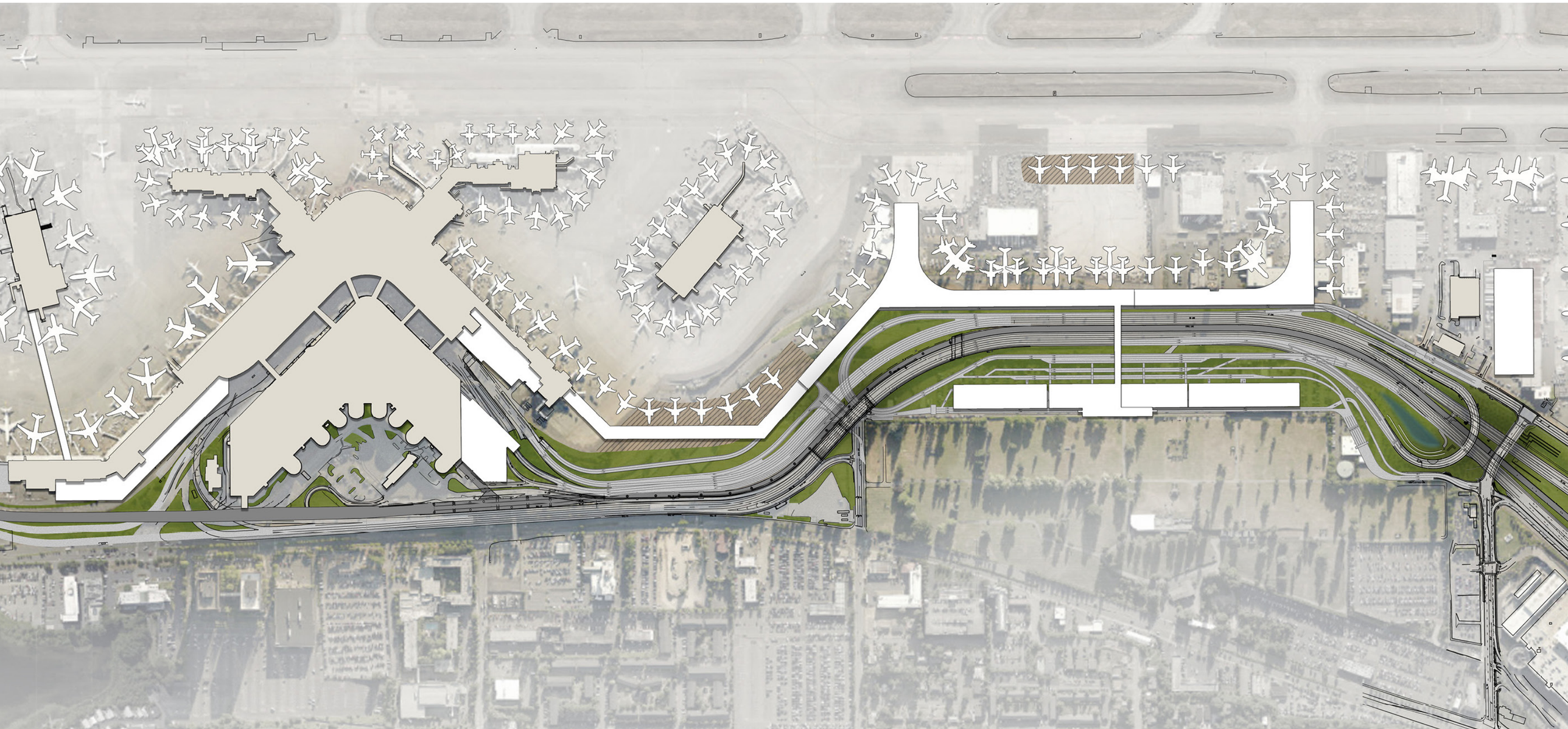
SEA ROADWAYS:
CONCEPTUAL LANDSCAPE PLAN

SEPTEMBER 25, 2019

FINAL EDITS FOR ON-LINE PUBLICATION: JULY 22,2022



Native Washington landscape.

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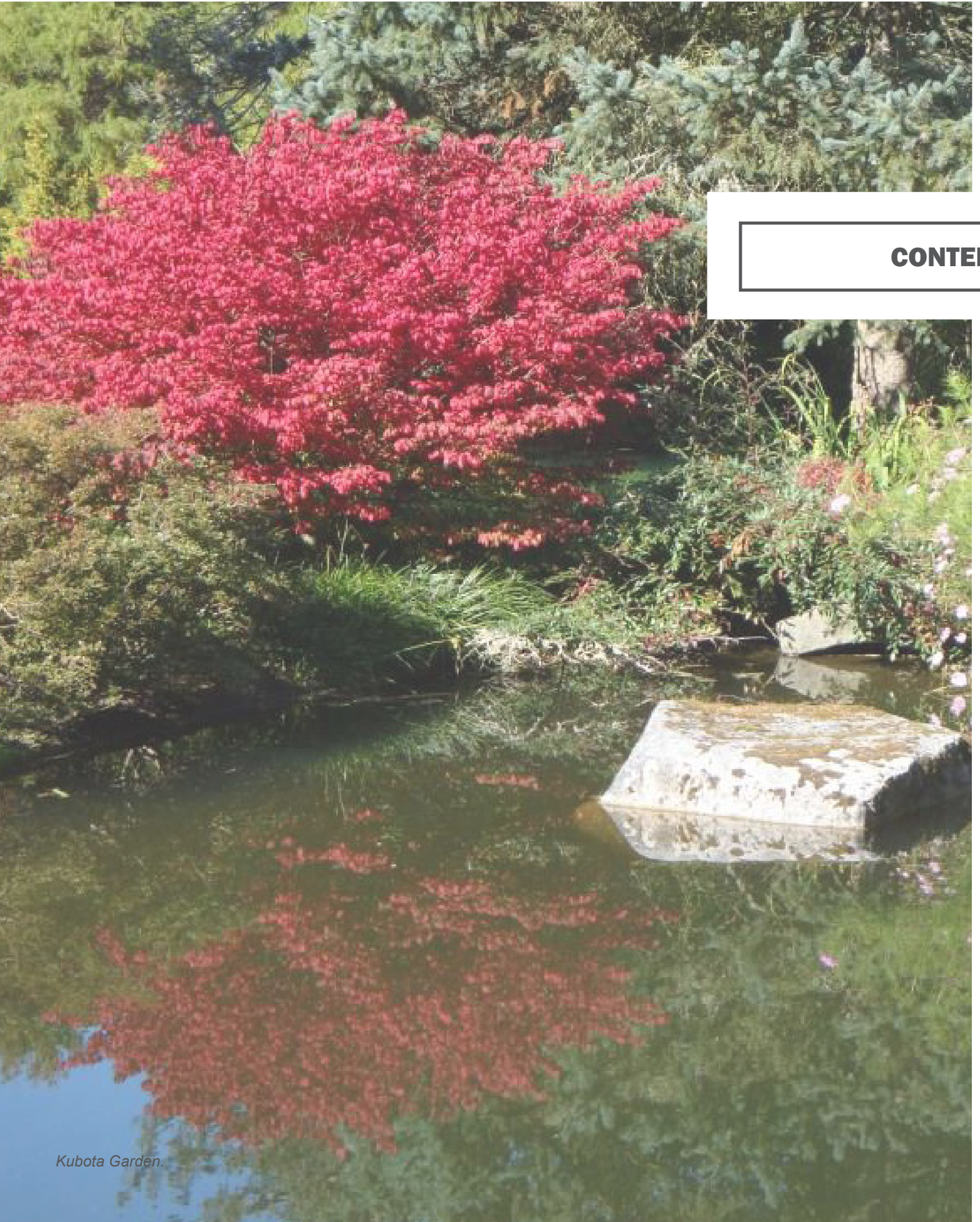

Kubota Garden.

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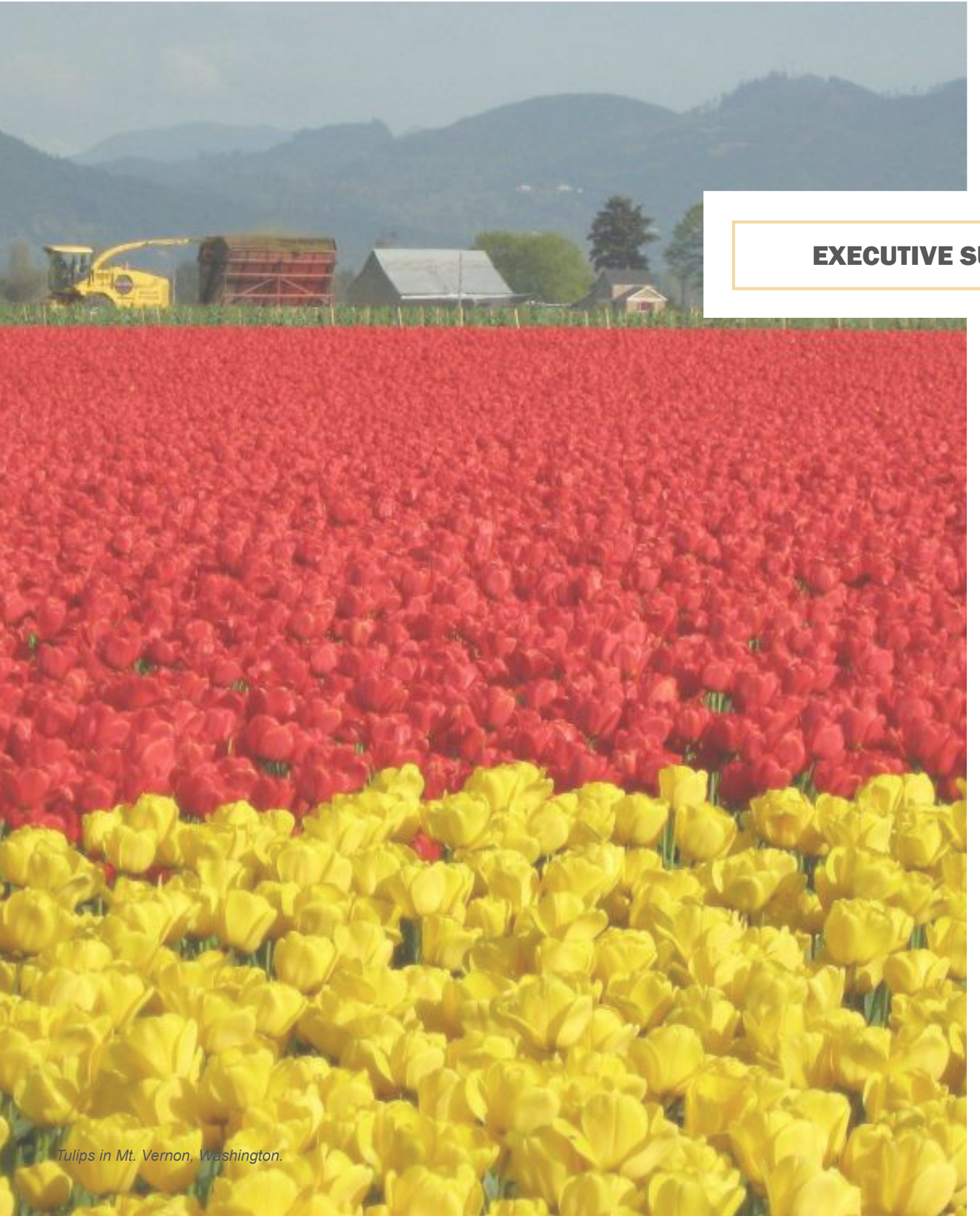


Tulips in Mt. Vernon, Washington.

EXECUTIVE SUMMARY

Summary

SUMMARY

Goals

1. Define a preferred and clear landscape concept.
2. Provide visitors a sense of place as a campus.
3. Visually tie the Airport to the regional landscape.

Objectives

1. Identify strengths, weaknesses, and opportunities of the existing landscape.
2. Identify a seasonal interest and color strategy.
3. Engage with sustainability and wildlife management.
4. Reference regional materials and plants appropriate to the Airport's built environment & microclimate.
5. Integrate large-scale, memorable entry signs.
6. Address an appropriate level of maintenance.
7. Provide ideas for aesthetic of the Terminal.
8. Reimagine the North Gateway Art.
9. Establish a sense of arrival at the Seattle-Tacoma International Airport (Airport or SEA).
10. Create a consistent landscape design throughout the airport campus.
11. Consider how landscaping can be integrated into future Sustainable Airport Master Plan (SAMP) development.

Process

The master plan was developed through an iterative planning process structured around client and expert feedback at key milestones. The process included:

- document reviews.
- site analysis.
- stakeholder meetings.
- concept development and review.
- visualizations to assist in concept development.
- Port staff and executive presentations.

Concept

The concept that informs the landscape master plan is one of "Bioregionalism." The planting concept references the visual look and feel of the Pacific Northwest region: its evergreen forests and agricultural valleys with their rows of orchards; its relationship to water and light; and its natural materials.

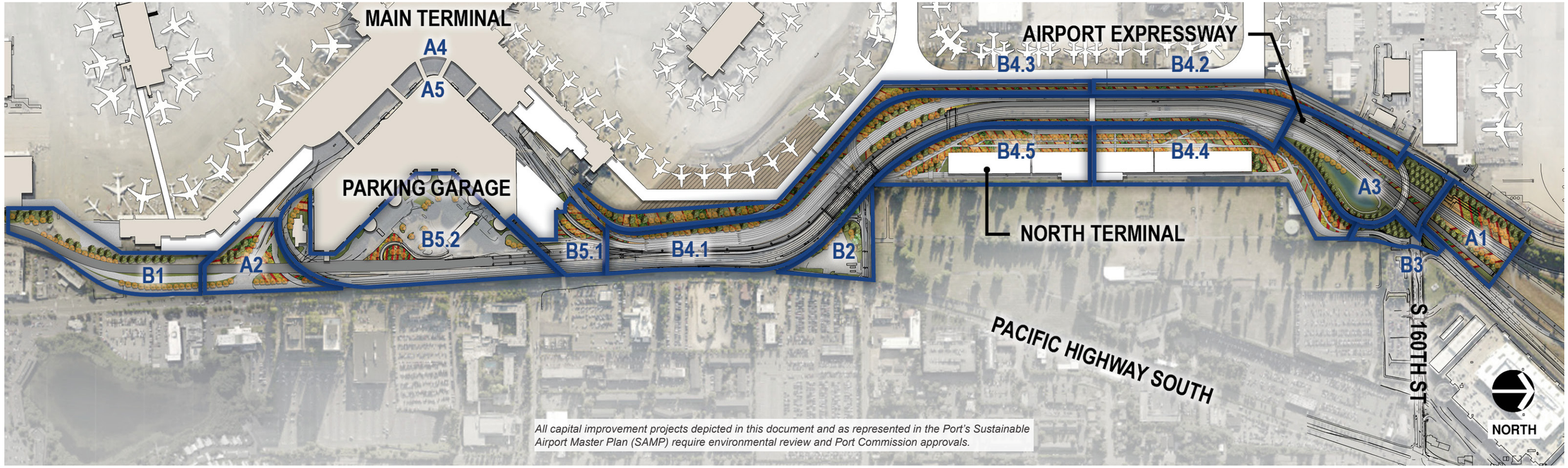
Costs

The estimate of costs and potential implementation of the plan is divided into 14 focus areas that are informed by the Sustainable Airport Master Plan.

As this is a master plan, the costs detailed in the "Cost Estimates" section are rounded up here to the nearest $10,000.

Rough Cost Estimate

A1: North Gateway Entry	$3,450,000
A2: South Gateway Entry	$2,700,000
A3: North Gateway Exit	$3,940,000
A4: Arrivals & Departures	no estimate
A5: Garage Façade	no estimate
B1: Corridor at 28th Avenue S.	$2,030,000
B2: Corridor at S. 170th Street	$1,250,000
B3: Corridor at S. 160th Street	$670,000
B4.1: Corridor at Air Cargo Road	$4,420,000
B4.2: Corridor at New Gates - North	$910,000
B4.3: Corridor at New Gates - South	$3,340,000
B4.4: Corridor at North Terminal - North	$5,840,000
B4.5: Corridor at North Terminal - South	$3,540,000
B5.1: Garage Expansion Corridor	$1,040,000
B5.2 East Garage Corridor	$2,090,000
Approximate Total (2019 dollars)	$35,220,000



Implementation Plan.

Cherry Trees at the University of Washington quad

INTRODUCTION

Scope

Previous Document Review Summary

Site Analysis

North Gateway Entry Observations

Meeting Summaries

SCOPE

The scope of the Landscape Master Plan focuses on providing an over-arching landscape design concept that applies to the Airport campus's public areas that are experienced and seen by visitors and customers. The concept promotes an overall aesthetic that gives visitors a sense of place and references the Pacific Northwest region. The plan areas are divided in priority areas, both primary and secondary. These areas were determined in coordination with the proposed project areas in the Port's master plan for facilities development: the Sustainable Airport Master Plan (SAMP). Those areas are as follows:

A. Primary Priority Areas

These areas emphasize and include enhanced features such as art, entry signs, and lighting, and set the stage for the rest of the landscape design.

- A1: North Gateway Entry, from SR 518 drive to S. 160th Street Overpass.
- A2: South Gateway Entry, off of International Blvd at S. 182nd Street.
- A3: North Gateway Exit, at S. 160th Street Loop
- A4: Terminal Area, including pedestrian arrivals and departures levels at Arrivals Drive and Departures Drive
- A5: Parking Garage Façade, and planting areas around garage

B. Secondary Priority Areas

These areas are general planting areas where the basic pattern of the landscape master plan should be applied, but without enhanced features.

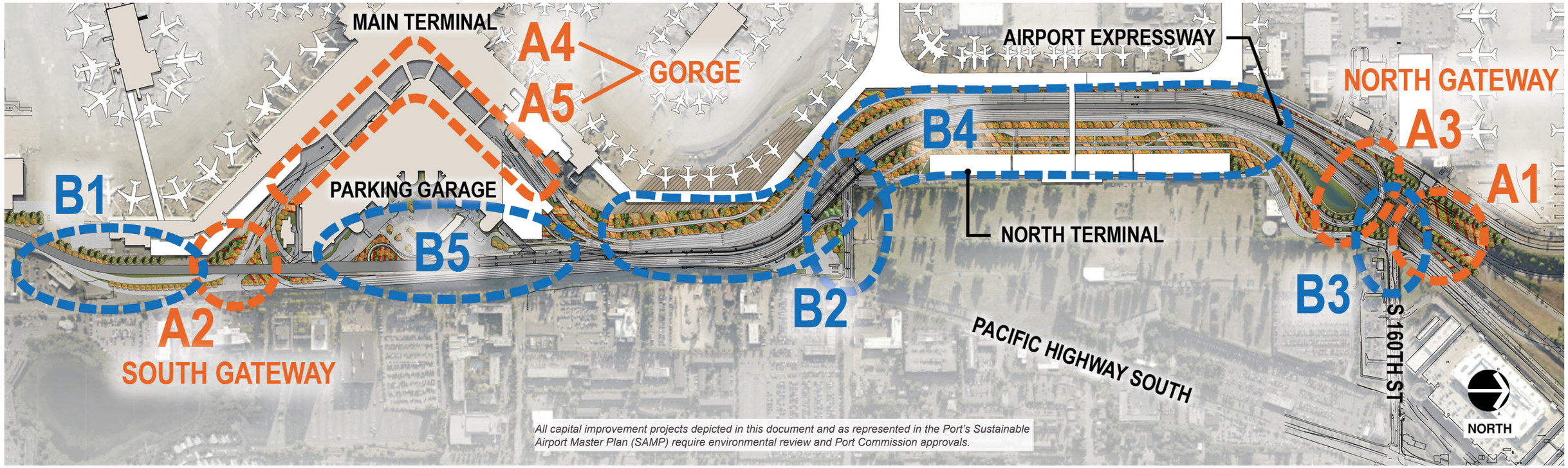
- B1: Corridor planting at 28th Avenue S., north of S. 188th Street
- B2: Corridor planting at S. 170th Street
- B3: Corridor planting at S. 160th Street
- B4: Corridor planting at Air Cargo Road (subdivided in costs to match SAMP phases)
- B5: Corridor at Garage

Existing A1: North Gateway Entry.

Existing A2: South Gateway Entry.

Existing A3: North Gateway Exit.

Existing A4 & A5: Terminal Area & Garage Façade.



10 Priority Areas.

PREVIOUS DOCUMENT REVIEW SUMMARY

Several Port of Seattle (Port) documents were reviewed to ensure consistency in purpose and coordination. A brief summary of each document follows. These include the following:

- Parking Garage Improvements (2018).
- Century Agenda Goals & Aviation Division Priorities (2017).
- Northwest Sense of Place Guidelines (2015).
- Signage Design Standards (2011).
- Architecture Design Standards (2008).
- North Entry Art Plan (2006).
- Landscape Design Standards (2006).
- Landscape Design Guidelines (2000).
- Sustainable Airport Master Plan (draft 2019).
- Golf Course Mitigation Plan.
- Landscape Maintenance Specification.

Parking Garage Improvements

The report stated that in addition to infrastructure improvements such as elevators and functional parking-related items, garage façade improvements can enhance the look and feel of the terminal and improve the passenger experience. Various garage façade improvement concepts were mentioned including vegetation or green walls, decorative paneling, murals, or local artist-created work. Each can enhance the visitor experience but have various levels of impact to the structure itself, cost implications, and maintenance levels.

Century Agenda Goals & Aviation Division Priorities

The Century Agenda goals are to

- position the Puget Sound region as a premier international logistics hub.
- advance this region as a leading tourism destination and business gateway.
- use the Port's influence as an institution to promote women and minority business enterprise growth, small business growth, and workforce development.
- be the greenest and most energy-efficient port in America.

Northwest Sense of Place Guidelines

The Northwest is viewed as being an exceptional place, including both the natural and built environments, with a character that inspires innovation and creativity. The guidelines indicated that though a northwest presence is experienced at the Airport, it is too subtle and limited. Using more local, Northwest themes can authentically develop the Airport's brand and presence.

The guidelines can be said to present the following themes:

- Distinctive, natural environment (mountains, forests, water, sky, etc.);
- Dynamic built environment (thriving trade & sustainability); and
- Pioneering, cutting-edge spirit (diverse culture and history).

Signage Design Standards

The standards state that Airport signage design should

- use state-of-the-art signage to help create a classic, timeless image for the Airport.
- increase customer safety and satisfaction with improved wayfinding.
- make environmentally responsible choices.
- minimize cost.
- respond to the Society for Environmental Graphic Design for best practices, strategies, and scenarios for sustainability in environmental graphic design.
- reflect the Airport design guidelines.

Architecture Design Standards

The architecture design standards primarily address the buildings of the Airport and interior aesthetics. They indicate that the exterior curbside area at arrivals should have concrete floors and concrete columns. Other exterior materials included in the standards include metal panel systems.

Interior wall finishes include laminate, wood, metal, gypsum, tile, and stone finishes. Interior column covers include steel, granite, gypsum, laminate, and concrete. Gray and silver receptacles should be used.

North Entry Art Plan

Art along the North Airport Expressway should enhance the roadway's choreography of views and tie into natural phenomena to create a distinctly exterior set of artworks. It should reflect the Pacific Northwest environment, culture, climate, and processes; integrate elements of sustainability; mitigate paving expanses; assist in wayfinding; support other existing themes (e.g. "flight" at the light rail station); and create memorable experience.

Art opportunities identified at the North Gateway are linked through the idea of "transformation" as a conceptual exploration of growth through travel, dreams and new beginnings, reinvention through technology, living systems of landscape, and atmospheric effects. The art opportunities identified include gateways, focal points, and unifying elements. "Emerald City," the primary entry/exit gateway at the North Entry, includes sculpture, earthwork, lighting, and a time/temperature sign at the entry. There may also be enhancements to the loop road/detention pond functional elements, including walls, columns, fences, earthwork, plantings, and pond cover.

Landscape Design Standards (2006)

The goal of the landscape design standards is to preserve and enhance the aesthetic character of the Airport resulting in improved appearance to the surrounding community. Specific strategies to achieve this goal include screening and buffering, improving stormwater and water use practices, reducing wildlife attractants and hazards, and utilizing landscaping adjacent to paved areas.

Landscape Design Guidelines (2000)

The guidelines' goal is to preserve and enhance the aesthetic character of the Airport. Landscape should be used to interrupt large paving expanses, screen undesirable views, provide buffers, improve stormwater and water use practices, and reduce wildlife hazards and attractants.

Sustainable Airport Master Plan (SAMP)

The SAMP guides the development of facilities that will allow the Airport to satisfy the region's air transportation needs through the next 20 years. The plan identifies near-term and long-term goals for development. Near-term goals include creating a new North Terminal along the current Airport Expressway to expand the number of gates. The long-term plan increases capacity again at the new North Terminal.

Golf Course Mitigation Plan

The Tyee Golf Course south of the Airport has been transformed from golf course grounds to a meadow for pollinator habitat. It stays consistent with overall Port goals for safety, wildlife mitigation, positive environmental impact, and low maintenance costs over time. Maintenance is by contract with specialists in meadow and pollinator management.

Landscape Maintenance Specification

The specification details the tasks, schedule, and standards of care for maintenance of the landscape at the Airport. The scope elements address items such as weeding, pest control, plant care, mulching, pruning, and watering.

SITE ANALYSIS

General Comments

The customer's experience at Seattle-Tacoma International Airport is primarily either on their arrival to or departure from the terminal through the two main gateway areas. The consultant team conducted several drive-through observations of the Airport's landscape and site visits to observe and analyze the existing built environment. Photo documentation and notes were compiled. The site visits included notes about how memorable the entry and exit points were, as well as the character of the street corridors. Much thought was given to the experience during the day, the night, and throughout the seasons.

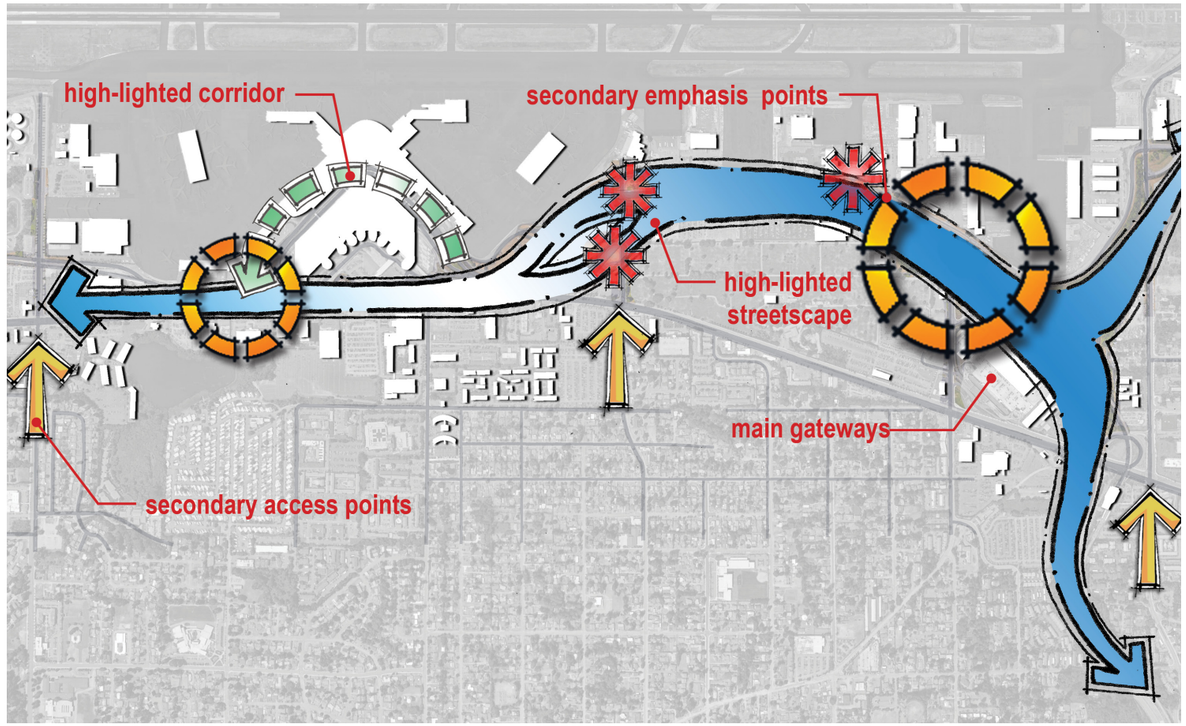
Team observations noted there is a lot of concrete in the form of jersey barriers, concrete structures (overpasses, columns, walls, and Link Light Rail structures), paved streets, and some open spaces consisting of mostly lawn with pine trees. Some dead trees and plants were observed that do not appear to be getting replaced, creating bare spots in the landscape. Currently, the Airport landscape lacks color, seasonal interest, and visual character. There is not much square footage of landscape space to work with, as the Airport is land constrained. There are only a few opportunities for landscape planting along the Airport Expressway corridor. In general, the gateways should be the focus and could be improved.

Between the terminal building and parking garage, there is an opportunity to improve the legibility and cohesiveness of the space. This area is nicknamed "the Gorge." The modernist garage architecture is compelling and could be highlighted. Several decades ago, there were trees, azaleas, and rhododendrons planted at the base of the garage. These plantings caused problems with bird activity and wildlife attractants at the Airport and were removed. The arrivals and departures levels of the terminal building are also predominantly gray concrete with not much visual character or sense of welcome either to the Airport (departures) or to the region (arrivals).

Adjacent Properties

Not all of the visible property along the north entry of the North Airport Expressway is owned by the Port of Seattle. Large tracts are owned by the Washington State Department of Transportation (WSDOT), especially along SR 518 and its interchanges. If there is interest in landscaping the WSDOT rights-of-way in the future, then agreements will need to be negotiated with WSDOT to determine who pays for capital improvements and who maintains the property. This prospect could have issues with the Port as it could be considered a diversion of revenue if Port monies were being applied to improvements and maintenance to property owned by other agencies.

Existing conditions at Expressway.



Areas of opportunity.

Existing Arrivals.

Existing conditions at Expressway.

Existing entry drive.

Existing 182nd Entry.

NORTH GATEWAY ENTRY OBSERVATIONS

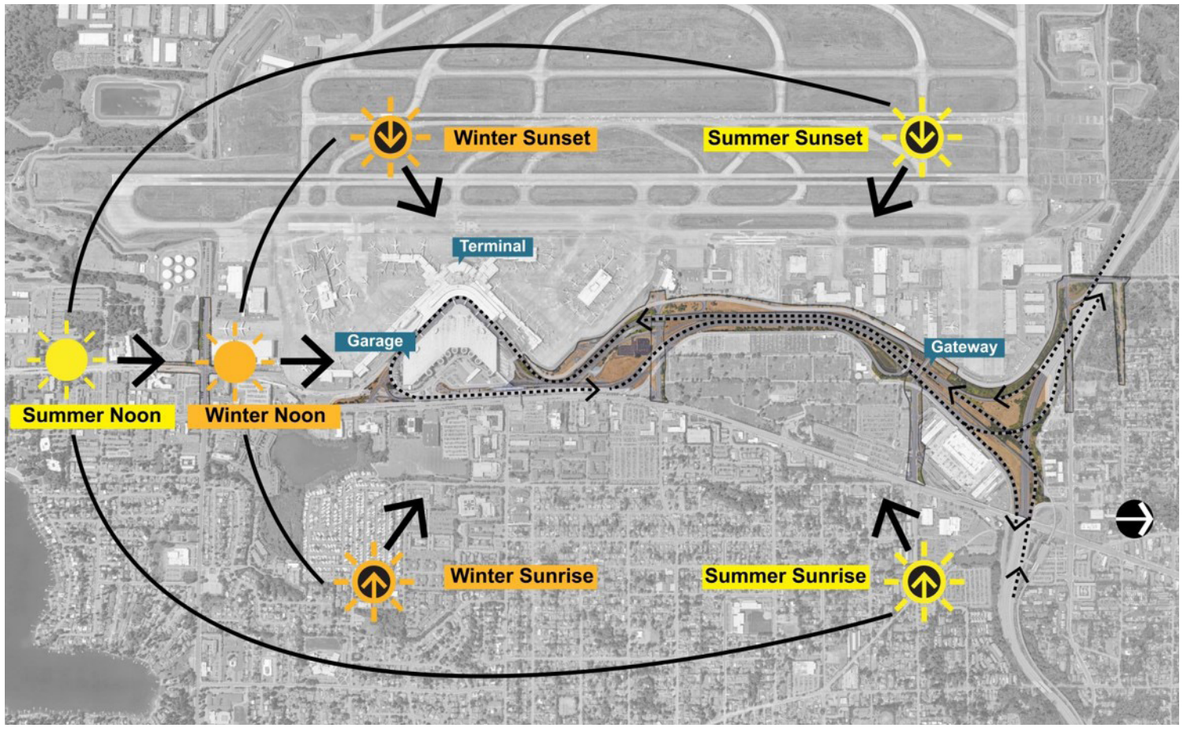
The North Gateway is the principal element of the Landscape Master Plan. It is the first landscape experienced by about 80% of Airport customers as they enter onto the Airport campus. The South Gateway serves about 20% of Airport customers. The North Gateway has the largest area available for landscape elements. As such, it establishes the identity for the Airport campus and defines the sense of arrival and exit at the Airport.

Constraints

There are four main constraints that must be taken into account that currently exist at the North Gateway.

1. Visual clutter is created by competing elements: the overpass structure, the vine towers, the clock tower, directional signs, welcome sign, and the variable message sign. These compete for attention during the 3-4 seconds that vehicles have to pass through the area.
2. Maintenance will need to be addressed prior to installation of any new landscape solution to ensure survival and growth of planting. Rehabilitation and replacement of landscapes are far more expensive in the long run than care provided by maintenance personnel having horticultural expertise.
3. The northern latitude and climate of the region causes the site to be often viewed by customers during gray, cloudy weather and long, dark nights. The ‘image’ that is presented during all seasons, day and night, is important.
4. Customers driving into the North Gateway are driving south, facing the sun. The orientation of the North Gateway to the sun (particularly from the south and west) was noted as a major factor that influences the entrance experience. Its front appearance is affected largely by strong light from behind. In the afternoon, the vine towers, clock tower, sign, and plantings are in shadow; by sunset they are in full silhouette. This condition suggests that modifications to the art should include materials and forms that use the sunlight conditions to advantage and which can be supplemented by artificial light during cloudy days and nights.

Clutter at the existing North Gateway Entry.



Seasonal light patterns.

Existing North Gateway Entry during Winter.

Existing North Gateway Entry during Summer.

MEETING SUMMARIES

The planning process included several meetings to coordinate with experts and receive feedback from stakeholders, as well as study and design periods to develop an understanding of the site and the design concept and implementation.

The following summaries are abbreviated and do not reflect the full presented information or feedback received. Full meeting materials are included as appendices of this document.

Meeting #1: Kick-off with Port Staff

The design team presented observations of existing conditions on site and opportunities for improvements. Key points were discussed, including:

- The North Gateway experience is important.
- Extensive amounts of concrete creates a predominantly gray experience.
- There's not much landscape area available for planting.
- The local landscape is dramatic, beautiful, and authentic and can be used as a guiding principle.
- It is important to create a cohesive campus identity.
- Sustainability is an important goal.
- Port must address limited maintenance.
- The Airport campus must strike a balance between advertising, wayfinding, art, and landscape.
- The gorge (the parking garage and arrivals/departures area) is a key space that should be considered for some ideas.

Meeting #2: Leadership Kick-off with Port Directors & Staff

Initial concept approaches for design elements were presented for early feedback. The presented concepts were

- Regional Approach: inspiring natural environment; materials and forms reflect the Pacific Northwest rural environment.
- Dynamic Approach: vibrant built environment; materials and forms reflect the dynamic diversity of urban living, bold and vivid.
- Innovative Approach: cutting edge spirit; materials and forms reflect angles and geometry of technology and sustainable planting.

Meeting #3: Port Staff & Landscape Standards Committee

The design team focused on observations and opportunities at the North Gateway to help develop art and signage concepts while providing direction for landscape aesthetic. Key take-aways were:

- The North Gateway is significantly impacted by the changing light conditions.
- There is visual clutter at the gateway, with many elements vying for the driver's attention.
- The gateway is only seen for a few seconds from the vehicular scale.
- The vine towers can be adapted to respond to the varying light conditions.
- Several monument sign options were considered. The design of the sign needs to be coordinated with the branding effort.
- A sense of entry with vertical conifers was preferred over minimal planting with grasses, sedges, and boulders. Cherry trees should be added to continue the bioregional plant theme while the trees and plants should support pollinator habitat.

Meeting #4: Port Staff Meeting

The design team presented updated landscape and gorge concepts to the Airport staff for review. Salient discussion points included:

- The concept of bioregionalism to inform the planting design pattern and look was moved forward.
- The North Gateway vine towers transformed into "Light Towers", both using translucent and prismatic elements, and nighttime lighting got positive feedback.
- The clock tower replacement with a vertical monument entry sign is preferred.
- The entry sign and variable message sign discussion will need to depend on future conversations during the Airport's Sign Master Plan and also in coordination with the new branding efforts.
- Plants on the garage façade are not preferred; use of color, lighting, or something that plays with light is preferred.
- The arrivals and departures areas at the terminal building should be coordinated with latest efforts are adding bollards and improving the paving and Americans with Disabilities Act (ADA) access.

Meeting #5: Port Directors & Staff Meeting

The design team presented updated landscape and gorge concepts to the Airport directors and staff for review prior to compiling the draft master plan report document. Key presented points and feedback include:

- The concept of bioregionalism is the main concept that drives the design. Cherry and conifer trees express the Pacific Northwest Region.
- Stripes of colored planting are an organizing device for the bioregionalism concept. Stripes can easily be adapted to future projects and phasing.
- The North Gateway improvements capitalize on the light and shadow at the site.
- A variety of sign forms that relate to the geometry and materiality of the art can be explored, and later developed in response to future branding efforts.
- At the South Gateway, moving the flag plaza to the north side of the street and providing a single entry sign for the Airport was preferred. A sign welcoming people to the City of SeaTac should also be provided in the gateway design. A decorative, picket rail fence should replace the existing chain link fence.
- A blue glass application at the garage façade that expresses water was preferred over a forest and plants application.
- At arrivals and departures, the wood and pendant lighting of the softer concept should be combined with the sleek black columns of the dramatic concept to express both the modern and natural character of the Pacific Northwest.

Meeting #6: Port Directors & Staff Meeting

The design team presented a review of previous meetings, input, and follow-up renderings, followed by an introduction to the draft report document. Key discussion points were:

- The South Gateway has been updated to show a sign for those entering the City of SeaTac.
- The Arrivals/Departures design has been updated to combine the black columns with the pendant lights and finishes of the "naturalistic" option.
- There was discussion regarding the previous white column color, but that the white will show more dirt and grime from vehicle exhaust.
- The colors, finishes, and ideas of the Gorge should be refined in a next phase, design development.

Branding Review

Discussions with branding team emphasized the consensus that the design of the monument entry signs and any exit signs must be coordinated with the branding efforts and also the sign master plan process currently underway at the Airport. For the time being, the best approach for the Landscape Master Plan will be to provide placeholder locations for the signs and to only provide an idea of the massing, scale and potential forms of the entry/exit signs. Further detail regarding design would need to be integrated into the Sign Master Plan efforts and informed by the branding results.

Wildlife/Environmental Meeting

The landscape architect and team lead met with the wildlife biologist. The largest concern regarding wildlife and the environment at the Airport is mitigation of any wildlife attractants as they pose a safety hazard. Species that provide habitat for birds and small mammals should be avoided. Small insect pollinators are acceptable. The design team should review and consider the 2017 approved plant list.

Sign/Transportation Meeting

The design team met with the Traffic Operations team to discuss sign and transportation opportunities, especially with regards to the possible relocation of the variable message system (VMS) sign. Key points from the meeting include:

- Spacing will be critical between the VMS sign and traffic control.
- There will be greater emphasis on the gateway if the VMS sign is relocated.
- Sign relocation can be phased and coordinated as future projects are developed.

Native Washington landscape

CONCEPT

Bioregionalism

Planting Pattern

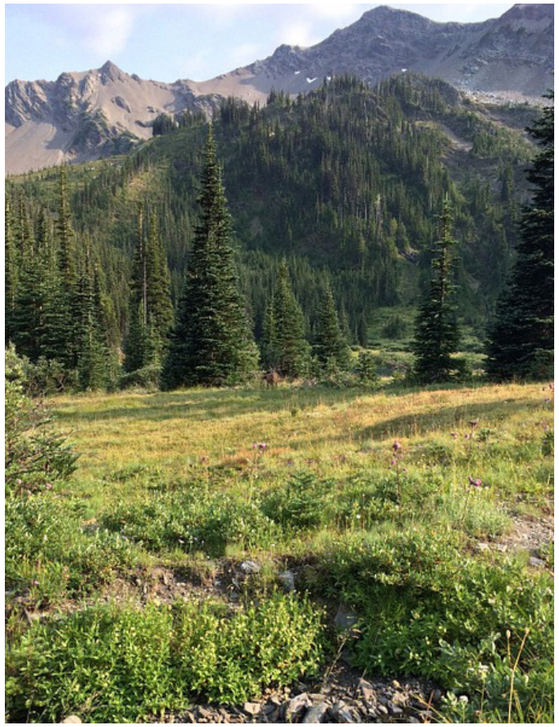
Planting Palette

Maintenance Recommendations

Plan Implementation

Cherry blossoms.

Cherry trees at the UW quad.



Evergreen forest.

BIOREGIONALISM

The concept of bioregionalism is the basis for developing the landscape design and provides a framework for the conceptual ideas proposed for elements within the Airport campus. ‘Bioregion’ captures the intent that the campus should reflect the specific characteristics typically seen and experienced within the Pacific Northwest geographical region. This is defined by plant types, terrain characteristics, watersheds, daily rhythms of light, and typical materials.

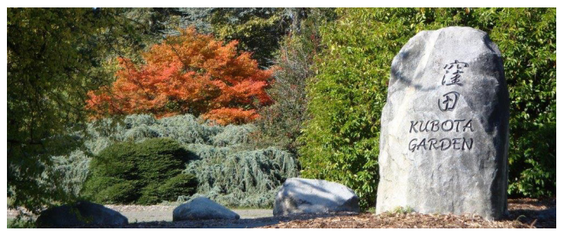
Regional Tree Types

Reflective of the region’s plant character are two representative tree types:

1. Flowering cherry trees reflect Washington’s orchard agriculture and the region’s ties to pan-pacific trading partners. Places such as the University of Washington Quad, Kubota Gardens, the Japanese Garden at the Arboretum, and countless neighborhood streets are known for their cherry trees.
2. Conifer trees such as the cedar reflect Cascade and Olympic forests, lowland ecology, the island woodlands, and the common tree type seen along highways in the ‘Evergreen State.’

Fall color.

Cherry rows.



Kubota Garden.

Washington Arboretum.

PLANTING PATTERN

As an organizing device for the bioregionalism concept, the use of stripes or bands of vegetation provide the overall planting pattern.

Throughout the airport's campus, the landscape areas available for planting are typically narrow, long, and linear in nature. Intricate or detailed patterns will not be easily seen by visitors driving through the campus.

Stripes that are angled to the line of travel would be a pattern that is easily seen, supports the bioregional concept, and provides for a coherent, 'readable' landscape. Taking a cue from the angle of wings to fuselage on airplanes, as well the footprint of the parking garage and Airport terminal, the stripes would be angled to the roadways.

The alternating and contrasting stripes of plants mimic the agricultural rows that are typical of the farmlands and orchards of Skagit Valley, Yakima Valley, and Mt. Rainier/south sound.

Large drifts of a single plant species in a simple pattern make it easy to maintain rather than using numerous plant varieties mixed together or laid out in detailed, complex patterns. For instance, weeds will be easier to see in a drift of one plant type.

The width of stripes provide visual variety and the choice of plants should provide maximum contrast. Conifer trees provide a sense of backdrop, with cherry trees used as accents. The design intent is as follows:

Main Stripe

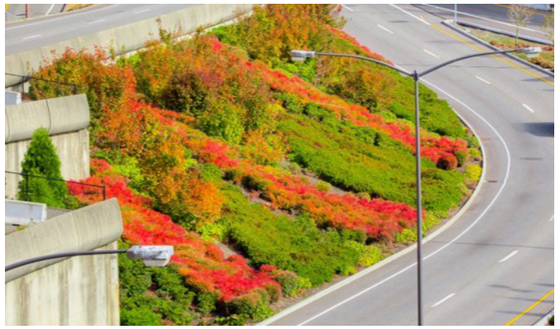
1. The main stripe of 8 to 10 feet in width contains a single plant drift.
2. The main stripe should use a plant with a predominate autumn color in the orange-red range; for instance, a Dwarf Burning Bush.
3. The main stripes should all contain a single plant type within a project scope. They can vary between projects.

Interstitial Stripe

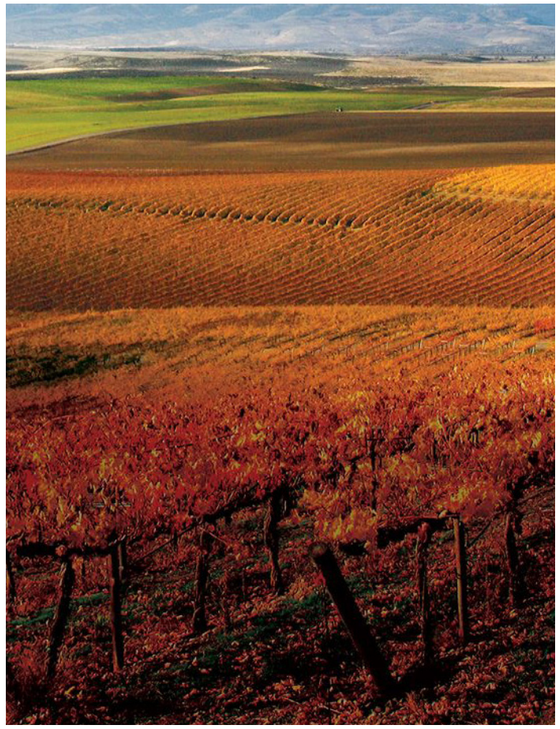
1. The interstitial stripes in between the main stripes should be between 16 and 20 feet in width.
2. These interstitial stripes should each be a single plant drift.
3. The plant types can change between interstitial stripes as long as the plant type chosen provides a contrast throughout the seasons with the main stripe plant.

Airplane; Sean MacEntee.

Seattle-Tacoma International Airport, 1990; Google Earth.



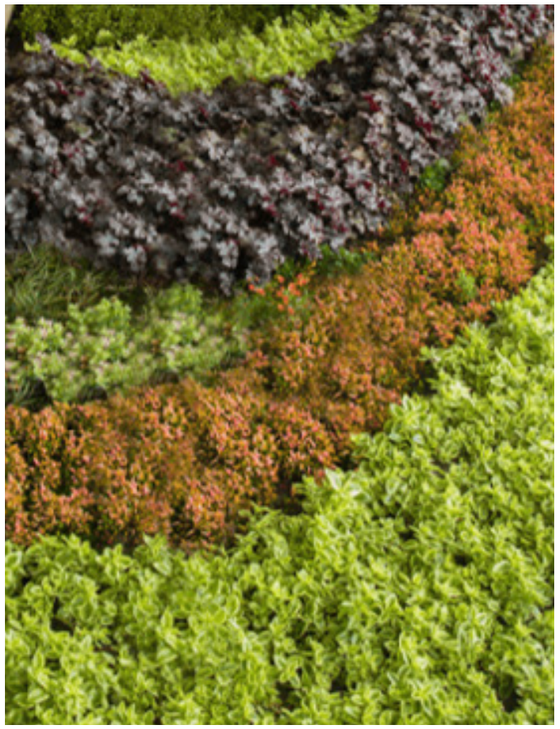
Seattle-Tacoma International Airport; HBB.



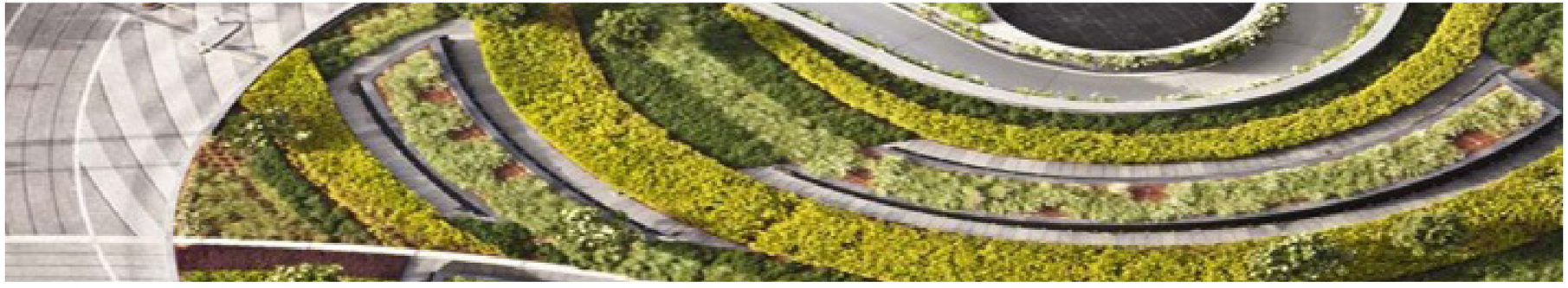
Agricultural rows.

Skagit tulips.

Lavender fields.



Bands of planting.



Bands of planting.

PLANTING PALETTE

A seasonal palette of plant colors provides striking contrast and variation throughout the year. At night when plants are not as visible, the color of accent lights coordinate with the season's predominate plant color. The plant species do not attract wildlife. The example plant calendar illustrates varieties on the Airport's approved plant list.

Seasonal Color

As illustrated in the plant calendar (at right), the selected plant palette was carefully curated to provide dramatic variation in color throughout the year, with special emphasis on providing strong orange and red coloration. Planting stripes of these species should create a striking contrast between greens, tans, purples, oranges, and reds throughout the year.

Lighting & Color

A bright, linear lighting scheme is recommended to accent key landscape, architectural, and art elements in a unified and elegant way. Low-energy LED fixtures that are bright enough to be apparent to visitors in both night and low-daylight conditions will be selected. The light will be color-changing throughout the year to align with dominant colors displayed by plantings at that season. The dramatic changing light color will emphasize the same seasonality as the plants, hinting at the bioregionalism theme even when the plant material itself is not visible.

Cherry Trees

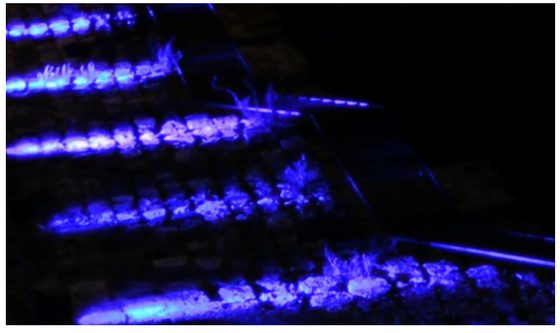
Species of small, fruitless cherry trees are recommended as a primary accent tree. Cherry trees provide variation in color throughout the seasons, with light pink/white displays in the spring, green foliage in summer, red autumn foliage, and attractive branching structure and bark in winter.

Conifer Trees

Conifers provide year-round background color and structure along the corridor. Small and/or narrow conifers are recommended; they have much less canopy area and therefore are less of a concern than larger evergreens when it comes to wildlife attractance.

Japanese Cherry in Fall, Spring.

Alaskan Cedar.



Light across gabion.

Plant calendar.

MAINTENANCE RECOMMENDATIONS

The level and skill of maintenance appears to be insufficient in order to satisfactorily care for the ornamental landscapes that currently exist at the gateways. Based on the site observations made of the existing landscape in this area, several action items are recommended to ensure that plants not only survive, but that future landscapes installed at this location also thrive.

The approach to landscape maintenance should be preventive, such as:

1. regular applications of mulch that will result in less time spent weeding and promotes moisture retention;
2. the timely removal of tree guy wires and staking that will allow trees to grow; and
3. periodic monitoring of the irrigation system to catch problems such as leaks, breaks, or clogs.
4. Periodic monitoring of plants and replacement of plants that have died.

Severe girdling of cherry tree due to wire and hose tree guying that was not removed after establishment.

Localized moisture due to drip emitter blockage and/or flow rates. Lack of mulch cover provides no moisture retention.

Erosion due to drip tube damage.

Swaths of plants have died off, cherry trees are stunted or dead.

English Ivy invading planting area.

Leaking drip.

PLAN IMPLEMENTATION

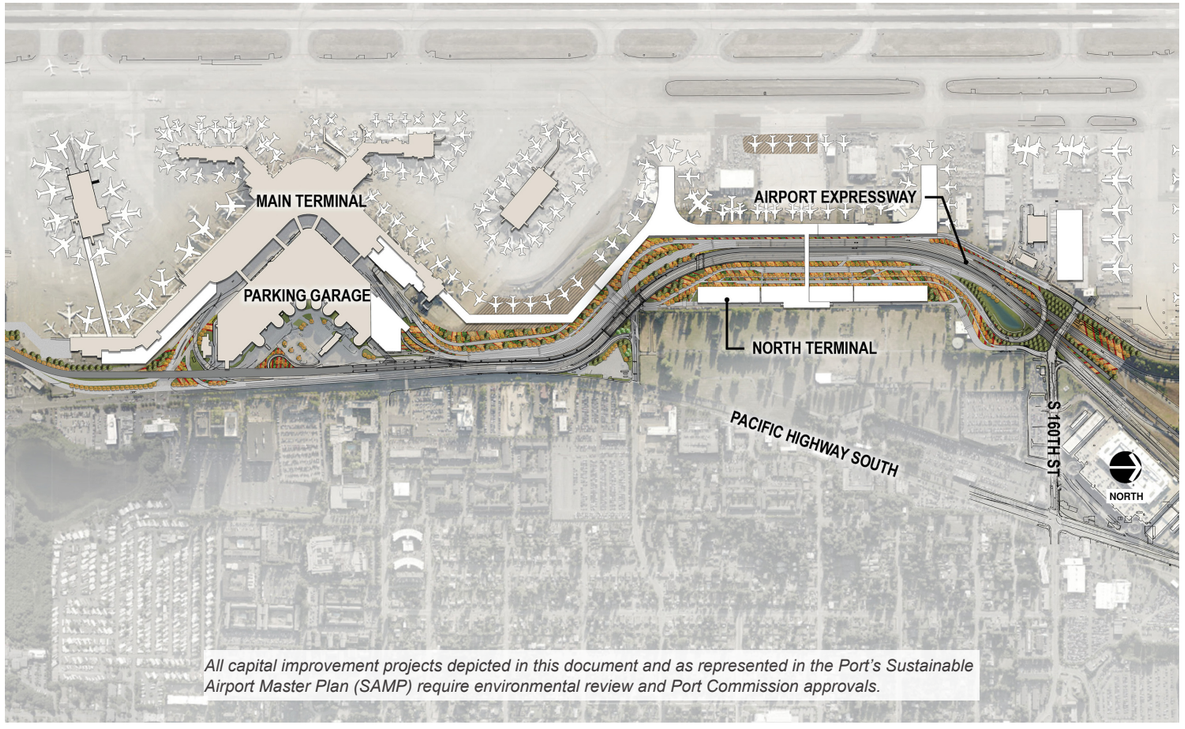
The bioregional concept and the stripe pattern provide a strong sense of identity and a signal that one has arrived at the Airport. The pattern is easily applied throughout the campus, taking into account the spaces between the roads and buildings.

The planting plan for the landscape master plan applies this pattern as a planning-level suggestion regarding layout. As projects move forward, the pattern may need to be adapted as the infrastructure improvements become more detailed, respond to actual survey information, and projects are development.

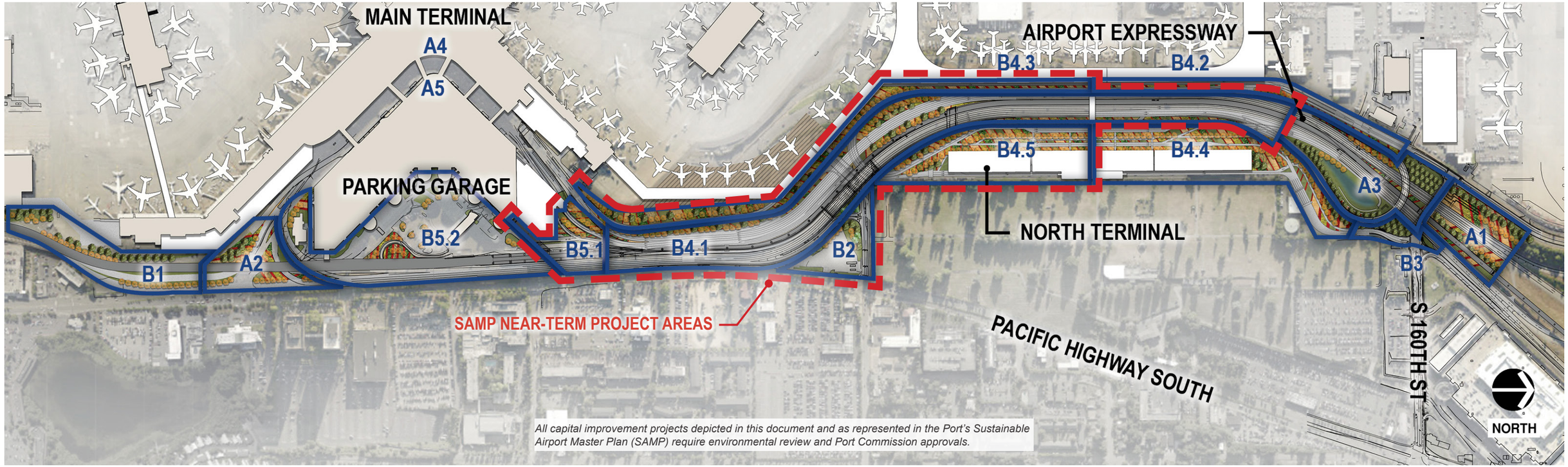
The focus areas defined during the master plan process are shown in the implementation areas below. Priority should be the Gateway areas (A1/A3 & A2) which set the tone for the campus experience.

The Airport's SAMP recommends more than 30 Near-Term Projects that will improve efficiency, safety, access to the airport, and support facilities for airlines and the airport. The implementation areas and corridor focus area B4 (which has been subdivided), align to the proposed projects in the SAMP. The proposed SAMP Near-Term projects are currently undergoing environmental review and will require approvals as a result of that process as well as Port Commission approval before they can be implemented.

The Long Term Vision for Sea-Tac includes projects that are not ready for environmental review, as they require further study and are not reasonably foreseeable. The long-term vision is purely speculative in nature, and only the near-term projects should be considered as projects that the airport has planned.



Plan.



Implementation plan.

Priority Areas

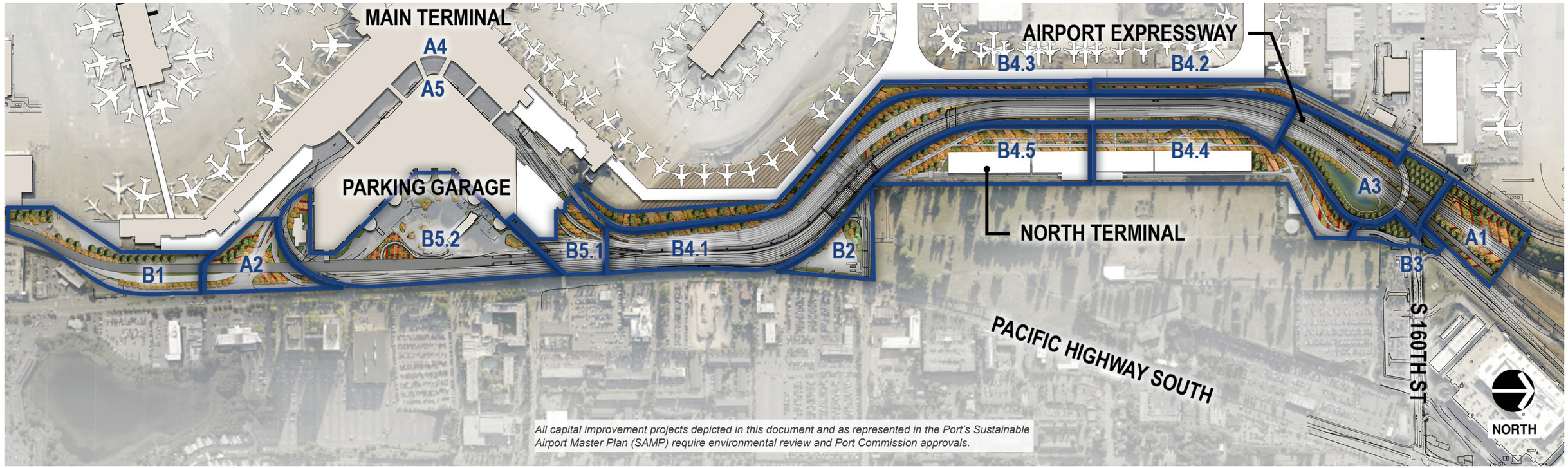
North Entry (A1). There are no improvements currently planned in this area. The Air Cargo Road Phase II project (part of Landside Pavement Program) will be improving Air Cargo Road from S. 166th Street (ATCT) to S. 154th Street and will include the new on-ramp from Air Cargo Rd to southbound Northern Airport Expressway (NAE). This work should not displace any landscaping improvements. If a separate enhancement project is pursued, the North Entry (A1), Loop Ramp (A3), and Host Road (B3) areas could be combined.

South Entry (A2). The International Arrivals Facility (IAF) is currently under construction in the southern portion of this area, and there are no improvements currently planned in the northern portion of this area. With the scope of the improvements envisioned with the Airport Utility Master Plan (AUMP) there are several power, communications, storm, sewer, and water lines in this area that would significantly impact the landscape improvements. The AUMP planning effort should be completed before determining the timing of the A2 improvements.

Loop Ramp (A3). There are no improvements currently planned in this area. The North Terminal roadways will infringe on the southern boundary of the area where they merge into the existing northbound lanes. If a separate enhancement project is pursued, the North Entry (A1), Loop Ramp (A3), and Host Road (B3) areas could be combined.

Main Terminal Gorge (A4). There are no improvements currently planned in this area. The TSE Phase II project will implement the sidewalk improvements on the Departures and Arrivals levels and is planned for completion in 2020. The NTUU project will be under construction in 2020 and will be crossing the north end of Arrivals. Widen Arrivals will be rebuilding the entrance roadways into both Departures and Arrivals and will not extend into the Main Terminal Gorge area.

Parking Garage Gorge (A5). There are no improvements currently planned in this area.



Implementation plan.

Secondary Areas

28th Ave S / Air Cargo Rd S (B1). The IAF is currently under construction in this area. Note that the ROW transitions from Port to City of SeaTac near Gate E-45. Some of the improvement area is proposed in City ROW.

International Blvd / S 170th St (B2). Landscape improvements in this area may be coordinated with planned roadway and building improvements. The Air Cargo Road project will implement some improvements in this area along S. 170th Street in 2021. The Roadway Improvements project will realign S 170th St and include a wide range of utility improvements. With the scope of the improvements envisioned with the AUMP there are several power, communications, storm, and sewer lines in this area that would significantly impact the landscape improvements. In addition, a Meet Me Room may be installed at this site.

Host Road (B3). There are no improvements currently planned in this area. The Second Terminal roadway may infringe on the southern boundary of this area. If a separate enhancement project is pursued, the North Entry (A1), Loop Ramp (A3), and Host Road (B3) areas could be combined.

Main Terminal Access (B4.1). Widen Arrivals will be rebuilding the entrance roadways into Departures, Arrivals, and Main Garage and is planned for construction in 2022-2024. The southern portions of the Main Terminal Access (B4.1) are currently in the project limits and are programmed for landscape enhancements. The remainder of the Main Terminal Access (B4.1) area should be implemented with the development of the North Terminal.

North Terminal North West (B4.2). The Air Cargo Road Phase II project (part of Landside Pavement Program) will be improving Air Cargo Road from S. 166th Street (ATCT) to S. 154th Street and will include landscaping improvements along the roadway frontage. The development of the North Terminal may infringe on the southern end of those improvements. The future extension of the North Terminal will displace these improvements and will also be required to provide landscape improvements.

North Terminal South West (B4.3). Widen Arrivals will be rebuilding the entrance roadways into Departures, Arrivals, and Main Garage and is planned for construction in 2022-2024. The southern portions of the North Terminal South West (B4.3) are currently in the project limits and are programmed for landscape enhancements.

North Terminal East (B4.4 and B4.5). The revised concept of the North Terminal will completely redevelop these two areas. Any landscape improvements should be included as part of that effort.

Garage Expansion Corridor (B5.1). Widen Arrivals will be rebuilding the entrance roadways into Departures, Arrivals, and Main Garage and is planned for construction in 2022-2024. The NE GT Facility project will be building over the Cruise Lot and potentially the Main Garage access ramps. With the scope of the improvements envisioned with AUMP there are several power, communications, storm, sewer, and water lines in this area that would significantly impact the landscape improvements. Any landscape improvements in this area should be included as part of these two project efforts.

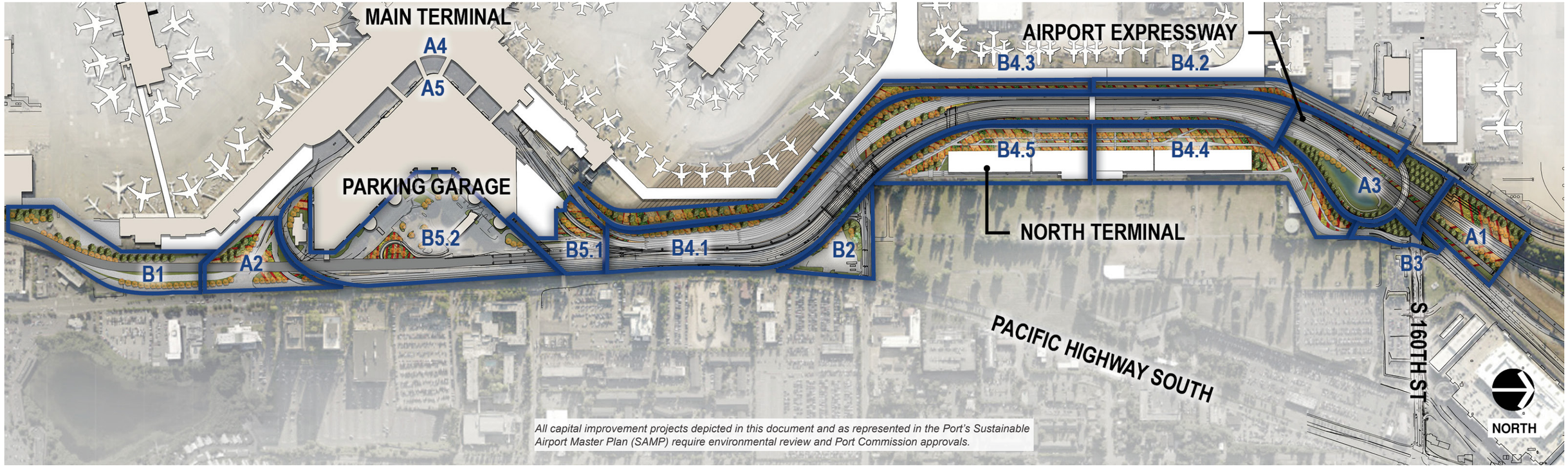
East Garage Corridor (B5.1) , The South Parking Entrance project (part of the Landside Pavement Program) will be working between the entrance gates and the helix ramps. This work should not displace any landscaping improvements.

Additional Concerns

The FAA has previously raised concerns that improvements in other agency ROWs was considered revenue diversion since we were not obligated to provide those improvements by development standards and permits.

The Port could consider a maintenance agreement and easement to extend the landscape enhancements into unimproved WSDOT ROW. If pursued, and if any revenue diversion questions are addressed, deferring the work from the eastbound SR 518 approach until the Air Cargo Rd Phase II project is implemented should be considered since the new on-ramp will significantly impact this area.

Note that all capital improvement projects depicted in this document and as represented in the Port's Sustainable Airport Master Plan (SAMP) require environmental review and Port Commission approvals.



Implementation plan.

Image: Union Bay at Husky Stadium

FOCUS AREAS

Corridor
B1, B2, B3, B4, B5

North Gateway
A1: Entry
A3: Exit

South Gateway
A2: Entry/Exit

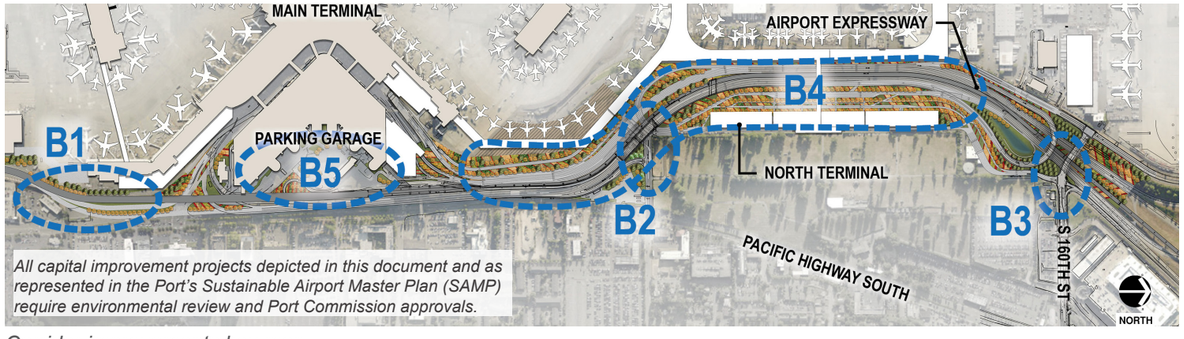
Gorge
A4: Arrivals/Departures
A5: Garage Façade

Future projects as depicted in this chapter and as envisioned in the SAMP are contingent on environmental review and Port of Seattle Commission approvals.

CORRIDOR LANDSCAPE

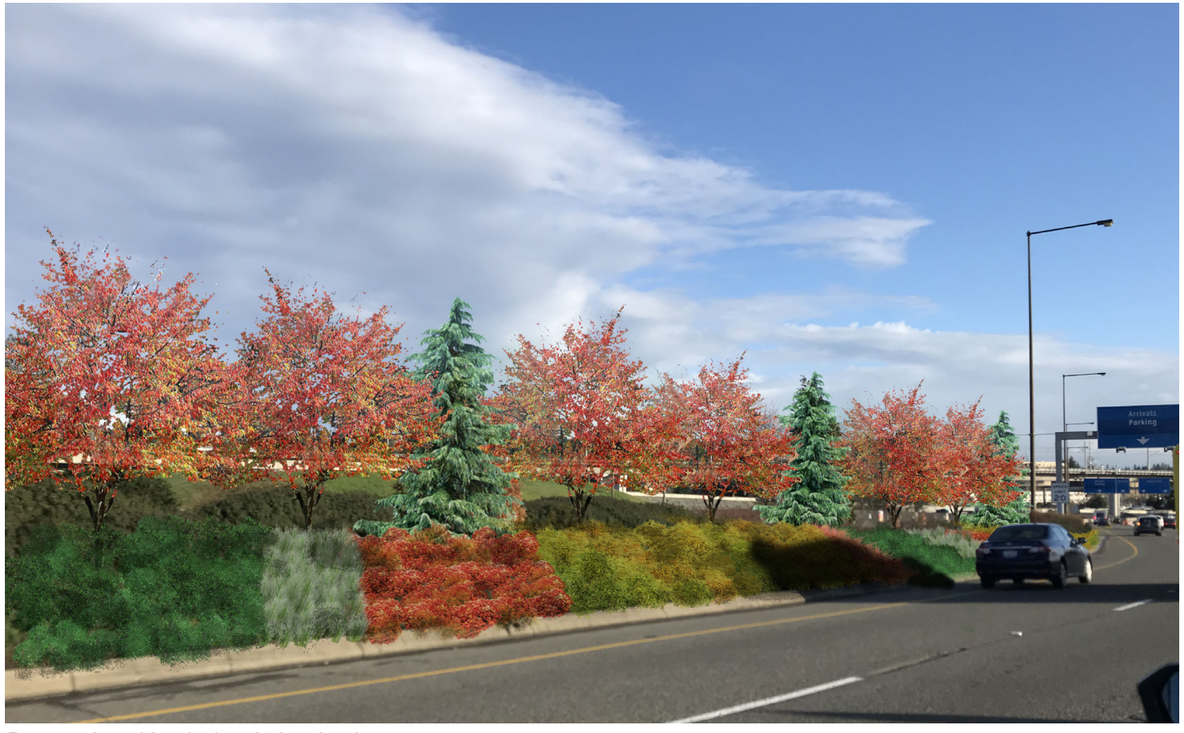
The stripe pattern is laid out angled to the direction of travel in linear bands of planting along the Airport Expressway corridor. This helps provide orientation and will also present moments in which the stripe pattern can easily be seen by drivers entering and exiting the Airport campus.

Due to the narrow widths of the planting areas, conifer trees spaced between groupings of cherry trees provide a regular rhythm throughout the corridor, while also providing seasonal interest. The trees should be aligned with the striping to maintain the overall pattern.

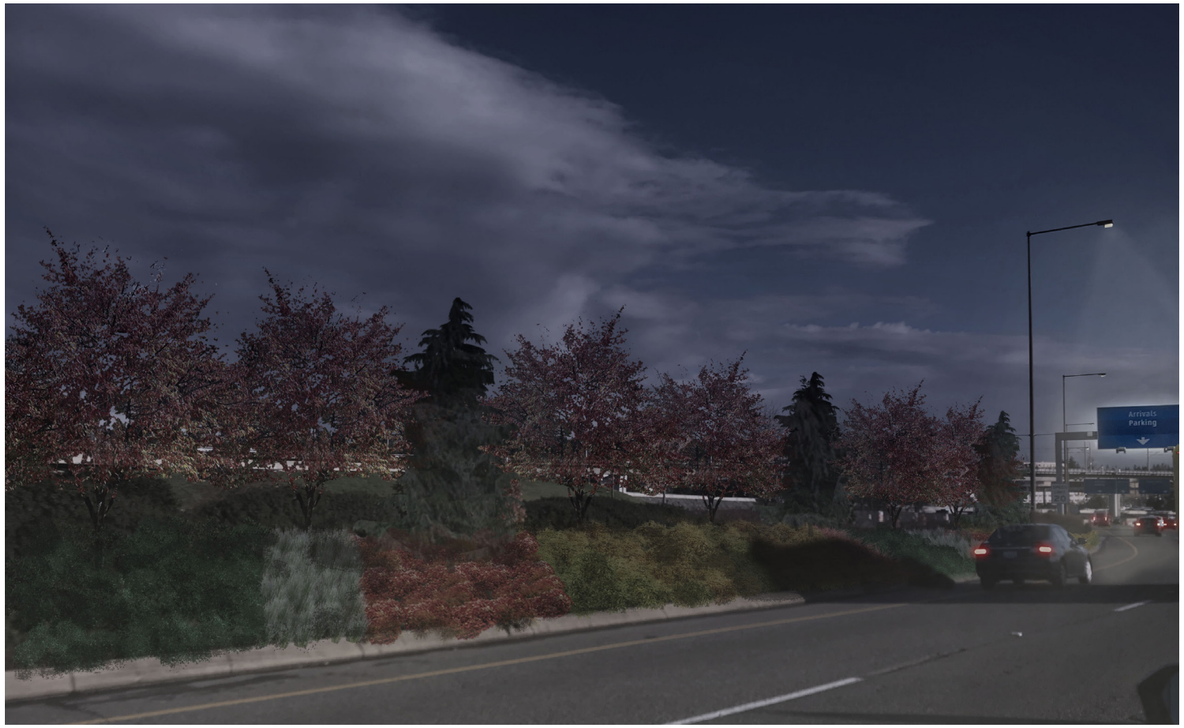


Corridor improvements key map.

Example corridor enlargement.



Proposed corridor design during the day.



Proposed corridor design at night.

NORTH GATEWAY ENTRY

Re-Visioning Artwork

The north entry was previously conceived as the *Emerald City* artwork, with a "structured landscape" approach. The art elements that are successful will be retained and elements that have adverse sun angles, growing conditions, or maintenance requirements will be removed or modified.

Gabion Walls

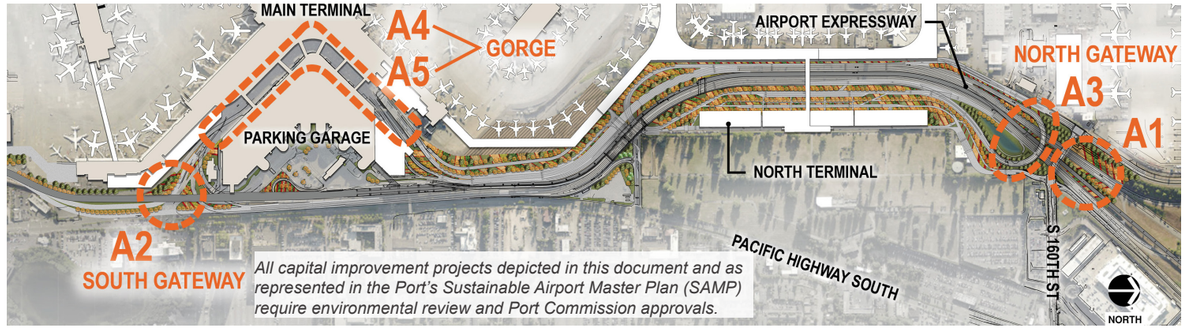
The gabion walls that terrace the steep embankment will be retained. The undulating berms running the length of the terraces will be lowered and shaped to work with new linear planting stripes. It was observed that view angles cause the walls to be seen for only a short time, as compared with the towers.

Plants

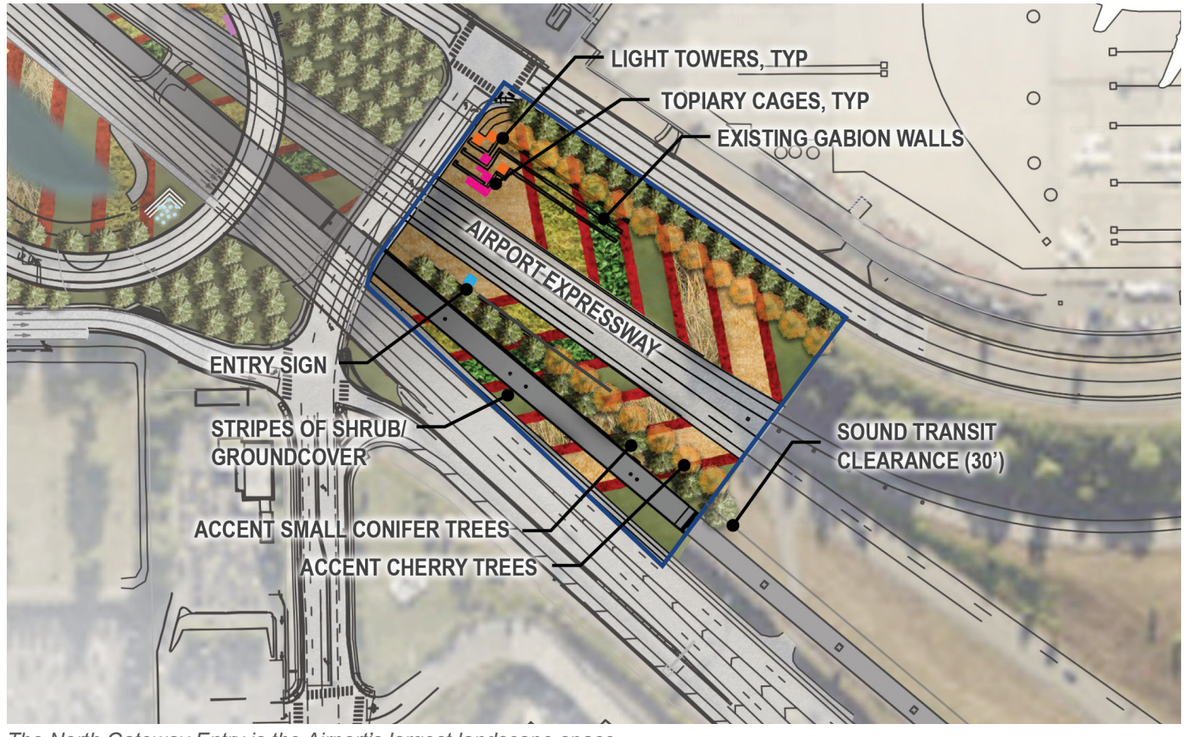
The linear colored stripes of plants that characterize the rest of the Airport campus landscape will be planted at the North Entry, running diagonally up the terraced slopes. Existing cherry trees will be replaced with new trees of similar variety. A backdrop of conifer trees should be explored as well. Soil preparation should occur prior to planting.

Seasonal and Daily Cycles

A seasonal palette of coordinated plant and lighting colors will provide a unified look that varies throughout the year. Change over the course of a day is expressed in the shifting shadow patterns on three Light Towers. At night, the towers are dynamic with fades and cycles of vibrant, colored LED lighting.



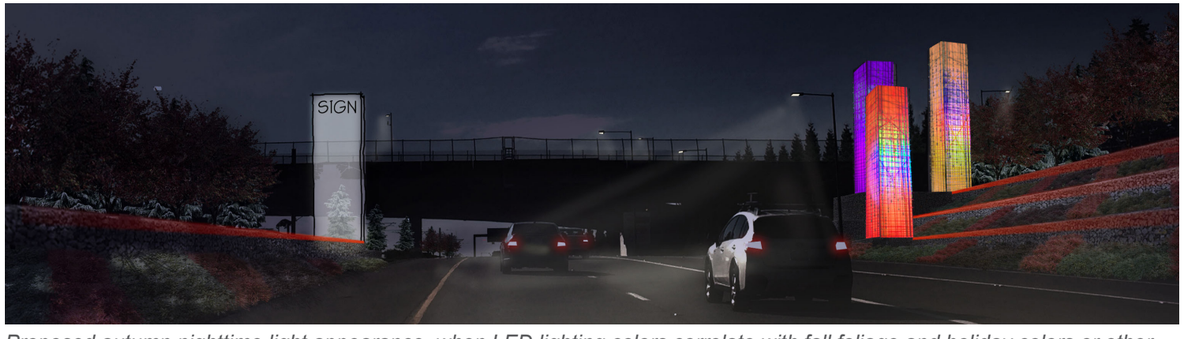
The North Gateway Entry is where the linear landscape treatment that identifies the Airport campus is introduced, and in this location is overlaid with a unique artwork that conveys "Bioregionalism" through interplays of light, structure, and landscape.



The North Gateway Entry is the Airport's largest landscape space.

Proposed daytime autumn plant appearance, shown in late morning when light towers are in partial shadow and partial sun (existing Clock Tower to be replaced with a vertical sign that will be designed at a later stage).

Proposed daytime spring plant appearance, shown in late morning when light towers are in partial shadow and partial sun.



Proposed autumn nighttime light appearance, when LED lighting colors correlate with fall foliage and holiday colors or other colors of local significance.

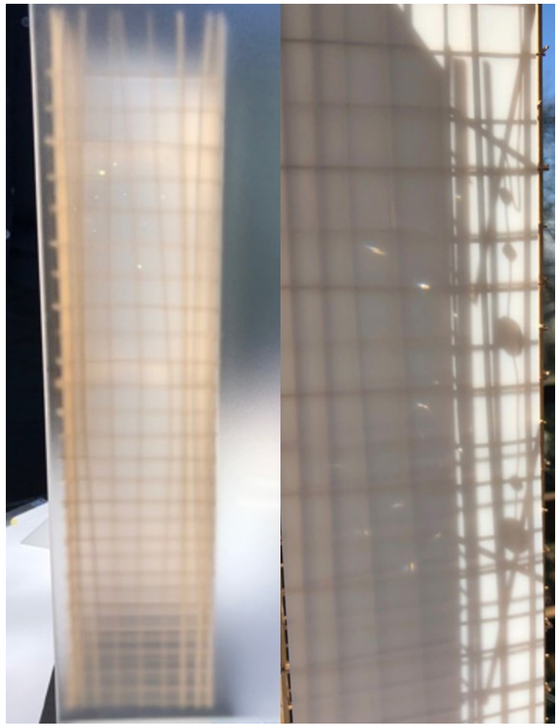
Light Towers–Daytime Lighting Effects

The existing *Emerald City* Vine Towers at the North Gateway Entry are proposed to be re-purposed into Light Towers, a different art concept. The vines would be removed from the towers, leaving only the stainless steel scaffolding. The towers would then be clad, on only the north and east façades, with translucent, light-diffusing panels. The south and west façades would be left open. From the 160th Street overpass, views of the existing exposed stainless steel structure, which glows when lit from the south, will be retained.

The intended lighting effect of the new translucent panels is that when sunlight streams into the towers from the south and west sides, shadows of the tower frame as well as shadows of objects that might be placed inside the tower, are cast onto the back of the translucent panels. This creates a luminous, magical appearance as viewed from the front, from the vantage of vehicles entering the Airport.

The cladding material is anticipated to be acrylic or glass with a light-diffusing translucency. Panel finish will be studied to minimize dirt accumulation. Panel thickness and attachment systems will be studied to ensure adequate rigidity. Engineering review will be required to determine what additional structure or design mitigations are needed to support the additional live (wind) and dead (weight) loads of the new panels.

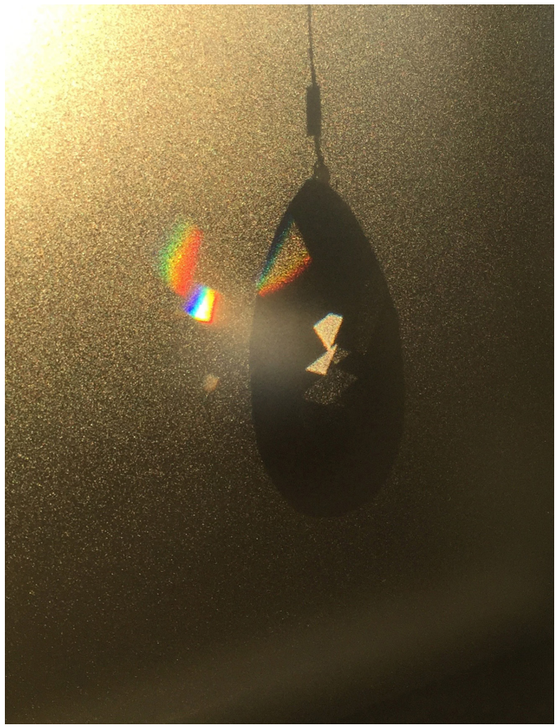
Many types of objects can be attached to the inside of the stainless steel towers to cast shadows, light, and color onto the back of the cladding. Clear prismatic objects can focus and refract sunlight and LED light into iridescent glints and spectrums to create a sparkling effect when light hits the prisms from an oblique angle. When light comes from down low and behind, the prisms will cast striking shadows. Teardrop-shaped prisms arrayed in vertical lines can represent raindrops. At certain moments, when the angle and quality of sunlight align, the Light Towers will evoke a metaphoric rendering of the elusive rainbow-inducing “sun showers” the Pacific Northwest is known for.



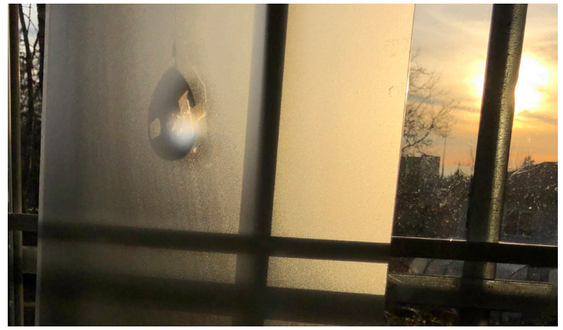
Model of existing tower structure with light-diffusing cladding on front and prisms hanging behind.

In contrast with the background evergreen tree silhouettes, in the late afternoon the Light Towers become luminous when backlit by sunlight and when both shadows of the structure and glints of prismatic light are cast onto the glowing cladding.

FRONT: Glints of iridescent light reflect off prisms and onto the back of a light-diffusing translucent cladding.



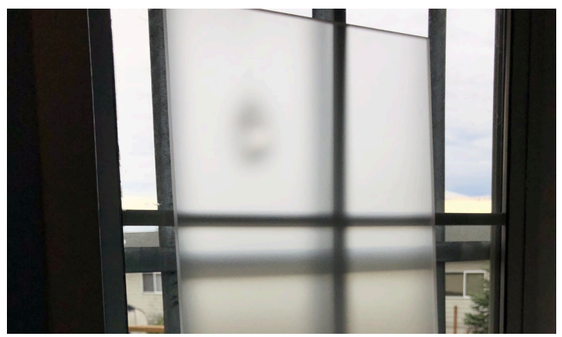
Low western light casts both shadows and spectrums of colored light when it hits a prism.



Sunset backlights shadow of both structure and prism.

Prism mock-up: teardrop-shape recalls raindrop.

BACK: Prisms on vertical cables connecting at top and bottom to structural tower cross-members.



On cloudy days, light-diffusing material still shows shadows.

Entry Feature – LED Lighting Effects

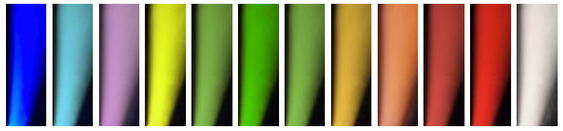
Colors. Color-changing LED lighting is proposed to provide visual interest at the North Entry through dynamic fades and cycles of light. The color schemes for the Light Towers and Topiary Cages will strongly tie to the common Airport Campus light colors informed by seasonal plantings, but will be more detailed and variable than at other lit features to create a unique, bold and memorable “welcome” experience.

Light Tower Lighting. The Light Towers are back-lit with an array of LED fixtures placed behind them—mounted to poles, gabion walls, the ground, and possibly the bridge structure. The LEDs will be positioned to illuminate the south and west faces of the towers, aiming through the steel framework at various angles to create dynamic shadow play. Intense light can be focused on the prisms to cast spectrums.

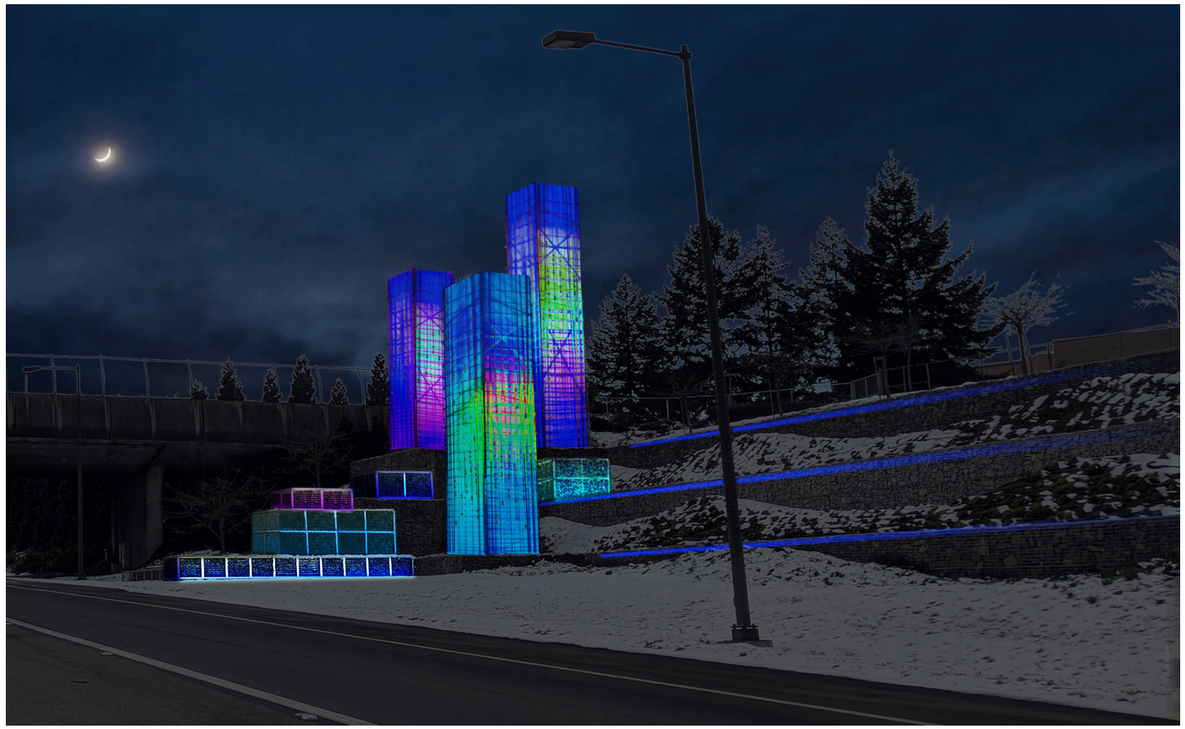
During most daylight hours the Light Tower LED lighting will not be visible. However, on dark winter days when sunlight levels are low enough, a photosensor can be used to trigger the lights to turn on (and then revert the next day to a regular dusk-to-dawn program).

Mockups to test various material options for the tower cladding—looking at thickness, translucency, and finish—will be conducted to find a material that affords the best balance of daytime and nighttime lighting.

Gabion Wall Lighting. The gabion walls can be lit with a tight-beam fixture mounted to the top of the south end of a wall and pointing north. Alternatively, continuous strip lights grazing the walls from below, similar to the proposed Topiary Cage lighting, is possible. Or, a tube similar to that proposed for the North Gateway loop road exit feature can be mounted to the top of the walls.



Gabion wall illumination cycles monthly through12 colors (shown here January-December) inspired by plant colors.



Light Towers are back-lit, casting shadows of structure and prisms; Topiary Cages are front-lit, highlighting evergreen plants; Gabion Walls are illuminated at top edge, tying to other proposed Airport campus linear lighting (new plants not shown).

Mock-up testing effects of colored LED lighting on various types of shadow props.

Proposed spring nighttime light appearance, when LED lighting colors correlate with spring foliage and holiday colors.

On winter days when sunlight levels are very low, Light Tower illumination will be visible.

Topiary Cages

The existing *Emerald City* artwork includes a set of welded wire mesh “Topiary Cages” with a variety of evergreen shrubs growing inside of them. As they’ve grown, the shrubs have been clipped to conform to the shape of the cages. They are presently achieving maturity. Removing the existing monument sign, as proposed, will reveal them. It is desired to retain the Topiary Cages and possibly supplement them to create a more cohesive composition. The Topiary Cages will be front-lit with a color-changing strip light placed in front of them, grazing up the luminous stainless steel frame and textured foliage.

Topiary Cages to be revealed and supplemented when sign is removed; entry feature shown lit in winter color palette.

Existing stainless steel topiary cages with evergreen plants; mesh coordinates with gabion wire mesh.

Topiary cage detail, with removable panels.

Sign

Gateways at priority public-accessible roadway entrances are a very important element of an Airport's signage and wayfinding system. They create an introduction to an Airport's signage system, including its branding, visuals, and design features. They also act as a virtual "voice of the owner," creating an introduction to an Airport sign system's tone-of-voice, while also affecting the public's initial perception of the Airport itself. A gateway must function not only as something that binds several differing design elements into a harmonious presentation, but must also provide a definitive sense of arrival within an Airport's property.

Note that the sign portion of the new North Gateway, as presented within this document, is intentionally nebulous and will require further design development in tandem with the Airport's current re-branding efforts and in-progress Signage Master Plan. The conceptual sign forms and placement shown are intended as general placeholders only, and a final selection by executive leadership was not possible at the time of this document's publication. No definitive direction, opinion, or choice is provided. The information and concepts presented are for general informational and historical reference only.

Sign Placement

Placement of the sign was discussed with executive leadership, and was determined to be located within the same general area as the existing clock tower. The amount of space between the sign's body and additional elements were also discussed. Additional placement considerations, including insufficient space between elements could result in maintenance difficulty, and must be taken into account for final design.

Consideration must also be given regarding the sign's proximity to the nearby Link Light Rail station. Clearances from the station must be determined and maintained to avoid any visual disruption to train operators.

Variable Message Sign

It was also recommended by the design team that the existing VMS (Variable Message Sign) currently located on the nearby overpass be relocated. This would enhance the Gateway's image, while also minimizing the visual overload and processing of information that may adversely affect driver reaction time. Final locations for the re-located VMS were not determined and will need to be addressed within the Signage Master Plan.

Mock-up

The creation of a Gateway sign mock-up was also recommended by the design team. This will ensure that factors such as the sign's scale, placement and visibility are adequate, and will meet the requirements of the original design intent. Prior to final fabrication, it will also allow testing of the sign's day/night visibility by viewing contrasting elements, finishes and illumination in real world conditions, including local seasonal and weather-related ambient lighting.

North Gateway Exit

Concepts for a new Gateway sign located at the Airport's north roadway exit area have not yet been developed. However, the design team did recommend that a new sign be considered for future implementation at this location. The sign would act as a visual cue to notify drivers that they are leaving the Airport's property and entering the surrounding community.

Use of a full-color matrix dynamic screen as part of the design was also recommended. This would allow for the implementation of changeable content, including welcoming/seasonal messaging, imagery and graphics. It was recommended that discipline be maintained to only use the dynamic area for these purposes, and to resist utilizing it for advertising or other ancillary uses. The sign's design would also need to match the other new gateway elements, artwork, and landscaping for consistency. Additionally, any exit-related signage will need to be coordinated with and approved by local municipalities and accommodate all of their requirements for such signage.

South Gateway

Sign concepts for the south entrance area of the Airport have also not yet been developed. These concepts are also pending final execution of the Airport's current in-progress re-branding efforts. It was noted by the design team that a smaller scale/modified version of the final North Gateway signage would be created during design to ensure consistency Airport-wide.

Background

Various sign concepts were presented to and reviewed by the Airport's executive leadership and stakeholders. During this process, the initial direction provided by executive leadership was that the sign be a vertical element rather than horizontal. The verticality of the sign would be a general placeholder and many different sign forms could be accommodated.

Many additional form studies were presented that visually tie the materiality of the light towers and other artwork into the materiality of the sign (see section "Sign: Concept Form Exploration" on the following pages for additional detail). The final selected materials were to complement the other portions of the Gateway, as well as the updated landscaping. The design team also noted that the final sign design would not compete with the artwork if the sign were minimized.

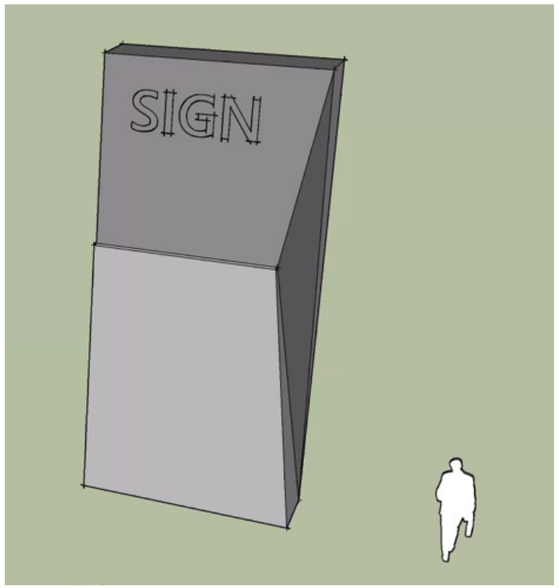
During this development process, it was emphasized that the concepts are only exploratory ideas. The final decisions would be determined during future design refinement processes, and in coordination with current in-progress re-branding and signage planning efforts.

Additionally, it was noted that the Airport's re-branding exercise needs to be completed before a final form, materials, colors, and inspiration for the sign can be determined. Sign concepts were placed on hold until the branding effort is completed, since it will determine the final shape, color and wording to be located on the sign.

Monument sign placeholder location at North Gateway.

Sign Concept Form Exploration

Conceptual signage form options were presented to executive leadership during an early exploration process. Through several consensus building meetings, executive leadership chose an option based on their preference for a vertical form that would complement other conceptual Gateway elements, while also flanking them within the nearby center median area of the north Airport entrance approach roadway (original concept form shown below).



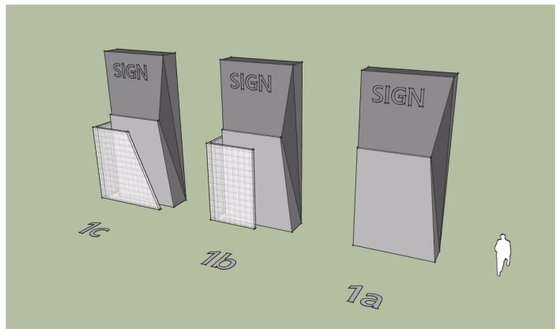
Original Chosen Vertical Sign Concept Form.

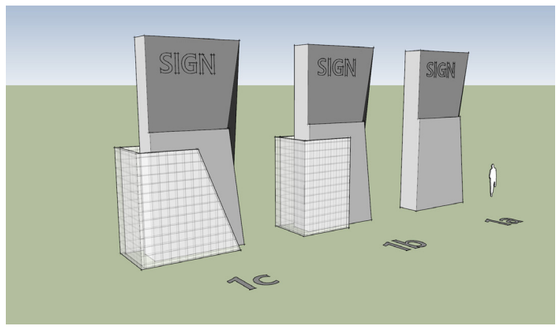
The design team further explored how the chosen option might better visually tie into other Gateway elements, while leaving flexibility regarding color, Airport naming and text treatments for the eventual implementation of new Airport re-branding efforts. This process resulted in five unique sets of conceptual form exploration options, grouped by similar visual elements, forms and design language.

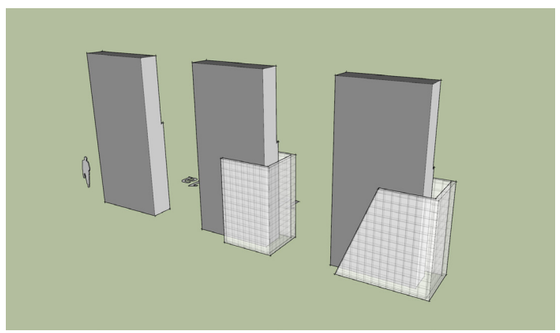
The following section describes each form exploration group in further detail, including their specific inspiration and design intent thought processes. Each individual form option is also organized by a group number and unique sub-letter for reference.

Form Exploration - Group 1

This series of options is inspired by Option 1a (the original concept chosen by executive leadership). The design team explored how the original option might be better adapted to visually tie into the other light tower and artwork elements through use of an edge-wrap panel unit. Its materiality, lighting, and color treatments would match the light towers. Two shape versions were explored: a straight vertical-edge option to closely mimic the light towers, and an angled-edge option to visually bridge the sign forms with the light towers. The edge-wrap panel also provides additional visual interest to the sign's rear view.



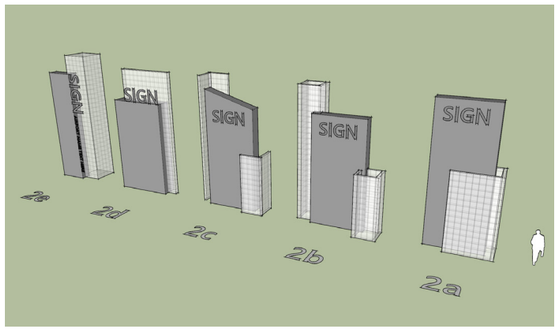


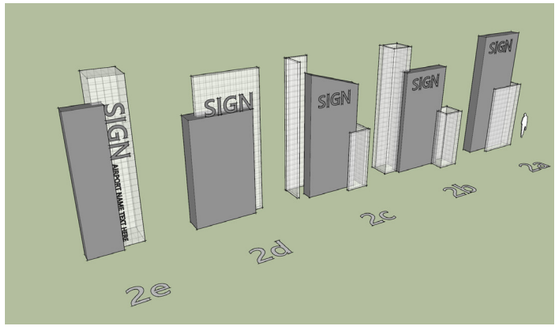


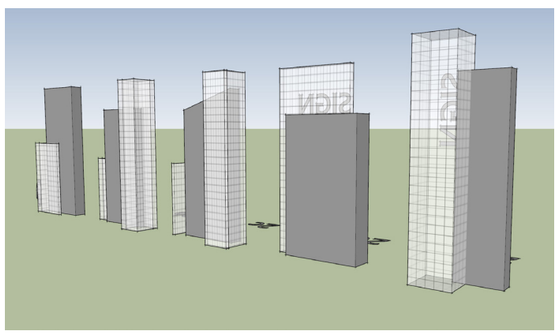
Sign Form Exploration - Group 1.

Form Exploration - Group 2

This series of options is inspired directly by the vertical tower/box forms of the Gateway's light towers. The offset and varied heights of the light towers and ground-based artwork shapes are carried over into the visuals of these forms. Placement for identification text was also explored in varying formats to play with the offset shapes and differing materiality of the solid sign form against the translucent tower forms. In the instances where dimensional lettering floats above or along the main opaque sign box, the translucent forms would help mask/minimize the visibility of the backward letters.



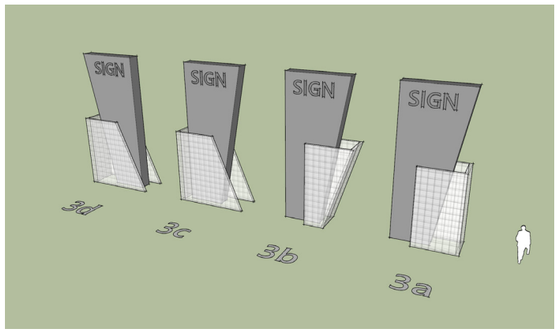


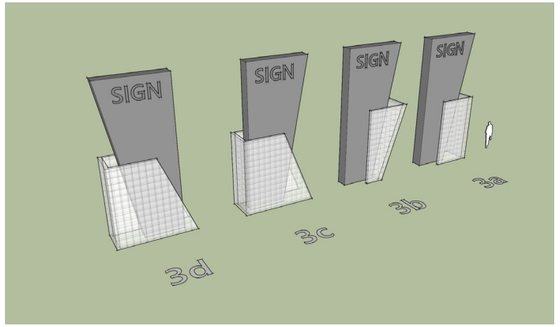


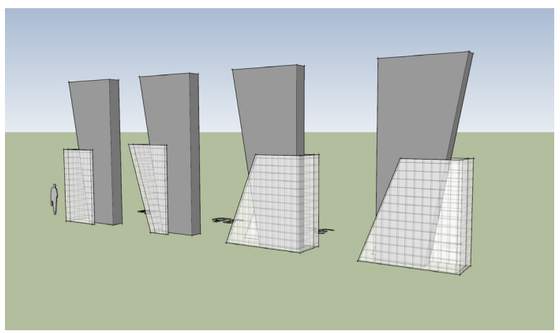
Sign Form Exploration - Group 2.

Form Exploration - Group 3

This series of options is inspired by the angled shadow-line features within the light towers. The intent was to play with the lighting and shadows between the opaque sign monument form and translucent edge-wrap panel in a manner that would mimic the angled shadow-lines within the light towers, while also complementing and standing out from the other Gateway elements. Materiality, lighting and color treatments would again match the other Gateway elements.



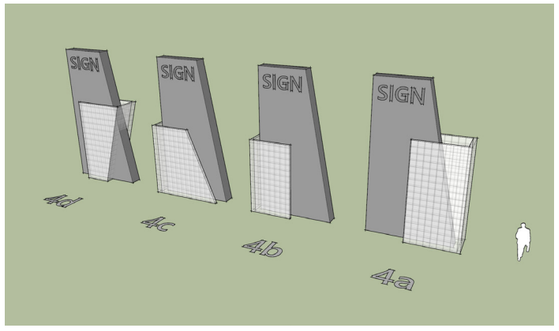


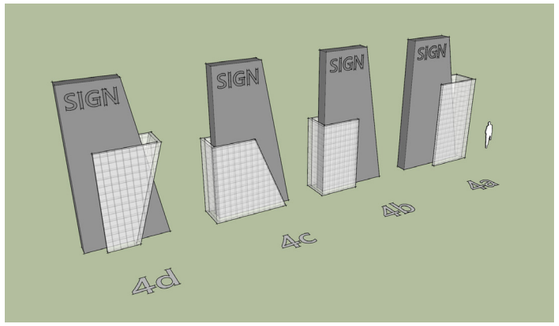


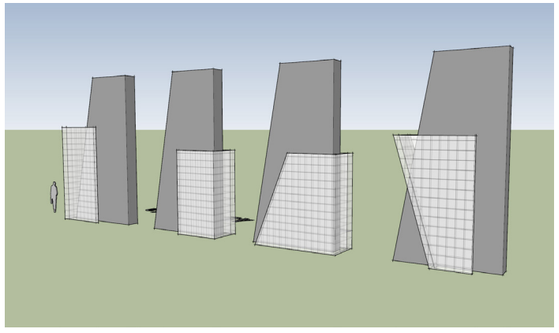
Sign Form Exploration - Group 3.

Form Exploration - Group 4

This series of options is very similar to Group 3, but the main opaque sign form is reversed vertically so that the slope tapers from a wide point at the ground upward (instead of downward from the top as shown in Group 3). Again, the general design intent was to play with the angled shadow-line forms found in the light towers, and is otherwise similar in every other regard to Group 3.



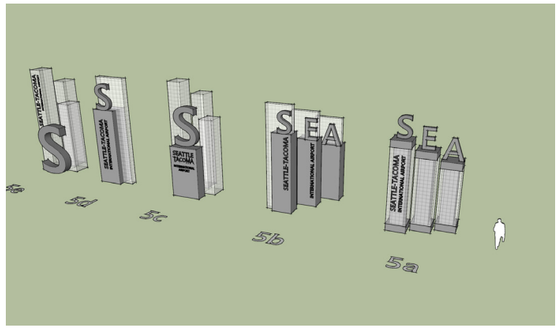


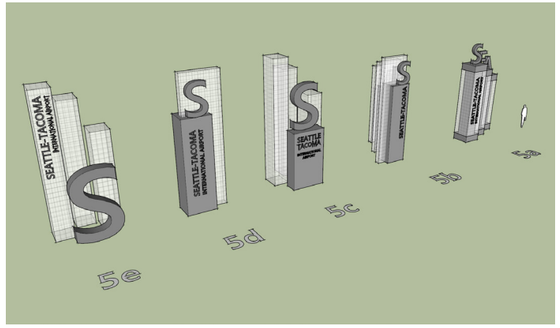


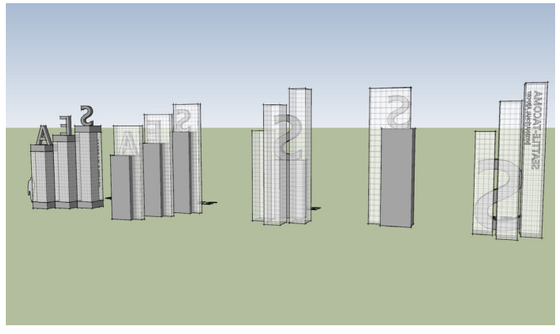
Sign Form Exploration - Group 4.

Form Exploration - Group 5

This series of options is inspired by the use of large letter-forms as seen at other major international airports throughout the world. Utilizing a series of pedestal forms for grounding the letter-forms allows for subtle “movement” inspired visuals, while providing a grounding element for the Airport’s name letters. Use of translucent forms matching the light towers also visually ties the sign elements to the rest of the Gateway, while also providing a backdrop/masking feature to soften the backwards view of the letters to traffic traveling in the opposite direction.







Sign Form Exploration - Group 5.

NORTH GATEWAY EXIT

Plants

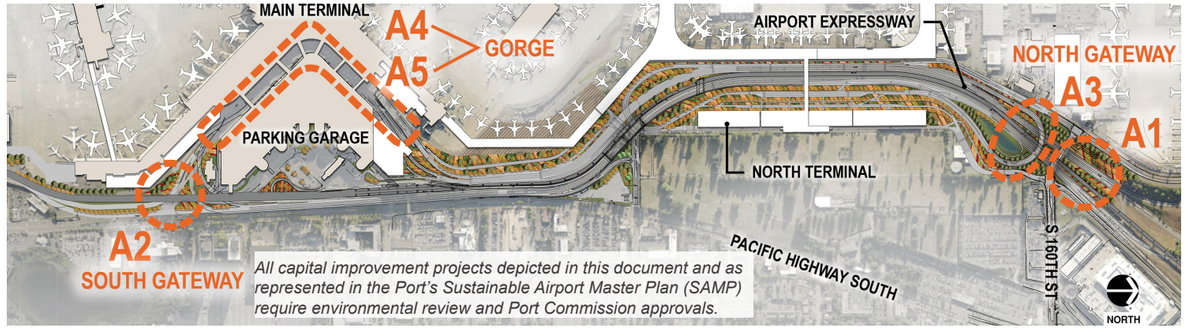
Existing detention pond plantings and trees along the North Exit loop road will be retained. The angled stripe pattern can be planted along the main visual corridor adjacent to the roadway. Care should be taken not to block views of signs and the gabion wall focal points.

Sign

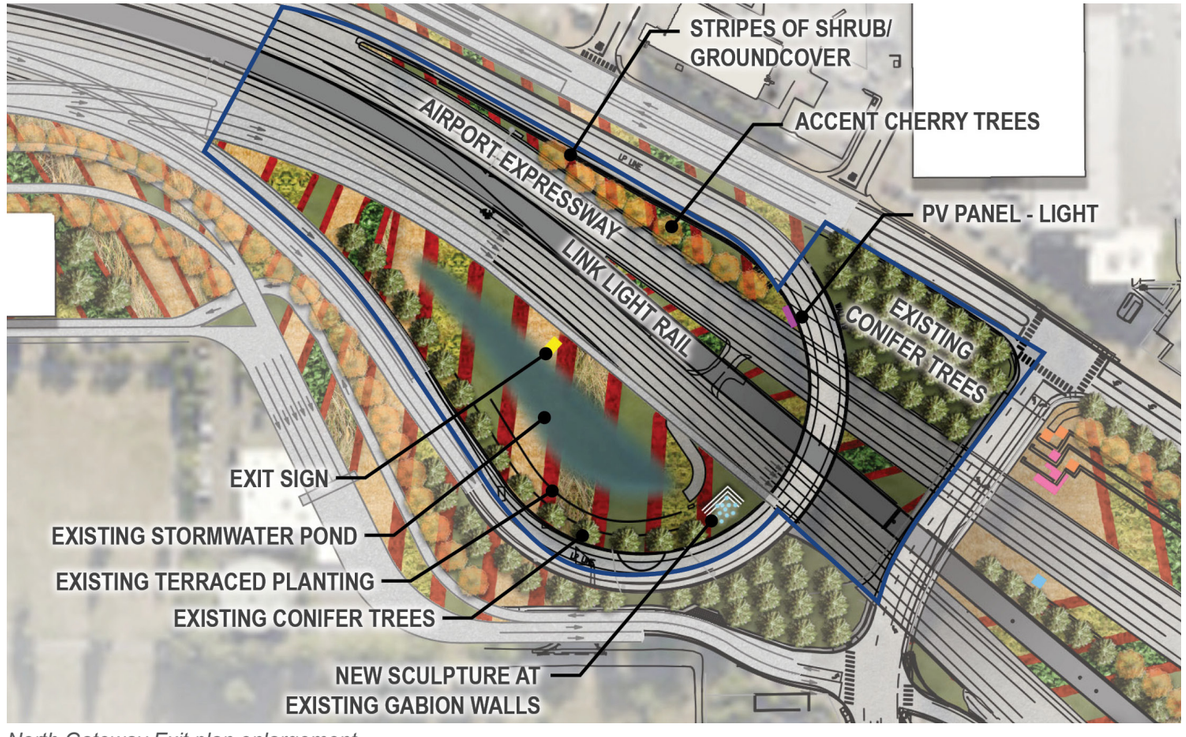
A low-height dynamic or static sign coordinated with the other Gateway entry signs could be located at a visually prominent location along the bend of the roadway. The appropriate sign location in proximity to traffic will be decided during design when transportation engineering data is obtained.

Gabion Walls

Three tiers of curvilinear gabion walls forming a point at the loop road's east abutment are part of the existing *Emerald City* artwork and are proposed to be retained. The low groundcovers planted on the narrow terraces formed by the gabions should be replaced with special accent planting that compliments a sculptural installation that may be integrated with the gabion walls. If a new sculpture is not added to the existing gabion artwork, replacement plantings may instead cohere with either the campus wide linear planting bands or the concentric rings of plants that characterize the current detention pond planting.

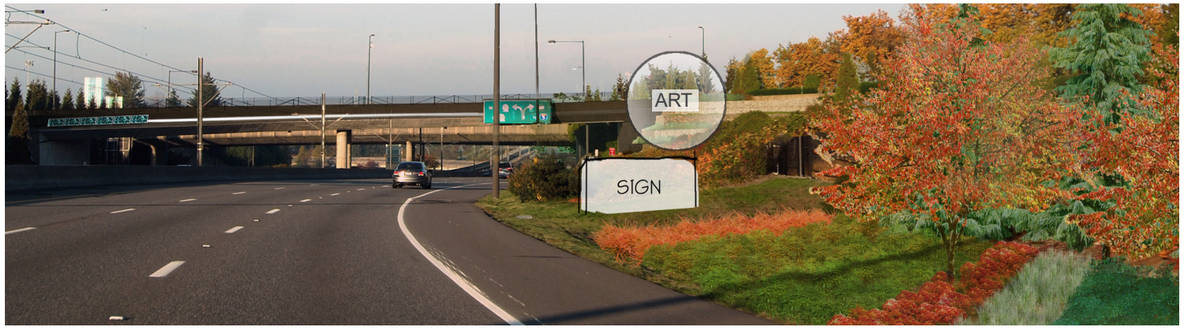


Priority improvements key map.



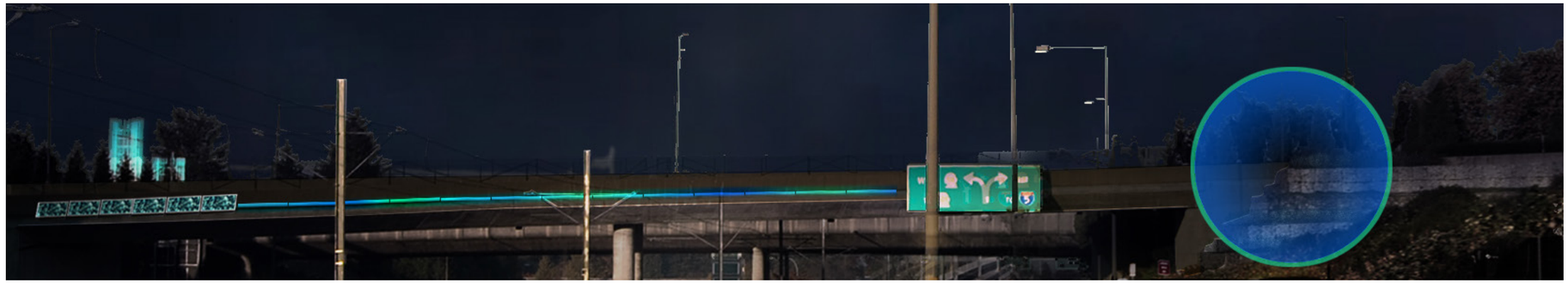
North Gateway Exit plan enlargement.

Existing North Gateway Exit, showing loop road overpass, gabion walls, and concentric detention pond plantings as seen from the loop road during the day (photo taken soon after construction).

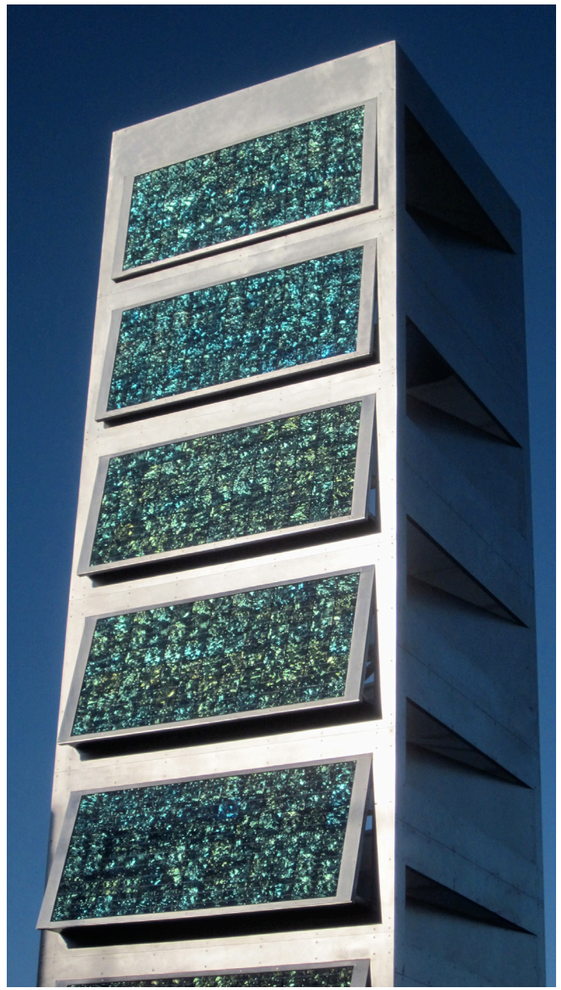


Proposed North Gateway exit, showing daytime autumn plant appearance, south-facing photovoltaic panels sparkling in sunlight, linear overpass light fixture location, new sculpture placeholder on existing gabion wall artwork, and sign placeholder.

Proposed North Gateway exit, nighttime appearance with various illuminated features, including a new sculpture at the existing gabion walls, combining to form a wide horizontal portal framed on both ends with larger elements.



Proposed North Gateway Exit nighttime appearance, including, from left to right: tops of entry Light Towers lit from behind, repurposed green crystalline photovoltaic panels (shown front-lit), a color-changing linear light band, and new illuminated sculpture placeholder on existing gabion wall artwork



Existing green crystalline photovoltaic panels on the south side of the North Gateway Clock Tower, which may be repurposed when the Clock Tower is removed in the future

North Gateway Exit Features

Two design/art enhancements, both having daytime and nighttime visibility and both building off existing art elements, are proposed for the North Gateway exit. The first is a linear band of photovoltaic panels and LED lights on the edge of the loop road. The second is a sculpture at the existing illuminated gabion wall art feature. These two additions should compliment each other as well as their context but should also be designed to work on their own so they can be implemented simultaneously or in phases.

Color-changing direct view linear LED luminaire proposed to create ribbon of light on the loop road overpass

Concern that additional art elements might distract drivers was discussed. It is believed that a new sculpture at the gabion walls as well as a light element on the Loop Road overpass would be most visible to drivers before they arrive at the overpass, so that when they do arrive they can focus on reading the directional highway sign located overhead. A question of what distance the art elements and highway sign should be separated was posed. These safety concerns will be a part of concept development and a traffic engineer should review and evaluate all proposed enhancements at that time and provide parameters to ensure safety.

Photovoltaic-LED Overpass Installation

When the North Gateway entry Clock Tower is replaced by a new entry sign, the green crystalline photovoltaic panels on its south side are proposed to be moved to the most southward-facing portion of the Loop Road overpass to create a new feature, with sustainability through repurposing in mind. These could generate power needed to run a simple new light feature.

An accent light is also proposed to be added to the south edge of the overpass, similar to the light elements proposed for other parts of the Airport, such as the parking garage. An end-to-end ribbon of direct-view linear LED luminaires is proposed to be mounted to the overpass to create a glowing line that articulates the curving portal out of the Airport. The LEDs will terminate at or near the existing highway sign. These lights could be programmed to signal how much photovoltaic energy was generated over the course of the day. They will be color-changing, generally in the Airport-wide seasonal light color palette but with slow fades and pulses to other similar colors at a speed that is slow enough to not distract drivers. During cloudy days the lighting effects will also be visible.

Illuminated Sculpture at Gabion Walls

The existing illuminated gabion wall artwork at the North Gateway exit would benefit from a vertical enhancement to act as a final “goodbye” to people leaving the Airport and heading toward their ultimate destinations. This piece will also be visible to people entering the Airport, after they have passed through the North Gateway Entry area. The gabion wall area offers the best potential for a new sculpture at the North Gateway Exit because it is close to the road and will be seen for the longest time by those leaving the Airport.

From the point of view of northbound motorists, artwork placed on the gabion walls will be front-lit by the sun and therefore has a different range of possibilities than occurs at the North Gateway Entry (which is most often lit from behind). Nighttime lighting incorporated into the new artwork is recommended to create a strong light portal framing the exit experience. In this scenario, the existing blue and green LEDs on the gabion walls may need to be modified or removed to accommodate the new art concept.

Sensitivity to how a new sculpture will integrate with the existing gabion artwork, the photovoltaic-LED overpass feature, signage, and art elements at the North Gateway Entry will be an essential part of forming a cohesive and memorable experience for those both entering and exiting the Airport.

Existing blue and green lighting on existing gabion walls

SOUTH GATEWAY

The South Gateway landscape design builds on and is intended to coordinate with the North Gateway. The planting layout and pattern, the overall design of signs, and lighting and materials should be consistent.

Plants

To help focus visual attention on the intersection and gateway entry, a hedge of conifer trees is proposed behind the fencing to help screen the concrete infrastructure in the background.

Signs

Since the predominate volume of visitors of this entry are coming from the south, a monument entry sign is proposed at the prominent northwest corner of the intersection. An exit sign that identifies the City of SeaTac would be integrated into the southwest corner of the intersection.

Gabion Walls

The grades of hillsides would integrate gabion walls as terraces. The linear walls parallel to the roadways provide a visual contrast to the stripe pattern of the plant design. Gabion walls can also be used as vertical elements at the entry itself.

Flag Plaza

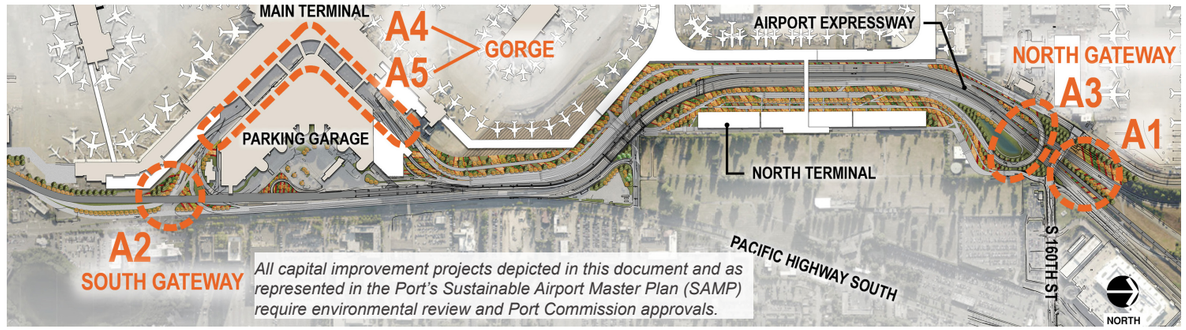
The existing flag plaza at the south corner of the intersection with utility boxes and poles provides a visually cluttered sense of arrival. The flag plaza should be integrated into the landscape, coordinated with the entry sign, and relocated to the north side of the entry as a pedestrian amenity.

Lighting

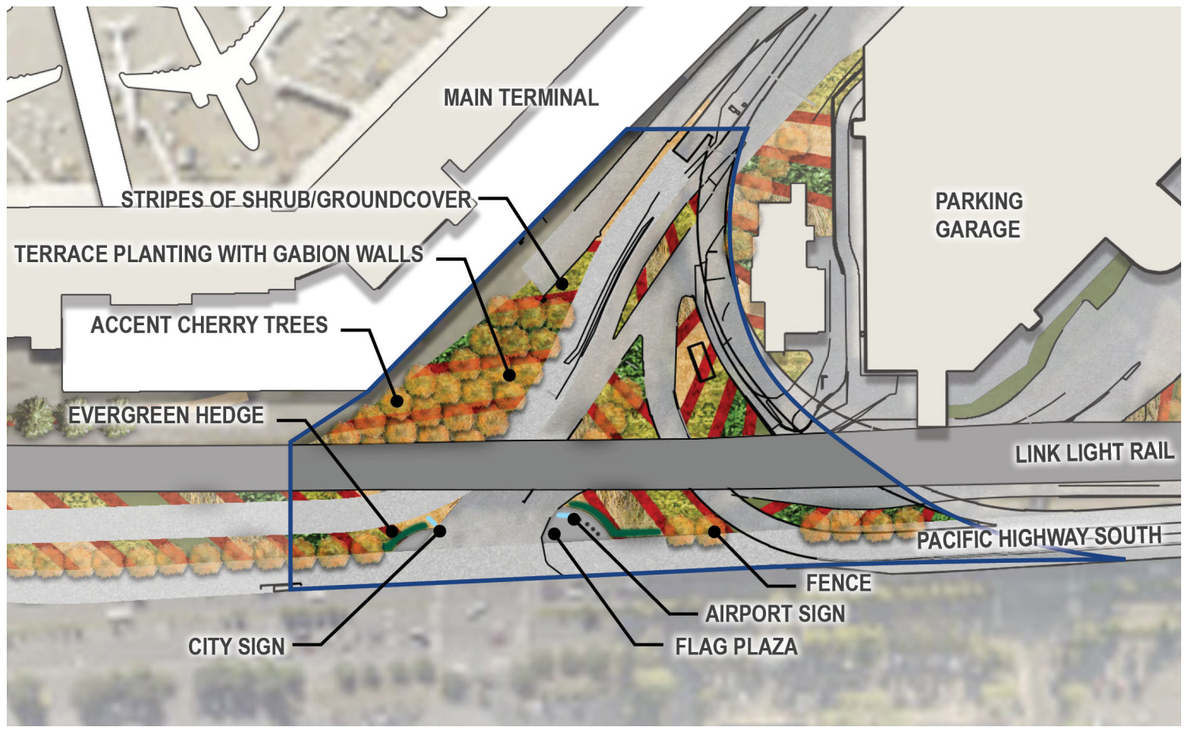
Accent lighting similar to the North Gateway should be provided along the gabion walls to emphasize the terraced effect at night. As a dominate feature, color accent lighting could be used to cast light onto the Sound Transit structure and integrate it into the entrance as a gateway feature at night. Preliminary conversations with Sound Transit indicate this may be possible, as long as their maintenance activities are not impacted.

Fencing

A decorative fence such as a vertical, picket rail fence should replace the existing chain link fence. The decorative fence can be extended on both sides of the entry to provide visually consistency and reinforce the idea that the Airport is a campus. The fencing should not be a predominant feature and call attention to itself.



Priority improvements key map.



South Gateway plan enlargement.

Existing South Gateway welcome sign, south side.

Existing South Gateway welcome sign, north side.

Existing South Gateway.

Proposed South Gateway design during the day.

Proposed South Gateway design at night.

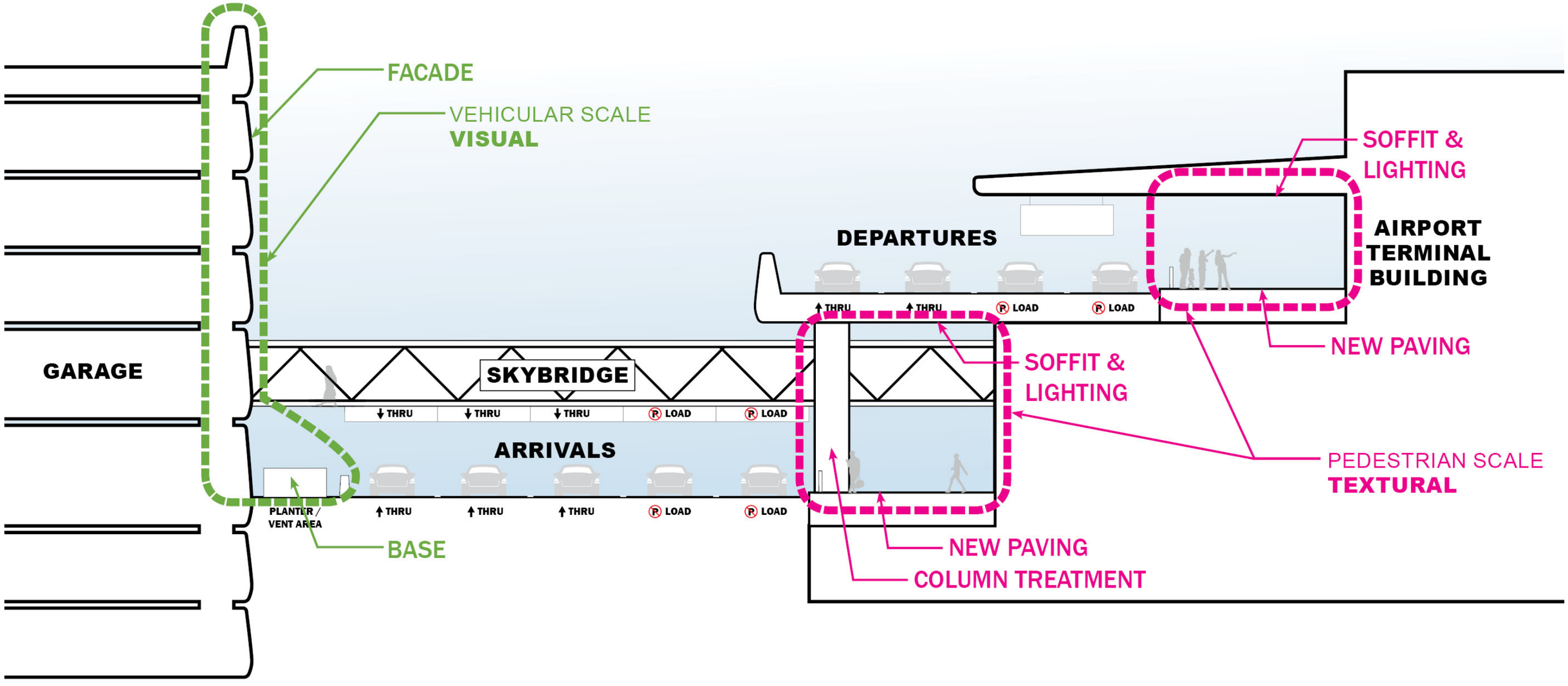
THE GORGE

The Parking Garage (A5) and the Terminal's arrival/departure areas (A4) form a "gorge-like" canyon through which customers pass. It is the main destination for those arriving onto the Airport campus. Each side of the Gorge is experienced at different scales. Potential ideas for enhancements in these areas were developed from the bioregional concept.

Large-scale, Visual Experience. The monolithic garage façade rises up and is mostly visually apparent when driving into the Gorge. It's also the main view for customers in the sky bridges exiting the terminal, as well as customers waiting in arrivals for their rides. As such, it is mostly experienced at a visual, large-scale level.

Smaller-scale, Textural Experience. The Arrival/Departure areas are experienced at a human scale. It is where customers load/unload luggage, wait for rides, and begin/end their journeys at the Terminal. It is where furnishings and details are seen up close and whose texture can be touched. It sets the stage for the interior of the Terminal.

Existing Gorge.



Gorge section: Garage and Arrivals/Departures areas.

GARAGE FAÇADE

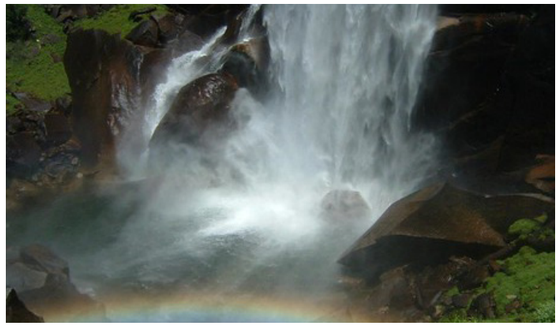
Concept Idea: Express Water

The strong vertical towers, layered levels of concrete, and the plinth areas at the foot of the garage façade provide a large expanse of gray concrete, evocative of the stone and rock in the region often in association with the region's reputation for wet climate.

The region's rain, waterfalls, puddles, seas, lakes, and cascading streams are all interpretive elements that could take expression in enhancing the gray, monolithic façade. The water plays with light, often reflected from the seas and lakes and refracted into rainbows from our waterfalls.

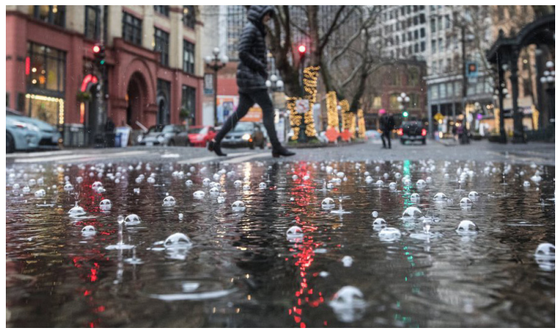
Another theme is the region's international reputation for creative glass work. Both Tacoma's Museum of Glass and Seattle's Chihuly Garden and Glass are increasingly indicative of the region as a glass blowing and glass production hub.

The glass provides the material through which the bioregional idea of water and the play with light can be expressed.

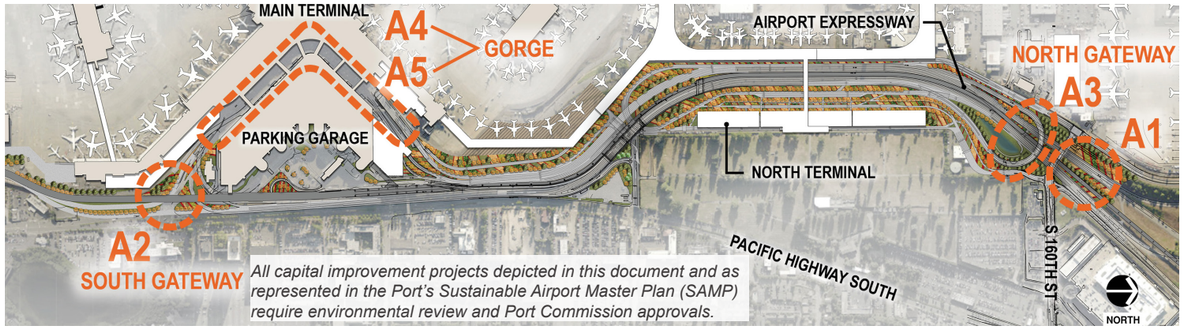


Concept: Water and reflected light.

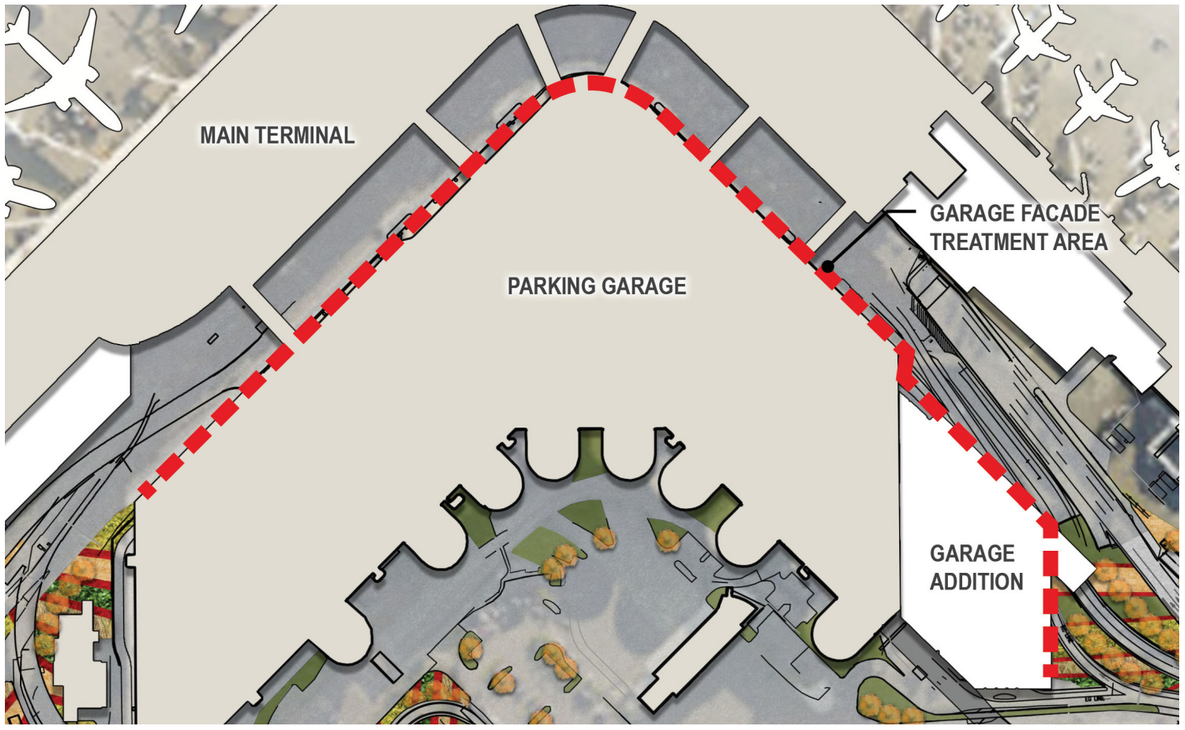
Concept: Water and the Puget Sound.



Concept: Rain.



Priority improvements key map.



Parking garage area.

Concept: Blue glass artwork.

Concept: Blue glass artwork.

Concept: Blue glass in landscape, illuminated.

Concept: Blue glass in landscape.

Towers

Using recycled glass with blue hues to represent rainfall and mist, the towers could provide a backdrop for symbolic “raindrops” of glass and prismatic glass suspended in front of the façade. These would glow in various light conditions and catch sunlight to produce rainbows and reflections on the concrete. The experience would change and vary throughout the day and time of year.

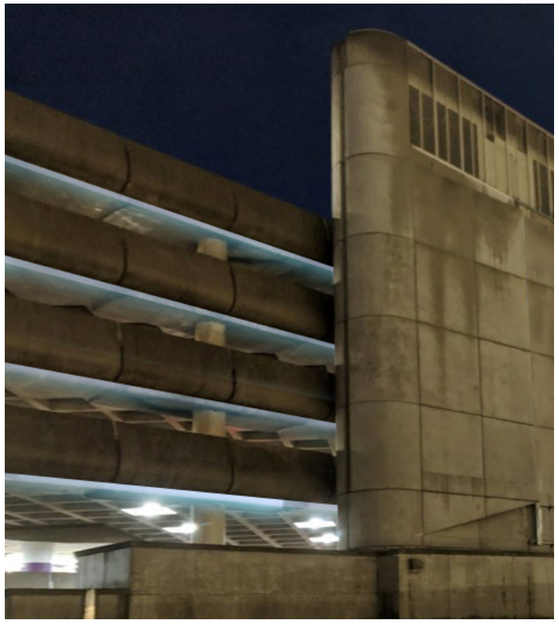
Base

At the base of the façade, gabions of recycled, blue glass would mimic the cascading falls of a stream or river, with translucent, glass columns referencing waterfalls. Fill areas could receive tumbled glass aggregate in lieu of the existing gray cobble.

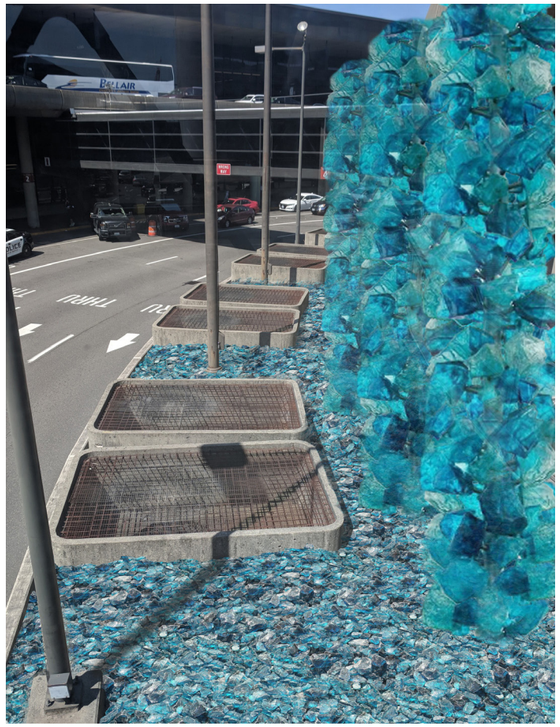
Lighting

Linear bands of accent light could be added to each parapet floor to emphasize the strong, horizontal lines of the garage structure. The color of the accent light would tie into the accent light color scheme used throughout the campus. Pulses of light could travel along the linear fixtures, providing a dynamic display at night.

Lighting would also internally light the glass gabions, glass columns, glass surfacing, and shine on the glass “raindrops” producing a glowing and rich ambiance.



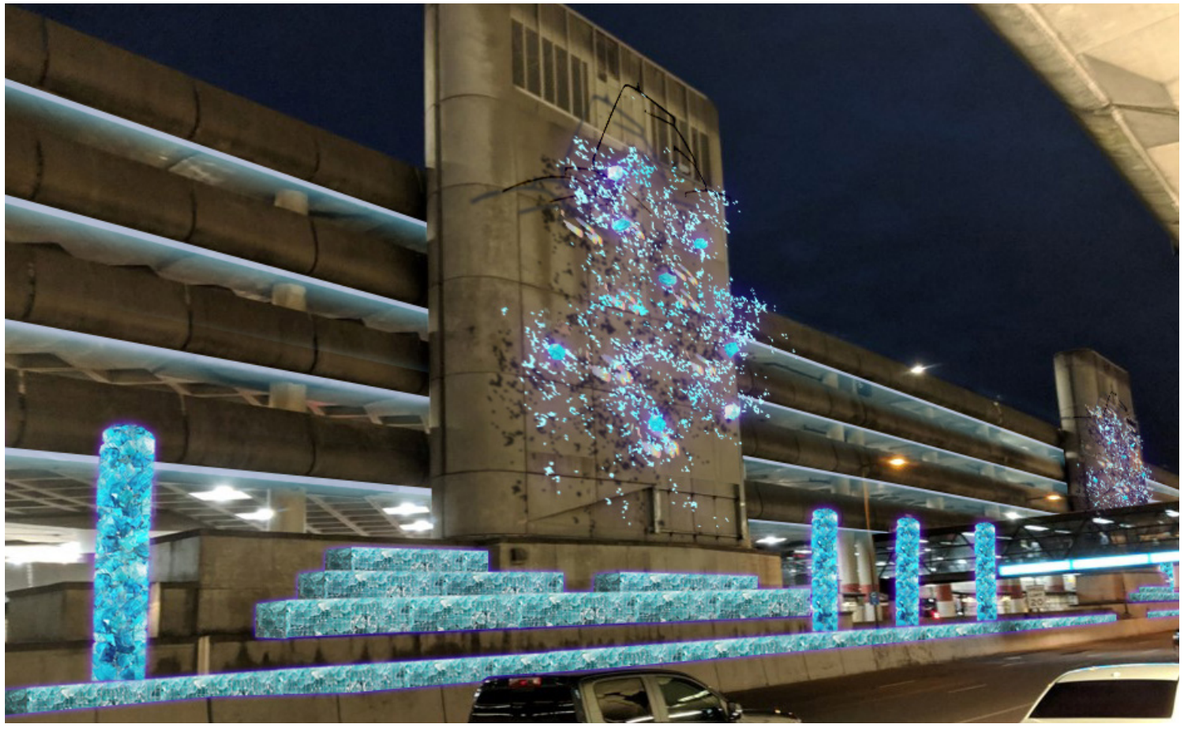
Pulses of light traveling along the garage façade.



Proposed garage design during the day.

Proposed garage design at night.

Proposed garage design during the day.



Proposed garage design at night.

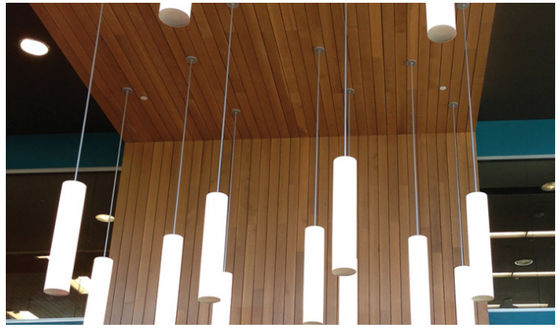
ARRIVALS & DEPARTURES

Concept Idea: Express Pacific Northwest

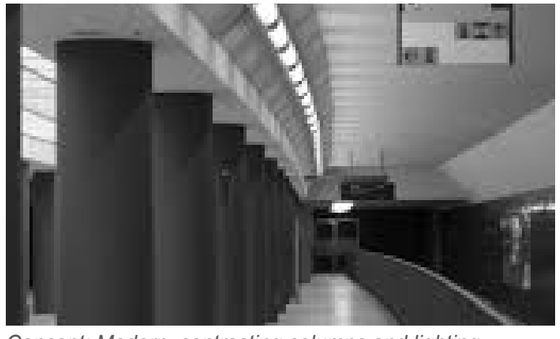
The concept idea incorporates design elements already found in the Terminal's interior and references the materiality of the Pacific Northwest. The concept is also coordinated with the proposed stainless-steel bollards and the concrete floor pattern of linear bands.

New furnishings should be a combination of stainless-steel finish, black finish, and high density paper composite (HDPC) material. HDPC planks under the soffits present a natural "wood" look without the maintenance demands of real wood. Light fixtures could be changed to hanging, cylinder-type lights with frosted glass to provide a warm glow and complement the strong repetition of the supporting columns. New lights would be located so that airline signs are more visible. Columns would be painted black to coordinate with the window molding. Their bases would be surrounded with stainless steel for protection from scrapes and bangs from luggage carts.

With these simple changes, the customer experience is enhanced and presents a warm and welcoming ambiance.

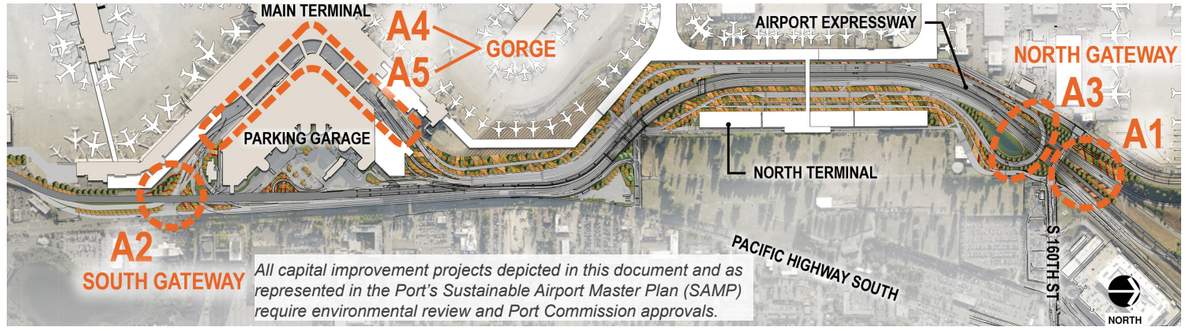


Concept: Wood soffiting with pendant lights.

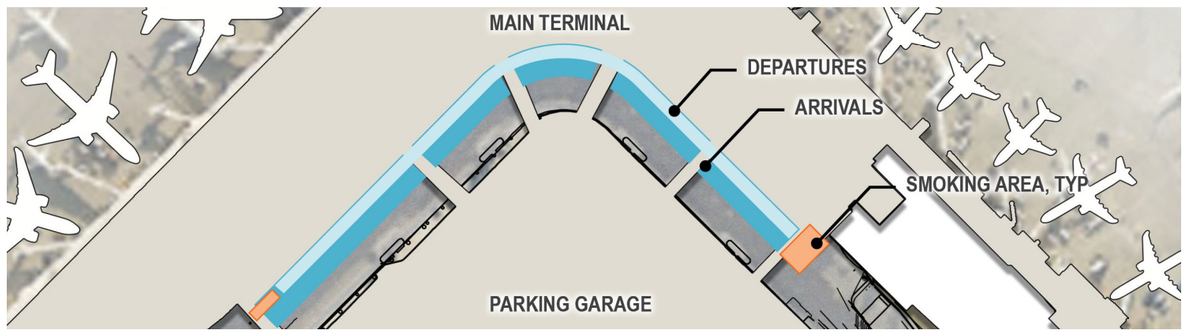


Concept: Modern, contrasting columns and lighting.

Proposed arrivals design during the day.



Priority improvements key map.



Arrivals, departures location.

Proposed arrivals design at night.

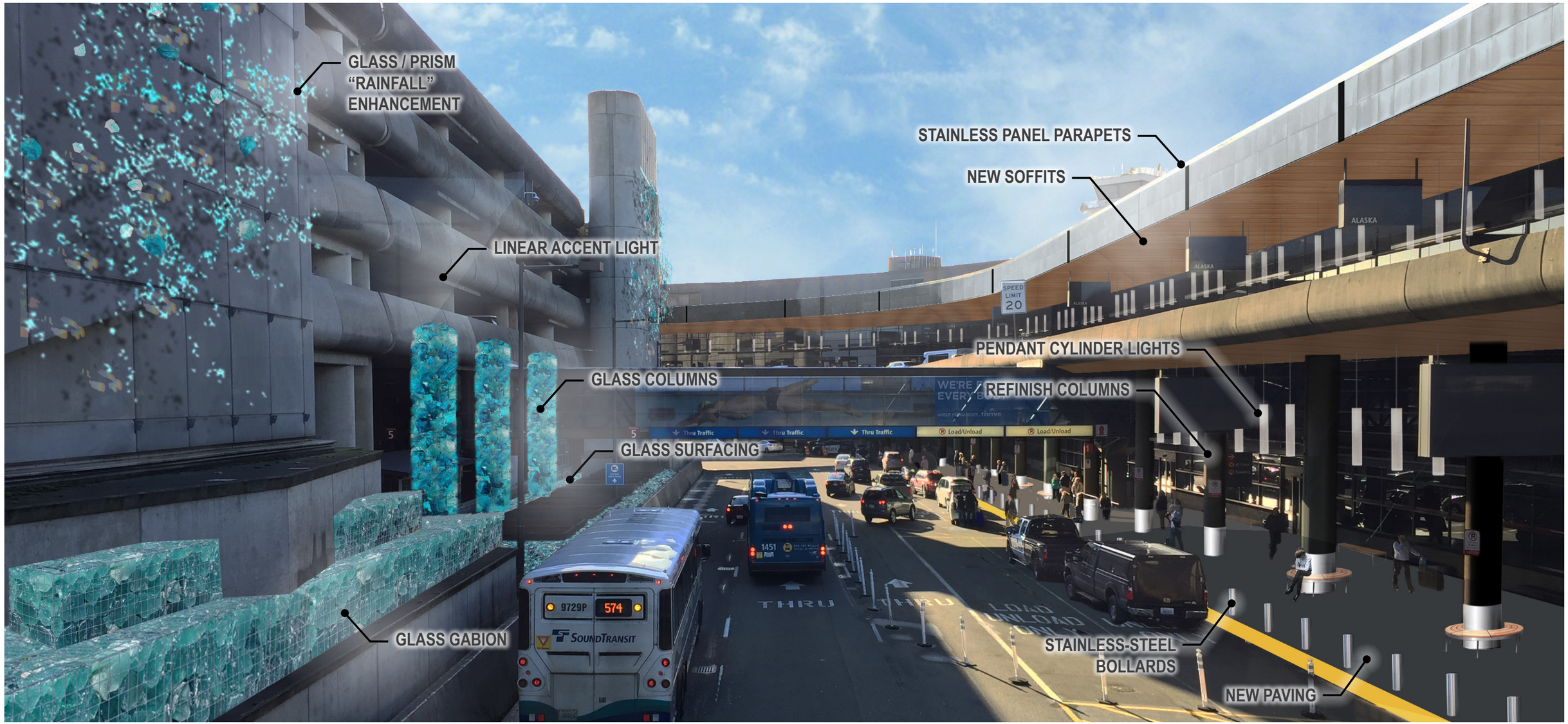
THE GORGE

This view of the Gorge shows the garage façade idea combined with the arrivals/departures idea as seen from a skybridge looking south. The addition of stainless-steel panels to the parapets picks up the stainless-steel used at the column bases, the bollards, and site furnishings. Thin panels matching the color of the columns are spaced in alignment with airline signs.

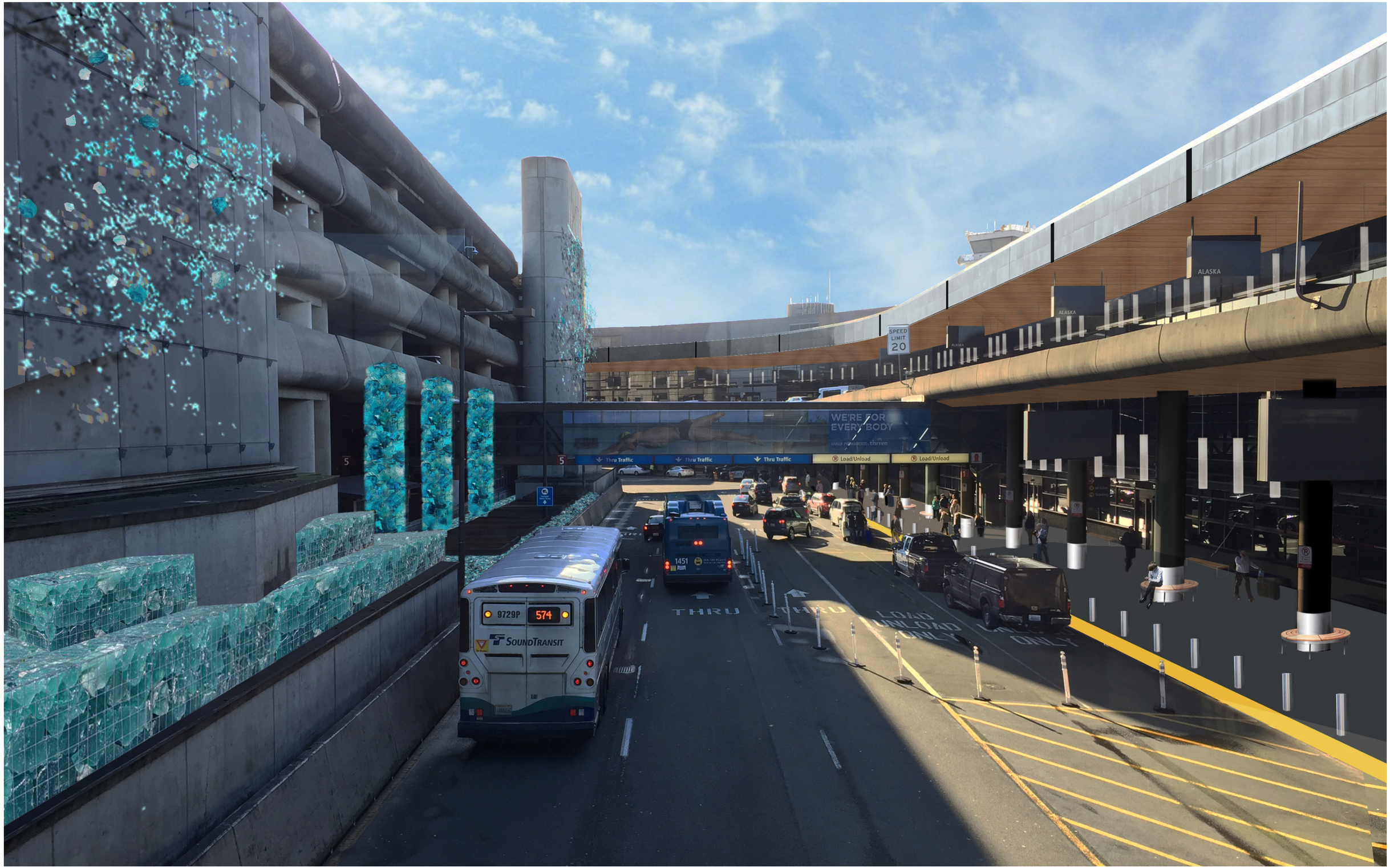
The garage façade functions as a “gallery.” It is primarily a visual experience, seen by the customers in the arrivals area or from the sky bridges. The arrivals and departures areas are experienced directly by people in those spaces. There, the texture, furnishings, scale, and materiality should coordinate with the interior of the terminal and present a welcoming image, much like a hotel’s or convention center’s porte cochere would.

The linear pattern expressed in the overall design may be incorporated at the Gorge in other ways. These preliminary Gorge ideas should be developed further with architect and structural engineer guidance.

Existing gorge.



Composite view of ideas as applied to the Gorge (with labels).



Composite view of ideas as applied to the Gorge (without labels).

Native Washington landscape

COST ESTIMATES

Assumptions

Cost Estimates

B1: Corridor at 28th Avenue S.
B2: Corridor at S. 170th Street
B3: Corridor at S. 160th Street
B4.1: Corridor at North Expressway
B4.2: New Gates North
B4.3: New Gates South
B4.4: North Terminal North
B5.1: Corridor at Garage Expansion
B5.2: East Garage Corridor
A1: North Gateway Entry
A2: South Gateway Entry
A3: North Gateway Exit

ASSUMPTIONS

The landscape master plan is at the planning level. Therefore, any cost estimating work must be based on assumptions regarding construction materials and take into account allowances used to estimate unit quantities. Additionally, area take-offs at this level are based on planning level and conceptual drawings which leads to reasonable, but not exact levels of accuracy. As such, the planning level of cost estimating represents an order-of-magnitude cost only.

The estimates of probable costs of construction presented are based on the following assumptions:

1. The estimates are divided into subareas that are potentially separate projects occurring at different times.
2. Estimates are in Spring 2019 construction dollars based on installed, material costs and from existing public bids.
3. No escalation is included in these estimates since the current bidding climate is highly volatile and prices are subject to change based on fluctuations in the construction industry. Escalation is highly dependent on existing economic conditions, though the rate has been around 3% to 6% annually.
4. Fees such as permits, inspections, and utility connections are not included.
5. Design fees are not included in the estimates.
6. Administrative costs, maintenance costs, and permitting fees are not included in the estimates.
7. The costs assume a traditional design/bid/build contract. Costs may vary depending on a design/build or GC/CM project procurement contract.

Use of Estimates in Future Project Phasing

The merging and combining of subareas into specific projects would not result in adding estimates together, nor would dividing a subarea into multiple projects be an exercise in subtraction. Subtracting one element means that something else must go in its place. Adding areas together means there may be cost efficiencies based on increased quantities and also on mark-ups only being applied once.

Estimated Cost at the Gorge (A4 & A5)

The concepts presented for the gorge are early-stage ideas. Further design exploration and cost estimates will need input from architects and structural engineers.

Corporate Sponsorship

Sponsorship may be explored as a potential funding method. Opportunities for sponsorship should be explored in a comprehensive way and coordinated with branding, marketing/advertising, and wayfinding at the Airport to ensure there is no visual conflict, conflict between programs, or clutter. Also, sponsorship options or packages of options will need expertise to determine what might be attractive to potential sponsors. Market study to develop or expand an Airport-wide sponsorship strategy that includes outdoor elements in the arrival and departure areas is recommended.

Mark-ups

There are numerous mark-ups that contractors and the industry apply to the direct material costs, and the range of these mark-ups by contractors can vary. These mark-ups are included in the estimates and must be considered when establishing budgets for specific projects that will move forward.

Mark-ups are generally required to allocate prime contractor costs beyond those that can be quantified under direct costs. Additional post-bid mark-ups may also be included to reflect additional costs to the project beyond those of the general contractor including sales tax, which typically is a known quantity. A typical percentage assigned to each of these mark-ups is noted below and is typical for similar projects but may change based on a variety of factors.

Direct construction costs. The sum of line item costs in the estimate. These are the direct costs to the prime contractor.

General Conditions. This includes the direct costs to the general contractor which cannot be charged to any particular item of work, such as: mobilization, job shack, storage shed, temporary work, and demobilization. General conditions are usually assumed to be between 5-8%. For planning level purposes, 8% is used.

Contractor Overhead. This includes administrative costs to the general contractor including: accounting, billing, estimating, and subcontractor management. Contractor overhead is generally assumed to be 5%.

Contractor Profit. This fee is a percentage of gross project costs and is generally assumed to be 6%.

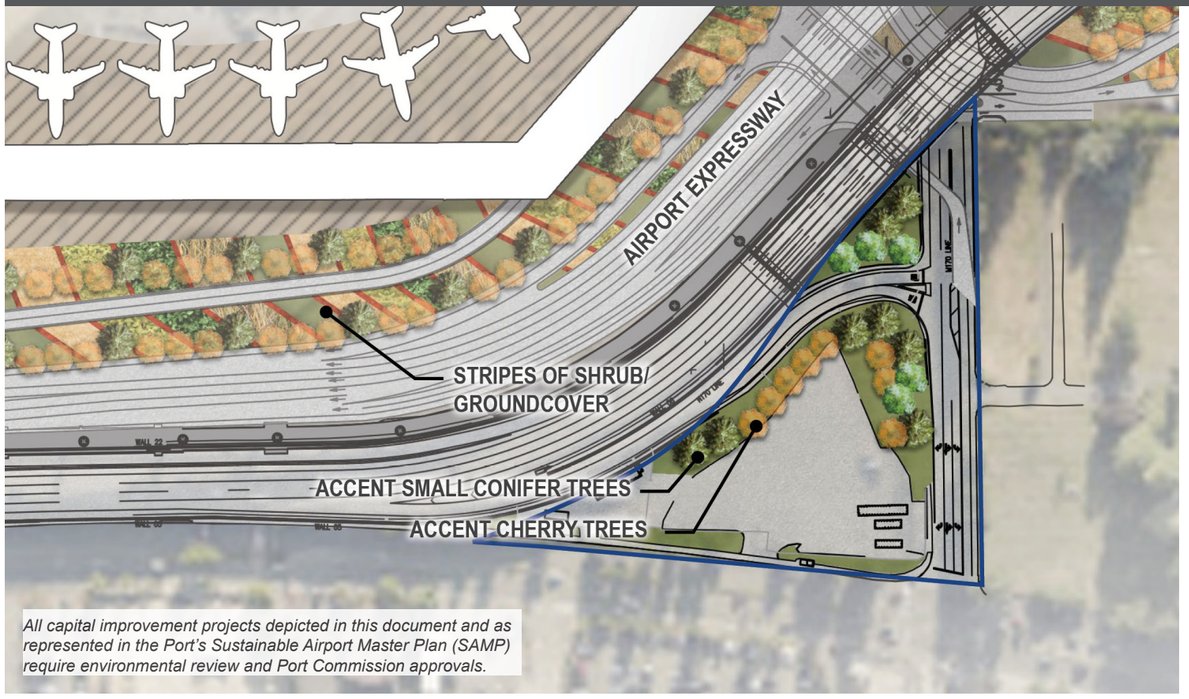
Contingency. This contingency is an allowance for unknown or nonquantifiable elements of the project.

B1: CORRIDOR AT 28TH AVENUE S.

Enlargement at B1: Corridor at 28th Avenue S.

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing	77,000	SF	$0.10	$7,700.00
1.02	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.03	Regrading / Rough Grading	77,000	SF	$0.30	$23,100.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2”-2.5” caliper)	33	EA	$250.00	$8,250.00
2.02	Medium Conifer Tree (6’ height)	22	EA	$300.00	$6,600.00
2.03	Shrub/Groundcover (18” on center)	39,500	EA	$14.00	$553,000.00
2.04	Planting Soil (min. 24” depth)	5,700	CY	$75.00	$427,500.00
2.05	Arborist Wood Chip Mulch (4” depth)	1,000	CY	$50.00	$50,000.00
2.06	Compost scarified into subgrade (2” depth)	500	CY	$75.00	$37,500.00
2.07	Irrigation (underground, water efficient)	1	LS	$70,000.00	$70,000.00
				Subtotal:	$1,188,650.00
	Sales Tax (10%)				$118,865.00
				Contractor Direct Construction Cost:	$1,307,515.00
	General Conditions (est. 8%)				$104,601.20
	Contractor Overhead (est. 5%)				$63,375.75
	Contractor Profit (est. 6%)				$78,450.90
				Construction Contract:	$1,555,942.85
	Contingency (30%)				$466,782.86
				Estimated B1 Total:	**$2,022,725.71**

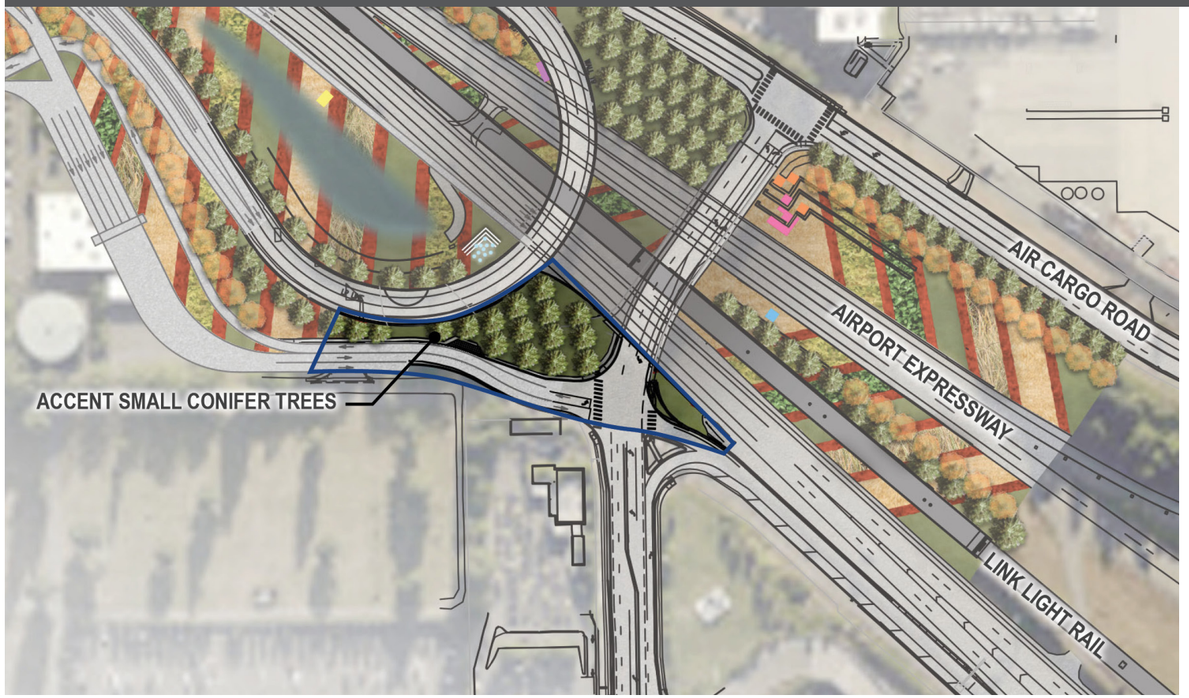
B2: CORRIDOR AT S. 170TH STREET



Enlargement at B2: Corridor at S. 170th Street.

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing	48,000	SF	$0.10	$4,800.00
1.02	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.03	Regrading / Rough Grading	48,000	SF	$0.30	$14,400.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2"-2.5" caliper)	8	EA	$250.00	$2,000.00
2.02	Medium Conifer Tree (6' height)	13	EA	$300.00	$3,900.00
2.03	Shrub/Groundcover (18" on center)	24,600	EA	$14.00	$344,440.00
2.04	Planting Soil (min. 24" depth)	3,500	CY	$75.00	$262,500.00
2.05	Arborist Wood Chip Mulch (4" depth)	600	CY	$50.00	$30,000.00
2.06	Compost scarified into subgrade (2" depth)	300	CY	$75.00	$22,500.00
2.07	Irrigation (underground, water efficient)	1	LS	$40,000.00	$40,000.00
				Subtotal:	$729,500.00
	Sales Tax (10%)				$72,950.00
				Contractor Direct Construction Cost:	$802,450.00
	General Conditions (est. 8%)				$64,196.00
	Contractor Overhead (est. 5%)				$40,122.50
	Contractor Profit (est. 6%)				$48,147.00
				Construction Contract:	$954,915.50
	Contingency (30%)				$286,474.65
				Estimated B2 Total:	**$1,241,390.15**

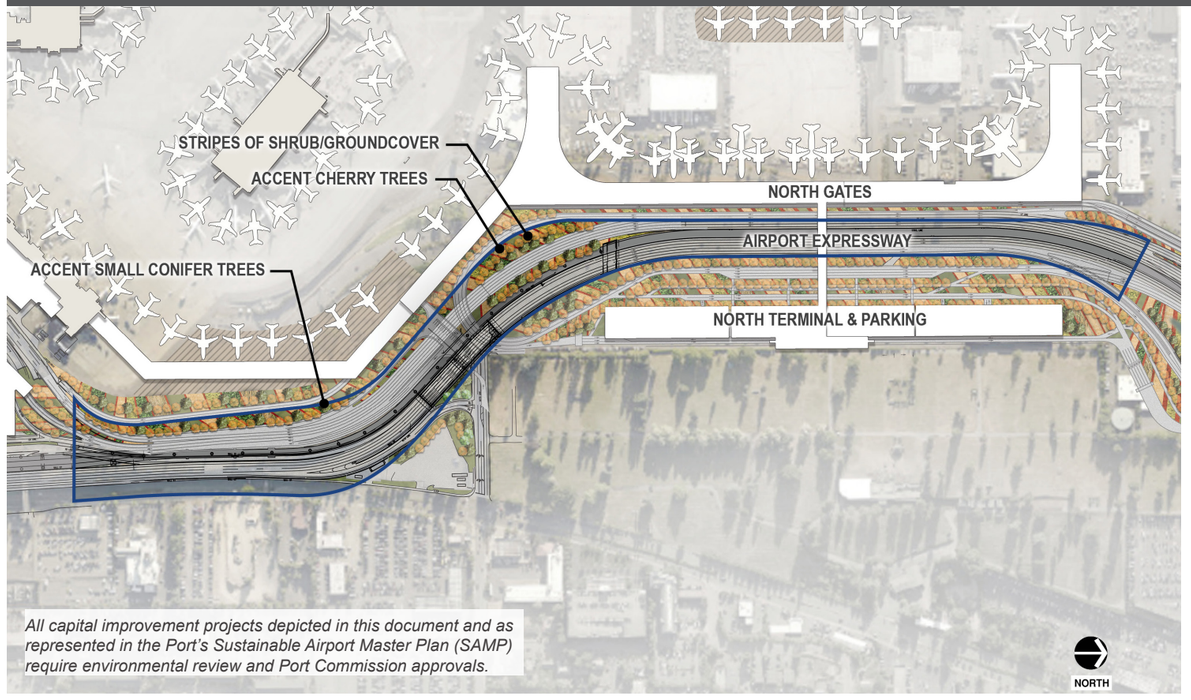
B3: CORRIDOR AT S. 160TH STREET



Enlargement at B3: Corridor at S. 160th Street.

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing	24,100	SF	$0.10	$2,410.00
1.02	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.03	Regrading / Rough Grading	24,100	SF	$0.30	$7,230.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2"-2.5" caliper)	0	EA	$250.00	$0.00
2.02	Medium Conifer Tree (6' height)	18	EA	$300.00	$5,400.00
2.03	Shrub/Groundcover (18" on center)	12,400	EA	$14.00	$173,600.00
2.04	Planting Soil (min. 24" depth)	1,800	CY	$75.00	$135,000.00
2.05	Arborist Wood Chip Mulch (4" depth)	300	CY	$50.00	$15,000.00
2.06	Compost scarified into subgrade (2" depth)	150	CY	$75.00	$11,250.00
2.07	Irrigation (underground, water efficient)	1	LS	$35,000.00	$35,000.00
				Subtotal:	$389,890.00
	Sales Tax (10%)				$38,989.00
				Contractor Direct Construction Cost:	$428,879.00
	General Conditions (est. 8%)				$34,310.32
	Contractor Overhead (est. 5%)				$21,443.95
	Contractor Profit (est. 6%)				$25,732.74
				Construction Contract:	$510,366.01
	Contingency (30%)				$153,109.80
				Estimated B3 Total:	**$663,475.81**

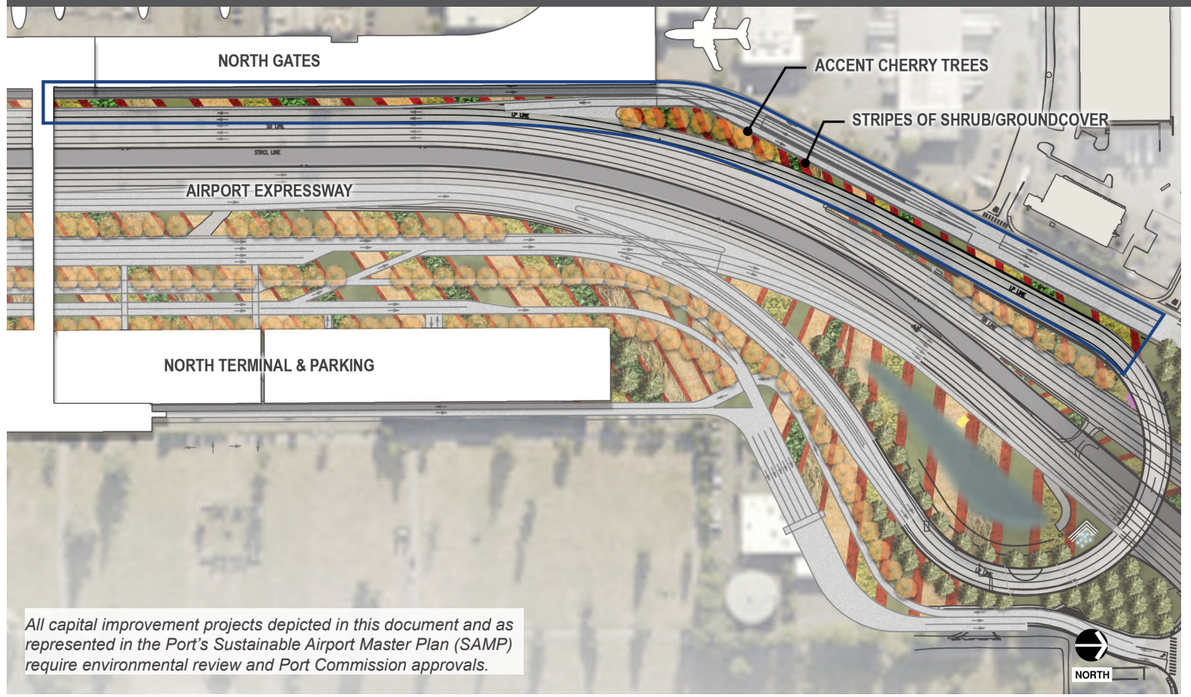
B4.1: CORRIDOR AT NORTH EXPRESSWAY



Enlargement at B4: Corridor at North Expressway.

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing	175,100	SF	$0.10	$17,510.00
1.02	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.03	Regrading / Rough Grading	175,100	SF	$0.30	$52,530.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2"-2.5" caliper)	60	EA	$250.00	$15,000.00
2.02	Medium Conifer Tree (6' height)	19	EA	$300.00	$5,700.00
2.03	Shrub/Groundcover (18" on center)	89,800	EA	$14.00	$1,257,200.00
2.04	Planting Soil (min. 24" depth)	13,000	CY	$75.00	$975,000.00
2.05	Arborist Wood Chip Mulch (4" depth)	2,200	CY	$50.00	$110,000.00
2.06	Compost scarified into subgrade (2" depth)	1,100	CY	$75.00	$82,500.00
2.07	Irrigation (underground, water efficient)	1	LS	$75,000.00	$75,000.00
				Subtotal:	$2,595,440.00
	Sales Tax (10%)				$259,544.00
				Contractor Direct Construction Cost:	$2,854,984.00
	General Conditions (est. 8%)				$228,398.72
	Contractor Overhead (est. 5%)				$142,749.20
	Contractor Profit (est. 6%)				$171,299.04
				Construction Contract:	$3,397,430.961
	Contingency (30%)				$1,019,229.29
				Estimated B4.1 Total:	**$4,416,660.25**

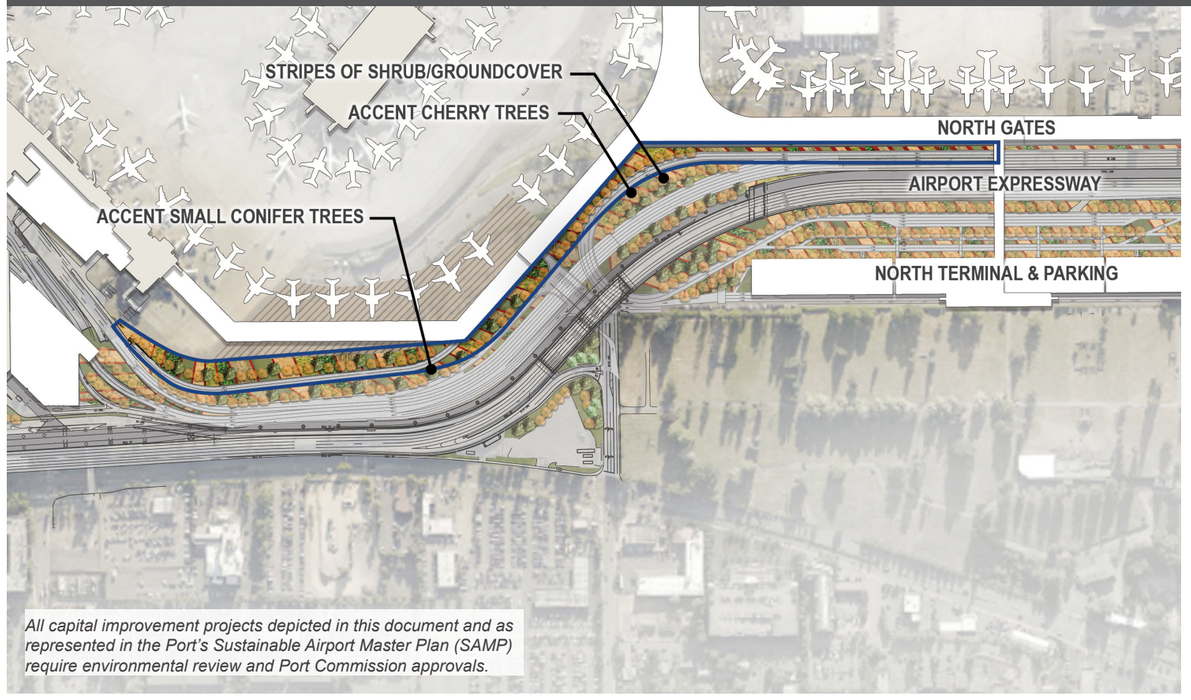
B4.2: NEW GATES NORTH



Enlargement at B4: New gates north.

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing	31,400	SF	$0.10	$3,140.00
1.02	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.03	Regrading / Rough Grading	31,400	SF	$0.30	$9,420.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2"-2.5" caliper)	7	EA	$250.00	$1,750.00
2.02	Medium Conifer Tree (6' height)	0	EA	$300.00	$0.00
2.03	Shrub/Groundcover (18" on center)	16,100	EA	$14.00	$225,400.00
2.04	Planting Soil (min. 24" depth)	2,400	CY	$75.00	$180,000.00
2.05	Arborist Wood Chip Mulch (4" depth)	400	CY	$50.00	$20,000.00
2.06	Compost scarified into subgrade (2" depth)	200	CY	$75.00	$15,000.00
2.07	Irrigation (underground, water efficient)	1	SF	$75,000.00	$75,000.00
				Subtotal:	$534,710.00
	Sales Tax (10%)				$53,471.00
				Contractor Direct Construction Cost:	$588,181.00
	General Conditions (est. 8%)				$47,054.48
	Contractor Overhead (est. 5%)				$29,409.05
	Contractor Profit (est. 6%)				$35,290.86
				Construction Contract:	$699,935.39
	Contingency (30%)				$209,980.62
				Estimated B4.2 Total:	**$909,916.01**

B4.3: NEW GATES SOUTH

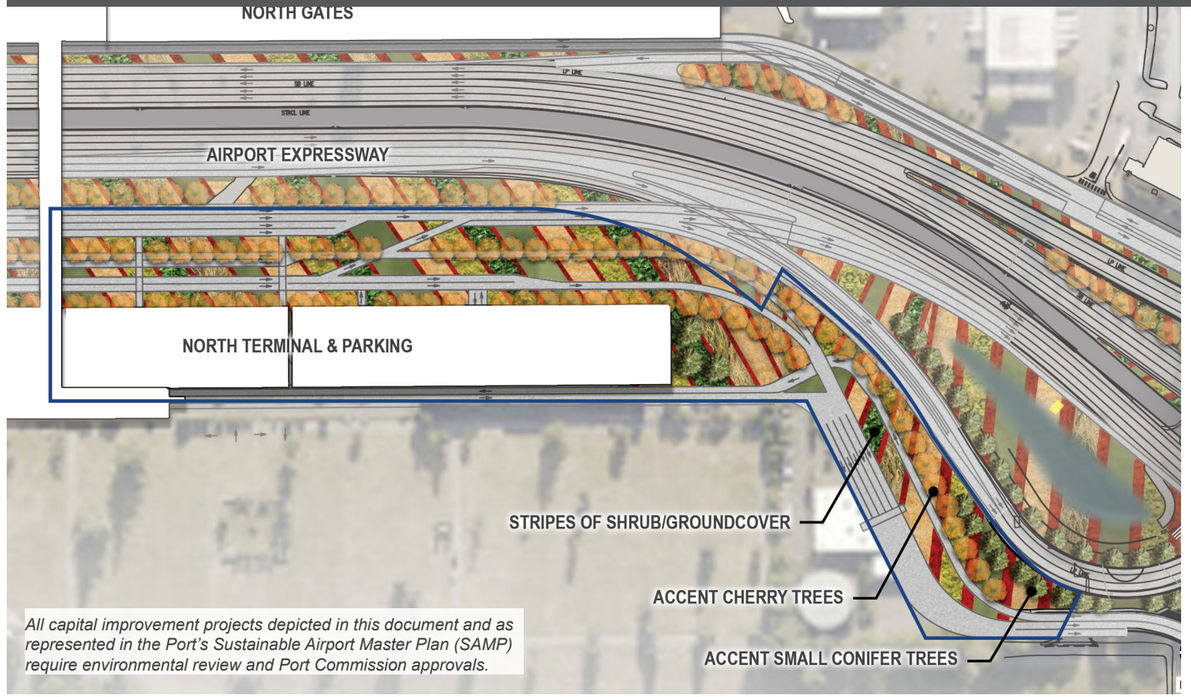


All capital improvement projects depicted in this document and as represented in the Port's Sustainable Airport Master Plan (SAMP) require environmental review and Port Commission approvals.

Enlargement at B4: New gates south.

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing	131,600	SF	$0.10	$13,160.00
1.02	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.03	Regrading / Rough Grading	131,600	SF	$0.30	$39,480.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2"-2.5" caliper)	37	EA	$250.00	$9,250.00
2.02	Medium Conifer Tree (6' height)	7	EA	$300.00	$2,100.00
2.03	Shrub/Groundcover (18" on center)	67,500	EA	$14.00	$945,000.00
2.04	Planting Soil (min. 24" depth)	9,800	CY	$75.00	$735,000.00
2.05	Arborist Wood Chip Mulch (4" depth)	1,700	CY	$50.00	$85,000.00
2.06	Compost scarified into subgrade (2" depth)	850	CY	$75.00	$60,900.00
2.07	Irrigation (underground, water efficient)	1	LS	$65,000.00	$65,000.00
				Subtotal:	$1,962,740.00
	Sales Tax (10%)				$196,274.00
				Contractor Direct Construction Cost:	$2,159,014.00
	General Conditions (est. 8%)				$172,721.12
	Contractor Overhead (est. 5%)				$107,950.70
	Contractor Profit (est. 6%)				$129,540.84
				Construction Contract:	$2,569,226.66
	Contingency (30%)				$770,768.00
				Estimated B4.3 Total:	**$3,339,994.66**

B4.4: NORTH TERMINAL NORTH

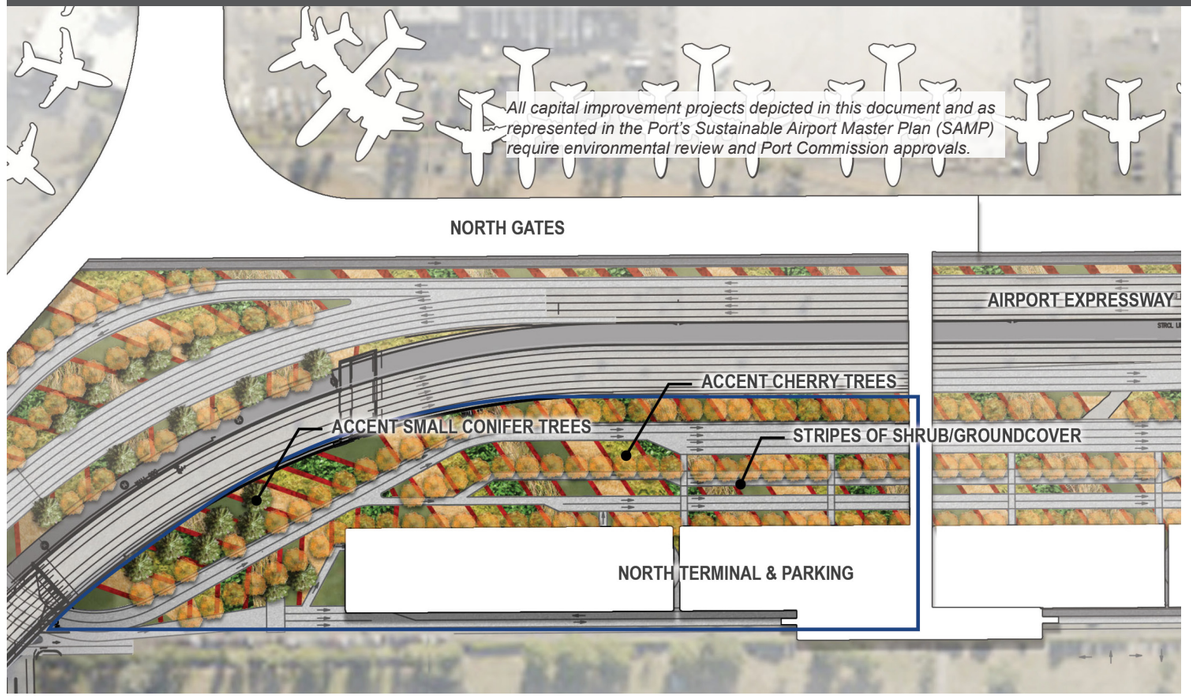


All capital improvement projects depicted in this document and as represented in the Port's Sustainable Airport Master Plan (SAMP) require environmental review and Port Commission approvals.

Enlargement at B4: North terminal north.

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing	232,200	SF	$0.10	$23,220.00
1.02	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.03	Regrading / Rough Grading	232,200	SF	$0.30	$69,660.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2"-2.5" caliper)	93	EA	$250.00	$23,250.00
2.02	Medium Conifer Tree (6' height)	3	EA	$300.00	$900.00
2.03	Shrub/Groundcover (18" on center)	119,100	EA	$14.00	$1,667,400.00
2.04	Planting Soil (min. 24" depth)	17,200	CY	$75.00	$1,290,000.00
2.05	Arborist Wood Chip Mulch (4" depth)	2,900	CY	$50.00	$145,000.00
2.06	Compost scarified into subgrade (2" depth)	1,450	CY	$75.00	$108,750.00
2.07	Irrigation (underground, water efficient)	1	LS	$95,000.00	$95,000.00
				Subtotal:	$3,428,180.00
	Sales Tax (10%)				$342,818.00
				Contractor Direct Construction Cost:	$3,770,998.00
	General Conditions (est. 8%)				$301,679.84
	Contractor Overhead (est. 5%)				$188,549.90
	Contractor Profit (est. 6%)				$226,259.88
				Construction Contract:	$4,487,487.62
	Contingency (30%)				$1,346,246.29
				Estimated B4.4 Total:	**$5,833,733.91**

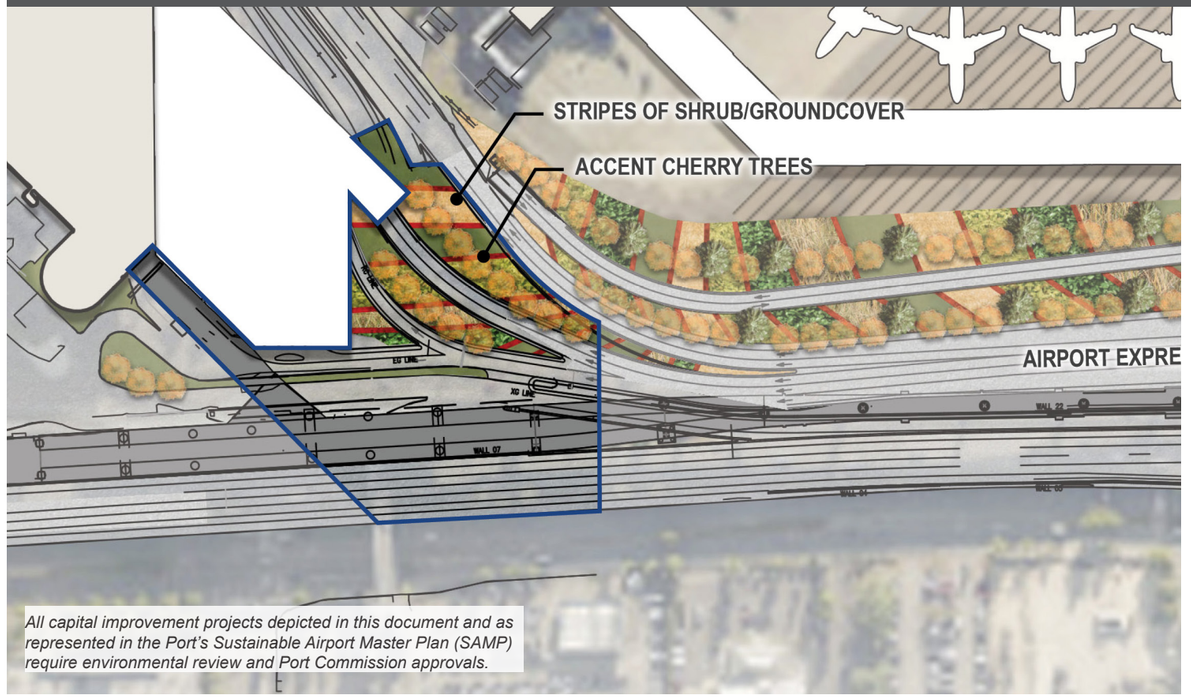
B4.5: NORTH TERMINAL SOUTH



Enlargement at B4: North terminal south.

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing	137,400	SF	$0.10	$13,740.00
1.02	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.03	Regrading / Rough Grading	137,400	SF	$0.30	$41,220.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2”-2.5” caliper)	82	EA	$250.00	$20,500.00
2.02	Medium Conifer Tree (6’ height)	6	EA	$300.00	$1,800.00
2.03	Shrub/Groundcover (18” on center)	70,500	EA	$14.00	$987,000.00
2.04	Planting Soil (min. 24” depth)	10,200	CY	$75.00	$765,000.00
2.05	Arborist Wood Chip Mulch (4” depth)	1,700	CY	$50.00	$85,000.00
2.06	Compost scarified into subgrade (2” depth)	850	CY	$75.00	$63,750.00
2.07	Irrigation (underground, water efficient)	1	LS	$95,000.00	$95,000.00
				Subtotal:	$2,078,010.00
	Sales Tax (10%)				$207,801.00
				Contractor Direct Construction Cost:	$2,285,811.00
	General Conditions (est. 8%)				$182,864.88
	Contractor Overhead (est. 5%)				$114,290.55
	Contractor Profit (est. 6%)				$137,148.66
				Construction Contract:	$2,720,115.09
	Contingency (30%)				$816,034.53
				Estimated B4.5 Total:	**$3,536,149.62**

B5.1: CORRIDOR AT GARAGE EXPANSION



Enlargement at B5: Corridor at garage expansion.

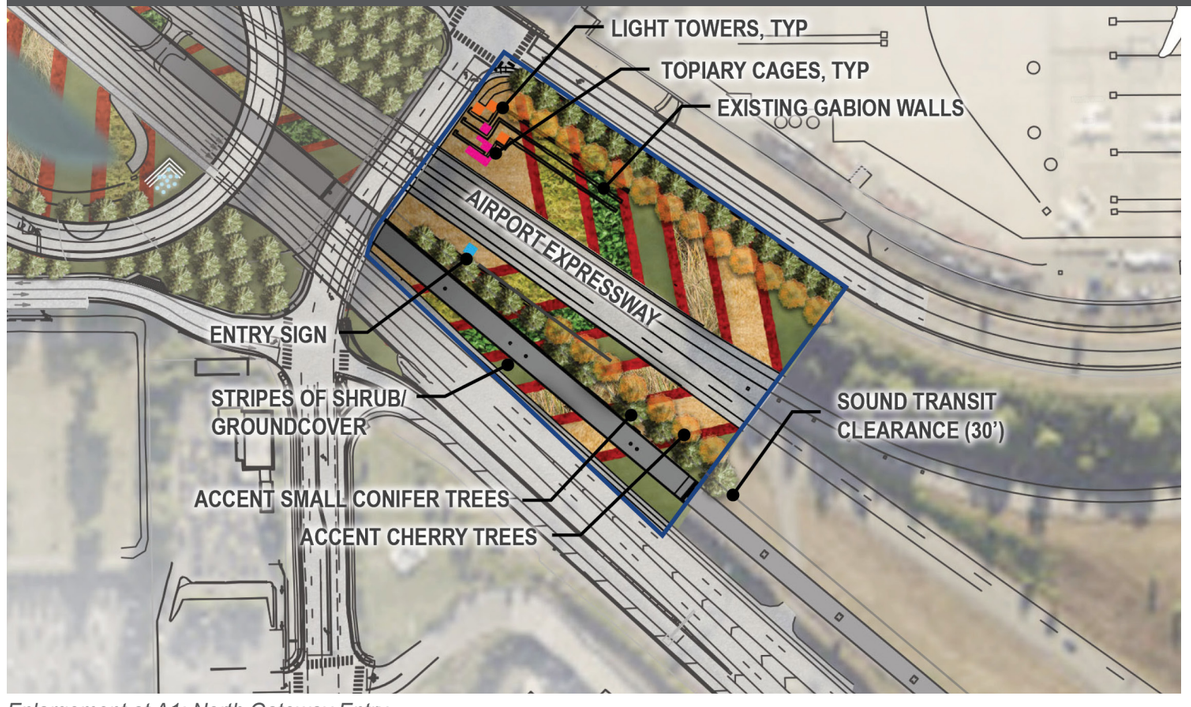
ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing	37,900	SF	$0.10	$3,790.00
1.02	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.03	Regrading / Rough Grading	37,900	SF	$0.30	$11,370.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2”-2.5” caliper)	13	EA	$250.00	$3,250.00
2.02	Medium Conifer Tree (6’ height)	0	EA	$300.00	$0.00
2.03	Shrub/Groundcover (18” on center)	19,500	EA	$14.00	$273,000.00
2.04	Planting Soil (min. 24” depth)	2,800	CY	$75.00	$210,000.00
2.05	Arborist Wood Chip Mulch (4” depth)	500	CY	$50.00	$25,000.00
2.06	Compost scarified into subgrade (2” depth)	250	CY	$75.00	$18,750.00
2.07	Irrigation (underground, water efficient)	1	LS	$60,000.00	$60,000.00
				Subtotal:	$610,160.00
	Sales Tax (10%)				$61,016.00
				Contractor Direct Construction Cost:	$671,176.00
	General Conditions (est. 8%)				$53,694.08
	Contractor Overhead (est. 5%)				$33,558.80
	Contractor Profit (est. 6%)				$40,270.56
				Construction Contract:	$798,699.44
	Contingency (30%)				$239,609.83
				Estimated B5 Total:	**$1,038,309.27**

B5.2: EAST GARAGE CORRIDOR

Enlargement at A5: Garage planting.

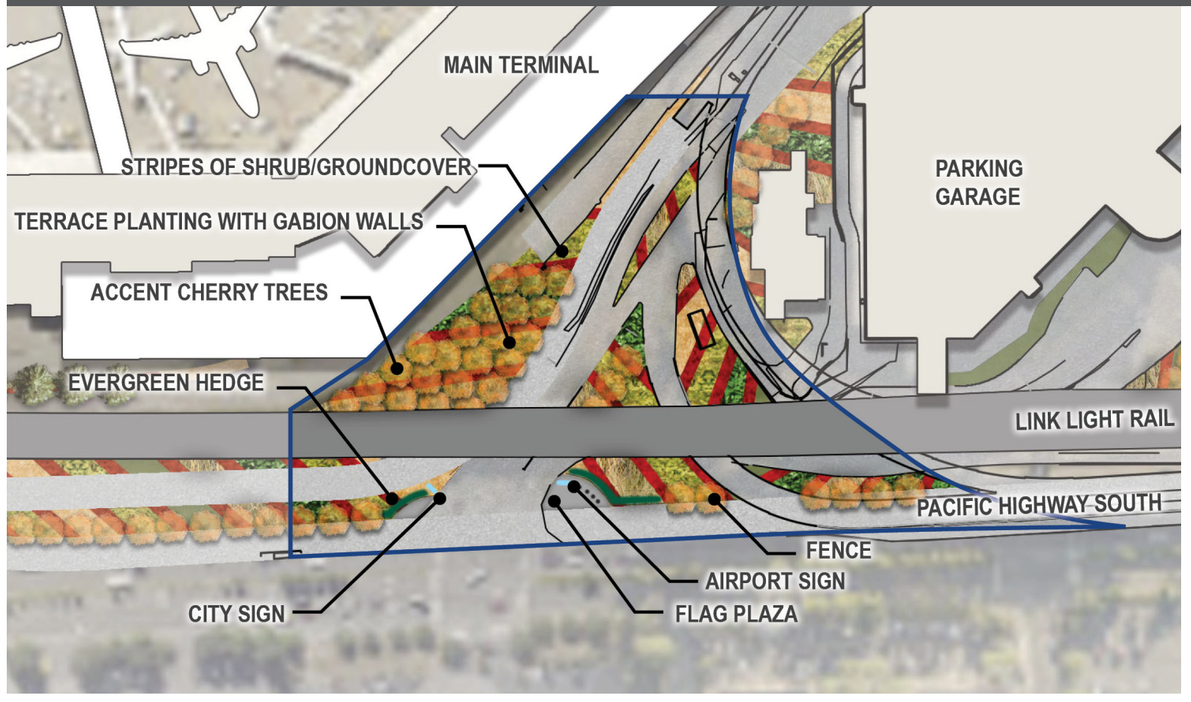
ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing	81,500	SF	$0.10	$8,150.00
1.02	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.03	Regrading / Rough Grading	200	SF	$0.30	$60.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2”-2.5” caliper)	24	EA	$250.00	$6,000.00
2.02	Medium Conifer Tree (6’ height)	0	EA	$300.00	$0.00
2.03	Shrub/Groundcover (18” on center)	41,800	EA	$14.00	$585,200.00
2.04	Planting Soil (min. 24” depth)	6,100	CY	$75.00	$457,500.00
2.05	Arborist Wood Chip Mulch (4” depth)	1,000	CY	$50.00	$50,000.00
2.06	Compost scarified into subgrade (2” depth)	500	CY	$75.00	$37,500.00
2.07	Irrigation (underground, water efficient)	1	LS	$75,000.00	$75,000.00
				Subtotal:	$1,224,410.00
	Sales Tax (10%)				$122,441.00
				Contractor Direct Construction Cost:	$1,346,851.00
	General Conditions (est. 8%)				$107,748.08
	Contractor Overhead (est. 5%)				$67,342.55
	Contractor Profit (est. 6%)				$80,811.06
				Construction Contract:	$1,602,752.69
	Contingency (30%)				$480,825.81
				Estimated A5 Total:	**$2,083,578.50**

A1: NORTH GATEWAY ENTRY



Enlargement at A1: North Gateway Entry.

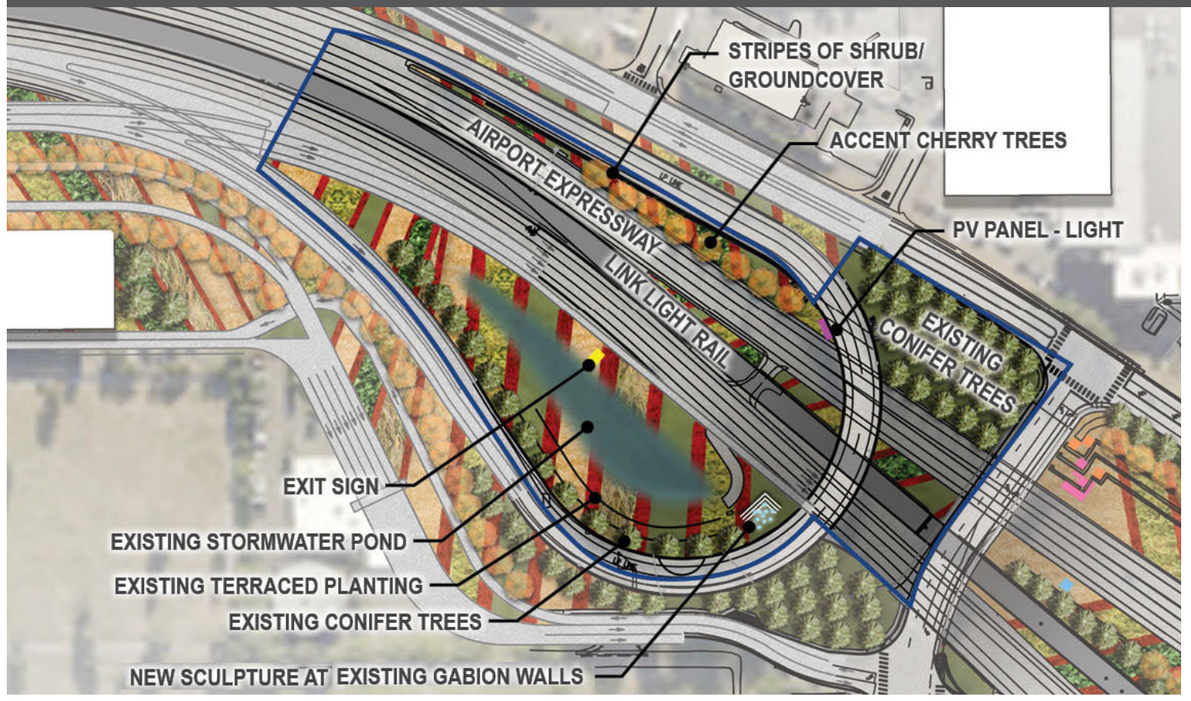
ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing of Plants and Irrigation	110,700	SF	$0.10	$11,070.00
1.02	Remove Existing Airport Sign	1	LS	$1,250.00	$1,250.00
1.03	Remove Vines and Existing Lighting from Vine Towers	1	LS	$1,250.00	$1,250.00
1.04	Remove Clock Tower (salvage PV panels)	1	LS	$2,000.00	$2,000.00
1.05	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.06	Regrading / Rough Grading	110,700	SF	$0.30	$33,210.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2”-2.5” caliper)	15	EA	$250.00	$3,750.00
2.02	Medium Conifer Tree (6’ height)	26	EA	$300.00	$7,800.00
2.03	Shrub/Groundcover (18” on center)	56,800	EA	$14.00	$795,200.00
2.04	Planting Soil (min. 24” depth)	8,200	CY	$75.00	$615,000.00
2.05	Arborist Wood Chip Mulch (4” depth)	1,400	CY	$50.00	$70,000.00
2.06	Compost scarified into subgrade (2” depth)	700	CY	$75.00	$52,500.00
2.07	Irrigation (underground, water efficient)	1	LS	$95,000.00	$95,000.00
3.00	**Site Elements**				
3.01	Light Towers: Engineering	1	LS	$10,000.00	$10,000.00
3.02	Light Towers: Structural Reinforcements & Panel Attachment Studs	3	EA	$7,500.00	$22,500.00
3.03	Light Towers: Light-Diffusing Panel Cladding (north and east sides)	1,650	SF	$60.00	$99,000.00
3.04	Light Towers: Prism Additions (inside towers)	3	EA	$6,000.00	$18,000.00
3.05	Topiary Cage Clean-up and Additional Cage	1	LS	$15,000.00	$15,000.00
3.06	New Monument Entry Sign (General Placeholder)	1	LS	$50,000.00	$50,000.00
4.00	**Site Lighting & Electrical**				
4.01	Gabion Walls: RGB LED Spot Lights (narrow beam, mounted to gabion)	3	EA	$2,500.00	$7,500.00
4.02	Light Towers: RGB LED Spot & Wash Fixtures (6 per tower + poles)	20	EA	$2,500.00	$50,000.00
4.03	Topiary Cages: Linear RGB LED Graze Fixtures	120	LF	$325.00	$39,000.00
4.04	Light Controllers, Conduit & Cables	1	LS	$20,000.00	$20,000.00
4.05	Light Show Programming	1	LS	$2,500.00	$2,500.00
				Subtotal:	$2,026,530.00
	Sales Tax (10%)				$202,653.00
				Contractor Direct Construction Cost:	$2,229,183.00
	General Conditions (est. 8%)				$178,334.64
	Contractor Overhead (est. 5%)				$111,459.15
	Contractor Profit (est. 6%)				$133,750.98
				Construction Contract:	$2,652,727.77
	Contingency (30%)				$795,818.33
				Estimated A1 Total:	**$3,448,546.10**



Enlargement at A2: South Gateway Entry.

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing of Plants and Irrigation	65,000	SF	$0.10	$6,500.00
1.02	Remove Existing Airport Sign	1	LS	$1,250.00	$1,250.00
1.03	Demolish Flag Pole Plaza, Salvage any Plaques	1	LS	$5,070.00	$5,070.00
1.04	Remove Chain Link Fencing	220	LF	$5.00	$1,100.00
1.05	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.06	Regrading / Rough Grading	68,000	SF	$0.30	$20,400.00
2.00	**Planting**				
2.01	Non-Fruiting Cherry Tree (2”-2.5” caliper)	23	EA	$250.00	$5,750.00
2.02	Medium Conifer Tree (6’ height)	6	EA	$300.00	$1,800.00
2.03	Shrub/Groundcover (18” on center)	33,400	EA	$14.00	$467,600.00
2.04	Planting Soil (min. 24” depth)	4,900	CY	$75.00	$367,500.00
2.05	Arborist Wood Chip Mulch (4” depth)	800	CY	$50.00	$40,000.00
2.06	Compost scarified into subgrade (2” depth)	400	CY	$75.00	$30,000.00
2.07	Irrigation (underground, water efficient)	1	LS	$95,000.00	$95,000.00
3.00	**Site Elements**				
3.01	New Gabion Walls and Terracing	1,650	LF	$150.00	$242,500.00
3.02	Fencing along International Blvd.	650	LF	$70.00	$45,500.00
3.03	Flag Poles and Plaques	1	LS	$10,400.00	$10,400.00
3.04	Flag Pole Plaza (Hardscape)	3,000	SF	$12.00	$36,000.00
3.05	Monument Entry Sign (General Placeholder)	1	LS	$50,000.00	$50,000.00
3.06	“City of SeaTac” Welcome Sign	1	LS	$50,000.00	$50,000.00
4.00	**Site Lighting & Electrical**				
4.01	Gabion Wall Accent Lights	20	EA	$2,500.00	$50,000.00
4.02	Lighting of Sound Transit Structure	1	LS	$30,000.00	$30,000.00
4.03	Lighting Controller & Wiring	1	LS	$20,000.00	$20,000.00
4.04	Sign & Flag Lighting	20	EA	$2,500.00	$50,000.00
				Subtotal:	$1,586,370.00
	Sales Tax (10%)				$158,637.00
				Contractor Direct Construction Cost:	$1,745,007.00
	General Conditions (est. 8%)				$139,600.56
	Contractor Overhead (est. 5%)				$87,250.35
	Contractor Profit (est. 6%)				$104,700.42
				Construction Contract:	$2,076,558.33
	Contingency (30%)				$622,967.50
				Estimated A2 Total:	**$2,699,525.83**

A3: NORTH GATEWAY EXIT



Enlargement at A3: North Gateway Exit.

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	ITEM TOTAL
1.00	**Demolition & Preparation**				
1.01	Clearing & Grubbing at Gabion Walls/Pond	136,800	SF	$0.10	$13,800.00
1.02	Remove Gabion Wall Lighting	2	EA	$500.00	$1,000.00
1.03	Temporary Erosion & Sediment Control	1	LS	$5,000.00	$5,000.00
1.04	Regrading / Rough Grading	136,800	SF	$0.30	$41,040.00
2.00	**Planting (Enhanced Detention Pond Area)**				
2.01	Non-Fruiting Cherry Tree (2”-2.5” caliper)	13	EA	$250.00	$3,250.00
2.02	Medium Conifer Tree (6’ height)	39	EA	$300.00	$11,700.00
2.03	Shrub/Groundcover (18” on center)	70,200	EA	$14.00	$982,800.00
2.04	Planting Soil (min. 24” depth)	10,200	CY	$75.00	$765,000.00
2.05	Arborist Wood Chip Mulch (4” depth)	1,700	CY	$50.00	$85,000.00
2.06	Compost scarified into subgrade (2” depth)	850	CY	$75.00	$63,750.00
2.07	Irrigation (underground, water efficient)	1	SF	$45,000.00	$45,000.00
3.00	**Planting (Between Underpasses)**				
3.01	Trees (6’ ht. Vine Maple)	16	EA	$250.00	$4,000.00
3.02	Fern Infill Planting (2 gal. cont.)	100	EA	$25.00	$2,500.00
3.03	Planting Soil for Backfill	10	CY	$75.00	$750.00
3.04	Arborist Wood Chip Mulch (4” depth)	300	CY	$65.00	$19,500.00
3.05	Irrigation Adjustments for Coverage	1	LS	$4,500.00	$4,500.00
4.00	**Site Elements**				
4.01	Sculpture Enhancement: Stainless Steel Rods & Prisms (on gabion walls)	1	LS	$175,000.00	$175,000.00
4.02	Salvaged PV Panels Installed on Overpass (new frames and wiring)	6	EA	$3,000.00	$18,000.00
4.03	Monument Exit Sign (General Placeholder)	2	EA	$200.00	$400.00
5.00	**Site Lighting & Electrical**				
5.01	Sculpture Internal Lighting: Custom strands of LED nodes	1	LS	$25,000.00	$25,000.00
5.02	Overpass Light Band: RGB LED Direct View Linear Tube Fixture	100	LF	$200.00	$20,000.00
5.03	Salvaged PV Panels: Electrical Hookup & Commissioning	1	LS	$5,000.00	$5,000.00
5.04	Light Controllers, Conduit, & Cables	1	LS	$20,000.00	$20,000.00
5.05	Light Show Programming	1	LS	$2,500.00	$2,500.00
				Subtotal:	$2,314,370.00
	Sales Tax (10%)				$231,437.00
				Contractor Direct Construction Cost:	$2,545,807.00
	General Conditions (est. 8%)				$203,664.56
	Contractor Overhead (est. 5%)				$127,290.35
	Contractor Profit (est. 6%)				$152,748.42
				Construction Contract:	$3,029,510.33
	Contingency (30%)				$908,853.10
				Estimated A3 Total:	**$3,938,363.43**