediately west of runway in southern half of airport.	Possible fill or potetial construction-related impacts to wetlands during runway widening; increase impervious surface leading to increased run-off and potential water quality impacts	Wetland boundary verification; wetland impact mitigation plan: stormwater analysis	HPA; Clean Water Act Sections 401 and 404; San Juan County Critical Areas
Taxiway Alt 3: relocate taxiway east 240' from runway centerline	WRI identified a Type Np stream east of taxiway at north end of airport; San Juan County CAO mapping identified potential non-tidal wetlands; Brandt's Landing Marina's excavated boat slip channel is located off-site and east of the taxiway; the excavated channel is identified as a deep water habitat, a water of the US, a water of the State, a Shoreline of the State, and likely a critical area under San Juan County Critical Areas Ordinance.	Likely relocation or piping of stream; filling of excavated boat slip channel; increased impervious surface leading to increased run-off and potential water quality impacts.	OHWM determination; mitigation plan; stormwater analysis	HPA; Clean Water Act Sections 401 and 404; San Juan County Critical Areas; Shoreline Permit; likely a BA due to fedrally-listed species (bulltrout, dolly varden, fish and orca in Puget Sound)
SE Development Alt 1: Hangars/Terminal Tie-Downs with auto parking along N. Beach Road	West portion of this area is paved. San Juan County CAO identifies potential non-tidal wetlands; field studies have not identified wetlands in this area.	Large area of new impervious surface leading to increased run-off and potential water quality impacts	Wetland investigation to verify no wetland impacts; stormwater analysis	
Westside Development Alt 2: New hangars	Extensive areas of wetland mapped by NWI and San Juan County CAO; WRI 2015 identified wetlands north and east of the area.	Large area of new impervious surface--water quality; potential impact to wetlands delineated over 5 years ago; increase impervious surface (more run-off = water quality consideration); mitigation site located here--has implementation of mitigation begun here?	Updated wetland delineation; mitigation plan if impacts are anticipated; stormwater analysis.	HPA; Clean Water Act Sections 401 and 404; San Juan County Critical Areas
16 RPZ Alt 2: Displace threshold	This is currently a paved surface.	No anticipated impacts to aquatic resources	No environmental studies anticipated	No environmental permits anticipated
34 RPZ Alt 1: No Action	WRI 2015 identified extensive wetlands and a type Np stream south of Mt Baker Road; tree removal and conversion of forested wetland to shrub-dominated wetland has been implemented.	None	None	None

from these impervious surfaces could contribute to increased turbidity and pollutant levels downstream of airport property, where these species reside. It is recommended that a storm water runoff analysis be included in the design of all projects that would result in increased impervious surface, and that development plans include measures to provide adequate pollutant removal for water leaving airport property and entering downstream waters.

Essential Fish Habitat (EFH)

As presented in the Inventory chapter, the airport is in an area designated as EFH for Chinook, Coho, and Pink salmon. These species may occur in the waters to the north of the Airport property. Alteration of on-site wetlands or stream channels that drain to Puget Sound, filling of the excavated boat slip channel at Brandt's Landing marina, and construction-generated erosion could have a negative impact on EFH. As described above for threatened and endangered species, it is recommended that a storm water runoff analysis be included in the design of all increased impervious surface projects, and measures to control erosion and treat runoff generated by Airport improvements should be incorporated in to final Airport improvement plans.

Migratory Bird Treaty Act/Bald and Golden Eagle Protection Act

As described in the inventory chapter, the project area is within the Pacific Flyway bird migration route, which encompasses all of Washington state. Many common migratory bird species nest and breed along this flyway route. There are no known bald eagle nests on airport property, however a bald eagle nest survey should be conducted during the NEPA process that will be part of the master plan implementation. Proposed Airport development plans should include seasonal construction timing restrictions to minimize the possibility of harming migratory birds and bald eagles.

4.5.3 Climate

The amount of GHG emissions created at the Airport are unknown; however, due to the modest operations at this airport, emissions are likely minimal. Implementation of the proposals contained in the recommended development plan are unlikely to cause an appreciable increase in GHG emissions.

As described in Chapter 1, the Washington Coastal Resilience Project projections give an 83% probability that absolute sea level (the height of the ocean surface relative to a fixed, unmoving reference point, such as the center of the earth) will rise by at least 1.0 feet and a 0.1% probability that it will rise as much as 8.3 feet by 2100.4 An analysis of the effects of sea level rise on the preferred alternative will need to be prepared as part of the NEPA review.

The existing Runway 16 threshold is at an elevation of 11.2 feet above Mean Sea Level (MSL). To improve some lateral and longitudinal slopes of the runway, the north end of it will be raised, and it will have a threshold displaced approximately 191 feet. The ultimate elevation of the end of Runway 16 will be 14.0 feet MSL, and its displaced threshold will be at an elevation of 15.2 feet MSL. A one-foot rise in mean sea level elevation is not likely to have much of an impact on the runway or the runway safety area (RSA) surrounding it. In fact, the wetlands area west of the north end of the runway is currently influenced by tidal fluctuations which do not significantly affect the airfield. An 8.3-foot increase in mean sea level elevation should not affect the runway at high tide, but it may require improvements to the RSA. The RSA extends for a distance of 300 feet beyond the end of the runway and must be sloped at 0% to negative 3%. At negative 3% the end of the RSA would be nine feet lower than the ultimate end of the runway, or 5.0 feet MSL. An 8.3-foot rise in mean sea level would submerge more than 100 feet of the RSA.

4.5.4 Coastal Resources

As described in the Inventory chapter, San Juan County is one of 15 counties within the state of Washington's Coastal Zone. As such, the Airport must demonstrate that proposed projects will not result in adverse effects to coastal resources.

4.5.6 Department of Transportation Act, Section 4(f) Resources

As presented in the Inventory chapter, two publicly-owned areas that could be 4(f) resources are located approximately 0.75 mile from the Airport. One 4(f) resource, a non-motorized trail, is located on land owned by the Port of Orcas between Mt. Baker Road and Enchanted Forest Road. The trail runs along the east side of the Runway 34 RPZ.

The NEPA analysis should evaluate direct impacts to the trail and consider whether any indirect impacts (i.e. noise) might occur to the other nearby 4(f) properties.

4.5.7 Historical, Architectural, Archaeological, & Cultural Resources

As described in the Inventory chapter the Michael and Myrna Donohue House, located at 1159 North Beach Road approximately 700 feet east of the airport terminal building was nominated for the National Register of Historic Places and is on the Washington Heritage Register.

A cultural resources survey carried out for the Airport in 2015 (Reference) included extensive pedestrian and subsurface surveys and identified no cultural resources. Based on this analysis, it is not anticipated that any historic, architectural, tribal, or cultural resources will be affected by any proposals presented in the recommended development plan. However, it is advised that a cultural resources survey be conducted that analyzes the potential archaeological, tribal, or cultural resources and Section 106 of the National Historic Preservation Act (NHPA) and Government to Government consultation be completed prior to the earthwork conducted for proposed airport improvements on previously-undeveloped areas including the Southeast Development Area and the Westside Development Area.

4.5.8 Natural Resources and Energy

As described in the inventory chapter, FAA guidance asserts that Airport improvement projects will be examined to identify effects on local energy supplies or natural resources. If impacts are identified, energy producers and environmental stakeholders must coordinate activities. It is not anticipated that any of the proposed airport improvements will have an appreciable impact on energy supplies or natural resources.

4.5.9 Noise and Noise-Compatible Land Use

As presented in the Inventory chapter, the existing and future levels of aircraft operations at the airport do not warrant a full noise modeling effort for this Master Plan Update. However, noise modeling may be conducted as part of the NEPA evaluation that will be conducted for the proposed Airport improvement projects.

4.5.10 Land Use

According to Title 18, Unified Development Code of the San Juan County Code, land use designations are applied as established by the 1998 San Juan County Comprehensive Plan. As presented in the Inventory chapter, the land use designations within the properties surrounding the airport are Service and Light Industrial, Marina, and areas designated as Eastsound Residential and Village Residential/Institutional which includes a mix of residential densities. The proposals contained in the recommended development plan will not change the fundamental nature of the airport nor will there be an overall increase in the size or numbers of aircraft currently operating at the airport. Therefore, the proposals are not expected to have a detrimental effect on surrounding land uses.

4.5.11 Socioeconomics, Environmental Justice, & Children's Environmental Health/ Safety Risks

As presented in the inventory chapter, there are no concentrations of minority or low-income populations within the immediate vicinity of the Airport. In addition, there are no places where children congregate (e.g., schools, recreation centers, or daycare centers) immediately adjacent to the Airport, although Buck Park, Orcas Island Skatepark, Orcas Island Middle School, Of People And Land (OPAL) Housing, Orcas Christian School, and Eastsound Village Green Park are located within a mile to the south/southeast of Airport property. It will be necessary to evaluate the impacts, in particular potential changes in noise, of future projects on these properties. A noise study may be warranted to document existing conditions at these locations.

4.5.12 Water Resources

Wetlands and Waterways

As provided in the Inventory chapter, according to the U.S. Fish and Wildlife Service National Wetlands Inventory (NWI), San Juan County wetlands mapping http://sjcgis.org/arcgis/rest/services/CAO/Wetlands/MapServer, and a wetland study conducted for the airport in 2015 (WRI 2105), there are estuarine and marine deep-water and wetland habitats, freshwater emergent wetlands, freshwater forested/shrub wetlands, freshwater ponds,

and streams on and in the vicinity of the Airport property. A list and descriptions of these aquatic resources is presented in **Table 1.7** in the Inventory chapter.

Table 4.3 summaries a list of the projects included in the preferred development alternative, the baseline environmental conditions at the proposed project location, potential environmental impacts, and the anticipated environmental studies and permits required for each.

Prior to implementing any of the proposals contained in the recommended development alternative a qualified wetland biologist should confirm the presence or absence of jurisdictional wetlands, determine the extent of potential wetland impacts associated with the identified projects, and work with the Airport to propose appropriate mitigation measures.

Floodplains

As presented in the inventory chapter the airport is not located within or near a floodplain and therefore no floodplain impacts will occur as result of any of the proposed projects.

Water Quality

As presented in the Inventory chapter, there are no impaired streams, impaired waterbodies, or wild or scenic rivers near the airport. Surface water originating from the southern portion of the Airport flows south beneath Mt Baker Road, through wetlands and an un-named stream channel, ultimately draining to Fishing Bay. Surface water originating from the central and northern portions of the Airport flows north through a pipe located beneath the airport and then flows north through an open channel to the Strait of Georgia.

Widening of the runway and relocating the parallel taxiway to the east will directly impact streams and wetlands. Additional impervious surfaces associated with the runway-widening and the proposed Southeast and Westside Developments have the potential to negatively impact water quality both on the Airport and off-site. The Airport will conduct a drainage study to identify appropriate stormwater treatment measures to be implemented as part of the proposed improvements.

Wild & Scenic Rivers

There are no Wild & Scenic Rivers identified in San Juan County and therefore there will be no impacts to Wild & Scenic Rivers from any proposed Airport improvement projects.