

SEATTLE-TACOMA INTERNATIONAL AIRPORT

# Design Guidelines and Standards

**SEA**

Seattle-Tacoma  
International  
Airport

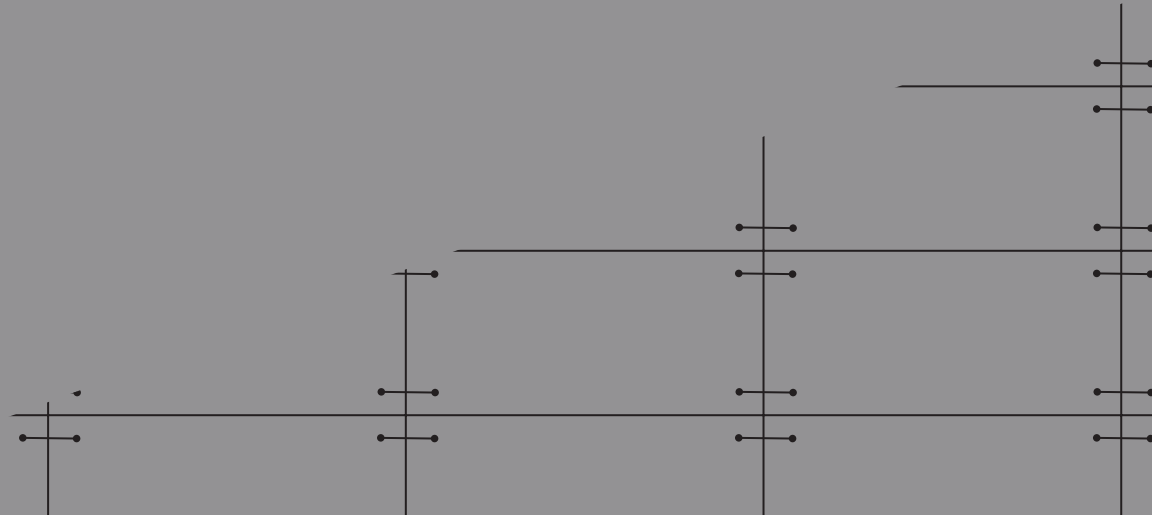




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## INTRODUCTION

Seattle-Tacoma International Airport welcomes you as a vital partner in helping shape our future. This document is comprised of the SEA Design Vision, Design Guidelines and Architectural Standards. These resources are designed to guide you in conceptualizing and realizing the SEA design vision.





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# 1

## DESIGN VISION



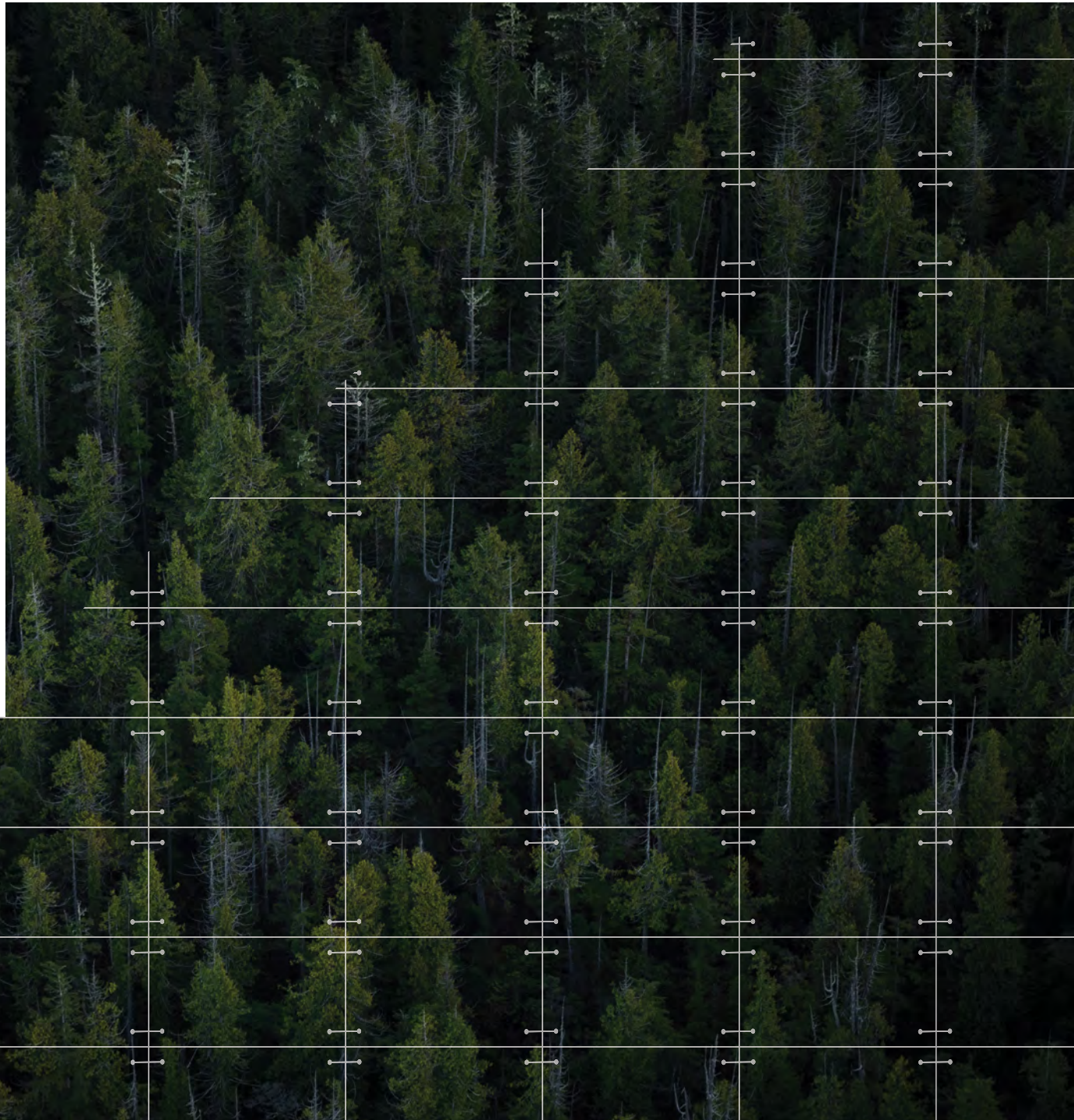


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## DESIGNING THE FUTURE

### Welcome to SEA

As a premier destination for domestic and international air travel, SEA is committed to an unparalleled experience, one that is truly reflective of the grandeur of the Pacific Northwest. The purpose of the Design Vision is to capture a Pacific Northwest viewpoint, guiding the design of unique experiences that engage passengers' emotions, beckoning them to return.





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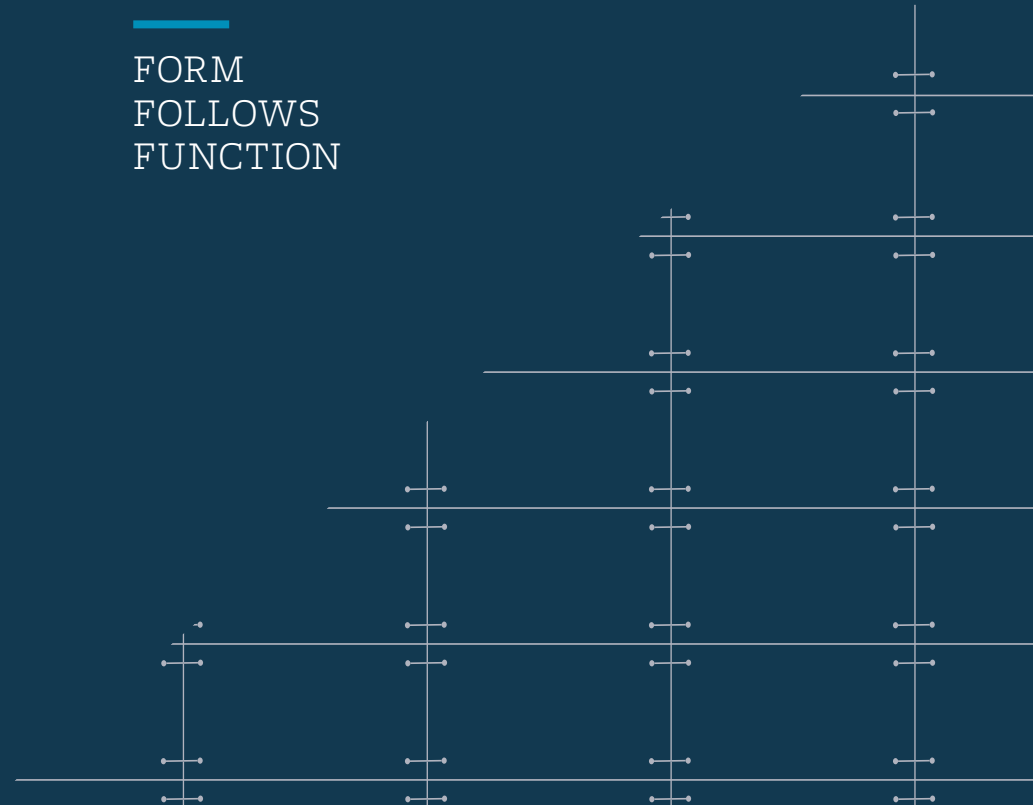
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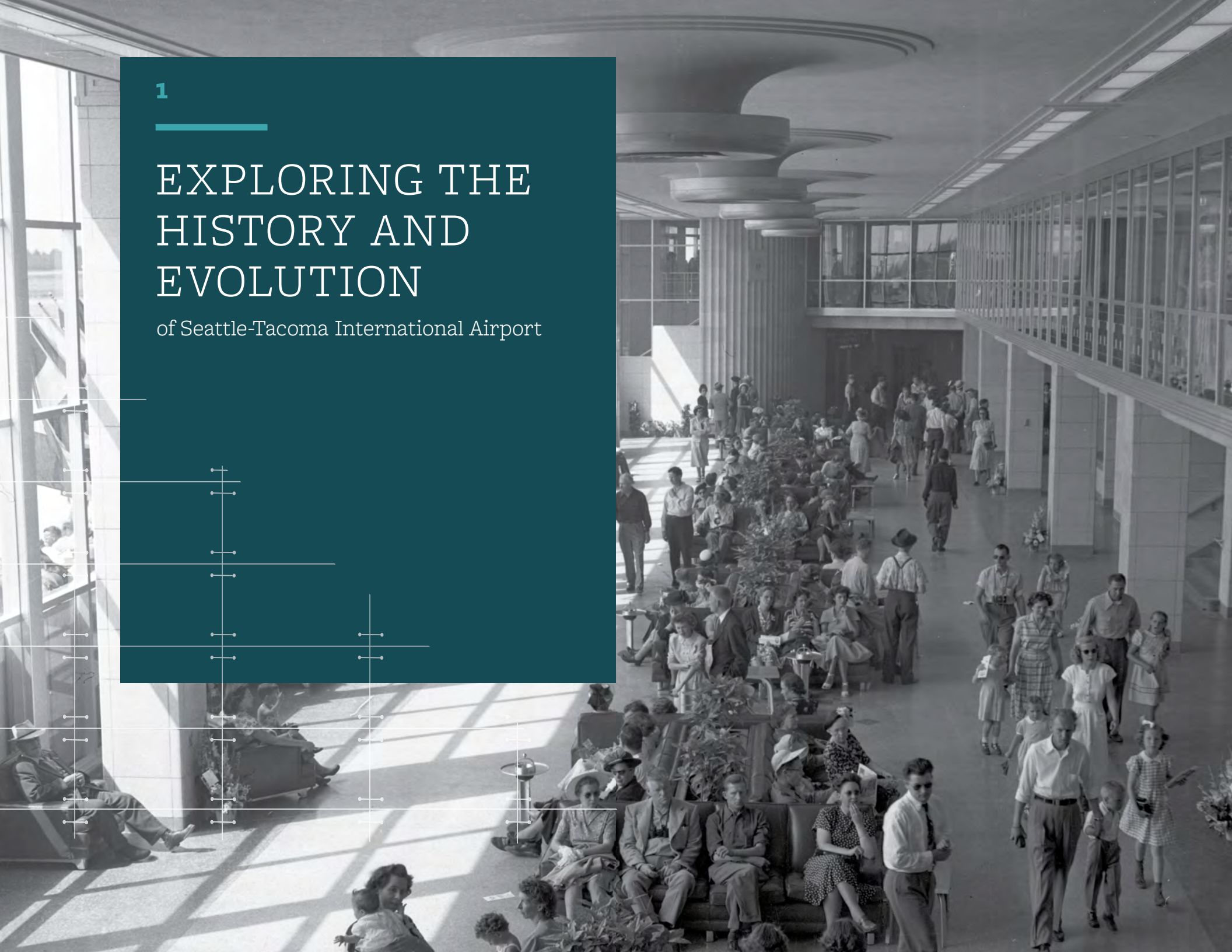




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# EXPLORING THE HISTORY AND EVOLUTION

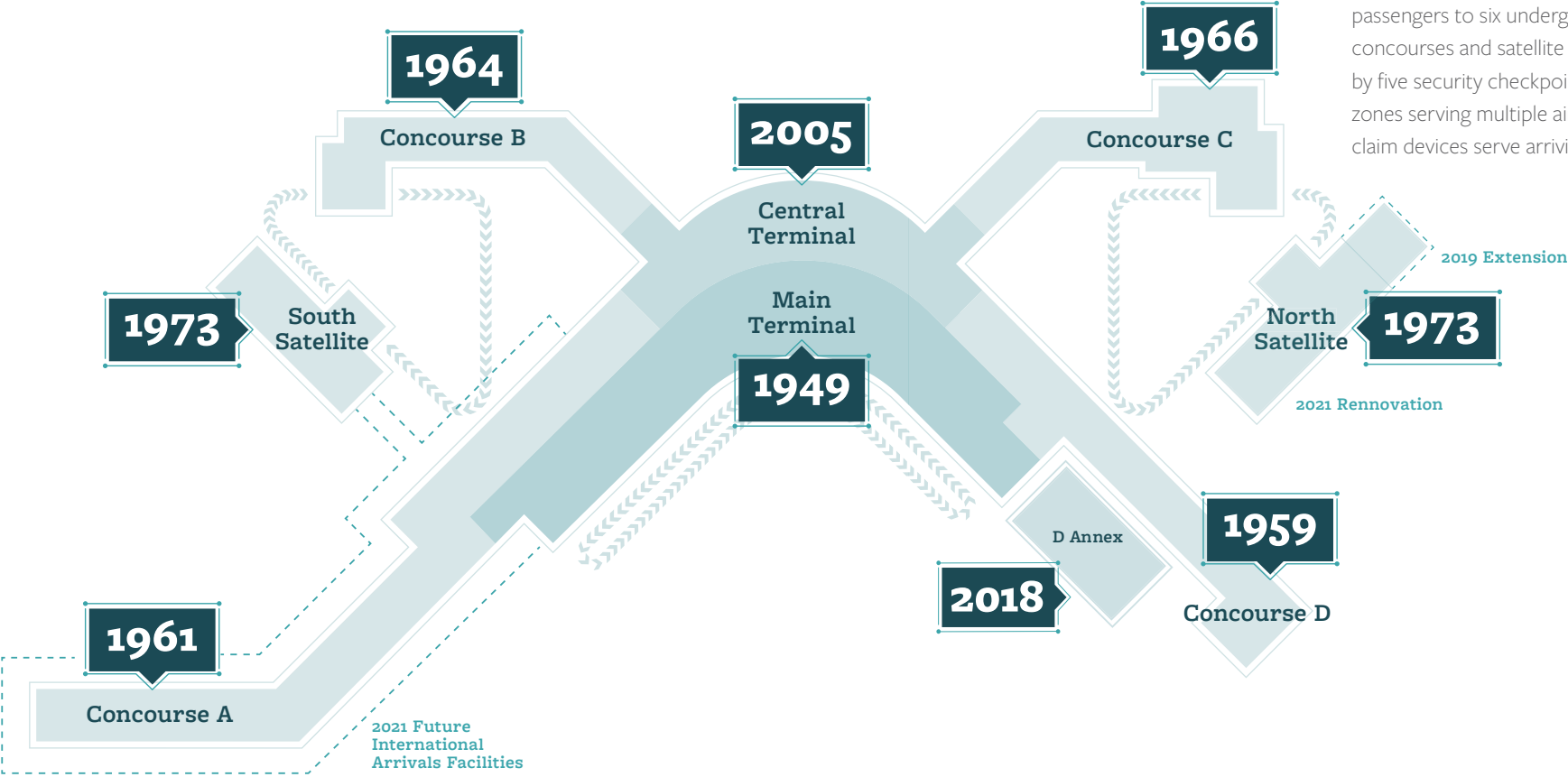
of Seattle-Tacoma International Airport



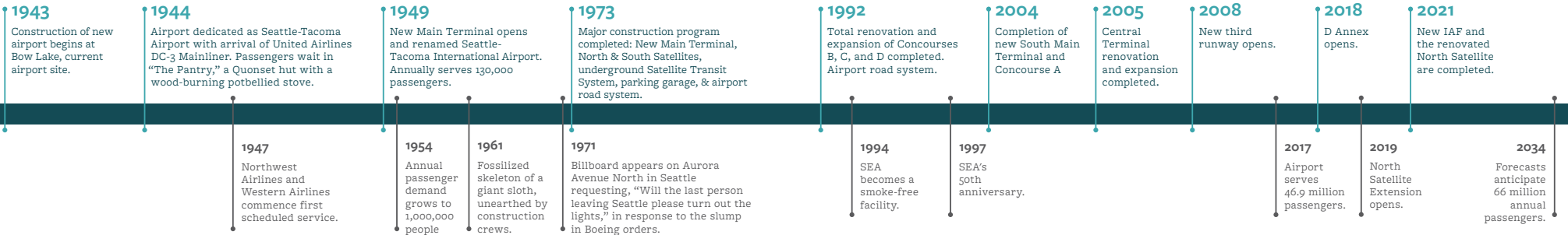


HISTORICAL SEA GROWTH: CONSTRUCTION DATES

SEA consists of a Main Terminal servicing four attached concourses (A, B, C, D) and two satellite buildings (North, South) that are linked by train service. Three train routes deliver passengers to six underground stations. These concourses and satellite buildings are served by five security checkpoints and seven check-in zones serving multiple airlines. Sixteen baggage claim devices serve arriving passengers.



SEA MILESTONES





## MAIN TERMINAL

### AT A GLANCE

OPENED IN

1949

SIGNIFICANT

## Renovations

**1973** Substantial expansion of Main Terminal

**1987** Further expansion to the north

**2002** North vertical circulation expansion

**2004** South expansion

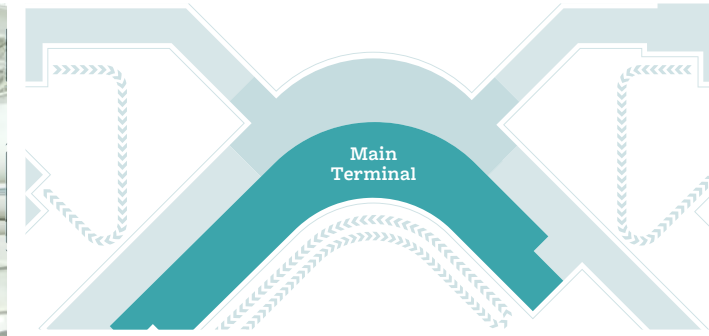
### HIGHLIGHTS

The Main Terminal is the portal through which people arrive and depart the airport, and where they check in for their flights and claim their bags. It is an elegant Modernist building, simple and timeless.

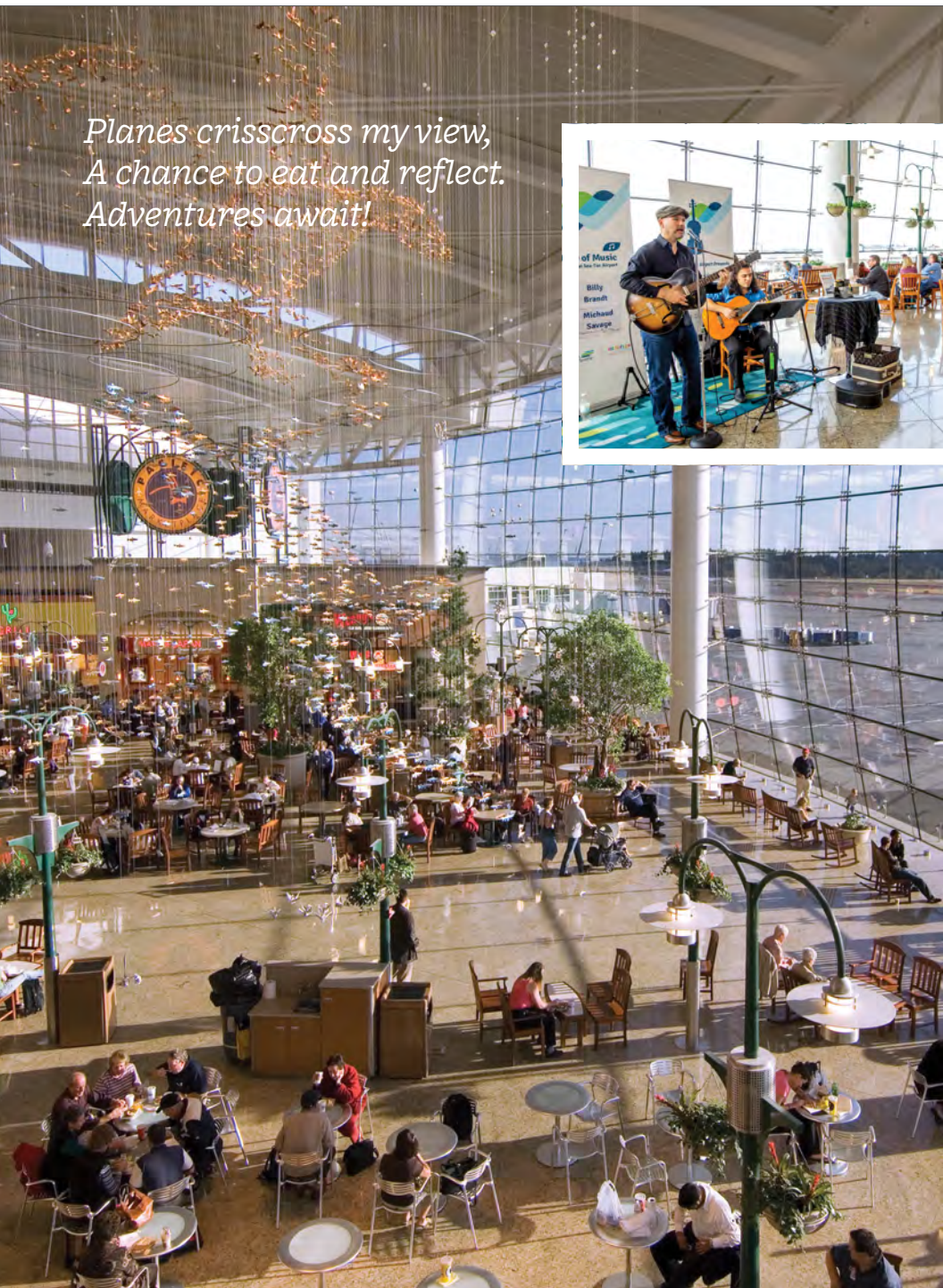
### LOOKING FORWARD

SEA is preparing for substantial passenger growth in the next 20 years, and is investing in its infrastructure to keep its place as a premier international airport. The airport is the fastest growing among the top 20 U.S. airports. Planned upgrades include a new International Arrivals Facility located adjacent to Concourse A, and major renovation and expansion of the North Satellite building.

*The front door of SEA,  
Welcoming gateway to all.  
We guide, where to next?*







*Planes crisscross my view,  
A chance to eat and reflect.  
Adventures await!*



## CENTRAL TERMINAL

### AT A GLANCE

OPENED IN

2005

SIGNIFICANT

## Renovations

**1997** Major renovation/expansion begins

**2005** Central Terminal renovation complete

### HIGHLIGHTS

The Central Terminal is the airport's living room, the jewel of SEA's dining and retail experience. With its large open space, abundance of natural light, natural stone finishes, live music, and distinctive double curvature curtainwall, it is a sought after destination for travelers waiting for their flight to depart. The backdrop of the Central Terminal is the original facade of the main terminal which includes a frieze of fish leaping above waves; an original integration of Northwest sense of place.

Central  
Terminal



## CONCOURSE A

Concourse A

2021 Future  
International  
Arrivals Facilities

### AT A GLANCE

OPENED IN

1961

SIGNIFICANT

## Renovations

2005 Replaced with all new expanded building

### HIGHLIGHTS

Concourse A is the newest and most spacious of SEA's six gate buildings. Soaring ceilings, vast expanses of light, numerous shops and restaurants, and engaging art displays provide a pleasant and uplifting environment for passengers.

### LOOKING FORWARD

A new International Arrivals Facility (IAF) is underway, adjacent to existing Concourse A to the east. This facility will greatly enhance the international passenger experience and drive the Port of Seattle's Century Agenda strategy to double the number of international flights and destinations over 25 years. This multi-level facility will increase international gates from 12 to 20. An iconic aerial walkway will connect South Satellite gates to the arrival facility, and a multi-level walkway will connect Concourse A gates to the facility. Incorporated in the project is a new baggage claim and international passenger processing center.



*Swooping skies above,  
Angular supports below;  
Lofty thoughts take flight.*



## CONCOURSE B

### AT A GLANCE

OPENED IN

1964

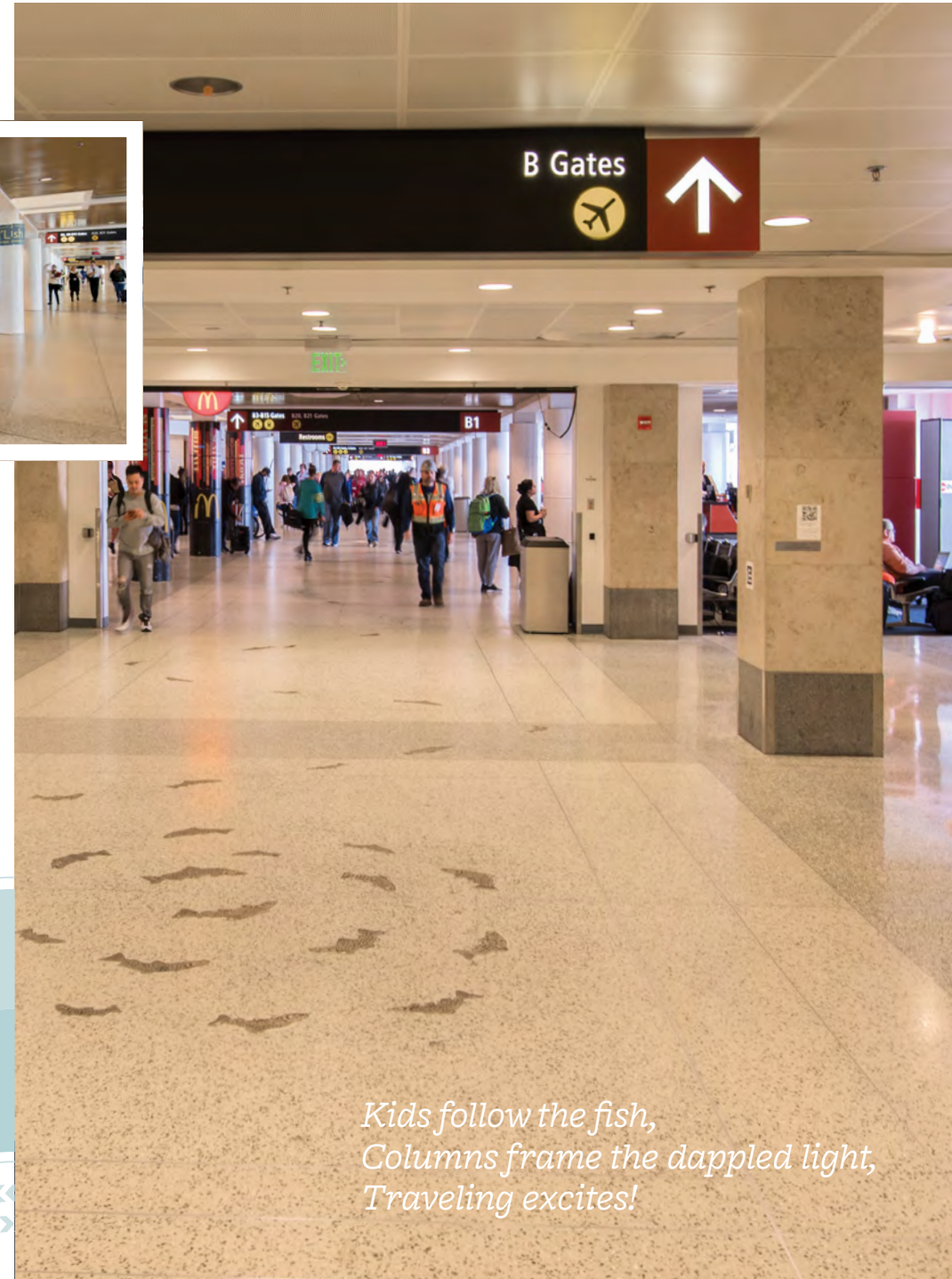
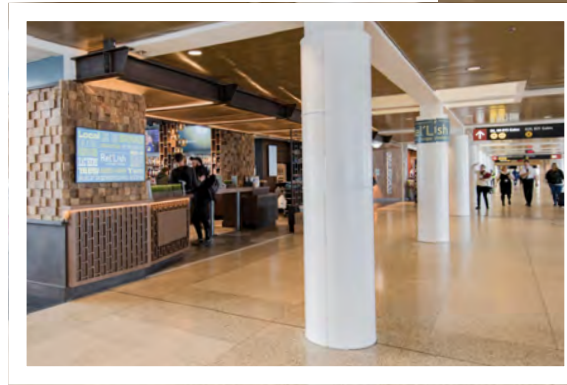
SIGNIFICANT

## Renovations

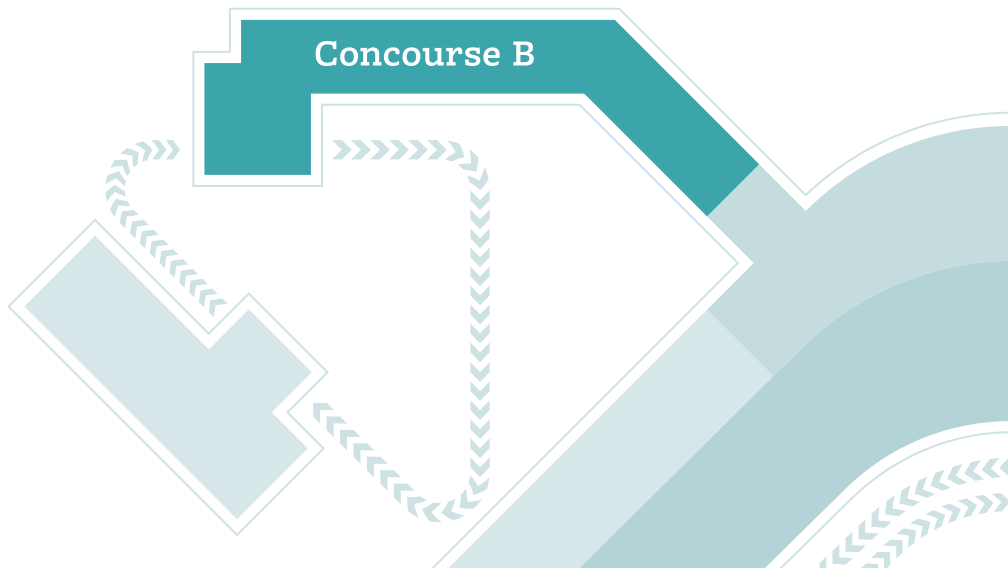
1992 Expansion and remodel

### HIGHLIGHTS

Concourse B incorporates the northwest sense of place through use of materials and art. Children and adults alike are delighted with the bronze fish “swimming” in the terrazzo floor. The bronze ceiling mimics the dappled light of a northwest forest canopy.



*Kids follow the fish,  
Columns frame the dappled light,  
Traveling excites!*





## CONCOURSE C

Concourse C

### AT A GLANCE

OPENED IN

1966

SIGNIFICANT

## Renovations

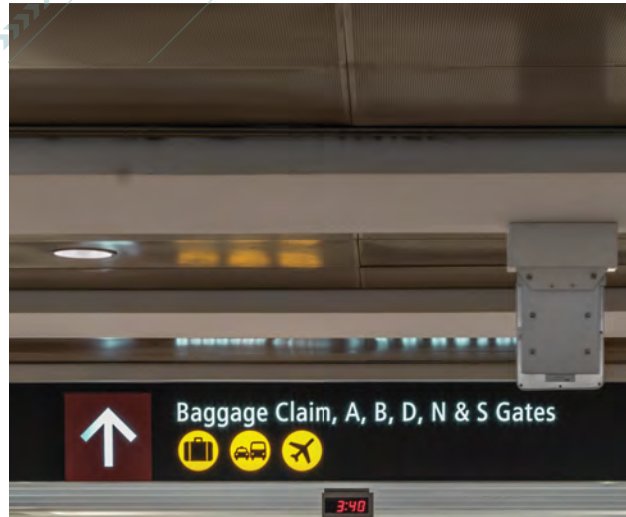
**1992** Expansion and remodel

**2016** Vertical circulation expansion



### HIGHLIGHTS

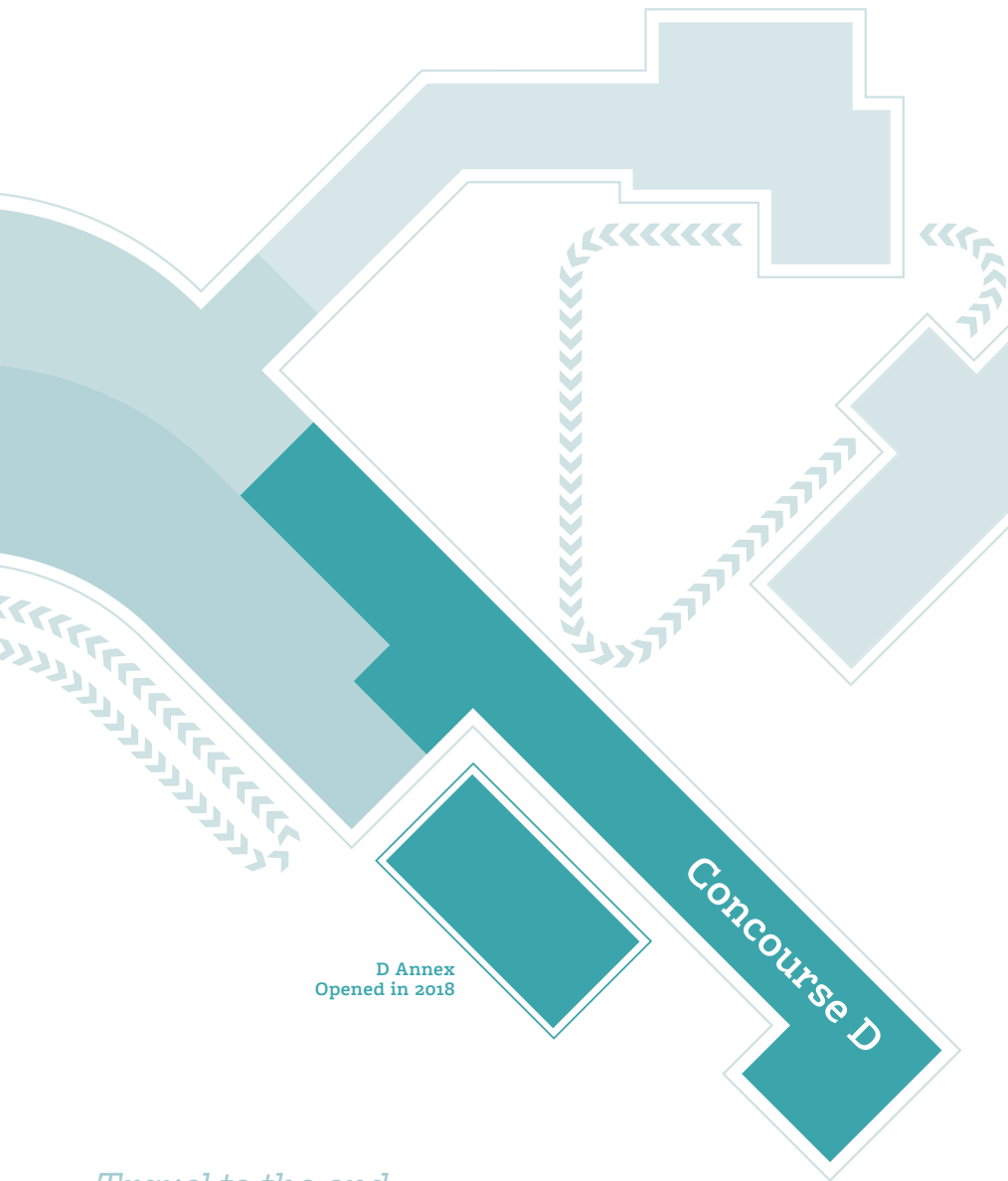
Concourse C's wide corridor and artistic terrazzo welcomes passengers to eat, shop, and relax before their flight. Upgrades to vertical circulation systems in Concourse C were completed in 2015, including weather protected sloped walkways and new elevators, greatly improving customer service and Alaska Airlines' regional operations.



*Symbols underfoot,  
Skylights punctuate the path,  
Soft, colorful seats.*



## CONCOURSE D



*Travel to the end,  
Explore under the canoe,  
Journey awaits all.*

### AT A GLANCE

OPENED IN  
**1959**

### SIGNIFICANT Renovations

**1968** Extension

**1992** Expansion/ remodel

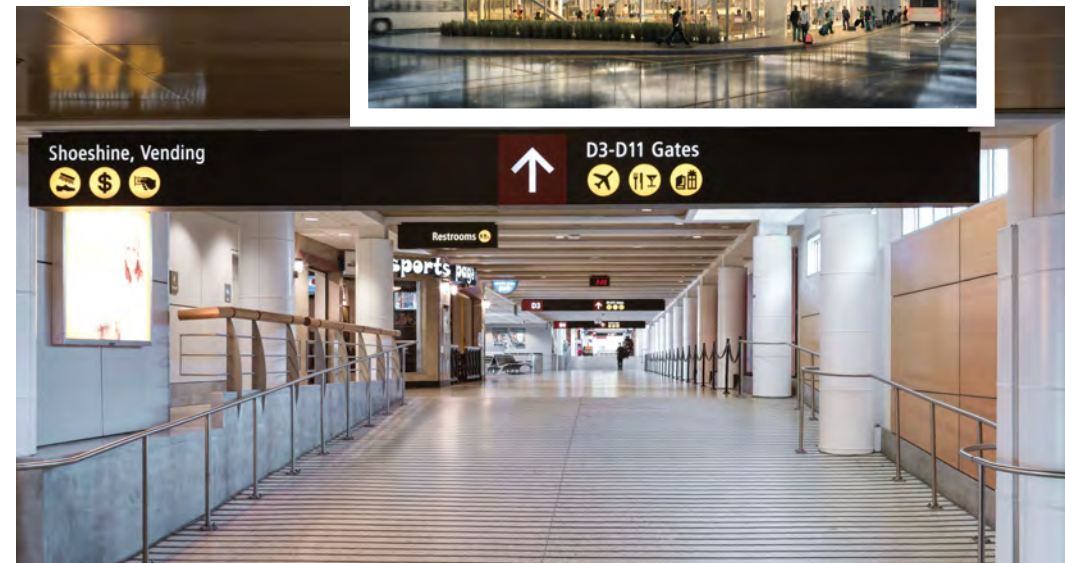
**2018** D Annex holdroom  
addition

### HIGHLIGHTS

Concourse D is the oldest and narrowest concourse at SEA and its materials represent the palette used in the early 90's renovation of Concourses B, C, and D.

### LOOKING FORWARD

The Concourse D Annex holdroom project will relieve current gate congestion for both passengers and aircraft waiting for gate positions. This 32,500 SF building encompasses 6 gates, and will allow for "hardstand operations," where passengers are shuttled to and from an aircraft parked away from the terminal building.







*Vibrant melting pot,  
Connecting people through flight.  
All are welcome here.*

## SOUTH SATELLITE

### AT A GLANCE

OPENED IN

**1973**

SIGNIFICANT

**Renovations**

**1983** West extension

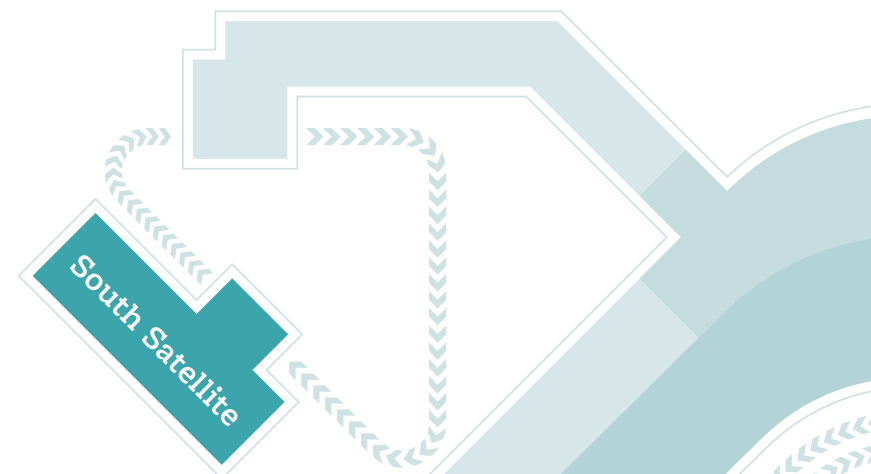
### HIGHLIGHTS

The South Satellite was built with the North Satellite and Main Terminal as part of the major 1973 expansion of SEA. It is the entry point for the Airport's international flights and passengers.

### LOOKING FORWARD

Planned improvements for the South Satellite building include a new aerial walkway spanning across existing aircraft taxiways, connecting passengers arriving at the South Satellite to the new International Arrivals Facility (IAF) east of Concourse A.

This linkage will ensure that the airport meets the growing regional demand for international service, enhance the passenger experience, and advance the Puget Sound region as a leading tourism and business gateway.





## NORTH SATELLITE

### AT A GLANCE

OPENED IN  
**1973**

SIGNIFICANT  
**Renovations**

**2019** West extension  
opened

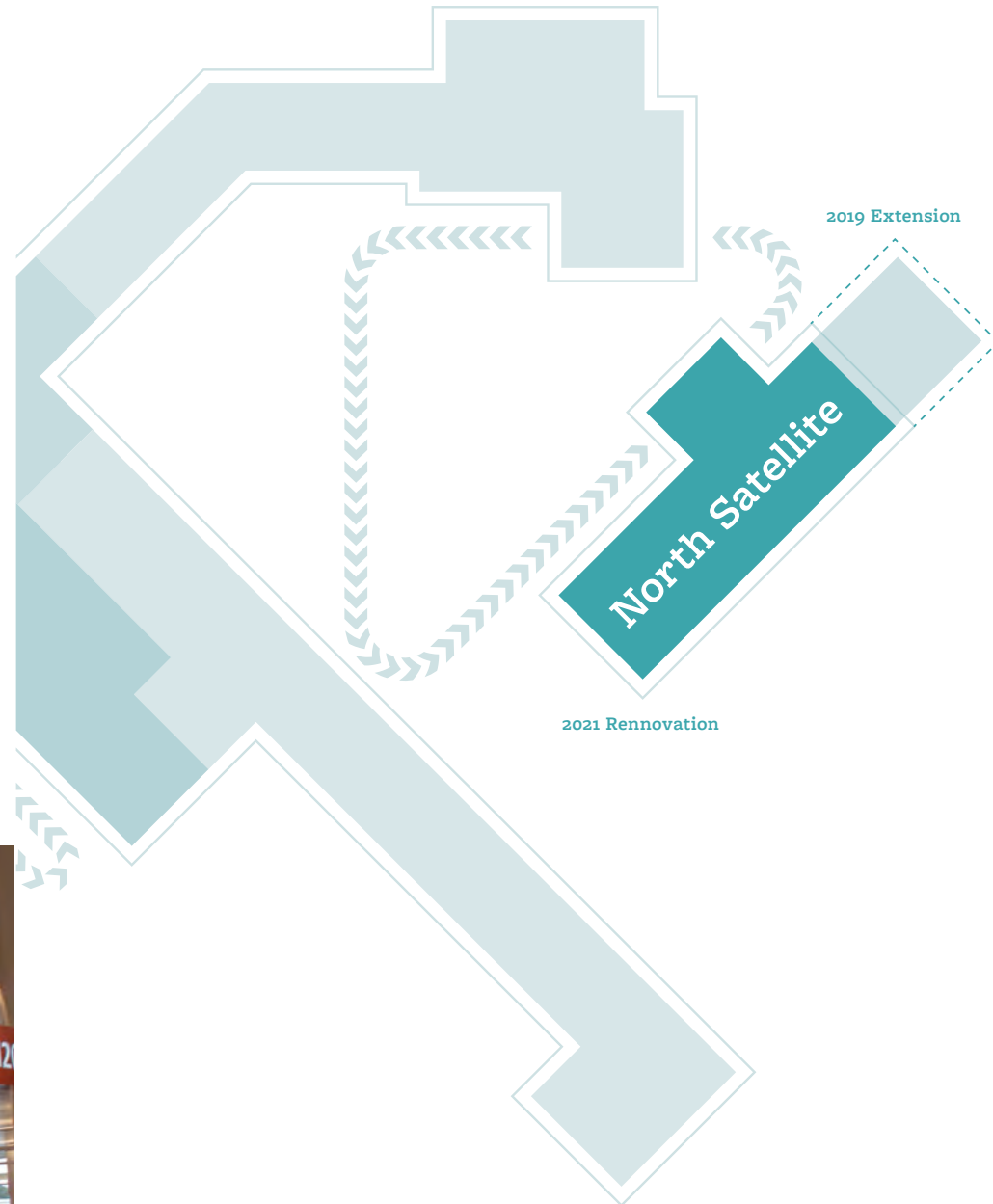
**2021** Remaining North  
Satellite renovation  
completed

### HIGHLIGHTS

For 45 years the North Satellite has served as the center for SEA's United and Alaska Airlines flights. A comprehensive baggage system upgrade was completed in 2015, resulting in faster transfers, extended system life, reliability and decreasing operation and maintenance costs.

### LOOKING FORWARD

The North Satellite Modernization Project will expand and renovate this facility, which will continue as Alaska's flagship facility, responding to continued growth at SEA. The \$550 million expansion and renovation of the North Satellite will include adding eight new gates with a 240-foot extension of the building to the west, add an upper level mezzanine, more than double the existing dining and retail square footage, and introduce a rooftop Alaska Airlines lounge with views of the Olympic Mountains.



*Quick train ride away,  
The River shapes your new view,  
Travel opens our eyes.*

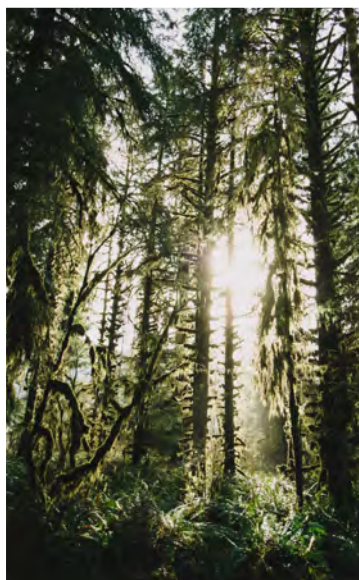
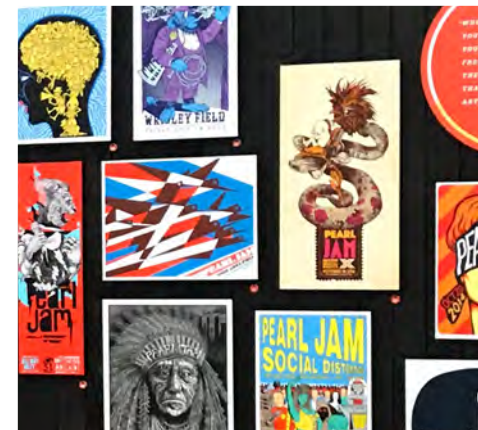


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## CRAFTING THE PACIFIC NORTHWEST SENSE OF PLACE







## EVOKING THE VIBE

A socially conscious approach to design embodies the ethos of the Northwest region. SEA has chosen a process that contributes to improving the passenger and employee experience. The goal is the creation of inspiring public spaces that engage the emotions of all who pass through—passengers, airline personnel, SEA employees, and the workers who staff businesses in the terminal. Spaces that evoke the unique “vibe” and the authenticity of the Pacific Northwest, setting SEA airport apart from all other airports. Design consultants that shape the future of SEA should express this Northwest sense of place through a variety of means—architecture, interior design, art, graphics, and other media.



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## DEFINING A NORTHWEST SENSE OF PLACE

### 1 Distinctive, awe-inspiring natural environment

Invoke the feel of mountains, forest, water, and sky.

### 2 A dynamic, vibrant built environment

Reference the cities, neighborhoods, parks, and buildings of the Pacific Northwest—both historic and modern-day.

### 3 A pioneering, cutting-edge spirit

Think of the early settlers to the region, trade and commerce, industries (like timber, fishing, biotech, and aviation), and technology.

### 4 Rich, diverse culture and history

Consider the various events, arts, entertainment, sports, and education happening in the region.

### 5 The people

Who we are today and the groups and individuals who have been significant in the region's past.

### 6 Thriving international trade, commerce, and tourism

Think of ways to create experiential zones that create Pacific Northwest setting by combining visual elements with other senses such as sound, smell, and touch.

### 7 Green values

Creating and maintaining a sustainable environment.

### 8 Dining, retail, and advertising

Develop relationships with appropriate brands and concepts.





# If you don't know where you are, you don't know who you are.

—Wendell Berry, American Bioregionalist



## PROGRESSIVE NORTHWEST MODERN

SEA design vocabulary can be defined as “Progressive Northwest Modern.” This style is a blend of progressive modern architecture and the regional influences found in the natural environment and cultures of the area. The term “Progressive Northwest Modern” conveys two fundamental ideas. First, continuity with its existing modern architecture is critical to achieving a unified image for SEA. Second, each new design should be progressive and forward looking while being respectful of the modernism of existing terminal facilities.



### PROGRESSIVE NORTHWEST MODERN FUNDAMENTALS

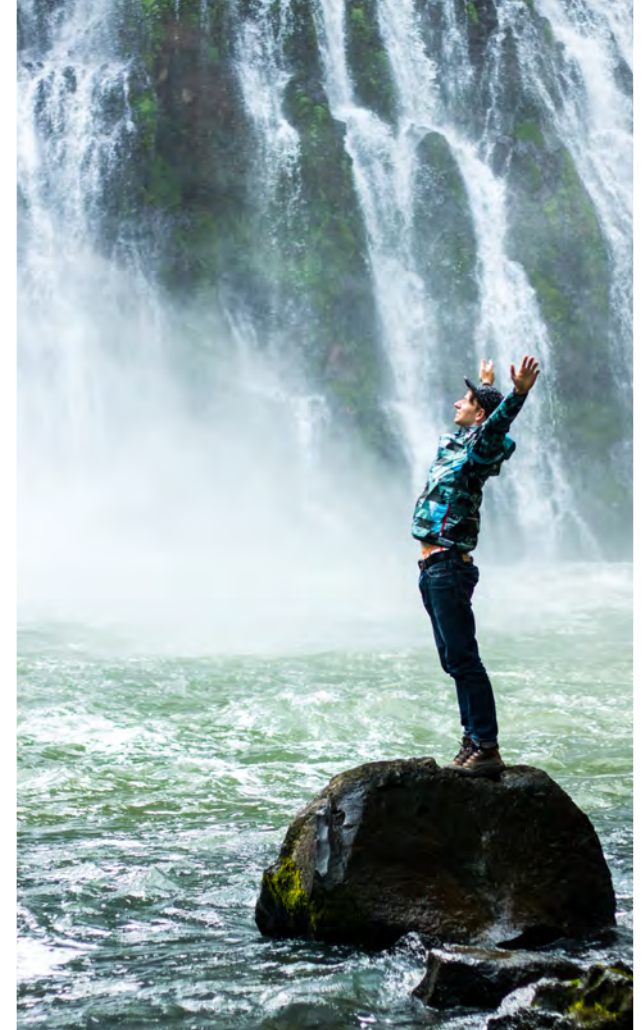
- 1** Maintain continuity with existing architecture.
- 2** Be respectful of the existing terminal's modernism.



## NATURE AS A REFERENCE

Architecture and interiors in the Pacific Northwest have responded **HISTORICALLY TO THE NATURAL environment, contending with its power in unique ways.**

This response to nature has created a vernacular design style, a particular kind of design expression that seeks to connect materials, structure, and nature. The region's dramatic and varied geography includes mountains, volcanoes, islands, temperate rain forests, and multiple bodies of water; these, and abundant natural resources, as well as maritime, agricultural, and industrial histories form a singular context for creativity. There is an inherent human inclination to **connect with nature**. This idea embodies the tenets of biophilia. By extension, biophilic design incorporates natural materials, natural light, vegetation, nature views and other experiences of the natural world into the modern built environment. SEA, as a gateway to the Pacific Northwest, embraces this aesthetic style and its impact on all who use the airport, linking it to the city, community and region in which the airport belongs.





Airports say a lot  
about a place because  
they are both a  
city's business card  
and its handshake;  
they tell us what a  
community yearns  
to be.

—Pico Lyer, The Golden Soul





Creating an experience that celebrates nature is not about recreating the “great outdoors.” A design goal of evoking nature, using nature as a reference is preferred, in impactful, considered ways, balancing the literal with the abstract.

Warm wood detailing, expansive areas of glass, exposed structure, deep overhangs, are all elements in a Northwest sense of place “tool kit.” Photography is often employed to reinforce a sense of place, but designers are encouraged not to simply use photos of local icons to impart authenticity. Rather, consider the many regional icons more deeply, seeking to discover and portray the underlying principle of those icons, and celebrating them in a less literal, more abstract way.



Architects and interior designers can achieve this through a variety of means. Materiality—for instance, using a real stone that is regionally sourced, or a species of wood that is local to the area. This honest use of materials is a prerequisite for design at SEA. Or lighting—maybe a moment of surprise and delight, such as a pool of dappled light that recalls a forested path. Or structure—exposed framing members that speak to the utility and strength of early agricultural buildings in the region. This “structural honesty” is celebrated in various ways throughout SEA. One striking example is the great glass wall of the main terminal. Its fully exposed structural system uses machined fittings and cables to create the open view.



**honest use of materials**

LOCAL, NATURAL FINISHES

**incorporate natural light**

CONNECTION TO THE OUTDOORS

**structural honesty**

EXPOSED STRUCTURE

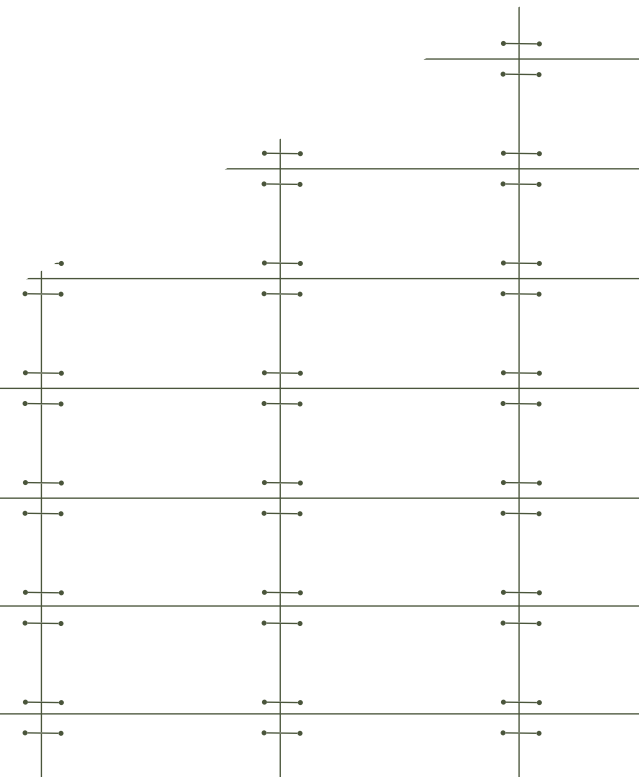




## CRAFTING AN AUTHENTIC EXPERIENCE

For some guests, a connection through SEA is their only exposure to the Pacific Northwest region. But the changing nature of air travel, impacted by our everything/everywhere culture, means that SEA is so much more than just a place to travel through, it is its own mini-city. SEA, while obviously serving air travel needs, is also a place to play, work, shop, dine, and experience art, exhibits, music, and other cultural aspects that make the Pacific Northwest a unique destination.

That uniqueness is what we are trying to distill in SEA's design, and it should be immediately apparent when a person disembarks from an airplane, or enters the terminal from outside.

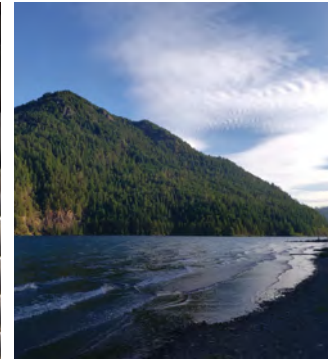




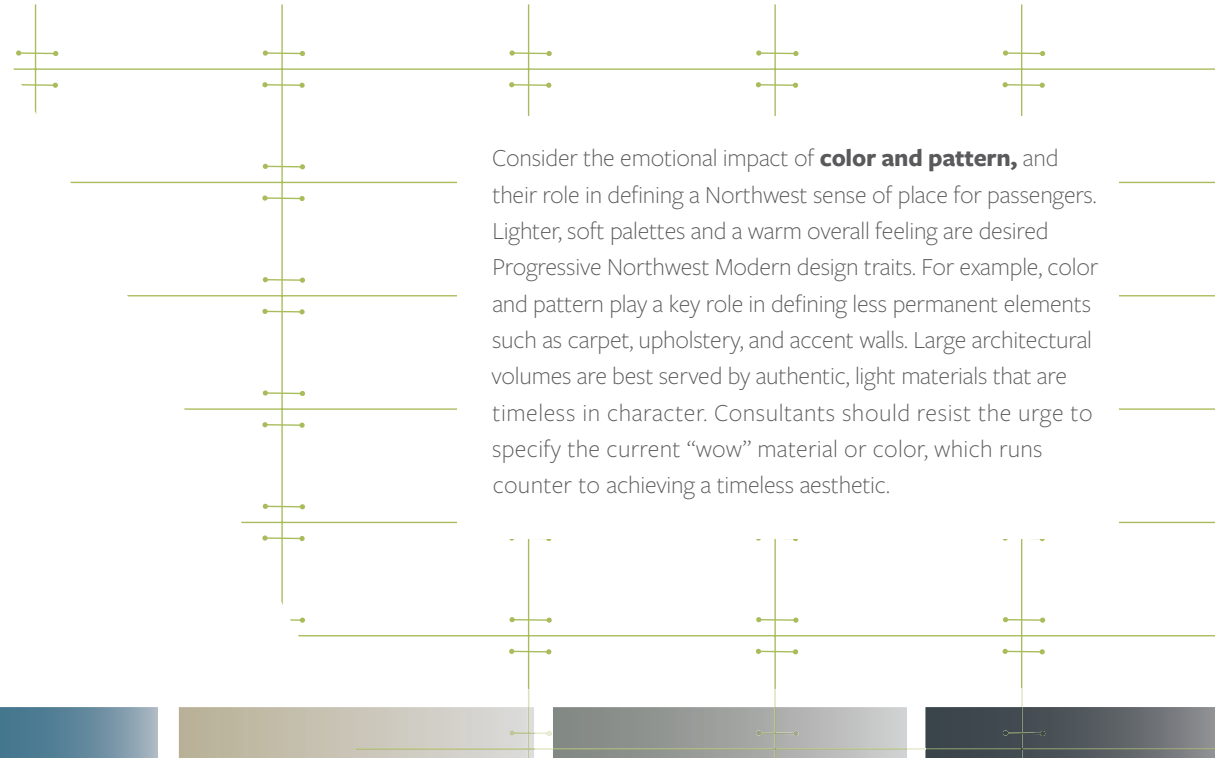
## SEA VISION

We think of the airport as a metaphor of the city with the main terminal as the downtown and each concourse and satellite is a neighborhood that represents the diversity of culture and geography of our region.

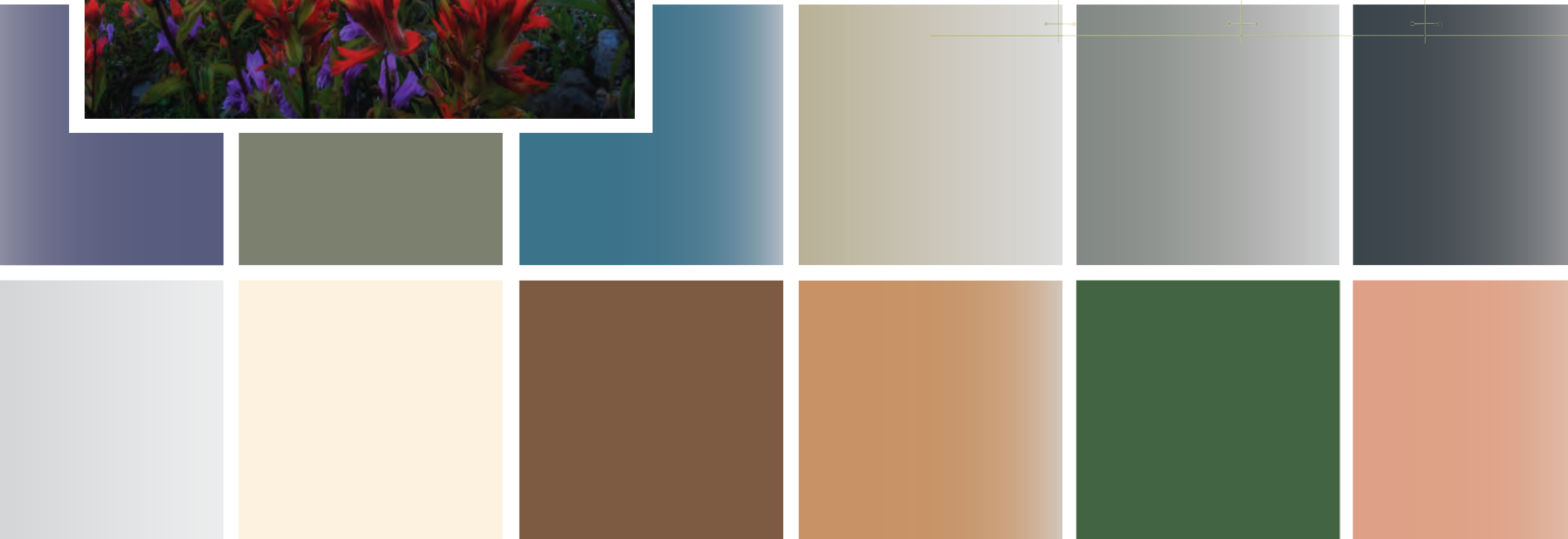
- Concourse A: Historic and Modern Industry
- Concourse B: Coastal Region
- Concourse C: Cascade Mountain Range
- Concourse D: East of the Cascade Range
- South Satellite: Cultural Diversity
- North Satellite: Canyons and Rivers







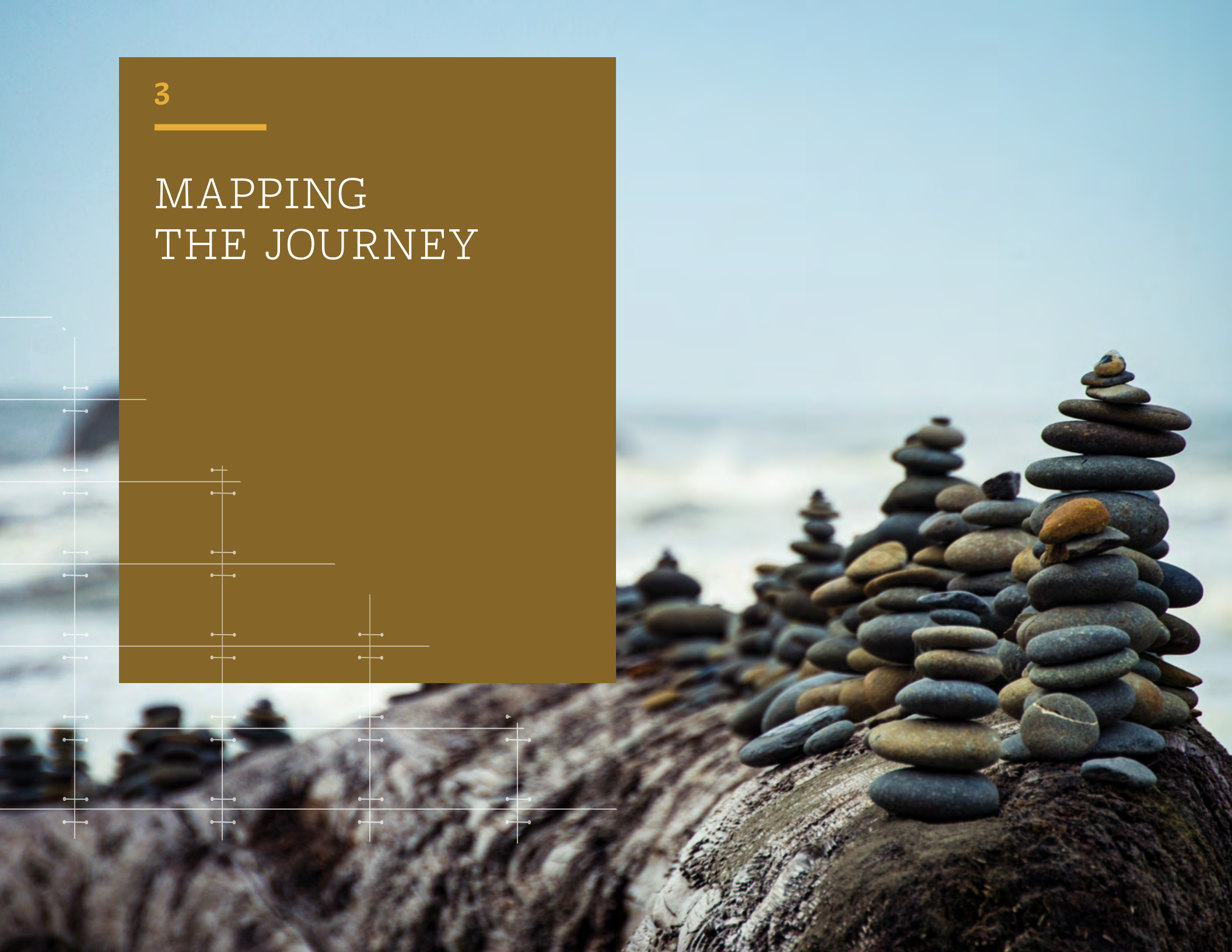
Consider the emotional impact of **color and pattern**, and their role in defining a Northwest sense of place for passengers. Lighter, soft palettes and a warm overall feeling are desired Progressive Northwest Modern design traits. For example, color and pattern play a key role in defining less permanent elements such as carpet, upholstery, and accent walls. Large architectural volumes are best served by authentic, light materials that are timeless in character. Consultants should resist the urge to specify the current “wow” material or color, which runs counter to achieving a timeless aesthetic.





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# MAPPING THE JOURNEY





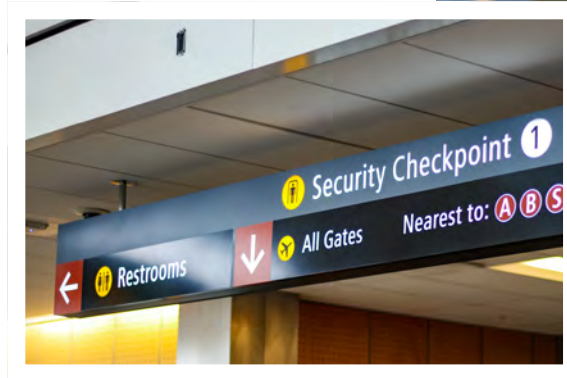
## CONSIDERING PASSENGERS & EMPLOYEES

SEA is committed to providing the best possible experience for both its passengers and the many employees and varied employers who work there. In addition to serving tens of millions of passengers annually, SEA itself also employs over 30,000 people. Creating a progressive working environment for all employees has a positive net impact—happy employees mean happy passengers.

Design consultants must consider various components when planning projects, including how to enhance the spatial experience, how to emotionally choreograph that experience, and how to provide a clear wayfinding experience for a variety of passenger types and employees.



- 1 Enhance spatial experience
- 2 Choreograph emotional journeys
- 3 Provide clear wayfinding





ENHANCING THE SPATIAL EXPERIENCE



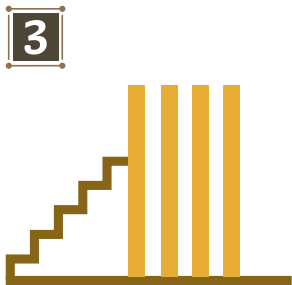
Public Spaces

Public spaces should be clearly organized, visually open and engaging, generously scaled, and appropriate to the use of the space.



Public Circulation

Public circulation areas should be comfortably sized to allow for easy traveler movement during peak traffic periods.



Vertical Circulation

Vertical circulation between floor levels should be very open, enabling clear way finding and offering opportunities for spatial drama and visual connectivity.



Public spaces should be free of physical impediments that would reduce ease of movement, both for passengers with and without disabilities, and for employees. Service elements should be consolidated and located in alcoves or otherwise well integrated to avoid congestion in public circulation paths. Visual clutter inhibits wayfinding and orientation. “Controlling clutter” is not just an operational issue; designers should develop clear zones for service elements, creating a framework that allows future evolution of service needs without compromising the image and coherence of the public spaces.

Consider how materials, finishes, and artwork can also support and clarify the intended spatial hierarchy.

Give primary spaces greater emphasis through the use of featured materials or through prominent integration of artwork. Develop lighting and signage in ways that strengthen and support the spatial hierarchy.



## CHOREOGRAPHING THE EXPERIENCE

Approach, decision, arrival, and relaxation are the series of emotional phases that passengers experience while traveling.

The design of the public spaces should support the varied emotional states at each of these sequential experiences. When approaching a new space, passengers seek reassurance with clarity of wayfinding being the most critical aspect of this point in the journey. Your designs must provide a hierarchically clear spatial organization and include intuitive cues to reassure passengers. At decision points where paths converge, your designs must be appropriately scaled to temporarily slow passengers in order for them to make decisions.

**Your designs should celebrate arrival moments in a new space or intermediate destination.** The creation of gateways and focal points, whether through special architectural features or artwork, can provide a memorable experience. These special features serve an additional



purpose as easily defined meeting points, or the perfect photo opp for posting on social media.

And finally, relaxation! Your designs for gate holdrooms and concession areas must encourage relaxation and discovery, focusing on exterior views and natural daylight where possible. Co-locating food and beverage concessions with gate holdrooms allows for ease of use, allowing passengers to take time to “unplug.” A balance of comfort with drama is the goal. **Surprise passengers with how comfortable it can be to be in an airport.**



## DEFINING PASSENGER TYPOLOGIES

To choreograph the best experience, it is essential to understand what is important to different types of passengers as they experience SEA. Design consultants are encouraged to think about the different passenger journeys through SEA: departing, arriving, and connecting passengers. Passenger typologies are another critical filter to apply while planning and programming projects. The final filter is technology. Self-service technology is prevalent at SEA, and designers must consider how the experiences they create can adapt and tailor to this trend, always keeping specific passenger types in mind. Engaging with technology in SEA will increasingly affect the experience. Equally important will be the desire to retreat from technology. These differences can positively shape the experience. Journey “moments” through SEA include a variety of experiences: curbside (both departing and arriving), ticketing, checkpoint, concessions, concourses, holdrooms, play areas, restrooms, art and exhibits, baggage claim, and connectors, to name a few.

### TYPOLOGIES TO CONSIDER



BUSINESS



LEISURE



FAMILY



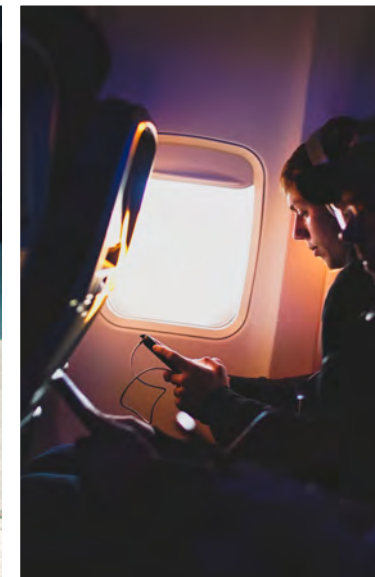
SPECIAL NEEDS



ASSISTED



ANIMAL





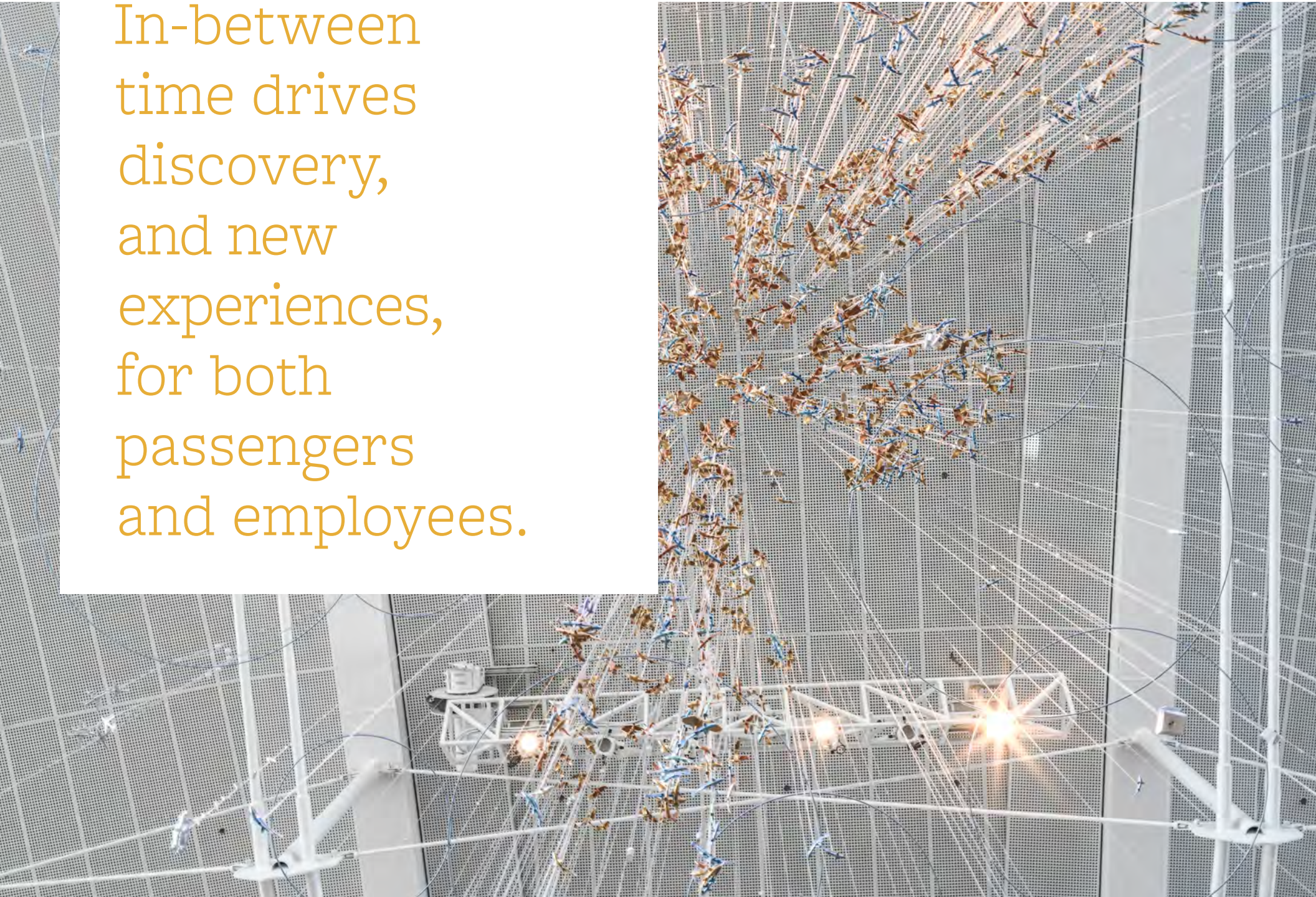


Consultants may find that creating a journey map will guide their programming and planning. For example, crafting a narrative for key passenger types, then physically mapping this through all the journey moments, can result in more thoughtful approaches to architecture and interior design. A key component to this mapping is to consider how a passenger's journey through SEA can maximize non-airline revenue. Can your journey map facilitate 100% of passengers passing by 100% of concessions? Can the journey map also support community and social connection, allowing users to socialize with family and friends? The time spent waiting to depart should always be productive. This "in-between" time drives discovery, and new experiences, for both passengers and employees. Analyzing the needs, wants, and preferences of differing passenger types and how the physical environment can respond to this, will be a key strategy in positively affecting non-airline revenue at SEA.

**Great design is great for business!**



In-between  
time drives  
discovery,  
and new  
experiences,  
for both  
passengers  
and employees.





## PROVIDING CLARITY OF WAYFINDING

SEA hosts millions of passengers, guests and employees annually, each with a unique point of view and destination. The most basic need of each user is a clearly defined wayfinding system.

SEA is proactive in assessing its wayfinding systems, implementing new strategies to improve the passenger experience. As a result, design consultants must have a clear understanding of the latest wayfinding guidelines and strategies at the start of design projects.

Design consultants must engage with the SEA Wayfinding and Visual Environment Team at the beginning of the design process to ensure that visual communication is integrated into the design, not added after the design is completed. A uniform hierarchy of messaging, categorized into “primary” (directional and identification) and “secondary” (auxiliary services and support functions) messages will positively impact passenger flow. Although wayfinding clarity is key, designers are encouraged to not sacrifice the character of the spaces they affect. Consider embedding sensory cues into your designs as a way of adding an intuitive layer to the wayfinding system. For example, a creative use of color or pattern in flooring materials, whether terrazzo or carpet, can provide a subliminal reinforcement to a passenger’s progression through the airport.

Additionally, new technologies will have a direct impact on wayfinding, from dynamic overhead signage to smart phone apps, all working in concert with static messaging to guide passengers through the SEA experience.

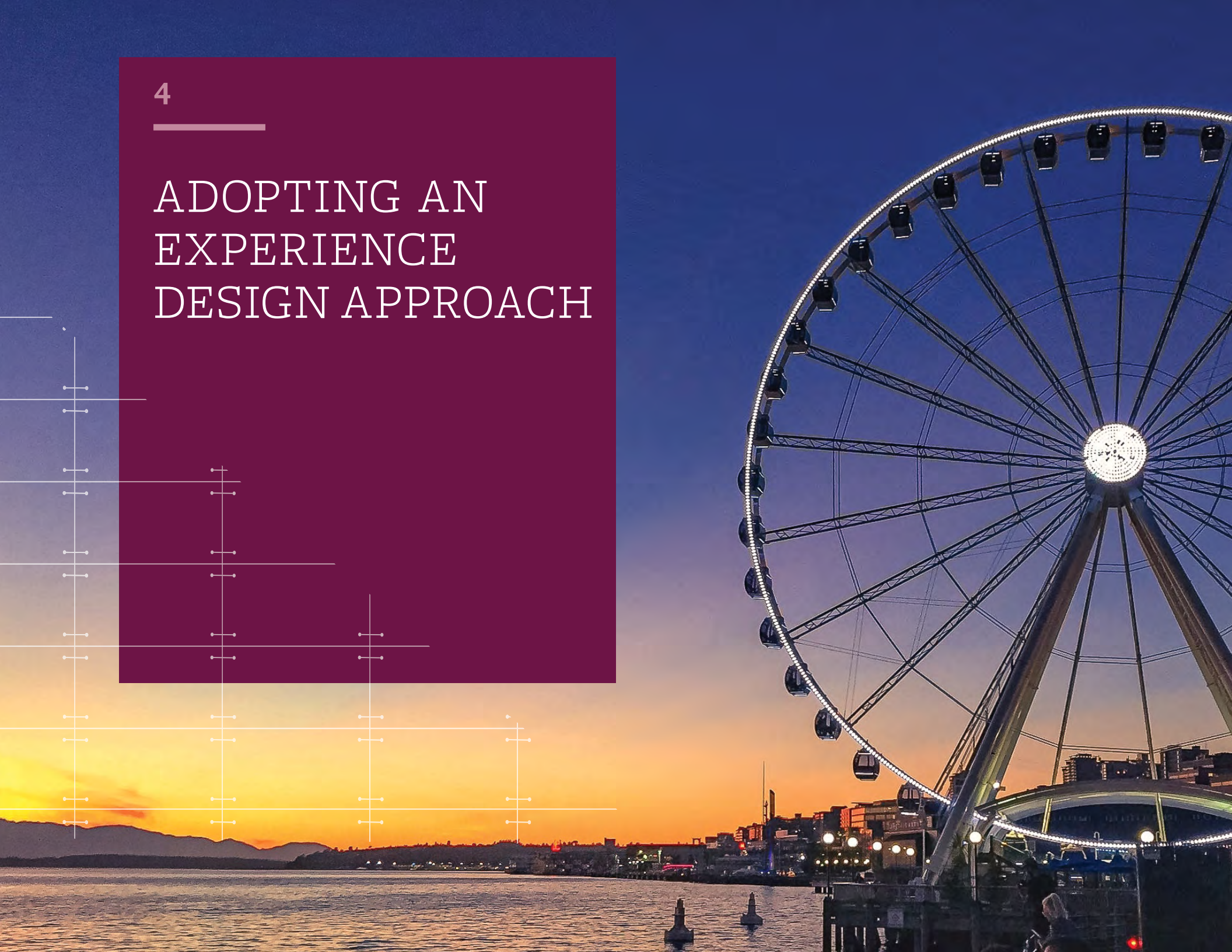




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# ADOPTING AN EXPERIENCE DESIGN APPROACH





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## WHAT IS EXPERIENCE DESIGN?

In the context of the airport, it can be described as design driven by the thoughtful consideration of the moment of engagement, or touchpoints, between passengers and employees and the SEA brand, and the ideas, emotions, and memories that these moments create.

SEA believes a high-quality environment increases employee and passenger satisfaction. The design consultant's role in creating inspiring public spaces with a positive emotional impact is essential to this vision.

By substituting the word “people” with “passengers” in Maya Angelou's quote, a subtle mindshift begins to occur; an acknowledgment that just as experience is emotional, so is design.

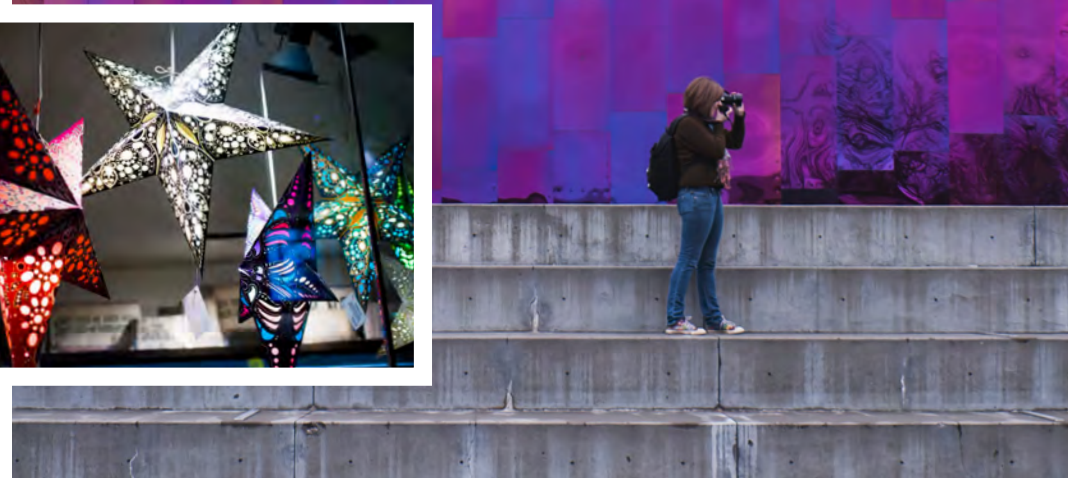
## experience design

noun

It's the “X” factor of design, inspiring the creation of great places that engage people's emotions and keep them coming back.

People will forget  
what you said,  
forget what you  
did, but people will  
never forget how  
you made them feel.

—Maya Angelou, Poet







#### CREATING THE BEST PASSENGER EXPERIENCE INVOLVES:

- 1 stress reduction
- 2 optimized operational systems
- 3 hospitality service model

## PASSENGER AS GUEST

Think of passengers as “guests.” Great hotels anticipate the needs and desires of their guests, understanding that they can’t exceed expectations if they don’t understand them. Creating the best experience for passengers touches on several things: stress reduction, optimizing operational systems, and a service style that emulates the hospitality industry. While design consultants may not be able to affect all of these things, one goal to strive for is “inclusion,” the notion that **all SEA passengers should be made to feel like they are members of a premium club.**

Something as simple as providing a variety of seating types in your designs can alleviate passenger stress. Are there chairs that are designed specifically for the elderly? For children and families? People with disabilities? Are there seating groups that promote social interaction? Powered benching systems borrowed from the workplace world that enable working on your laptop or phone? Lounge options that provide more privacy? By offering multiple choices in the same area, passengers feel both more considered and more in-control of their environment, all elements in a stress-reduction program.





## SHIFTING THE MINDSET

Borrowing from the hospitality industry, single-use spaces have increasingly yielded to spaces that support a variety of activities. SEA, while providing its obvious role of air travel, recognizes that traditional uses of space are blurring. Passengers—guests—are working, dining, shopping, exercising, engaging with art, everywhere throughout the terminal, concourses, and satellite buildings. Spaces that blur boundaries, that are adaptable to change as activities shift over time, are spaces that meet a wide variety of needs for a wide variety of guests. Certain spaces at the airport must maintain primary focus but by layering in other activities to expand a guest's experience, a richer, more emotional response can be achieved.

For example, one of these spaces is the checkpoint, typically the most stressful part of a passenger's journey through the airport. While you might not be able to control that area due to TSA regulations, it is important to consider how your design can “reset” a passenger's emotional state after they pass through security. Consider the calming effect of nature, such as natural daylight, if possible. **Incorporating plantings and artwork are also elements that aid in shifting the mindset to one of discovery.** Direct visual connection to flight information displays (FIDS) is critical, as is de-cluttering this zone from distracting visuals such as advertising. A calming experience is the goal, with ample seating areas where passengers can “recompose” themselves.





I know I just walked through the door but this doesn't feel like any of the airports I've been to. There is such a local Seattle vibe.





## COMFORTABLE NOT CROWDED

Consultants addressing the physical environment at SEA are encouraged to create “homes” for a myriad of things: ATMs, shoe shine stands, vending, baggage carts, and advertising. The goal is seamless integration, not clutter.

A primary area of passenger hospitality is gate holdroom comfort. Consultants should review the document “Managing the Factors Affecting Comfort in Waiting/Gate Areas, 2012 Gate Comfort Project,” and any lessons learned post publication date. The key finding is that the quantity of seating is the most important factor affecting gate comfort. This issue must be balanced against the possibility of crowding. Wi-fi service and access to electrical power are also important aspects to ensure the best possible gate experience. When planning for gate comfort, consider a variety of seating types, such as lounge chairs and occasional tables, and wheelchair spaces, to complement tandem seating. Adequate electrical outlets are an important aspect of gate comfort, as is circulation unimpeded by baggage.



Consultants should understand the intended airline gate podium configuration and boarding queuing space. Design for change as well, anticipating shifting airline boarding practices that can have huge impacts on gate layout.

### GATE COMFORT ENTAILS:





## THE RESTROOM EXPERIENCE

It is an undeniable fact that great restroom design sets the baseline for every passenger's expectation of a great airport experience. The goal is a restroom experience that is like that of a premier hotel, that has rigorous attention given to the smallest detail, that goes beyond the basics. Whether through word of mouth, or posted for thousands to see on social media sites, people talk about restrooms and in many cases, every journey begins and ends with a trip to the restroom! Consultants affecting the location and design of restrooms must familiarize themselves with the SEA Restroom Guidelines, and any lessons learned post publication date.

The location and design of restrooms can have an overwhelming impact on the guest experience. In addition to traditional gender-specific restrooms, consider the special requirements of family restrooms and all-gender restrooms. And don't forget passengers traveling with pets! The location and design of both pre- and post- secure pet relief stations is not only important, but a code requirement.



Every journey begins  
and ends with a trip  
to the restroom.

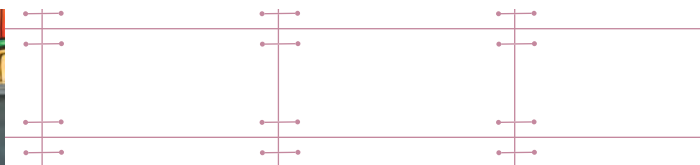






Although the experience design approach requires more thought and rigor to achieve, it's important to remember that to achieve real impact, you don't need to be perfect at everything, just excellent at the right things. It's also important to remember that many places and spaces today compete on the experience they deliver. A unique approach to design thinking is encouraged by SEA, so that its brand is differentiated, and therefore memorable. So think about the experience design approach not as a series of rules that constrain your design, but as a framework for your creativity.

Learn the  
rules like a  
pro, so you  
can break  
them like  
an artist. —Pablo Picasso





5

# INTEGRATING SUSTAINABLE PRACTICES

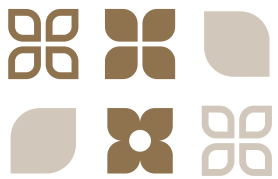




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## SUSTAINABILITY PIONEERS

**As the first large United States hub airport to fully incorporate sustainability practices as a key component of its master planning** effort, SEA is a pioneer. SEA's Sustainable Airport Master Plan (SAMP) develops a long-term blueprint for the airport over 5, 10, and 20 year time frames, reducing environmental and social impacts. SEA is a steward of the Northwest natural environment and champions this role in both literal and metaphoric ways. Literal through the application of sustainable design strategies, and metaphoric through the influence of biophilic design principles.



### biophilic design

In architecture, a sustainable design strategy that incorporates reconnecting people with the natural environment.





The goal of biophilic design is to create places imbued with positive emotional experiences...Using inspiration from the local natural environment...to create a sense of place...

—Judith Heerwagen, Author





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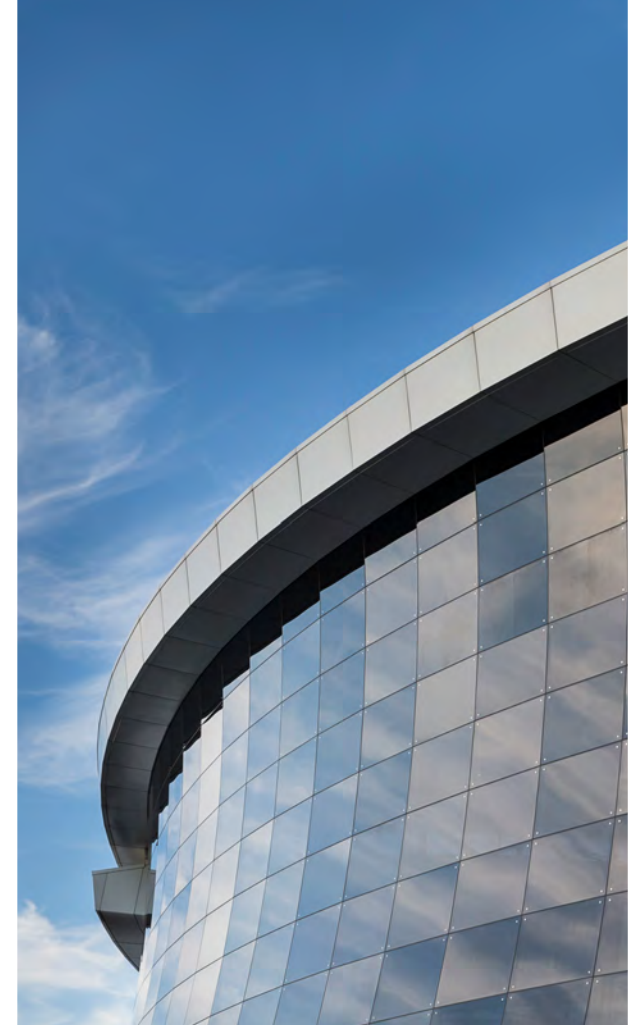
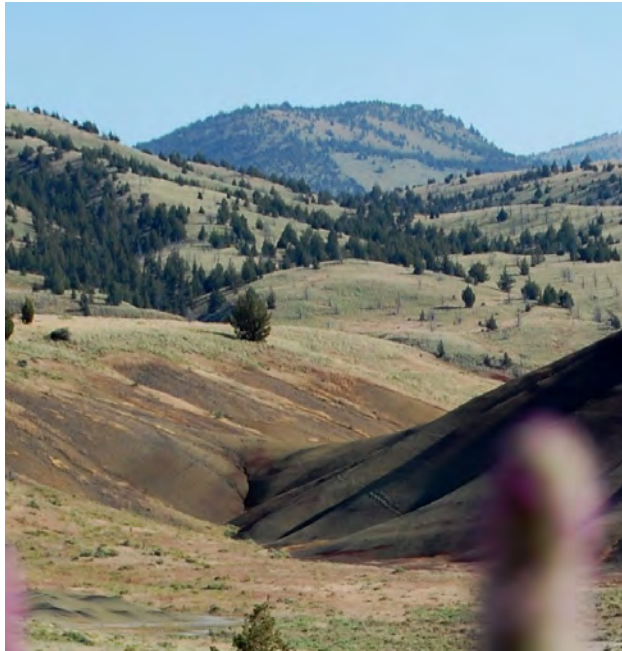
## DESIGN RESILIENCY

One aspect of biophilic design is resiliency—natural systems possess the ability to dynamically respond to change without environmental deterioration.

The building and design industry is adopting the resilient approach due to climate change and natural forces.

Evolving building technologies are enabling architects to create smarter structures that respond to environmental conditions that impact them. One example of this is the use of dynamic exterior glazing, capable of adapting to shifting sun angles throughout the day, thereby decreasing mechanical loads and improving the users' well-being. SEA has used dynamic glass in two recently completed projects.

Design consultants should consider the implementation of planning and design principals of this trend, increasing the resiliency of their building designs for the passengers who interact with them on a daily basis.

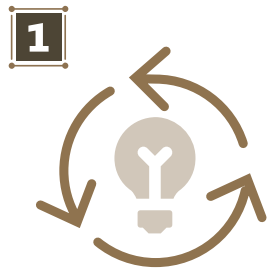




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## SUSTAINABILITY GOALS

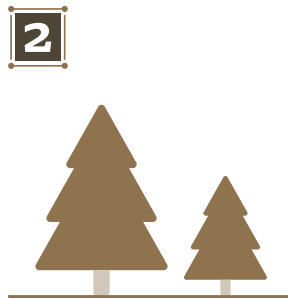
Consultants are required to follow sustainable goals, and to describe basic strategies that can achieve them. To summarize, sustainable building projects at SEA strive to reach five simple goals:



### conserve energy

Energy is a finite resource that must be conserved if the region is to achieve a sustainable pattern of development. Each project must meet the Washington State Non-Residential Energy code, and should consider the following energy conserving strategies:

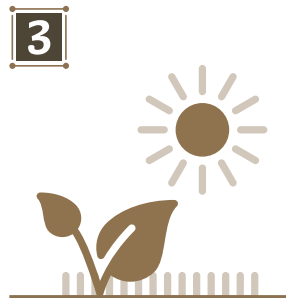
- Reduce energy consumption**
- Harvest site resources**
- Increase efficiency**



### manage material use

The construction of new facilities, as well as the renovation of existing spaces, increase our region's consumption of materials. To approach sustainable patterns of material use, the complete life cycle of a product should be considered. Improving the efficiency of use and lowering the overall resource consumption, can be achieved through four strategies:

- Minimize material use**
- Select sustainable sources**
- Use durable materials**
- Close the loop**



### support landscape

Landscaping and the connection to the natural environment is an essential aspect of the vision for SEA Airport. Three important objectives are:

- To connect with nature**
- To preserve native vegetation**
- To work with natural systems**



### enhance environment

There is growing evidence of the negative impact from exposure to multiple environmental toxins present in building materials. The construction of new facilities can create new sources of pollution and environmental impact both inside and outside of buildings. The approach to enhancing the environment has three key components:

- Reduce pollution sources**
- Eliminate contamination**
- Dilute pollution strength**



### safeguard water

The beauty of the Pacific Northwest is closely linked to the quality of its water resources. Three strategies are employed to conserve and improve the quality of water:

- Reduce potable water use**
- Maintain natural waterflows**
- Harvest on-site flows**

Additionally, a LEED Silver designation is the goal for all design and construction projects at the airport.



## COMMITMENT WITH RESULTS

SEA's commitment to sustainable practices has resulted in numerous domestic and international industry awards, including:

### 1 ACI (Airports Council International) 2011 Environmental Achievement Award

for SEA's Sustainable Aviation Fuels Northwest project

### 2 Seattle Business Magazine's "Green 50 Award"

for the SEA's many environmental initiatives, including:

- Centralized Pre-Conditioned Air for parked jets project
- Leading the effort for the Sustainable Aviation Fuels Northwest project
- The At-Berth clean fuels for cargo vessels project
- The Scrappage & Retrofits for Air in Puget Sound project

### 3 2011 Best Workplaces for Recycling and Waste Management award

from King County's Solid Waste Division

### 4 Enterprise Seattle's 2011 Diamond Award

for Special Achievement, in recognition of SEA's employee commute trip reduction program

### 5 2015 International Tech Awards

sponsored by The American Society of Heating, Refrigerating, and Air-conditioning engineers (ASHRAE), in recognition of SEA's centralized pre-conditioned air project





Our region expects this from us. Our passengers and our airlines expect us to do everything we can to protect air quality.

As the prior awards lists demonstrates, SEA has undertaken highly innovative initiatives, exemplified by the pivotal centralized pre-conditioned air project. SEA faced a dilemma: How could jets waiting at gates get fresh air without running their engines? The result: a centralized plant that pumps hot and cold fluids through 15 miles of pipes to 73 jet gates, where a unit then pre-conditions warm or cool air blown into the aircraft. This program **saves five million gallons in fuel annually, equating to 15 million dollars.** The annual emission reductions equal 40,000 tons of greenhouse gases, which is equivalent to taking 8,000 cars off the road. In addition, SEA provides electric vehicle charging stations in the garage. SEA's efforts reflect and further the values of the people in its community, who demand a reduced carbon footprint and the resulting cleaner air.



40,000 tons  
annual reduction  
of greenhouse gases

= to



8,000 cars  
off the roads





6

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# FOSTERING SUCCESSFUL TENANT RELATIONSHIPS





## SETTING THE STANDARD

SEA, along with its partners and tenants, strives to provide the highest quality experience, not only for its passengers and guests, but for tenants and other partners as well. Tenants at SEA comprise several types, including airlines, service providers, and municipal departments, among others. Passenger-facing, highly visible tenants, such as retail and food and beverage outlets, deserve the highest attention level by design consultants affecting the SEA concession landscape.


SEA's Dining and Retail Design Guidelines provide a unifying theme for airport dining and retail outlets. Tenants and their design consultants must familiarize themselves with these design guidelines, which outline inspiring and practical design methodologies. The guidelines articulate SEA's design vision, outline principles to guide project teams, define the "Progressive Northwest Modern" aesthetic, and provide a clear understanding of the design review process. The guidelines embrace the qualities of the Northwest by synthesizing the region's natural beauty, international orientation, and local arts and culture. Supporting this design point of view are practical considerations that will ensure the successful implementation and realization of tenant designs.



Passenger-facing, highly visible tenants, such as retail and food and beverage outlets, deserve the highest attention level.







A balance of unique character and a Northwest aesthetic is the goal.

An experience design, hospitality-imbued approach (outlined in Section 4, “Adopting an Experience Design Approach”) shall guide the design of all concession tenants. A “Progressive Northwest Modern” design aesthetic (outlined in Section 2, “Crafting a Northwest Sense of Place”) is the assigned approach, for both airport-unique concepts and nationally recognized brands. The key reason for this style requirement is to achieve a unified brand image for SEA.

Dining and retail operators along with their architects and contractors are encouraged to review the Airport and Dining Retail Design Guidelines prior to completing conceptual design work. All designs are subject to review and approval by the standard airport design review processes.





## PLANNING FOR SUCCESS: TENANTS

SEA recommends a few ideas to tenants to ensure successful collaboration and realization of their brands.

1



### professional design

The context of your space is critical. Your brand must peacefully co-exist with SEA's brand. Engage professional designers and architects experienced in retail, food and beverage, and airline design. This will help ensure a professional result, and a smoother design and construction process.

2



### lighting design

Hire a professional lighting designer to bring your brand to life.

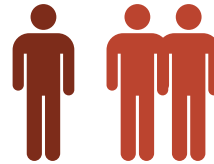
4



### graphic design

Turn to a professional graphic designer to provide your brand with the best exposure, particularly regarding food and beverage menu boards/displays

5



### inclusive meetings

Bringing your designer/ architect/general contractor to SEA review meetings will be beneficial from a process standpoint, allowing for resolution of issues in a quick and timely manner.

Location, location, location! Again, understanding the context your design will exist in, and the type it is, is critical. For example, is your design an in-line facility? Corner location? Free-standing? Partially free-standing? Or unique operation? Each particular type will have its own impact on SEA base building design, signage, lighting, HVAC, utility connections, sightlines, etc.



Always design a thing by considering it in its next larger context—a chair in a room, a room in a house, a house in an environment, an environment in a city.

—Eliel Saarinen, Architect





## CONCESSIONS PLANNING

Circulation design is key.  
The goal is to allow passengers  
easily access anything they want  
to experience.



If your project includes concession planning, consider new planning typologies to make the layout more progressive. Traditional “food courts,” with tenants surrounding a communal dining area, are evolving into a more integrated approach. Integrating food and beverage tenants into holdroom lounges creates a symbiotic relationship between the two. Passengers have the convenience of nearby dining, while keeping an eye on their gate, reducing travel anxiety. Tenants have a captive audience, helping with revenue generation. Consultants designing such arrangements should begin the design process by checking in with their SEA Dining and Retail representative to understand the airport’s latest thinking on this integrated approach. Regardless of the particular planning approach, guiding the highest number of passengers by concession tenants is critical.

When planning areas adjacent to boarding gates, consider the specific airline and its operational procedures. Gate counters and back counter zones, boarding spatial requirements, airline branding components, even airline brand colors will have an impact on your design. Plan for future changes, as airline requirements can evolve rapidly.

CAN YOUR DESIGN ALLOW...

100% 

TO PASS

100% 



## A HOME FOR ADVERTISING

Another tenant type that needs careful consideration is advertising. Advertising partners are a significant source of non-airline revenue generation at SEA.

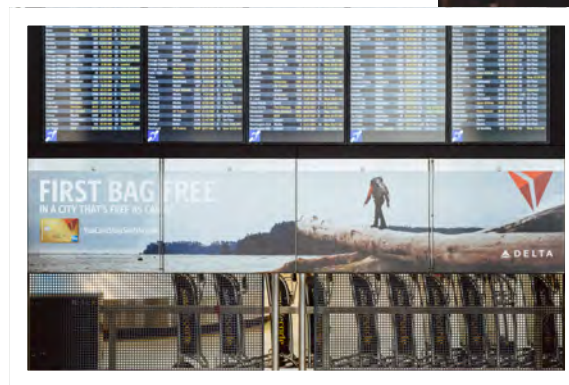
Consultants should understand the type and size of advertisements scheduled for the area they are affecting, and plan accordingly. An integrated approach is desired, with advertisements embedded in the design, not added-on as an afterthought. For example, large format internally illuminated ads work well in recessed niches, creating a flush relationship with the adjacent architecture. Creating “homes” like this will support the “experience design” approach to spaces at the airport. The airport environment is also populated with wayfinding signs, public art, airline branding and other amenities, so achieving a balance between advertising and these important special elements is critical, to avoid conflicts or guest wayfinding confusion. Wayfinding always takes priority.

## COMMUNICATION HIERARCHY

WAYFINDING

ADVERTISING

ART AND DISPLAY



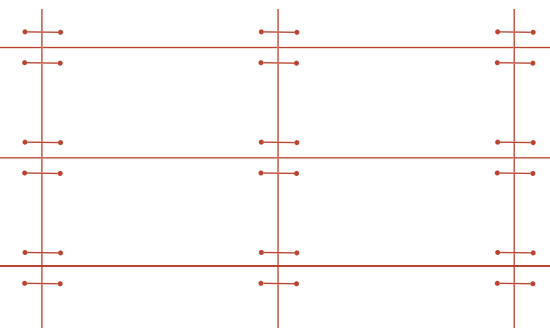




**Other entities/partners are also an important source of non-airline revenue generation.** Luggage cart rentals, banking, rental cars, luggage wrap, vending, even shoe shine stands are just some of the services that your design must respond to. Understanding the variety of space requirements to allow is just one aspect of planning for success.

**Happy passengers, ready to fly, is the objective.**

How your design works to this end, benefiting both tenants, and therefore SEA, is crucial.





7

# FORM FOLLOWS FUNCTION





Whether it be the eagle in its flight, or the open apple blossom, the branching oak, or the clouds drifting over the sun, form (ever) follows function, and this is the law.

—Louis Sullivan, Modernist Architect, 1896



## WHAT IS “FORM FOLLOWS FUNCTION”?

Simply put, it’s a principle of modernist architecture and industrial design which mandates that the shape of a building (or object) should primarily relate to its intended function or purpose.

How does this credo affect the SEA brand? And how can your design best respond? Airports, by nature, are complex spaces that require users to make multiple decisions throughout their journey. Many elements compete for attention. By respecting and solving for passenger issues first, and stripping away the superfluous, the design that emerges will become a canvas upon which to build the best experience, one that is not only memorable, but intuitive as well. One that is hierarchical from both a messaging and visual standpoint. An environment whose form is born from the functional.



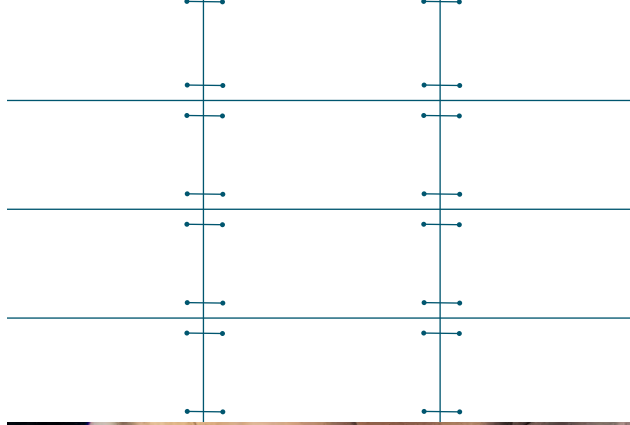
form follows function



## MATERIALITY FOLLOWS FUNCTION

The appropriate material at the right stage or area of the passenger journey, is an important aspect of “form follows function.”

Scale is a factor in airport design. Large-scale spaces often seek out the “wow” factor, exciting passengers about their journey. But just as critical is an approach that acknowledges the importance of the human scale, and the resulting impact on the space. Materiality plays a key role in this. “Material follows function” is a good way to think of this. A material checklist as you conceive your design is helpful, as is a conversation with your SEA project representative, to understand expectations and lessons learned with material applications at the airport. Also be aware as you affect the built landscape at SEA that there are a number of legacy finishes that should not be used on new projects, and will remain until a new project replaces them.



Building from the floor plane up, what materials are appropriate? What materials should be consistent throughout the airport, and where is there opportunity for variance? Design consultants should reference “Architectural Elements and Finishes” in the architectural guidelines. An introductory narrative for each category of material (flooring, wall covering, etc.) provides an overview of considerations for that material type. In addition to appropriateness of use, sustainability is a key attribute when selecting or specifying materials—does your palette meet applicable sustainability requirements, including furniture coverings?





## BUILDING FROM THE FLOOR UP



Material maintenance must also be considered. Flooring is perhaps the most important material in your design. Major circulation zones should be terrazzo for durability. Flooring materials can often be used in a manner that goes beyond the obvious. For example, when designing with terrazzo, consider the subliminal wayfinding aspect that patterning can create. Consider the sonic environment as well--gate holdrooms should also be carpeted with tiles, acoustically quieting these zones.

Wall base, and wall protective finishes, are important in reducing on-going maintenance costs. Transitions between existing designs and your design warrant particular attention. Many projects, both new build and renovations, will have adjacency concerns that are beyond the specificity of the architectural guidelines. Your SEA project manager can help prioritize a checklist of items/ conditions to assure a smooth transition between your design and existing designs.

### FLOORING CONSIDERATIONS

- 1 major circulation = terrazzo**
- 2 gate holdrooms = carpet**
- 3 restrooms = porcelain pavers**



## BALANCING MATERIALITY & MAINTENANCE

The idea that “materiality follows function” is never more important than in specifying restroom materials. Simply stated, materials of exceptional durability must be used in restrooms. Practical considerations take precedence, but this doesn’t mean that character has to be sacrificed. For example, while a monolithic, non-patterned countertop material may look good in theory, in practice its water-spotting potential will be an on-going maintenance concern. Practical considerations for material backings should also be considered. For example, mirrors with copper-free backing (coatings) will not “pit” when used in conjunction with wet vanity areas. And again, flooring is key – large scale porcelain pavers are durable, typically meet slip-resistance standards, and require fewer grout lines due to their size. Terrazzo is not an acceptable restroom flooring material due to its degradation when exposed to solutions that have acidic properties.

The balance between materiality and maintenance in restroom environments is constantly evolving, spurred by the myriad of commercially available products. As stated earlier, it’s important to understand lessons learned from your SEA project manager, especially before selecting or specifying restroom materials.



The balance between materiality and maintenance in restroom environments is constantly evolving.



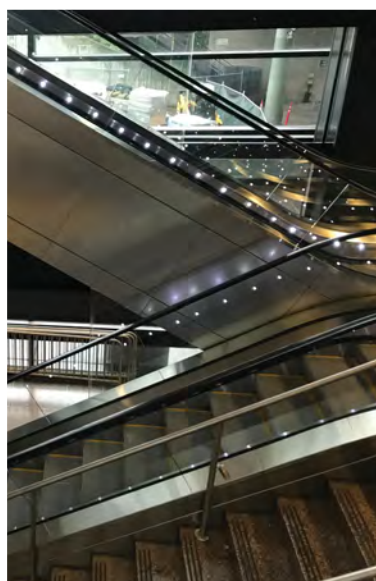
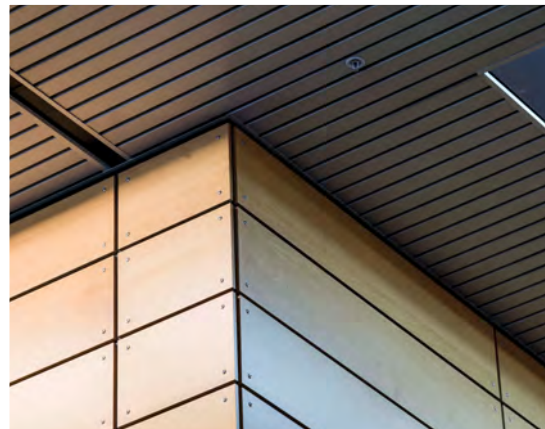
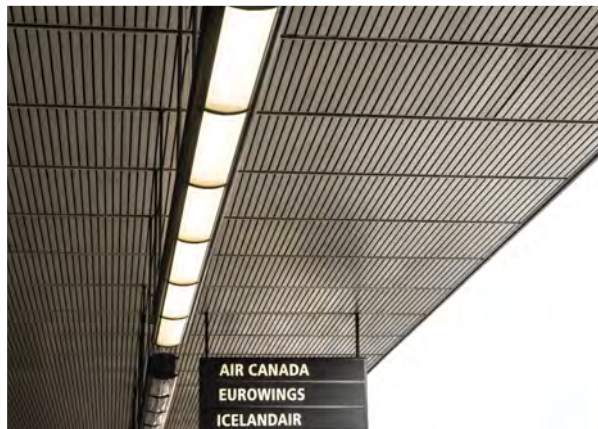


The details  
are not the  
details, they  
make the design.

—Charles Eames, Architect








## DETAILS MATTER

The notion that form follows function has an impact beyond the importance of materiality. From visual cues at vertical circulation moments, down to the smallest detail of something as functional as a ledge, this type of thinking has validity at a multitude of scales throughout the airport.

Airports, by nature, are busy environments that have overlapping functions/ elements vying for passengers' attention. This, added to distracted passengers focused on personal devices, raises safety concerns when negotiating stairs and/ or escalators. Generously scaled spaces are required at these transition points. Consider a tactile detection surface at flooring zones at the top and bottom of stairs and escalators. Materials surrounding stairs and attachment points for handrails must meet accessibility standards. Passengers carrying luggage on escalators pose a special safety concern. Elevators should always be located adjacent to escalators, or within sight lines of escalators. Lighting design should respond with a higher level of illuminance at these vertical transition points.



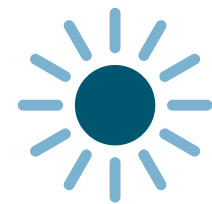


Architecture appears  
for the first time  
when sunlight hits  
a wall. The sunlight  
didn't know what it  
was before it hit a wall.

—Louis Kahn, Architect

Daylighting is an essential, challenging aspect of design in thriving civic spaces. The balance of daylight with artificial light, and potential glare, must be considered. The increased demand for, and use of, daylighting and LED-lamped lighting fixtures can sometimes pose glare issues, particularly for flight information displays (FIDS) and airline gate agents, whose work counters/monitors typically get placed adjacent to window walls. Fritted glazing, dynamic glazing, window films, and motorized shade systems are some of the solutions to this issue. Additionally, exterior light shelves or shading systems can redirect the negative effects of daylighting.

It's often stated that if you get the details right, the rest falls into place. While this might be an overstatement, details definitely matter! Design consultants are encouraged to imagine their designs through the lens of a harried passenger. For example, a flat ledge is the perfect spot to leave a coffee cup when a recycling container is not nearby. By simply angling the ledge relative to the floor plane, this visually unpleasant situation is avoided.



When daylighting, aim  
to balance brightness  
levels with methods to  
reduce glare.



## BEYOND ACCESSIBLE DESIGN

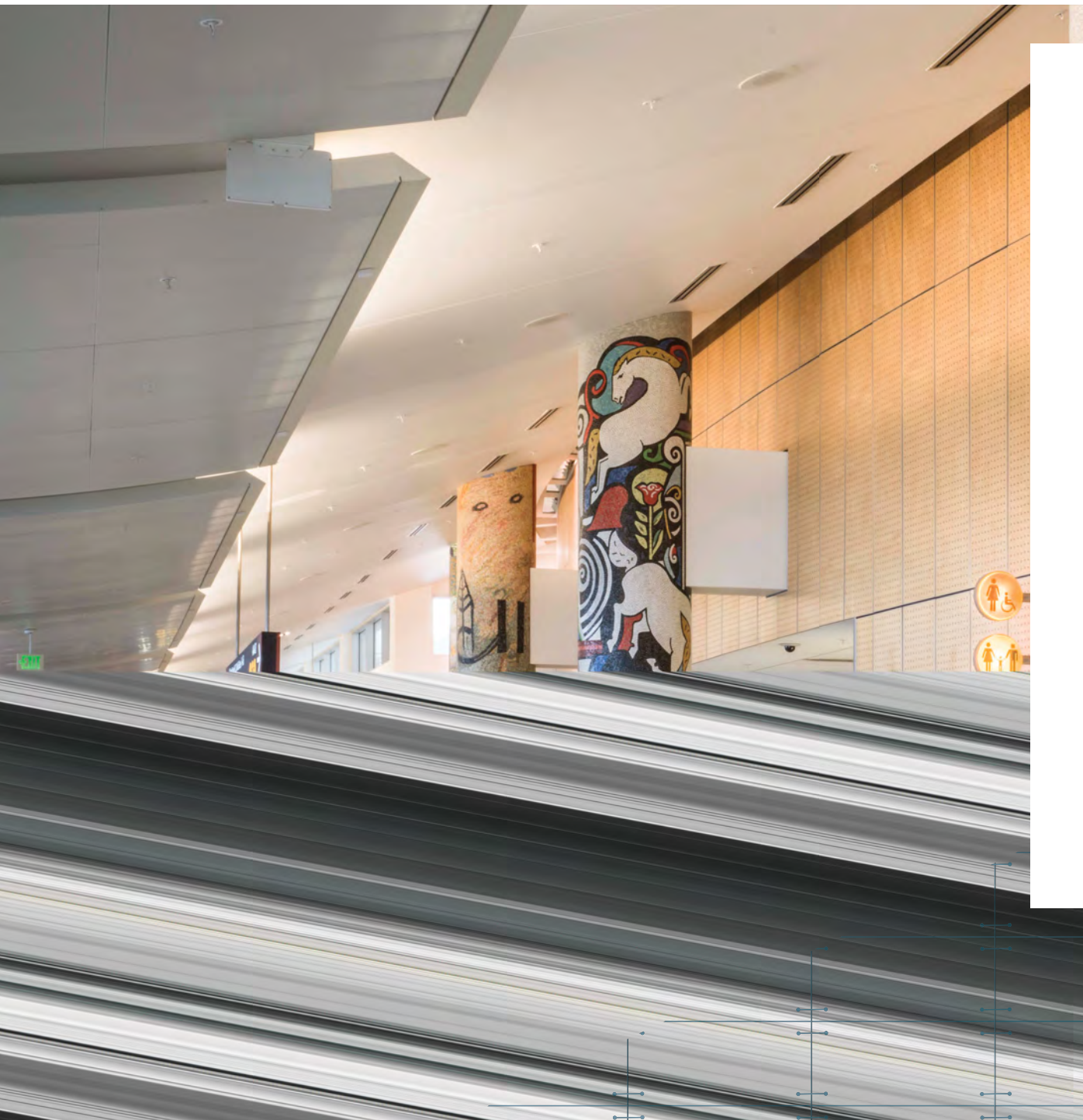
“The one argument for accessibility that doesn’t get made nearly often enough is how extraordinarily better it makes some people’s lives. How many opportunities do we have to dramatically improve people’s lives just by doing our job a little better?”

—Steve Krug

Planning an accessible facility embodies the goal of “form follows function.” SEA targets to be the most accessible airport, period. The airport environment must be designed to fit everyone: young or old, able or disabled, English and non-English speaking. And while all projects must meet the specifications defined and regulated by the Americans with Disabilities Act (ADA), consultants are encouraged to go beyond the required, and consider the aspirational:







## UNIVERSAL DESIGN

Going beyond accessible design is also a goal. While Accessible Design is good design, Universal Design not only acknowledges the importance of accessibility, but takes the mission a step further. Simply put, the National Disability Authority (NDA) states that Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability. And everyone benefits.

Universal and Accessible Design should be part of all new build projects at SEA, as well as renovations. Even challenging existing conditions have adaptability! Practicing form follows function, Frank Lloyd Wright designed the iconic Guggenheim Museum in New York City decades before accessibility was mandated.

**“Great architecture has this capacity to adapt to changing functional uses without losing one bit of its dignity or one bit of its original intention.”**

—Tom Kerns, Guggenheim Director





The holistic approach of the Design Vision Document, combining the aspirational with practical considerations contained in the architectural guidelines, will provide a framework for the successful planning, design and implementation of projects at SEA airport for consultants, their partners, and SEA tenants.

**SEA embraces a dynamic, collaborative design process with its design partners. These creative partnerships will drive our future.**

Design creates  
culture. Culture  
shapes values.  
Values determine  
the future.

—Robert Peters, Design Educator



The background of the slide is a dark teal color. It features a pattern of concentric circles or ripples that emanate from the left side, creating a sense of depth and movement. On the right side, there is a faint, light-colored grid pattern consisting of horizontal and vertical lines intersecting at small dots.

2

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DESIGN  
GUIDELINES



## 2

### DESIGN GUIDELINES

#### 2.1 Introduction

- Purpose
- Audience
- Organization
- Procedures for Use
- Administration

#### 2.2 Planning

- Regulations & Reviews
  - Review Authorities
  - Regulations
  - Product Selection & Bid
- Project Types
  - Owner Types
  - Construction Types
- Project Teams
- Planning Considerations
  - Accessibility/ADA
  - Acoustics
  - Circulation
  - Connectivity
  - Integrated Design
  - Building Systems
  - Security
  - Storage
  - Sustainability

#### Design Criteria

- Consistency & Variance
- Design Strategies
- Structural
- Mechanical
- Electrical
- Artwork

#### Zones

- Airport Site Plan
- Airport Access Plan
- Secure vs. Non-secure
- Airport Levels
  - Departures Level
  - Arrivals Level
  - STS Transit Level
  - Skybridge Level
- Pr-Security
- Satellite & Concourse

#### 2.3 Space Types

##### Non-secure

- Skybridges
- Curbside (Arrivals)
- Curbside (Departures)
- Baggage Claim
- South Arrivals (GML) Hall
- Check-In Lobby
- Esplanade
- Mezzanine
- Passageways
- Parking Garage

#### Secure

- Security Checkpoints
- Central Terminal
- Concourses & Satellites
- Subgrade Transit Stations
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## 2.1 INTRODUCTION

The Design Guidelines are intended to be both inspiring and practical, articulating the comprehensive vision for Seattle-Tacoma International Airport (SEA), by clearly defining design criteria to be followed on all projects. They are also a useful reference for maintenance teams.



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As a general rule, these guidelines cover visible architectural elements of the SEA Airport’s public-facing real estate facilities, including for SEA tenants. The Design Guidelines are intended to provide a flexible framework, allowing for new discoveries and appropriate responses to each project’s unique conditions.

Project teams should first reference these guidelines at the start of each project. They may look to their SEA project manager for clarification or additional insight on project requirements.

The Design Guidelines is an evolving document and will be updated periodically as conditions and criteria change over time to keep up with product availability, and to incorporate new recommendations and best practices. Please check back often for updates to this document.

**This document is intended to accomplish the following:**

- Outline the design strategies, providing fundamental principles to guide project teams in developing the design of each project.
- Provide a clear basis for design reviews by the Architecture Review Committee (ARC), which has responsibility for reviewing the design of all projects at SEA Airport to assure compliance with the Design Guidelines.
- Set the tone for unity and consistency in the Airport’s appearance, drawing a link between existing and new.
- Consolidate relevant information by providing a summary of related documents, resources, authorities, or other entities that are applicable to design work at SEA.



The guidelines are primarily intended for an architecture and design audience (including administrators, project managers, and facilities maintenance personnel), both internal SEA employees and external consultants and vendors. This includes technical consultants (including engineering, maintenance, environmental, F&I) who are being on-boarded.

This document operates in conjunction with other disciplines' design guidelines. Design consultants should review the documents in the Resources section for further information on requirements for each particular project. Also, all projects must proceed in accordance with the SEA Regulations for Airport Construction (RAC), which is available from the Port of Seattle and the Resources section of this document.

**The users of the guidelines are responsible for:**

- Verifying that they have received the latest version of the guidelines to ensure they are following the most recent specifications in their projects.
- Becoming familiar with and meeting the intent of the guidelines.

- Using good judgment while applying the guidelines to the project.
- Requesting owner approval of a material or product that varies from the guidelines (using the Variance Request form - see Resources), if it is necessary because of specific conditions.
- Abiding by the requirements of the guidelines without sacrificing creative and innovative solutions.
- Providing feedback to the owner on the use of the guidelines.
- Coordinating work with other applicable SEA standards and regulations.
- Presenting designs for selected projects to the design review committees.



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There are four main sections to this document: Design Vision, Design Guidelines, Architectural Standards, and Resources. Project teams should work across these sections to ensure their projects are meeting Airport goals and expectations.

### Design Vision

The Design Vision aims to set the vision and direction for the Airport going forward. As we work to improve and expand our facilities, new projects and decisions should aspire to align with the Design Vision. The Design Vision sets the long-term direction for the Airport and is not intended to change often.

### Design Guidelines

The Design Guidelines provide a breakdown of how we understand and talk about the Airport. They also provide clearly defined design criteria to be followed on all projects. As well as identify the various zones, space types, and the physical features of the facilities.

### Architectural Standards

In some cases, the Architectural Standards provide specific recommendations or standards. At other times, they define minimum performance requirements for which project teams should seek equal or better solutions, to be approved by SEA. Additionally, some areas of the Airport will need to maintain legacy features. As such, these guidelines also contain legacy specifications that may be phased out over time, as appropriate. The Design Vision and your project manager help define what, why, and when something should continue following the legacy specifications.

### Resources

The Resources section provides links and references to other documents and tools that may impact Airport projects. Project teams are expected to work across documents to ensure their efforts meet all expectations relevant to their project.



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### These guidelines supersede the following documents:

- STIA Design Guidelines (1999)
- Landscape Design Guidelines (2000)
- STIA Architectural Standards (2008)
- Casework Standards Manual (2016)
- Vitra Meda Gate Seating Standards (2017)
- Maintainability and Janitorial Standards (2017)
- Restroom Design Standards (2015)

### For guidelines relating to the base building, non-public areas or tenant spaces, project teams should refer to the following documents:

- Tenant Design and Construction Process Manual
- Tenant Improvement Construction General Requirements
- Dining Retail Design Guidelines
- Brand, Signage and Advertising
- Parking garage
- Port offices and maintenance facilities
- Non-public Tenant spaces

### Additionally, the resources section serves as a reference tool, providing the following:

- Definitions and Acronyms
- Documents and Forms
- Design Intent Drawings



## The following summarizes the procedures for use of the guidelines:

- The requirement to comply with the guidelines is part of the required project information identified in the Request for Qualifications advertising work as part of the design consultant selection process.
- The guidelines are part of the required project information transmitted to design consultants at the beginning of a project.
- The Port of Seattle project manager is responsible for providing the design consultant with the latest version of the guidelines.
- The design consultant will meet with the Port of Seattle project manager during negotiation to review the design consultant scope and ensure that all aspects of the guidelines are followed and planned well. This meeting will take place once the design consultants have familiarized themselves with the latest version of the guidelines.
- The Professional Services Agreement and design consultant scope of services requires that the consultant be familiar with and conform to the guidelines.
- The Port of Seattle project manager is responsible for seeing that the design consultant's design is in conformance with and consistent with the guidelines.
- Reviews by the Port of Seattle Aviation Facilities and Infrastructure (F&I) Department include verification of conformance with the guidelines.
- The Port of Seattle project manager requires a Variance Request from the design consultant for any requested variance from the guidelines.
- The Port of Seattle project manager forwards Variance Requests to the F&I Architectural Review Committee, which is the reviewing and approving/disapproving body for variances and conformance with the guidelines.



The owner of this document is the Aviation Facilities and Infrastructure Department. They are responsible for the development, implementation, long-term application, and enforcement of the guidelines.

**Their responsibilities include:**

- Obtaining the latest information from the field concerning the adequacy of the guidelines.
- Obtaining input from and identifying needs of the airport terminal environment from the public, tenants, and employees.
- Establishing the level of quality for finishes that meet the expectations of the public, tenants, and employees.
- Providing information for updating and revising the guidelines to reflect changing needs of the airport terminal environment.
- Providing feedback to users on issues that affect the guidelines.
- Keeping the guidelines up-to-date with the latest revisions.
- Updating the Change Log with changes to this document.

**As this document evolves over time, changes will be noted with the icons below:**



**New**

The “new” icon represents that an item has recently changed or is newly listed.



**Archive**

The “archive” icon notes that an item is archived, and therefore only to be used in legacy areas for “patch and match” fixes. Any projects or repairs requiring large application of archived items should be reviewed with the project manager to see if the area should be renovated to meet current standards.



**Sustainable**

The “sustainable” icon represents that there may be opportunities for an item to align with SEA’s sustainability goals.





## 2.2 PLANNING

Several general planning factors should be considered when engaging in any project at the Airport. This section provides an overview of how we think about and manage these projects, as well as what to consider when taking on these efforts.

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This section provides a summary of related documents, resources, authorities, and other entities that are applicable to design work at SEA. Please refer to the Resources section for an expanded list of resources. Your project manager can provide more details regarding which documents, regulations, and authorities may be relevant to your project.

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## REVIEW AUTHORITIES

Airport Building Department is the authority which has jurisdiction and reviews for all building permits. The Airport's Fire Department is the reviewer for fire protection permitting.

### Design Review Committees

Design Review Committees provide additional in-person design review to the consultants. These committees meet regularly to review projects that are currently in design. The projects meet with the committees at 30%, 60%, and 90% milestones or as determined needed. The meetings are collaborative discussions between the subject matter expert (SME) and designers that review the progress of the design and allow a chance for team dialogue. Each design team needs to be aware of the demands that will affect our ability to deliver and meter utility services, and to have a clear demarcation between what the relevant Port projects will need to install and what the tenant will need to install in accordance with Port standards. The criteria used to determine which projects are reviewed by these committees are specific to each department. The project manager is required to set up the meetings with the individual committees.

### There are eight Design Review Committees:

- Architectural Review Committee (ARC)
- Facility Asset Review Meeting (FARM)
- Mechanical Utility System Team (MUST)
- Proactive Electrical System Team (PEST)
- SEA Telecommunications Architecture Team (START)
- Wayfinding and Visual Environment Team (WAVE)
- Water Infrastructure System Evaluation (WISE)
- Sustainable Project Analysis & Review Collaboration (SPARC)





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### ARC: Architectural Review Committee

ARC looks at the overall design for function and appearance, how the project interfaces and integrates with its context and surroundings, and particular conditions or requirements that are challenging to the design team. ARC reviews most projects of all sizes that are public-facing. They range in size from the major new construction to smaller projects such as major carpet replacement, furnishings, and tenant spaces. Most projects are reviewed at completion of 30%, 60%, and 90% design completion, but larger or more complex projects are usually presented at 15% design completion or concept development phase.

Occasionally, ARC will do specially requested additional reviews to address unusual design challenges. Some non-public, back-of-house projects are reviewed again if they include unusual, challenging conditions or if the design team and project manager would like feedback and assistance.

In-person design reviews can be accomplished much more effectively and more quickly through discussion than with the individual-comment process of the document reviews. The review meetings provide significantly higher overall design quality and better finished products.

### FARM: Facility Asset Review Meeting

The Facility Asset Review Meeting construct focuses on ensuring a well-coordinated transfer of assets between project delivery and ownership. As assets enter and exit service, coordination is required between groups of stakeholders that maintain and manage them. The Facility Asset Review provides a place where project delivery can coordinate with Accounting, Facilities & Infrastructure, Finance & Budget, and Maintenance and otherwise asset management.

### MUST: Mechanical Utility System Team

The MUST review team meets with A&E's prior to their start of design to explain the systems, requirements, and proclivities of design and construction at STIA. The Airport mechanical design is unique and SEA has specific requirements. Operating chilled water temperatures, central system heating and chilled water, air pressurization, tenant requirements all come into play in the MUST discussions with the ME's. The team includes representatives from F&I, ABD, FIRE, and Maintenance. Projects need to be clear about what utilities or utility-related hardware are required, for example whether natural gas is needed or if an additional meter is needed in the early phases of the project.



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### PEST: Proactive Electrical System Team

Projects need to be aware of increased electric demand requirements and any metering and sub-metering requirements. Changes to leasable space that will result in an installation of a meter-able (or at least flat rate billable ) tenant, requiring installation of new metering capacity, need to be addressed in the early phases of a project. PEST can help clarify what the application for service entails.

### START: SEA Telecommunications Architecture Team

The SEA Telecommunications Architecture Team includes representatives from Maintenance, ICT and F&I. START meetings are an opportunity for the consultant to meet with concerned departments together and understand the practices and design guidelines we follow at the airport and ask questions before they go on their own. The committee can provide suggestions to improve the infrastructure or any cost saving measures. Cable TV infrastructure needs to be reviewed from a capacity and interconnection standpoint. General design review usually focuses only on project-related matters. The START committee looks at a project to see how it fits in to the entire Airport.

### WAVE: Wayfinding and Visual Environment Team

WAVE is intended to provide oversight to the holistic airport experience and review design projects that don't fall within scope of the ARC committee, as well as to develop the future vision for the airport visual environment. WAVE is invested in the idea that the visual environment is important to the overall success of the Airport. It is committed to improving communication and collaboration between departments related to initiatives that impact the public spaces, but do not fall under purview of other design review processes. WAVE is committed to continually evaluating and improving wayfinding through the visual environment of the airport, for a world class passenger experience at SEA.

### WISE: Water Infrastructure System Evaluation

[WISE definition forthcoming.]





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### SPARC: Sustainable Project Analysis and Review Collaboration

For larger capital projects the Port will conduct a project-specific sustainable project analysis and review collaboration (SPARC) process to identify and request analyses of new sustainability opportunities or initiatives relevant to the specific project. SPARC teams are project-specific to ensure relevant subject matter experts are available for each project and related sustainability initiative as appropriate.

### Port of Seattle Points of Contact

The project manager is always the initial point of contact for the design team, however it is critical that teams verify additional points of contact with the project manager.



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### Regulations for Airport Construction

Refer to Resources section for additional information on the Regulations for Airport Construction (RAC) 2021 document.

### Building Codes

Design Consultants are required to meet all current applicable laws, codes and regulations, including the Americans with Disabilities Act (ADA).

Sample codes include:

- International Building Code
- International Mechanical Code
- International Fuel & Gas Code
- International Existing Building Code
- International Fire Code
- International Residential Code (if applicable structure is built)
- IAPMO/ANSI Uniform Plumbing Code
- Washington State Energy Code
- ASCE Standard ASCE/SEI 7-10
- Accessible & Usable Buildings & Facilities ICC A117.1-2009

### Guide Specification

The Port of Seattle maintains a guide specification which is used by both the Aviation and the Seaport Divisions. The guide specification is intended as a foundation from which design teams can build their project specifications. When using the guide specification, designers shall employ track changes for the purposes of efficient design review by the Port. The guide specification is not intended to cover specific projects. Each design team is required to review and modify the specification to suit the specific project requirements.

### Drafting Standards

The Port has CADD standards which are summarized in a separate document. Please refer to the Resources section for additional information.



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## This section provides guidelines to assist the designers during the submittal process by establishing standard practices that achieve uniformity and quality designs.

Note: The Standards are not meant to relieve the Architect of Record from the responsibility to prepare a complete and comprehensive set of construction documents.

### Design Submittal Guidelines

- Drawings shall be prepared in accordance with Port of Seattle A/E Design Submittal Requirements. Drawings and specifications will be completed in detail to define installation and operation of all systems.
- Drawings shall comply with Port of Seattle “CAD Standards.”
- Drawings shall be coordinated with specifications to ensure that all items indicated in the drawings are covered by specification documents and that all specification sections relate to items in the drawings.
- Drawings shall be created at a 1/8-inch per foot scale with enlarged plans at 1/4-inch per foot or greater (with multiple sections) shall be provided for all mechanical rooms, toilet rooms, shafts, and any other areas of complexity.
- Provide Phasing plans as required to maintain Airport’s 24 hours per day operation.
- Specifications: Port of Seattle Master Specifications shall be edited to incorporate these Standards and to suit project requirements.

- Architectural Standard legend, symbols, and abbreviations will be incorporated and modified to indicate all symbols and abbreviations used in the project construction documents.

Sheets shall be presented in the following order:

- Cover Sheet
- Drawing Index
- General Notes
- Architectural Standard Legend and Symbols
- Abbreviations
- Building Area and Boundary Plan
- Code Diagrams
- Architectural Site Plan
- Floor Plans (all levels and includes: phasing, demolition, enlarged floor plans, reflective ceiling, furniture, etc.)
- Elevations (exterior)
- Building and Wall Sections
- Interior Elevations
- Details
- Schedules



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### Basis of Design

Basis of design documents shall address the following at minimum:

- Design criteria: Indicate all codes, design standards and guidelines used for the design. Include the title and date of the edition used for the project.

### Submittal Requirements

Submittals shall be in accordance with POS A/E Design Submittal requirements. Design submittal shall include the following Architectural requirements for each design phase:

### Conceptual Design (15%)

- Cover Sheet
- Sheet Index
- Site Plans - Architectural
- Architectural Plans
- Reflected Ceiling Plans
- Exterior Building Elevations
- Building and Wall Sections
- Schedules
- Outline Specifications
- Basis of Design

### Schematic Design (30%)

Further development of the (15%) Conceptual Design and include additional drawing sheets like:

- Interior Elevations
- Details
- Specifications - Draft-w/marked up Port specifications where used. E-Specs tied to BIM model

### Design Development (60%)

Further development of the (30%) Schematic Design and include additional drawing sheets like:

- Waterproofing Plans
- Enlarged Wall Exterior Elevations
- Specifications - Draft Full Specifications. E-Specs tied to BIM model

### Construction Documents (90% or 100%)

Further development of the (60%) Design Development. Final product will be a complete Construction Document set with all drawings complete and ready for construction.



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SEA Airport is owned and operated by the Port of Seattle, a special purpose government agency. As such, the procurement process for any architectural materials, finishes, furniture, casework and equipment, must be competitive. With the exception of pre-approved sole-sourced product specifications (see Variance Request process), include at least three approved manufacturers or detail the minimum performance criteria. Design teams must consider all three options.

It is the intent of SEA Airport to encourage the use of materials and products that are made with local, renewable, or recycled resources. To that end, preference will be given to products that contain a high percentage of recycled material and to those that are manufactured and/or sourced locally. In addition, fabricators and installers are required to utilize means and methods of design, installation, disposal and maintenance that are resource efficient and will minimize the introduction of toxic substances into the interior of the Airport. Project designers should incorporate design practices and features that promote energy efficiency and conservation. These include considerations relating to solar orientation, thermal insulation, sun-shading devices, fenestration, and daylighting.

For additional information, see the Sustainability section. Individual projects may need to achieve a green building certification.



We categorize SEA project types in two ways: owner type and construction type. Each of these categories provides different information about the project. Regardless of scale or scope, every project consists of these categories. Several criteria are outlined to determine project category, with focus on owner and configuration. Together, these categories further define and determine other project parameters, such as limitations and processes to which your project should adhere.

This document focuses on Port of Seattle projects of all construction types. Find documents covering ADR and Tenant ownership types in the Resources section.

### Owner Types

The owner type defines the type of group or organization responsible for the design, construction, operations, and maintenance of an airport area.

- Port of Seattle (Port)
- Airport Dining & Retail Tenants (ADR)
- Tenant (airlines and other non-ADR)
- Federal Agencies

### Construction Types

The construction type describes the scope of construction, based on the history of the project.

- New construction/ Expansion
- Renovation - Major
- Renovation - Minor
- Furniture and Equipment Procurement
- Signage



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OWNER TYPE	DESCRIPTION	EXAMPLES
<b>Port of Seattle (POS)</b>	Areas of the airport managed and maintained by the Port of Seattle	<ul style="list-style-type: none"> <li>• Circulation</li> <li>• Holdrooms</li> <li>• Concourses</li> <li>• Curbside</li> <li>• Check-in lobby</li> <li>• Esplanade</li> <li>• Central Terminal</li> <li>• Restrooms</li> <li>• Animal relief areas</li> <li>• Waiting areas</li> <li>• New buildings or additions</li> </ul>
<b>Airport Dining and Retail (ADR) Tenants</b>	Areas of the airport managed, maintained, and operated by ADR tenants	<ul style="list-style-type: none"> <li>• Restaurants</li> <li>• Stores</li> <li>• Pop-up shops</li> <li>• Vending</li> </ul>
<b>Tenant (airlines and other non-ADR)</b>	Areas of the airport managed, maintained, and operated by airline and other non-ADR tenants	<ul style="list-style-type: none"> <li>• Airline check-in</li> <li>• Baggage dropoff</li> <li>• Boarding</li> <li>• Lounges</li> <li>• Building additions</li> <li>• Offices</li> <li>• Ground transportation services</li> </ul>
<b>Federal Agency</b>	Areas of the airport managed, maintained, and operated by the TSA and similar organizations	<ul style="list-style-type: none"> <li>• TSA security areas</li> <li>• Projects that have federal funding</li> <li>• Customs</li> <li>• FAA</li> <li>• Federal inspections areas</li> </ul>



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CONSTRUCTION TYPE	DESCRIPTION	DISRUPTION	EXAMPLES
<b>New Construction or Expansion</b>	A new construction project includes ground-up construction, building additions, and construction projects which gut everything except for the structure. Demolition is part of this construction type.		<ul style="list-style-type: none"> <li>• New satellites</li> <li>• Building expansion</li> <li>• Gut renovations</li> </ul>
<b>Renovation - Major</b>	Fixed project budget. Includes any necessary demolition and construction barricades.	Facilities disruption	<ul style="list-style-type: none"> <li>• Restroom renovation</li> <li>• Relocations of airlines</li> <li>• Tenants</li> <li>• Central terminal improvements</li> <li>• Infrastructure</li> </ul>
<b>Renovation - Minor</b>	Fixed project budget. Includes any necessary demolition and construction barricades.	Minimal impact, minor public disruption	<ul style="list-style-type: none"> <li>• Walls on baggage claim</li> <li>• Casework</li> <li>• Carpet</li> <li>• Paint</li> <li>• Office renovations</li> </ul>
<b>Furniture &amp; Equipment Procurement</b>	Floor, walls, are ceiling not changed. Furnishings and Equipment FF&E are.	Minimal	<ul style="list-style-type: none"> <li>• Furniture</li> <li>• Equipment</li> <li>• Movable stuff</li> <li>• Buses, ramps</li> <li>• FF&amp;E</li> <li>• Stanchions</li> </ul>
<b>Tenant</b>	Areas managed by Airport tenants.	Varies	<ul style="list-style-type: none"> <li>• Airlines, TSA, baggage carts</li> <li>• Specific lease area, including vertical surfaces</li> </ul>
<b>Signage</b>	Signage group has say on all types and covers all guidelines, whether standalone, update, or part of a larger project.	Minimal	<ul style="list-style-type: none"> <li>• Signage and wayfinding</li> <li>• Advertisements</li> <li>• Retail and tenant</li> <li>• Replacing static to dynamic</li> <li>• Temporary and permanent</li> </ul>



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The success of SEA projects relies heavily on coordination and collaboration across multiple teams and individuals, both internal and external to the Airport.

The SEA project manager will lead most projects and must be able to answer questions regarding project design, process, and completion. The particular structure of each project team will vary depending on project requirements, but some parties that will be engaged are listed below (this is not a comprehensive list):

### Internal

- Port of Seattle (Port)
- Project Manager
- Project Management Group
- Architecture Review Committee (ARC) and other Design Review Committees
- Airport Terminal Line of Business
- Facilities and Infrastructure Department
- Contract Administrator

### External

- Design Consultants
- Engineers
- General Contractor
- Airport Dining & Retail (ADR)
- Tenant (Airlines)
- Federal Agencies



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A number of planning considerations are important to address during the early stages of any project.

Cost awareness should be considered throughout the project, such that teams should be conscious of the financial impact of design, procurement, construction, and ongoing maintenance. Teams should provide meaningful recommendations for efficiencies and savings.

#### Consistency & Variance

Some may be teams or projects required to match the existing materials and conditions in lieu of complying with these guidelines (verify with the Port of Seattle project manager).

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## SEA Airport is committed to providing appropriate facilities and services for all travelers including those with disabilities.

This section summarizes the relevant codes and resources to be used by design teams for projects at SEA Airport.

All projects at SEA Airport should be concerned with providing accessibility for travelers and staff. Accessibility design is most successful when well considered early in the design process. Considering accessible routes will affect siting decisions and circulation design. Considering accessible spaces and fixtures will affect the area allotted to restrooms and other specific use spaces. Waiting to add accessible features to a completed design will increase cost, complexity, and create less accessible facilities.

For projects with significant accessibility issues, it is suggested that designers seek the guidance of reputable groups that represent people with disabilities and understand their environmental needs. Local groups, such as the Washington Governor's Committee on Disability and Employment, Easter Seal Society of Washington, Washington Coalition for Citizens with

Disabilities, and Lighthouse for the Blind have all participated in past reviews of facility accessibility for The Port of Seattle. These and many others may act as resources to assist in understanding accessibility issues.

While SEA projects will all meet American Disabilities Act (ADA) requirements, it is important that designers seek to go beyond ADA, aiming for Universal Design. This accounts not only for ability, but age, size, gender, and other factors which render spaces less accessible to a portion of users.

To help understand the needs of people with disabilities, the President's Committee on Employment of Persons with Disabilities has fact sheets available on their website for review or to order at [www.pcepd.gov](http://www.pcepd.gov).



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### What is an accessible facility?

In theory, an accessible facility is a built environment that has no barriers to people with disabilities. In practice, it is one that has been designed to comply with specific laws or codes which act as minimum dimensions that allow only a narrow range of users to experience ease of use. The Port of Seattle's design goals for SEA go beyond accessibility as defined in the laws and codes, to the overarching principal of Universal Design when possible (though not as a requirement). Universal Design is the idea of designing for the widest range of ability, with as few barriers as possible. By considering a wider range of users, even those with temporary physical limitations will be accommodated.

### Accessibility Regulations in Washington State

Provisions for accessibility design are a part of the State Building Code for publicly and privately funded buildings of "public accommodation." The state Barrier-Free Regulations reside under WAC 51-40, Washington State Amendments to the Uniform Building Code, Chapter 11. Enforcement for accessibility issues within the state falls to the local building official. If followed to the letter of the code, this now signifies a good faith effort of the designer to comply with the ADAAG. The Port of Seattle requires that current versions of all codes and laws be followed during the design and construction process.

### Selecting Goals

The governing commission of SEA aims to make it the most accessible airport. It should be safe and accessible for all and designed to fit everyone: young or old, able or disabled, English or non-English speakers. All projects must meet the specifications defined and regulated by the Americans with Disabilities Act (ADA), as many of the design guidelines outlined by the ADA benefit all.

SEA currently offers apps which aid wayfinding for persons with a hearing or visual impairment, and is investigating ways to make the airport more accessible, including improved wayfinding strategies. Once finalized, those guidelines will be included here.



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The intent of this section is to provide acoustical guidelines for the design of all projects at the Airport. It is not intended that this guide provide solutions regarding sound and vibration, but rather that it identify issues requiring consideration and define acoustical criteria for architectural components, mechanical systems, and audio/video systems.

These guidelines do not replace the need for interpretation and response to each project's unique conditions by a qualified acoustical consultant. Any project with significant acoustical issues should include the design input of a qualified acoustician.

### Regulatory Criteria

The Mechanical Standards and Regulations for Airport Construction also include information regarding acoustical requirements for projects at SEA Airport. Design teams should review these documents and coordinate with their project manager if there are issues requiring clarification or interpretation.



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## Architectural Components

The airport environment is, by its very nature, a highly charged, active area. Diverse crowds constantly move through the spaces. Some of the patrons find themselves with excess time allowing them the luxury to browse the retail facilities and leisurely enjoy the surroundings. Others are hurrying to meet a scheduled flight and need only be pointed in the right direction.

The airport facilities need to respond to both of these user groups; providing a stimulating environment for exploration, while controlling the potential confusion associated with the combined sounds of aircraft arrivals and departures, paging and flight information announcements, general crowd activity and music, etc. from the retail spaces.

## Building Shell

By code, the exterior envelope of the facility must meet the Noise Level Reduction, NLR, of 35 dBA.

## Interior Spaces

An acoustical consultant should be retained to develop the construction appropriate for specialty areas such as conference/ auditorium spaces, administrative offices, FAA, and Immigration areas or mechanical rooms.

Providing an acoustically compatible system of partitions, ceiling, doors, and relights, etc. is also essential to the performance of the space. The sound isolation will only be as good as the weakest element.

## Water Features

Water features may be incorporated into the design of interior spaces within the Airport, provided that the noise level of the feature does not exceed 50 dBA at 5 feet from the feature.

Water features have been problematic with wildlife and maintenance. Water feature projects will need to address and include bird deterrents and total cost of ownership evaluation of the systems.

Note: This limits water features to smooth water flow. If more dramatic water features are desired, mock-ups should be prepared to confirm that noise levels will be acceptable to the Port.



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Maintaining open circulation paths for passengers is important to their overall satisfaction. This includes making sure pathways are free from obstacles, lines of sight are clear, and the layout is intuitive.

The International Air Transport Associations (IATA) Terminal Design Guidelines contains more detail about egress routes and should be referenced on all projects (see Resources).

The control of queues is also essential to ensuring circulation routes remain clear. SEA prefers that stanchions are fixed in position for this reason, but also allows for greater accessibility.

The stanchion options below are in order of preference:

- 01** Magnetic – fixed position, stanchions bond to the floor
- 02** Screw-In – fixed position, stanchions screw into the terrazzo floor
- 03** Base – smallest possible footprint



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The various technologies available at SEA can be referenced at the following link:

<https://www.portseattle.org/SEA/customer-services-amenities>

Special routing and equipment required for communications systems should be discussed early, and often revisited as technology improves.



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An integrated process ensures that design solutions are thoughtful and aligned with the strategic and sustainability goals of SEA. The process should also consider the total cost of ownership, raw materials, and maintenance.

Project teams should engage the various stakeholder groups through their project manager in the initial planning stages of projects and at stages throughout to ensure the design is iterative.

Stakeholders include:

- Facilities and Infrastructure
- Engineering
- Technology
- Operations
- Sustainability
- Maintenance
- Art – especially when artwork is to be integral with a material, finish, or building element

#### General Guidelines

The allocation or zoning of ceiling, wall, and even sub-floor spaces for services is a critical consideration essential to achieving high-quality service, ease of maintenance access, and control of clutter.





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## Building Systems includes MEP (mechanical, electrical and plumbing) telecommunications, conveyance, and civil engineering. It is managed by specialists within SEA.

A summary of high-level requirements are outlined below, but please refer to the additional documents listed in the Resources chapter for more information. When planning for location, infrastructure, and maintenance access to MEP equipment, coordinate with your SEA project manager. Please also refer to Design Considerations and MEP standards for more information.

### Mechanical

- Place thermostats according to local code requirements
- Mechanical elements in ceilings should be in locations that are easily serviced with minimum disruption to public activity

### Electrical

- Provide power and data in open areas, either integrated into the furniture or concealed in the floor

### Plumbing

- Place drinking fountains according to local code requirements and near restrooms.
- Provide water bottle refill stations at each drinking fountain location.



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## SEA employees and passengers must be kept safe and secure.

Security measures require a combination of procedures and equipment with the aim of deterring unauthorized entry. Project teams should consult their SEA project manager for specific security requirements including secure areas or equipment (cameras, alarms, emergency call box).

Some additional general guidelines include:

- Eliminate spaces or equipment where people can hide bags, etc.
- All storage rooms shall be secure access only
- The placement of security equipment should be consistent across the site (for example, the placement of the door handle to card reader)





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Design teams should coordinate storage requirements and locations with their SEA project managers at the beginning of projects.

**Storage Needs**

- Port of Seattle Facilities
- Common Use (shared by multiple tenants; needed in the check-in lobby and holdrooms)
- Airport Dining and Retail Tenant merchandise storage
- Janitorial closets (storage for janitorial tilt carts between times of active use).
- Elevator and escalator construction barricades (portable, fold-out partition barricades should be distributed for convenience and accessibility)
- The location and placement of fire extinguishers, AEDs, first aid kits, and trauma kits should be considered during the design development phase.
- Emergency safety equipment (blankets, water, emergency response supplies) and emergency preparedness supply storage should be an integral part of the design process. A minimum of 2 storage locations should be provided and incorporated into the design scope. Storage shall be highly visible and clearly marked. Coordinate specific requirements with project manager.

- Equipment (maintenance lifts, carts, barricades, stanchions, utility carts, and trash carts)
- Passenger (wheelchairs, passenger transport carts, luggage carts, abandoned luggage)
- Signage

**General Guidelines**

- Storage locations should be convenient but not visually obtrusive
- Storage should be integrated wherever possible
- All storage areas or closets must be secure access
- Sealed concrete floor is not required, but acceptable for man-lift storage
- Storage for lifts need to have 10 foot high doors and dedicated electrical outlets
- The space needs to be big enough to maneuver the lift in and out
- Storage rooms should have robust wainscoting



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Sustainable design is the idea of creating buildings and landscapes that enhance our quality of life with the least negative impact to our environment. The Port of Seattle Aviation Division has not developed a detailed sustainable design approach, however design teams are encouraged to explore sustainable design strategies that are achievable within budget and other parameters.

This section of the Guidelines outlines the approach to sustainable design, describes the environmental impacts of conventional construction, and suggests a proactive approach that minimizes those impacts.

This section also defines sustainable design goals for consultants, describes the basic strategies that can be employed to reach them. It does not stipulate specific design criteria as these have not yet been determined, beyond existing codes.



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SEA follows best practices for sustainability for its projects, with the aim of achieving LEED Silver status, depending on project size. One of the strategic objectives under the [Century Agenda](#) is to “be the greenest, and most energy efficient port in North America”. For more information, reference our Environmental Strategy Plan 2009 and the Strategy for a Sustainable SEA (S3).

#### General Guidelines

- Connecting to power from renewable sources
- Specifying Energy Star appliances and other energy conservation methods
- Incorporating biophilic design principles (bringing nature inside) into projects to achieve balance that promotes building function and occupant well-being.
- Focusing on maintaining ecosystem vitality and air, water, and soil quality

#### Material Selection

Material selection and use is important in order to achieve SEA’s sustainability goals. Specific notes about the composition, source, or prohibited content of materials has been provided in the relevant sections. Some general guidelines are included below:

- Source local and sustainable materials and products
- Preference materials containing recycled content





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## Design Goals

Where projects can be certified, they should follow one of green building certification programs. However, when projects cannot meet the requirements for the certification, they should incorporate their concepts as much as possible by following these five simple goals:

### Conserve Energy

- Reduce Energy Consumption
- Harvest Site Resources
- Increase Efficiency

### Enhance Environment

- Reduce Pollution Sources
- Eliminate Contamination
- Dilute Pollution Strength

### Manage Material Use

- Create a Strategy for Material Use
- Select Sustainable Sources
- Use Durable Materials
- Close the Loop

## Support Landscape

- Connect with Nature
- Preserve Native Vegetation
- Work with Natural Systems

## Safeguard Water

- Reduce Potable Water Use
- Maintain Natural Water-flows
- Harvest On-site Flows



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This section establishes general design criteria as well as requirements for specific materials and systems. This section should be utilized for general design direction and providing assistance to design teams to coordinate their work with Port expectations and other design teams.

Specific information about finishes and performance requirements can be found in the Architectural, Casework, Furniture, Finishes, and Equipment sections.

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- Design Strategies
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SEA is an amalgam of various architecture styles and materials influenced by the time period of construction.

With this in mind, a combination of consistency and variance is the design intent or vision for the Airport. A consistent approach has been defined for finishes, most notably flooring, wall-coverings and columns. Instances where design teams can employ variations have also been noted in the Finishes section.



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The design strategies in this section are interwoven and interdependent. It is intended that design teams thoroughly integrate these strategies as a unified design approach.

These strategies are not intended to be seen as independent of one another. However, in the following pages, it is useful to consider each strategy separately as a means of identifying critical issues that each design team needs to address.

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- Spatial Experience
- Space Allocation
- Wayfinding
- Diversity



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### Visually Open & Engaging

Public spaces should be clearly organized, visually open and engaging, and generously scaled, as appropriate to the use of the space. Public circulation areas should be comfortably sized to allow for easy traveler movement during peak traffic periods. Vertical circulation between floor levels should be very open, enabling clear wayfinding and offering opportunities for spatial drama and visual connectivity.

Materials and finishes in public spaces should enhance the sense of openness and visual engagement. Glazing in lobby spaces should be as transparent as possible, to maximize visibility and openness. Interior mezzanine rails should be glazed or otherwise detailed in a way to maximize visibility. Primary interior material palettes should be very light to enhance the sense of openness and natural lighting.

Public spaces should be free of physical impediments that would reduce ease of movement. “Controlling clutter” is not just an operational issue. Designers should develop clear zones for service elements, creating a framework that allows future evolution of service needs without compromising the image and coherence of the public spaces. Service elements should be consolidated and located in alcoves or otherwise well integrated to avoid congestion in public circulation paths.

Natural daylighting and exterior views are an essential aspect of achieving open and engaging public spaces. Daylighting and views should be carefully integrated with artificial lighting and control of solar glare and heat gain, to achieve a strong connection to the natural environment without compromising energy efficiency and functional considerations.

The use of clerestory windows in lieu of skylights should be considered where possible, as clerestory windows are more easily maintained and are less prone to developing water infiltration problems. Where skylights are used, it is recommended to use translucent glazing. Skylights should not be placed over areas where sensitive equipment such as security will be located.

Integration of landscaping, both in exterior locations and where appropriate as interior features, supports the design vision and enriches the traveler’s spatial experience.



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## Appropriate Spatial Hierarchy

Public spaces should be organized in a hierarchy that creates a clear and comfortable traveler experience. Primary public circulation paths should have generous ceiling heights, while secondary spaces—such as holdrooms and support spaces—should typically have lower ceilings. Low ceilings in primary circulation paths, such as those in the existing concourses B, C, and D, are to be avoided.

Materials, finishes, and artwork can also support and clarify the intended spatial hierarchy. Primary spaces can be given greater emphasis through use of featured materials or through prominent integration of artwork. Lighting and signage should also be developed in ways that strengthen and support the spatial hierarchy.

## Choreographed Experience

The traveler's experience follows a sequential cycle while moving through the airport: approach, decision, arrival, relaxation. The design of the public spaces should be appropriate to the travelers' needs and emotional state at each step of these sequential experiences. Clarity and good visibility are essential throughout the sequence.

**01 Approach:** In approaching a new space or decision point, travelers seek reassurance and clues to assist with wayfinding. The spatial organization in these approach routes should be very clear, to minimize traveler confusion and uncertainty. The space itself should naturally lead travelers toward their destination. Finishes, artwork, and lighting should enrich the experience without creating significant distractions to travelers.

**02 Decision:** At points where paths diverge or options are presented to travelers, spaces should be generously scaled to allow travelers to slow and make decisions. Primary paths should be emphasized spatially, while secondary paths should be clearly defined and legible, without confusing the natural hierarchy with more important routes. Materials, lighting, and clear signage all enhance the decision-making process.

**03 Arrival:** The creation of gateways, focal points, or other transitional elements can help travelers recognize and celebrate their arrival in a new space or intermediate destination. These transition points are ideal locations for dramatic artwork or specially designed architectural elements. Material transitions offer more subtle ways to enhance the arrival sequence.



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**04 Relaxation:** After arriving at destinations such as holdrooms or concession areas, (and to a lesser extent ticketing and baggage claim), travelers have an opportunity to relax and enjoy their surroundings, as they await the next step in their journey. The character of these spaces should create a relaxing and enjoyable environment, offering exterior views and ample natural light. The design character and material expression should balance a sense of drama with comfort and reassurance to travelers.

### Integration of Tenant Spaces and Other Amenities

Integration of tenant spaces (like: retail facilities) enhances the traveler experience, and should be fully considered and integrated early in the design process. Any tenant spaces that remain in publicly accessible areas, past the terms of their lease, must follow Port standards.



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#### Floor Area Space Allocation

Space allocation typically is determined through a programming process at the outset of each project. This section provides information about space allocation, generally. More information is available about specific spaces in the Space Types section.

#### Wall and Ceiling Space Allocation

Space allocation is not only an issue related to floor area. The allocation or “zoning” of ceiling, wall, and even sub-floor spaces for services is also a critical consideration, and essential to achieving high quality service, ease of maintenance access, and control of clutter.

#### Considerations

- Ceiling access: Assure that mechanical elements above ceilings are zoned in locations that are easily serviced with minimum disruption to public activity.
- Zoning of services on walls: typical locations or methods for integrating miscellaneous elements such as water fountains and electrical outlets, should be defined to maintain a consistent image.
- Routing of special systems: Space needed for routing and maintenance should be defined and coordinated with appropriate stakeholders.
- Advertising: Typical methods of locating and integrating advertising should be established to maintain the cohesiveness of SEA. (The ADR manages the advertising contract. Any proposed modifications to advertising locations need to be reviewed with ADR.)
- Signage: Wayfinding and informational signage needs to be considered throughout the design process. See signage standards.



## DESIGN STRATEGIES

### Wayfinding

#### Open and Clear Traveler Circulation

Maintaining good visibility and clear circulation paths are essential. The design and layout of all public spaces must use this as a fundamental basis of design.

#### Effective Message Systems

Primary wayfinding signage, service signage, FID's, and advertising all must be effectively integrated into a coherent whole, which enables travelers to easily find the information they need in a timely manner.

Signage systems must be designed such that each system is legible and given the appropriate level of emphasis. Primary wayfinding signage must be visually emphasized to avoid confusion and visual clutter.

Advertising should be integrated in clear zones that are highly visible, but not in conflict with primary wayfinding. Advertising should not be in conflict with art nor installed in calmer areas or concessions. Additionally, it should not be on columns, elevator doors, or in other locations in which it disrupts the clarity of the architecture or wayfinding experience.

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#### Coherent Image: Holistic Experience

Achieving unity and consistency throughout the airport is essential to creating a coherent image for the airport. The selection of materials and design expression should be developed to relate well with existing and other new designs. Details should support the design character of the specific project, and each project should be seen as an integral part of the entire traveler experience.

In addition to the coherence of the architectural details, it is also important that all services, commercial elements, landscaping, and movable furnishings support and strengthen the entire design character.

#### Diversity of Creative Expression

The airport is large enough to accommodate and benefit from diverse architectural and artistic expressions within different parts of the airport. This diversity can enrich the overall character of the airport, but it should be balanced with a commitment to maintaining continuity of material palette and general architectural principles. These moments should be thoughtful and done with intention considering how they fit in with the Airport as a whole and why, how, and where these moments happen.

#### Enhancement of Existing Architecture

Renovations and expansions of existing architecture should seek ways of maintaining existing high quality materials or elements, while creating stronger continuity with newer portions of the facility. For instance, in the main terminal, the introduction of lighter materials and finishes could be balanced with refurbishing rather than replacing the dark granite wall cladding.

#### Consistent Use of Clean Simple Materials, Honestly Expressed

Consistent material use is important to achieving continuity throughout the airport. The intent is to maximize consistency while still allowing appropriate variations and development of feature elements within specific areas.



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#### Ease of Access & Use

All services and amenities must be easy for travelers to find and use. Services should be grouped in zones that, while easily accessible do not clutter or confuse the primary activities in public spaces.

#### Well Organized & Efficient

Services and amenities must be efficiently organized to meet traveler needs and expectations.

#### Clean & Well Maintained: Control of Clutter

Public spaces should be designed to be easily cleaned and maintained, and should integrate service elements in a way that reduces and controls clutter. Appropriately sized, well located, and readily accessed storage areas should be designed and provided to support long and short term storage of cleaning, maintenance, and other items.

#### Appropriate Sizing for Current & Future Needs

Designs should be carefully developed to meet current demands. Designs should consider potential future changes or developments and make provisions to allow for future growth or expansion. This is not a mandate to “over-design” the initial systems; rather, design teams should look ahead to future possibilities, and with the Port, make sound long-term decisions that provide appropriate levels of future flexibility.



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[Structural summary forthcoming.]

### Existing Drawings

The Port of Seattle maintains a library of drawings from past projects. The designer must research all construction completed in the area of his project, paying particular attention to adjoining structures and utilities.

It is critical that as-built documents of all projects be filed with the Port.



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Mechanical requirements are documented separately; please see the Resources section. Design teams should coordinate with their project manager in acquiring the most current mechanical standards. Acoustical considerations are an important aspect of mechanical systems.

Please refer to the Planning section for more information on Sustainable Design and Acoustics recommendations. Project teams are encouraged to explore these concepts as they relate to mechanical issues, to the extent feasible within the project budget and other parameters.



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Electrical requirements are documented separately. Design teams should coordinate with their project manager in acquiring the most current electrical standards.

Project teams are encouraged to explore sustainability concepts as they relate to electrical issues, to the extent feasible within the project budget and other parameters.



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Artwork requirements are documented separately in the Port of Seattle Art Policy and Guidelines. Design teams should coordinate with their project manager in acquiring the most current artwork standards.



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## The Airport consists of various zones of spaces with complex but important relationships.

This section aims to provide clarity as to the relationships, locations, and components of the zones.

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- Main Terminal Access Plan
- Secure vs. Non-secure
- Main Terminal Levels
- Pre-Security Ticketing/ Concourse Level
- Baggage Claim/ Ramp Level
- Bridge (Skybridge/ Promenade) Level
- Satellite Transit System (STS) Level
- Pre-Security
- Satellite & Concourse



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Bridge Level

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Pre-Security

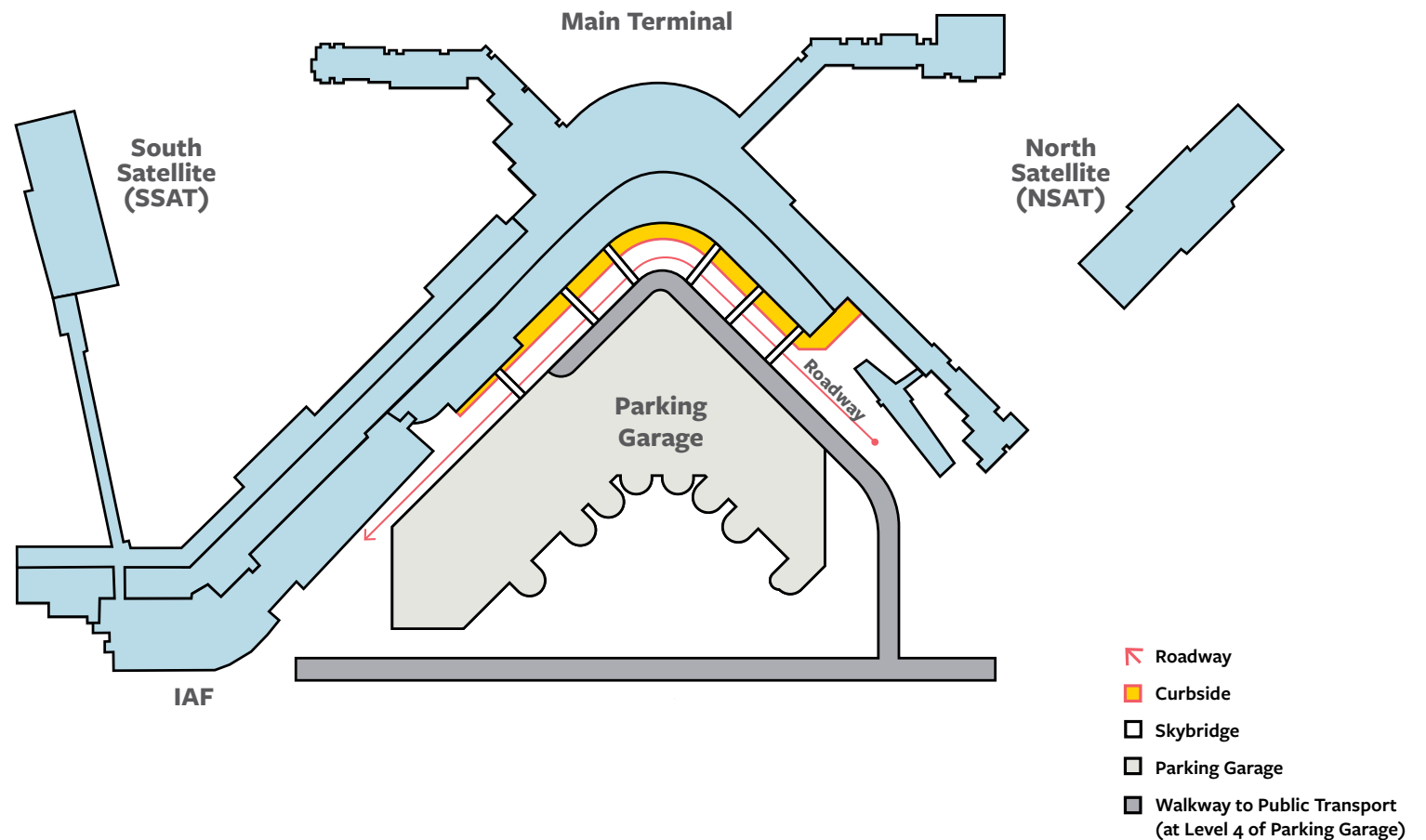
Satellites & Concourses

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The Airport site is comprised of a system of several buildings and roadways. These buildings were built at different times, but all function together to support our passengers on their journeys.





## MAIN TERMINAL ACCESS PLAN

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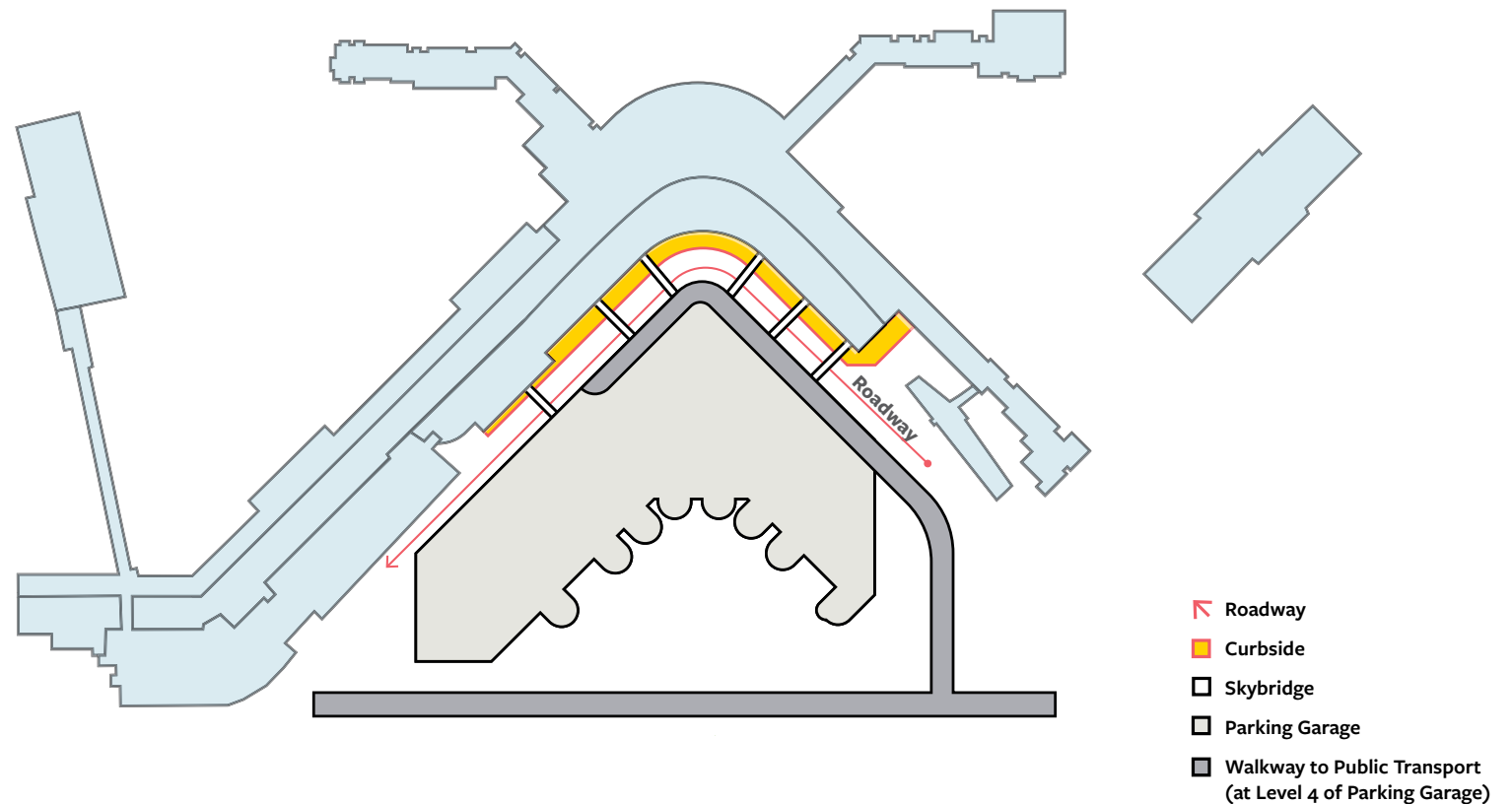
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Passengers can arrive to the Airport through several means. However there are only two main access points in which they can enter the Main Terminal, other than gate access from their plane. Passengers can access the Main Terminal from the Curbside Zones on either level of the main roadway (Airport Expressway) and the Skybridges that feeds in pedestrian from fourth level of the Parking Garage.





## SECURE VS. NON-SECURE

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### Appendix

Areas of the Airport campus are understood as falling into two main categories: Secure and Non-secure.

#### Secure

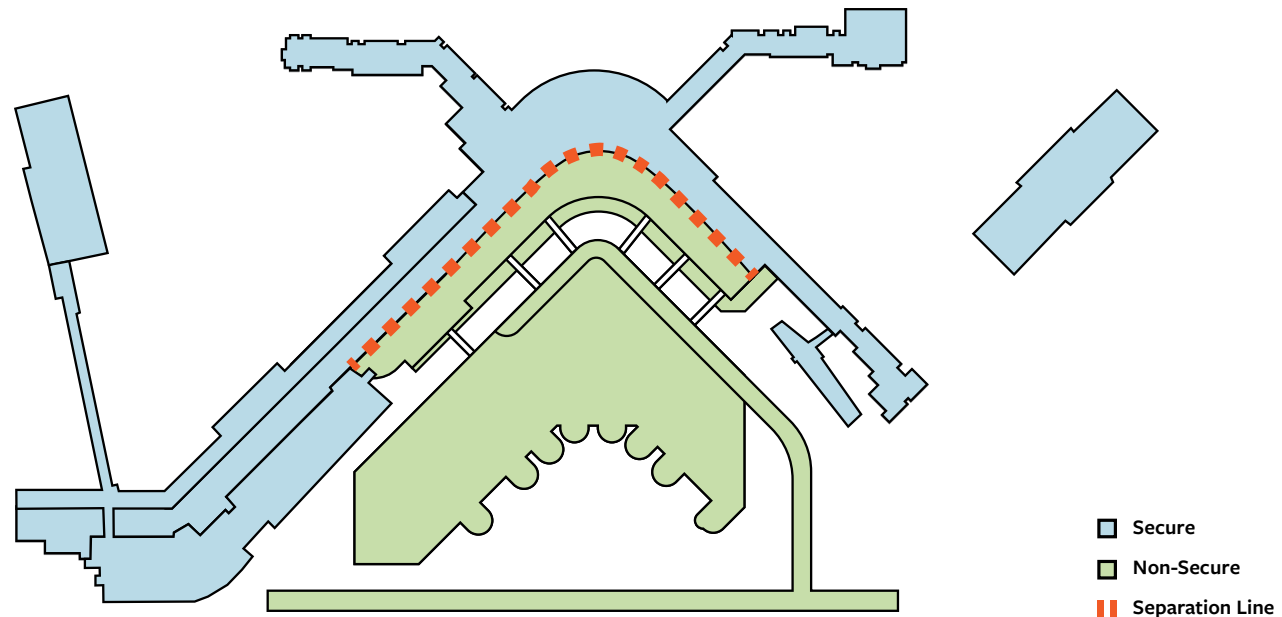
The Secure zone includes buildings and infrastructure that are connected and provide access to activities that happen in the air, such as airplanes and flying. They are accessible only by passing through security. It includes the following:

- Concourses / Ramp
- Satellites
- Central Terminal

#### Non-Secure

The Non-secure zone includes buildings and infrastructure that are connected to activities that happen on land, such as driving and accessing the city. It includes the following:

- Roadway and Curbside
- Parking
- SoundTransit Access







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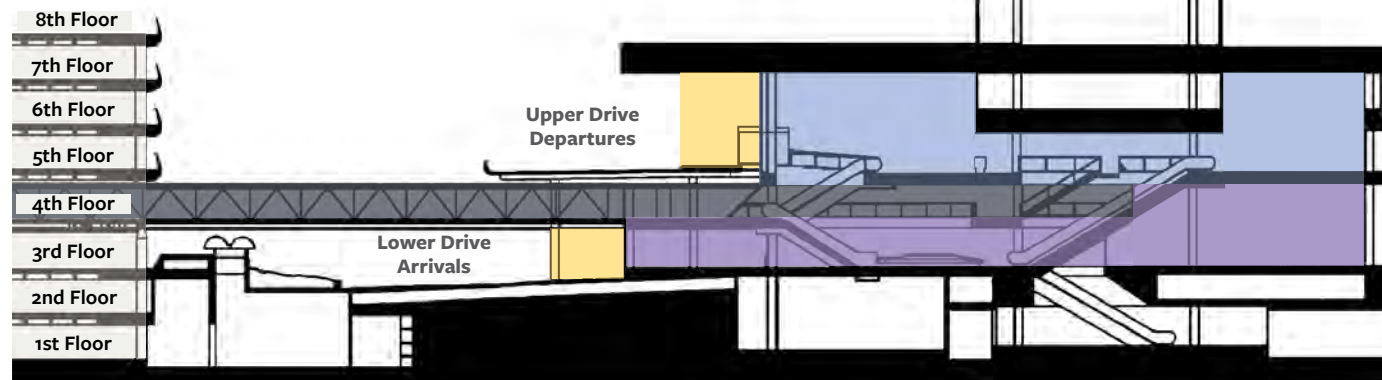
### Architectural Standards

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The Main Terminal is made of a system of spaces that must work together to create a positive passenger experience. It is important to understand the different zones and how they work together to ensure decisions are appropriate for each space and compatible with those adjacent. This section describes the main zones of the Main Terminal and their vertical relationships.

#### Parking Garage

#### Terminal



- Parking Garage
- Bridge Level
- Curbside
- Ticketing/ Concourse Level
- Baggage Claim/ Ramp Level



## TICKETING/ CONCOURSE LEVEL

### Upper Drive / Departures

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##### Level

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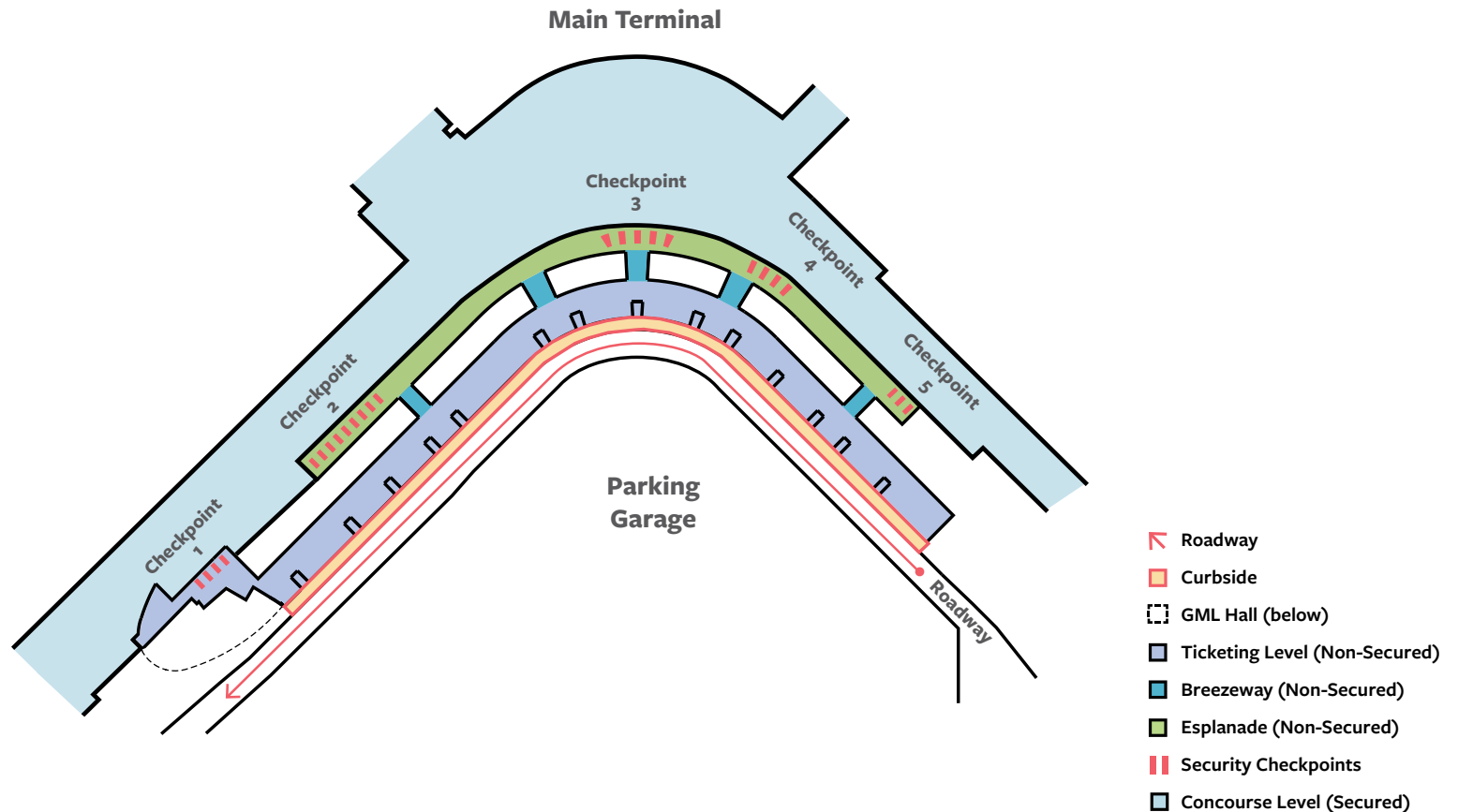
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From the Curbside (Upper Drive/ Departures) passengers enter the Main Terminal on the Ticketing Level (non-secured). On this level, passengers can check-in to their flights at either a self service kiosk or agent service counter before proceeding to the Breezeways paths leading to Checkpoints. Once through the Security Checkpoints, passengers are on the secured side of the Terminal also known as the Concourse Level and can proceed to their gate.





## BAGGAGE CLAIM/ RAMP LEVEL

### Lower Drive / Arrivals

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##### Baggage Claim/ Ramp Level

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Pre-Security

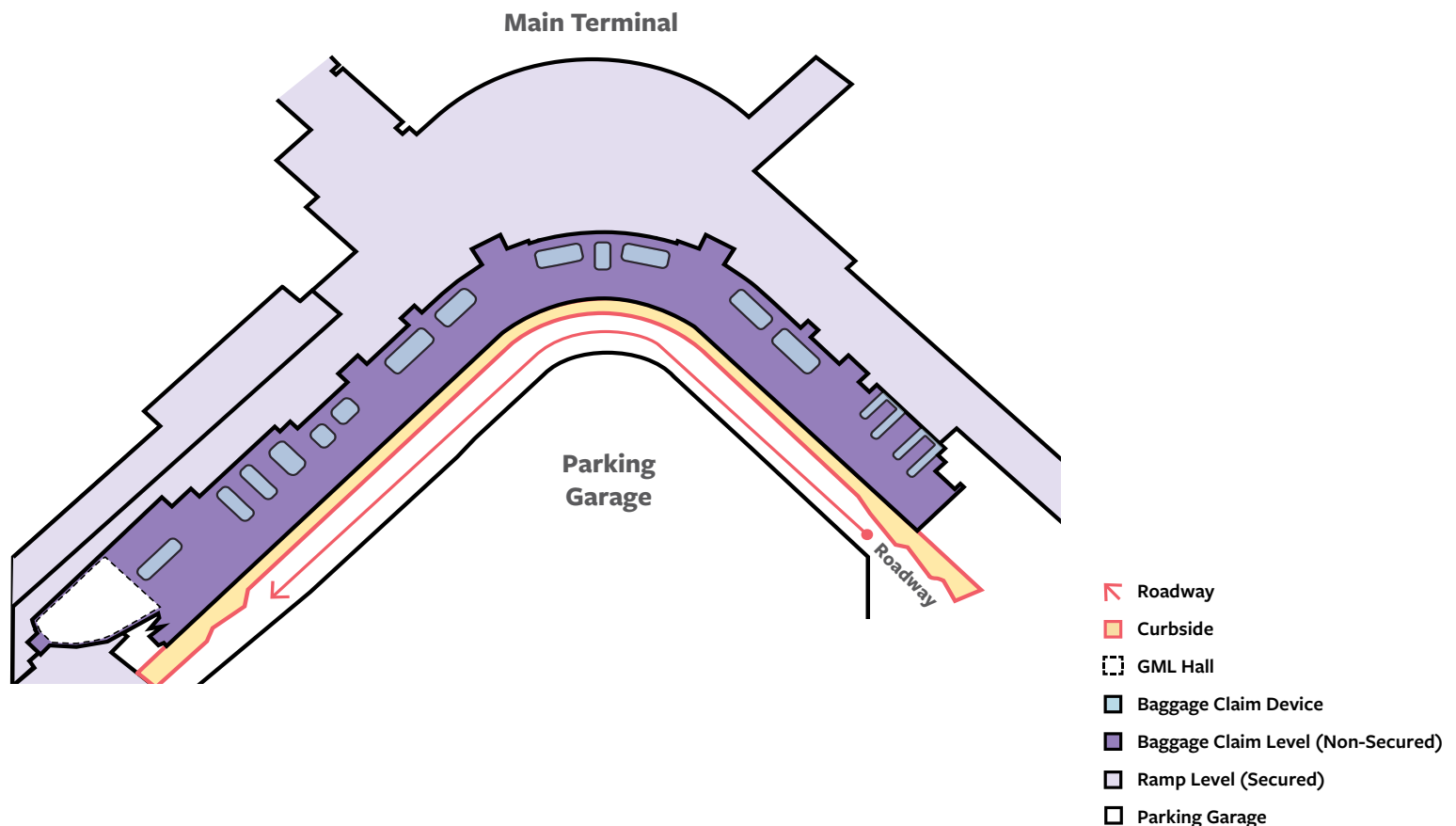
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Passengers departing their flights will make their way to Baggage Claim to exit the secured side of the Terminal. On Baggage Claim Level (non-secured), passengers can head towards the Parking Garage, obtaining their checked bag(s), meet local family and friends, and access the Rental Car Shuttle from the Curbside (Lower Drive/ Arrivals). As passengers are waiting for their bag(s) at the assigned baggage claim device, Airport Operation is busy on the secured side (Ramp Level) moving bags across the Terminal to and from the planes.







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**Bridge Level**

STS Transit Level

Pre-Security

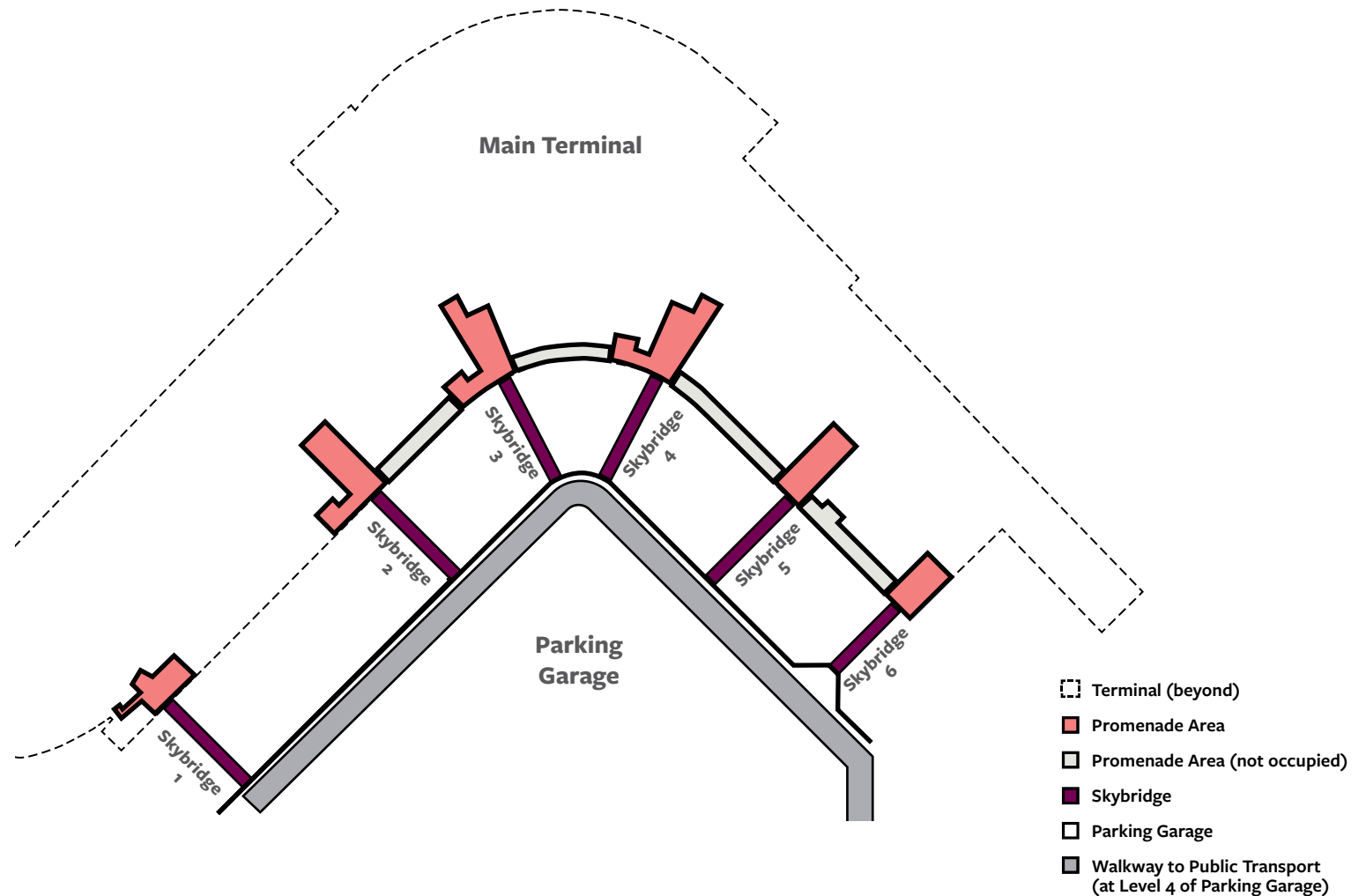
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The Bridge Level (non-secured) connects passengers between the Parking Garage and the Main Terminal. Passengers cross over the Lower Drive/ Arrivals Roadway and Curbside areas to access either structure.





## SATELLITE TRANSIT SYSTEM LEVEL

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The Satellite Transit System (STS) provides underground transportation between the concourses and satellites in the secure zone. It is composed of three routes: South Loop (blue), Shuttle (yellow), and North Loop (green). The interior finishes at the stations integrate the color associated with their loop to reinforce wayfinding.

### South Loop (Blue)

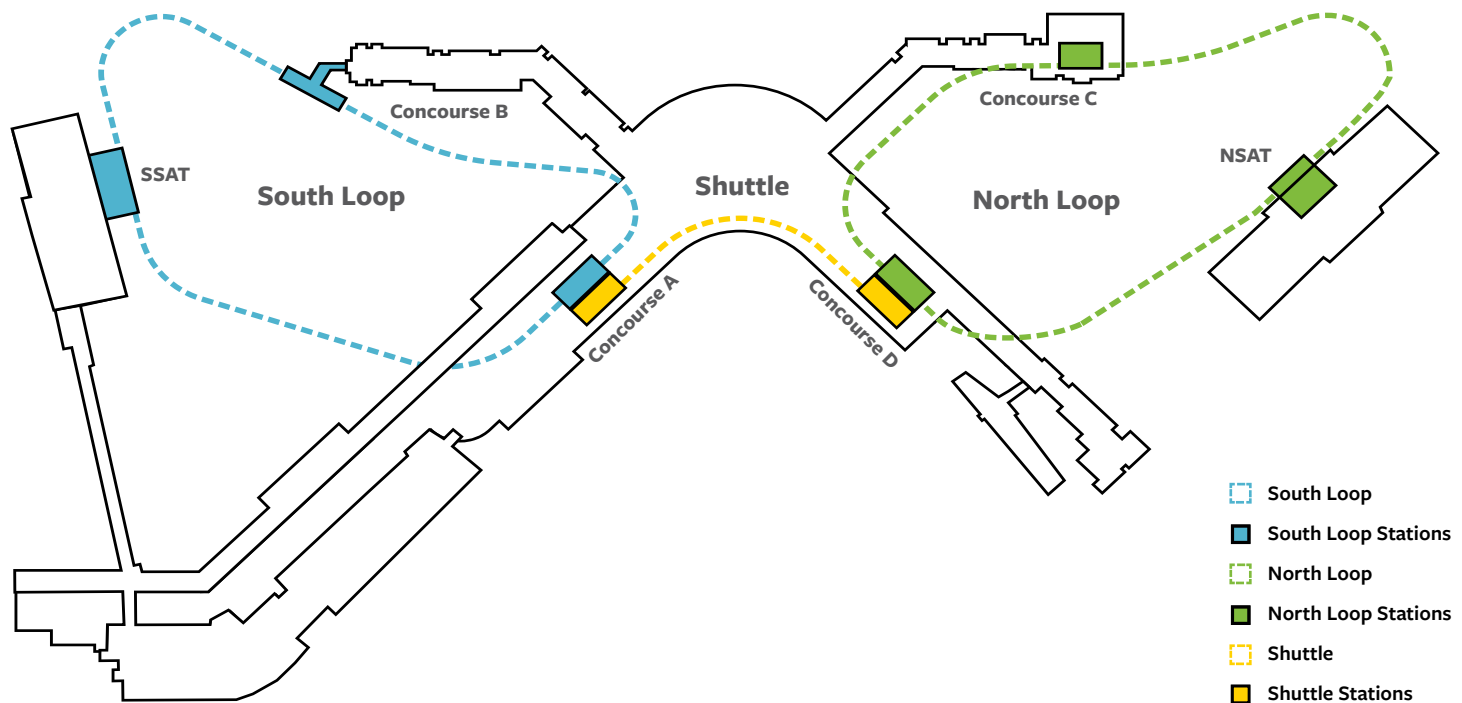
The South Loop connects Concourses A, B, and South Satellite (SSAT).

### Shuttle (Yellow)

The Shuttle connects the South and North Loops and Concourses A and D.

### North Loop (Green)

The North Loop connects Concourses C, D, and North Satellite (NSAT).





## PRE-SECURITY

### Ticketing Level

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##### Pre-Security

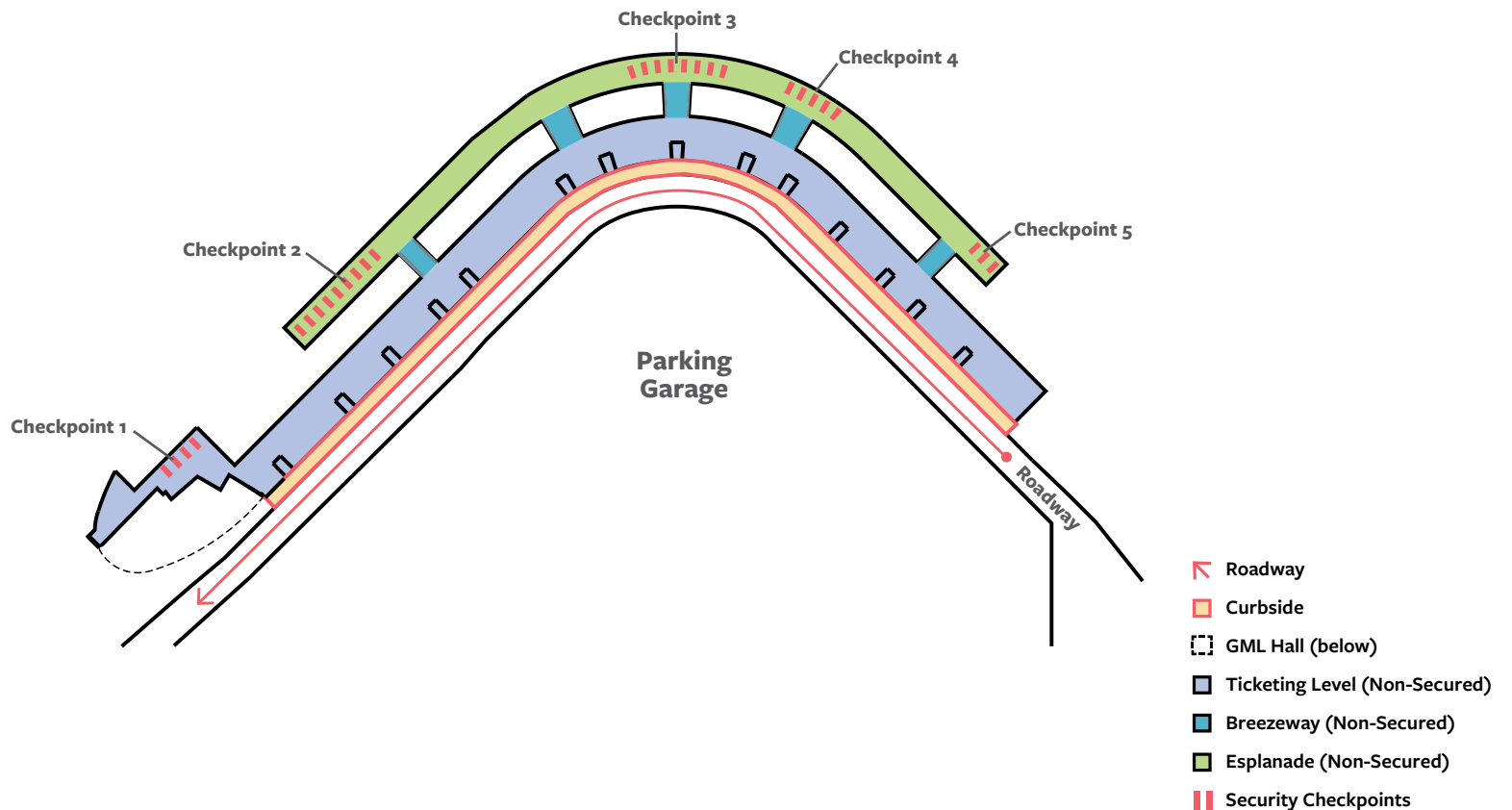
Satellites & Concourses

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Prior to going through the Security Checkpoints, passengers are considered to be in the pre-security zone of the Terminal. This includes the curbside area of the Upper Drive/ Departures and the interior area of the building known as the Ticketing Level.





## PRE-SECURITY

### Baggage Claim Level

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##### Pre-Security

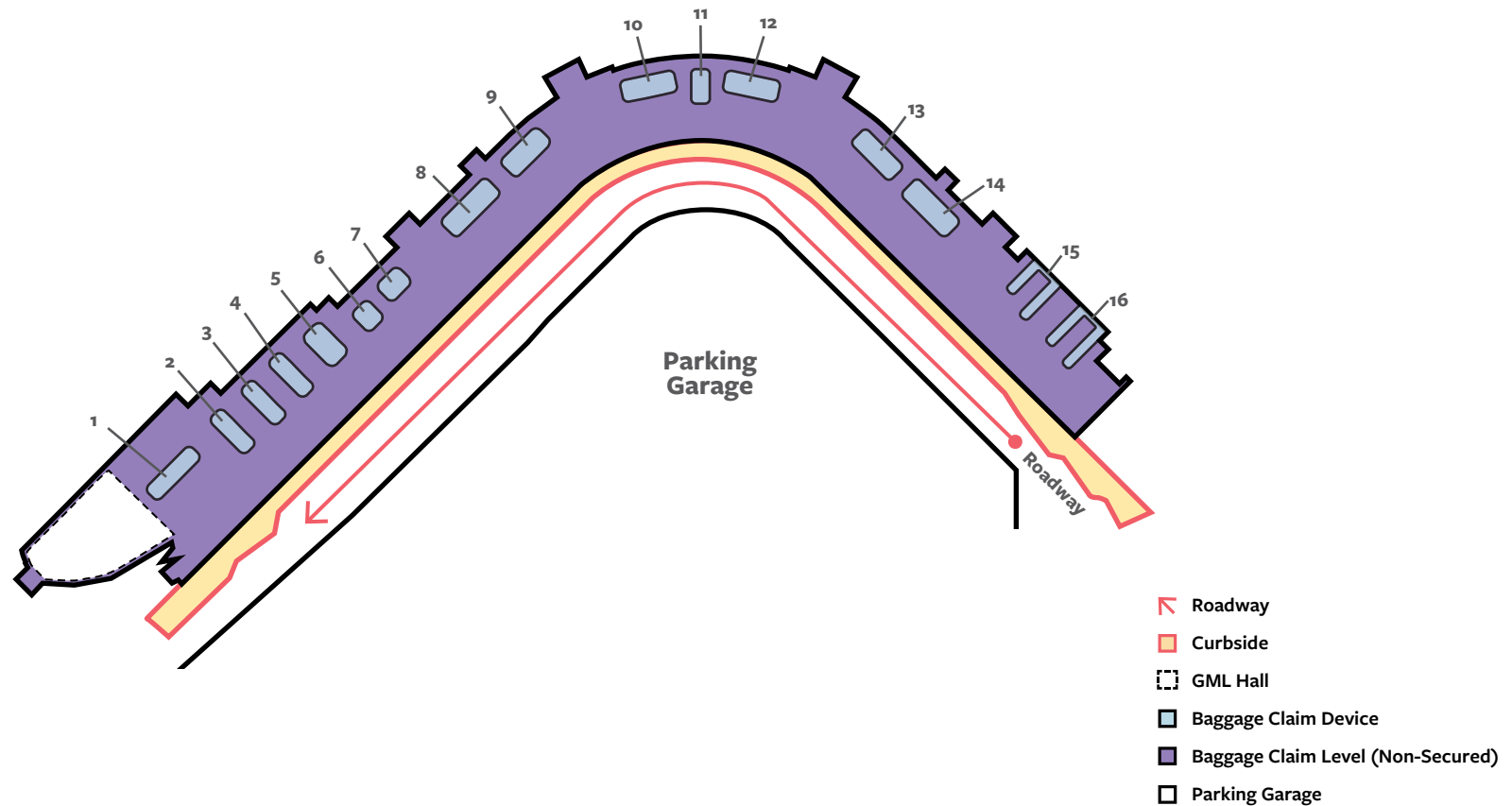
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Passengers waiting for their bags by a Baggage Claim Device are located on the Baggage Claim Level of the Terminal. This area along with the curbside (Lower Drive / Arrivals) are also considered part of the pre-security zone.





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Baggage Claim Level

Bridge Level

STS Transit Level

Pre-Security

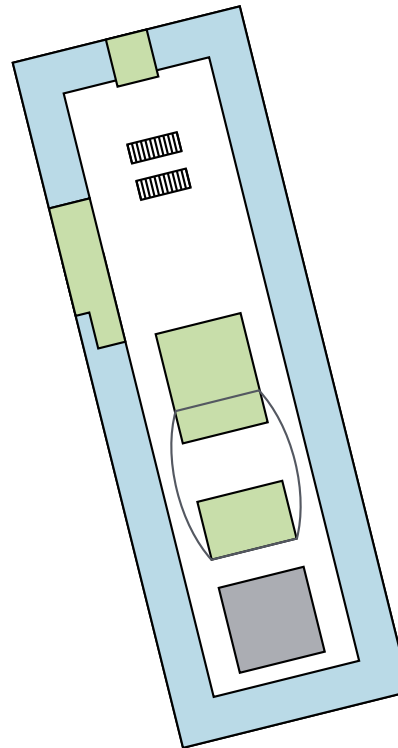
#### Satellites & Concourses

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The Satellites and Concourses serve the same purpose: connecting passengers to their gates for boarding. While the Concourses are accessible by foot, directly from security, the Satellites are accessed by the Satellite Transit System. Both Satellites and Concourses have the same passenger-facing space types.



- Holdrooms
- ADR
- Circulation
- Restrooms



## 2.3 SPACE TYPES

The Airport consists of a system of zones containing various space types, with the main terminal building at the center.

DV DG AS A







The various zones of the terminal building can be categorized in a number of ways, including by level, Port- or tenant-owned, secure or non-secure, and by base building, tenant, or ADR management.

A number of diagrams in the Planning section show this delineation of zones. Each zone contains a number of space types. In this section, each space type is described and detailed with planning notes and requirements for architectural elements, furniture, and equipment.

Their designation according to the zones above is also listed. Space types that occur in both secure and non-secure areas are listed under Amenities & Support.

**Non-secure**

- Skybridges
- Curbside (Arrivals)
- Curbside (Departures)
- Baggage Claim
- South Arrivals (GML) Hall
- Check-In Lobby
- Esplanade
- Mezzanine
- Passageways
- Parking Garage

**Secure**

- Security Checkpoints
- Central Terminal
- Concourses & Satellites
- Subgrade Transit Stations
- Corridors
- Holdrooms
- Aircraft Passenger Loading Bridge
- International Arrivals
- Federal Inspection Services
- International Arrivals Baggage Claim

**Amenities & Support**

- Conveying (Elevators, Escalators, Moving Walkways)
- Restrooms
- Nursing Suite / Rooms
- Interfaith Prayer / Meditation Rooms
- Sensory Room
- Service Animal Relief Areas
- Children's Play Areas
- Storage
- Loading Docks



## SKYBRIDGES

### Non-secure

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#### Space Types

##### Non-secure

##### Skybridges

Curbside (Arrivals)

Curbside (Departures)

Baggage Claim

South Arrivals (GML)

Check-In Lobby

Esplanade

Mezzanine

Passageways

Parking Garage

##### Secure

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Skybridges are pedestrian bridges that connect the fourth floor of the Parking Garage to the terminal at the Skybridge level.

#### Adjacencies

Check-In Lobby

Parking Garage

Baggage Claim



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**Skybridges**

Curbside (Arrivals)

Curbside (Departures)

Baggage Claim

South Arrivals (GML)

Check-In Lobby

Esplanade

Mezzanine

Passageways

Parking Garage

**Secure**

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**Fenestration**

- Public Entrance Doors

**Ceilings**

- Linear Metal Ceiling

**Finishes**

- Carpet Tile
- Walk-Off Mat
- Interior Paint Type 2

**Equipment**

- Security Camera





## CURBSIDE (ARRIVALS)

### Non-secure

#### Design Vision

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##### Planning

#### Space Types

##### Non-secure

##### Skybridges

#### Curbside (Arrivals)

##### Curbside (Departures)

##### Baggage Claim

##### South Arrivals (GML)

##### Check-In Lobby

##### Esplanade

##### Mezzanine

##### Passageways

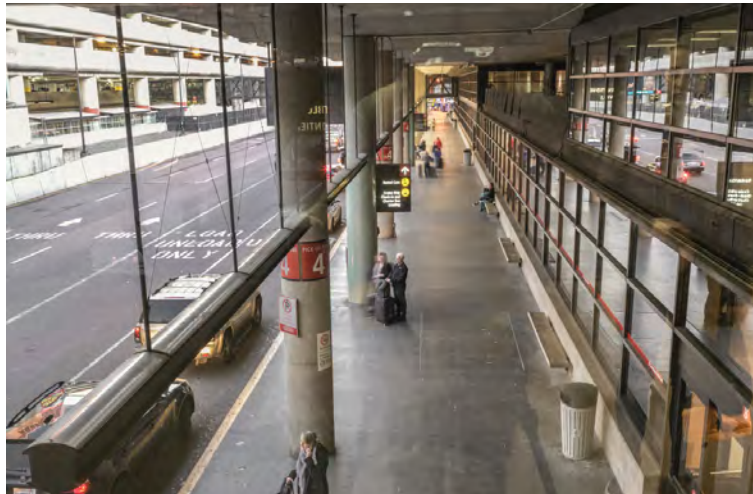
##### Parking Garage

##### Secure

##### Amenities & Support

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The (Arrivals) Curbside walkway is the zone between the arrivals level roadway curb and the front of the terminal, typically used by passengers who have arrived by plane.

#### Adjacencies

Baggage Claim

Parking Garage

#### Planning Notes

- The space should feel enlivened with sufficient seating.
- Confirm any provisions for smoking areas with the project manager. Keep smoking areas away from doors and air intake.



## CURBSIDE (ARRIVALS)

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### Space Types

#### Non-secure

Skybridges

#### Curbside (Arrivals)

Curbside (Departures)

Baggage Claim

South Arrivals (GML)

Check-In Lobby

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### Building Envelope

- Curtain Wall
- Curbside Soffit
- Exterior Paint

### Structure

- Concrete Columns
- Concrete Floor

### Fenestration

- Public Entrance Doors

### Equipment

- Security Camera
- Bird Control
- Bollards
- Exterior Waste/Recycle Receptacle
- Cigarette Trash Receptacle





## CURBSIDE (DEPARTURES)

### Non-secure

#### Design Vision

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##### Planning

#### Space Types

##### Non-secure

##### Skybridges

##### Curbside (Arrivals)

#### Curbside (Departures)

##### Baggage Claim

##### South Arrivals (GML)

##### Check-In Lobby

##### Esplanade

##### Mezzanine

##### Passageways

##### Parking Garage

##### Secure

##### Amenities & Support

#### Architectural Standards

#### Appendix



The (Departures) Curbside walkway is the zone between the departures level roadway curb and the front of the terminal, typically used by passengers arriving for flights.

#### Adjacencies

Check-In Lobby

Parking Garage

#### Planning Notes

- The space should feel enlivened with sufficient seating.
- The entrance to baggage conveyors is on this level and currently built into pavement.
- Confirm any provisions for smoking areas with the project manager. Keep smoking areas away from doors and air intake.



## CURBSIDE (DEPARTURES)

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#### Non-secure

Skybridges

Curbside (Arrivals)

#### Curbside (Departures)

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Check-In Lobby

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### Building Envelope

- Curtain Wall
- Curbside Soffit
- Exterior Paint

### Structure

- Concrete Columns
- Concrete Floor

### Fenestration

- Public Entrance Doors

### Equipment

- Security Camera
- Bird Control
- Stanchions
- Bollards
- Exterior Waste/Recycle Receptacle
- Cigarette Trash Receptacle
- Walk-off carpet tiles



## BAGGAGE CLAIM

### Non-secure

#### Design Vision

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##### Planning

#### Space Types

##### Non-secure

##### Skybridges

##### Curbside (Arrivals)

##### Curbside (Departures)

#### Baggage Claim

##### South Arrivals (GML)

##### Check-In Lobby

##### Esplanade

##### Mezzanine

##### Passageways

##### Parking Garage

##### Secure

##### Amenities & Support

#### Architectural Standards

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The Baggage Claim is the non-secure lobby and hall on the arrivals level of the terminal. It includes the baggage claim devices and the area around them, the escalator wells, and the landing circulation areas from the entry doors to Curbside (Arrivals). It extends from the north end of the terminal to the South Arrivals Hall.

#### Adjacencies

Curbside (Arrivals)

South Arrivals Hall

#### Planning Notes

- Original columns finished in black granite should remain; any additional columns should follow new column guidelines.
- Some ADR tenant spaces and information kiosks are provided in this area.
- Consider appropriate storage solutions and locations for this area.
- Columns to remain clad in black granite, exposed concrete, or be painted to match concrete.



## BAGGAGE CLAIM

Design Vision

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### Space Types

#### Non-secure

Skybridges

Curbside (Arrivals)

Curbside (Departures)

#### Baggage Claim

South Arrivals (GML)

Check-In Lobby

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### Fenestration

- Public Entrance Doors

### Partitions

- Demountable Partitions

### Conveying

- Baggage Claim Rails

### Furniture

- Meda Gate Seating

### Finishes

- Terrazzo Flooring
- Walk-Off Mat
- Broadloom Area Rug
- Interior Paint
- Concrete Paint
- Wall Covering
- PLam Wall System 2
- Metal Wall System
- Wall & Corner Guards
- Stainless Steel Base
- Granite Column Cover

### Ceilings

- Acoustic Ceiling Tile
- Linear Metal Ceiling

### Equipment

- Security Camera
- Baggage Claim Devices
- Interior Waste/Recycling Receptacles
- Bicycle Racks / Storage
- Maintenance Lifts



## SOUTH ARRIVALS (GINA MARIE LINDSEY) HALL

### Non-secure

#### Design Vision

#### Design Guidelines

##### Introduction

##### Planning

#### Space Types

##### Non-secure

Skybridges

Curbside (Arrivals)

Curbside (Departures)

Baggage Claim

##### South Arrivals (GML)

Check-In Lobby

Esplanade

Mezzanine

Passageways

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The South Arrivals Hall, also known as the Gina Marie Lindsey Arrivals Hall, was named after a former director of the Airport. It is a large-scale, double height public gathering space at the south end of the terminal on the arrivals level, but is also experienced from the departures and mezzanine levels.

#### Adjacencies

Curbside (Arrivals)

Baggage Claim

Curbside (Departures)

Check-In Lobby

Esplanade

Mezzanine

#### Planning Notes

- The South Arrivals Hall is very light and bright by design, but should transition in a complementary way to the older terminal buildings and areas, which have darker finishes.
- Structure to remain exposed in a white finish.
- Provide freestanding furniture for ease of moving for maintenance.



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### Space Types

#### Non-secure

Skybridges

Curbside (Arrivals)

Curbside (Departures)

Baggage Claim

#### South Arrivals (GML)

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### Building Envelope

- Curtain Wall

### Fenestration

- Public Entrance Doors

### Conveying

- Interior Stairs
- Guardrails

### Finishes

- Stone Flooring
- Fixed Floor Mats
- Interior Paint
- Urethane Semi-Gloss
- Wallcovering
  - PLam Wall System 1
  - Metal Wall System
  - Wood Paneling
  - Stone Wallcovering

### Ceilings

- Acoustic Ceiling Tile
- Linear Metal Ceiling

### Equipment

- Fire Extinguisher
- Fire Extinguisher Cabinet
- Interior Waste/Recycle Receptacles
- Stanchions
- Emergency Cones
- Bird Control



## CHECK-IN LOBBY

### Non-secure

#### Design Vision

#### Design Guidelines

##### Introduction

##### Planning

#### Space Types

##### Non-secure

Skybridges  
Curbside (Arrivals)  
Curbside (Departures)  
Baggage Claim  
South Arrivals (GML)

##### Check-In Lobby

Esplanade  
Mezzanine  
Passageways  
Parking Garage

##### Secure

##### Amenities & Support

#### Architectural Standards

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The Check-In Lobby is on the departures level of the terminal. It spans from the entry doors at Curbside (Departures) to the Esplanade. It is inclusive of the connecting corridors (the passageways) to the Esplanade and extends from the north end of the terminal to the South Arrivals Hall.

#### Adjacencies

Curbside (Departures)  
Check-In Lobby  
Parking Garage  
South Arrivals Hall  
Passageways  
Esplanade  
Security Checkpoints

#### Planning Notes

- Original columns finished in black granite.
- Signage is supplied by SEA for all common use check-in casework. Some airlines may provide their own signage, as approved by SEA. Appropriate storage should be provided.
- Intend to make Check-In continuous with the Esplanade.



## CHECK-IN LOBBY

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#### Non-secure

Skybridges

Curbside (Arrivals)

Curbside (Departures)

Baggage Claim

South Arrivals (GML)

#### Check-In Lobby

Esplanade

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Passageways

Parking Garage

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### Fenestration

- Public Entrance Doors

### Conveying

- Guardrails

### Casework

- Check-In Lobby Counters
- Check-In Baggage Scale
- Shell
- Flight Information Display

### Furniture

- Meda Gate Seating

### Finishes

- Terrazzo - Legacy Flooring
- Walk-Off Mat
- Fixed Floor Mats
- Interior Paint
- Wallcovering
  - PLam Wall System 1
  - Metal Wall System
  - Wood Paneling System
  - Stone Wallcovering
- Granite Column Cover

### Ceilings

- Acoustic Ceiling Tile
- Linear Metal Ceiling

### Equipment

- Security Cameras
- Fire Extinguisher
- Fire Extinguisher Cabinet
- Planters
- Emergency Cones
- Stanchions
- Interior Waste/Recycle Receptacles
- Bird Control



## ESPLANADE

### Non-secure

#### Design Vision

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#### Space Types

##### Non-secure

Skybridges  
Curbside (Arrivals)  
Curbside (Departures)  
Baggage Claim  
South Arrivals (GML)  
Check-In Lobby

##### **Esplanade**

Mezzanine  
Passageways  
Parking Garage

##### Secure

##### Amenities & Support

#### Architectural Standards

#### Appendix



The Esplanade is the circulation hall on the departures level of the terminal behind the Check-In Lobby. It is accessible from the Check-In Lobby through the Passageways, which pass through the tenant check-in areas.

#### Adjacencies

Passageways  
Check-In Lobby  
Security Checkpoints  
Mezzanine  
Federal Inspection  
Services

#### Planning Notes

- The Esplanade should have a similar look and feel to the Check-In Lobby.
- Vending machines to be located in an alcove, where loaded pallet jacks don't need to cross over expansion joints to get to them, and not below an access panel.
- Consider opportunities for artwork in this space.
- Consider stanchion placement, especially for the Checkpoint overflow lanes.



Design Vision

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Curbside (Arrivals)

Curbside (Departures)

Baggage Claim

South Arrivals (GML)

Check-In Lobby

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## Conveying

- Elevator

## Casework

- Flight Information Display

## Finishes

- Terrazzo - Light
- Terrazzo - Accent
- Terrazzo - Legacy
- Fixed Floor Mats
- Interior Paint
- Wallcovering
- Stainless Steel Wall Base
- PLam Wall System 1
- Metal Panel System
- Wood Panel System
- Wall & Corner Guards
- Granite Column Covers

## Ceilings

- Linear Metal Ceiling

## Equipment

- Security Camera
- Fire Extinguisher
- Fire Extinguisher Cabinet
- Emergency Cones
- Stanchions
- Interior Waste/Recycle Receptacles
- Bird Control



## MEZZANINE

### Non-secure

#### Design Vision

#### Design Guidelines

##### Introduction

##### Planning

#### Space Types

##### Non-secure

- Skybridges
- Curbside (Arrivals)
- Curbside (Departures)
- Baggage Claim
- South Arrivals (GML)
- Check-In Lobby
- Esplanade

##### Mezzanine

- Passageways
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The mezzanine is located above and visible from the Esplanade. There is limited passenger access, as it includes Port of Seattle, airline, and other offices.

#### Adjacencies

- South Arrivals Hall
- Esplanade
- Check-In Lobby
- Security Checkpoints

#### Planning Notes

- Railing to be glass to maintain openness and transparency.



---

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Curbside (Departures)

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- Guardrails

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## PASSAGEWAYS

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The Passageways are the perpendicular walkways connecting the Check-In Lobby and the Esplanade on the departures level, passing between tenant check-in areas. Some contain circulation up to the Mezzanine or down to the Baggage Claim. The passageways are also known as breezeways.

#### Adjacencies

- Check-In Lobby
- Esplanade
- Mezzanine
- Security Checkpoints
- Curbside (Departures)
- Federal Inspection Services

#### Planning Notes

- Consider art integration in this space.



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## Conveying

- Interior Stairs
- Escalators
- Metal Railings (at structure)
- Guardrails (at stairs and escalators)

## Finishes

- Interior Paint Type 2 (at structure)
- Wallcovering
  - PLam Wall System 1
  - Wood Paneling System

## Ceilings

- Acoustic Ceiling Tile

## Equipment

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## PARKING GARAGE

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The Parking Garage is an eight-level parking structure. Its fourth level connects to the Skybridge level of the terminal building and is the only parking level that aligns with the Airport. Passengers park their cars in the Parking Garage and also utilize the structure to access Sound Transit.

#### Adjacencies

- Curbside (Departures)
- Curbside (Arrivals)
- Skybridges
- Check-In Lobby

#### Planning Notes

- The cruise area is on level 1.
- Rental cars, Uber, etc. are accessed on level 3.
- Elevator lobbies to be suitable for wet locations.
- Parking lots shall be designed to eliminate problems associated with pavement cleaning and snow removal.
- Garage should have restrooms and janitorial closets.
- Concrete to remain raw and exposed except for when painted for wayfinding.



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- Stairs
- Rails

### Finishes

- Carpet Tile (in elevator lobbies)
- Exterior Paint (at elevator lobbies)
- Concrete Paint

### Equipment

- Security Camera
- Fire Extinguisher
- Fire Extinguisher Cabinet
- Exterior Waste/Recycle Receptacles



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The Security Checkpoints divide the non-secure and secure areas of the Airport, helping the TSA ensure safe flights for our passengers. They connect the Esplanade and the Concourses.

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Esplanade

Passageways

Check-In Lobby

Mezzanine

Central Terminal

Concourses

#### Planning Notes

- Finishes vary by location, but should coordinate with existing finishes and surrounding areas.
- Furniture and floor mats provided by TSA.
- Stanchions supplied by SEA with base determined by floor condition.
- Demountable partitions used to create enclosed areas to be approved by ARC.



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### Partitions

- Demountable Partitions

### Casework

- Flight Information Display

### Finishes

- Terrazzo - Light
- Interior Paint Type 1
- Wallcovering
  - Wood Paneling System
  - PLam Panel System 1
- Wall & Corner Guards

### Ceilings

- Acoustic Ceiling Tile

### Equipment

- Security Cameras
- Stanchions
- Interior Waste/Recycle  
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- Bird Control



## CENTRAL TERMINAL

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Central Terminal is the main, large-scale public gathering space on the departures level. Providing passengers a place to relax and refresh, it is home to many food and beverage options and has ample seating. Occasionally, local musicians may be invited to perform in the space. The second floor is accessible by stairs and elevators.

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#### Planning Notes

- Floor is terrazzo.
- Walls have stone.
- Granite stone in select feature areas.
- Any stone used should match existing materials.
- Neutral columns between concessions must maintain existing stone.



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**Building Envelope**

- Curtain Wall

**Conveying**

- Stair
- Guardrail

**Casework**

- Flight Information Display

**Finishes**

- Terrazzo Flooring
- Stone Flooring
- Interior Paint Type 1
- Urethane Semi-Gloss
- Wallcovering
  - Stone Wallcovering System
  - Limestone Travertine
  - Gazelle Granite
  - Wall & Corner Guards
  - Base & Wainscot
  - Chair Rails

**Ceilings**

- Acoustic Ceiling Tile
- Metal Ceiling Tile
- Gypsum Board Ceiling (at soffits)

**Equipment**

- WiFi Diffuser
- Fire Extinguisher
- Fire Extinguisher Cabinet
- Planters
- Interior Waste/Recycle Receptacle
- Bird Control
- Vending



## CONCOURSES A, B, C, D, NORTH & SOUTH SATELLITES

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Passengers travel through the Concourses and Satellites to reach their flights on the departures level. The Concourses and Satellites consist of wide circulation paths, Holdrooms, aircraft boarding gates, airline check-in counters, and some ADR concession areas. The Concourses are attached to the main terminal, connecting to Central Terminal and Security Checkpoints. The Satellites are accessible from the main terminal and Concourses by the Satellite Transit System.

#### Adjacencies

Central Terminal

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Restrooms

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Subgrade Transit Stations

#### Planning Notes

- Finishes vary by location, but should coordinate with existing.
- No exposed concrete on column or wall bases. These should be clad in metal panels.
- Cameras and WiFi routers should be minimal in size and blend in with the surrounding finishes.



## CONCOURSES A, B, C, D, NORTH & SOUTH SATELLITES

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### Fenestration

- Concourse Entry/Exit Doors

### Casework

- Ticket Lift Podium (Concourses C, D; North, South Satellites)
- Flight Information Display

### Finishes

- Terrazzo - Light
- Interior Paint Type 1
- Wallcovering
  - PLam Wall System 1
  - Fabric Wrapped Panel
  - Base & Wainscot
  - Chair Rails
  - Wall & Corner Guards
- Column Enclosures

### Ceilings

- Acoustic Ceiling Tile
- Metal Tile Ceiling
- Gypsum Board Ceiling (at soffits)

### Equipment

- Security Cameras
- Wall Power
- WiFi Diffuser
- Fire Extinguisher
- Fire Extinguisher Cabinet
- Emergency Cones
- Interior Waste/Recycle Receptacle
- Vending



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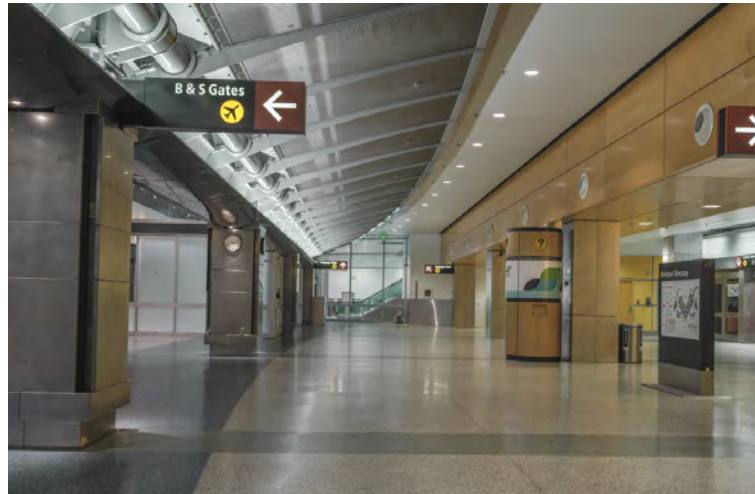
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The Satellite Transit System (STS) Stations connect passengers from the main terminal, Concourses, and Satellites. The subgrade stations include the escalator/elevator wells, the Mezzanine circulation level, the station lobbies, and the trains themselves. The four STS Stations are connected by three train lines.

#### Adjacencies

Corridors

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Central Terminal

#### Description

- North Loop (green)
- South Loop (blue)
- Shuttle between North & South (yellow)
- Passengers are most interested in finding their gate; color coding is not an important strategy to continue as long as wayfinding is clear.



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- Interior Stairs
- Guardrails
- Metal Railings

### Finishes

- Terrazzo - Light
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  - PLam Wall System 1
  - Wood Paneling System
  - Base & Wainscot
  - Chair Rails
- Stainless Steel Column Enclosures

### Ceilings

- Metal Ceiling Tile
- Linear Metal Ceiling

### Equipment

- Security Cameras
- Emergency Cones
- Fire Extinguisher Cabinet
- Interior Waste/Recycling Receptacles



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Corridors are used to connect various areas of the Airport together. It is important that they are kept clean and clear to facilitate passengers' quick and easy circulation and navigation.

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Holdrooms

#### Planning Notes

- Maintain a minimum 80" headroom and minimum 48" width along all pathways.
- Include access for future removal and replacement of equipment through the doorways, route to and through the rooms, corridors, and elevators.
- All routes and conveyances shall be sized and aligned to accommodate removal and replacement of major equipment without disassembly from factory shipped configuration.
- Specify corner protectors.



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- Metal Railings (at stairs and ramps)

## Casework

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- Interior Paint Type 1
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## Ceilings

- Acoustic Ceiling Tile
- Gypsum Board Ceiling (at soffits)

## Equipment

- Security Cameras
- WiFi Diffuser
- Fire Extinguisher Cabinet
- Emergency Cones
- Vending



## HOLDROOMS

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Holdrooms are the waiting areas located at each gate. They provide seating and charging stations to passengers. Occasionally, these spaces also include artwork.

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Corridors

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#### Planning Notes

- Size and location vary on a case by case basis.
- Power outlets to be distributed across the floor and positioned underneath seating.
- Stanchions set up by tenant.
- Frames at boarding doors vary by Concourse and could include portals to be harmonious with Holdroom finishes.



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- Gate Check-In Counter
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### Furniture

- Holdroom Seating
- Accent Seating

### Finishes

- Carpet Tile
- Interior Paint Type 1
- Wallcovering

- Fabric Wrapped Panel System

- Fabric Wallcovering

- Base & Wainscot

- Chair Rails

- Column Enclosures

### Ceilings

- Acoustic Ceiling Tile

### Equipment

- Floor Power Cover
- Wall Power
- WiFi Diffusers

- Stanchions

- Stanchion Bases

- Interior Waste/Recycle Receptacle



## AIRCRAFT PASSENGER LOADING BRIDGE

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#### Adjacencies

Holdrooms

#### Planning Notes

- Holdroom doors to Passenger Loading Bridges require special hardware connected to the smoke alarms in the bridge. See the updated hardware in the Port of Seattle Guide Specification.

#### Fenestration

- Concourse Entry / Exit Doors

Aircraft Passenger Loading Bridges connect passengers from the Airport Holdrooms and gates to their planes. They are the last opportunity to make a positive impact on passengers' experience with SEA before their departure. Likewise, they provide the first impression for arriving passengers.



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The International Arrivals area welcomes passengers from international flights.

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  - Base & Wainscot
  - Chair Rails
- Stainless Steel Column Covers

## Ceilings

- Linear Metal Ceiling

## Equipment

- Fire Extinguisher
- Fire Extinguisher Cabinet
- Emergency Cones



## FEDERAL INSPECTION SERVICES

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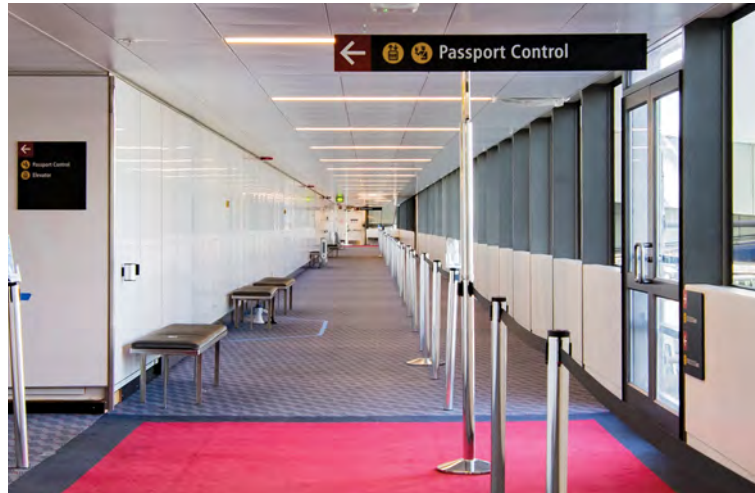
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The Federal Inspection Services areas are used for processing passengers arriving from abroad through immigration and customs.

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International Arrivals Baggage Claim

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  - Base & Wainscot
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- Linear Metal Ceiling



## INTERNATIONAL ARRIVALS BAGGAGE CLAIM

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### Adjacencies

International Arrivals

Federal Inspection Services

South Arrivals Hall

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The International Arrivals Baggage Claim area allows passengers to collect their baggage before they go through immigration and customs, and prior to connecting to domestic flights. It extends from the Federal Inspection Services to the greeters lobby or South Arrivals Hall.



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### Furniture

- Meda Gate Seating

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### Ceilings

- Linear Metal Ceiling

### Equipment

- Security Camera
- Fire Extinguisher
- Fire Extinguisher Cabinets
- Stanchions
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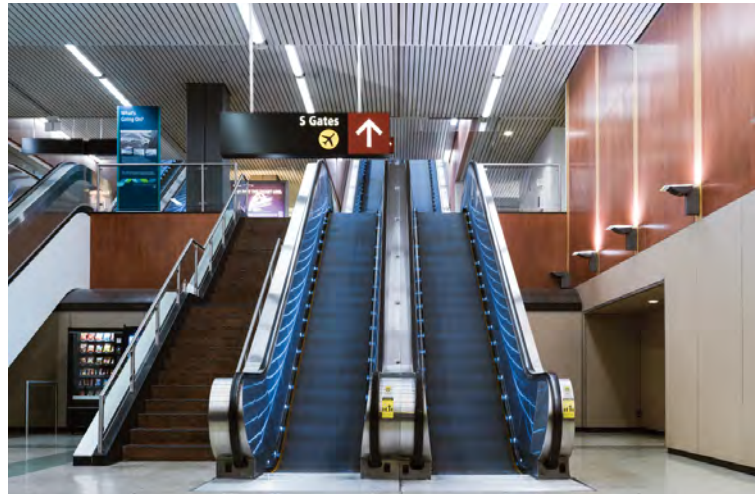
##### Children's Play Area

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One of the first points of contact for passengers, the elevator lobbies, escalators, moving walkways, and other areas of conveying should be clean and simple by design. Visual interest can be created through the selection of materials and the application of light.

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#### Planning Notes

- Do not provide single elevators or escalators.
- Coordinate quantity of vertical and horizontal transportation elements with building code requirements as well as expected passenger traffic flow.
- Storage for emergency barricades should be considered.
- Refer to Mechanical Systems Standards for additional information.



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Restrooms are often the first and last place passengers visit when they arrive at or depart from an airport. They should be welcoming, clean, and easy to maintain. There are 3 types of restroom layouts: multi-fixture all gender, multi-fixture gendered, and single-fixture assisted-use (also known as Unisex / Family Restroom).

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Nursing Suites / Rooms

Service Animal Relief Areas

Interfaith Rooms

Children's Play Area

#### Planning Notes

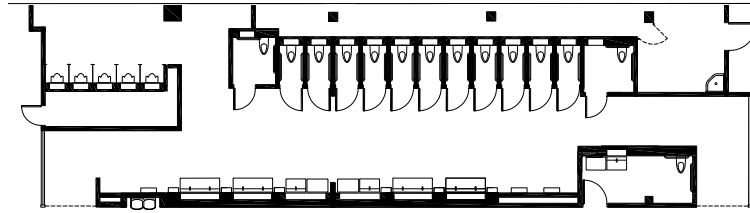
- Restroom layouts are to incorporate an Entrance Node, Sink Node, Toilet / Urinal Node, and Pipe Chase Node.
- Restroom need to be designed to integrate maintenance and janitorial flexibility, and the needs of both passengers and staff.
- Provide plumbing chase behind all plumbing walls and include Janitor's closet function.
- Provide 40ml waterproofing membrane in all wet areas.
- Finishes should be light color to reflect light and provide a sense of brightness and cleanliness.
- Restroom should exceed code (IBC Appendix Chapter 29, Minimum Plumbing Fixtures, Table A-29-A) for toilet fixture counts. Ratios should be confirmed with the Airport.
- Reference the Mechanical Guidelines and Standards for all mechanical and plumbing requirements.



## RESTROOMS - TYPE 1

### Multi-Fixture All Gender

#### Amenities & Support



Multi-fixture all gender restrooms are compartment style restrooms that any person can use regardless of their gender. They benefit a variety of users, including transgender and gender non-confirming individuals, caretakers and parents who assist someone of opposite gender, and provide a safe place for those in human traffic situations.

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Nursing Suites / Rooms

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#### Planning Notes

- Starting in 2020, new 'greenfield' projects at SEA will include designs for all gender restrooms.
- Provide a galley layout with full height stalls and open washing area including a dedicated urinal area if space is available.
- All stalls to be ambulatory, in addition to the minimum code requirements for accessible stalls.
- Integrate maintenance and janitorial flexibility in the design to allow portions of the restroom to be closed off while still allowing users access to other portions of space.



## RESTROOMS - TYPE 2

### Multi-Fixture Gendered

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Multi-fixture gendered restroom (Men's / Women's Restroom) entrances should be separate with flexibility to close a portion of the space for cleaning and maintenance. The layout for these restrooms should be designed so that it can be easily converted to multi-fixture all gender restroom in the future.

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#### Planning Notes

- Provide a galley layout with sinks and toilets / urinal flanking circulation aisle.
- Provide more toilet fixtures for women than men to limit the formation of lines and provide the best customer experience possible. Determine the total number of fixtures based on the expected facility load. Women's toilet fixtures should exceed men's by 50%.
- Urinals should be contained within an area / room to allow for flexibility for an all gendered restroom conversion.
- All stalls to be ambulatory, in addition to the code minimum requirement for accessible stalls.
- For larger restrooms layouts, where there are two banks of toilets and sinks for the same gender, provide the ability to close off one half of the restroom for cleaning / maintenance.



## RESTROOMS - TYPE 3

### Single-Fixture Assisted-Use

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Single-fixture assisted-use restroom (Unisex / Family Restroom) offers flexibility to users with a higher level of privacy. One is required at each multi-fixture restroom location and at least one in every Concourse is required to include an adult changing station.

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#### Planning Notes

- Each assisted-use restroom should be ADA compliant with a baby changing table and an adult changing table (when space permits).
- Provide open / occupied indicator for door lock and automatic door hardware.
- Reference the Signage Guidelines and Standards for restroom signage requirements.
- Provide a 10" deep ledge 2" above sink deck for placing belongings while washing.
- Above the mirrors provide accent panel with tiles that follow entrance theme. Accent tiles are highlighted by a recessed LED wall wash fixture in soffit.



## RESTROOMS - TYPE 3

### Assisted-Use

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- Restroom Doors
- Access Panels

#### Finishes

- Tile Flooring
- Interior Paint Type 1
- Wall Tile
- 10" Stainless Steel Base

#### Ceilings

- Acoustic Ceiling Tiles
- Gypsum Board Ceiling

#### Equipment

- Power Activated Door Operator
- Restroom Occupancy Indicators
- Toilet
- Sink
- Faucet
- Floor Drain
- Waste Receptacle
- Napkin Disposal Receptacle
- Recessed Lighted Mirror
- Full-Length Mirror
- Grab Bars
- Toilet Paper/Cover Dispenser
- Soap Dispenser
- Paper Towel Dispenser
- Diaper Dispenser
- Sanitary Napkin Dispenser
- Biohazard Disposal Cabinet
- Garment Hook & Shelves
- Baby Changing Station
- Adult Changing Station
- Toddler Safety Seat



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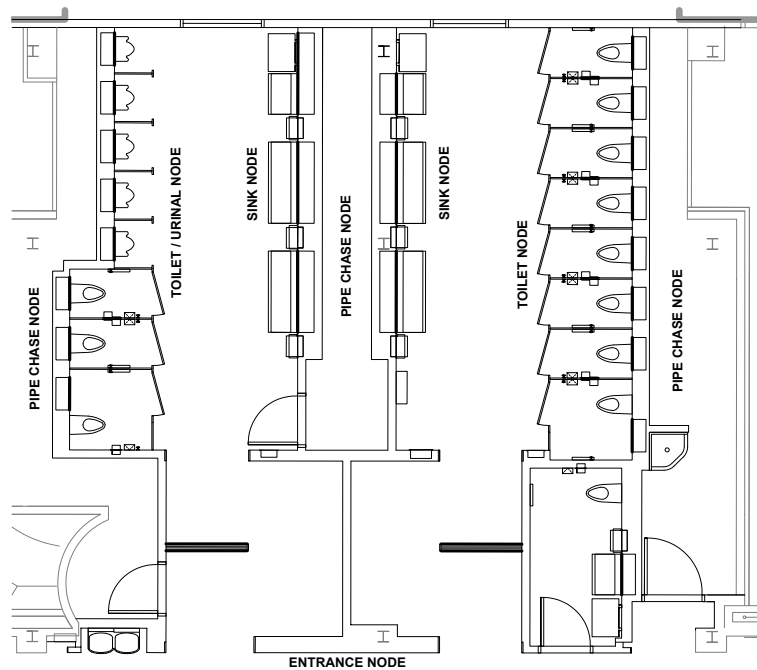
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As part of each restroom design are a series of elements combined together to create a cohesive design. These elements are highlighted at the entrance, sink, toilet / urinal, and pipe chase nodes.

### Planning Notes

- There are currently 3 different restrooms themes used at the Airport representing the Pacific Northwest sense: Horizon, Rainy Day, and Mist.
- The Port will determine the theme for each restroom location.
- Large format floor tiles flow out from restroom and abut existing concourse terrazzo floor.
- Use large format wall tiles from within the restroom to line the entry walls and become primary material on concourse facade.
- Coordinate with Art Program should occur early in any restroom project to determine if art can be incorporated into the entry node.



## RESTROOMS - NODES

### Entrance Node

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The entrance node of the restroom works as a beacon for passengers walking through the concourse, providing easy identification of the amenities provided that area.

### Planning Notes

- Provide a decorative divider at the entrances of the restrooms. Divider should compliment design of concourse restroom facade.
- Provide 12" brushed stainless steel base and sturdy jambs to protect the decorative materials on the concourse wall and dividers.
- The assisted-use restroom and pipe chase entrance door to be located off to one side within entrance facade.
- Provide a high-low accessible drinking fountain with water bottle filler station.
- Provide gypsum board soffits with continuous indirect LED lighting fixtures custom backlit, metal signage letters centered above entrance to restrooms.
- Reference the Signage Guidelines and Standards all restroom signage requirements.
- Integrate flush mounted digital display below each Restroom Wall sign. The monitor is to provide information to passengers about the latest / next schedule cleaning, the direction / distance of the next Restrooms, and how many stalls are available.



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Fenestration

- Restroom Doors
- Custodial / Chase Doors
- Access Panels

Finishes

- Interior Paint Type 1
- Wall Tile
- 12” Stainless Steel base
- Terrazzo

Ceilings

- Gypsum Board Ceiling

Equipment

- Restroom Display Monitor
- Drinking Fountain
- Retractable Stanchion Ribbon



## RESTROOMS - NODES

### Sink Node

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With a larger and more open design, the sink node in the restrooms provide users easier flexibility to move around without feeling confined in the space. There are also designated areas for changing babies and grooming.

#### Planning Notes

- Sink are to be mounted with a 2" space between deck back and wall.
- Provide a semi-recessed touchless paper towel dispenser and waste receptacle between each sink.
- Provide an integral, removable shroud below the sink to conceal pipes and other items.
- Behind and 2" above sink deck, provide a 10" deep ledge for placing belongings while washing.
- Above the mirrors provide accent panel with tiles that follow entrance theme. Accent tiles are lit by a recessed LED light strip in soffit.
- For the grooming node, provide a shelf with lighted mirror above and a duplex outlet centered between the two.
- Provide a staging area for custodial carts to be parked during cleaning without interfering with customer flow and experience.



## RESTROOMS - NODES

### Sink Node

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- Access Panels

#### Finishes

- Tile Flooring
- Interior Paint Type 1
- Wall Tile
- 10" Stainless Steel Wall Base

#### Ceilings

- Acoustic Ceiling Tiles
- Gypsum Board Soffit (spanning the length of the sink node)
- Gypsum Board Ceiling

#### Equipment

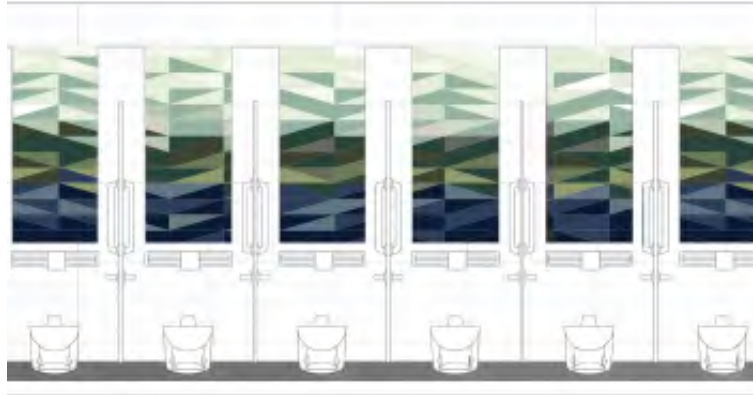
- Sink (accessible two-person trough)
- Faucet
- Floor Drain
- Waste Receptacle
- Recessed Lighted Mirror
- Full-Length Mirror (near entrance)
- Soap Dispenser
- Paper Towel Dispenser
- Diaper Dispenser
- Sanitary Napkin Dispenser
- Biohazard Disposal Cabinet (near entrance)
- Garment Hook & Shelves
- Baby Changing Station
- Sink Step Stool (under the sink closest to the baby changing station, not at station)
- Water Heater
- Grooming Station
- Retractable Stanchion Ribbon



## RESTROOMS - NODES

### Toilet / Urinal Node

#### Amenities & Support



Moving towards being one of most accessible airports, ambulatory stalls shall be provided as the typical toilet compartments. This is in addition to the required accessible stalls for each restroom.

### Planning Notes

- Full height compartment stalls are to be provided for Type 1 and Type 2 - Restrooms, identified to become future Type 1 - Restrooms.
- Rigid ceiling hung stalls with stainless steel partitions could be used for Type 2 - Restrooms, when accepted by the Port.
- All stall doors should swing outwards and hold open at 5 degrees to inform passengers which stalls are available, along with an occupancy indicator in the ceiling above the door.
- There should be a zero sight-line into the stalls.
- For partition stalls, all accessories are surface mounted and through-bolted to same accessories on opposite side of partition.
- Continue the corresponding restroom theme along back wall of the Toilet / Urinal Nodes.
- Provide a 10" deep x 24" wide ledge for belongings on the back wall of toilet/ urinal stalls. Adjust shelf height at ADA fixtures locations.
- Urinals to be separated with wall hung divider partitions.

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- Wall Tile
- 10" Stainless Steel Wall Base

#### Ceilings

- Acoustic Ceiling Tiles
- Gypsum Board Ceiling

#### Equipment

- Power Activated Door Operator (Accessible Stalls only)
- Restroom Occupancy Indicators
- Toilet
- Urinal
- Floor Drain
- Toilet Partitions
- Urinal Partitions
- Waste Receptacle
- Grab Bars
- Toilet Paper / Cover Dispenser
- Garment Hook & Shelves



## RESTROOMS - NODES

### Pipe Chase Node

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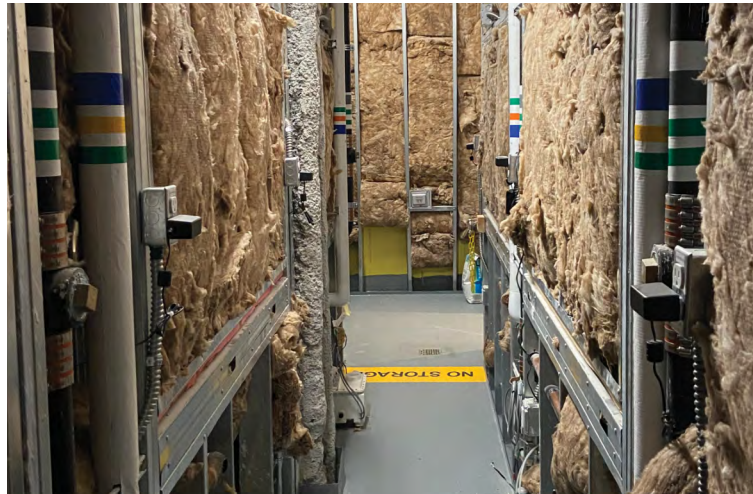
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Pipe chase node is to be provided behind plumbing walls for sinks, toilets, and urinals. However these spaces also serve a dual function by storing custodial equipment and supplies.

#### Planning Notes

- The custodial area should be at the entrance of the node and be separated from the pipe chase by a lockable door.
- The custodial area should have (at minimum) a mop sink, dedicated locations for storage carts/equipment and receptacles for equipment. Mop sink and Pipe Chase area will need to follow requirements for wet floor.
- Pipe chase node are to be 5'-0" wide by 7'-6" high, with (a minimum) 2'-0" clear circulation space to be maintained throughout chase, free of any obstructions.
- Vertical pipes, ductwork for exhaust, and conduit at toilet and urinal niches are to run between niches.
- Bulk soap storage tank(s) is to be located in sink pipe chase and be readily accessible for refilling.
- Illuminated mirror and LED lighting drivers to be located and accessible in pipe chases.
- Each Concourse should have at least one central custodial storage area for paper stock and cleaning supplies.



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## RESTROOMS - NODES

### Pipe Chase Node

#### Fenestration

- Custodial / Chase Doors
- Yellow chain separation between spaces

#### Finishes

- Waterproof Traffic Coating
- Sealed concrete floor (floor sloped to floor drain)
- Sealant/waterproofing should go from the horizontal surface up the wall 4"

#### Ceilings

- Open to structure

#### Equipment

- Two single gang duplex outlets
- Mop Sink
- Floor Drain
- Braced Spigot (with integral bucket hook)
- Mop Rack / Shelf
- 18" deep shelving for 60 cubic feet of supplies
- Hooks on wall to hang 36" wide vacuum



## NURSING SUITE

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The Nursing Suite is a quiet, private space designed to help ease the stress of traveling on parents and families. The room provides a safe, comfortable place for nursing and pumping with additional privacy.

#### Adjacencies

Concourses

Restrooms

Children's Play Areas

#### Planning Notes

- Provide a minimum of one Nursing Suite per Concourse that includes a Type 3 Assisted-Use Restroom and includes or is adjacent to a Lactation Room and Custodial Room.
- The space should be designed with a mix of comfortable soft seating and flat surfaces with easy access to receptacles.
- Provide a cleanup area for washing hands and cleaning pump parts. Cleanup area will need to follow requirements for wet floor.
- When possible incorporate natural daylight in addition to soft, dimmable circadian lighting.
- Provide areas for strollers and luggage storage inside the space and within line of sight of the seating areas.
- Individual Nursing Areas within the suite are not required to have locking doors but must include option of an additional level of privacy such as a curtain. Lockable doors are preferred for individual nursing areas within suite when possible.



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- Metal Door
- Access Panels

### Furniture

- Accent Seating
- Table

### Finishes

- Carpet Tile
- Terrazzo
- Tile Flooring
- Interior Paint
- Wall Tile
- Wallcovering System - Acoustic Panels
- Wall Base

### Ceilings

- Acoustic Ceiling Tiles
- Gypsum Board Ceiling

### Equipment

- Power Activated Door Operator
- Sink
- Faucet
- Floor Drain
- Mirror
- Full-Length Mirror
- Soap Dispenser
- Paper Towel Dispenser
- Diaper Dispenser
- Biohazard Disposal Cabinet
- Garment Hook & Shelves
- Baby Changing Station
- Interior Waste / Recycle Receptacle
- Water Heater



## NURSING ROOMS / PODS

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Nursing Rooms and Nursing Pods are private space for nursing mothers to use a breast pump. Each space should be private, lockable space with electrical outlets, table, comfortable seating, and within close proximity to running water.

#### Adjacencies

Concourses

Children's Play Areas

Restrooms

#### Planning Notes

- Depending on the space available, Nursing Rooms can be single or multi-user. If multi-user, provide separation between users with a maximum of three users within the space.
- Provide a minimum of one Nursing Room per Concourse that is near a Restroom and adjacent or within a Nursing Suite. If a room is not possible, provide a Nursing Pod.
- All Nursing Rooms and Pods must be ADA accessible.
- Space requires a lockable door(s) and should include an open / occupied indicator.
- The space should be designed with a mix of comfortable soft seating and flat surfaces with easy access to receptacles.
- When possible incorporate natural daylight in addition to soft / dimmable circadian lighting.



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- Lactation Door
- Access Panels

### Furniture

- Accent Seating
- Table

### Finishes

- Carpet Tile
- Interior Paint
- Wallcovering System - Acoustic Panels
- Wall Base

### Ceilings

- Acoustic Ceiling Tiles
- Gypsum Board Ceiling

### Equipment

- Power Activated Door Operator
- Full-Length Mirror
- Garment Hook & Shelves
- Paper Towel Dispenser
- Interior Waste / Recycle Receptacle
- Nursing Pod (when a Nursing Room is not possible)



## INTERFAITH PRAYER & MEDITATION ROOMS

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Interfaith Prayer and Meditation Rooms are fully enclosed spaces intended for meditation or prayer. The space is a peaceful environment where passengers can safely practice their faith or meditation practices away from other airport activity.

NOTE: This space type is still in development.

#### Adjacencies

Corridors

Concourses

Subgrade Transit Stations

Restrooms

#### Planning Notes

- Design the room to be used by people of any faith. Therefore, the overall tone of the room shall be religiously neutral with minor incorporation of major religious elements.
- Consider using a biophilic design approach when designing the space.
- Provide a calming color palette with a neutral base. As well as natural textures and materials to add tactile richness to the room.
- When possible incorporate natural daylight in addition to soft / dimmable circadian lighting.
- The space should be designed with a mix of flexible / comfortable soft and stackable seating. As well as an open floor space for placing mats.
- Provide areas for luggage / shoe storage within line of sight of the seating areas and when possible incorporate foot washing station(s) within or adjacent to the room.
- Consider higher acoustic requirements and white noise machine to limit outside noise.
- Access to receptacles should be limited, to avoid passengers from lingering in the space.



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- Door
- Access Panels

### Furniture

- Accent Seating

### Finishes

- Carpet Tile
- Padded Floor
- Interior Paint
- Wallcovering System - Acoustic Panels
- Wall Base

### Ceilings

- Acoustic Ceiling Tiles
- Gypsum Board Ceiling

### Equipment

- Foot Wash Station
- Garment Hook & Shelves
- Interior Waste / Recycle Receptacle
- Water Heater



## SENSORY ROOM

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Sensory Room provides a multi-functional space for passengers with sensory related issues to decompress or recover within their travel experience. The space is intended to provide opportunities for both proprioceptive and vestibular input for users and their families.

NOTE: This space type is still in development.

#### Adjacencies

Concourses

Children's Play Area

#### Planning Notes

- Design the room to be used by passengers of all ages, as well as their accompanying person.
- Consider providing multi-sensory, comfortable, soft, rocking, and compressive furniture of all sizes. Limit any furniture or equipment that would make noise or contain water.
- Provide durable replaceable padded finishes with rounded corners, when possible.
- Consider using a biophilic design approach when designing the space with calming color palette with a neutral base.
- Higher acoustic requirements and white noise machine are to be included in the design of the space to limit outside noise and sound intrusion to other spaces.
- Provide soft / dimmable circadian lighting and easy access to receptacles.
- Provide areas for luggage storage.



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- Access Panels

## Furniture

- Accent Seating

## Finishes

- Carpet Tile
- Rubber Tile
- Vinyl Tile
- Padded Floor
- Interior Paint
- Wallcovering System - Acoustic Panels
- Padded Wall Panels
- Wall Base

## Ceilings

- Acoustic Ceiling Tiles
- Gypsum Board Ceiling

## Equipment

- Garment Hook & Shelves
- Interior Waste / Recycle Receptacle



## SERVICE ANIMAL RELIEF AREAS

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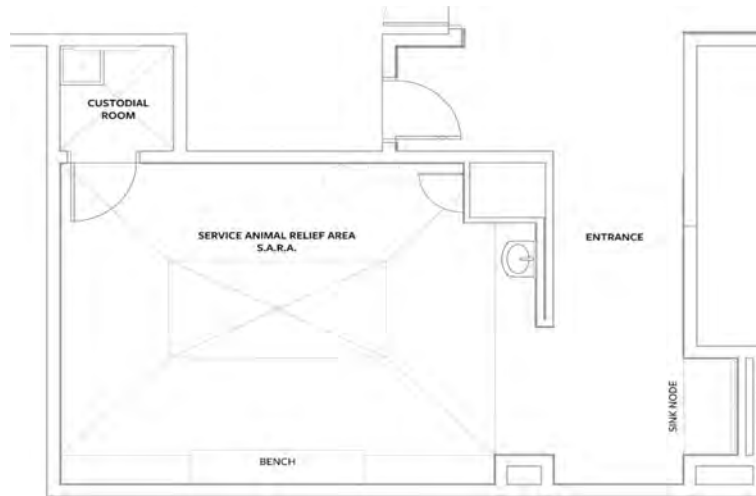
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Today's passengers often travel with service animals and pets. Service Animal Relief Areas (S.A.R.A.) provide an opportunity for our animal passengers to stretch and relieve themselves before departing, connecting or arriving at the airport.

#### Adjacencies

Corridors

Concourses

Restrooms

Children's Play Area

#### Planning Notes

- Provide a minimum of one S.A.R.A per Concourse that is design to meet all ADA / Federal Regulations and includes input from a local service animal training organization.
- It is ideal that S.A.R.A. are located no further than 15 minutes from any gate (based on a walking pace of 200 ft/min).
- Provide 2 different floor surfaces, sub-floor, and 4" baseboard waterproofing membrane.
- DO NOT provide communal drinking bowls but do provide a water bowl filling station.
- Provide a dedicated Custodial Room.
- Use finishes acceptable for wet areas. Wall panels and flooring are to be designed to withstand power washing.
- The pet pad should be designed and built using a flushable system. The pad can be washed with an automatic drain system.
- Provide ventilation to the same standard as a restroom or higher. When in use air exchanges is to increased to allow for a clean and fresh experience.



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### Fenestration

- Doors
- Access Panels
- Custodial Doors

### Furniture

- Bench
- 3-D Device (to encourage urination)

### Finishes

- Tile Flooring
- Traffic Coating (Custodial Room)
- Artificial turf (specially designed as an animal relief surface)
- Interior Paint
- Wall Tile

### Ceilings

- Acoustic Ceiling Tiles
- Gypsum Board Ceiling
- Open to structure (Custodial Room)

### Equipment (S.A.R.A)

- Power Activated Door Operator
- Sink (for passengers' hand washing)
- Faucet
- Floor Drain
- Waste Receptacle
- Recessed Lighted Mirror
- Soap Dispenser
- Paper Towel Dispenser
- Retractable Long Hose
- Pooper scooper (with long handle)

- Bag Dispenser (for animal waste collection bags)
- Interior Waste/Recycle Receptacle (for bagged animal waste disposal)
- Water Heater

### Equipment (Custodial Room)

- Mop Sink
- Floor Drain
- Braced Spigot (with integral bucket hook)
- Mop Rack / Shelf
- Area to hang additional turf to be cleaned and dried



## CHILDREN'S PLAY AREA

### Amenities & Support

#### Design Vision

#### Design Guidelines

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##### Planning

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##### Non-secure

##### Secure

##### Amenities & Support

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##### Nursing Rooms / Pods

##### Interfaith Rooms

##### Sensory Rooms

##### Services Animal Relief Areas

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Children's Play Areas provide equipment and toys for our younger passengers' entertainment and seating for their accompanying adults.

### Adjacencies

Corridors

Concourses

Restrooms

Nursing Suite / Rooms

Sensory Rooms

### Planning Notes

- Design the space to be used by children (up to the age of 6) and locate one per Concourse.
- Provide an area to accommodate luggage, strollers, and shoe storage (for children) within line of sight of the resting zone.
- Consider higher acoustic requirements in the design of the space to limit outside noise and sound intrusion to other spaces.
- Provide durable materials and padded finishes with rounded corners.
- Provide a resting zone with a mix of comfortable soft seating and flat surfaces with easy access to receptacles for parents, guardians, and children.
- When possible incorporate high ceiling and natural daylight, in addition to circadian lighting.
- Consider incorporating technology in the design of the space like interactive media walls.



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### Fenestration

- Storefront

### Furniture

- Accent Seating

### Finishes

- Carpet Tile
- Rubber Tile
- Vinyl Tile
- Padded Floor
- Interior Paint
- Wallcovering System - Acoustic Panels
- Padded Wall Panels
- Wall Base

### Ceiling

- Acoustic Ceiling Tiles
- Gypsum Board Ceiling

### Equipment

- Security Camera
- Garment Hook & Shelves
- Interior Waste/Recycle Receptacle



## STORAGE

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Storage is an important component of our Airport, allowing the Airport and our tenants to store important items and equipment when not in use. Well-designed Storage is conveniently located, adequately sized, and appropriately marked. Specific requirements will vary and depend on intended contents and location.

#### Adjacencies

Curbside (Arrivals)  
Curbside (Departures)  
Check-In Lobby  
Baggage Claim  
Parking Garage  
Concourses  
Central Terminal  
Corridors  
Conveying (escalators)  
Holdrooms

#### Planning Notes

- Provide easy access to necessary tools and materials where needed.
- Consider placement and sizing based on items stored.
- Consider charging requirements for tool storage.
- Consider storage for emergency supplies.
- Consider storage for janitorial tilt carts between times of active use.
- Consider storage for tenant, ADR, and common use items such as stanchions and signage.



## LOADING DOCKS

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### Planning Notes

- Locations for trash compactors to include overhead clearance (minimum 14') for the compactor to be tilted up and slid off of the flatbed truck. Also, ample maneuvering room must be included. Clearances must comply with DOT requirements.
- Trash collection areas need to have reinforced membrane waterproofing (both floors and walls), non-skid flooring, power washing equipment, drains, and separators.
- Reinforce the surrounds of the building opening, in addition to bollards.
- All finishes need to be suitable for wet locations, including but not limited to light fixtures.

The Loading Docks are where recycling and waste are compacted, stored, and loaded onto trucks for disposal. It also serves as delivery location for tenants and other airport needs.

### Applicable LEED Credit Requirements:

- MR – Storage & Collection of Recyclables
- Add elevated loading dock and space for at least three, 30 cubic yard, fully enclosed compactors. Compactors should have sufficient space between them to allow for easy human access for maintenance and disposal of solid wastes via optional side doors.
- Provide space for the truck moving compactors to move in and out without interfering with other load dock, terminal, or airfield operations and without requiring multi-point turns.
- Provide guide rails for inserting and removing the compactors. Guide rails shall extend / protect over (minimum H2O rated) slot drain grates without obstructing service access.



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- Provide robust backstop on guide rails to prevent inadvertent significant horizontal load and mitigate risk of compactor impacting other infrastructure.
- Provide space for a cardboard baler, including space to store bales awaiting pickup and easy access to the bales for pickup. (Include vertical space for the ram also - not just the footprint.)
- Provide space for a bottle shredder, including drainage, and sufficient space to store shredded bottles awaiting pickup.
- Provide space for additional dumpsters for specialty items such as compost and glass — and ideally, also for metals and plastic with space for easy access.
- Provide space for a sufficient number of cooking oil tanks, with space for access by the oil hauler.
- Provide easy access for all users of the solid waste system to the control systems used for each of the compactors; including footprint space for the hydraulic and electric power systems.
- Provide easy access for all users of the various solid waste systems to the doors of the equipment. Design so that minimal physical effort is required to load the compactors/baler and there is sufficient space for structures and/or equipment required to ensure safe operation of the various systems.
- Layout should be visible from a single pan-tilt-zoom digital camera.
- Provide drainage and sewage capabilities to accommodate drains for each compactor and drainage for the barrel washing station.
- Use of trash compactors is currently logged by users; provide connectivity for data.
- Provide power and compressed air for all relevant equipment.
- Provide electrically heated water pressure washer with retractable hose and reel. Hose should reach the furthest location in the space plus an extra 10’.
- Design the floor space and dock space for easy cleaning with water. Include macerators in the drains and floor and wall materials that will not facilitate accumulation of biological materials that contribute to odors.
- All drains shall go to sanitary systems, without need for pumps. Provide a drain basket, with mesh no larger than 1/4” openings positioned to be accessible for service and not blocked by equipment
- Dock levelers are required.
- Provide enclosed access, so that system operators do not have to carry materials outside during inclement weather.



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- Provide stripping to indicate no parking (for various haulers), safety rails and toe kicks to prevent falling off dock and safety interlocks on compactors to prevent activation with personnel inside the danger area.
- Provide hand wash station and eye wash station.
- Provide space for a cart / barrel washing station and drying station with wall mounted clips for hanging floor mats for washing and drying extra.
- Provide staging area for material delivery. Designated area to be stripped and large enough to temporary place large deliveries of items like kegs, pallets, etc...
- Additional asset space for consideration includes cooking oil tanks (8'x5' for a pair), glass dumpster (8'x22'), swing dumpster for on demand streams (metal, CDL, etc).
- Roll down doors controls for operator to be binary full open or close; with manual jog inside secured control box.
- Provide access pathways between grades and supporting ladders with fiberglass covered treads and yellow contrasting nosing.



# 3

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## ARCHITECTURAL STANDARDS



# 3

## ARCHITECTURAL STANDARDS

### 3.1 Architectural Elements

- LEED Requirements
- Exterior
- Interior

### 3.2 Building Envelope

- Curtain Walls
  - Structural Glass
  - Glazed Aluminum
- Window Wall
  - Tinted Glass
  - Clear Glass
- Panel Systems
  - Translucent
  - Metal Foam
  - Preformed Metal
  - Bronze Anodized
  - Aluminum
  - Aluminum
- Concrete Masonry Unit (CMU)
- Vestibule
- Details
  - Exterior Glazing Gaskets
  - Interior Wedge Gaskets
  - Curbside Soffit
  - Metal Soffit
  - Mineral Fiber Tile Soffit

### 3.3 Roofing

- PVC
- Parapets

- Gutter
- Roof Drain
- Roof Expansion Joints
- Roof Sealant
- Skylight

### 3.4 Structure

- Concrete
  - Columns
  - Beams
  - Walls
  - Floor
- Exposed Steel Structure
  - Beams & Bracing
- Pavement
- Expansion Joints

### 3.5 Fenestration

- Doors
  - Public Entrance Doors
  - Concourse Entry / Exit
  - Doors
  - Hollow Metal Doors
  - Flush Panel Hollow
  - Metal Doors
    - Restrooms
    - 60-Min Fire-Rated
  - Double Doors
  - Framed Glass Doors
  - Overhead Roll-Up Doors
    - Exterior
    - Interior
  - STS Doors
  - Chain Link Door
- Windows
  - Glazed Partitions
  - Storefront
- Louvers & Grilles
  - Grilles
  - Grilles & Screens Louvers
  - Louvers & Vents
- Access Panels
  - Ceiling
  - Wall

### 3.6 Partitions

- Demountable Partitions

- Gypsum Wallboard
- Green-Board

### 3.7 Conveying

- Stairs
  - Exterior
  - Interior
- Rails
  - Metal Railings
  - Guardrails
  - Queue Rails
  - Baggage Claim Rails

### 3.8 Casework

- Check-In Lobby Counter
- Check-In Baggage Scale
- Ticket Lift Podium
- Charging Station
- Gate Check-In Counter
- Flight Information Display

### 3.9 Furniture

- Checkpoint Seating
- Holdroom Seating
- Meda Gate
- Accent Seating
  - Recliners
  - Individual Seats
  - Benches
  - Ottomans

### 3.10 Lighting

### 3.11 Finishes

- Flooring
  - Carpet Tile
  - Terrazzo
  - Stone Flooring
  - Tile Flooring
  - Broadloom Area Rug
  - Walk-Off Mat
  - Fixed Floor Mat
  - Astro Turf
  - Transition Details
  - Expansion Control
  - Cover Plates
- Paint
  - Interior Paint
  - Exterior Paint

- Powder Coating
- Concrete Paint
- Liquid Applied
- System Paint
- Opaque Cementitious
- Paint System
- Slip-Resistant Floor
- Coating
- Urethane Semi-Gloss
- Wallcovering
- Systems
- Materials
- Details
- Column Enclosures
  - Granite
  - Stainless Steel
  - Manufactured Metal
  - Stucco
  - Textured Column Finish
  - PLam
  - Gypsum Board

### 3.12 Ceilings

- Acoustic Ceiling Tile (ACT)
- Metal Ceiling
  - Tile
  - Linear
- Gypsum Board Ceiling

### 3.13 Equipment

- Fire/Life Safety
  - Fire Extinguisher
  - Cabinet
  - AED / Trauma Kit Cabinet
  - Emergency Cones
- Restroom Accessories
  - Partitions
  - Receptacle & Dispenser
  - Mirror & Glass
  - Grab Bars
  - Hooks & Shelves
  - Changing Station
  - Sink Step Stool
  - Toddler Seat
  - Occupancy Sensor
- Bollards & Stanchions

- Bollard
- Magnetic Stanchion
- Screw-In Stanchion
- Stanchion Base
- Stanchion Ribbon
- Landscape Containers
  - Movable Interior
  - Landscape Containers
  - Planters
- Waste Receptacles
  - Interior Receptacle
  - Exterior Receptacle
  - Cigarette Trash
  - Receptacle
- Miscellaneous
  - Bird Control
  - Bag Dispenser
  - Compactor



### 3.1 ARCHITECTURAL ELEMENTS

Architectural elements relate to both the exterior base building and the interior, and to both existing structures and new construction. This chapter provides some general guidelines on each approved item.





## LEED REQUIREMENTS

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##### LEED Requirements

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To align with our sustainability goals, below are some LEED requirements we encourage projects to follow:

### Applicable LEED Credit Requirements

- MR – Building Product Disclosure & Optimization – Environmental Product Declarations
- MR – Building Product Disclosure & Optimization – Material Ingredients
- MR – Building Product Disclosure & Optimization – Sourcing of Raw Materials

### Roofing and Structural (Pavement)

- SS – Heat Island Reduction

### Equipment (Plumbing)

- WE – Indoor Water Use Reduction

### Lighting

- SS – Light Pollution Reduction



# EXTERIOR

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The exterior of our buildings is the face of the Airport to the city. Passengers experience the exterior when arriving by car and plane, and through photographs of the Airport. Quality exterior design and construction ensures the longevity of our facilities and the well-being of our passengers, partners, and employees. The guidelines below aim to support these goals.

## Exterior

- Any future external building finish is to be white.
- Finishes should be cleanable and abrasion resistant.
- Parapets are required to meet OSHA standards. Roofs must have 42” parapets, as the 4’ elevation is the limit where fall protection is required. Where parapets are unworkable, Personal Fall restraint, fall arrest and fall prevention systems are necessary.
- Rooftop anchors or swing staging is required for window cleaners who use bosun chairs. If staging on rollers or tracks, it needs an enclosed shelter for storage with lighting and room for inspections.
- Glazing should match existing.
- An overall aim is to minimize glare while maximizing access to daylight and views.
- Light Shelves in new construction can be used.
- Frit (applied opaque lines to diffuse light) should be considered for existing glazing, instead of window shades.
- Bird Control measures should be installed inside and outside the terminal buildings, namely at parapets, fixtures, pipes, and horizontal mullions. The aim is to minimize possible perch points. For specifications, a single metal line is preferred over barbs.
- Exterior metal, such as stairs, shall not have exposed galvanization. Powder coating and aluminum are acceptable.
- Exterior stair treads should not be exposed metal. Cover metal treads with anti-skid fiberglass treads with contrasting integral nosing.



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The interior of our buildings is experienced more intimately by our passengers, as they spend time in our facilities while in transit. Quality interior design and construction enforces a positive, cohesive identity for SEA Airport.

### Interior

- Partitions are used throughout the airport to create private rooms for security screening or offices for tenants. Acoustics and privacy are important, but so are visibility and access to natural light.
- Demountable partitions for creating enclosed rooms in open areas must be approved by ARC.
- Temporary partitions, used during renovations, must be approved by ARC.
- When specifying windows and doors, project teams should consider whether a higher up-front cost will result in lower long-term maintenance costs. The AVM Maintainability Standards offer door sizing guidelines to accommodate minimum equipment clearances.
- While the ceiling height within the building may vary, a typical door height per project should be established.
- A number of railing styles can be seen throughout the airport. Where possible the new standard should be followed. In some locations, it may be necessary to match a legacy standard.





### 3.2 BUILDING ENVELOPE

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The building envelope is the skin of the Airport. Its components work together so that the Airport looks good and works well.





## CURTAIN WALLS

### Structural Glass

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<b>CATEGORIES</b>	Glazing
<b>ACCEPTABLE MATERIALS</b>	<ul style="list-style-type: none"> <li>Clear laminated tempered glass</li> <li>Insulated units</li> <li>Suspended or ground-supported</li> <li>Fittings or metal mullions</li> <li>Glass fins</li> </ul>
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Coordinate the structural glass curtain wall interface with other exterior closure trades so the exterior wall system components function properly.</li> <li>Single source responsibility to be maintained for the entire system, including fabrication, installation, and total coordination of all curtain wall components.</li> <li>Curtain wall system shall meet all pertinent structural requirements and weather resistance requirements.</li> <li>Curtain Walls must be designed so that they can be maintained, design must include ability to access and replace glass panels.</li> </ul>
<b>LOCATIONS</b>	Building Exterior





## CURTAIN WALLS

### Glazed Aluminum

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<b>CATEGORIES</b>	Glazing
<b>RECOMMENDED MANUFACTURERS</b>	Benson Industries Flour City Architectural Harmon Glass
<b>FINISHES</b>	Exterior and interior aluminum to have a three-coat spray, shop-applied, high performance fluorocarbon coating with a minimum of 70% Kynar 500 resin.
<b>ACCEPTABLE MATERIALS</b>	Anodized Aluminum
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Bird Control at parapets, pipes, and horizontal mullions.</li> <li>• Silicone sealants are not acceptable except for glazing systems designed for silicone joints. All exterior envelope penetrations subject to weather shall have redundancy built into the weatherproofing.</li> <li>• Ensure uniformity of color and visual appearance in all frame components and glazing surfaces.</li> <li>• Coordinate the structural glass curtain wall interface with other exterior closure trades so the exterior wall system components function properly.</li> <li>• Single source responsibility to be maintained for the entire system, including fabrication, installation, and total coordination of all curtain wall components.</li> <li>• Exposed fasteners finished to match adjacent aluminum.</li> <li>• Provide stainless steel protection cover with non-directional, 100 grit, brushed finish along sill mullions at floor.</li> </ul>
<b>LOCATIONS</b>	Building Exterior





## WINDOW WALL

### Tinted Glass

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<b>CATEGORIES</b>	Glazing
<b>RECOMMENDED MANUFACTURERS</b>	Viracon PPG LOF Guardian
<b>SIZE</b>	Float glass shall be 1/4" minimum thickness.
<b>FINISHES</b>	Frit on windows
<b>ACCEPTABLE MATERIALS</b>	Gray insulated glass with low-E coating, with frit pattern Gray insulated glass, uncoated Gray insulated glass, uncoated, with sandblast Gray monolithic glass, uncoated Gray insulated glass with low-E coating Gray laminated insulated glass





## WINDOW WALL

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#### NOTES

- Silicone sealants are not acceptable except for glazing systems designed for silicone joints. All exterior envelope penetrations subject to weather shall have redundancy built into the weatherproofing.
- Gray tinted insulated glass used at concourse relates to existing Concourses B, C, and D. It is preferable that new glazing is lighter than the existing at the concourses. Within energy conservation goals, increase natural daylight transmittance and enhance visibility.
- Clear, low-E coated insulated glass is to be used in custom designed curtain wall, as used in the International Arrivals Hall.
- As translucent insulating panel is used as a secondary glazing material at Concourses B, C, and D, new concourses may also use translucent insulating panel in a similar manner. Presently, Concourses B, C, and D use translucent insulating panels by “Kalwall.”
- Gray glass that is lighter than, but still compatible with, the existing dark gray glass at the Main Terminal shall be utilized in Main Terminal extensions.
- Translucent glazing will be required where visibility must be obscured. In such cases, fritted glazing is preferred over sandblasting. Sandblasted finish to be used only in areas not accessible to the public.
- Insulated glass shall be double glazed, dual sealed units, with air space between panes hermetically sealed with sealant at the perimeter of the unit.
- Vision glass shall be heat strengthened.
- Radar reflection on glass must be taken into consideration. For all airside exterior glazing, refer to “FAA Requirements” in Section 1.
- Specify performance criteria for solar energy transmittance, shading co-efficient, ultraviolet transmittance, visible light transmittance, and infrared transmittance.
- Exterior windows to have a Sound Transmission Class (STC) rating of 38 minimum.

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## WINDOW WALL

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<b>CATEGORIES</b>	Glazing
<b>ACCEPTABLE MATERIALS</b>	<p>Clear insulated glass with low-E coating</p> <p>Clear insulated glass with low-E coating, with frit pattern</p> <p>Translucent laminated glass</p> <p>Anodized Aluminum Mullions</p>
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Frit is used on windows.</li> <li>Bird Control at parapets, pipes, and horizontal mullions</li> <li>Silicone sealants are not acceptable except for glazing systems designed for silicone joints. All exterior envelope penetrations subject to weather shall have redundancy built into the weatherproofing.</li> </ul>





## WINDOW WALL

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#### NOTES

- Gray tinted insulated glass used at concourse relates to existing Concourses B, C, and D. It is preferable that new glazing is lighter than the existing at the concourses. Within energy conservation goals, increase natural daylight transmittance and enhance visibility.
- Clear low-E coated insulated glass is to be used in custom designed curtain wall, as used in the International Arrivals Hall.
- As translucent insulating panel is used as a secondary glazing material at Concourses B, C, and D, new concourses may also use translucent insulating panel in a similar manner. Presently, Concourses B, C, and D use translucent insulating panels by “Kalwall.”
- Gray glass that is lighter than, but still compatible with, the existing dark gray glass at the Main Terminal shall be utilized in Main Terminal extensions.
- Translucent glazing will be required where visibility must be obscured. In such cases, fritted glazing is preferred over sandblasting. Sandblasted finish to be used only in areas not accessible to the public.
- Insulated glass shall be double glazed, dual sealed units, with air space between panes hermetically sealed with sealant at the perimeter of the unit.
- Vision glass shall be heat strengthened.
- Radar reflection on glass must be taken into consideration. For all airside exterior glazing, refer to “FAA Requirements” in Section 1.
- Specify performance criteria for solar energy transmittance, shading co-efficient, ultraviolet transmittance, visible light transmittance and infrared transmittance.
- Exterior windows to have a Sound Transmission Class (STC) rating of 38 minimum.

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## PANEL SYSTEM

### Translucent

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Bronze Anodized

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Aluminum

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<b>PRODUCT NAME</b>	For Aluminum Extrusions: Kynar 500 coating system or Hylar 5000 coating system
<b>RECOMMENDED MANUFACTURERS</b>	Kalwall Skywall
<b>FINISHES</b>	Aluminum Extrusions: Fluoropolymer finish multiple coats; thermally cured; non-specular; as fabricated mechanical finish; acid chromate-fluoride-phosphate chemical coating.
<b>HARDWARE SET</b>	Glazing gaskets, manufacturer standard extruded heat-cured silicone rubber structural glazing adhesive; manufacturer recommended neutral curing silicon sealant.
<b>ACCEPTABLE MATERIALS</b>	Aluminum Extrusions
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Silicone sealants are not acceptable except for glazing systems designed for silicone joints. All exterior envelope penetrations subject to weather shall have redundancy built into the weatherproofing.</li> <li>• Coordinate the structural glass curtain wall interface with other exterior closure trades so the exterior wall system components function properly.</li> <li>• Ensure uniformity of color and visual appearance in all frame components and glazing surfaces.</li> <li>• Single source responsibility to be maintained for the entire system, including fabrication, installation, and total coordination of all work components.</li> <li>• Glazing must be designed so that they can be maintained, design must include ability to access, clean and replace panels.</li> </ul>
<b>LOCATIONS</b>	Building Exterior for Concourses A, B, C, D





## PANEL SYSTEMS

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<b>CATEGORIES</b>	Cladding & Panels
<b>RECOMMENDED MANUFACTURERS</b>	Centria ASP. I.B.P Kingspan
<b>COLOR</b>	Metal panels of the terminal to match existing anodized bronze color. Metal panels at the concourses to match existing white color.
<b>FINISHES</b>	Fluoropolymer finish - Lilly "Visalure" 2 Metalescent" or an equivalent pearlescent finish.
<b>ACCEPTABLE MATERIALS</b>	"Galvalume" sheet coated with zinc-aluminum alloy Galvanized steel sheet (G90 hot dipped galvanized).
<b>NOTES</b>	<ul style="list-style-type: none"> <li>The surface of the metal panel shall be smooth and dead flat.</li> <li>Textured surface not permitted because textured panels hold contaminants that increase streaking and are difficult to clean.</li> <li>Panels to be self-cleaning, with a finish that is durable to climatic conditions.</li> <li>Match existing systems where required.</li> <li>Specify systems that attain a watertight condition mechanically; where joint sealers are required, the sealer shall not streak or stain the panel surface. Sealant joints should be minimized.</li> <li>Radar reflection shall be taken into consideration for all airside exterior metal wall panels.</li> <li>Panel material shall have a minimum Sound Transmission Calls (STC) rating of 40.</li> </ul>
<b>LOCATIONS</b>	Building Exterior





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### Preformed Metal

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<b>CATEGORIES</b>	Cladding & Panels
<b>COLOR</b>	<p>Metal panels of the terminal to match existing anodized bronze color.</p> <p>Metal panels at the concourses are to match the existing white color.</p>
<b>FINISHES</b>	<p>The exterior and interior of the metal panels shall receive a three-coat, spray applied, high performance fluorocarbon coating containing a minimum of 70% Kynar 500 resin.</p>
<b>NOTES</b>	<ul style="list-style-type: none"> <li>The surface of the metal panel shall be smooth and dead flat.</li> <li>Textured surface not permitted because textured panels hold contaminants that increase streaking and are difficult to clean.</li> <li>Panels to be self-cleaning, with a finish that is durable to climatic conditions.</li> <li>Match existing systems where required.</li> <li>Specify systems that attain a watertight condition mechanically; where joint sealers are required, the sealer shall not streak or stain the panel surface. Sealant joints should be minimized.</li> <li>Radar reflection shall be taken into consideration for all airside exterior metal wall panels.</li> <li>Panel material shall have a minimum Sound Transmission Calls (STC) rating of 40.</li> </ul>
<b>LOCATIONS</b>	Building Exterior



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### Bronze Anodized Aluminum

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<b>CATEGORIES</b>	Cladding & Panels
<b>COLOR</b>	Metal panels of the terminal to match existing anodized bronze color. Metal panels at the concourses are to match the existing white color.
<b>FINISHES</b>	Colors to match existing bronze anodized aluminum finishes
<b>NOTES</b>	<ul style="list-style-type: none"> <li>The surface of the metal panel shall be smooth and dead flat.</li> <li>Textured surface not permitted because textured panels hold contaminants that increase streaking and are difficult to clean.</li> <li>Panels to be self-cleaning, with a finish that is durable to climatic conditions.</li> <li>Match existing systems where required.</li> <li>Specify systems that attain a watertight condition mechanically; where joint sealers are required, the sealer shall not streak or stain the panel surface. Sealant joints should be minimized.</li> <li>Radar reflection shall be taken into consideration for all airside exterior metal wall panels.</li> <li>Panel material shall have a minimum Sound Transmission Calls (STC) rating of 40.</li> </ul>
<b>LOCATIONS</b>	Building Exterior at Terminal



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<b>CATEGORIES</b>	Cladding & Panels
<b>COLOR</b>	<p>Metal panels of the terminal to match existing anodized bronze color.</p> <p>Metal panels at the concourses are to match the existing white color.</p>
<b>FINISHES</b>	Clear or color anodized
<b>NOTES</b>	<ul style="list-style-type: none"> <li>The surface of the metal panel shall be smooth and dead flat.</li> <li>Textured surface not permitted because textured panels hold contaminants that increase streaking and are difficult to clean.</li> <li>Panels to be self-cleaning, with a finish that is durable to climatic conditions. Match existing systems where required.</li> <li>Specify systems that attain a watertight condition mechanically; where joint sealers are required, the sealer shall not streak or stain the panel surface. Sealant joints should be minimized.</li> <li>Radar reflection shall be taken into consideration for all airside exterior metal wall panels.</li> <li>Panel material shall have a minimum Sound Transmission Calls (STC) rating of 40.</li> </ul>
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## CONCRETE MASONRY UNIT (CMU)

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<b>CATEGORIES</b>	Envelope
<b>FINISHES</b>	<p>Colored Mortar Pigments: Iron oxides with demonstrated record of satisfactory performance in mortar mixes.</p> <p>Moisture Control: Water repellent additives for blocks and mortar; surface applied water repellent treatment.</p> <p>CMU Walls at Exterior Ramp Level: “Black Pearl” by Sherwin Williams.</p> <p>For painted finishes, finish coat to be exterior masonry acrylic flat coating.</p>
<b>ACCEPTABLE MATERIALS</b>	<p>Hollow load bearing units; integrally colored</p> <p>Common</p> <p>Honed</p> <p>Split-faced finish</p> <p>Profiled face units (require approval by the Design Review Committee)</p>
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Exposed mortar joints between masonry units shall be visually and dimensionally consistent.</li> <li>Joints to be tooled concave. Other joint profiles may be allowed based on the ability to drain or shed water from joint.</li> <li>Blocks and mortar to have water repellent additives, block filler, and coatings; all finish surfaces to receive water repellent treatment.</li> </ul>
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CATEGORIES	Envelope
DESCRIPTION	A thickened zone of the building envelope which allows people to enter the building, by passing through a buffer that separates the interior and exterior environments from coming in direct contact.
NOTES	Provide at main entrances in areas where wind-driven rain prevails.
LOCATIONS	Building Exterior at building entrances



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CATEGORIES	Glazing
ACCEPTABLE MATERIALS	Cellular neoprene with shop molded corners
NOTES	Hardware and accessories, when not concealed, must use the same basic materials as the window components to which they are attached, and have a compatible, if not matching, finish.
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CATEGORIES	Glazing
ACCEPTABLE MATERIALS	Non-cellular neoprene with molded corners at vision areas
NOTES	Hardware and accessories, when not concealed, must use the same basic materials as the window components to which they are attached, and have a compatible, if not matching, finish.
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#### CATEGORIES

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- The exterior soffit system along the terminal drive to match the interior ceiling system within the ticket lobby.
- The terminal drive metal soffit system is an interior/exterior system.
- Soffit system to match adjacent wall panel system.

#### LOCATIONS

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## DETAILS

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<b>CATEGORIES</b>	Envelope
<b>FINISHES</b>	<p>For Linear Metal Ceiling System: Panels to have backed enamel finish, white color to match existing</p> <p>For Metal Panel System: Fluoropolymer exterior finish</p>
<b>ACCEPTABLE MATERIALS</b>	<p>For Linear Metal Ceiling System: Match existing panel profile</p> <p>For Metal Panel System: Minimum 20 gauge corrosion resistant sheet metal</p> <p>Panel texture to be smooth</p> <p>Perforations to match existing</p>
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Panels shall be formed to snap on and be securely retained on carriers without separate fasteners.</li> <li>• The exterior soffit system along the terminal drive to match the interior ceiling system within the ticket lobby.</li> <li>• The terminal drive metal soffit system is an interior/exterior system.</li> <li>• Soffit system to match adjacent wall panel system.</li> </ul>
<b>LOCATIONS</b>	Building Exterior



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### Mineral Fiber Tile Soffit

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CATEGORIES	Envelope
COLOR	White
HARDWARE SET	Hold-down clips
NOTES	<ul style="list-style-type: none"> <li>The exterior soffit system along the terminal drive to match the interior ceiling system within the ticket lobby.</li> <li>The terminal drive metal soffit system is an interior/exterior system.</li> <li>Soffit system to match adjacent wall panel system.</li> </ul>
LOCATIONS	Building Exterior at ramp level of Concourses B, C, D





### 3.3 ROOFING

The roof supports several systems and keeps our occupants sheltered and dry. It is the face of our Airport from the sky.

DV DG AS A





## PVC

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##### Parapets Gutter Roof Drain Roof Expansion Joints Roof Sealant Skylight

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<b>CATEGORIES</b>	Exterior
<b>RECOMMENDED MANUFACTURERS</b>	Sarnafil Inc. Johns Manville Carlisle SynTec Systems
<b>DESCRIPTION</b>	Mechanically fastened over metal deck; seams hot air welded; fully adhered over insulating substrate
<b>SIZE</b>	Walking treads: 24" wide
<b>COLOR</b>	Walking treads: light grey Sheet metal roofing: choose a light color for high reflectivity Color to be approved by Port of Seattle
<b>FINISHES</b>	Typical roof field: 60 mil white or off-white PVC membrane Roof fields with limited access control and subject to moderate walking over the entire roof surface: 80-mil white or off-white PVC membrane
<b>HARDWARE SET</b>	Membrane roofing fasteners: galvanized steel, plain or with factory applied corrosion resistant coating Sheet metal roofing fasteners: use only screw fasteners with integral cap and grommet. Face fasten sheet metal only. Fasteners to be compatible with the metal through which it is fastened.
<b>ACCEPTABLE MATERIALS</b>	Reinforced PVC single-ply membrane roofing or sheet metal walking treads: 90 mil PVC walking tread/pad, welded onto surface of 60 mil roofing membrane. Reinforcement: polyester Metal sheet roofing



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**NOTES**

- Select the roofing system on a life-cycle cost basis.
- For ease of maintenance, specify a long-lasting premium roofing system commensurate with the facility life cycle and architectural theme.
- Design shall account for the slope of the building frame. This is preferred over other methods, such as tapering the roof to achieve a positive slope.
- Provide roof drainage overflows through parapet walls, where field drain overflows are not constructible.
- Provide slip resistant walkway pads on low-slope roofs subject to heavy foot traffic to prevent roof damage.
- At roof walkways, penthouse door entries, and other high traffic roof areas, walking treads shall be provided with a color contrasting to the field color to clearly define the pathways.
- Provide adequate clearance between roof surfaces and other objects to allow access for roof repairs and replacement.
- Maintain clear access pathways to get maintenance materials and equipment to and across the roofs. This includes coordinating conduits, piping, and expansion joints. Do not install pipes or conduits across walkways without installing permanent low slope crossover ramps, with hand rails and slip resistant walking surface for delivering materials using hand trucks.
- Do not design for use of access hatches or forklift/crane without approval.
- Specify a minimum slope of 1/2" per foot to ensure positive drainage of the roof surface.
- Specify 1" slope per foot for roofing crickets, diamonds, and saddles.
- No asphalt based products are allowed above or over PVC roof material.
- Provide white 60 mil minimum PVC roof membrane on standard roofs; 85 mil PVC on unusual surfaces.
- Flame spread index is 25 at minimum when tested in accordance with ASTM E84.
- Roofing shall meet Factory Mutual requirements for conditions of use, including minimum 1-120 Wind test at the Port of Seattle.
- Do not use pop rivets on exposed sheet metal details.
- Provide 1/2" coverboard.



## PARAPETS

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CATEGORIES	Exterior
NOTES	<ul style="list-style-type: none"> <li>Provide 42” high parapet walls or rails on roofs, bridges, and other elevated walk surfaces above 48”; where not feasible, provide other fixed fall protection system for 2 or more concurrent personnel.</li> <li>Parapets, cants, and curbs should be used to provide an overall pleasing and unified appearance for the building facade, concealing unsightly or complex roof-scapes. Their design should respond to the specific conditions and sight lines of the individual project.</li> <li>Parapets to be designed to slope inwards towards roof.</li> </ul>



## ROOFING DETAILS

### Gutter

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CATEGORIES	Exterior
NOTES	<ul style="list-style-type: none"> <li>Buildings with gutters shall have concrete downspouts connected to storm drainage system.</li> <li>Exposed galvanized metal is not allowed unless approved by Port Environmental</li> </ul>



# ROOFING DETAILS

## Roof Drain

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CATEGORIES	Exterior
NOTES	<ul style="list-style-type: none"> <li>Roof drains shall be designed to avoid water damage to structural system.</li> <li>For drains located at low points, consider the deflected position of the structure under load.</li> <li>Interior roof drains are preferred over perimeter drains on low-slope roofs.</li> <li>Exposed galvanized metal is not allowed unless approved by Port Environmental.</li> </ul>



# ROOFING DETAILS

## Roof Expansion Joints

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NOTES	<ul style="list-style-type: none"> <li>If expansion joints (EJ) are required, verify that they are placed at the high point, with drainage directed away.</li> <li>Expansion joints shall allow movement in three directions.</li> <li>Interior and exterior EJ are specified wherever the wall can move relative to an abutting wall, curb, or other building component.</li> <li>Curbs for expansion joints, area dividers, roof hatches, and rooftop equipment shall be sized to permit a base flashing height that is a minimum of 8” and a maximum of 12”, from top of curb to top of roofing.</li> </ul>



## ROOFING DETAILS

### Roof Sealant

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CATEGORIES	Exterior
PRODUCT NAME	Kemcaulk 900 Sikaflex Vulkem
ACCEPTABLE MATERIALS	Urethane construction sealant
NOTES	<ul style="list-style-type: none"> <li>Sealants shall be approved by the manufacturer of adjacent surfaces for compatibility.</li> <li>No silicone sealants are allowed. Exceptions are products that specify a particular sealant for warranty, such as Dow 795.</li> </ul>



## ROOFING DETAILS

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<b>CATEGORIES</b>	Exterior
<b>PRODUCT NAME</b>	For Aluminum Extrusions: Kynar 500 coating system or Hylar 5000 coating system For Skylight Systems: Okeeffe's, Inc. Evergreen House DeaMor Kalwall
<b>RECOMMENDED MANUFACTURERS</b>	Kalwall Skywall
<b>DESCRIPTION</b>	Translucent Panel System
<b>FINISHES</b>	For aluminum extrusions: fluoropolymer finish with multiple coats; thermally cured; non-specular; as fabricated mechanical finish; acid chromate-fluoride-phosphate chemical coating
<b>HARDWARE SET</b>	Glazing gaskets, manufacturer standard extruded heat-cured silicone rubber Structural glazing adhesive; manufacturer recommended neutral curing silicon sealant.
<b>ACCEPTABLE MATERIALS</b>	Aluminum extrusions Glazing: match existing skylights gray insulated glass with high performance low-E coating.
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Silicone sealants are not acceptable except for glazing systems designed for silicone joints. All exterior envelope penetrations subject to weather shall have redundancy built into the weatherproofing.</li> <li>• Coordinate the interface with other exterior closure trades so the combined exterior wall system components function properly.</li> <li>• Ensure uniformity of color and visual appearance of all frame components and glazing surfaces.</li> </ul>





# ROOFING DETAILS

## Skylight

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### NOTES

- Maintain single source responsibility for the entire system, including fabrication, installation, and total coordination of all work.
- Skylights shall be designed for personnel loading without additional fall protection.
- Skylight must be capable of sustaining the weight of a 200-pound person with a safety factor of 4. See WAC 296-155-24615 (3).



### 3.4 STRUCTURE

The structure supports the Airport architecture and is a key part of building construction. Exposed columns are consistent with the desired look-and-feel of our space.

DV DG AS A



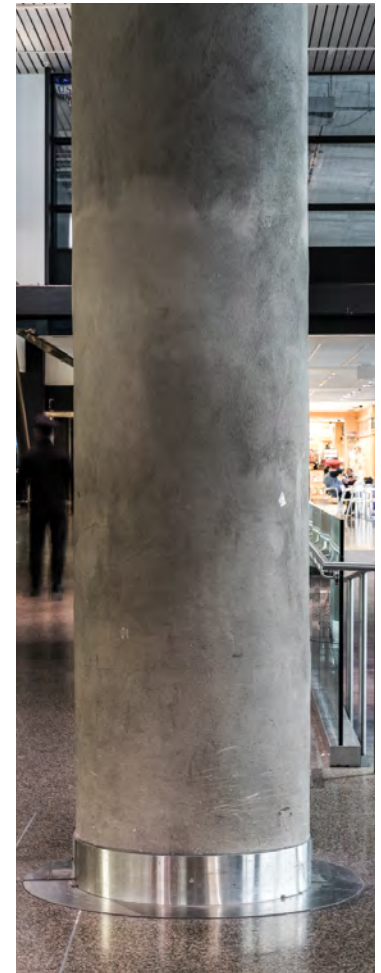


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<b>CATEGORIES</b>	Superstructure
<b>FINISHES</b>	<p>If left uncovered, use sealed plain concrete finish</p> <p>If painted, verify with Port</p> <p>Light sandblast to eliminate slight imperfections</p> <p>Column enclosures</p>
<b>ACCEPTABLE MATERIALS</b>	Cast-in-place concrete
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Choice of finishes and textures must take into consideration the material's ability to resist abuse and conceal slight imperfections or minor physical damages.</li> <li>Finish new concrete columns to closely match the appearance of existing columns.</li> <li>Plain (unfinished) cast-in-place concrete finish is preferred at columns although painted concrete is an acceptable finish. If plain sealed concrete finish is used, remove all scales, stains, and form markings to ensure surface is smooth and uniformly clean before applying sealer.</li> <li>Use only penetrating type of concrete sealers. Film forming sealers may not be able to hold against outward moisture migration.</li> <li>In areas accessible by the public, use a permanent or non-sacrificial type of anti-graffiti coating, or other applicable soil and dirt control coating, that does not alter the appearance of the exposed concrete surface.</li> </ul>
<b>LOCATIONS</b>	<p>Check-In Lobby</p> <p>Curbside - Arrivals</p> <p>Curbside - Departures</p> <p>Baggage Claim Lobby</p> <p>Parking Garage</p> <p>Promenade</p> <p>South Arrivals Hall (GML)</p> <p>Concourses &amp; Satellites</p>





## CONCRETE

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<b>CATEGORIES</b>	Superstructure
<b>FINISHES</b>	Stucco Pre-cast concrete panels Manufactured metal cover If left uncovered, use sealed, plain concrete finish If light sandblast finish, seal prior to sandblast
<b>ACCEPTABLE MATERIALS</b>	Cast-in place concrete
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Concrete surfaces to be appropriately sealed before applying finishes. Choice of finishes and textures shall take into consideration the material's ability to resist abuse, and conceal slight imperfections or minor physical damages.</li> <li>Use only penetrating type of concrete sealers. Film forming sealers may not be able to hold against outward moisture migration.</li> <li>In areas accessible by the public, use a permanent or non-sacrificial type of anti-graffiti coating, or other applicable soil and dirt control coating, that does not alter the appearance of the exposed, concrete surface.</li> </ul>
<b>LOCATIONS</b>	Curbside (Arrivals) Curbside (Departures) Parking Garage



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<b>CATEGORIES</b>	Superstructure
<b>FINISHES</b>	Textured finish is recommended, such as brush-hammered, medium sandblast minimum Stucco Pre-cast concrete panels Manufactured metal panels
<b>ACCEPTABLE MATERIALS</b>	Cast-in-place concrete
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Concrete surfaces to be appropriately sealed before applying finishes. Choice of finishes and textures shall take into consideration the material's ability to resist abuse, and conceal slight imperfections or minor physical damages.</li> <li>Use only penetrating type of concrete sealers. Film forming sealers may not be able to hold against outward moisture migration.</li> <li>In areas accessible by the public, use a permanent or non-sacrificial type of anti-graffiti coating, or other applicable soil and dirt control coating, that does not alter the appearance of the exposed, concrete surface.</li> <li>For sidings and panels, provide clearance at panel edges, corners, and transitions.</li> <li>Use concealed fasteners where practical.</li> <li>All structural, expansion, and movement joints shall be appropriately covered.</li> </ul>
<b>LOCATIONS</b>	Curbside (Arrivals) Curbside (Departures) Parking Garage Central Terminal South Arrivals Hall (GML)



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### Floor

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CATEGORIES	Superstructure
DESCRIPTION	Sealed concrete floor
NOTES	<ul style="list-style-type: none"> <li>Epoxy sealant to be applied to floors in electrical and communications rooms.</li> <li>Bagwell, which is not slab on grade, should have a waterproof coating with grit for vehicle traction. Bagwell slab on grade should have epoxy non-skid finish.</li> <li>Unless otherwise indicated, all other concrete floors shall receive a hardener and sealer, and not receive paint.</li> </ul>
LOCATIONS	Curbside (Arrivals) Curbside (Departures) Conveying - Elevators (new projects; charges of lifts) Storage Janitor Closet Parking Garage Loading Dock



## EXPOSED STEEL STRUCTURE

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CATEGORIES	Superstructure
FINISHES	Depending on location finish color may vary Verify with Port for approved color
ACCEPTABLE MATERIALS	Structural steel
NOTES	<ul style="list-style-type: none"> <li>Ensure uniform finish color in all exposed parts of the steel structure.</li> <li>Color to match existing and adjacent exposed structural steel.</li> <li>Fasteners, nuts, and washers finished to match adjacent steel.</li> </ul>
LOCATIONS	Check-In Lobby Passageways Skybridges Baggage Claim Lobby South Arrivals Hall (GML) Central Terminal



# PAVEMENT

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CATEGORIES	Exterior Superstructure
ACCEPTABLE MATERIALS	Portland cement concrete (PCC)
NOTES	<ul style="list-style-type: none"> <li>In areas subject to acid spills, an acid-resistant coating shall be applied to PCC pavement.</li> <li>Concrete pavement design accommodates for maximum joint spacing of 20 feet. Match existing layout.</li> <li>Joint resealing project design provides for complete removal of old joint seal material.</li> <li>Joint width is at least 12 millimeters, regardless of joint seal type (i.e., preformed or field- poured).</li> </ul>
LOCATIONS	Parking Garage Loading Dock



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<b>CATEGORIES</b>	Superstructure
<b>FINISHES</b>	Metal floor cover plates Metal wall cover plates Ceiling cover plates
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Expansion and control joints shall be located to accommodate building movement, with interior bellows sloped to drain.</li> <li>All expansion joints at interior and exterior finishes shall be covered with appropriate expansion joint covers.</li> <li>Ensure a smooth transition at interface of joint cover and adjacent finish.</li> </ul>
<b>LOCATIONS</b>	As required for structural soundness - consult with structural engineer





### 3.5 FENESTRATION

The Airport employs various types of fenestration throughout the building to provide access, daylight, and ventilation to the building and its occupants.



## DOORS

### Public Entrance Doors

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<b>CATEGORIES</b>	Exterior
<b>DESCRIPTION</b>	Automatic sliding doors
<b>HARDWARE SET</b>	Overhead motion sensor Stainless Steel
<b>ACCEPTABLE MATERIALS</b>	Tinted glass Anodized aluminum frames
<b>NOTES</b>	<ul style="list-style-type: none"> <li>No exposed fasteners are allowed.</li> <li>All exterior doors to have full height glass.</li> </ul>
<b>LOCATIONS</b>	Skybridge Check-In Lobby Baggage Claim Lobby South Arrivals Hall (GML)





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CATEGORIES	Exterior
FINISHES	Stainless steel door frames (No. 4 brushed) Metal doors are anodized aluminum (clear or colored), powder coated or stainless Steel should have metal finish (No. 4 brushed or hollow metal exterior doors with paint finish)
ACCEPTABLE MATERIALS	Stainless steel door frames Metal doors: anodized aluminum or hollow metal exterior door
LOCATIONS	Aircraft Passenger Loading Bridges



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### Hollow Metal Doors

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#### CATEGORIES

Interior

#### RECOMMENDED MANUFACTURERS

Hardware: Intellikey

#### FINISHES

Doors to have paint finish

Frames to have metal finish

Sheet material to have sanded finish that is non-directional, 100 grit

Formed or cast materials with flat faces are required to

have sanded finish that is non-directional, 100 grit.

Formed or cast materials with curved or shaped surfaces

are required to have a No. 4 brushed finish

Bead blast finishes, sealers and coatings are not allowed

#### HARDWARE SET

Lever type door pulls

Best Series 35H, Core Housing 7, Lever Style 15, contour / angle return,

Trim Style H, Finish 626: verify with the Port of Seattle General Foreman,

Lock and Key Shop Finish: Standard stainless steel finish: US26D

Kick-plate (on push side): Stainless Steel, 8400 Series 12"

(or 18" as required) x US26D, Ives Or similar.

#### ACCEPTABLE MATERIALS

16-gauge minimum brushed stainless steel

Painted metal frames are subject to approval by the project manager, and shall match the color of surrounding wall finishes. The Port of Seattle prefers unpainted frames to eliminate the cost and effort of repainting them.

If glazed, use tempered clear glass, translucent

laminated glass, or clear polished wire glass

#### NOTES

- Doors must accommodate the AVM lifts which will likely be used in the facility. There must be at least one entrance point in each high ceiling area for the required articulating lift to service the zone.
- Bead-blasted finish, sealers, and coatings are not allowed on any stainless steel finish.
- Fire-rated glazing is required for all rated doors.
- Door relites require clear, tempered glazing.



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Flush Panel Hollow Metal Door

Restrooms

CATEGORIES	Interior
RECOMMENDED MANUFACTURERS	Hardware: Intellikey
SIZE	Door panel height: 8’ - 0”
COLOR	Door frame should be inset into rough opening.
HARDWARE SET	Lever type door pulls Mortised lock-set, keyed on both sides Concealed finger pull, both sides Concealed offset mortised hinge with non-removable pins Smoke gasket Overhead concealed closer with kick-plate (on push side): stainless steel, 8400 series 12” (or 18” as required) x US26D, Ives Or similar.
ACCEPTABLE MATERIALS	16” - gauge minimum brushed stainless steel, hollow metal door and frame assembly
NOTES	<ul style="list-style-type: none"> <li>Fire protection rating, as required.</li> <li>Bead-blasted finish, sealers, and coatings are not allowed on any stainless steel finish.</li> </ul>
LOCATIONS	Restrooms



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Flush Panel Hollow Metal Door

Mother’s Suite

CATEGORIES	Interior
RECOMMENDED MANUFACTURERS	Hardware: Intellikey
SIZE	Door panel width: 3’ - 0” Door panel height: 7’ - 0”
HARDWARE SET	Mortised lock-set with thumb turn and key override, privacy indicator Lever, both sides Hinges with non-removable pins Smoke gasket Overhead concealed closer with swing restrictor Kick-plate (on push side): Stainless Steel, 8400 Series 12” (or 18” as required) x US26D, Ives or similar.
ACCEPTABLE MATERIALS	16” -gauge minimum brushed stainless steel hollow metal door and frame assembly
NOTES	<ul style="list-style-type: none"> <li>Fire protection rating, as required.</li> <li>Bead-blasted finish, sealers, and coatings are not allowed on any stainless steel finishes.</li> </ul>
LOCATIONS	Mother’s Suite Family Restrooms



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Flush Panel Hollow Metal Door

60-Minute Fire-Rated

CATEGORIES	Interior
RECOMMENDED MANUFACTURERS	Hardware: Intellikey
SIZE	Door panel width: 3' - 6" Door panel height: 7' - 0"
HARDWARE SET	Mortised lock-set, storeroom Lever, both sides Hinges with non-removable pins Standard card reader Smoke gasket Overhead concealed closer with 180 degree swing Kick-plate (on push side): Stainless Steel, 8400 Series 12" (or 18" as required) x US26D, Ives Or similar.
ACCEPTABLE MATERIALS	16" -gauge minimum brushed stainless steel hollow metal door and frame assembly
NOTES	<ul style="list-style-type: none"> <li>Fire protection rating, as required.</li> <li>Bead-blasted finish, sealers, and coatings are not allowed on any stainless steel finishes.</li> </ul>
LOCATIONS	Janitor Closet

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### Double Doors

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CATEGORIES	Interior
DESCRIPTION	Magnetic hold at fire-rated walls
SIZE	10' x 6' (3' leaf)
LOCATIONS	Storage



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### Framed Glass Doors

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<b>CATEGORIES</b>	Exterior
<b>RECOMMENDED MANUFACTURERS</b>	Hardware: Best Cylinders or Intellikey Glass: Viracon, PPG, LOF, Guardian
<b>SIZE</b>	Door panel width: 3' - 3 3/4" or 3' - 6 1/2" Door panel height: 8' - 2 1/4" or 8' 2 3/4" Float glass: minimum 1/4" thick
<b>FINISHES</b>	Metal to be clear or colored anodized, or color powder coated Hardware finish to be US26D, where hardware requirements are verified with Port of Seattle General Foreman, Lock and Key Shop
<b>HARDWARE SET</b>	Electrified rim exit panic device, fail-secure Panic hardware Continuous geared hinge with electric transfer - tamper resistant enclosure Biometric card reader with pin pad Request-to-exit device Smoke gasket Overhead concealed closer: LCN Model 4314 ME-SF 24V, 0°-180° swing with no pressure Threshold



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### Framed Glass Doors

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#### ACCEPTABLE MATERIALS

Metal door frames are anodized aluminum (clear or colored); powder coated, or stainless steel (No. 4 brushed)  
Metal doors are anodized aluminum (clear or colored); powder coated or stainless steel (metal finish, No. 4 brushed or Hollow metal exterior doors with paint finish)  
Glazing:  
Clear insulated glass with low-E coating  
Clear insulated glass with low-E coating, with frit pattern  
Gray insulated glass, uncoated  
Gray insulated glass, uncoated, with sandblast  
Gray monolithic glass, uncoated  
Gray insulated glass with low-E coating  
Gray laminated insulated glass

#### NOTES

- All door glazing must match adjacent window or curtain wall system glazing.
- Insulated glass shall be double-glazed and dual sealed with air space between hermetically sealed panes with silicone at the perimeter of the unit.
- Vision glass is to be heat strengthened.
- Specify performance criteria for solar energy transmittance, shading co-efficient, ultraviolet transmittance, visible light transmittance, and infrared transmittance.
- All exterior doors to have a Sound Transmission Class (STC) rating of 33 minimum.

#### LOCATIONS

Holdrooms



## DOORS

### Overhead Roll-Up Doors

#### Exterior

CATEGORIES	Exterior
ACCEPTABLE MATERIALS	Galvanized Non-painted Fabric: used for high-speed roll-up doors at the ramp level

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## DOORS

### Overhead Roll-Up Doors

#### Interior

<b>CATEGORIES</b>	Interior
<b>RECOMMENDED MANUFACTURERS</b>	Hardware: Intellikey
<b>FINISHES</b>	<p>Unpainted slats</p> <p>Sheet material sanded finish to be non-directional (100 grit)</p> <p>Formed or cast materials with flat faces are required to have non-directional sanded finish (100 grit)</p> <p>Formed or cast materials with curved or shaped surfaces are required to have a no. 4 brushed finish</p> <p>Bead blast finishes, sealers and coatings are not allowed</p>
<b>ACCEPTABLE MATERIALS</b>	<p>Anodized aluminum</p> <p>Natural Stainless steel</p>
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Fire protection rating, as required.</li> <li>• Bead-blasted finish, sealers, and coatings are not allowed on any stainless steel finish.</li> <li>• At all locations where fire-rated door and frame assemblies are required, provide assemblies which comply with the applicable National Fire Protection Association (NFPA) requirements, and have been tested and labeled in accordance with ASTM standards by an agency acceptable to governing authorities.</li> <li>• All doors to meet ADA requirements.</li> <li>• UL listing is required by code.</li> <li>• Coordinate with the Port of Seattle General Foreman.</li> <li>• Reference Lock and Key Shop for detailed hardware information.</li> </ul>

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CATEGORIES	Interior
RECOMMENDED MANUFACTURERS	Hardware: Intellikey
ACCEPTABLE MATERIALS	Stainless steel doors Stainless steel frames Tempered clear glass Translucent laminated glass Clear polished wire glass
NOTES	<ul style="list-style-type: none"> <li>Fire protection rating, as required.</li> <li>Bead-blasted finish, sealers, and coatings are not allowed on any stainless steel finish.</li> <li>Clear, tempered glazing is required for door relites.</li> </ul>
LOCATIONS	Transit Stations





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### Glazed Partitions

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<b>CATEGORIES</b>	Interior
<b>RECOMMENDED MANUFACTURERS</b>	Julius Blum/Blumcraft Livers Bronze Company Newman Brothers, Inc.
<b>DESCRIPTION</b>	Interior glazing to create a permanent partition between spaces
<b>FINISHES</b>	Stainless steel base uses sheet material that requires non-directional, 100 grit sanded finish Formed or cast materials with flat faces are required to have sanded finish that is non-directional, 100 grit Formed or cast materials with curved or shaped surfaces are required to have a no. 4 brushed finish Bead blast finishes, sealers and coatings are not allowed
<b>ACCEPTABLE MATERIALS</b>	Glazing: Clear Glass Translucent laminated glass monolithic float glass Sandblasted glass Fritted glass Stainless Steel



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## Glazed Partitions

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### NOTES

- Translucent, sandblasted, or fritted glazing will be required where visibility must be obscured. Sandblasted glazing is susceptible to fingerprints and should not be used in areas accessible to the public. Frit is preferred.
- All glazing must be tempered. Cut glass to size, and shape and drill holes prior to tempering.
- Glass panel sizes shall allow easy removal and re-installation. Panels that are too heavy may be cumbersome and would need extra measures for safe handling.
- Glass panels to be butt-jointed and should not have horizontal mullions.
- Full height partitions at security areas are to be continuous along the floor to prevent items from passing below.
- All glass partitions, free standing or with top supports, must have a stainless steel base of 4” height to match the standard glass guardrail system.
- Provide certified safety glazing where required.
- Grind exposed edges smooth, using methods recommended by manufacturer.

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## Storefront

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CATEGORIES	Interior
ACCEPTABLE MATERIALS	Aluminum or stainless steel window frames Clear, non-colored glass Translucent laminated glass Sandblasted glass Fritted glass
NOTES	<ul style="list-style-type: none"> <li>Translucent, sandblasted, or fritted glazing will be required where visibility must be obscured. Sandblasted glazing is susceptible to fingerprints and should not be used in areas accessible to the public. Frit is preferred.</li> <li>Provide certified safety glazing where required.</li> <li>All glazing shall be tempered. Cut glass to size, and shape and drill holes prior to tempering.</li> <li>Grind exposed edges smooth, using methods recommended by the manufacturer.</li> <li>Submit minimum 12” square samples for each glass type, except clear monolithic glass.</li> <li>Window frames shall be unpainted for ease of maintenance.</li> </ul>



## LOUVERS & GRILLES

### Grilles

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<b>CATEGORIES</b>	Interior
<b>COLOR</b>	To match color of surrounding wall, subject to approval by the Port of Seattle
<b>FINISHES</b>	For aluminum, use shop applied enamel or Fluoropolymer finish For stainless steel, sheet material is required to be non-directional, 100 grit Formed or cast materials with flat faces are required to be non-directional, 100 grit Formed or cast materials with curved or shaped surfaces are required to be no. 4 brushed Bead blast finishes, sealers, and coatings are not allowed
<b>ACCEPTABLE MATERIALS</b>	Aluminum Stainless steel Galvanized steel
<b>NOTES</b>	<ul style="list-style-type: none"> <li>All HVAC grilles shall be installed visually symmetrical and compatible with surrounding architectural elements.</li> <li>Grilles shall have a minimum 60% net free area.</li> <li>Blank-off panels to be fabricated from sheet metal, to match the same metal and finish as louvers.</li> </ul>
<b>LOCATIONS</b>	All Space Types



## LOUVERS & GRILLES

### Grilles & Screens

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CATEGORIES	Exterior
FINISHES	Aluminum: clear or colored anodized Powder coated Primed and painted Enamel Stainless steel: No. 4 brushed metal finish. Stainless steel flat surfaces to be non-directional 100 grit Galvanized steel: brushed Powder coated Primed and painted Enamel
HARDWARE SET	Fasteners for aluminum members to be aluminum, stainless steel, or galvanized steel Fasteners for steel or galvanized steel members to be stainless steel or galvanized steel Fasteners for stainless steel members to be stainless steel Finish fastener heads that are exposed to view to match adjacent surface
ACCEPTABLE MATERIALS	Fabricate all blades and frames from extruded aluminum, stainless steel, or galvanized steel
NOTES	All HVAC grilles shall be installed visually symmetrical and compatible with surrounding architectural elements.



## LOUVERS & GRILLES

### Louvers

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<b>CATEGORIES</b>	Exterior
<b>FINISHES</b>	<p>All aluminum blades and frames are fabricated from extruded aluminum</p> <p>Stainless steel use No. 4 brushed metal finish</p> <p>Stainless steel flat surfaces to be non-directional 100 grit</p> <p>Brushed galvanized steel</p> <p>Powder coated</p> <p>Primed and painted</p> <p>Enamel</p>
<b>HARDWARE SET</b>	<p>Fasteners for aluminum members to be aluminum, stainless steel, or galvanized steel</p> <p>Fasteners for steel or galvanized steel members to be stainless steel or galvanized steel</p> <p>Fasteners for stainless steel members to be stainless steel</p> <p>Finish fastener heads that are exposed to view to match adjacent surface</p>
<b>ACCEPTABLE MATERIALS</b>	Aluminum, Stainless Steel, or Galvanized Steel
<b>NOTES</b>	Louvers shall be storm proof with 45-degree stationary blades.



## LOUVERS & GRILLES

### Louvers & Vents

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<b>CATEGORIES</b>	Interior
<b>FINISHES</b>	<p>For Aluminum, use extruded aluminum finish (anodized, clear or colored, powder coated, primed, and painted, enamel)</p> <p>For stainless steel: sheet material is required to be non-directional, 100 grit</p> <p>Formed or cast materials with flat faces are required to be non-directional, 100 grit</p> <p>Formed or cast materials with curved or shaped surfaces are required to be no. 4 brushed</p> <p>Bead blast finishes, sealers and coatings are not allowed</p> <p>For galvanized steel:</p> <p>Brushed</p> <p>Powder coated</p> <p>Primed and painted</p> <p>Enamel</p> <p>Finish to match surrounding wall or ceiling color, unless approved otherwise</p>
<b>HARDWARE SET</b>	<p>Fasteners for aluminum members to be aluminum, stainless steel, or galvanized steel</p> <p>Fasteners for steel or galvanized steel members to be stainless steel or galvanized steel</p> <p>Fasteners for stainless steel members to be stainless steel</p> <p>Finish fastener heads that are exposed to view to match adjacent surface</p>
<b>ACCEPTABLE MATERIALS</b>	<p>Extruded aluminum</p> <p>Stainless steel</p> <p>Galvanized steel</p>
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Installation of units shall be visually symmetrical and compatible with architectural requirements; reveals and recesses to fit accordingly.</li> <li>Louvers are stationary 45-degree blades.</li> </ul>
<b>LOCATIONS</b>	All space types



## ACCESS PANELS

### Ceiling

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CATEGORIES	Interior
SIZE	24" x 24"
NOTES	Ceiling access panels do not require keys; shall use flat blade screwdriver to open. Install 8' on center.
LOCATIONS	Restrooms



## ACCESS PANELS

### Wall

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CATEGORIES	Interior
SIZE	24" x 24" minimum
NOTES	Access doors shall be keyed to match existing port maintenance keys.



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### 3.6 PARTITIONS

Partitions separate and define spaces. Their construction and finishes allow spaces to function as intended.

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## DEMOUNTABLE PARTITIONS

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<b>CATEGORIES</b>	Interior
<b>DESCRIPTION</b>	Used by tenants to create administrative, storage, or private areas for screening.
<b>COLOR</b>	Silver anodized aluminum Frosted glass
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Coordinate with surrounding finishes.</li> <li>Can be full pane or dividing mullions.</li> </ul>
<b>LOCATIONS</b>	Baggage Claim Security Checkpoints



## GYPSUM WALLBOARD

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<b>CATEGORIES</b>	Interior
<b>DESCRIPTION</b>	Impact resistant
<b>FINISHES</b>	Neutral, light, and subtle Paint Wallcovering Column Enclosures
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• If using metal stud wall construction, the bottom track of the wall needs to be designed and secured to the floor to resist impacts from motorized pallet jacks.</li> <li>• Gypsum wallboard finishes shall only be used in areas on wall or column covers which are not susceptible to damage and not accessible to the public. The exception shall be for use on temporary walls and columns.</li> <li>• In high traffic areas, a durable finish shall be used as a removable wainscot to protect the wall from people and carts. In general the lowest 24" of walls receive the most damage; therefore a removable wainscot 36" high (with or without a 12" base) is required so that maintenance can repair and replace without removing the entire wall panel.</li> <li>• In general, for maintenance purposes, wall surfaces shall have no texture.</li> </ul>



## GREEN-BOARD

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<b>CATEGORIES</b>	Interior
<b>DESCRIPTION</b>	Mold-resistant
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Gypsum wallboard finishes shall only be used in areas on wall or column covers which are not susceptible to damage and not accessible to the public. The exception shall be for use on temporary walls and columns.</li> <li>In high traffic areas, a durable finish shall be used as a removable wainscot to protect the wall from people and carts. In general the lowest 24" of walls receive the most damage; therefore a removable wainscot 36" high (with or without a 12" base) is required so that maintenance can repair and replace without removing the entire wall panel.</li> <li>In general, for maintenance purposes, wall surfaces shall have no texture.</li> </ul>
<b>LOCATIONS</b>	Janitor Closet



### 3.7 CONVEYING

Conveying systems help us get to where we're going faster. It's important that these areas are kept clear, clean, and well demarcated.

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## STAIRS

### Exterior

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<b>CATEGORIES</b>	Exterior
<b>FINISHES</b>	Hot-dipped galvanized after fabrication
<b>ACCEPTABLE MATERIALS</b>	Stringers: steel Treads: steel safety flooring Risers: steel sheet Landings: steel safety flooring Railings: steel
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Provide with non-slip nosing and tread.</li> <li>• Solid treads and risers (with no openings) are required.</li> <li>• STIA exterior stairs are occasionally used for passenger loading and unloading.</li> <li>• Concrete treads are acceptable, but subject to approval.</li> <li>• All bolts shall be galvanized.</li> <li>• All welding sites shall be treated with a galvanized coating.</li> <li>• Paint finishes are not allowed.</li> <li>• Match visual appearance of existing stairs on Concourse B, C, and D.</li> </ul>
<b>LOCATIONS</b>	Aircraft Passenger Loading Bridges



## STAIRS

### Interior

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<b>CATEGORIES</b>	Interior
<b>FINISHES</b>	Paint finish to be used on steel stair structural supports and framing members exposed to view
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Uniform finish color to be used in all exposed portions.</li> <li>Paint finish shall be cleanable.</li> <li>In all stairwells, a 5'-0" high wainscot shall be applied using a paint three to four shades darker than the standard white.</li> </ul>





# RAILS

## Metal Railings

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CATEGORIES	Exterior
FINISHES	<p>Steel is hot-dipped galvanized after fabrication</p> <p>Stainless steel sheet material is required to be non-directional, 100 grit</p> <p>Formed or cast materials with flat faces are required to be non-directional, 100 grit</p> <p>Formed or cast materials with curved or shaped surfaces are required to be no. 4 brushed</p> <p>Bead blast finishes, sealers, and coatings are not allowed</p>
ACCEPTABLE MATERIALS	Steel, or stainless steel
NOTES	<ul style="list-style-type: none"> <li>Close exposed, open ends of railings using same material as the member.</li> <li>Wall mounted handrails shall be returned to the wall.</li> <li>Handrails are left unpainted for ease of maintenance.</li> <li>Connections and accessories to be finished to match railing finishes.</li> </ul>
LOCATIONS	Aircraft Passenger Loading Bridges



## RAILS

### Guardrails

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<b>CATEGORIES</b>	Interior
<b>RECOMMENDED MANUFACTURERS</b>	<ul style="list-style-type: none"> <li>Julius Blum</li> <li>Blumcraft</li> <li>Livers Bronze Company</li> <li>Newman Brothers Inc.: Econorail™ glass rail system</li> </ul>
<b>FINISHES</b>	<p>Stainless steel base: sheet material with sanded finish is required to be non-directional, 100 grit</p> <p>Formed or cast materials with flat faces are required to have sanded finish that is non-directional, 100 grit</p> <p>Formed or cast materials with curved or shaped surfaces are required to have a No. 4 brushed finish</p> <p>Bead blast finishes, sealers, and coatings are not allowed</p>
<b>ACCEPTABLE MATERIALS</b>	Clear 3/4" solid glass with stainless steel handrail and base
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Railings, guardrails, and metalwork shall be shop fabricated per code and industry standard.</li> <li>• Aluminum railings are not allowed.</li> <li>• Glass panel sizes shall be selected to ensure easy removal and re-installation. Panels that are too heavy may be cumbersome and would need extra measures for safe handling.</li> <li>• All rails and guardrails are to be provided with a 4" high base to protect glass from maintenance procedures and carts.</li> <li>• For railings at seismic bracing, infill panels and bases are not allowed.</li> </ul>





RAILS

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South Arrivals Hall (GML)  
Concourses & Satellites  
International Arrivals  
Federal Inspection Services  
International Arrivals Baggage Claim

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<b>CATEGORIES</b>	Interior
<b>ACCEPTABLE MATERIALS</b>	Stainless steel, metal panel top surface
<b>LOCATIONS</b>	International Arrivals Federal Inspection Services International Arrivals Baggage Claim



## RAILS



### Baggage Claim Rails

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#### CATEGORIES

Interior

#### FINISHES

Stainless steel base: sheet material with sanded finish is required to be non-directional, 100 grit

Formed or cast materials with flat faces are required to have sanded finish that is non-directional, 100 grit

Formed or cast materials with curved or shaped surfaces are required to have a No. 4 brushed finish

Bead blast finishes, sealers, and coatings are not allowed

#### ACCEPTABLE MATERIALS

Stainless steel handrail and base with perforated metal screen

#### NOTES

- Railings, guardrails, and metalwork shall be shop fabricated per code and industry standard.
- Aluminum railings are not allowed.

#### LOCATIONS

Baggage Claim Lobby

International Arrivals Baggage Claim





### 3.8 CASEWORK

Casework is present in most space types where airlines operate: namely the check-in lobby and the holdrooms. Where the space is shared by multiple airlines, referred to as “common use,” the casework is supplied by SEA. In other instances, the airlines provide their own casework. SEA provided casework is detailed in this section, each item referencing the shop drawings that apply.





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In order to maintain a unified look throughout the terminal public areas, all casework and cabinetry must consistently conform to these guidelines:

- Surface materials must exhibit a matte and even appearance, and must be resistant to dents, scratches, nicks, and other deformities caused by arbitrary public abuse.
- Color and finish must be fade resistant, have a uniform color intensity throughout the finish, and shall not exhibit visual changes in color or appearance when scratched or subjected to fingerprints.
- Casework design shall be based on modular panel components, factory produced, and interchangeable for flexibility.
- Concealed mechanical fasteners are used for the assembly of components. They shall be rigid, sturdy, and give an overall neat and unobtrusive appearance, showing no loose or poorly constructed joints.
- Use commercial grade hardware and use master keying system for all locks, compatible to POS key cores.
- Select materials that are expected to be available in the future.
- Preference will be given to the use of wood products made from FSC (Forest Stewardship Council) certified wood.
- All casework shall meet the requirements for AWI Premium Grade and be registered for and receive certification under AWI Quality Certification Program for Premium Grade. The use of composite wood (e.g., MDF, particleboard, plywood, agrifiber board etc.) made with glues or resins that contain added urea-formaldehyde is prohibited. This prohibition includes any part of any assembly fabricated on or off site.
- Per the requirements of NFPA415, 4.1.2, all materials within the airport terminal are required to carry a classification of either Class A or Class B Fire Rating.
- Consideration should be given to evolution of technology, airline processes, and minimizing the footprint of the units.



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### Architectural Standards

### Casework

There are three primary types of casework, depending on the concourse location and the needs of the space:

- **Check-In Lobby** — Check-In Lobby Counter (passenger check-in and bag drop-off)
- **Concourses A & B** — Boarding gate cabinets made of red cedar
- **Concourses C, D, North Satellite, & South Satellite** — Boarding gate cabinets made of maple

Additionally, there are other types of casework found around the airport:

- **Concourses** — Charging Station
- **Miscellaneous** — Flight Information Display

### Applicable LEED Credit Requirements:

- MR – Building Product Disclosure & Optimization – Environmental Product Declarations
- MR – Building Product Disclosure & Optimization – Material Ingredients
- MR – Building Product Disclosure & Optimization – Sourcing of Raw Materials





CHECK-IN LOBBY COUNTER

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SIZE	5' - 7" L 3' - 6 1/8" W 4' - 1 1/4" H
COMPONENTS	Podium shell Podium insert (including the printer cabinet)
FINISHES	Refer to drawings
NOTES	Provide and maintain access to power outlets when providing cabinet inserts.
LOCATIONS	Check-In Lobby







## CHECK-IN BAGGAGE SCALE SHELL

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#### Check-In Baggage Scale

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### SIZE

2' - 6" L

2' - 6" W

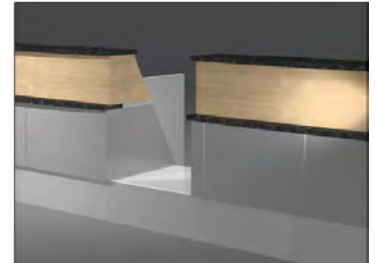
1' - 0" H

### FINISHES

Stainless steel

### LOCATIONS

Check-In Lobby







## TICKET LIFT PODIUM

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#### SIZE

2' - 3" L  
2' - 9" W  
4' - 0 1/8" H

#### COMPONENTS

Podium shell  
Podium insert

#### FINISHES

Maple wood veneer  
Stainless steel

#### LOCATIONS

Concourses C, D  
North, South Satellites







## CHARGING STATION

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### SIZE

13' - 3" L  
3' - 6" W  
4' - 8" H

### COMPONENTS

Countertops  
Divider with power and lighting  
Stools anchored to floor

### FINISHES

Metal base  
Wood veneer  
Solid surface

### NOTES

- The charging station is a counter height ledge that provides passengers a place to rest and charge their devices.
- Passengers are likely to lean on this perch, so it should support the appropriate weight.
- Charging stations shall come with floor mounted seating units. Seats should have automatic returns and no height adjustment.
- Charging station outlet receptacles shall be easily replaceable, meet Electrical Systems Standards and provide both standard 120V and USB charging options.

### LOCATIONS

Holdrooms





## GATE CHECK-IN COUNTER

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### SIZE

#### Counter:

7' - 0" L  
3' - 6" W  
3' - 11" H

#### Backstand:

6' - 4" L  
2' - 6" W  
9' - 2" H

### COMPONENTS

Gate check-in counter  
Backstand  
Boarding Gate Reader (BGR) stand  
Boarding Door Cabinet

### FINISHES

Refer to drawings

### NOTES

- This casework is also the standard for ground transport and cruise ship counters.
- Provide and maintain access to power outlets when providing cabinet inserts.

### LOCATIONS

Holdroom







## FLIGHT INFORMATION DISPLAY

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### SIZE

11' - 8" L

1' - 10 7/8" W

9' - 8 8" H

### FINISHES

Stainless steel

### LOCATIONS

Check-In Lobby

Esplanade

Central Terminal

Concourses & Satellites

Holdrooms





### 3.9 FURNITURE

Furniture is situated throughout SEA for customer comfort and waiting. Seating includes chairs, benches, and ganged gate seating located in interior public areas such as holdrooms, baggage claim, check-in lobby, and dining areas.







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Different seating options for interior public areas shall be provided, so the passengers will have various waiting options.

- Provide Holdroom seating for 70% of passengers (based on the largest aircraft utilizing gate).
- Once 70% of seating is provided, introduce a variation of 5-10% of accent seating.
- Maintaining 5 feet spacing between seats.
- 75% of Holdroom seating should be powered.
- Seating with arms is to be provided in areas where people are prone to use the seats for sleeping.
- Seating color may vary throughout the airport, but must be from the selected palette.
- Color should be determined based on context (e.g., terrazzo, carpet).
- Gate seating arrangement should be perpendicular to windows.
- Preference will be given to products with a high percentage of recycled content and/or manufactured within 500 miles of the project.
- Tables will be provided in select public areas to provide alternative waiting options.



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## CHECKPOINT SEATING

### Bench

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<b>CATEGORIES</b>	Accent Seating
<b>PRODUCT NAME</b>	Vector Seating System
<b>FINISH</b>	Frame: Dark Grey Metallic Texture Powdercoat Seat Slat: Cumaru Hardwood
<b>MANUFACTURER, MODEL</b>	Forms + Surfaces Vector Bench, Backed, Seat Dividers
<b>DESCRIPTION</b>	Modular bench seating, with backing and seat dividers
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Interchangeable modules include linear benches in 2, 4, 6, and 8- foot lengths. Verify with Port on length.</li> <li>Furniture to be attached to the floor.</li> <li>Ensure size and weight of pieces will fit in doorways and elevators from point of delivery to placement location, and that weight does not exceed structural limitations.</li> <li>Ask the furniture dealer to create a fully-dimensioned furniture plan based on the final installation including circulation clearances.</li> </ul>
<b>LOCATIONS</b>	Checkpoints, Recompose Areas







## HOLDROOM SEATING

### Meda Gate

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<b>CATEGORIES</b>	Holdroom Seating
<b>PRODUCT NAME</b>	Meda Gate
<b>FINISH</b>	Seat Shell: Polyurethane integral-skin foam Armrest, Base and Legs: Polished aluminum Table Units: Black solid core laminate Power Modules: Polished aluminum with black cable channels Cup holder: black plastic
<b>MANUFACTURER</b>	Vitra
<b>DESCRIPTION</b>	Modular seating system with chrome finishes
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Interchangeable modules with multiple combinations, lengths and accessories. Verify with Port on systems.</li> <li>• Typical seat shell color for Holdrooms: Basalt “Dark” Gray (RAL 7012) and black for Concourse D Annex, only.</li> <li>• Colored seat shells are optional, especially when there is no room for accent seating.</li> <li>• Slip glides required for carpet flooring and anti-slip glides for hard flooring locations.</li> <li>• (2) arm rests per seat for powered units and shared arm rests for non-powered units.</li> <li>• Provide arm rests with cup holders at seats that are not adjacent to table units.</li> <li>• Power module placed between seats for powered units (on T-form)</li> <li>• Power arm configuration (top to bottom): (1) reversible USB-A, (1) USB-C, electrical 120V, electrical 120V</li> <li>• On designated ADA seating units provide electrical outlets on ends of the rows, so outlets are accessible by individuals sitting in wheelchairs next to unit.</li> <li>• At other locations when possible, power outlets should be placed at the end of a row of seats so someone with a wheelchair can easily access the outlet.</li> </ul>







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### NOTES

- Male end electrical plug shall be standard straight cord, NOT right angle. Port preference is for short straight cord electrical plug that fits into floor outlets.
- It is recommended that at least one end seat not have an arm rest.
- ADA designator inlay: black symbol on white
- Raised ADA seats typically on the outside unless the entire row is ADA. Include raised arms for raised ADA seats.
- Use entire row of all ADA seating when applicable to the seating layout.
- Allocate 5% or more of total Holdroom seating for ADA seats.
- Locate ADA seats near gate door and in line of sight to podium.
- Place seats away from wall to avoid back rest hitting structure behind.
- As a precaution, provide chair rail at seat back height where seats hit walls.
- Clearance to wall should be: 10" from wall to back edge of leg; 9" to back edge of glide or 33" from wall to seat front.
- Allow a minimum of 5' between rows of seats (6' is desirable, measured from front edge of seating).
- Ensure size and weight of pieces will fit in doorways and elevators from point of delivery to placement location, and that weight does not exceed structural limitations.
- Ask the furniture dealer to create a fully-dimensioned furniture plan based on the final installation including circulation clearances.

### LOCATIONS

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IAF, Resting Areas and Baggage Claim  
Main Terminal, Baggage Claim





## ACCENT SEATING

### Meda Gate - Recliner

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<b>CATEGORIES</b>	Accent Seating
<b>PRODUCT NAME</b>	Meda Gate - Recliner
<b>FINISH</b>	Seat Shell: Polyurethane integral-skin foam Armrest, Base and Legs: Polished aluminum Table Units: Black solid core laminate Power Modules: Polished aluminum with black cable channels Cup holder: black plastic
<b>MANUFACTURER</b>	Vitra
<b>DESCRIPTION</b>	Modular reclining lounge chair with chrome finishes
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Interchangeable modules with multiple combinations, lengths and accessories. Verify with Port on systems.</li> <li>Slip glides required for carpet flooring and anti-slip glides for hard flooring locations.</li> <li>(2) arm rests per seat</li> <li>Power module placed between seats for powered units (on T-form)</li> <li>Power arm configuration (top to bottom): (1) reversible USB-A, (1) USB-C, electrical 120V, electrical 120V</li> <li>Male end electrical plug shall be standard straight cord, NOT right angle. Port preference is for short straight cord electrical plug that fits into floor outlets.</li> <li>Ensure size and weight of pieces will fit in doorways and elevators from point of delivery to placement location, and that weight does not exceed structural limitations.</li> <li>Ask the furniture dealer to create a fully-dimensioned furniture plan based on the final installation including circulation clearances.</li> </ul>
<b>LOCATIONS</b>	Concourse, Holdrooms







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### Agati Gee

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<b>CATEGORIES</b>	Accent Seating
<b>PRODUCT NAME</b>	Agati Gee Collection
<b>FINISH</b>	Upholstery Seat Leg Finish: Chromed
<b>MANUFACTURER, MODEL</b>	Agati Gee Straight, Gee Curve
<b>DESCRIPTION</b>	Upholstery modular lounge chair, with multiple configurations
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Interchangeable modules with multiple combinations, lengths and accessories. Verify with Port on systems.</li> <li>Optional straight or curved configurations.</li> <li>Work with Manufacturer to confirm suitable fabric materials. Previous installations have utilized fabrics: Mayer Caressa, Mayer Durango and Momentum Silica.</li> <li>Fabric Requirements: CAL117 Flammability, Bleach Cleanable (diluted), UV and Stain Resistant, exceed 500,000 double rub Wyzenbeek or have previous heavy use installations.</li> <li>Plastic laminate occasional tables with built in power.</li> <li>Ensure size and weight of pieces will fit in doorways and elevators from point of delivery to placement location, and that weight does not exceed structural limitations.</li> <li>Ask the furniture dealer to create a fully-dimensioned furniture plan based on the final installation including circulation clearances.</li> <li>Allow 18" clearance along building perimeter for manual window cleaning or 36" minimum where a lift is required.</li> <li>Furniture to be attached to the floor.</li> </ul>
<b>LOCATIONS</b>	Concourse, Holdrooms Public Areas Club at SEA







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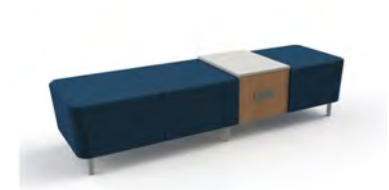
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<b>CATEGORIES</b>	Accent Seating
<b>PRODUCT NAME</b>	Gee - Custom Bench
<b>FINISH</b>	Upholstery Seat Leg Finish: Chromed
<b>MANUFACTURER, MODEL</b>	Agati Custom Bench, Vista
<b>DESCRIPTION</b>	Upholstery modular bench, chrome leg, and powered table
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Interchangeable modules with multiple combinations, lengths and accessories. Verify with Port on systems.</li> <li>Work with Manufacturer to confirm suitable fabric materials. Previous installations have utilized fabrics: Mayer Caressa, Mayer Durango and Momentum Silica.</li> <li>Fabric Requirements: CAL117 Flammability, Bleach Cleanable (diluted), UV and Stain Resistant, exceed 500,000 double rub Wyzenbeek or have previous heavy use installations.</li> <li>Plastic laminate occasional tables with built in power.</li> <li>Ensure size and weight of pieces will fit in doorways and elevators from point of delivery to placement location, and that weight does not exceed structural limitations.</li> <li>Ask the furniture dealer to create a fully-dimensioned furniture plan based on the final installation including circulation clearances.</li> <li>Allow 18" clearance along building perimeter for manual window cleaning or 36" minimum where a lift is required.</li> <li>Furniture to be attached to the floor.</li> </ul>
<b>LOCATIONS</b>	Concourse, Holdrooms Public Areas







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### Agati Fan Lounge

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<b>CATEGORIES</b>	Accent Seating
<b>PRODUCT NAME</b>	Fan Lounge
<b>FINISH</b>	Upholstery Seat Leg Finish: Chromed
<b>MANUFACTURER, MODEL</b>	Agati Fan Lounge
<b>DESCRIPTION</b>	Upholstered lounge chair, chrome disc base with self-centering cylinder
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Fabric Requirements: CAL117 Flammability, Bleach Cleanable (diluted), UV and Stain Resistant, exceed 500,000 double rub Wyzenbeek or have previous heavy use installations.</li> <li>Ask the furniture dealer to create a fully-dimensioned furniture plan based on the final installation including circulation clearances.</li> <li>Freestanding or floor mounted with automatic return.</li> </ul>
<b>LOCATIONS</b>	Concourse, Holdrooms Public Areas







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<b>CATEGORIES</b>	Accent Seating
<b>PRODUCT NAME</b>	Fractals Seating
<b>FINISH</b>	Upholstery Seat Leg Finish: Chrome
<b>MANUFACTURER, MODEL</b>	Studio TK, Partnership with Acronas Fractals Seating
<b>DESCRIPTION</b>	Upholstered lounge chair, sette and ottoman
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Two back heights available as upholstered or wood</li> <li>• Work with Manufacturer to confirm suitable materials equal to Nissimi Espirit or better.</li> <li>• Fabric Requirements: CAL117 Flammability, Bleach Cleanable (diluted), UV and Stain Resistant, exceed 500,000 double rub Wyzenbeek or have previous heavy use installations.</li> <li>• Plastic laminate occasional tables with built in power.</li> <li>• Ensure size and weight of pieces will fit in doorways and elevators from point of delivery to placement location, and that weight does not exceed structural limitations.</li> <li>• Ask the furniture dealer to create a fully-dimensioned furniture plan based on the final installation including circulation clearances.</li> <li>• Allow 18" clearance along building perimeter for manual window cleaning or 36" minimum where a lift is required.</li> <li>• Freestanding.</li> </ul>
<b>LOCATIONS</b>	Concourse, Holdrooms Public Areas







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### Qui Ottoman

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<b>CATEGORY</b>	Accent Seating
<b>PRODUCT NAME</b>	Qui Ottoman
<b>FINISH</b>	Upholstery Seat
<b>MANUFACTURER, MODEL</b>	Studio TK, Partnership with Acronas Qui Ottoman
<b>DESCRIPTION</b>	Upholstered ottoman
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Ottoman Diameter: 25.5 inches (small), 44.5 inches (medium) or 60 inches (large).</li> <li>Only the medium and large sized ottomans can be floor mounted.</li> <li>Power available with USB in medium and large ottomans.</li> <li>Work with Manufacturer to confirm suitable materials equal to Nissimi Espirit or better.</li> <li>Fabric Requirements: CAL117 Flammability, Bleach Cleanable (diluted), UV and Stain Resistant, exceed 500,000 double rub Wyzenbeek or have previous heavy use installations.</li> <li>Ask the furniture dealer to create a fully-dimensioned furniture plan based on the final installation including circulation clearances.</li> <li>Furniture to be attached to the floor.</li> </ul>
<b>LOCATION</b>	Concourse, Holdrooms Public Areas







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<b>CATEGORY</b>	Accent Seating
<b>PRODUCT NAME</b>	Ginkgo Ply Lounge
<b>FINISH</b>	Upholstery Seat Exposed Veneer Shell: Oak or Walnut Leg Finish: Chrome
<b>MANUFACTURER, MODEL</b>	Davis Ginkgo Collection
<b>DESCRIPTION</b>	Upholstered lounge chair
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Two back heights available as upholstered or wood veneer.</li> <li>Four Prong - memory return swivel base</li> <li>Optional footrest with exposed shell</li> <li>Work with Manufacturer to confirm suitable materials.</li> <li>Fabric Requirements: CAL117 Flammability, Bleach Cleanable (diluted), UV and Stain Resistant, exceed 500,000 double rub Wyzenbeek or have previous heavy use installations.</li> </ul>
<b>LOCATION</b>	Club at SEA, First Class Lounge







### 3.10 LIGHTING

A series of lighting options are used throughout SEA. Selections should be reviewed for performance, light distribution, energy efficiency, budget, maintenance requirements, and aesthetic qualities.



The overall lighting strategy for SEA is to be lighter and brighter. Some general guidelines are outlined below:

- Use standard, rather than custom options when selecting light fixtures.
- All lighting should be LED fixtures.
- Accent lights can be used at decision points, as a highlight/feature, and on artwork.
- Ceiling lighting is preferred over lighting that is integrated into furniture or wall sconces (except in restrooms or special locations).
- Where possible, conform to LEED best practices.
- Diffused field lighting should be used in ACT systems.
- Coffered lighting should be used at columns and where drywall ceilings end.
- Project teams should ensure compliance with local standards and codes for lighting efficiency, lumen output, and power consumption.
- Lighting controls should be provided to reduce unnecessary lighting when daylight levels are adequate or when spaces are unoccupied.

- Lighting fixtures should be coordinated with adjacent finishes; the same finish should be used throughout the same area.
- Metal paneled ceiling, particularly linear metal ceilings, should employ up-lighting.

### Applicable LEED Credit Requirements:

- SS – Light Pollution Reduction
- MR – Building Product Disclosure & Optimization – Environmental Product Declarations
- MR – Building Product Disclosure & Optimization – Material Ingredients
- MR – Building Product Disclosure & Optimization – Sourcing of Raw Materials





### 3.11 FINISHES

Finishes help define the look, feel, and character of the airport, supporting coherency and legibility of the Airport design and experience.



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Finishes are used throughout the airport and include the following subcategories:

- Flooring
- Paint
- Wallcovering
- Column Enclosures

Some general notes on the categories are provided here, including where consistency and variance apply. The following pages document each approved material, detailing performance criteria where appropriate, approved manufacturers, and the space types where it can be used.

SEA Airport is understandably an amalgamation of numerous time periods, and therefore also materials. Throughout the airport, there are a number of legacy finishes (not to be used on future projects) that will remain until a large project is undertaken to replace them. Legacy finishes have been included in the guidelines and are marked with a legacy icon. They should only be used for maintenance, repair, or replacement purposes.

### Applicable LEED Credit Requirements:

- IEQ – Low-Emitting Materials
- MR – Building Product Disclosure & Optimization – Environmental Product Declarations
- MR – Building Product Disclosure & Optimization – Material Ingredients
- MR – Building Product Disclosure & Optimization – Sourcing of Raw Materials



**New**



**Archive**



**Sustainable**



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Flooring types have been chosen primarily for their durability or acoustic properties, depending on the area. A number of general guidelines apply below, and the approved materials are detailed on the following pages.

### Best Practices

- Terrazzo is the flooring preferred for any circulation areas.
- Accent colors of terrazzo are used for visual interest only.
- Any artwork in the terrazzo floor should be flush with the surface and should be approved by ARC.
- Carpet tile is used in holdrooms. The same type should be used throughout a concourse, but it may vary between concourses.
- Carpet selected should have a linear organic pattern as it helps to conceal stains and seams
- The pattern on the carpet can vary in scale depending on the size of the space
- The carpet should be colored in medium to dark tones of muted neutral colors (e.g., gray, brown, khaki) in order to easily hide stains.
- If wood is to be used, orient with the end grain facing up on the surface.

- CRI (Carpet and Rug Institute) Green Label Plus certification (or its equivalent) is required for all new carpet and carpet tiles installed on site.

### Desired Finishes

- Primarily light-colored terrazzo with accents (accent colors may vary)
- Carpet tile
- Walk-off mats

### Legacy Finishes

- Terrazzo (dark brown) will be replaced as areas are renovated



## FLOORING

### Carpet Tile

#### Type 1

##### DESCRIPTION

Linear-organic patterned carpet, with pattern scale based on the size of the space  
All carpet shall meet air quality test criteria of CRI (Carpet and Rug Institute) Green Label plus certification  
Flammability is less than or equal to .45, Class I  
5/64" gauge (number of stitches/tufts per inch)  
11.3 stitches per inch  
115,000 tufts per square yard (approx.)  
Pile tuft between .125" to .218"  
Yarn weight of 32 ounces per square yard  
100% type 6,6 bulk continuous filament (BCF) nylon  
Hollow filament fiber shapes for optimum soil hiding capability  
Modification ratio of less than 1.5.  
Polymer type identification to AATCC TM 20  
Solution dye  
Yarn density of 5534 ounces per cubic yard  
Smoke density (NFPA-258-T or ASTM-E-648) less than or equal to 450  
Must pass Methenamine Pill Test and be specified as self-extinguishing  
Recycled content  
Unique blend, such as fiber shape, and composition

##### COLOR

Neutral color

##### NOTES

- Refer to Port's Guide Specifications - Section 09 68 13 Tile Carpeting
- Conceal the carpet seam.
- Do not use a quarter turn pattern.
- Preference is given to carpet tiles over broadloom, but it should have the look of broadloom.
- For new installations do not use large graphic patterns that make seams difficult to match.
- For carpet tiles, select patterns that permit random replacement of single tiles without disrupting the overall effect.
- Choose colors and patterns that can effectively camouflage dirt and stains, and allow easy cleaning, maintenance, and repairs.



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- North, South Satellites
- International Arrivals
- Federal Inspection Services
- International Arrivals Baggage Claim
- Aircraft Passenger Loading Bridges



## FLOORING

### Carpet Tile

#### Type 2

##### DESCRIPTION

Linear-organic patterned carpet, with pattern scale based on the size of the space  
All carpet shall meet air quality test criteria of CRI (Carpet and Rug Institute) Green Label plus certification  
Flammability is less than or equal to .45, Class I  
5/64" gauge (number of stitches/tufts per inch)  
11.3 stitches per inch  
115,000 tufts per square yard (approx.)  
Pile tuft between .125" to .218"  
100% type 6,6 bulk continuous filament (BCF) nylon  
Hollow filament fiber shapes for optimum soil hiding capability  
Modification ratio of less than 1.5.  
Polymer type identification to AATCC TM 20  
Solution dye  
Yarn density at 5534 ounces per cubic yard  
Smoke density (NFPA-258-T or ASTM-E-648) is less than or equal to 450  
Must pass Methenamine Pill Test and be specified as self-extinguishing  
Recycled content  
Unique blend, such as fiber shape, and composition

##### COLOR

Neutral color

##### NOTES

- Refer to Port's Guide Specifications - Section 09 68 13 Tile Carpeting
- Preference is given to carpet tiles over broadloom.
- For new installations, do not use large graphic patterns that make seams difficult to match.
- For carpet tiles, select patterns that permit random replacement of single tiles without disrupting the overall effect.
- Choose colors and patterns that can effectively camouflage dirt and stains, and allow easy cleaning, maintenance, and repairs. The Design Review Committee must approve all carpet selections.

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Non-slip surface type sealer

#### NOTES

- Requires approval by Port F&I Architecture
- Terrazzo finish is to be used in all stairs in public circulation areas.
- Terrazzo colors and finishes on stairs must match, or be compatible with the adjacent terrazzo floor finishes and other adjacent floor treatments
- Use pre-cast terrazzo stair treads and risers, terrazzo base, and non-skid nosing insert.

#### DESIGNATION

STEP TZ-4

#### LOCATION

South Baggage Claim Level  
GML Hall

#### AGGREGATE MIX

3/8" Epoxy Resin: General Polymers #21769  
75% Bottechino #0,1,2,3,4,5  
5% Black  
5% Demarco Gray #1,2  
5% White #1  
5% Clear Glass #3,5  
5% Amber Glass #1

#### DESIGNATION

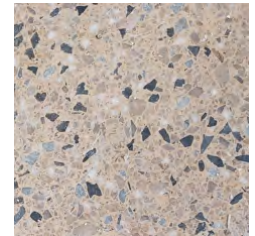
STEP TZ-2

#### LOCATION

Ticketing and Baggage Claim Level

#### AGGREGATE MIX

3/8" Epoxy Resin: General Polymers #23517  
75% Raven Black #0,1,2  
25% Cream Botte #0,1,2





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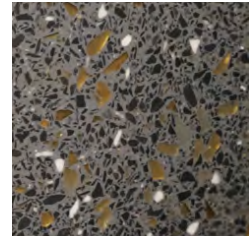
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<b>DESIGNATION</b>	STEP TZ-1 CTE ET-2
<b>LOCATION</b>	South Ticketing and Mezzanine levels GML Hall - Stairs
<b>AGGREGATE MIX</b>	3/8" Epoxy Resin: General Polymers, "Sandrift," #18817 80% Bottechino #0,1,2 10% White #1,2 10% Clear Glass #3
<b>DESIGNATION</b>	STEP TZ-5 CTE ET-6
<b>LOCATION</b>	GML Hall, Concourse A, and CTE - Restrooms and Janitorial Closets
<b>AGGREGATE MIX</b>	3/8" Epoxy Resin: General Polymers "Charcoal" #19503 80% Black #0,1,2 10% White #0,1,2, 10% Amber Glass #3 or clear glass to match existing location (Amber glass at GML Hall and Concourse A locations and clear glass at CTE)
<b>DESIGNATION</b>	STEP TZ-3 CTE ET-3
<b>LOCATION</b>	South Ticketing Level Main Terminal Central - Esplanade, Checkpoint 3, Breezeway
<b>AGGREGATE MIX</b>	3/8" Epoxy Resin: White to match existing 60% White and Gold #0,1,2 15% White glass 15% Clear glass 10% Mother of Pearl Roman Tile & Mosaic #4297, #TI-3 04-28-9





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<b>DESIGNATION</b>	STEP TZ-6
<b>LOCATION</b>	South Terminal Expansion Project
<b>AGGREGATE MIX</b>	3/8" Epoxy Resin: Match Pratt & Lambert #1426 "ANCESTRAL White" 30% "Cactus Canyon" Green Marble 20% "Chewelian" White Marble, 15% "Cardiff" Green Marble 20% Mother-of-Pearl 15% CS Amber #9 Glass
<b>DESIGNATION</b>	STEP TZ-7
<b>LOCATION</b>	-
<b>AGGREGATE MIX</b>	3/8" Epoxy Resin: Match Engineer's Sample 70-80% Clear Glass #2 15-30% White & Gold Marble #01,2, 0-15% Mother-of-Pearl size 2
<b>DESIGNATION</b>	CTE ET-4
<b>LOCATION</b>	Main Terminal Central - Esplanade (Compass Design)
<b>NOTE</b>	<ul style="list-style-type: none"> <li>Compass design is part of the Art Program</li> <li>Coordinate with Port Art</li> </ul>
<b>AGGREGATE MIX</b>	100% Green Epoxy Resin 60% Sage Green Glass #1 20% Light Green Glass #1 15% Mother-of-Pearl # 2 5% Black Glass #1

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<b>DESIGNATION</b>	CTE ET-5
<b>LOCATION</b>	Main Terminal Central - Esplanade (Compass Design)
<b>NOTE</b>	<ul style="list-style-type: none"> <li>Compass design is part of the Art Program</li> <li>Coordinate with Port Art</li> </ul>
<b>AGGREGATE MIX</b>	100% Blue Epoxy Resin 85% Blue Plastic 98 15% Mother-of-Pearl #2
<b>DESIGNATION</b>	Concourse B - Field (Formula 553-1)
<b>LOCATION</b>	Concourse B - Stream
<b>NOTE</b>	<ul style="list-style-type: none"> <li>Bronze fishes in stream are part of the Art Program</li> <li>Coordinate with Port Art</li> </ul>
<b>AGGREGATE MIX</b>	General Polymers #40873 10% Chewalla White #0 25% Chewalla White #1 12 ½% Chewalla White #2 12 ½% CC Green #2 10% Mop #2 (Mother of Pearl) 5% CS Amber 9 #1 25% Marble Mix
	Seed 2 ½% T-Blue 5 #1 7 ½% Mop #2 25% CR Green 6 #2 25% Ant Green #2 10% CS Amber 9 #1 15% CO Blue 7 #1 15% CO Blue 7 #2





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<b>DESIGNATION</b>	Delta Sky Club TZ-1	No image provided
<b>LOCATION</b>	Concourse S - Delta Sky Club elevator lobby	
<b>AGGREGATE MIX</b>	“Terroxy” epoxy “lighter SEA brown” #522 40% Chew Black #1 45% Chew Black #2 10% Chew Cream #2 5% Chew Cream #1 Filler MW 200 (Note: Rough 24-80; fine 50 resin grout; polish 120 pads) (Sealer: 1 coat TESCO Crystal Seal High gloss solvent)	
<b>DESIGNATION</b>	Delta Sky Club TZ-2	No image provided
<b>LOCATION</b>	Concourse S - Delta Sky Club	
<b>AGGREGATE MIX</b>	“Terroxy” epoxy Sandrift #1462 80% Inyo Bronze # 0, 1, 2; 800 800 800 by Terrazzo and Marble Supply Co. (Chicago) 10% Chew White #1 10% Clear Glass #2 by Terrazzo and Marble Supply Co. (Sealer: 1 coat TESCO Crystal Seal II High gloss) (2 coats ZEP Floor Finish 3 wet look sheen)	



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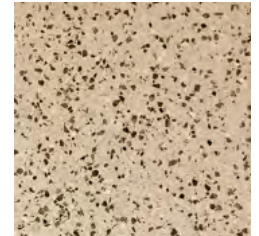
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<b>DESIGNATION</b>	Concourse B TER-1, 1995
<b>LOCATION</b>	Concourse B
<b>AGGREGATE MIX</b>	Ancestral White Epoxy (GP) 20% CH. White #0 30% CH. White #1 15% CH. White #2 10% CC Green #2 15% Mother of Pearl #2 10% Amber Glass #1



<b>DESIGNATION</b>	Concourse B TER-2, 1995
<b>LOCATION</b>	Concourse B
<b>AGGREGATE MIX</b>	Ancestral White Epoxy (GP) 20% CH. White #0 15% CC Green #1 15% CC Green #2 5% Cardiff Green #1 10% Cardiff Green #2 20% Mother of Pearl #2 15% Amber Glass #1





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#### NOTES

Stone flooring is not to be used as a finish material for any interior public space, except in special spaces, such as the Central Terminal and the South Arrivals Hall.

#### LOCATIONS

Central Terminal  
South Arrivals Hall (GML)





## FLOORING

### Tile Flooring

#### Type 1

<b>PRODUCT NAME</b>	Ambassador AM36 Ceramic Tile
<b>DESCRIPTION</b>	Porcelain ceramic tiles with integral material and color
<b>SIZE</b>	Minimum of 12" x 12"
<b>COLOR</b>	Medium to medium light color palette
<b>FINISH</b>	Minimal surface texture for easy and effective cleaning Medium or dark colored epoxy grout Unglazed Matte finish Slip resistant Cushion edge type Glazed (as accents only)
<b>NOTES</b>	<ul style="list-style-type: none"> <li>High quality installation is essential to minimize the risk of cracking.</li> <li>Base to be coved for ease of maintenance.</li> </ul>
<b>LOCATIONS</b>	North, South Satellites



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### Tile Flooring

#### Type 2

<b>DESCRIPTION</b>	Porcelain ceramic tiles with integral material and color
<b>SIZE</b>	Minimum of 12” x 12”
<b>COLOR</b>	Medium to medium light color palette
<b>FINISH</b>	Minimal surface texture for easy and effective cleaning Medium or dark colored epoxy grout Unglazed Matte finish Slip resistant Cushion edge type Glazed (as accents only)
<b>NOTES</b>	<ul style="list-style-type: none"> <li>High quality installation is essential to minimize the risk of cracking.</li> <li>Base to be coved for ease of maintenance.</li> </ul>
<b>LOCATIONS</b>	Animal Relief Area

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- Check-In Lobby
- Baggage Claim Lobby
- Esplanade





## FLOORING

### Walk-Off Mat

#### Type 1

<b>PRODUCT NAME</b>	Abrasive Action II Walk-Off Mat 6'-0" Roll Powerbond
<b>DESCRIPTION</b>	Basket weave or checkerboard pattern with recessed extruded aluminum Units of edge grain laminated and chenille buffed rubber tire mats 3/8" to 7/16" thick Rubber tires are recycled
<b>SIZE</b>	12" x 12"
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Walk-off mats are in high traffic areas and must be durable. The mats are to be rubber tire floor mats and act as a transition from the exterior to interior.</li> <li>Mats will be recessed in frames set in terrazzo floors.</li> <li>The recessed mat frames will require corner pins, or reinforcing and installation anchors.</li> <li>The floor mats will be installed from the center point so tiles at each edge will be no less than one-half tile and equal in width.</li> <li>Extruded aluminum shall be ASTM B 221, with alloy 6063-T9.</li> <li>Provide edge members in single lengths.</li> </ul>
<b>LOCATIONS</b>	Check-In Lobby Baggage Claim Lobby South Arrivals Hall (GML)



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### Walk-Off Mat

#### Type 2

<b>PRODUCT NAME</b>	Abrasive Action II Walk-Off Mat 6'-0" Roll Powerbond
<b>DESCRIPTION</b>	Basket weave or checkerboard pattern with recessed extruded aluminum Units of edge grain laminated and chenille buffed rubber tire mats 3/8" to 7/16" thick Rubber tires are recycled
<b>SIZE</b>	12" x 12"
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Walk-off mats are in high traffic areas and must be durable. The mats are to be rubber tire floor mats and act as a transition from the exterior to the interior.</li> <li>Mats will be recessed in frames set in terrazzo floors.</li> <li>The recessed mat frames will require corner pins, or reinforcing and installation anchors.</li> <li>The floor mats will be installed from the center point so tiles at each edge will be no less than one-half tile and equal in width.</li> <li>Extruded aluminum shall be ASTM B 221, with alloy 6063-T9.</li> <li>Provide edge members in single lengths.</li> </ul>
<b>LOCATIONS</b>	Skybridge



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### Fixed Floor Mat

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#### DESCRIPTION

Rubber tire mats with recessed mat frame and mat installation adhesive

#### SIZE

Size and style to fit floor mat type

#### FINISH

Edge grain laminated and chenille buffed rubber tire mats 3/8" to 7/16" thick  
12" square tiles are to be set in a basket weave or checkerboard pattern

#### NOTES

- Mats will be recessed in frames set in terrazzo floors.
- The recessed mat frames will require corner pins, or reinforcing and installation anchors.
- The floor mats will be installed from the center point so tiles at each edge will be no less than one-half tile and equal in width.
- Preference will be given to products with a high percentage of recycled content.



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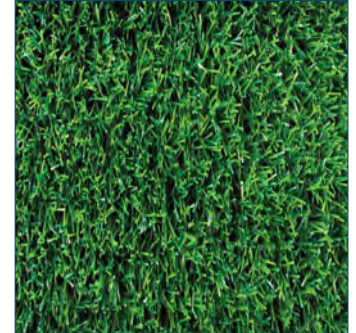
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<b>DESCRIPTION</b>	Washable permeable surface with drainage system underneath
<b>LOCATIONS</b>	Animal Relief Area
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Artificial turf specially designed as an animal relief surface, treated to inhibit the spread of disease, for indoor (and outdoor) areas</li> </ul>



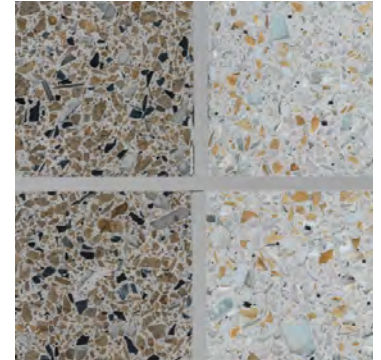


## FLOORING

### Transition Details

#### Terrazzo to Terrazzo

<b>FINISH</b>	Zinc
<b>NOTES</b>	Plastic dividers are not allowed.
<b>LOCATIONS</b>	All areas with terrazzo flooring
<b>LINKS</b>	Design Intent Drawings



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#### Walk-Off Mat to Terrazzo

PRODUCT NAME	Schiene
COLOR	Gray   Black
LOCATIONS	All areas with walk-off mats and terrazzo flooring

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### Expansion Control Cover Plates

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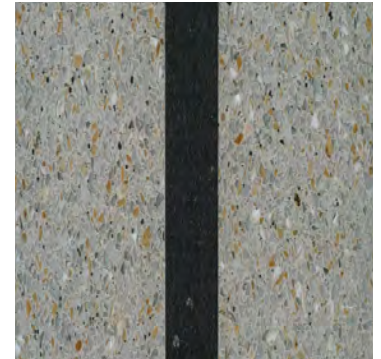
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<b>PRODUCT NAME</b>	MM Systems Series HDT 2-1 Extra Heavy Duty
<b>FINISH</b>	Stainless steel satin finish Pre-finished aluminum
<b>LOCATIONS</b>	All areas with expansion joints





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- Paint finishes for walls should be chip-resistant and suitable for high-traffic areas.
- “Port Super White” is the standard paint color.
- Low VOC paint should be specified.
- Any accent paint on walls should be neutral colors.
- Any painted drywall should be above 8 feet — out of passengers’ reach.



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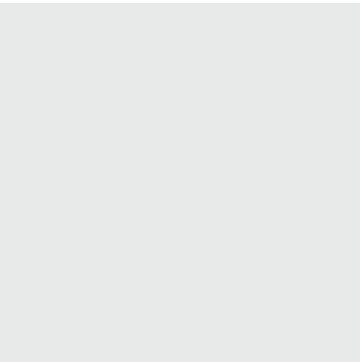
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PAINT

Interior Paint

Type 1

ACCEPTABLE MANUFACTURERS	Sherwin Williams
DESCRIPTION	Low VOC latex paint
COLOR	Port super white
FINISH	Egg shell
NOTES	<ul style="list-style-type: none"> <li>Use custom manual match.</li> <li>To ensure consistent color, always order enough paint to complete the job and mix all containers of the same color before application.</li> <li>Mixed colors may vary slightly from color strip or color chip.</li> </ul>
LOCATIONS	All areas





PAINT

Interior Paint

Type 2

COLOR	Dark Bronze
NOTES	<ul style="list-style-type: none"> <li>Should be applied to bracing and other horizontal elements throughout the main terminal.</li> <li>To ensure consistent color, always order enough paint to complete the job and mix all containers of the same color before application.</li> <li>Mixed colors may vary slightly from color strip or color chip.</li> </ul>
LOCATIONS	Mezzanine Skybridges Esplanade

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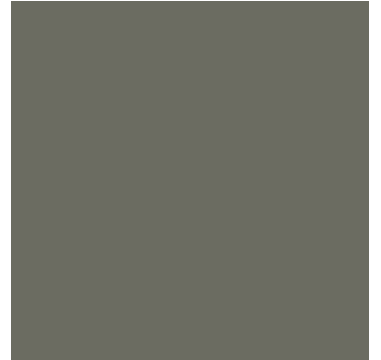


## PAINT

### Exterior Paint

#### Type 1

<b>PRODUCT NAME</b>	8090-52102 Ramp Gray
<b>ACCEPTABLE MANUFACTURERS</b>	Sherwin Williams
<b>COLOR</b>	Gray
<b>FINISH</b>	Flat
<b>NOTES</b>	<ul style="list-style-type: none"> <li>To ensure consistent color, always order enough paint to complete the job and mix all containers of the same color before application.</li> <li>Mixed colors may vary slightly from color strip or color chip.</li> </ul>
<b>LOCATIONS</b>	Exterior Ramp Level



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Exterior Paint

Type 2

<b>FINISH</b>	Primer: zinc-rich non-ferrous urethane primer, high solids polyamide epoxy, or urethane, as recommended by topcoat manufacturer for adhesion to new galvanized surfaces and compatibility with finish coat material Intermediate coat: high solids polyamide epoxy or urethane Finish coat: urethane
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Finishes shall be cleanable and abrasion resistant.</li> <li>• Allow for ease of matching finishes in-situ.</li> </ul>

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Powder Coating

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FINISH

Opaque, translucent, or transparent system appropriate for metal paint finish scheduled tubing, and sheet material

Minimum 70-micron TGIC polyester based coating that is prepared, pre-treated, and applied based on manufacturer instructions

Primer and base coats applied as per manufacturer requirements

NOTES

- Finishes shall be cleanable and abrasion resistant.
- Allow for ease of matching finishes in-situ.



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Concrete Paint

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FINISH

Primer: exterior masonry acrylic primer, low-sheen

Intermediate coat: same as topcoat

Topcoat: exterior masonry acrylic flat coating, low sheen

NOTES

- Finishes shall be cleanable and abrasion resistant.
- Allow for ease of matching finishes in-situ.



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Liquid Applied System Paint

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DESCRIPTION	Shall be appropriate for all paint finish scheduled substrate material
NOTES	<ul style="list-style-type: none"> <li>Finishes shall be cleanable and abrasion resistant.</li> <li>Allow for ease of matching finishes in-situ.</li> </ul>



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Opaque Cementitious Paint System

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DESCRIPTION	Water based system compatible with substrate and appropriate to exposure conditions
FINISH	Sand aggregates may be used to achieve visual requirements
NOTES	<ul style="list-style-type: none"> <li>Finishes shall be cleanable and abrasion resistant.</li> <li>Allow for ease of matching finishes in-situ.</li> </ul>



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### Slip-Resistant Floor Coating

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<b>PRODUCT NAME</b>	ArmorSeal 8100 Epoxy (Part A) B70A8160
<b>ACCEPTABLE MANUFACTURERS</b>	Sherwin Williams
<b>DESCRIPTION</b>	Aluminum oxide non-slips #46-70 grit for combination with matrix
<b>COLOR</b>	Haze gray
<b>FINISH</b>	Satin
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Coating to be 2-part water-based epoxy.</li> <li>Add H&amp;C Sharkgrip Slip-Resistant Additive.</li> <li>Non-skid inserts must be provided at stair tread nosings, ramps, and other sloped floor surfaces; and shall be installed flush to the floor to minimize dirt entrapment and chipping.</li> <li>A medium colored, non-skid material is preferable to maintain a tidy appearance by hiding soiling and staining.</li> </ul>
<b>LINKS</b>	<a href="https://www.paintdocs.com/docs/webPDF.jsp?SITEID=SWPROTECT&amp;doctype=SDS&amp;lang=E&amp;prodno=B70Vo8100">https://www.paintdocs.com/docs/webPDF.jsp?SITEID=SWPROTECT&amp;doctype=SDS&amp;lang=E&amp;prodno=B70Vo8100</a>



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Slip-Resistant Floor Coating

Hardener

PRODUCT NAME	ArmorSeal 8100 Epoxy (Part B) B7oV8100
ACCEPTABLE MANUFACTURERS	Sherwin Williams
DESCRIPTION	Aluminum oxide non-slips #46-70 grit for combination with matrix
COLOR	Hardener
FINISH	N/A
NOTES	<ul style="list-style-type: none"> <li>Non-skid inserts must be provided at stair tread nosings, ramps, and other sloped floor surfaces; and shall be installed flush to the floor to minimize dirt entrapment and chipping.</li> <li>A medium colored, non-skid material is preferable to maintain a tidy appearance by hiding soiling and staining.</li> </ul>



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Urethane Semi-Gloss

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ACCEPTABLE  
MANUFACTURERS

- TNEMEC Series 75 “Endura Shield”
- Wasser “MC-Luster”
- Sherwin Williams “Hi-Solids Polyurethane”
- B65 Series/B60V30
- Carboline “Carbothane” 134 HS with flatting agent

LOCATIONS

Central Terminal

South Arrivals Hall (GML)



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Walls are subjected to much wear and tear, primarily from luggage and luggage carts. Durability and longevity of finishes are the primary concerns. Some additional guidelines apply:

- Acoustic treatment should be considered for vertical surfaces, especially in the holdrooms.
- The fabric used on stretched or tackable wall panels should have a suitable noise reduction coefficient (NRC).
- Wood is an accent only and should be used with a wainscot.
- Wood paneling used as a wallcovering should ideally wrap around the corner to feel continuous and create a transition into the next space.
- Stone is acceptable for feature or accent but it should match existing finishes.
- A chair rail should be installed on all public-facing areas.

SEA has defined wall panel systems as outlined below. Any additional variations must be approved.

High-traffic area (anywhere that's visible and accessible) wall panel system (total height 8 feet):

- Ribbed panels: alternating directions
- 12" stainless steel base (angel hair finish)
- 24" wainscot (above base or 36" without base)
- 60" panel on top

Low-traffic (baggage claim back wall) or back of house:

- Rubber Base
- PLam panels



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Holdrooms:

- Wainscot
  - Solid core PLam (phenolic core)
  - 12” stainless steel base
  - 24” wainscot (above base or 36” without base)
- Chair rail above all wainscots at a height that aligns with furniture heights, so as to protect the wall from banging
- Variable material above wainscot, but it must be:
  - Replaceable
  - Cleanable
  - Modular
  - Acoustic
  - Durable

Acceptable top material:

- Fabric
- Paint on Drywall (above 8 feet)
- Wood Paneling
- Metal Panel



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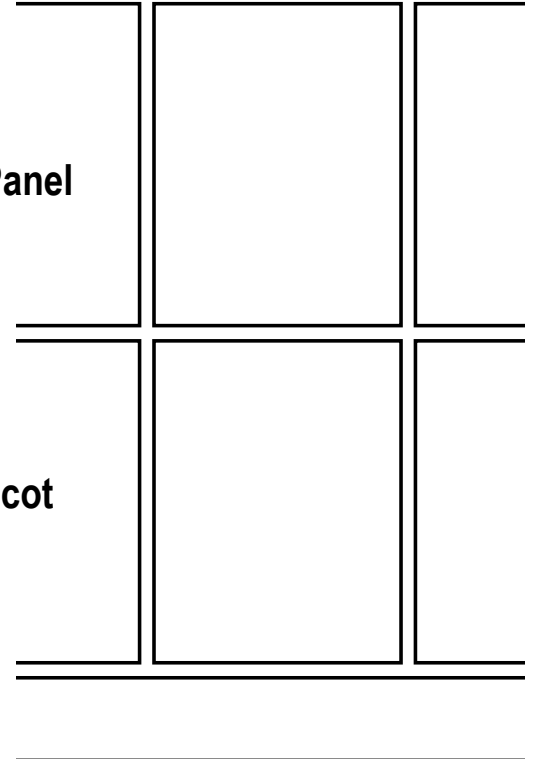
Wall Panel

Base

Wall Panel

Wainscot

Base





## WALLCOVERING

### Systems

#### PLam System Type 1

##### ACCEPTABLE MANUFACTURERS

Formica  
Nevamar  
WilsonArt  
Laminart  
InPro Sanparrel

##### DESCRIPTION

Colored, high-pressure decorative laminate with solid color core  
Panel trim: stainless steel flat bar, half round trim, or aluminum trim

##### SIZE

Panel trim: PVC edging to be 2mm or 3mm thick flat strip  
36" base and wainscot on high traffic areas

##### COLOR

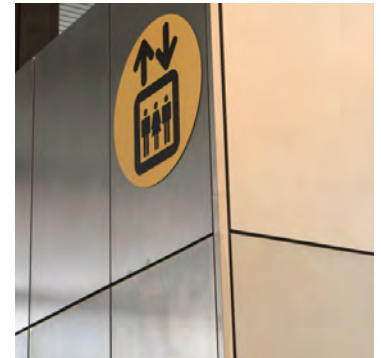
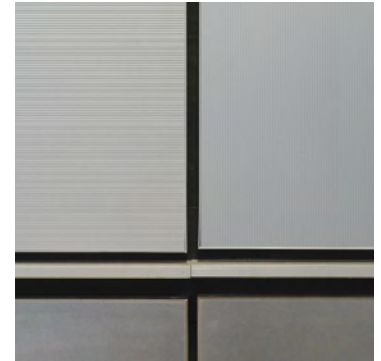
Neutral color

##### FINISH

Matte finish  
Panel trim: wood tape PVC edging

##### NOTES

- Old standard followed in south pier.
- Hang on a French Cleat system.
- For plastic laminate, apply full coverage of manufacturer's recommended quantity of adhesive to each surface.
- Generally, light to medium neutral colors and subtle patterns are preferred.
- Custom colors and textured plastic laminate finishes are not allowed.



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##### NOTES

- Plastic laminate panel walls must be provided with a separate wainscot panel of a relatively heavy-duty material, such as stainless steel laminate or other acceptable metal laminate finishes. Although the wainscot finish and plastic laminate are of different materials, they must be visually compatible. Standard wainscot height is 36" from finish floor.
- Use manageable panel sizes and concealed metal cleats for panel attachment so individual panels can be easily removed and replaced for repairs and cleaning.
- Details that allow panel removal and replacement should not sacrifice the finished wall's overall tidy and uncluttered appearance; do not use exposed fasteners.
- Maximum reveal widths between panels to be 1/4".
- Masonite spacers, black, or dark painted, must be provided at reveal locations.
- Edges at reveals shall be stainless steel or aluminum trim.
- Provide durable protection for all panel edges exposed to potential damage.
- Plastic laminate panels to be trimmed with either stainless steel flat bar, stainless steel half round panel trim, vinyl (PVC) panel trim, or aluminum trim. Stainless steel and other metal laminate wainscot panels to be trimmed with stainless steel flat bar.
- Metal edges shall be chamfered or rounded.
- Formed edges and joints in the plastic laminate panel face are not allowed.
- Sealant at floor junctions shall be dark colored and detailed so deep pockets will not form to collect dust and dirt.

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- Esplanade
- Passageways
- Check-In Lobby
- Promenade
- Central Terminal
- South Arrivals Hall (GML)
- Concourses A, B, C, D
- North, South Satellites
- Satellite Transit System Stations
- International Arrivals
- Federal Inspection Services
- International Arrivals Baggage Claim
- Aircraft Passenger Loading Bridges



## WALLCOVERING

### Systems

#### PLam System Type 2

##### ACCEPTABLE MANUFACTURERS

Formica  
Nevamar  
WilsonArt  
Laminart  
InPro Sanparrel

##### DESCRIPTION

Full height panels with a rubber base for non high traffic areas  
Colored high-pressure decorative laminate with solid color core  
Panel trim: stainless steel flat bar, half round trim or aluminum trim

##### COLOR

Neutral color

##### FINISH

Matte finish  
Panel trim: wood tape PVC edging



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## WALLCOVERING

### Systems

#### PLam System Type 2

##### NOTES

- For plastic laminate, apply full coverage of manufacturer’s recommended quantity of adhesive to each surface.
- Generally, light to medium neutral colors and a subtle pattern are preferred.
- Custom colors and textured plastic laminate finishes are not allowed.
- Plastic laminate panel walls must be provided with a separate wainscot panel of a relatively heavy-duty material, such as stainless steel laminate or other acceptable metal laminate finishes. Although the wainscot finish and plastic laminate are of different materials, they must be visually compatible. Standard wainscot height is 36” from finish floor.
- Use manageable panel sizes and concealed metal cleats for panel attachment so individual panels can be easily removed and replaced for repairs and cleaning.
- Details that allow panel removal and replacement should not sacrifice the finished wall’s overall tidy and uncluttered appearance; do not use exposed fasteners.
- Maximum reveal widths between panels to be 1/4”.
- Masonite spacers, black, or dark painted, must be provided at reveal locations.
- Edges at reveals shall be stainless steel or aluminum trim.
- Provide durable protection for all panel edges exposed to potential damage.
- Plastic laminate panels to be trimmed with either stainless steel flat bar, stainless steel half round panel trim, vinyl (PVC) panel trim, or aluminum trim. Stainless steel and other metal laminate wainscot panels to be trimmed with stainless steel flat bar.
- Metal edges shall be chamfered or rounded.
- Formed edges and joints in the plastic laminate panel face are not allowed.
- Sealant at floor junctions shall be dark colored and detailed so deep pockets will not form to collect dust and dirt.

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## WALLCOVERING

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#### PLam System Type 3

##### ACCEPTABLE MANUFACTURERS

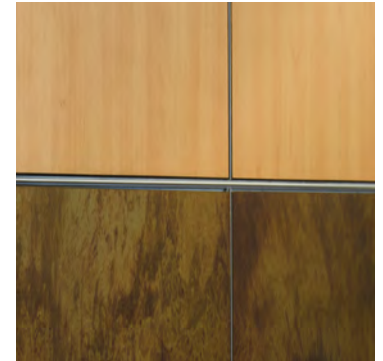
Formica  
Nevamar  
WilsonArt  
Laminart  
InPro Sanparrel  
For Panel Trim:  
Wood tape PVC Edging

##### DESCRIPTION

Dual-tone wall system  
Colored high-pressure decorative laminate with solid color core  
Panel trim: stainless steel flat bar, half round trim, or aluminum trim

##### FINISH

Matte finish, neutral colors



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## WALLCOVERING

### Systems

#### PLam System Type 3

##### NOTES

- For plastic laminate, apply full coverage of manufacturer's recommended quantity of adhesive to each surface.
- Generally, light to medium neutral colors and a subtle pattern are preferred.
- Custom colors and textured plastic laminate finishes are not allowed.
- Plastic laminate panel walls must be provided with a separate wainscot panel of a relatively heavy-duty material, such as stainless steel laminate or other acceptable metal laminate finishes. Although the wainscot finish and plastic laminate are of different materials, they must be visually compatible. Standard wainscot height is 36" from finish floor.
- Use manageable panel sizes and concealed metal cleats for panel attachment so individual panels can be easily removed and replaced for repairs and cleaning.
- Details that allow panel removal and replacement should not sacrifice the finished wall's overall tidy and uncluttered appearance; do not use exposed fasteners.
- Maximum reveal widths between panels to be 1/4".
- Masonite spacers, black, or dark painted, must be provided at reveal locations.
- Edges at reveals shall be stainless steel or aluminum trim.
- Provide durable protection for all panel edges exposed to potential damage.
- Plastic laminate panels to be trimmed with either stainless steel flat bar, stainless steel half round panel trim, vinyl (PVC) panel trim, or aluminum trim. Stainless steel and other metal laminate wainscot panels to be trimmed with stainless steel flat bar.
- Metal edges shall be chamfered or rounded.
- Formed edges and joints in the plastic laminate panel face are not allowed.
- Sealant at floor junctions shall be dark colored and detailed so deep pockets will not form to collect dust and dirt.

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#### Metal Wall System

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#### DESCRIPTION

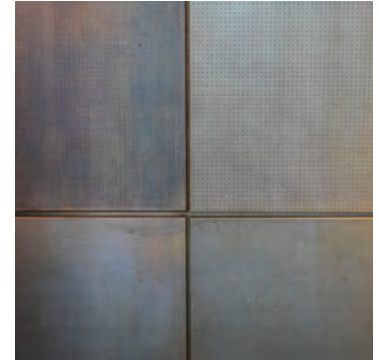
Wainscot (36" A.F.F.)  
 Lower panel: ribbed stainless steel  
 Upper panel: smooth stainless steel  
 Stainless steel:  
 Sheet material is required to be non-directional, 100 grit  
 Formed or cast materials with flat faces are required to be non-directional, 100 grit  
 Formed or cast materials with curved or shaped surfaces are required to be No. 4 brushed  
 Bead blast finishes, sealers, and coatings are not allowed

#### FINISH

Use finishes which give the overall surface a matte and non-reflective look, and an even color tone throughout  
 Finishes shall not exhibit visual changes when subjected to fingerprints and scratches

#### NOTES

- Metal wall panels shall be provided with a separate wainscot panel of the same metal material or another acceptable metal laminate finish. If of different materials, wainscot finish, and metal panel finish shall be visually compatible.
- Use manageable panel sizes and concealed metal cleats for panel attachment so individual panels can be easily removed and replaced for repairs and cleaning.
- Details that allow panel removal and replacement should not sacrifice the finished wall's overall tidy and uncluttered appearance; do not use exposed fasteners.
- Maximum reveal widths between panels to be 1/4".
- Masonite spaces, black, or dark painted, shall be provided at reveal locations.
- Provide durable protection for all panel edges exposed to potential damage with stainless steel flat bar or aluminum trim. Stainless steel or aluminum trim finish shall match or blend well with the metal panel finish and color.
- Exposed fasteners shall not be used.
- Sealant at floor junctions shall be dark colored and detailed so deep pockets will not form to collect dust and dirt.
- Sandblasted finish, sealers, and coatings are not allowed in any stainless steel finish.





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#### Wood Paneling System

<b>DESCRIPTION</b>	Consider wrapping finish around corners to make any transition in finish or space feel continuous and smoother 3/4" thick minimum all face solid veneer plywood panels with fire retardant finish
<b>COLOR</b>	Maple or similar light wood (Anigre is no longer an acceptable species.)
<b>FINISH</b>	Transparent clear sealer Transparent stain
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Use uniform grained and light colored wood finishes to maintain an open and bright interior space quality.</li> <li>• Wood panels to be used only in areas that are protected and out of public reach (above 8 feet).</li> <li>• Wood panel walls shall be provided with a separate wainscot panel of a relatively heavy-duty material, such as stainless steel laminate or other acceptable metal laminate finishes. Standard wainscot height is 36" from finish floor.</li> <li>• Use manageable panel sizes and concealed metal cleats for panel attachment so individual panels can be easily removed and replaced for repairs and cleaning.</li> <li>• Details that allow panel removal and replacement should not sacrifice the finished wall's overall tidy and uncluttered appearance; do not use exposed fasteners.</li> <li>• Maximum reveal widths between panels to be 1/4".</li> <li>• Masonite spaces, black, or dark painted, must be provided at reveal locations.</li> <li>• Panel edges at reveals to have stainless steel or aluminum trim.</li> <li>• Provide durable protection for all panel edges exposed to potential damage with stainless steel or aluminum flat bar.</li> <li>• Sealant at floor junctions shall be dark colored and detailed so deep pockets will not form to collect dust and dirt.</li> <li>• Composite wood and adhesives, used on any fabrications built for the interior of the Airport, will not contain added urea-formaldehyde.</li> </ul>



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- Baggage Claim Lobby
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- South Arrivals Hall (GML)
- Concourses A, B, C, D
- North, South Satellites
- Satellite Transit System Stations



## WALLCOVERING

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#### Stone Wallcovering System

<b>NOTES</b>	Approval from the Port of Seattle is required for any intended use of stone wall facing in specially designated areas.
<b>LOCATIONS</b>	Central Terminal South Arrivals Hall (GML)

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#### Fabric Wrapped Panel System

DESCRIPTION	Acoustic panel core with acoustically absorbent semi-rigid fiberglass.
NOTES	<ul style="list-style-type: none"> <li>Use manageable panel sizes and concealed metal cleats for panel attachment so individual panels can be easily removed and replaced for repairs and cleaning.</li> <li>Details that allow panel removal and replacement should not sacrifice the finished wall's overall tidy and uncluttered appearance; do not use exposed fasteners.</li> <li>Use square edge acoustic panels with appropriate edge protection where edges are susceptible to damage.</li> <li>Use panels rated for high impact.</li> </ul>
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LINKS	Design Intent Drawings

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## WALLCOVERING

### Systems

#### Pre-Cast Concrete Panels System

<b>ACCEPTABLE MANUFACTURERS</b>	<p>Tecon Pacific</p> <p>Architectural Pre-Cast Structures</p> <p>Panorama Building Systems, Ltd.</p> <p>Olympian Pre-Cast, Inc.</p> <p>Walters &amp; Wolf Pre-Cast</p>
<b>FINISH</b>	<p>Light sandblast to eliminate imperfections</p>
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Concrete surfaces to be appropriately sealed prior to application of finishes.</li> <li>Choice of finishes and textures shall take into consideration the material’s ability to resist abuse and conceal slight imperfections or minor physical damages.</li> <li>Use only penetrating type of concrete sealers. Film forming sealers may not be able to hold against outward moisture migration.</li> <li>In areas accessible by the public, use a permanent or non-sacrificial type of anti-graffiti coating, or other applicable soil and dirt control coating, that does not alter the appearance of the exposed, concrete surface.</li> <li>For sidings and panels, provide clearance at panel edges, corners, and transitions.</li> <li>Use concealed fasteners where practical.</li> <li>All structural and movement joints shall be appropriately covered.</li> </ul>

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#### Plastic Laminate

<b>NOTES</b>	For plastic laminate, apply full coverage of manufacturer’s recommended quantity of adhesive to each surface.

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# WALLCOVERING

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### Fabric Wallcovering

PRODUCT NAME	Xorel
ACCEPTABLE MANUFACTURERS	Carnegie - Xorel
DESCRIPTION	Vinyl coated fabrics or wall fabrics
FINISH	<p>Fabric material, colors, and finishes shall be durable and able to maintain and sustain appearances</p> <p>To ensure a neat appearance, use only non-staining, non-pigmented adhesives, and concealed cleats</p> <p>If required, use stainless steel or aluminum trims and metal accessories</p>
NOTES	<ul style="list-style-type: none"> <li>Use only woven fabrics and synthetic fibers.</li> <li>Fabric wallcovering to be used only in low traffic, passive areas; the fabric finish itself shall be above wainscot level.</li> <li>Avoid using in areas exposed to damage and abuse. Panel system should allow easy removal and replacement of individual panels without damage to adjacent panels.</li> <li>Fabric to be directly glued down to core panel.</li> <li>Fabric wrapped panels shall be butt-jointed or use reveals between fabric panels. In cases where a reveal is necessary between a fabric panel and a panel of a different finish material, provide Masonite spaces, painted to match or be compatible with the panel finishes. Maximum reveal width is 1/4”.</li> <li>End walls exposed to traffic shall be appropriately protected to prevent damage to the fabric material.</li> </ul>
LOCATIONS	Holdrooms



## WALLCOVERING

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Limestone Travertine

DESCRIPTION	Legacy wallcovering material
LOCATIONS	Central Terminal

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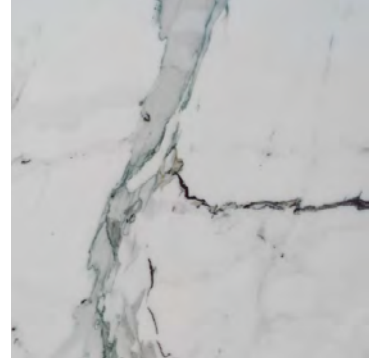
## WALLCOVERING

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#### Gazelle Granite

**DESCRIPTION** Legacy wallcovering material

**LOCATIONS** Central Terminal



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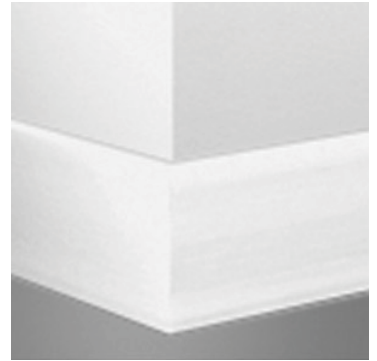
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#### Rubber Wall Base

##### PRODUCT NAME

Millwork Mandalay Rubber Wall Base



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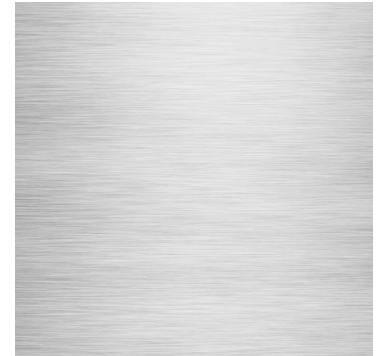


## WALLCOVERING

### Details

#### Base & Wainscot

<b>PRODUCT NAME</b>	Stainless steel
<b>DESCRIPTION</b>	Backed stainless steel base laminated to MDF and to be trimmed with stainless steel flat bar or half-round trim, or aluminum flat bar or half-round trim
<b>SIZE</b>	12" high wall base 24" high wainscot if above 12" wall base 36" high wainscot
<b>FINISH</b>	Stainless steel: angel hair (non-directional) Granite: honed Pre-cast terrazzo: polished or unpolished Trim: wood tape PVC edging Finish and colors must be visually compatible and consistent with the overall wall appearance Stainless steel: Non-directional, 100 grit Formed or cast materials with flat faces are required to be non-directional, 100 grit Formed or cast materials with curved or shaped surfaces are required to be no. 4 brushed Bead blast finishes, sealers, and coatings are not allowed
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Bumper rails or hard-surface wainscot shall be specified and shown on the walls in high-traffic corridors.</li> <li>Wall base material and finish shall be compatible with, if not similar to, the adjacent wall and floor finish material.</li> </ul>



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#### Base & Wainscot

##### NOTES

- A base must be provided where a wainscot of a durable materials is not preferred.
- For new installations and renovations, base height is a minimum of 12" from finish floor. Base height shall also protect the wall surface from damage caused by floor maintenance equipment. Match adjacent existing base heights where necessary and applicable.
- Wall bases shall be stainless steel, granite, terrazzo, or pre-cast terrazzo.
- 14-gauge or 16-gauge stainless steel shall be backed with wood for impact resistance. 10-gauge stainless steel shall be detailed for rigidity.
- Detail reveal or junction between base and wall/wainscot panel to allow removal of base and/or wall/wainscot panel without damage to either.
- Detail the junction between base and finish floor to prevent dirt from collecting into the junction.
- Where a wainscot is preferred in lieu of a base, the standard wainscot height shall be 36" from finish floor.
- Chair rails to top all wainscot.
- Use manageable panel sizes and concealed metal cleats for panel attachment so individual panels can be easily removed and replaced for repairs and cleaning.
- Do not use exposed fasteners. Metal edges to be chamfered or rounded.
- Sealant at floor junctions shall be dark colored and detailed so deep pockets will not form to collect dust and dirt.

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Storage  
Check-In Lobby  
Baggage Claim Lobby  
Promenade  
Central Terminal  
South Arrivals Hall (GML)  
Concourses A, B, C, D  
North, South Satellites  
Satellite Transit System Stations  
International Arrivals  
Federal Inspection Services  
International Arrivals Baggage Claim  
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### Chair Rails

<b>NOTES</b>	<ul style="list-style-type: none"> <li>Rails shall protect walls from furniture striking the walls but must not create a hazard for individuals striking their heads on the railing while sitting down.</li> </ul>
<b>LOCATIONS</b>	Holdrooms

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## WALLCOVERING

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#### Wall & Corner Guards

<b>DESCRIPTION</b>	Stainless steel, fastened mechanically and with adhesive Granite column covers are exceptions and shall have vinyl corner guards and black stone-faced columns in terminal (where susceptible to damage, use black vinyl corner guards)
<b>SIZE</b>	Minimum height above finish floor to be 36"
<b>FINISH</b>	Color and finish to match wall surfaces and finishes, or match column finishes, whichever is deemed more visually compatible Stainless steel corner guard: sheet material is required to be non-directional, 100 grit Formed or cast materials with flat faces are required to be non-directional, 100 grit Formed or cast materials with curved or shaped surfaces are required to be no. 4 brushed Bead blast finishes, sealers, and coatings are not allowed Vinyl corner guards: to match column facing
<b>NOTES</b>	Aluminum corner guards are not allowed.
<b>LOCATIONS</b>	All space types





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A number of column enclosure treatments exist throughout the airport, some of them tied to the base building materials. Going forward, a few standard approaches have been defined and are outlined below. Additionally, some general guidelines include:

- Existing main terminal building exterior column enclosures to remain dark in color, the same on both levels, in order to be architecturally cohesive.
- Interior concrete columns within the main terminal may adopt the approaches outlined below.
- All columns within the same area should receive the same material treatment.
- Columns should be kept free of signage, advertising, and equipment as much as possible.
- Alternative approaches to column enclosures in ADR areas are subject to review.
- Legacy finishes to not be used include all paint (white or white with gray base), white metal cladding, and stainless steel corner guards.

Preferred treatments:

- All stainless steel wrap
- Stainless steel wainscot 36" high (heavy gauge angel hair finish)
  - The top of columns may be a place for artistic work with ARC approval
- Existing materials
  - Black Granite
  - Cement (exterior)



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**Column**

**Column**

**Column**

**Wainscot**

**Wainscot**

**Base**



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<b>DESCRIPTION</b>	Black granite
<b>SIZE</b>	3/4" thick
<b>FINISH</b>	Vinyl corner guards
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Anodized aluminum reveal to match existing columns with no exposed fasteners.</li> <li>This highly durable cover material shall be used as a finish for all surfaces within public reach. A different material can thus be used above this height to mitigate costs (e.g., painted gypsum board). Use painted GWB in areas deemed to be above public reach. Exceptions to this finish must be used only above the 36" wainscot height.</li> <li>Painted metal covers may be used only above the 36" wainscot height.</li> <li>Always provide a minimum base height of 12" or a wainscot height of 36", whichever is applicable. Acceptable base and wainscot materials are stainless steel, granite, and height pressure plastic laminate to match the column cover.</li> </ul>
<b>LOCATIONS</b>	Check-In Lobby Baggage Claim Lobby Promenade Esplanade
<b>LINKS</b>	Design Intent Drawings





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#### DESCRIPTION

Sheet metal gauge selected for damage resistance  
Stainless steel base: 14 or 16 gauge, backed with wood for impact resistance  
Round columns: 14-gauge minimum unbacked  
Square columns: 12-gauge minimum unbacked  
Minimum 14 gauge is recommended for column covers

#### FINISH

Non-directional, 100 grit  
Formed or cast materials with flat faces are required to be non-directional, 100 grit  
Formed or cast materials with curved or shaped surfaces are required to be no. 4 brushed  
Bead blast finishes, sealers, and coatings are not allowed

#### NOTES

- This highly durable cover material shall be used as a finish for all surfaces within public reach. A different material can thus be used above this height to mitigate costs (e.g., painted gypsum board). Use painted GWB in areas deemed to be within public reach. Exceptions to this finish must be used only above the 36" wainscot height.
- Painted metal covers may be used only above the 36" wainscot height.
- The Port of Seattle to approve any use of textured steel to ensure that the surface will not collect dust and be easy to clean.
- Always provide a minimum base height of 12" or a wainscot height of 36", whichever is applicable. Acceptable base and wainscot materials are stainless steel, granite, and height pressure plastic laminate to match the column cover.
- Columns must be protected with column corner guards of compatible durable material.
- Polished stainless steel finish is not allowed.

#### LOCATIONS

South Satellites

#### LINKS

Design Intent Drawings



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#### DESCRIPTION

Columns: minimum 16-gauge smooth galvanized steel for durability at locations  
Beams: minimum 18-20 gauge smooth galvanized steel, with detailing appropriate to maintain a flat surface appearance  
All exterior fasteners or fasteners in wet areas to be series 300 stainless steel

#### FINISH

Exterior and interior of metal panels to receive a shop-applied three-coat spray application of high performance fluorocarbon coating with a minimum of 70% Kynar 500 resin

#### NOTES

- This highly durable cover material shall be used as a finish for all surfaces within public reach. A different material can thus be used above this height to mitigate costs (e.g., painted gypsum board). Use painted GWB in areas deemed to be above public reach. Exceptions to this finish must be used only above the 36" wainscot height.
- Painted metal covers may be used only above the 36" wainscot height.
- Always provide a minimum base height of 12" or a wainscot height of 36", whichever is applicable. Acceptable base and wainscot materials are stainless steel, granite, and height pressure plastic laminate to match the column cover.
- Columns must be protected with column corner guards of compatible durable material.

#### LOCATIONS

Concourses A





## COLUMN ENCLOSURES

### Stucco

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#### FINISH

Three-coat Portland cement plaster, white Portland cement for finish coat  
Smooth finish with sand aggregate in finish coat  
Sealed prior to finish

#### NOTES

- This highly durable cover material shall be used as a finish for all surfaces within public reach. A different material can thus be used above this height to mitigate costs (e.g., painted gypsum board). Use painted GWB in areas deemed to be above public reach. Exceptions to this finish must be used only above the 36" wainscot height.
- Painted metal covers may be used only above the 36" wainscot height.
- Always provide a minimum base height of 12" or a wainscot height of 36", whichever is applicable. Acceptable base and wainscot materials are stainless steel, granite, and height pressure plastic laminate to match the column cover.
- Columns must be protected with column corner guards of compatible durable material.



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### Textured Column Finish

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#### NOTES

- The ARC to approve any use of textured steel to ensure that the surface will not collect dust and will be easy to clean.
- This highly durable cover material shall be used as a finish for all surfaces within public reach. A different material can thus be used above this height to mitigate costs (e.g., painted gypsum board). Use painted GWB in areas deemed to be above public reach. Exceptions to this finish must be used only above the 36” wainscot height.
- Painted metal covers may be used only above the 36” wainscot height.
- Always provide a minimum base height of 12” or a wainscot height of 36”, whichever is applicable. Acceptable base and wainscot materials are stainless steel, granite, and height pressure plastic laminate to match the column cover.
- Columns must be protected with column corner guards of compatible durable material.
- Polished stainless steel finish is not allowed.

#### LOCATIONS

Concourses A, B, C, D

North, South Satellites



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### PLam

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#### ACCEPTABLE MANUFACTURERS

Formica  
Nevamar  
WilsonArt  
Laminart  
InPro Sanparrel

#### FINISH

Colored high-pressure decorative laminate with solid core, matte finish  
Vinyl corner guards

#### NOTES

- This highly durable cover material shall be used as a finish for all surfaces within public reach. A different material can thus be used above this height to mitigate costs (e.g., painted gypsum board). Use painted GWB in areas deemed to be above public reach. Exceptions to this finish must be used only above the 36" wainscot height.
- Painted metal covers may be used only above the 36" wainscot height.
- Always provide a minimum base height of 12" or a wainscot height of 36", whichever is applicable. Acceptable base and wainscot materials are stainless steel, granite, and high pressure plastic laminate to match the column cover.
- Columns must be protected with column corner guards of compatible durable material.

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International Arrivals  
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International Arrivals Baggage Claim



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### Gypsum Board

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FINISH	Paint
NOTES	<ul style="list-style-type: none"> <li>Use painted GWB in areas deemed to be above public reach. Exceptions to this finish must be used only above the 36” wainscot height.</li> <li>Always provide a minimum base height of 12” or a wainscot height of 36”, whichever is applicable. Acceptable base and wainscot materials are stainless steel, granite, and high pressure plastic laminate to match the column cover.</li> <li>Columns must be protected with column corner guards of compatible durable material.</li> </ul>



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### 3.12 CEILINGS

Ceilings offer architectural and visual interest, as well as sound-absorbing acoustic properties. Additionally, they hide potentially unsightly infrastructure and mechanical systems from sight.

DV DG AS A





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Metal Ceiling  
Gypsum Board Ceiling

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**Best Practices**

- Ceilings should be clean and simple.
- Acoustic properties and performance are the most important criteria.
- Ceiling height should be maximized, while taking into consideration cost and access for MEPF infrastructure.
- Utilize the same ceiling system throughout a concourse .
- Limit the use of hard ceilings to accent areas and soffits.
- Drywall soffits to be painted white.
- Metal ceilings and wood ceilings can be used in feature areas.
- Align floor and ceiling treatments, particularly in public spaces.
- Provide access panels in all ceiling types. They should be able to be maneuvered by one person without assistance.
- Up-lighting is preferred on paneled ceilings.

**Desired finishes**

- Acoustic Ceiling Tile (ACT)
- Metal Panels
- Wood Panel
- Gypsum Board

**Legacy finishes**

- Textured Acoustic Ceiling Tile (ACT)
- Linear Metal Ceiling

**Applicable LEED Credit Requirements:**

- IEQ – Low-Emitting Materials



**New**



**Archive**



**Sustainable**



## ACOUSTIC CEILING TILE (ACT)

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#### Acoustic Ceiling Tile (ACT)

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<b>PRODUCT NAME</b>	Ultima Regular 1912 Ceiling Tile
<b>ACCEPTABLE MANUFACTURERS</b>	Armstrong
<b>SIZE</b>	24" x 24" x 3/4" 24" x 48" x 3/4"
<b>COLOR</b>	White
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Allow an access panel.</li> <li>• For wire suspended ceilings, wrap "tails" of the wires tight to the main cord of wire. Tails shall not interfere with tile removal or pose a safety hazard for maintenance activities.</li> <li>• Use acoustical panels that comply with all requirements for fire resistance, thermal, sound, noise reduction properties, deflection, contraction, and expansion.</li> <li>• Installation shall allow damaged tiles to be easily removed and replaced.</li> <li>• Ensure future availability of acoustic tile product to match initial installation.</li> <li>• Suspension system will be airport standard grid system as specified in this section.</li> <li>• No concealed grids or splines will be allowed.</li> <li>• Install smoke barriers as required by code. Smoke barriers to have clear glazing and frameless concealed fasteners.</li> </ul>
<b>LOCATIONS</b>	Throughout Terminal





## METAL CEILING

### Tile

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#### Metal Ceiling

##### Tile

Linear

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<b>ACCEPTABLE MANUFACTURERS</b>	Simplex Ceilings
<b>DESCRIPTION</b>	Perforation pattern #2, .0625" (1/16") diameter holes at .226"; 45-degree staggered centers; .24" unperforated borders
<b>SIZE</b>	24" x 24" 24" x 48"
<b>COLOR</b>	White
<b>FINISH</b>	Baked enamel, fluorocarbon resin, or powder coated; with adhered acoustic inserts Ceiling color shall be white throughout to maintain a quality of openness and brightness in the interior space.
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Coordinate with POS (carpenter shop) before removing or replacing existing metal ceiling tiles. Improperly removed or installed ceiling material may create an overhead hazard.</li> <li>Durability, ease of plank removal and replacement, as well as ease of cleaning should all be considered in product choice.</li> <li>Install smoke barriers as required by code. Smoke barriers to have clear glazing and frameless concealed fasteners.</li> <li>Steel panels shall be 20-gauge minimum. Aluminum panels shall be minimum .04" thick.</li> </ul>
<b>LOCATIONS</b>	Concourses





## METAL CEILING

### Linear

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#### Metal Ceiling

Tile

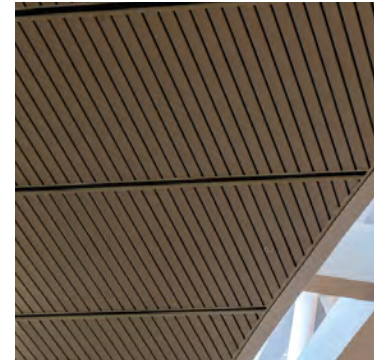
#### Linear

Gypsum Board Ceiling

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<b>PRODUCT NAME</b>	(A) Paraline 1 Integral Splice Perforated Texture Steel Ceiling
<b>ACCEPTABLE MANUFACTURERS</b>	(A) USG (B) Simplex Ceilings
<b>DESCRIPTION</b>	Linear perforated metal ceiling system
<b>SIZE</b>	(A, C) 4" (B) 12"
<b>COLOR</b>	(A, B) White (C) Dark Bronze All linear metal ceilings shall match existing. In other spaces, ceiling color shall be white to maintain a quality of openness and brightness in the interior space.
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Paint linear ceiling light for refresh projects.</li> <li>• Salvage for turnover to the Port of Seattle.</li> <li>• Coordinate with POS (carpenter shop) before removing or replacing existing metal ceiling tiles. Improperly removed or installed ceiling material may create an overhead hazard.</li> <li>• Durability, ease of plank removal and replacement, as well as ease of cleaning should all be considered in product choice.</li> <li>• Install smoke barriers as required by code. Smoke barriers to have clear glazing and frameless concealed fasteners.</li> </ul>





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GYPSUM BOARD CEILING

<b>FINISH</b>	Three-coat paint finish system for all exposed work Flat finish Non-textured treatment Tapered edges
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Gypsum board ceiling finishes shall only be used in areas that are not easily susceptible to damage and soiling, and where ceiling space accessibility is not required.</li> <li>Use corrosion resistant coated steel trims, control joints, and accessories.</li> <li>Install smoke barriers as required by code. Smoke barriers to have clear glazing and frameless concealed fasteners.</li> </ul>
<b>LOCATIONS</b>	Restrooms Soffits





### 3.13 EQUIPMENT

DV DG AS A

Equipment is installed throughout SEA for safety, sanitation, and amenities.





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Each approved piece of equipment is detailed on the following pages. In some instances minimum performance criteria have been listed, in other cases recommended manufacturer(s) or distributor(s) have been included. Consult with your SEA project manager regarding the particular equipment requirements of your project. However, some general guidelines apply:

- Food and drink vending machines should be located near escalators but in locations reachable for delivery or service without crossing expansion joints.
- Fold out signs to alert passengers about hazards should be conveniently located and accessible, while not being visually obtrusive.
- Trash receptacles should be modular and expandable, and contain composting (at food areas), mixed recyclable receptacles, as well as compactors.



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**Sustainable**



## FIRE/LIFE SAFETY



### Fire Extinguisher Cabinet

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<b>CATEGORIES</b>	Safety
<b>PRODUCT NAME</b>	Fire Extinguisher Cabinet, recessed
<b>MANUFACTURER</b>	Larsen's Manufacturing Company J.L. Industries
<b>MODEL</b>	Architectural Series AL-2409-6R, Vertical Duo Break Glass Door by Larsen's Manufacturing Company or matching product
<b>SIZE</b>	Tub (interior dimensions): width 12", height 27", depth 7 3/4" Frame (outer dimensions): width 15 3/8", height 30 3/8" Wall opening: width 13", height 28", depth 7 5/8"
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Preference is for cabinets to be recessed mounted, with 3/8" flat trim.</li> <li>• When recessed is not possible, provide semi-recessed 1 1/2" trim square, protruding not more than 2-1/2" from face of the wall.</li> <li>• Each cabinet shall be sized accordingly to house one fire extinguisher.</li> <li>• Coordinate with Port Fire for equipment.</li> <li>• Coordinate with Port Signage for signage, include signage on cabinet and signage above on wall.</li> <li>• Color finish will vary depending on location, preference is stainless steel.</li> <li>• When possible, install adjacent to AED/ Trauma Kit Cabinet.</li> </ul>
<b>LOCATIONS</b>	All areas





## FIRE/LIFE SAFETY



### AED/ Trauma Kit Cabinet

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#### CATEGORIES

Safety

#### PRODUCT NAME

AED/ Trauma Kit Cabinet, recessed

#### MANUFACTURER

Activar Construction Products Group Inc.  
Larsen's Manufacturing Company

#### MODEL

Ambassador Series, Steel Fire Extinguisher Cabinet, C2037F10, Full Glass  
or matching product

#### SIZE

Tub (interior dimensions): width 12", height 27", depth 7 3/4"  
Frame (outer dimensions): width 15 3/8", height 30 3/8"  
Wall opening: width 13", height 28", depth 7 5/8"

#### NOTES

- Preference is for cabinets to be recessed mounted, with 3/8" flat trim.
- When recessed is not possible, provide semi-recessed 1 1/2" trim square, protruding not more than 2-1/2" from face of the wall.
- Provide Alarm on/ off key switch, to sound when door is open.
- Each cabinet shall be sized accordingly to house one AED and one Trauma Kit.
- Cabinet to include, one J-Hook (FE20C) to hang Trauma Kit on top of AED (or vs.)
- Coordinate with Port Emergency Preparedness and Port Fire for equipment.
- Coordinate with Port Signage for signage, include signage on cabinet and signage above on wall.
- Color finish will vary depending on location, preference is stainless steel.
- When possible, install adjacent to Fire Extinguisher Cabinet.

#### LOCATIONS

Post Security Areas  
Coordinate with Port Emergency Preparedness for Pre-Security requirements





## FIRE/LIFE SAFETY

### ★ Emergency Cones

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<b>CATEGORIES</b>	Safety
<b>PRODUCT NAME</b>	Emergency Safety Cone Caution Wet Floor
<b>DESCRIPTION</b>	Folding safety cone, indicating Caution / Wet Floor on 4 sides
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Used by maintenance for temporary signage to indicate slip or trip hazards.</li> <li>Provided with plastic case that is mounted on wall for emergency cones to slide in.</li> <li>Locate on walls and columns so it is easy accessed by staff, at minimum of 100 feet apart.</li> <li>Install near wet areas like restrooms and drinking fountains.</li> </ul>
<b>LOCATIONS</b>	All hard surfaces throughout the terminal.





## RESTROOM ACCESSORIES

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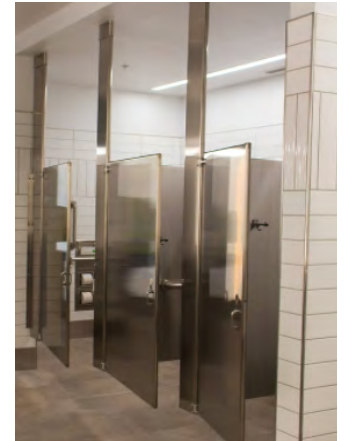
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<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Toilet Partition Stalls Urinal Partition Screen
<b>FINISH</b>	Partition: Stainless Steel, Diamond Plate Pattern Partition Hardware: Stainless Steel or Dull Chrome
<b>MANUFACTURER, MODEL</b>	Bradley Corporations, Mills Partitions Series 600 Sentinel American Specialties, Inc, Ultimate Privacy Global Steel Product Corporations
<b>DESCRIPTION</b>	Ceiling hung toilet partition with out-swinging stainless steel door hardware. Wall mounted urinal screen
<b>SIZE</b>	Door size, 72" H, with gap at bottom 10" A.F.F. Panel size, 72" H, with gap at bottom 10" A.F.F. Wall mounted urinal screen 60" H, with gap at bottom 10" A.F.F.
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Privacy design with sight-line trim at doors.</li> <li>• Provide adjustable gravity hinges that hold the door open when not in use.</li> <li>• Provide occupancy indicators and latch on toilet stall doors. Coordinate with Restroom occupancy sensors/ accessories, if being installed.</li> <li>• Toilet compartments partitions and screens are to be secure rigidly in place with adequate blocking, diagonally braced red-iron bracing above the ceiling for mounting pilasters. Partitions are to be rigid without any racking.</li> <li>• Provide internal reinforcement in metal units for compartment mounted hardware and accessories.</li> <li>• Provide bumper and stop.</li> <li>• Coordinate with Port Signage for signage on partitions.</li> </ul>
<b>LOCATIONS</b>	Restroom
<b>LINK</b>	SEA Signage Standards





## RESTROOM ACCESSORIES

### Receptacle & Dispenser

#### Paper Towel Dispenser

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Paper Towel Dispenser
<b>FINISH</b>	Stainless Steel, Satin
<b>MANUFACTURER, MODEL</b>	American Specialties Inc, (ASI) 68523AC-4 Bobrick, B-29744
<b>DESCRIPTION</b>	Semi-recessed automatic touchless roll towel dispenser
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• 8" W x 8" Dia. standard towel roll up to 800 ft. Dispensing adjustable by length, delay, and paper economy.</li> <li>• Lockable cabinet. Provide CAT 74 (Bobrick) replacement cylinders and keys.</li> <li>• Provide all electric behind the towel dispenser, 2 quad outlets and 2 regular outlets inside the Pipe Chase / Custodial Area.</li> <li>• Install paper towel dispenser adjacent to the lavatory and waste receptacle.</li> <li>• Provide paper towel dispenser, preferably near but not directly above the baby changing station.</li> <li>• Provide flexibility for additional paper towel dispensers in the future by identifying locations and wiring for those dispensers in the design documents.</li> </ul>
<b>LOCATIONS</b>	Restroom Nursing Suite
<b>LINKS</b>	Electrical System Standards Mechanical System Standards



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## RESTROOM ACCESSORIES

### Receptacle & Dispenser

#### Waste Receptacle

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Waste Receptacle
<b>FINISH</b>	Stainless Steel, Satin
<b>MANUFACTURER, MODEL</b>	American Specialties Inc, (ASI) o458-DX Bobrick, 368-60 Bradley, 334
<b>DESCRIPTION</b>	Semi-recessed waste receptacle, container locks into cabinet, removable for servicing.
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Reusable, removable vinyl liner (ASI model: 25-Py)</li> <li>Lockable cabinet. Provide CAT 74 (Bobrick) replacement cylinders and keys.</li> <li>Provide waste receptacle adjacent to paper towel dispenser.</li> <li>Provide flexibility for additional waste receptacles in the future by identifying locations in the design documents.</li> </ul>
<b>LOCATIONS</b>	Restroom Nursing Suite



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#### Paper Towel Dispenser & Waste Receptacle

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Paper Towel Dispenser with waste receptacle
<b>FINISH</b>	Stainless Steel, Satin
<b>MANUFACTURER, MODEL</b>	Bobrick, B-39747 Bobrick, B-39617
<b>DESCRIPTIONS</b>	Semi-recessed automatic touchless roll towel dispenser with semi-recessed waste receptacle
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Reusable, removable vinyl liner (model: 368-16)</li> <li>• Lockable cabinet. Provide CAT 74 (Bobrick) replacement cylinders and keys.</li> <li>• Provide electrical receptacles behind the towel dispenser, 2 quad outlets and 2 regular outlets inside the Pipe Chase / Custodial Area.</li> <li>• Install paper towel dispenser adjacent to the lavatory.</li> <li>• Provide near but not directly above the baby changing station.</li> <li>• Provide flexibility for additional paper towel dispensers in the future by identifying locations and wiring for those dispensers in the design documents.</li> </ul>
<b>LOCATIONS</b>	(NSAT) Restroom
<b>LINKS</b>	Electrical System Standards Mechanical System Standards



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## RESTROOM ACCESSORIES

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#### Toilet Paper Dispenser

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Toilet Paper Dispenser
<b>FINISH</b>	Stainless Steel, Satin
<b>MANUFACTURER, MODEL</b>	American Specialties Inc, (ASI) 0039 Bobrick, B-5425
<b>DESCRIPTION</b>	Partition or surface mounted, low profile jumbo-roll Toilet paper dispenser
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Dispenser to hold two 9" diameter jumbo-rolls with 3" to 2.25" cores.</li> <li>Lockable cabinet. Provide CAT 74 (Bobrick) replacement cylinders and keys.</li> </ul>
<b>LOCATIONS</b>	Restroom



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#### Toilet Waste Receptacle

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Toilet Waste Receptacle (Sanitary Napkin Receptacle)
<b>FINISH</b>	Stainless Steel, Satin
<b>MANUFACTURER, MODEL</b>	American Specialties Inc, (ASI) o852 Bobrick, B-270
<b>DESCRIPTION</b>	Partition or surface mounted, waste receptacle
<b>SIZE</b>	10" H x 7.5" W x 3-13/16" D
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Capacity of 1.2 gallon with disposable liner bags.</li> <li>No locks.</li> <li>Waste receptacles to be installed in all restrooms.</li> </ul>
<b>LOCATIONS</b>	Restroom



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#### Toilet Seat Cover Dispenser

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Toilet Seat Cover Dispenser
<b>FINISH</b>	Stainless Steel, Satin
<b>MANUFACTURER, MODEL</b>	American Specialties Inc, (ASI) 0477-SM Bobrick, B-221
<b>DESCRIPTION</b>	Partition or surface mounted, seat cover dispenser
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Dispenser to hold 250 single or half fold paper toilet seat covers.</li> <li>No locks.</li> </ul>
<b>LOCATIONS</b>	Restroom



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#### Toilet Paper & Seat Cover Dispenser, Waste Receptacle

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Toilet Paper & Seat Cover Dispenser, Waste Receptacle
<b>FINISH</b>	Stainless Steel, Satin
<b>MANUFACTURER, MODEL</b>	Bobrick, B-3574 (Recessed flush) Bobrick, B-3571 (Dual access, 1-sided flush) Bobrick, B-357 (Dual Access) Bobrick, B-3579 (Surface mounted- BOH)
<b>DESCRIPTION</b>	Combination toilet paper & seat cover dispenser with waste receptacle
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Seat cover dispenser to hold 500 single or half fold paper toilet seat covers.</li> <li>• Toilet paper dispenser to hold two rolls per compartment.</li> <li>• Waste receptacle, capacity of 0.8 gallon with disposable liner bags.</li> <li>• Lockable cabinet. Provide CAT 74 (Bobrick) replacement cylinders and keys.</li> <li>• At the NSAT Restrooms, the waste receptacles are installed in the Women's Restroom. The Port goal is to install waste receptacles in all restrooms.</li> </ul>
<b>LOCATIONS</b>	(NSAT) Restroom



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#### Biohazard Disposal Receptacle

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Biohazard Disposal Receptacle (Sharps Container)
<b>FINISH</b>	Stainless Steel, Satin
<b>MANUFACTURER, MODEL</b>	American Specialties Inc, (ASI) 0548 Bobrick, B-35016
<b>DESCRIPTION</b>	Fully recessed sharps disposal cabinet
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Biohazard receptacle to accommodate 1 Becton, Dickinson, and Co. (BD) sharps collector, model: 305443.</li> <li>Lockable cabinet. Provide CAT 74 (Bobrick) replacement cylinders and keys.</li> <li>Provide biohazard receptacle, near the entrance/ exit of all restrooms, including BOH restrooms.</li> </ul>
<b>LOCATIONS</b>	Restroom



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## RESTROOM ACCESSORIES

### Receptacle & Dispenser

#### Sanitary Napkin Dispenser

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Sanitary Napkin Dispenser
<b>FINISH</b>	Stainless Steel, Satin
<b>MANUFACTURER, MODEL</b>	American Specialties Inc, (ASI) 0468-25 Bobrick, B-37063 Bradley, B-4017
<b>DESCRIPTION</b>	Fully recessed dual sanitary napkin/ tampon dispenser, 25 cent coin operation
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Lockable cabinet. Provide CAT 74 (Bobrick) replacement cylinders and keys.</li> <li>Provide dispenser, near the entrance/ exit of the restrooms.</li> </ul>
<b>LOCATIONS</b>	Restroom



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#### Diaper Dispenser

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Diaper Dispenser
<b>FINISH</b>	Stainless Steel, Satin
<b>MANUFACTURER, MODEL</b>	Koala Kare, KB 143-SS Global Industrial, 106-SS
<b>DESCRIPTION</b>	Recessed diaper dispenser, coin operation
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Lockable cabinet. Provide CAT 74 (Bobrick) replacement cylinders and keys.</li> <li>Provide diaper dispenser, preferably near the baby changing station.</li> </ul>
<b>LOCATIONS</b>	Restroom Nursing Suite



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### Mirror & Glass

#### Light Integrated Mirror

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Light Integrated Mirror
<b>FINISH</b>	Clear Anodized Aluminum White Acrylic Lens
<b>MANUFACTURER</b>	Form + Surfaces Paris Mirror
<b>DESCRIPTION</b>	Dimmable LED integrated mirror
<b>SIZE</b>	Nominal 34" W x 36" H
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Mirrors should have vandal resistant coating and be provided at each washing station.</li> <li>• Provide an additional "vanity station" mirror with integral illuminated LED panels and GFCI outlet above the counter for personal appliances where feasible.</li> <li>• Mirrors shall be easily replaceable. Hung on cleats and not tightly bounded or constrained by finishes or other projecting items.</li> <li>• Mirrors shall not be glued in place.</li> </ul>
<b>LOCATIONS</b>	Restroom
<b>LINK</b>	Electrical System Standards



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## RESTROOM ACCESSORIES

### Mirror & Glass

#### Full Length Mirror

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Full Length Mirror
<b>SIZE</b>	2'0" wide
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Mirrors should have vandal resistant coating.</li> <li>• Mirrors shall be easily replaceable. Hung on cleats and not tightly bounded/constrained by finishes or other projecting items.</li> <li>• Mirrors shall not be glued in place.</li> <li>• Full length mirror shall be installed adjacent to the "vanity station" and align the top of the mirror with the adjacent lighted mirror and align the bottom with the metal trim at tile base.</li> </ul>
<b>LOCATIONS</b>	Restroom



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## RESTROOM ACCESSORIES

### Mirror & Glass

#### Welded Frame Mirror

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Welded Frame Mirror
<b>MANUFACTURER, MODEL</b>	Bobrick, B-290 series Or approved equal
<b>DESCRIPTION</b>	Glass mirror with stainless steel angle frame
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Mirrors should have vandal resistant coating.</li> <li>• Mirrors shall be easily replaceable. Hung on cleats and not tightly bounded/constrained by finishes or other projecting items.</li> <li>• Mirrors shall not be glued in place.</li> <li>• Full length mirror shall be installed adjacent to the “vanity station” and align the top of the mirror with the adjacent lighted mirror and align the bottom with the metal trim at tile base. (Typical size: 6'-4" H x 3'-10" W)</li> <li>• Custom size mirror above “vanity station”.</li> </ul>
<b>LOCATIONS</b>	(NSAT) Restroom



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### Mirror & Glass

#### Channel Frame Mirror

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Channel Frame Mirror
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Mirrors should have vandal resistant coating and be provided at each washing station plus an additional full length mirror per restroom.</li> <li>• Provide an additional “vanity station” mirror with ledge and GFCI outlet above the counter for personal appliances where feasible.</li> <li>• Mirrors shall be easily replaceable. Hung on cleats and not tightly bounded/constrained by finishes or other projecting items.</li> <li>• Mirrors shall not be glued in place.</li> </ul>
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## RESTROOM ACCESSORIES

### Mirror & Glass

#### Decorative Glass

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Decorative Glass
<b>MANUFACTURER</b>	Forms + Surface Berman Glass Nathan Allen
<b>DESCRIPTION</b>	Back applied image glass with kiln cast glass
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Nest laminated Hikaru + Obsidian (vertical) with custom graphic interlayer. Custom design and location will depend on Restroom location within the terminal. Coordinate with Port for location and design.</li> <li>• Tempered low iron glass.</li> <li>• Top and bottom lite, to provide a continuous glow to the glass.</li> <li>• Fit tight to frame and glass, with a minimum of 1/4" gap.</li> </ul>
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<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Straight Grab Bar
<b>FINISH</b>	Stainless Steel, Satin with Safety Grip
<b>MANUFACTURER, MODEL</b>	American Specialties Inc, (ASI) 3800-P series Bobrick, B-6806 series Bradley, 812 series
<b>DESCRIPTION</b>	1 1/2" dia. grab bars with snap on flange covers
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Lengths and locations as show in drawings.</li> </ul>
<b>LOCATIONS</b>	Restroom





## RESTROOM ACCESSORIES

### Garment Hooks & Shelves

#### Double Garment Hook

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Double Garment Hook
<b>FINISH</b>	Stainless Steel
<b>MANUFACTURER, MODEL</b>	American Specialties Inc, (ASI) 7312 Bradley, 9125
<b>DESCRIPTION</b>	Double robe hook with wall flange and concealed mounting bracket
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Hooks should have a capacity greater than 50lbs.</li> <li>• Hooks should be provided in stalls and near the baby changing station.</li> <li>• Shelving should be wide integrated, recessed ledges at least 12" - 16" deep above urinals, water closets and lavatories for personal items.</li> <li>• When ledges are not possible, deep shelving between urinals and lavatories is acceptable but shall not be constructed and placed to create hazards for pedestrians using the various fixtures.</li> <li>• Ledges should be designed at accessible heights for accessible urinals, water closets, and lavatories.</li> </ul>
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## RESTROOM ACCESSORIES

### Garment Hooks & Shelves

#### Single Robe Hook

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Single Robe Hook
<b>FINISH</b>	Solid Aluminum, matte finish with rubber bumper
<b>MANUFACTURER, MODEL</b>	Bobrick, B212 Or approved equal
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Hooks should be provided in stalls, but nowhere else.</li> <li>• Shelving should be wide integrated, recessed ledges at least 12" - 16" deep above urinals, water closets and lavatories for personal items.</li> <li>• When ledges are not possible, deep shelving between urinals and lavatories is acceptable but shall not be constructed and placed to create hazards for pedestrians using the various fixtures.</li> <li>• Ledges should be designed at accessible heights for accessible urinals, water closets, and lavatories.</li> </ul>
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## RESTROOM ACCESSORIES

### Garment Hooks & Shelves

#### Mop Holder

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Mop Holder
<b>FINISH</b>	Stainless Steel
<b>MANUFACTURER, MODEL</b>	Bobrick, B-223 Or approved equal
<b>DESCRIPTION</b>	Surface mounted, mop and broom holder
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Spring-loaded rubber cam holders</li> <li>• Rack to hold up to 4 mops or brooms</li> </ul>
<b>LOCATIONS</b>	(NSAT) Pipe Chase/ Custodial Area



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## RESTROOM ACCESSORIES

### Changing Station

#### Countertop Baby Changing Station

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Baby Changing Station
<b>MANUFACTURER, MODEL</b>	Koala Kare, KB 112-01CT Or approved equal
<b>DESCRIPTION</b>	Surface mounted baby changing station
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Countertop baby changing stations are required.</li> <li>Stations should be located near waste receptacles and paper towel dispenser.</li> <li>Baby changing stations should not be located inside ADA stalls.</li> </ul>
<b>LOCATIONS</b>	Restroom Nursing Suites



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#### Recessed Baby Changing Station

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Baby Changing Station
<b>FINISH</b>	Stainless Steel (exterior)
<b>MANUFACTURER, MODEL</b>	Koala Kare, KB110-SSRE Or approved equal
<b>DESCRIPTION</b>	Horizontal, recessed baby changing station
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Provide only when a countertop baby changing station is not possible.</li> <li>• Stations should be located near waste receptacles and paper towel dispenser.</li> <li>• Baby changing stations should not be located inside ADA stalls.</li> </ul>
<b>LOCATIONS</b>	Restroom Nursing Suites



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### Changing Station

#### Adult Changing Station

<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Adult Changing Station
<b>MANUFACTURER, MODEL</b>	Pressalit, SCT-3000 Or approved equal
<b>DESCRIPTION</b>	Electrically height adjustable, adult changing station
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Stations should be located near waste receptacles and paper towel dispenser.</li> <li>Adult changing stations should be provided in single-fixture, assisted-use restrooms (family restrooms) in addition to baby changing stations.</li> <li>Consider placement of wired remote control, so it not damaged by the mechanics of the system and easy to access.</li> </ul>
<b>LOCATIONS</b>	Restrooms (Single-Fixture, Assisted-Use)
<b>LINKS</b>	Electrical System Standards



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<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Step Stool
<b>FINISH</b>	Stainless Steel, with marine grade non-slip tread
<b>MANUFACTURER, MODEL</b>	Step 'n' Wash, SNW-SS 975B KinderStep, KSE-1
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Secure to floor.</li> <li>Provide one step stool near public lavatory</li> </ul>
<b>LOCATIONS</b>	Restroom





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### Toddler Safety Seat

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<b>CATEGORIES</b>	Accessories
<b>PRODUCT NAME</b>	Toddler Safety Seat
<b>FINISH</b>	High-Density Polyethylene, Light Gray
<b>MANUFACTURER, MODEL</b>	American Specialties Inc, (ASI) 9020 Koala Kare, KB102 Sanliv, 5862
<b>DESCRIPTION</b>	Wall mounted child protection seat
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Provide in single-fixture, assisted-use restrooms (family restrooms)</li> <li>• Location of toddler safety seat should be that it does not obstruct other functions in the restroom, nor near the Automatic Swing Door Operator button.</li> </ul>
<b>LOCATIONS</b>	Restrooms (Single-Fixture, Assisted-Use)







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<b>CATEGORIES</b>	Technology
<b>PRODUCT NAME</b>	Restroom Occupancy Sensors
<b>MANUFACTURER</b>	Tooshlights Or approved equal
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Provide ceiling mounted indicator light above each stall door entrance</li> <li>• Provide smart latch system and/or deadbolt</li> </ul>
<b>LOCATIONS</b>	Restroom





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<b>CATEGORIES</b>	Security
<b>PRODUCT NAME</b>	Bollard
<b>FINISH</b>	Stainless steel
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Where bollards are installed, anchor bolts shall be designed for GSE tug impact. (Pushback tugs on the AOA weigh up to 160,000 pounds.)</li> <li>Bollards installed at slab on grade shall be concrete filled: minimum 6" diameter pipe, painted safety yellow, and with 3' embedment.</li> <li>Provide bollards, timbers, rails, or jersey barriers to protect charging stations and other equipment.</li> <li>Provide bollards and guide rails at the service entrances and freight elevators to prevent pallets from damaging the door frame and the edges of doors with horizontal travel.</li> </ul>
<b>LOCATIONS</b>	Curbside (Arrivals) Curbside (Departures) Parking Garage Loading Dock Ramp Level





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<b>CATEGORIES</b>	Miscellaneous
<b>PRODUCT NAME</b>	Magnetic Stanchion
<b>FINISH</b>	Satin Aluminum, at Checkpoints Polished Chrome, all other areas
<b>MANUFACTURER</b>	Lavi Industries, Beltrac Public Guidance System, or matching product
<b>DESCRIPTION</b>	Magnetic bases attached to magnets embedded into the terrazzo floor
<b>NOTES</b>	<ul style="list-style-type: none"> <li>All stanchions should match within the same space and have breakaway belt ends. If belts have locking mechanism installed, they must be disabled.</li> <li>Black ribbon with SEA branding, typical.</li> <li>Red ribbon with "Emergency Exit" for egress paths.</li> <li>Rails to include concealed retractable belt,</li> <li>Provide a cover plate for the rail base.</li> <li>Preference shall be given to products made with a high percentage of recycled content and/or manufactured and sourced within 500 miles of the Airport.</li> <li>Belt lengths at checkpoint should be 13 feet, to reduce number of post needed.</li> </ul>
<b>LOCATIONS</b>	Check-In Lobby Esplanade Security





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<b>CATEGORIES</b>	Miscellaneous
<b>PRODUCT NAME</b>	Standing Screw-In Stanchion
<b>FINISH</b>	Satin Aluminum, at Checkpoints Polished Chrome, all other areas
<b>MANUFACTURER</b>	Lavi Industries, Beltrac Public Guidance System, or matching product
<b>DESCRIPTION</b>	Base of stanchions screws into the terrazzo floor
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Second preferred option.</li> <li>• All stanchions should match within the same space.</li> <li>• Rails to include concealed retractable belt.</li> <li>• Provide a cover plate for the rail base.</li> <li>• Preference shall be given to products made with a high percentage of recycled content and/or manufactured and sourced within 500 miles of the Airport.</li> </ul>
<b>LOCATIONS</b>	Check-In Lobby Esplanade Security





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<b>PRODUCT NAME</b>	Stanchion Base
<b>FINISH</b>	Satin Aluminum, at Checkpoints Polished Chrome, all other areas
<b>MANUFACTURER</b>	Lavi Industries, Beltrac Public Guidance System, or matching product
<b>DESCRIPTION</b>	Stanchion base should be minimal and as flush to floor as possible
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• All stanchions should match within the same space.</li> <li>• Rails to include concealed retractable belt.</li> <li>• Provide a cover plate for the rail base.</li> <li>• Preference shall be given to products made with a high percentage of recycled content and/or manufactured and sourced within 500 miles of the Airport.</li> </ul>
<b>LOCATIONS</b>	Check-In Lobby Esplanade Security Holdroom





## BOLLARDS & STANCHIONS



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<b>CATEGORIES</b>	Miscellaneous
<b>PRODUCT NAME</b>	Retractable Stanchion Ribbon
<b>FINISH</b>	Stainless Steel with florescent yellow ribbon
<b>MANUFACTURER</b>	Lavi Industries, Beltrac Public Guidance System Global Industries Visiontron Retractable Belt Wall Mount
<b>DESCRIPTION</b>	Stanchion base should be minimal and as flush to wall as possible
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Stanchions should be located from a distance that passengers should be able to see the restrooms are closed.</li> <li>Provide ribbon at 4'-0" A.F.F.</li> <li>Belts to be 1.5" longer than the area they are spanning.</li> <li>Belt to include (2) no entry symbol with the verbiage "Closed for Maintenance" in the middle.</li> <li>When possible provide a magnet end, rather than a clip system.</li> </ul>
<b>LOCATIONS</b>	Restroom - Entrance Nodes





## LANDSCAPE CONTAINERS



### Movable Interior Landscape Containers

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##### Movable Interior

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Appendix

#### CATEGORIES

Landscaping

#### FINISH

No. 4, non-directional, 100 grit brushed stainless steel finish or painted black aluminum

#### NOTES

- Planters and other landscape containers must be in locations where they do not interfere with or block public view of directional and informational signage.
- Design and finishes must be consistent or compatible with the adjacent interior finishes.
- Use stainless steel or aluminum materials.
- Preference shall be given to products that contain a high percentage of recycled content and/or are manufactured within 500 miles of the project.

#### LOCATIONS

All areas



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CATEGORIES	Landscaping
NOTES	<ul style="list-style-type: none"> <li>Interior landscaping would be desirable in key locations within the terminals if adequate natural light is available to ensure healthy and sustainable planting that does not incur excessive maintenance costs.</li> <li>The decision to integrate interior planting will involve expert landscape consultants, who understand the specific environmental and maintenance issues for the specific space being considered.</li> </ul>
LOCATIONS	All areas



## WASTE RECEPTACLES

### Interior Receptacle

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#### Waste Receptacles

##### Interior Receptacle

Exterior Receptacle  
Cigarette Trash  
Receptacle

Miscellaneous

#### Appendix

<b>CATEGORIES</b>	Trash, recycling and compost
<b>PRODUCT NAME</b>	Single Stream - Removable Top - Receptacle Unit
<b>DESCRIPTION</b>	Single receptacles grouped together to collect trash, recyclables and compost throughout the airport to improve public access to recycling, reduce visual clutter, divert waste from landfills and minimize maintenance
<b>MANUFACTURER</b>	Architectural Brass
<b>FINISH</b>	Stainless steel base with powder coat removable top
<b>SIZE</b>	Single Unit size, 24" W x 18" D x 48" H
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Currently, compost collection in public terminal spaces only occurs in food court/market place areas. However, the Port may choose to extend compost collection to additional airport public areas in support of Century Agenda and Environmental Strategy Plan goals.</li> <li>Distribute receptacles evenly throughout interior airport facilities, in high-traffic areas, and near point sources that generate waste. Grouping (at minimum) trash and recycling units together.</li> <li>Side-loading service doors are preferred over top-loading alternatives.</li> <li>Fiber glass liner that maintain separate streams of collection, with finger grommets for easy removal and a gallon capacity of 39 gallons.</li> <li>Labels that communicate trash, recycling, and compost disposal options use a combination of F&amp;I Signage approved text, color and symbols.</li> <li>Stand-alone or grouped modular receptacles of similar design with distinguishing signage may be collocated as an alternative where combined receptacles are not practical.</li> <li>Provide dedicated circuit for trash compactors (one compactor circuit at every other column along both sides of the walkways or concourses). Trash compactor unit to be provided by the Port.</li> </ul>
<b>LOCATIONS</b>	All interior areas





## WASTE RECEPTACLES

### Exterior Receptacle

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Appendix

<b>CATEGORIES</b>	Trash and recycling
<b>PRODUCT NAME</b>	Single Stream - Removable Top with Weather Top - Receptacle Unit
<b>DESCRIPTION</b>	Single receptacles grouped together to collect trash and recyclables throughout the exterior of the airport to improve public access to recycling, reduce visual clutter, divert waste from landfills and minimize maintenance
<b>MANUFACTURER</b>	Architectural Brass
<b>FINISH</b>	Stainless steel base with powder coat removable top and stainless steel weather top
<b>SIZE</b>	Single Unit size, 24" W x 18" D x 49" H
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Currently the collection of compost only occurs within interior airport spaces. However, it is the Port's goal is to provide collection of compost throughout the airport (in addition to recycling and waste collection) as it supports our Century Agenda and Environmental Strategy Plan goals.</li> <li>Distribute receptacles evenly throughout interior airport facilities, in high-traffic areas, and near point sources that generate waste. Grouping (at minimum) trash and recycling units together.</li> <li>Side-loading service doors are preferred over top-loading alternatives.</li> <li>Fiber glass liner that maintain separate streams of collection, with finger grommets for easy removal and a gallon capacity of 39 gallons.</li> <li>Labels that communicate trash, recycling, and compost disposal options use a combination of F&amp;I Signage approved text, color and symbols.</li> <li>Stand-alone or grouped modular receptacles of similar design with distinguishing signage may be collocated as an alternative where combined receptacles are not practical.</li> </ul>
<b>LOCATIONS</b>	All exterior areas, including Parking Garage





## WASTE RECEPTACLES

### Cigarette Trash Receptacle

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#### Cigarette Trash Receptacle

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<b>CATEGORIES</b>	Trash and recycling
<b>PRODUCT NAME</b>	Humo Ash Urn
<b>DESCRIPTION</b>	Receptacle for tobacco ash and cigarette butts.
<b>MANUFACTURER</b>	Landscape Forms
<b>FINISH</b>	Stainless Steel brushed finish
<b>SIZE</b>	5" D x 36" H, Capacity 1.25 Gallon
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Ash trays will be located only in designated exterior smoking areas and not within 25 feet of entry doors or ventilation air intakes.</li> <li>Coordinate or match ash tray/ash urn design with that of exterior waste receptacle to achieve a consistent look and minimize visual clutter.</li> </ul>
<b>LOCATIONS</b>	Curbside - Arrivals / Departures





## MISCELLANEOUS

### Bird Control

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<b>CATEGORIES</b>	Pest Control
<b>DESCRIPTION</b>	System utilized to eliminate or deter bird perching and/or nesting by minimizing perch points
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Birds pose an issue for both interior and exterior surfaces at the airport.</li> <li>Proposed bird deterrents, to be reviewed and approved by Port Wildlife.</li> <li>A single metal line is preferred over barbs.</li> </ul>
<b>LOCATIONS</b>	On beams, parapets, pipes, horizontal mullions, etc.; use as appropriate inside and outside the building.





## MISCELLANEOUS

### ★ Bag Dispenser

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Bird Control

**Bag Dispenser**

Compactor

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<b>CATEGORIES</b>	Pet Relief
<b>PRODUCT NAME</b>	Dog Waste System Dispenser
<b>DESCRIPTION</b>	Receptacle for Dog Waste bags
<b>MANUFACTURER</b>	Uline
<b>FINISH</b>	Powdered coated aluminum
<b>SIZE</b>	9" L x 3" W x 16" H
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• Install within 5 feet of S.A.R.A., grass area for easy access.</li> <li>• For interior applications coordinate receptacle with adjacent room accessories.</li> <li>• For exterior applications, receptacle to be installed on post with sign and trash receptacle (with a closing lid).</li> </ul>
<b>LOCATIONS</b>	Curbside - Arrivals / Departures S.A.R.A.





## MISCELLANEOUS

### Compactor

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  - Bird Control
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- Compactor**

<b>CATEGORIES</b>	Trash and recycling
<b>PRODUCT NAME</b>	30 cubic yard model
<b>MODEL NUMBER</b>	JV (SCR-02, SC-T2, SC-02)
<b>SIZE</b>	8' x 22'
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Each requires 12'x22' footprint, with 45' space in the front to allow freedom of maneuver for a 32' long hauling truck and 14' vertical clearance for hauls in enclosed locations. Although a 30 cubic yard compactor is 8'x22', the additional space is required for personnel to access for side use, maintain, and ensure clean hauls.</li> <li>Requires a dedicated 120V 20A circuit.</li> </ul>







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APPENDIX



# 4

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## APPENDIX

### **4.1 Resources**

- Definitions & Acronyms
- Regulations
- Northwest Sense of Place Guidelines

### **4.2 Forms & Document Library**

- Utilities Connections
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### **4.3 Maintainability Standards**

- General Directions
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- Roof & Roofing
- Plumbing & Wastewater
- HVAC & Steam
- Fire Protection
- Baggage Handling Systems
- Baggage Ramp
- PLB Maintainability Standards
- Electrical
- Electronic Systems

### **4.4 Design Intent Drawings**



## 4.1 RESOURCES

This section provides a list of additional documents or drawings that project teams should reference as appropriate. A glossary of terms is also provided as reference.

Your SEA project manager is the first point of contact for any additional questions or comments.





## DEFINITIONS & ACRONYMS

A full list of definitions and acronyms is also available at <http://compass.portseattle.org/aviation/Pages/Acronyms.aspx>.

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ITEM	DEFINITION
<b>A/E</b>	Architect/Engineer
<b>ADR</b>	Airport Dining and Retail
<b>AP</b>	Acquisition Plan
<b>AV</b>	
<b>CA</b>	Contract Administrator
<b>CE</b>	
<b>CM</b>	Construction Management
<b>COMMISSION</b>	Port of Seattle Commission
<b>CPO</b>	Central Procurement Office
<b>EN</b>	Engineering
<b>ERL</b>	Environmental Remediation Liability
<b>F&amp;B</b>	Finance and Budget
<b>F&amp;I</b>	Facilities and Infrastructure
<b>FTE</b>	Full-time Employee
<b>IC</b>	Investment Committee
<b>MEPF</b>	Mechanical Electrical Plumbing Fire
<b>MII</b>	Majority in Interest (airlines)
<b>NEPA</b>	
<b>OSR</b>	Office of Social Responsibility
<b>PCS</b>	Port Construction Services
<b>PE</b>	

<b>PM</b>	Project Manager
<b>PM</b>	Project Manager
<b>PMG</b>	Project Management Group
<b>RDR</b>	Requesting Department Representative
<b>RFQ</b>	Request for Qualification
<b>RFS</b>	Request for Service (w/CPO)
<b>RM</b>	Risk Management
<b>RMM</b>	Regulated Materials Management
<b>RT</b>	Review Team
<b>SA</b>	Service Agreement (consultant contract)
<b>SD</b>	Service Directive
<b>SEA</b>	Seattle-Tacoma International Airport
<b>SEPA</b>	
<b>SME</b>	Subject Matter Expert
<b>SOQ</b>	Statement of Qualifications
<b>SOW</b>	Scope of Work
<b>START</b>	SeaTac Telecommunications Architecture Review Team
<b>STIA</b>	Seattle-Tacoma International Airport



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### Laws and codes for accessibility design in Washington State include:

Chapter 51-40 WAC: Uniform Building Code and Uniform Building Code Standards (contains Chapter 11 ACCESSIBILITY amendments) is available through:

Community Trade and Economic Development  
Washington State Building Code Council  
Post Office Box 48300  
Olympia, Washington 98504-8300  
(360) 753-1184

Americans with Disabilities Act Accessibility Guidelines is available through:  
Calling the ADA information Line of the U.S. Department of Justice at (800) 514-0301 (voice) or (800) 514-0383 (TDD).

A recognized resource for the background on accessibility design in Washington State with illustrations of design suggestions is **Accessibility design for all: an illustrated handbook**. It is available through:

Easter Seal Society of Washington  
521 2nd Avenue, West  
Seattle, Washington 98119  
(206)281-5700  
(800)678-5708



Seattle and the Pacific Northwest are viewed as being an exceptional environment, both natural and built, with a character and quality of life that inspire innovation and creativity. Future programs and building projects can strengthen our unique identity—our brand—in an authentic way through a variety of strategies and initiatives. These can be organized around the following major categories, or themes.

**Distinctive, awe-inspiring natural environment:**

**Mountains, forests, water, sky**

- Views: Connection with outdoors; capture and frame views of mountains, trees/forests, sky/clouds, and weather/rain
- Outdoor spaces and mini-parks: Indigenous plants and trees, stone, water; provide more, as close as possible to building public areas; add to secure side
- Site landscaping: Indigenous plants and trees, stone, water; enhance main north entry, curbsides/"gorge"; integrate nature with buildings
- Water features and concepts: Indoors and out
- Quality of natural light, clarity of the air: Expanses of glass, skylights, clerestories
- Design forms and detailing: Natural features, organic

expression

- Indigenous, natural materials and finishes: Wood, stone, patinated metal
- Colors, patterns, textures: Muted gray and brown neutrals; accents of blue, green, cedar
- Art and exhibits: Aquariums, interactive marine-life touching pools; experiential rooms/zones that create Northwest settings combining visual elements with elements of other senses, such as sound, smell, and touch—forest, beach, working waterfront/marina, neighborhoods, market; similar to sustainable lounge concept
- Static graphic displays: Large-scale photos, photo murals—inexpensive, easily integrated to provide high-impact thematic



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overlay throughout terminal

- Dynamic displays: Video screens, digital walls, projections, screensavers on monitors. Real-time video—Ballard Locks, local beaches, neighborhoods, etc
- Seasonal displays

#### **Dynamic, vibrant built environment—cities, neighborhoods, parks, buildings: Historic and present**

- Contemporary, Modernist architecture: Simple, subdued, restrained, elegant; honest expression of form, structure, materials; open, spacious; classic, timeless
- Historic references in building elements: Pioneer Square, Pike Place Market, neighborhoods
- Art and exhibits: AIA sustainable architecture models exhibit, Seattle historic theater exhibit; experiential rooms/zones that create Northwest settings combining visual elements with elements of other senses, such as sound, smell, and touch—forest, beach, working waterfront/marina, neighborhoods, market; similar to sustainable lounge concept
- Static graphic displays: Large-scale photos, photo murals— inexpensive, easily integrated to provide high-impact thematic overlay throughout terminal
- Dynamic displays: Video screens, digital walls, projections,

screensavers on monitors; real-time video—Ballard Locks, local beaches, neighborhoods, etc

- Seasonal displays

#### **Pioneering, innovative, cutting-edge spirit: Early settlers, trade/commerce, industry (timber, fishing, biotech, Boeing, amazon, Starbucks, Costco), technology (Microsoft), arts and culture**

- New, innovative technology: Building components, finishes, systems; wayfinding/information display on signs and hand-held devices (iBeacons, STQRY)
- Art, exhibits, demonstrations; logging/timber and skills; experiential rooms/zones that create Northwest settings combining visual elements with elements of other senses, such as sound, smell, and touch—forest, beach, working waterfront/ marina, neighborhoods, market; similar to sustainable lounge concept
- References in building elements: Form, details, patterns, colors, materials
- Static graphic displays: Large-scale photos, photo murals— inexpensive, easily integrated to provide high-impact thematic overlay throughout terminal
- Dynamic displays: Video screens, digital walls, projections, screensavers on monitors; real-time video—Ballard Locks, local beaches, neighborhoods, etc



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### Rich, diverse culture and history: Events, the arts, entertainment, sports, education

- Art and exhibits: More glass art—Pilchuck School, Chihuly; experiential rooms/zones that create Northwest settings combining visual elements with elements of other senses, such as sound, smell, and touch—forest, beach, working waterfront/marina, neighborhoods, market; similar to sustainable lounge concept
- Music: More live performances, buskers; more variety in broadcast music; visual displays
- Other live performances and demonstrations: Theater, dance, improv, stand-up comedy, magic, mime, glass-blowing, rock climbing and other outdoor activities, etc
- References in building elements: Form, details, patterns, colors, materials
- Static graphic displays: Large-scale photos, photo murals—inexpensive, easily integrated to provide high-impact thematic overlay throughout terminal
- Dynamic displays: Video screens, digital walls, projections, screensavers on monitors; real-time video—Ballard Locks, local beaches, neighborhoods, etc
- Seasonal displays
- Entertainment/activity venues: Climbing wall

### People: Who we are today, and the groups and individuals who have been significant in the region's past.

- Airport employees: Friendly, helpful, proud of what they do; an open, welcoming environment
- Art and exhibits, live performance, demonstrations: Ethnic dance, Native American basket-weaving and weaving; experiential rooms/zones that create Northwest settings combining visual elements with elements of other senses, such as sound, smell, and touch—forest, beach, working waterfront/marina, neighborhoods, market; similar to sustainable lounge concept
- References in building elements: Form, details, patterns, colors, materials
- Static graphic displays: Large-scale photos, photo murals—inexpensive, easily integrated to provide high-impact thematic overlay throughout terminal
- Dynamic displays: Video screens, digital walls, projections, screensavers on monitors; real-time video—Ballard Locks, local beaches, neighborhoods, etc

### Thriving international trade, commerce, tourism.

- Visitor information centers and displays: Enhance, expand, add interactive displays; kiosks and apps that sell tickets to local attractions and events
- Art and exhibits: Experiential rooms/zones that create Northwest settings combining visual elements with elements of other senses, such as sound, smell, and touch—forest, beach, working waterfront/marina, neighborhoods, market; similar to sustainable lounge concept
- Static graphic displays: Large-scale photos, photo murals—



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inexpensive, easily integrated to provide high-impact thematic overlay throughout terminal

- Dynamic displays: Video screens, digital walls, projections, screensavers on monitors; real-time video—Ballard Locks, local beaches, neighborhoods, etc
- References in building elements: Form, details, patterns, colors, materials

#### Green values: Creating and maintaining a sustainable environment.

- Building materials: Local sourcing, recycled content, etc
- User practices and behavior: Water conservation, recycling, composting, PC Air, electric vehicle charging stations and service vehicles, bicycle facilities
- Art and exhibits, demonstrations: Environmental outreach displays, green walls, Seattle AIA sustainable building exhibit; experiential rooms/zones that create Northwest settings combining visual elements with elements of other senses, such as sound, smell, and touch—forest, beach, working waterfront/marina, neighborhoods, market; similar to sustainable lounge concept
- Static graphic displays: Large-scale photos, photo murals— inexpensive, easily integrated to provide high-impact thematic overlay throughout terminal
- Dynamic displays: Video screens, digital walls, projections, screensavers on monitors; real-time video—Ballard Locks, local

beaches, neighborhoods, etc

#### Dining, retail, advertising: Develop relationships with appropriate brands and concepts.

- Genuine local flavor
- New restaurants and chefs: Incubator food concepts, with short lease cycle and communal tables; combine food with music
- Food trucks and stands
- Demonstrations, tastings: Fish-throwing ala Market, wine/beer sampling

#### Other Contributors to Sense of Place

- Several additional themes were identified that although not specific to a Northwest character, are significant and desirable for a memorable sense of place at SEA
- Designing around the passenger journey by responding to the passenger mindset:
  - Own the passenger experience
  - Convey the excitement of travel: importance of landside entry by road or train could be better
  - Focus groups: incorporate feedback
- Wayfinding and environmental design: Making the airport understandable, communicating our story
- An open environment with inclusive design: Ensuring easy access for everyone



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## NORTHWEST SENSE OF PLACE GUIDELINES

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- Go beyond the ADA when appropriate, with focus on best practices and customer service rather than only legal compliance
- Reinforce with technology



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## 4.2 FORMS & DOCUMENT LIBRARY

The Airport utilizes forms and documents to facilitate and track tasks. You will find more information on them here.

DV DG AS A





## UTILITIES CONNECTIONS APPLICATIONS

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Listed below are all utilities connections applications. Your Project Manager will work with you to complete their forms for your project.

- Communication Systems
- Electrical Systems
- Industrial Wastewater Systems
- Mechanical Systems
- Natural Gas Systems
- Sanitary Waste System
- Storm Drainage System
- Water System
- Radio Frequency Systems



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Brand + Signage	Signage Standards		The Signage Standards Manual for Seattle-Tacoma International Airport (STIA) contains the standards for all airport signage and the regulations governing the design, construction, and installation of airport signs.		
Brand + Signage	Brand Guide		These guidelines include direction on everything from visual identity do's and don'ts to logo usage and more.		
	Maintenance Guidelines		Documents regarding the upkeep and maintenance for the airport.		
	Standard Details		Drawings of typical architectural details.		
Tenant Improvement	Construction General Requirements (CGR)	2015	These Seattle-Tacoma International Airport (STIA) Tenant Improvement Construction General Requirements are all inclusive and intended to address a wide variety of tenant and concessionaire projects.		Port construction project representative (Construction Manager, Project Manager, Engineer or Inspector)
Tenant Improvement	Design and Construction Process Manual	2015	STIA Tenant Improvement Design and Construction Process Manual are for use by the Tenant's Design Team (TDT) and should be used in conjunction with Regulations for Airport Construction (RAC 2014). This manual will help guide the TDT through the design and construction at STIA for any tenant mid-term refurbishment, improvement project, or new construction.		Port construction project representative (Construction Manager, Project Manager, Engineer or Inspector)



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CATEGORY	DOCUMENT	VERSION	DESCRIPTION	LINK	CONTACT
Construction	Construction Safety	vo3.22.16	Document outlining the requirements for construction safety at the airport and a plan for preventing job-related accidents.		Manager of Construction Safety Management (206)-787-5587
	MEP		Guidelines regarding the Mechanical, Electrical, and Plumbing requirements.		
	AV		Audio/Visual guidelines.		
Construction	Rules (Regulations) for Airport Construction (RAC)	2014	This document provides an orientation to the various Port departments associated with completing a construction project and guidelines to supplement the Construction General Requirements in project documents associated with the Seattle Tacoma International Airport (STIA). It serves as guide for contractors to better understand the focus of each department highlighting areas of concern and guidelines for successfully completing a project . For Tenant Improvement projects, it does not add to, alter, or delete any portion(s) of existing or future leases. If there is a conflict between a lease and this document, the terms of the lease shall govern.		Port construction project representative (Construction Manager, Project Manager, Engineer or Inspector)



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CATEGORY	DOCUMENT	VERSION	DESCRIPTION	LINK	CONTACT
Maintenance	Maintainability and Janitorial: Concourse D Hardstand Terminal	2016	These Maintainability Standards are drafted with the intent to support Total Cost of Ownership, Maintainability and Sustainability. To support a safe and efficient work environment in order to maintain the Airport, its functions, and the assets of the Port of Seattle. These Standards are supplementary to the Port's F&I Standards, Performance Specifications, and Engineering Specifications. Compliance with Inter Local Agreements and regulatory requirements is mandatory.		
Maintenance	General Drawing Notes POS AVM Maintainability Standards	2017	For the general drawing notes page, these are built off of the POS AVM Maintainability Standards.		
Landscape Design Guidelines		2000	This document is intended to be used in conjunction with the POS Landscape Design Standards to help guide the vision of future development at STIA. Where any conflicts occur between these two documents, the Landscape Design Standards take precedence over any recommendations presented in these guidelines. This document contains three parts: 1. Themes and images; 2. Conceptual plan; and 3. Appendix.		



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CATEGORY	DOCUMENT	VERSION	DESCRIPTION	LINK	CONTACT
Landscape Design	Master plan and Standards	2006	This document is currently being updated to be consistent with the 2018 ILA. The building department is also adding a permit for clearing and grading, which will include revised tree retention and vegetation mitigation development standards.		
Architecture and Interiors	Regulations for Airport Construction (RAC)	1996			
Architecture and Interiors	Restroom Design Standards	1999			
Architecture and Interiors	Communication Implementation Plan	1999			
Architecture and Interiors	POS Interim Landscape Design Standards for STIA	2000			
Facilities & Infrastructure	Mechanical Systems Standards	1999			
Facilities & Infrastructure	Electrical Systems Standards	1999			
Facilities & Infrastructure	Water and Sanitary Waste Systems Standards	1999			



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Graphics and Signage	Advertising Graphic and Display Design Guidelines	1996			
Graphics and Signage	STIA Signing and Graphics Guidelines				
Graphics and Signage	Environmental Graphic Design Master Plan	2001			
Graphics and Signage	Roadway and Garage Signage Master Plan	1999			
	Variance Request Form		Used to requesting owner approval of a material or product that varies from the guidelines if it is necessary because of a specific condition.		
	Request for Qualifications				
	Professional Services Agreement				
	Port of Seattle Tenant Agreement				
	AV/PMG Procedure Manual				



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CATEGORY	DOCUMENT	VERSION	DESCRIPTION	LINK	CONTACT
	Guide Specifications		A foundation from which design teams can build their project specifications, not intended to cover specific projects.		Port of Seattle
	CAD Standards		CADD and drafting standards		Project manager
	POS Communications Standards		A complete list of CMS nomenclatures for when listing spaces, pathways, cable, and termination hardware ID's.		
	Committee Meetings Scheduling			<a href="http://collab.portseattle.org/sites/avficommittee/SitePages/Home.aspx">http://collab.portseattle.org/sites/avficommittee/SitePages/Home.aspx</a>	
	Committee Meeting SharePoint			<a href="http://collab.portseattle.org/sites/avficommittee">http://collab.portseattle.org/sites/avficommittee</a>	
	AV/PMG Project Process Documentation		Detailed documentation of the process for projects to reach each project status.		Aviation Project Management Group



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## 4.3 MAINTAINABILITY STANDARDS

The maintainability standards help us to keep the Airport up to date and functioning properly, lowering cost and increasing passenger comfort.

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## MAINTAINABILITY STANDARDS

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These Maintainability Standards are drafted with the intent to support Total Cost of Ownership, Maintainability, and Sustainability. To support a safe and efficient work environment in order to maintain the Airport, its functions, and the assets of the Port of Seattle. These Standards are supplementary to the Port's F&I Standards, Performance Specifications, and Engineering Specifications. Compliance with local agreements and regulatory requirements is mandatory.

Note: The following standards are to be incorporated into their relevant discipline's standards at a later date. All design, aesthetic, architectural, or passenger-facing references have been incorporated into the Design Guidelines & Architectural Standards.



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#### Technical Review:

- Aviation Maintenance Technical Review Team will participate in walk-throughs, field reviews, design reviews, Plan-In-Hand field reviews, Requests for Information, Change Orders, Punch Lists, and decisions that deviate from these standards.
- Provide a submittal log for all materials and equipment for the POS to select items for review. Detailed drawings for review shall include equipment schedules, locations, and specifications. For all equipment schedules, indicate and specify the necessary units, capacities, types, sizes, and special notes.
- Drain line grade calculations and invert elevations shall be indicated on the drawings.
- Provide As-Built drawings for review and record drawings.
- Provide Operations & Maintenance Manuals per Port of Seattle Master Specifications Section 01 78 23.13 – Aviation Operations and Maintenance Documentation.

#### Asset Management:

- Designer Builder shall provide CMMS form with the first three columns populated (Equipment Description, POS equipment ID #, physical location) by approximately 90% design. The Contractor shall fill the balance of their form based upon actual equipment installed. The document shall be a PDF as part of the O&M Manual and an Excel (live) spreadsheet. The CMMS form will be provided to the designer in excel format.
- Project/Design data management system shall have the ability to integrate with Maximo for data interfacing.
- Submittals that will go into the O&M Manual should be original electronic documents. When scanning is necessary, the scan should be made with OCR enabled to make the content of the attachments fully text searchable. Contractor submittals and Operations & Maintenance manuals shall be submitted in electronic format of Microsoft Office or PDF with index and tabs, and should be fully text searchable.
- The Contractor and Subcontractor's literature shall bear the POS project name and number on the first page of the submittals.





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#### Sustainability:

- Provide heavy gauge metal column wraps in public areas for protection from passenger baggage scrapes and impacts from passenger transportation scooters and electric pallet jacks. On permanent corners such as restrooms with radius metal entries, if heavy gauge is not available, consider detail for grout fill.
- Utilize high impact products such as impact resistant gypsum wall board, industrial laminate wainscot, bumper rails, or ¼" stainless steel (SS) for the lower 48" of walls in corridors, delivery locations, storage of goods locations, and back of house areas. If using metal stud wall construction, the bottom track of the wall needs to be designed and secured to the floor to resist impacts from motorized pallet jacks. Panels and corners shall be maintainable, replaceable, and available in the market. Stainless steel may be appropriate as wall protection as it doesn't need painting.
- Provide steel jacketed concrete filled column wraps in the bagwell and at ground service equipment (GSE) locations. Tugs use the columns and rails as pivot points for turning. Building seismic structure needs to be designed for the rigid concrete encasement.
- Shop floors slope away from equipment and hydraulic lift shafts, toward adequately sized drains (not less than 2"), and are connected to the appropriate treatment system.

- Weep holes for water drainage shall be oval, not round. This applies to windows, siding, and other surfaces subject to water.
- For interior equipment protection along GSE (tug) travel pathways, 13" high concrete curbs with angle iron embedments at the top exposed corner with removable 12" x 12" timbers are strongly recommended rather than bull rails except at BHS make-up devices. At BHS makeup devices, 6" high raised concrete walkways should be installed for ergonomics and the protection of personnel.
- Outdoor equipment subject to damage by freezing shall be heat traced and insulated or installed in a hot box enclosure sufficient in size to allow full access for maintenance.
- Provide WiFi and cell phone coverage without. Do not degrade existing coverage.
- Radio coverage is required in all spaces. Do not degrade existing radio coverage.
- Salvage materials shall be identified in the 90% design drawing submittals and approved by the Port.





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#### Redundancy:

- Provide redundancy in equipment. Ensure systems that shall remain in operation at all times shall have equivalent or adequate capacity for outages. This is a 24/7 operation and there should never be only one of any critical system or piece of equipment. Example: Rather than (1) large fan, provide (2) slightly smaller fans so that if one goes down, the system is still operational at a reduced capacity rather than totally out of service. The two fans should be fed from separate circuits.
- Dual feed/power to facility required to provide increased reliability (redundancy). Feed from both ends keeping tie breakers open.

#### Clearance requirements:

- Adequate space shall be provided for the operation and maintenance (O&M) of installed equipment and inspections to equipment. Verify with the manufacturer's literatures for equipment sizes, clearances and requirements.
- Common conflicts are with conduits, fire sprinkler piping, and clearance in front of electrical boxes in the ceiling, light fixtures, ceiling grids, and access to HVAC boxes for controls.
- Provide 24" clear width and 90" clear height in utility chases. The clear width measurement shall be between the brackets, insulation and all other objects.

#### Maintenance Access:

- Provide safe and efficient pathways for access to equipment.
- All elevated equipment requiring any service has to be safely accessible with a POS standard device such as: lifts, ladders, steps or catwalk (not temporary scaffolding). This includes access to equipment that is above ceiling grids or in recessed locations. Any equipment that exceeds the requirement for servicing by a standard device needs proper access provisions without horizontal or vertical obstructions.
- Equipment installed above ceiling grid shall be installed such that the ceiling grid does not have to be disassembled for maintenance access and that all service points are no more than 24" above the ceiling grid.
- Access to routine service points shall be by foot at ground level without obstruction or by stairways and OSHA and WISHA-compliant access platforms or catwalks.
- Provide clear access to valves and cleanouts.
- Access to equipment rooms shall accommodate pallet jack deliveries, which include minimal ramp break over angles.
- No equipment shall be positioned in a confined space.
- Provide walkways with 80" headroom and width sufficient to move tools and equipment along the pathway.





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- Doors and floors must accommodate AVM lifts used in the facility. The articulating lift will be used in high ceiling areas with (at least) one entrance point. Consider travel pathways, floor openings, and obstructions such as escalators, stairwells, and overhead obstructions such as beams and artwork when calculating the reach of lifts and placement of outriggers. Common personnel lifts used inside the airport buildings (subject to change):

#### Articulating Crawler:

Model: JLG X770AJ

Machine dimensions: 6'-7" H x 20'-9" L x 3'-3" W

Outrigger Footprint: 14'-0" L x 13'-6" W

Platform height: 77'-5"

Maximum Ground Bearing Pressure: 8 psi

Ground Bearing Pressure - Outriggers: 65 psi

Machine Weight: 9665 lb

#### Scissor:

Model: Genie GS-2632

Platform height: 26'-0"

Lift capacity: 500 lbs

Stored height: 7'-5"

Footprint: 8'-0" x 2'-8"

Weight: 4,413 lbs

Model: Genie GR-20

Platform height: 19'-11"

Lift capacity: 350 lbs

Stored height: 6'-0"

Footprint: 4'-5" x 2'-7.5"

Weight: 2,451 lbs



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#### Bucket Truck for AOA Building Lighting Maintenance:

Actual truck width with outriggers down is 16'-0". Full extension measurements taken from the truck side of the top rim of the bucket. Bucket truck reach measurements:

Height (ft)	Horizontal Side Reach From Base of Outrigger (ft)	Horizontal Reach Over Cab From Front Bumper (ft)
65	27	22.5
70	25	20.5
75	22.5	18
80	16	11.5
83	12	7.5

The AVM 85'-0" bucket truck is about 37'-0" long; with the outriggers down, it is approximately 20'-0" wide. The platform can reach 80'-0" straight up. The boom base is right behind the cab of the truck. The electrical shop has set the upper limit for bucket truck accessible ramp lighting at 65'-0" since, due to GSE, it is highly unlikely that we will have the pathway to move the truck into position the clear space to set up the truck in the ideal location.



(lower segment not shown in fully vertical position)





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#### Equipment Removal and Replacement:

- The doorways, ceilings, approaching and through a room, corridors, and elevators shall be sized and aligned to accommodate removal and replacement of major equipment without disassembly from factory shipped configuration.
- All equipment shall have provisions installed for removing failed components (>50#) in a safe manner. This may require built-in lifting points or hoisting systems. Provide complete lifting information on how each component can be removed and replaced while adhering to this requirement.
- Do not abandon equipment or infrastructure in place, they are to be removed. This includes pipes that penetrate roofs. Patch the holes and surfaces and provide fireproofing to the satisfaction of the AHJ.

#### Service Lighting:

- Provide at least 25 foot candle lighting on roof access to walkways, in mechanical chases, and all service locations.
- Spaces, such as interstitials containing equipment that requires maintenance, shall be provided with appropriate lighting.

#### Confined Space:

- Create no confined spaces.

#### Service Power:

- Provide 120V 20A convenience power outlets in mechanical chases and on roof tops within 25' of service equipment.

#### Ventilation:

- Provide adequate ventilation for personnel to work in mechanical and electrical chases.

#### Elevators:

- Paint and label the perimeter edges of the service elevator cab floor to encourage centering of the loads.
- Design with bollards and guide rails at the entrances to service and freight elevators to prevent pallets from damaging the door frame and the edges of doors with horizontal travel.
- Service elevators shall be graphically labeled, inside and outside, to prohibit pallet jacks.
- Freight elevators shall travel from load dock level to the penthouse.
- Size freight elevators to accommodate all equipment replacement on the floors served.
- Size elevators for personnel lifts required to be used in the facility.



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#### Future:

- Designer and builder shall design and build with allowances for future upgrades, new technology upgrades, access and loading.

#### Training:

- Submit an equipment and system matrix for the Port to identify the quantity of hours and shifts which will require training.
- The training requirements will vary based on the equipment selected by the contractor. Equipment which is new to the Port will likely require more training than equipment which matches existing Port equipment.
- Equipment and systems training may be video recorded by the Port. If standard manufacturer's training videos are available for the applicable equipment, provide the manufacturer's video files.
- Provide training sessions for all three shifts. Training days and times are:



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POS AVIATION MAINTENANCE TYPICAL CONTRACTOR TRAINING SCHEDULE				
Craft	Preferred Day of Week for Training	Preferred Time of Day to Start Training	Lunch Breaks	Notes or Shift Hours
Mechanical Utilities (BLRM)	Days shift: Tuesday Swing shift: Wednesday Grave shift: Wednesday Weekend Day shift: Monday	Days 06:30 Swing 15:30 Grave 05:00 Weekend Days 06:30	Days 11:30 - 12:00 Swing 19:00 - 19:30 Grave 04:00 - 04:30 Weekend Days 11:30 - 12:00	Days 4x10 Swing 4x10 Grave 4x10 Weekend Days 4x10
BHS Baggage Handling Systems OE	Wednesday	Days 07:30 Swing 14:30 Grave 23:30	Flexible	Days 4x10 05:30 - 15:30 Swing 4x10 14:00 - 24:00 Grave 4x10 22:00 - 08:00
PLB Passenger Loading Bridge OE	Wednesday or Tuesday with Friday for full crew	Days 07:00 Swing 14:30 Grave 23:30	Flexible	Days 4x10 06:30 - 17:00 Swing 4x10 13:30 - 24:00 Grave 4x10 22:30 - 09:00
Carpenters Architectural	Tuesday, Wednesday or Thursday	07:00 to 15:30	11:00	Weekdays 4x10
Electricians	Wednesday (not third)	Days 07:30 Swing 15:30 Grave 23:30	Days 12:00 - 12:30 Swing 18:00 - 18:30 Grave 05:00 - 05:30	Days 07:00 - 15:30 Swing 15:00 - 23:30 Grave 23:00 - 07:30
ET Electronic Technicians	Wednesday	Days 07:30 Swing 15:30 Grave 23:30	Flexible	Various
Civil Field Crew	Tuesday, Wednesday or Thursday	Days 07:00	Flexible	

POS AVIATION FIRE DEPARTMENT TYPICAL CONTRACTOR TRAINING SCHEDULE				
Craft	Preferred Day of Week for Training	Preferred Time of Day to Start Training	Lunch Breaks	Notes or Shift Hours
Fire Department	Tuesday, Wednesday or Thursday	07:00	Flexible	





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#### General Maintenance Notes:

- Weather vestibules shall be provided at main entrances in areas where wind-driven rain prevails.
- Mechanical and electrical equipment rooms should be on the ground floor with doors and pathways of adequate size to accommodate installation and removal of equipment for repair and maintenance. If not on the ground floor, provide freight elevator(s) adequate for the transportation of the equipment without disassembly.
- Building system components shall be accessible for periodic inspection and maintenance.
- Stairway shall be provided in the design for servicing of roof mounted equipment; ladders may be an exception after review with Aviation Maintenance.
- Consider types of traffic in the area - office, public corridor with baggage, and motorized pallet jack traffic.
- Lockers shall have sloped tops.
- Coordinate with POS (carpenter shop) before removing or replacing existing metal ceiling tiles. Improperly removed or installed ceiling material may create an overhead hazard.
- Connect to smoke alarm(s) in the loading bridge and rotunda for closure upon smoke alarm activation.

#### Sustainability:

- Siding shall be low-maintenance and not prone to staining.
- Fascia or trim shall be low-maintenance sheet metal, aluminum, or other low-maintenance material.
- Masonry and concrete surfaces shall be sealed to prevent efflorescence and leaching.
- Wall panels shall have sufficient intermediate supports to limit deflection under maximum designed wind loads so that weather seals will not fail.
- Ventilation shall be designed to prevent moisture accumulation.
- Vapor and moisture barriers shall be included in the exterior design.
- MDF or particle board shall not be used in cabinetry.
- For plastic laminate, apply full coverage of manufacturer's recommended quantity of adhesive to each surface.
- Design shall provide for a sturdy and sealed building. Silicone sealants are not acceptable except for glazing systems designed for silicone joints. All exterior envelope penetrations subject to weather shall have redundancy built into the weatherproofing.
- Bumper rails or hard-surface wainscot shall be specified and shown on the walls in high-traffic corridors.





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- **Doors, Doorways and Access Panels:**
- Doors and windows shall be designed to seal correctly and include protection from water running down the face of the structure.
- Windows, doors, and hardware shall be extra heavy duty commercial grade.
- Hinged doors are preferred vs. the roll down screen for closures.
- Design hinged doors and show on the drawings with ~180° swing, unless the swing is blocked by a wall or equipment. This applies to personnel doors as well as cabinetry.
- Preferred model for Airport door closers from holdroom doors to loading bridges: LCN Model 4314 ME-SF 24V, 0°-180° swing with no pressure.
- Thresholds should not be used in equipment room doorways.
- Power and generator room doors should open to the exterior of the building.
- Do not swing doors into corridors or tug drives. Recess the doors into alcoves. If necessary to swing doors into traffic lanes, provide protection for full swing of door so that passing traffic will not strike the door or personnel.
- Doors from back of house (BOH) shall be equipped with robust power openers or electromagnetic hold opens connected to the smoke detection system.
- Family Restroom locksets shall be BEST dormitory function 45H7T15H626RH VIB or 45H7T15H626LH VIB

- Access Hatches shall be positioned for maintenance access and shall be 24"x 24" minimum. Overhead access panels shall not exceed 20 pounds and be operable by one person.
- For roll-up and personnel doors, BEST/Stanley sole source compliance is required for locks and locksets utilizing the Airport approved keyways. Cores shall be figure 8, 7 pin. All cabinet locks must accept the BEST 7 pin SFIC core (Small Format and Interchangeable Core).
- New keyed devices shall match existing POS AVM key systems (e.g. controls, equipment panels, access doors); no new keys shall be allowed unless specifically requested and approved by the Port AVM Lock Shop Manager. Current device key list:

Key	Blank	Application
Flat blade screwdriver		Access panels which are not specified with a key
NSR251		Square D Panels
Do18		Allen-Bradley pilot devices. Widely used as JAM RESET switches in conveyor system.
270	54G	Access Control Systems (ACS) electrical cabinets for: Interface Termination Box (ITB), power supply cabinets, CK721 cabinets
CAT 45		Plumbing & Piping access panels
CAT 74		Dispensers, Restroom accessories
FAB 11	CCL	Diaper, sanitary napkin coin boxes and sharps containers





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Key	Blank	Application
B286A	Illinois Lock Co.	Sometimes interchangeable with CAT 45
508CH	Y14	Loading Bridge Cabinet Locks
WEM 2		“Flat Key” (no groove on one side) manufactured by Illinois Lock Co. for Eaton Electrical Panel
Simplex	B	Fire Alarm panels
LL805		Fire Alarm panels
E158	Illinois Lock Co.	Emergency Fuel Shut Off (EFSO)

**Door coordination on drawings:**

- Design drawings shall have correct room and door numbers as issued by Port of Seattle Lock Shop.
- All disciplines drawings shall be cross-checked to determine that access openings are provided, properly sized, proper clearances, and located for servicing the facility and equipment.

**Wall coverings:**

- Corner protectors shall be specified for corridors. Protection shall be appropriate for the traffic.
- Provide wall construction, panels, and corners to resist cart or

pallet impacts.

- Interior wall finishes, corners, and wainscot materials shall be durable and low-maintenance.
- Panels and corners shall be maintainable, replaceable, and readily available in the market.
- Specify and use paint approved for POS environmental requirements and paint standards verified by the Port paint shop.
- Interior and exterior painting schedule should match the existing.
- Chair rails shall be installed in offices and conference rooms to reduce scratches, scuffs, and repainting of walls.
- Provide heavy gauge metal column wraps in public areas for protection from passenger baggage scrapes and impacts from passenger transportation scooters and electric pallet jacks not less than 36” above finish floor.

**Floor finishes:**

- Select floor finishes considering maintenance activities, moisture, soiling (abrasiveness and staining), chemicals, wheel loads, dropped objects, movable furniture, foot traffic, and traffic patterns.
- Provide details for expansion joints for roofs, floors, and walls at required intervals.



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#### General:

- Design the facility with durable surfaces for easy cleaning and avoid creation of tight spots which lend themselves to soiling or the accumulation of debris.

#### Custodial Areas:

- Cleaning supplies and equipment shall be stored out of customers' view when not in use.
- Design adequate clearance to access the shelving without removing the service carts from the room.
- Provide allocated service cart space of at least 34 sqft:  
Utility cart: 24"x51"  
Tilt cart: 33"x73"  
Garbage receptacles: 24" diameter
- 42" wide door with adequate room to maneuver the equipment stored in the room and functionally use the mop sink.
- New facilities shall include a front load washer and dryer, with power, water, and exhaust.
- Depending on the new facility size, space and utilities will need to be provided for powered janitorial equipment. Quantity of each determined by discussion with AVM Manager. The equipment will not be purchased by the project.

#### Walk behind machine burnisher (Basis is Tenant B5 or B7)

- Machine Height: 43"
- Machine Width: 24.5"
- Machine Length: 59"
- Dedicated 120VAC 20A charging circuit

#### Walk behind scrubber (Basis Tenant T2)

- Machine Height Maximum (Handle Lowest Position): 36.6"
- Machine Width: 18.8"
- Squeegee Width: 27.4"
- Machine Length: 44.1"
- Cold water hose bib with mop sink or drain to sewer

#### Wide vacuum cleaner (Basis Tenant V-WA-30)

- Machine Height: 39.75"
- Machine Width: 30.5"
- Machine Length: 36"
- No power required for storage location

#### Wet Vacuum (Basis Tenant V-WD-15)

- Machine Height: 37.5"
- Machine Width: 15.5"
- Machine Length: 29"



## MAINTAINABILITY STANDARDS

### Janitorial

- Cold water hose bib with mop sink or drain to sewer
- No power required for storage location

### Floor Dryer – floor fan (Basis Tenant Commercial Dryer / Air Mover)

- Height: 18.5”
- Width: 15”
- Length: 18”
- No power required for storage location

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#### Plants:

Coordinate approved plant list from Landscape Standards and the Aviation Wildlife Department.

#### Drainage:

- Ensure that all areas drain away from the facility.
- Storm drainage system shall be designed to minimize maintenance and account for velocities in open ditches and swales.
- Facility draining and grading design shall provide an easily maintained surface and consider future site development and/or expansion.
- Provide curbs and gutters on streets and parking areas to contain traffic and protect pavement edges.
- Roof drains and overflow drains shall be connected to the existing drainage system.

#### Manholes & Hand holes:

- All hand holes and manholes located within the shoulder areas of aprons, taxiways, tow ways, runways, and overruns shall be designed to accept FAA required wheel load minimum 100Kip. Trench drains or channel drain system shall be designed to support a minimum of 200,000lb loads per AASHTO M306 or 202,320lbs per EN-1433 Load Class F.
- All handholes and manholes located outside of the locations described above shall have a minimum rating of two times the wheel load of a fully loaded Cobus or H-20, whichever is greater.
- Handholes and manholes in traffic areas shall be secured with bolts or hinged with a spring-loaded, retractable bolt to secure it closed.



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#### Pavement/ground:

- Proper pavement type shall be designed for areas subject to kerosene, gasoline, or oil spills.
- Portland Cement Concrete (PCC) should be used to minimize surface deterioration. In areas subject to acid spills, an acid-resistant coating shall be applied to PCC pavement.
- Lots shall be designed to eliminate problems associated with pavement cleaning and snow removal.
- All foundations located within the AOA shall be flush with grade.
- In areas where mowing will be difficult, or where shade or other conditions do not support lawn growth, specify a low-maintenance ground cover compatible with the Interlocal Agreement and POS wildlife control requirements.
- Specify a low-maintenance ground cover compatible with the Interlocal Agreement and POS wildlife control requirements.

#### Joints:

- Design provides for joint spacing not greater than 20' in concrete pavement. Match existing layout.
- Joint resealing project design provides for complete removal of old joint seal material.
- Joint width is at least 12 millimeters, regardless of joint seal type (i.e. preformed or field-poured).
- Spacing and groove types are specified for AC and PCC pavements per FAA specifications.





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### Roof & Roofing

#### Roof:

- Do not design for use of access hatches or forklift/crane without approval of Aviation Maintenance.
- Place no obstructions on the roof deck in the travel path of maintenance personnel. Where it is necessary to cross the travel path with obstructions, provide cross-over ramps with handrails for hand truck passage.
- Curbs for mechanical equipment and other roof penetrations shall have 18" separation from adjacent vertical surface for working clearances.
- Curbs and penetrations shall include a minimum of 8" above the insulated roofing material for boots and vertical PVC. Cap and counterflashing shall not be less than 8" above the insulated roof membrane.
- Roof-mounted equipment properly mounted and flashed. Mounting of mechanical and electrical equipment on the roof should be avoided. Rooftop equipment creates difficult flashing details, obstructs drainage paths, increases repairman traffic, accelerates corrosion and equipment weathering, and negatively affects maintainability of both the roof and equipment.
- Roof design shall have provisions to prevent ice, snow and heavy rain from sheeting off the roof.

#### Roof Access:

- Where roof access stairways are impractical for small areas, use ladders with 32" clear width flare at top, round side rails, include intermediate landings with safety gates. If roof hatch is acceptable to AVM, provide parapet or fall protection at hatch and around the work areas.
- Provide adequate vertical and clearance between roof surfaces and other objects to allow access for roof repairs and roof replacement. For small objects, the clearance would be minimum 18". For larger objects, the clearance would be minimum 48".

#### Service Power:

- Provide 120V 20A convenience power outlets on roof tops within 25' of service equipment.





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#### Fall Protection:

- Fall protection is required for open-sided floors and platforms above 4'-0", WAC 296-800-26010-1 (<http://wisha-training.ini.wa.gov/training/presentations/CompChartFallProtReqs.pdf>). This requirement also applies to temporary installations where POS personnel will be working.
- Provide tie-offs for service of elevated equipment. Example is elevated cameras. Access shall be safe and efficient.
- Fall arrest systems shall be designed to support two concurrent users.
- Provide a third party inspection on the installations of new fall protection systems.
- Fall protection system components requiring periodic inspections shall be selected from systems which do not require qualified personnel for the inspections. Select equipment which, per the manufacturer's instructions, may be inspected by competent personnel.



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#### General Maintenance Notes:

- Before and after construction, video record underground piping to ensure that it is not blocked with construction debris or crushed.
- Video record underground piping interiors at appropriate times during construction and punch list to ensure that it is not blocked with construction debris or crushed.
- Provide spaces that will not require “confined space” entry requirements.
- POS boiler room assigns equipment numbers for mechanical equipment and shall be used on all equipment matrices.
- Drawing details and data shall be provided to allow for later servicing, repair, and redevelopment.
- Provide complete comprehensive, (Isometrics are preferable) multi-level plan as-built.
- Process and Instrument Diagram (PID) as appropriate.

#### Maintenance Access:

- Provide structural support members and hoists over large pieces (+>50lbs) of equipment to allow removal for maintenance.
- Provide access roads and service areas around outdoor equipment for removing large internal equipment.
- Maintain clear access to valves and cleanouts. Provide appropriately sized and secure access doors in walls and hard ceilings where cleanouts are located.

- Water and sewer lines shall be located in readily accessible areas for cleaning and/or repair (not under paved roads or in heavy traffic areas).
- An adequate building opening and associated passageway shall be provided for large equipment installation and removal.
- All equipment should have adequate space (horizontal and vertical) for a work area to allow repair, adjustment, or removal. (In some places, a maintenance platform may be necessary.)

#### Electrical/Lighting:

- Quick-disconnect electrical plugs shall be provided on submerged equipment to allow rapid replacement during maintenance.
- Operational lighting in all spaces shall be installed.
- Provide 120V 20A convenience power outlets in mechanical chases so that all locations can be reached with a 25’ cord.

#### Valves:

- Electronic or automatically controlled valves shall have manual override or bypass capability for maintenance or use during power outages.
- Provide sufficient valving provided to isolate minimum system sections (e.g., by floor, wing, bay) for repair or maintenance.
- Provide automatic air vents with isolation valves at all high points and heat exchangers.



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#### Freeze protection:

- Provide freeze-proof hose bibs in exterior locations. Potential freezing problems for piping and plant components shall be considered.

#### Equipment Schedules:

- Indicate and specify the necessary units, capacities, types, sizes, and special notes for the operators and maintainers.

#### Cleanouts:

- Accessible cleanouts with 24" access clearance envelope.
- Cleanouts on pressure lines shall be equipped with clamp-on caps.

#### Direct Digital Controls (DDC):

- Siemens Direct Digital Control (DDC) - Building Automation System is required. All control systems for heating, ventilation, air conditioning, plumbing, and PC Air systems shall be provided by the Siemens Building Technology Division, no substitutions.
- Graphics shall be created using CAD drawings, program code, and formatting to match existing DDC.

#### Water:

- Sampling taps with isolation shall be provided to all make-up water system for adequate testing and process control.

- Provide domestic water lines with hose bibs adjacent to equipment for cleaning (freeze-protected).
- Provide domestic water and drain connections to allow bypass of mechanical systems during maintenance.

#### Piping:

- Install an analog thermometer next to well-type sensors.
- All elevation drops will have an easily accessible low point drain and all elevation gains will have an easily accessible high point vent.
- Provide dielectric unions at connections of dissimilar metals.

#### Sanitary Waste, Vent and Storm System:

- Provide nearby space for storage of treatment chemicals.
- Provide corrosion test racks.
- Provide system capacities to calculate amount of treatment chemicals required.
- Chemical Pot Feeders: All heating, chilled and process-cooling water systems shall be provided with chemical pot feeders.
- Provide freeze-protection features specified for systems subject to freezing.
- Provide meters for make-up and blow-down water. Provide adequate ventilation and containment.



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#### Sewage treatment and collection systems:

- Manholes and clean-outs shall be provided to permit maintainability.
- Manholes and tanks shall have ladders securely anchored to the wall. Ladders should be constructed of corrosion-resistant materials, and if the manhole depth is greater than 4 feet, attachment points for safety belts shall be installed. Above grade safety extensions are required on below grade ladders.
- Ladders or handrails exposed to sewage gases shall be made of Stainless Steel.
- Traps and separators shall be provided to prevent oil and grease from entering sewage system.
- Sewer lines shall have sufficient slope to maintain full flow velocity of 0.6 meter (2 feet) per second, and an average flow velocity of 0.4 meter (1.6 feet) per second.



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#### General Maintenance Notes:

- POS boiler room assigns equipment numbers for mechanical equipment and shall be used on all equipment matrices.
- Contractor shall protect all new and existing equipment and ductwork from construction dust and debris.
- Clean all ductwork prior to placing into service.
- Seal the ends of all new ductwork to prevent contamination until placed into service.
- Special construction features shall include: double sloped drain pans, motor removal rail to cabinet door, sliding racks for prefilters, all filters upstream loaded, extended grease lines where applicable, access doors open such that pressure effects seal, access doors sized for removal of largest internal component, receptacles located inside motor sections, cooling coil drain pan extending 2 feet downstream of cooling coil, magnehelic pressure gauge at each filter section, and gaskets or boots at all factory and field cabinet penetrations (caulking not acceptable).
- Design to provide for adequate air bleeding.
- Slope piping and accessories to allow for drainage.
- Air dryer redundancy with bypass valving for minimum down time.
- Special tools required to service equipment shall be supplied with a lockable metal toolbox for security.

#### Maintenance Access – provide the following:

- Clearance around equipment for maintenance access shall be sized larger than the biggest piece of equipment to be serviced and/or removed at the location.
- Minimum 24” clear space for maintenance personnel.
- Openings in fan guards for checking fan speed.
- Extended grease fittings for bearings when required for access.
- Provide access doors (appropriately sized for the equipment) for cleaning coils, drain pans, and fan blades.
- Fan coils are installed to allow full opening of access doors.
- Servicing clearance available for coil removal and filter changing.
- Cleaning space specified between cooling and heating coils.
- Coils that can be drained and cleaned.
- Stacked coils shall be independently supported.
- Piping to coils should be offset for easy coil removal.
- Space provided to pull tubes or coils.
- Duct access doors specified on both sides of all dampers.



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#### Air Handling Equipment:

- Inside lights provided for air handlers with at least 2.3 square meters (25 square feet) of coil area. Use exterior mounted switch with indicator light.
- Lights, 15 foot-candle minimum with exterior on/off switch and pilot light provided in duct chases for maintenance use.
- 120V, 20amp service receptacle adjacent to roof mounted equipment.
- Air handling units shall be installed in equipment rooms, where possible.
- Air handlers above a suspended ceiling shall be provided with servicing platforms, extending a minimum of 0.4 meter (1.5 feet) from the edge of the equipment, and a clear space 0.9 meter (3 feet) high on the control side and other side where access is necessary.
- Trap provides a minimum difference in inlet-to-outlet elevation of 12 millimeters (1/2 inch) plus the air handling unit (AHU) total static pressure rating.
- AHU – Heating and Cooling Coils: Specifications shall indicate that coils should not exceed a specific size to allow for easy removal.
- AHU may have 2+ coils.

#### Compressed Air Systems:

- Pneumatic tank systems specify cut-off pressure, start pressure, and associated tank volume percentages for ease of start-up and servicing.

#### Steam and Condensate – provide the following:

- Traps mounted 0.3 meter to 0.4 meter (1 foot to 1.5 foot) below steam coil outlet to provide condensate head on the trap.
- Minimum dirt leg of 152 millimeters (6 inches) provided before trap inlet.
- Strainers provided upstream of steam traps, control valves, meters, and pumps.
- Strainer housings equipped with drain valves.
- Isolation valves provided for redundant parallel strainers in critical systems.
- Meters are provided with bypass lines and isolation valves to allow removal of meters with no down time.
- Condensate return lines slope in direction of flow.
- Dielectric unions specified at connections of dissimilar metals.
- Steam traps located to allow maintenance.
- Drain diameter is at least 25 millimeters (1 inch).
- Piping is sloped at least 6 millimeters (0.25 inch) per 0.3 meter (12 inches) in the direction of flow.



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- For steam traps: Numbered brass tag specified to be connected to the valve with a brass jack chain. (Tags will be at least 50 millimeters (2 inch) round or square with stamped black-filled lettering. In addition to numbers, tags will be lettered to indicate fluid carried through the valve [e.g., “cw”]. Numbers will be keyed to the mechanical construction drawings.)
- Steam equalizing bypass valve installed at main steam valves.

#### Chillers and Cooling Equipment:

- Flanges (or unions) and isolation valves in condenser water piping are located to allow removal of piping and headers immediately in front of tubes.
- Ample space is provided to inspect and clean condenser tubes.
- Flanges or couplings and isolation valves located to allow piping removal directly in front of device (above, below, and/or to the side).
- Devices sloped to allow for drainage.

#### Pumps:

- Flow measurement equipment (e.g. orifice plates) specified for pumps and major heat exchange devices.
- Pressure gauges are specified on the discharge side of all major pumps.
- Air bleed-off valves provided at high points in pump discharge lines to allow removal of air locks.

- Floor trenches are provided around pumps to carry water spills to sumps.
- Storm and Sanitary Pumps: Indicate lifting eye in structure above to facilitate removal of sump pumps.

#### Valves:

- All ball valves shall be fully ported.
- Utilize Ball valves. (rather than gate or butterfly valves)
- Numbered brass tag specified to be connected to the valve with a brass jack chain. Tags shall be at least 50 millimeters (2 inch) round or square with stamped black-filled lettering. In addition to numbers, tags will be lettered to indicate fluid carried through the valve [e.g.: “CW”]. Numbers will be keyed to the mechanical construction drawings and include the Project Number.
- Provide clear access to valves and cleanouts.



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#### Lift Stations:

- Dual submersible pumps with automatic alternating lead pump controls with manual override.
- Wastewater storage for short power outages or maintenance downtime.
- Adequate heat, lighting, and freeze protection.
- Explosion-proof switches.
- Easy access for maintenance personnel and pump replacement.
- External switch for quick connection of mobile emergency generator.
- Drains from possibly oil- or grease-contaminated sources have separator units.



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#### Fire Sprinkler System:

- Exterior and interior fire protection systems (e.g., standpipes, sprinklers, hoses, accessories, extinguishers) shall be completely described and drawn, and shall conform to appropriate technical manuals and National Fire Protection Agency (NFPA) codes.
- Fire alarm is coordinated with electrical central alarm system.
- Provide sprinkler system piping with free draining to riser drain valves.
- Electrical and mechanical drawings shall show location of fire alarm system appurtenances and automatic fire doors, fire and/or smoke dampers, ceiling dampers, and similar means of fire protection for air duct systems.
- Fire extinguishing systems, smoke evacuation systems, and related systems and equipment shall be designed so operation does not depend upon high maintenance. The design objective is a highly reliable, easily maintainable, and low Total Cost of Ownership for the system.
- Systems shall be compatible with and match existing Airport systems.



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#### Definition:

Baggage Handling System is defined as both an area, referred to as BHS Ramp, and as the Baggage Handling System itself (BHS) comprised of (conveyors, service equipment, cat walks, beltways, etc.) all things related to the movement of bags.

#### General Maintenance Notes:

- The baggage handling system shall be designed so that no scheduled repair/maintenance task requires more than two (2) hours of full-system shutdown, three (3) hours of reduced operation, or any combination of both in excess of three (3) hours.
- All components and sub-systems shall be designed for quick replacement as field installed. All components and assemblies shall be easily disconnected and removed from the equipment without necessity for extensive disassembly.
- Minimize motor and gearbox weights. When larger (greater than 5hp), heavier motors are necessary, provide space for additional crew members to service the equipment and the capability to hoist the equipment to/from the service location.
- Only solid sections should be enclosed inside of walls. No bearings, rollers, or drives inside of walls unless a minimum of 36" clearance available on both sides.

#### Construction Access:

- Do not work over BHS without securing the conveyor by Lock-Out Tag Out.
- During construction over existing systems provide a solid deck with toe boards over BHS in work areas.

#### Clearance:

- Conveyor and catwalk is a single unit and must have 80" head clearance, which encompasses a minimum 48" width with 72" clearance for all belts. Safety tape and provide padding for items under 80".
- A minimum of 48" width with 80" clearance for service catwalks.
- Cross-over conveyor must have 80" clearance above top step.
- When no conveyor/catwalk assembly is installed, a personnel lift is required to work on conveyor and power equipment mounted in overhead areas above 6'. Room for the personnel lift to penetrate the plane of the BHS conveyor is needed; a clear footprint and air space to drive personnel lift on the floor below is needed.



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#### Maintenance Access:

- All service points, bearings, shafts, motors, etc. must be accessible and unobstructed with a minimum of 12" clearance for maintenance and removal.
- Walkways should also be made wide enough to access Auto Tag reader (ATR) for service and maintenance.

#### Sideguards:

- Sideguard height shall be 12" or minimum allowed by regulations.
- Do not permanently attach anything to removable sideguards.

#### Safety:

- Provide start-up warning with strobe that is accessible and visible. Lenses shall be clear and easily visible. All audible devices shall be properly sized for area.
- The alarm silence shall be readily accessible and for qualified personnel only.
- Conveyor beds are considered elevated walkways and shall meet regulations.
- Provide safety cables per WAC 296. Where installed - Make one end removable to allow for access by maintenance personnel.
- Keyed HOAs are required for areas accessible to non-POS maintenance personnel.

- Safety tape and provide padding for items under 80".
- Emergency Stop Push-Buttons (E-Stops) shall be lockable and located in easily reached areas; consult with conveyor shop for location. E-stop zones shall be clearly identified on all equipment in the field.

#### Equipment:

- All equipment shall be clearly labeled for system requirements.
- All motor assemblies shall include pick points where rigging would be necessary for removal.

#### Belts:

- Stainless steel lacing for belt splices. No sewing for belts. For durability and long life for belts. Rip stop fibers shall be integrated into belt material.
  - A minimum 12" clearance required all around the belt for long term maintainability and ease of access to pull bearing.
  - At Merge conveyors, laced belt or interrupted belt; no continuous belts allowed.
- Belt Tracking: No end roll tracking, always install snub rollers.



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#### Motor:

- Minimum 3' long cord with quick (cord plug) disconnects.
- Maximum 5 HP motor size.
- Motor Overloads: Provide access for safe replacement of overloads. Be sure overloads are properly sized and sizing sheet is posted in cabinet.
- Motor Control Panel (MCP): Make sure control station is easily accessible in accordance to the belts it services for ease of securing belts, resetting jams, and motor changes. Keep drawings current throughout the work. Provide As-Built drawings to ensure ease of replacement.

#### Control Devices:

Mounted on the accessible side of conveyor so that it can be easily reached for clearing jams and performing maintenance. Consult with Conveyor shop for placement.

#### Electrical/Lighting:

- Conduit runs shall not obstruct head clearance or access points.
- Install quick disconnects on motors, VFD's, photo eyes, tachometers, etc.
- Provide a 20amp, 120v circuit sized to prevent nuisance breaker trips.

- Provide 120V 20A utility power outlets throughout all systems reachable with a 25' extension cord.
- Do not install conduit under floor-mounted conveyor.
- Do not block access to light fixtures or illumination from light fixtures.
- Provide a minimum of 10 foot candles at the conveyor bed and all service locations.
- Photocell Functions: Easily accessible for cleaning, adjustment, replacement and quick disconnect.

#### Rolls and shafts:

- All rolls must be "taper-lock" attached to shaft.
- Taper lock must be removable (not welded).
- Shafts must be chamfered and center drilled (min. 1/8") at both ends.



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#### Attachments:

- With the exception of items directly related to the specific conveyor line, do not support, suspend, or attach conduit, piping, or other infrastructure or equipment to the Baggage Handling Systems (BHS) or the BHS support system.

#### Construction Access:

- Do not work over BHS without securing the conveyor by Lock-Out Tag Out. Alternatively, provide a solid deck with toe boards over BHS in the work area.

#### Clearance:

- The Contractor shall recognize and make every effort to preserve the 3'-0" baggage and 7'-6" tug clearance heights. In some cases, low profile conveyor, catwalk, and support equipment will need to be utilized in order to avoid infringement into the right of way clearance areas.
- Clearance deviations require prior approval from Aviation Maintenance.

#### Flooring

- Tug pathway flooring into/out of the bag well shall be slip resistant.



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#### General Maintenance Notes:

- These maintainability guidelines apply to new bridges and existing bridges throughout STIA.
- Variations from these practices for the rehabilitation of existing bridges shall be authorized by F&I and AVM.
- All attachment points integral to the initial design and provisions for future accessories (PC Air, 400Hz, bag chute) shall be considered to avoid welding attachment points in the field.
- Provide permanent communications equipment between the control stations and areas requiring routine maintenance (machinery drive areas, power and control panel locations, and ACC).

#### Maintenance Access:

- Provide a service area not less than 30-inches wide around system drive components.
- Unobstructed access to all zerk fittings, limit switches, and other service points.
- All maintenance access points accessible even after PC Air and the 400Hz are installed.
- 3' of access in a 3D envelope from widest part of column extending vertically into infinity.
- Must be able to reach all limit switches and grease fitting safely from a ladder or the ground.
- Full platform around vertical drive on top of the cab tunnel.

- Platform must be removable in the event the column needs to be replaced.

#### Add-ons or accessories:

- Design criteria shall include provisions the 400 Hz power attachments.
- Equipment location will not block access to fittings and switches.
- Mounting of the air handling unit can only be placed on the “CAB” tunnel of bridge assembly. Interference of the vertical drives will not be acceptable.
- Provide mounting locations for PC Air lines that do not block maintenance access.
- Design access to service points around the future installation of PC Air.
- Bag Chute
- Location does not obstruct access to maintenance components.
- Considerations for heavy wheelchair load/unload.

#### Diagnostic Reference Guide for Maintenance:

- Include diagnostic instrumentation and system fault displays for mechanical and electrical systems. Malfunction information must be presented on a control system monitor located in the bridge control house.
- Data must be automatically recorded and include:



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- System descriptive information, such as ladder diagrams and wiring data, must be available on the system memory to enable corrective actions on system malfunctions and to identify areas requiring preventative maintenance.

- Alarm history.

#### Drive System Bushings:

- All bearing housings and bushings in open machinery drive and lock systems must utilize split-bearing housings and bushings and must be individually removable and replaceable without affecting adjacent assemblies

#### Lubrication Provisions:

- Bridge system components requiring lubrication must be accessible without use of temporary ladders or platforms.
- Provide permanent walkways and stairwells to permit free access to regions requiring lubrication. Lubrication fittings must be visible, clearly marked, and easily reached by personnel.
- Designs for automatic lubrication systems must provide for storage of not less than three months' supply of lubricant without refilling.
- Refilling locations must be readily accessible to allow for refilling within a period of 15 minutes.

#### Machinery Drive Systems:

- Design machinery drive assemblies so that components are

individually removable from the drive system without removal of other major components of the drive system.

- For example, a speed-reducer assembly can be removed by breaking flexible couplings at the power input and output ends of the speed-reducer.
- Use Environmentally "Green" drive systems. Do not use hydraulic.
- Use solid tires only.

#### Service Lighting and Receptacles:

- Provide a 120V-20Amp service receptacle above and below Cab for maintenance use.
- Provide supplementary, switchable task lighting under tunnel section and under Cab.

#### Trunnions:

- Specify Trunnions bushings and housings of a split configuration. The bearing cap and upper-half bushing (if an upper-half bushing is required) must be removable without span jacking or removal of other components.



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#### Tunnel Sections of Bridge:

- Use slip resistant hardened flooring.
- Provide access to tunnel rollers for servicing. Do not block access panels.
- Secure points to hold transition ramps when servicing underneath.
- No components should interfere with bridge travel or maintenance access.
- Install roof access ladders.

#### Weatherproofing:

- New and rehabilitated bridge designs must incorporate details to help water drainage and use non-galvanized components.
- Protective coatings shall be resistant to wet Seattle weather conditions.
- Protective coatings shall use an approved substance accessible to Maintenance.

#### Working Conditions for Improved Maintainability:

- When specified by the Department, for either new or rehabilitated bridge design, use enclosed machinery and electrical equipment areas.
- Install “permanent” non-slip surface to ladder rungs (not a tape-on type).
- Include lock/out and E-Stop options for safety.
- Roof designed to limit standing water.

- Avoid details that trap dirt and water; provide drain holes, partial enclosures, sloped floors, etc., to minimize trapping of water and snow accumulation.
- Provide exterior roof access for Vertical Drive System with handrails around roof perimeter.



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#### General – provide the following:

- Full compliance with NEC, WAC, RCW. Washington Labor & Industries electrical permit is required to be obtained by the contractor.
- POS Electrical shop and F&I will assign equipment numbers for electrical equipment and shall be used on all electrical equipment matrices.
- On electrical drawings, if home run is new, show the full pathway from the new work to the panel.
- All electrical assemblies shall be UL listed.
- GFCIs shall be self-testing.
- Provide arc flash studies during design. Do not exceed 40 calories per square centimeter.
- Circuit breakers used instead of fuses. Use of circuit breakers increases Reliability and Maintainability (R&M).
- Dual feed/power to facility required to provide increased reliability (redundancy). Feed from both ends keeping tie breakers open.
- Maintenance space provided around generators, switchgear, and auxiliary equipment.
- Provide for adequate space for two workers on all gear rated above 208V.
- Where transformers or other heavy equipment is stacked, provide overhead removal system such as a trolley/hoist. See Equipment Removal and Replacement on page 5.
- Provide a list of recommended spare parts with part numbers,

and note any critical or long lead items.

- Electrical equipment rooms, vaults, and substations, shall be ventilated to not exceed a maximum temperature of 32°C (90°F).

#### Medium voltage cables:

- Underground primary cables are cross-linked polyethylene (XLPE) or ethylene propylene rubber (EPR) with 133% insulation level with outer jacket. Outer jacket is only necessary to protect concentric neutral from corrosion.
- Underground cable splices employ maintenance-free methods and materials (e.g., heat shrink, resin casting).
- Megger test:
- Electrical acceptance testing on complex facilities specified to be accomplished in accordance with NETA ATS 1999.
- Use Port-approved form for documentation which becomes part of the project records.

#### Grounding and Bonding for electrical systems:

- Grounding systems in compliance with NEC.
- Compression or blast-on connections specified. (Split-bolt connections should not be specified as the quality of installation is inconsistent.)
- Allow for reasonable growth capacity.



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#### Underground ducts and raceways for electrical systems:

- All hand holes and manholes within apron, taxiway, tow way, runway, and overrun shoulder areas designed for a minimum of 100-kip wheel load or FAA requirements, whichever is greater.
- Sump holes (sealed sump holes in high-water areas) and pulling irons opposite all duct entrances, plus one on center of floor. Consider reinforcing duct entrances to reduce shearing. Specify sealed duct ends to prevent rodent intrusion.
- Metallic Line markers installed above all buried runs used to locate duct routes and turns.
- Cable warning tapes required above all underground cables.

#### Power Systems Studies:

- Computerized short circuit analysis and coordination study. Study should include line-to-ground faults and coordinate the largest transformer on the feeder.
- Breaker and fuse interrupter ratings are adequate according to findings of the short circuit analysis.
- Electrical acceptance testing on facilities specified to be accomplished in accordance with NETA ATS 1999.
- Breakers are coordinated and higher than minimum AIC ratings utilized.
- Underground cable capacity designed for future growth. Cable size should take into account any de-rating requirements, such as multi- cable ducts.

- Adequate bypass capability so breakers can be serviced (redundancy).
- Electrical review team will review findings for acceptance.

#### Preferred Substation Locations:

- Located away from perimeter fences and heavy-traffic roads.
- Access roads able to accommodate line maintenance vehicles.

#### Large Underground Vault:

- Designed with devices and equipment to facilitate removal and replacement of equipment, such as an overhead crane.
- Heat loading considered. Vault may require air conditioning.
- Adequate work space and storage area.
- Maintenance space provided around generators, switchgear, and auxiliary equipment.

#### Secondary Unit Substations & Switchgear:

- Surge lightning and transient protection installed on service entrances, solid-state uninterrupted power supplies, and isolation transformers.



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- Adequate workspace around all equipment for two people.
- Breaker and fuse interrupter ratings are adequate according to findings of the short circuit analysis.
- Dual feed/power to facility required to provide increased reliability (redundancy). Feed from both ends keeping tie breakers open.
- Circuit breakers used instead of fuses.
- Adequate instrumentation.
- No Underground switches.
- Two sets of multi-ratio current transformers (one set each for instruments and relays).
- Low-maintenance breakers (e.g., vacuum, SF6, air).
- Any special maintenance tools required for service to be part of substation supplied equipment.
- Permanent schematics with mimic bus specified to be installed on equipment.

#### Medium Voltage Switchgear and Transformers:

- Breaker and fuse interrupter ratings are adequate according to findings of the short circuit analysis.
- Circuit breakers used instead of fuses.
- Spare stub-up/conduit (with cap) provided at pad-mounted transformers.
- Adequate workspace around distribution equipment pad-mounted transformer, switches, substation equipment. Sufficient

working space for two people.

- Switchgear must have: draw out breakers, lifting brackets for breaker maintenance, easy access for maintenance around the equipment, cable trenches, emergency lighting, and adequate instrumentation.
- Distribution transformers have taps with external changers.
- Pad-mounted transformers have traffic barriers in high-traffic areas e.g., highly visible painted concrete posts.
- External transformers must have: an external tap changer, a pressure-relief valve with alarm contacts, a thermal relay with alarm contacts, a magnetic oil gauge, an oil drain and sample valve, undercoating, and must produce a test report.
- T-stat/alarm well with silencing relays, pushbutton, and indicating light, in weatherproof enclosure.
- Standard transformers (not self-protecting transformers) specified.
- Automatic transfer switch has bypass capability for easy maintenance.
- Auto-start equipment of backup generators capable of being locked out during maintenance.

#### Low Voltage Switchgear and Transformer:

- Breaker and fuse interrupter ratings are adequate according to findings of the short circuit analysis.



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- Circuit breakers used instead of fuses.
- Spare stub-up/conduit (with cap) provided at pad-mounted transformers.
- Adequate workspace around distribution equipment pad-mounted transformer, switches, substation equipment. Sufficient working space for two people.
- Switchgear must have: draw out breakers, lifting brackets for breaker maintenance, easy access for maintenance around the equipment, cable trenches, emergency lighting, and adequate instrumentation.
- Distribution transformers have taps with external changers.
- Pad-mounted transformers have traffic barriers in high-traffic areas e.g., highly visible painted concrete posts.
- External transformers must have: an external tap changer, a pressure- relief valve with alarm contacts, a thermal relay with alarm contacts, a magnetic oil gauge, an oil drain and sample valve, undercoating, and must produce a test report.
- T-stat/alarm well with silencing relays, pushbutton, and indicating light, in weatherproof enclosure.
- Standard transformers (not self-protecting transformers) specified.
- Automatic transfer switch has bypass capability for easy maintenance.
- Auto-start equipment of backup generators capable of being locked out during maintenance.

#### Equipment Keys:

- Provide locks that match existing POS keys. See key list under Architecture.
- In the event the system is not automatic, provide Kirk keys on power centers.

#### Switchboards:

- Breaker and fuse interrupter ratings are adequate according to findings of the short circuit analysis.
- Circuit breakers used instead of fuses.
- Neutral sizes should not be reduced, even though allowed by NEC.
- Suggest 200% neutral in locations where harmonics are present, and where supplying electronic/computer & server loads.
- Adequate workspace around equipment. Sufficient working space for two people.

#### Panelboards:

- Breaker and fuse interrupter ratings are adequate according to findings of the short circuit analysis.
- Circuit breakers used instead of fuses.
- Neutral sizes should not be reduced, even though allowed by NEC.
- Suggest 200% neutral in locations where harmonics are



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present and where supplying electronic/computer & server loads.

- Adequate workspace around equipment. Sufficient working space for two people.

#### Motor control centers:

- Breaker and fuse interrupter ratings are adequate according to findings of the short circuit analysis.
- Circuit breakers used instead of fuses.
- Motor control centers have draw-out breakers, where applicable.
- Motor size and application warrant use of under voltage motor protection.
- Motor control center has adequate workspace to ensure maintainability. Sufficient working space for two people.
- National Electrical Manufacturer's Association (NEMA) standard voltages and frame size specified for motors.

#### Motor controllers:

- Correct overloads specified for motors. Overloads should be no larger than specified by the NEC.
- Breaker and fuse interrupter ratings are adequate according to findings of the short circuit analysis.
- Circuit breakers used instead of fuses.
- Adequate workspace around equipment. Sufficient working space for two people.

- National Electrical Manufacturer's Association (NEMA) standard voltages and frame size specified for motors.

#### Emergency Generators:

- Emergency generators are for Life Safety. Do not add loads that are not Life Safety.
- Emergency systems require periodic testing. If other loads, like computers, are on the emergency generators, they will lose power during the regular periodic generator testing.
- Adequate workspace around equipment. Sufficient working space for two people.
- Solid-state exciter (radio frequency interference [RFI] free) and voltage regulator specified.
- Generator compatible with solid-state uninterrupted power supply [SSUPS] installation (e.g., harmonics). Harmonics from SSUPS may interfere with generator controls. Generator must be sized to handle SSUPS in rush current.
- Generators smaller than 750 kW can be skid-mounted.
- Prime power generators grounded in accordance with IEEE Standard 142, IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems, and the National Electrical Code.
- Computerized short circuit analysis and coordination study provided for prime power plants.



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- Backup generators can be refueled and oil checked without shutdown.
- Backup generators have bypass capability with cannon plug-type receptacle for quick connection of mobile electric power (MEP) unit in case of failure.
- Auto-start equipment of backup generators capable of being locked out during maintenance.
- Backup generator prime mover shutdown limited to low oil pressure, high temperature, and over speed. Alarm will be connected to status panel, but consider remote alarm to central status location, such as the energy management and control system [EMCS].
- Alternator has maintenance-free, sealed, 50,000-hour bearing. Consider multitap leads.
- Class C generator regulator has automatic and manual capability, and is easily accessible for maintenance or repair.
- Louvers are thermostatically controlled.
- Battery chargers are float-charge type, adjustable down to 0.1 ampere, and batteries are sealed, maintenance-free type.
- Standby units that cannot tolerate reapplying power without cycling have dropout/lockout relays.
- Exhaust outlets located to avoid intakes of adjacent buildings.
- Audible alarms provided to alert operators of abnormal conditions.
- Voltage generated at distribution level, when possible.
- Control unit soundproofed for larger multi-unit plant.

- Auxiliary fuel tanks placed below grade for emergency generators located within the airfield environment.

#### Rotary 400 HZ converters:

- Adequate workspace around equipment. Sufficient working space for two people.
- Solid-state exciter (radio frequency interference [RFI] free) and voltage regulator specified.
- Generator compatible with solid-state uninterruptible power supply [SSUPS] installation (e.g., harmonics). Harmonics from SSUPS may interfere with generator controls. Generator must be sized to handle SSUPS in rush current.

#### Surge Protection For Low-Voltage Electrical Power Circuits:

- Surge lightning and transient protection installed on service entrances, solid-state uninterruptible power supplies, and isolation transformers.



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#### Interior Lighting:

- If emergency lighting is not able to be installed on an emergency circuit, use maintenance-free gel cell-type batteries in emergency lights.
- Vapor proof fixtures provided in rooms containing moisture (e.g., dishwashing rooms).
- Explosion-proof fixtures or systems provided in areas subject to flammable vapors. Hazardous areas are refueler vehicle maintenance bays, paint rooms, and aircraft fuel system docks.

#### Egress Lighting:

- Avoid emergency light fixtures that require battery backup. Coordinate the loads, and install on emergency circuits where possible.

#### Exterior Lighting:

- For exterior lighting, such as on a bridge, provide maintenance access from the interior, or by lowerable assembly or pivoting light pole for access from the roof which has a parapet or from a 65' bucket truck.
- All elevated visual navigational aids incorporate frangible, low- impact resistant, or semi-frangible design principles in accordance with FAA and POS standards.

#### Corrosion Prevention:

- Galvanized Materials:
- These items apply to all sections below.
- Galvanized electrical equipment installed exposed outdoors shall be painted with a minimum 3 mil coating of paint to prevent zinc runoff to the storm water system.
- Paint application by manufacturer is preferred to field painting for coverage and quality.
- Cathodic Protection: Metallic construction members, either buried or submerged in an electrolyte, have been designed for cathodic protection.



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#### Voice and Data Systems – provide the following:

- Radio Systems are designed to work during power outages because they are life safety systems. Think holistic security for Radio Systems. All components shall reside in safe & secure locations.
- Provide sufficient room for gear to be installed with consideration to added space necessary to extend gear from drawers on their slides and allow technician to align, repair, and troubleshoot.
- Plans shall include consideration for heat load on the HVAC.
- Provide 120V 20A electrical outlets for test and monitoring equipment.
- Sites and equipment rooms need Telephone installations
- Equipment is heavy and bulky and requires racks for installation.
- Antennae need to be located in secure environments where tampering or vandalism is not likely.
- Safety systems shall be provided to provide workers safe access and working conditions so they can be securely tied off as well as instruments and antennae that are under repair/test or removal/replacement. They are heavy, bulky, and if the wind is blowing, can make for dangerous maneuvering.
- Power shall be available for test and/or calibration equipment or battery backup systems as necessary.
- Consideration for a system design that allows for partial de-energization of system that allows for needed Trouble shooting

and testing without a total disruption.

- Radio systems are regarded as a “Life Safety” System. Radio coverage is required throughout the facility.
- Room Lighting: bright enough for techs to see with adequate amount on backup power to ensure emergency needs are met during power outages. Minimum of 20 Foot-candles.

#### Public Address and Paging:

- Shall be intelligible in low and high noise conditions and take into account the hearing impaired.

#### WiFi and Cell Phone Antennas and Repeaters:

- Most communication rooms have only one entry.
- All communication rooms should have adequate UPS capability to backup systems during voltage transients or power outages for up to 4 hours.
- These are critical systems and shall have redundancy built in.
- Locate support equipment in communication rooms.
- Provide adequate cooling protect equipment.

#### Common Use Passenger Processing Systems:

- Access to cables and peripherals should be as easy as loading paper.
- Placement of Common Use equipment on pullout drawers or trays with proper cable management systems speeds response time for techs to return to service gate stations.



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- Mill work (cabinetry) needs to be of Common Standard for architecture of equipment layout.
- Paper stock has to feed from the bottom for machines to work.
- Millwork should be lockable so Airline personnel have no way to tamper with systems. Some have tried to plug their cell phones into a USB and hope it charges. This will only cause problems.

#### CUSS:

- Weatherproofing for exterior applications. Weather-rated equipment. Consider location or use of awnings for protection.
- Power and Data accessibility. Avoid wireless systems until product reliability is proven.
- Support enclosures should be weatherproof or resistant or under shelter or awning and not affixed to overhead location in a lane of people traffic or vehicles.
- Choose passenger paths that avoid congestion areas. Determine a clear path for the kiosk location which meets accessibility and traffic flow and don't forget ADA standards to provide kiosks at lower heights to assist people in wheelchairs.
- Provide signage that is specific to the capability of the machine and the airlines it serves. Don't put advertisement in front of passenger faces when they need to be focused on the task of checking in.
- Controlled environments are highly preferred.

- Provide enough 120V 20A electrical outlets so we don't have to use power strips.
- Data outlets separate ICT phone from CUSE.  
Design and install equipment to prevent the accumulation of small papers, trash, and items that may catch fire in warm equipment.
- Provide enough 120V 20A electrical outlets. Technicians visiting site need power for their tools.
- Avoid locating equipment in areas where cell phone usage is poor. A bad signal may delay POS Electronic Technician (ET) in working with tech support to correct an issue.

#### Video Surveillance:

- Bigger cameras are not always better. Sometimes too big makes for an enticing target for vandalism/tampering.
- Some products are designed to undergo abuse and may be a better choice than cheaper unit with no chance of survival.
- Location in a stairwell may inhibit maintenance should a sufficiently tall ladder may be not usable. And if installed, tie-offs for securing fall protection harness need to be present to protect against falls.
- Installing a camera along a busy road with no place to park a maintenance vehicle or without means to use a snorkel or scissors lift is useless.



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- Although camera may be well installed and easily accessible, the design should ensure that any support enclosures or accessories are just as easily accessible. Some present airport designs have support electronics (fiber optic controls) in a ceiling or within a cavity and they are not easily accessible.
- Much of the present airport cameras use 30 year old Coaxial cable that is way below standard for today's cameras. New camera installations require big picture consideration of camera installation. I.e. camera, mounts, cable, power, termination cabinets, transmission systems. Complicated and with many areas where one mistake can cripple the end result.

#### Security Access Controls:

- Access Control enclosures should be near desired door(s). Need to be protected from public tampering. Many cases choosing a high location over door is best but mindful not to be in high traffic areas.
- Protect from harsh environmental elements, such as wind, rain, snow, or even blazing sunshine. Card readers need weather protection and the poles that they are attached to need to be clear of traffic that may damage them. Tugs come to mind.
- Many CCTV cameras outlast their production run and are obsolete when failed. Requires possibility of replacement of large group of cameras to maintain a cohesive look/ appearance or technical limitation.

- CCTV cameras come in many shapes and sizes and with a variety of housings to efficiently work in harsh environments.
- Some are very Tamper-resistant and need to be considered when public have opportunity to tamper with performance of camera.
- Regarding repairs, in many cases a camera or a lens component may be a "throw away" and not worthy of repair.
- Install cameras in accessible locations for maintenance and servicing.

#### Exit Lane Breach Detection:

- Need excellent location for system to insure techs have ease of access to multiple sensors, motors, and drive mechanisms.
- If we are considering the "Flip Flow" product, much consideration should be made to understand product reliability before installation.
- Parts cost and ease of technical repairs or the cost of doing business with Parent Company or subsidiary for a Maintenance Coverage with understood response times.



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#### 4.4 DESIGN INTENT DRAWINGS

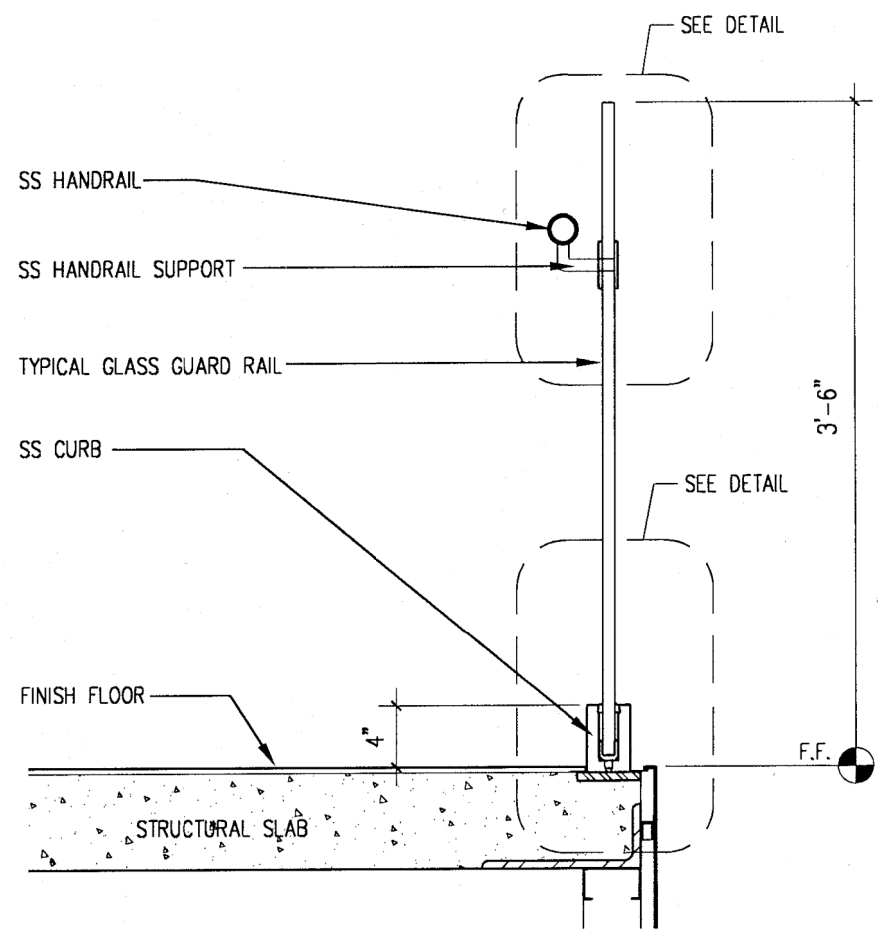
This section include design intent drawings for various features produced for the Airport.

DV DG AS A





CSI Master Specification Division: 05520

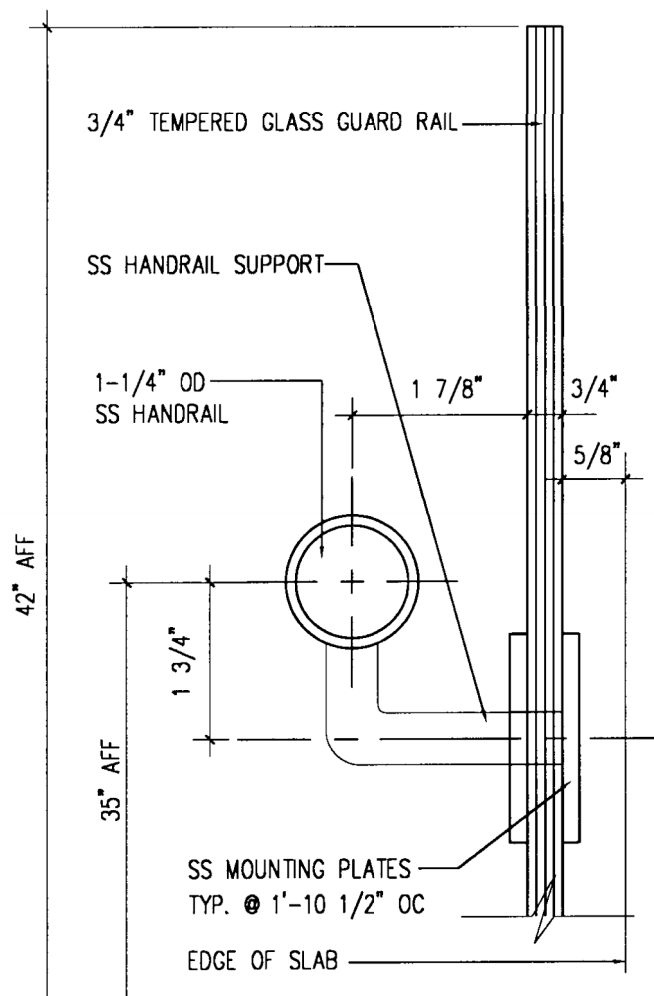


**TYPICAL GUARD RAIL SECTION**

NTS; For Reference Only



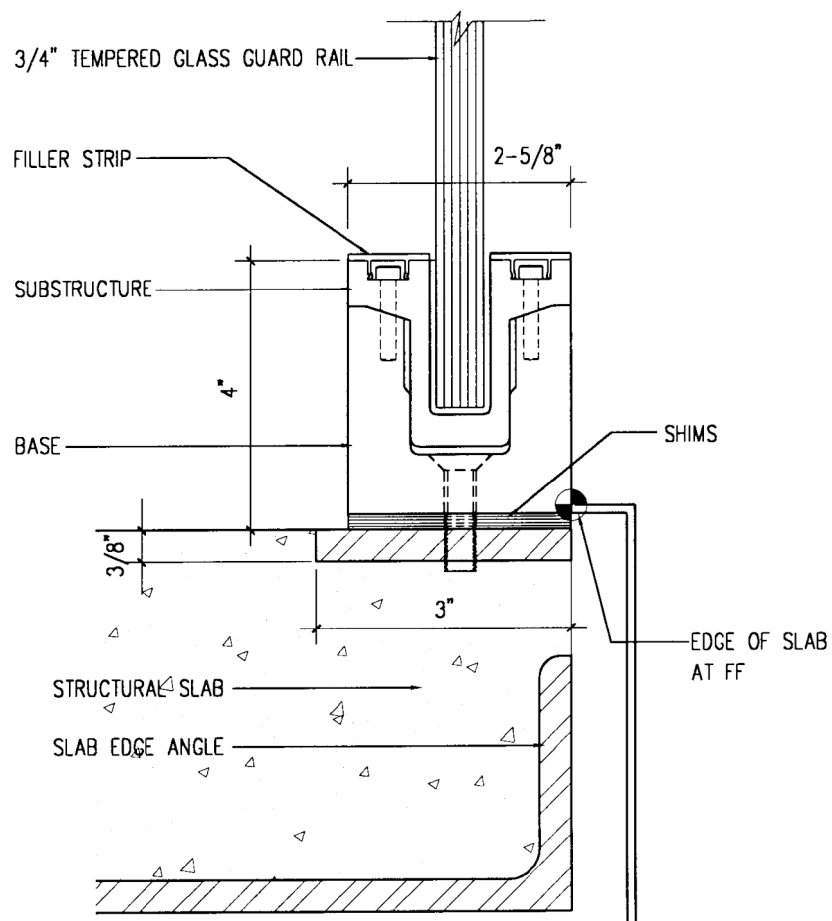
CSI Master Specification Division: 05520



## GLASS GUARD RAIL TYPICAL DETAIL @ TOP

NTS; For Reference Only

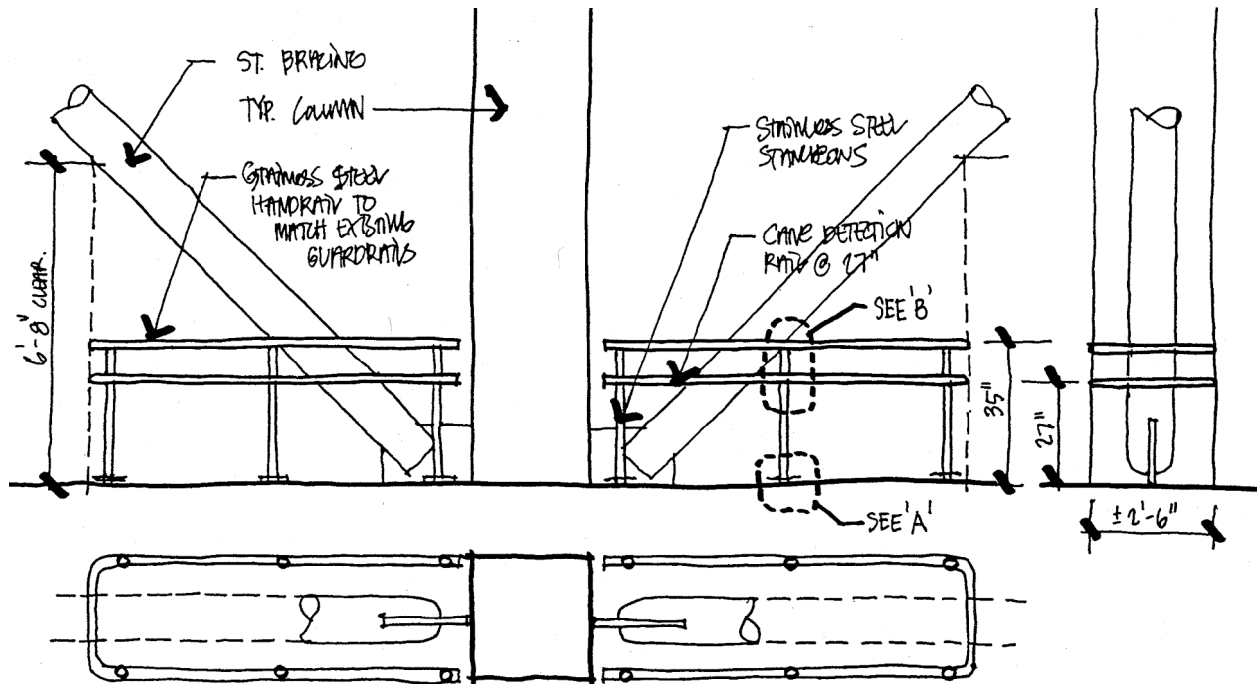




## GLASS GUARD RAIL TYPICAL DETAIL @ BASE

NTS; For Reference Only





## PLAN AND ELEVATION TYPICAL GUARDRAIL AT SEISMIC BRACES

NTS; For Reference Only





3D RENDERING  
CHARGING STATION

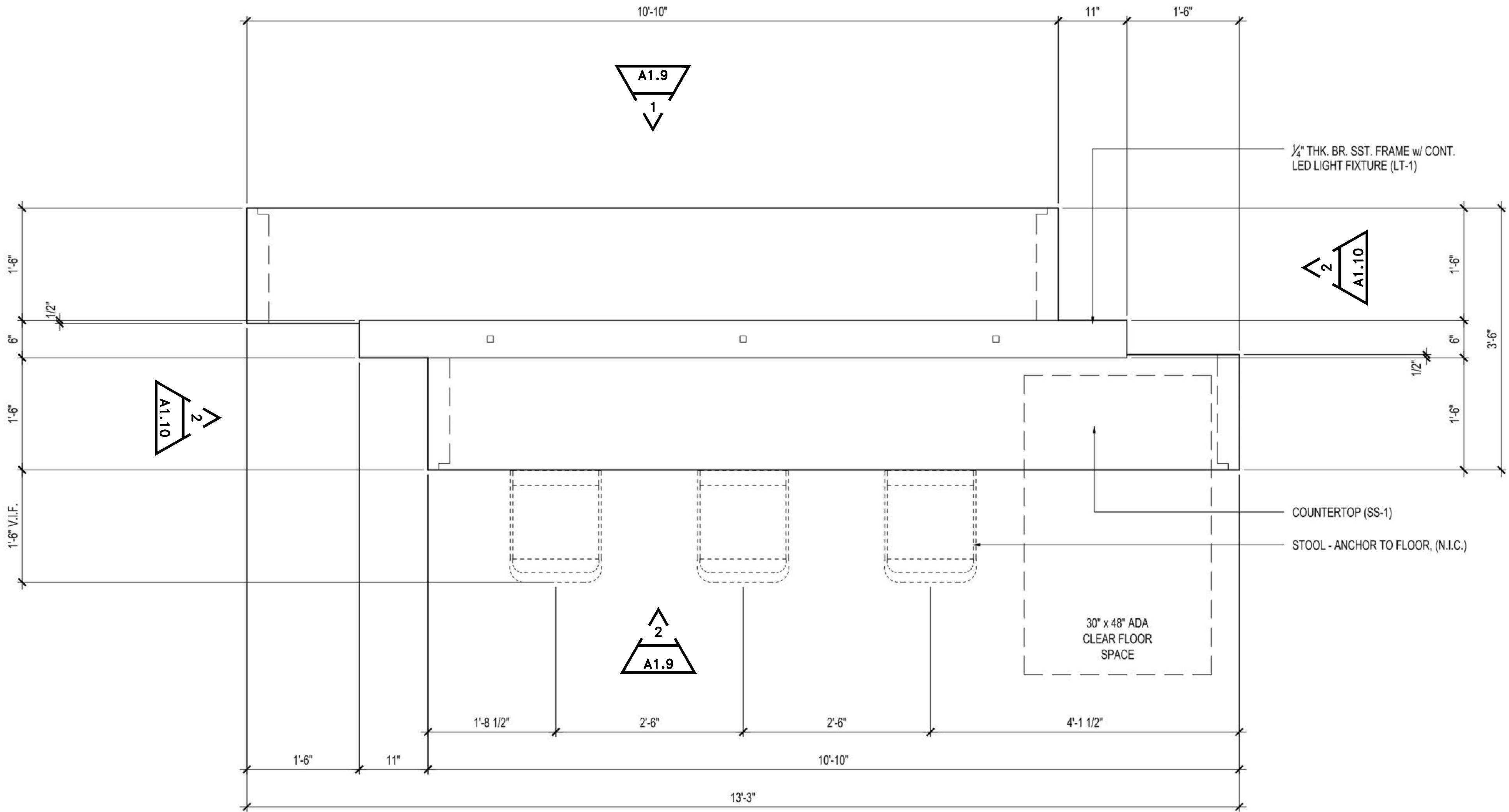
GENERAL NOTES

- G.C. TO CONFIRM & COORDINATE ALL EQUIPMENT SIZES, CLEARANCES & ACCESS REQUIREMENTS PRIOR TO FABRICATION.
- REFER TO FLOOR PLAN FOR CHARGING STATION ORIENTATION.

FINISH SCHEDULE

REFER TO SPECIFICATIONS FOR ADDITIONAL INFO

- MT-1 METAL BASE  
WD-1 WOOD VENEER  
SS-1 SOLID SURFACE  
SS-2 SOLID SURFACE  
LT-1 LED LIGHT FIXTURE



ENLARGED PLAN  
CHARGING STATION  
SCALE: 1" = 1'-0"

1  
A1.8

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

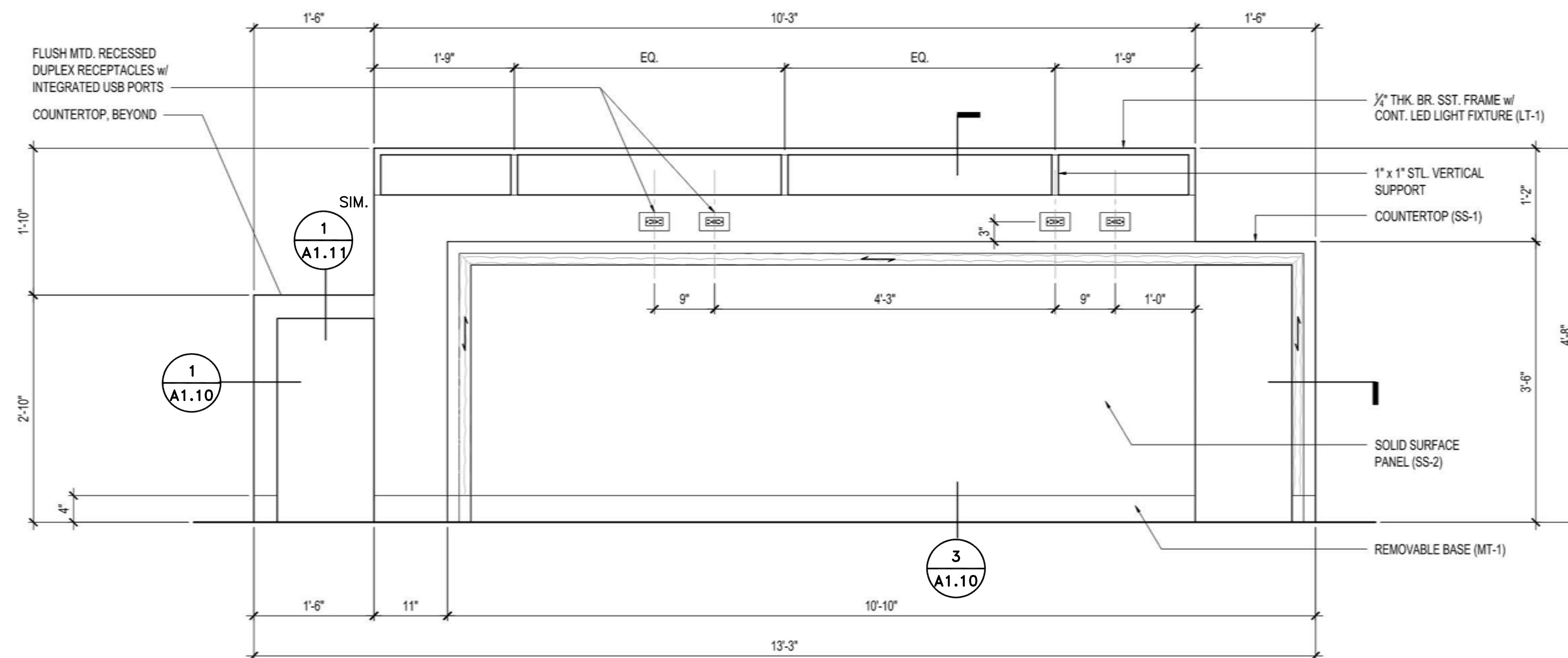


1. G.C. TO CONFIRM & COORDINATE ALL EQUIPMENT SIZES, CLEARANCES & ACCESS REQUIREMENTS PRIOR TO FABRICATION.
2. REFER TO FLOOR PLAN FOR CHARGING STATION ORIENTATION.

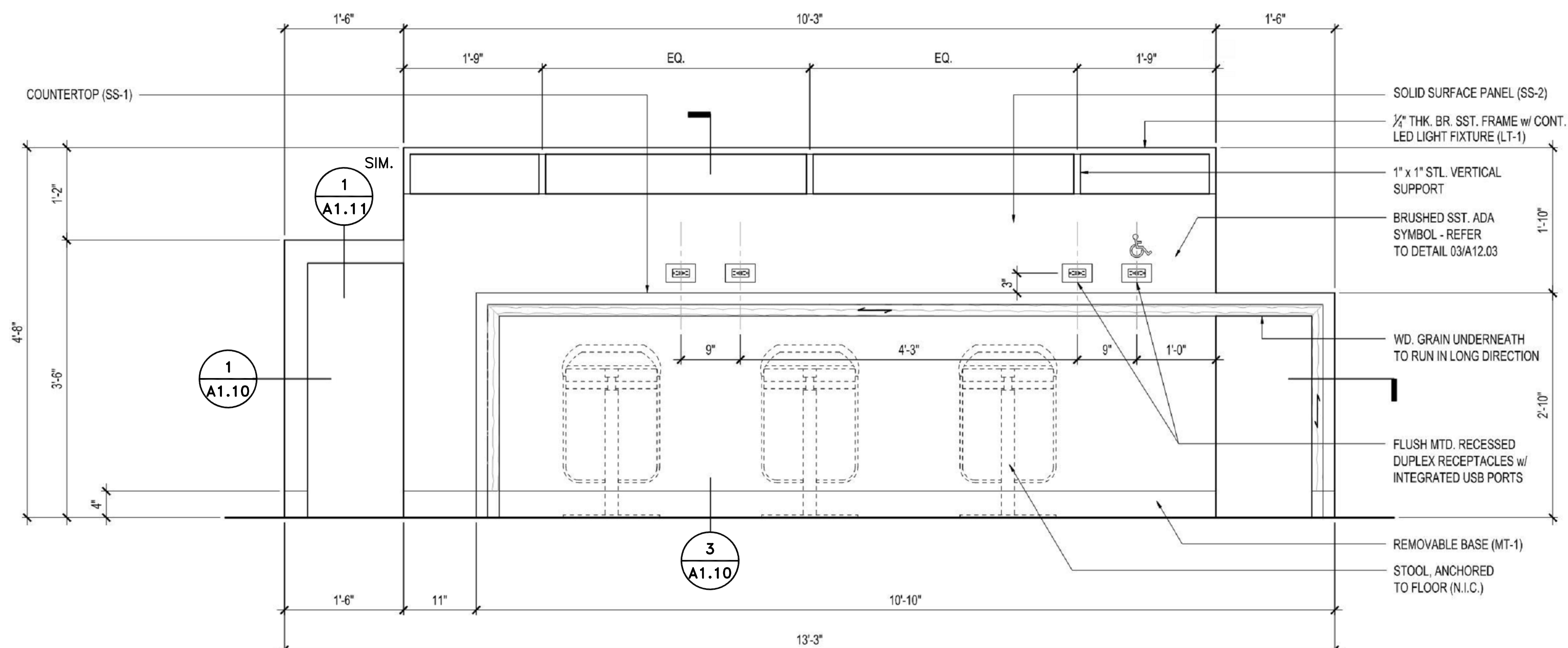
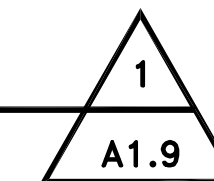
REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION

MT-1	METAL BASE
WD-1	WOOD VENEER
SS-1	SOLID SURFACE
SS-2	SOLID SURFACE
LT-1	LED LIGHT FIXTURE

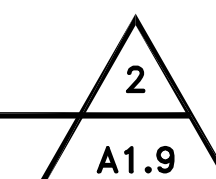
← WOOD GRAIN DIRECTION



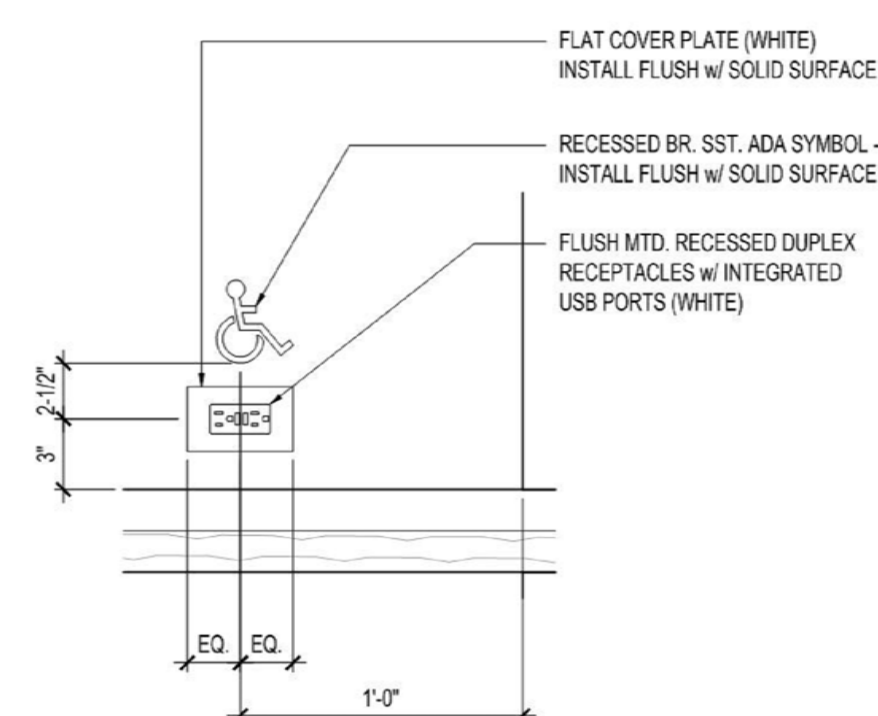
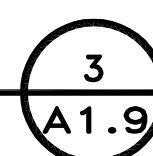
**ELEVATION**  
CHARGING STATION  
SCALE: 1" = 1'-0"



**ELEVATION**  
CHARGING STATION  
SCALE: 1" = 1'-0"



CHARGING STATION  
N.T.S.



PROJECT ENGR./ARCH:	
<b>BRETT HANSON</b>	
DESIGNER:	
DRAWN BY:	
<b>TCU</b>	
SCALE:	
<b>AS SHOWN</b>	
DATE:	
CHECKED BY:	
CHECKED/APPROVED BY:	

[illegible]

PROJECT MANAGER:	<b>PATTY BERGSTEDT</b>
PROJECT ENGINEER:	
DESIGN ENGINEER:	
DRAFTER:	
SCALE:	
DATE:	
CHECKED/APPROVED BY:	



GENERAL NOTES

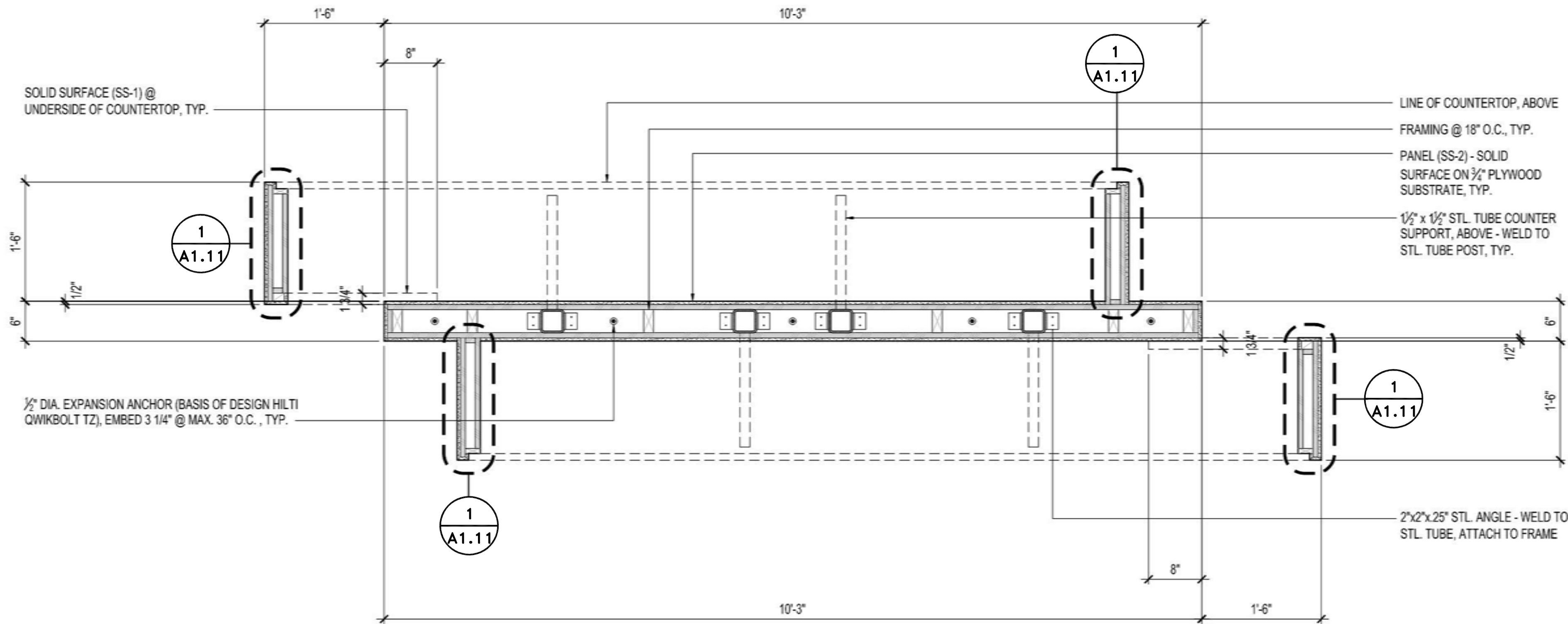
- 1. G.C. TO CONFIRM & COORDINATE ALL EQUIPMENT SIZES, CLEARANCES & ACCESS REQUIREMENTS PRIOR TO FABRICATION.
- 2. REFER TO FLOOR PLAN FOR CHARGING STATION ORIENTATION.

FINISH SCHEDULE

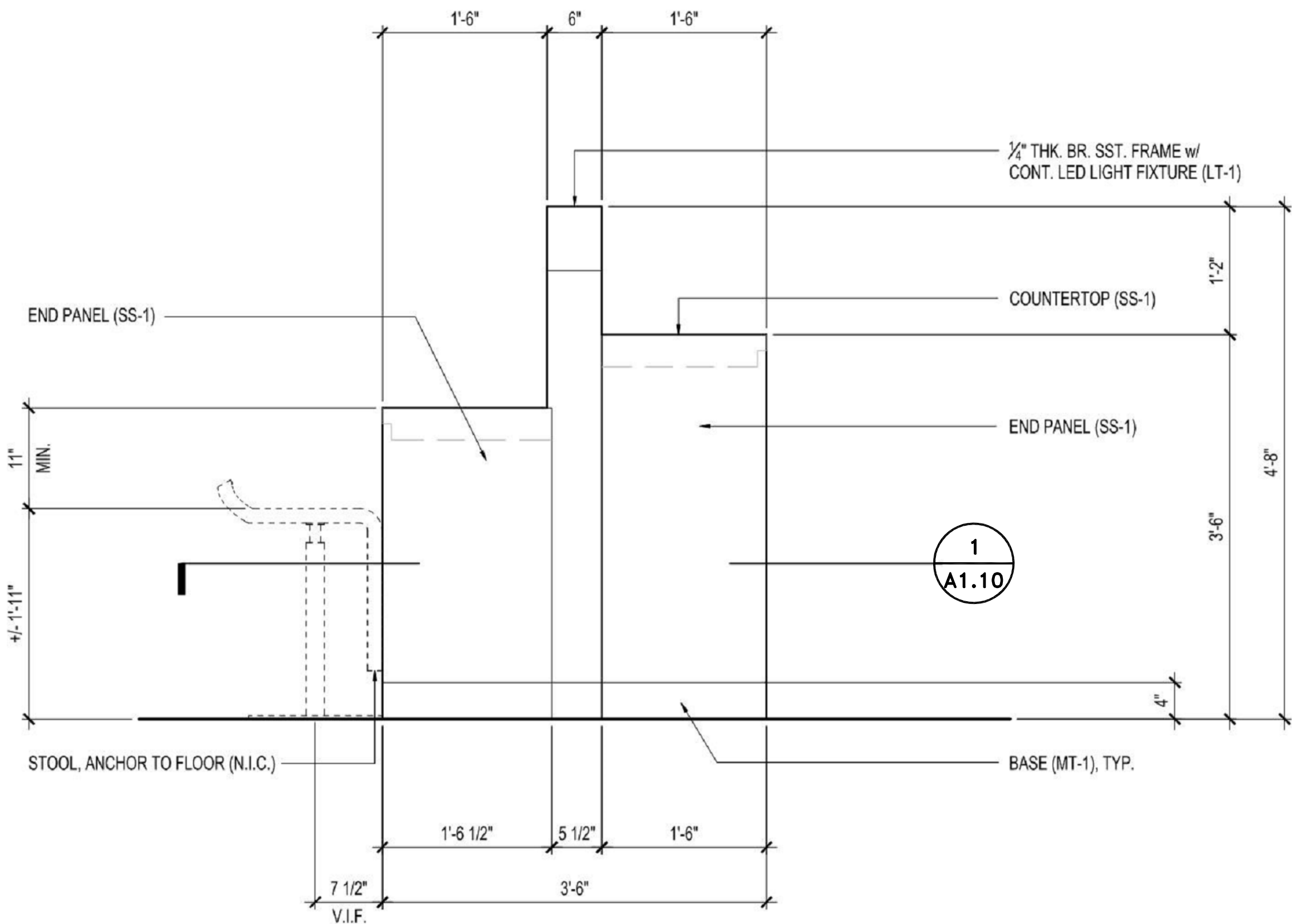
REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION

- MT-1 METAL BASE
- WD-1 WOOD VENEER
- SS-1 SOLID SURFACE
- SS-2 SOLID SURFACE
- LT-1 LED LIGHT FIXTURE

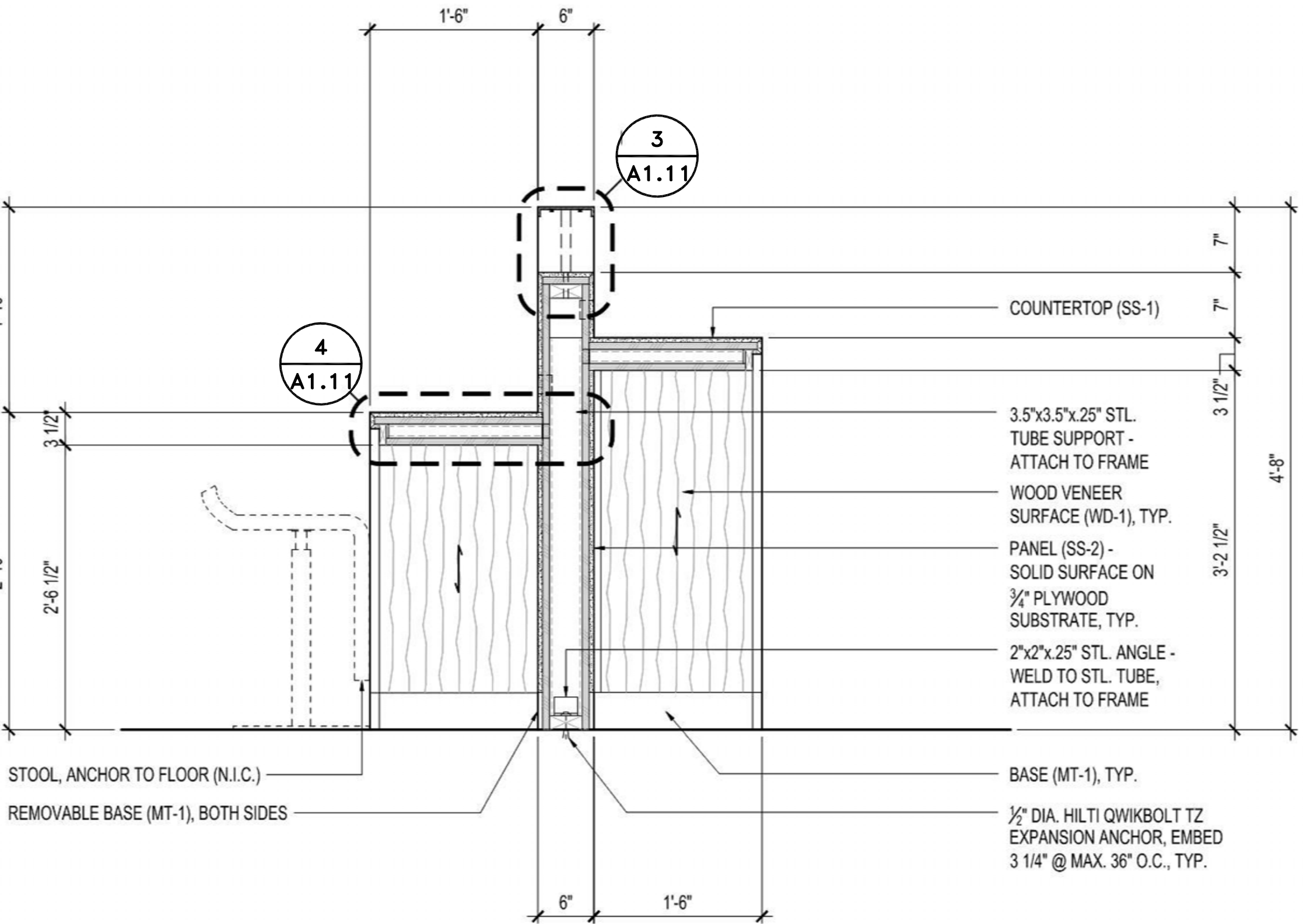
LEGEND



DETAIL CHARGING STATION SCALE: 1" = 1'-0"



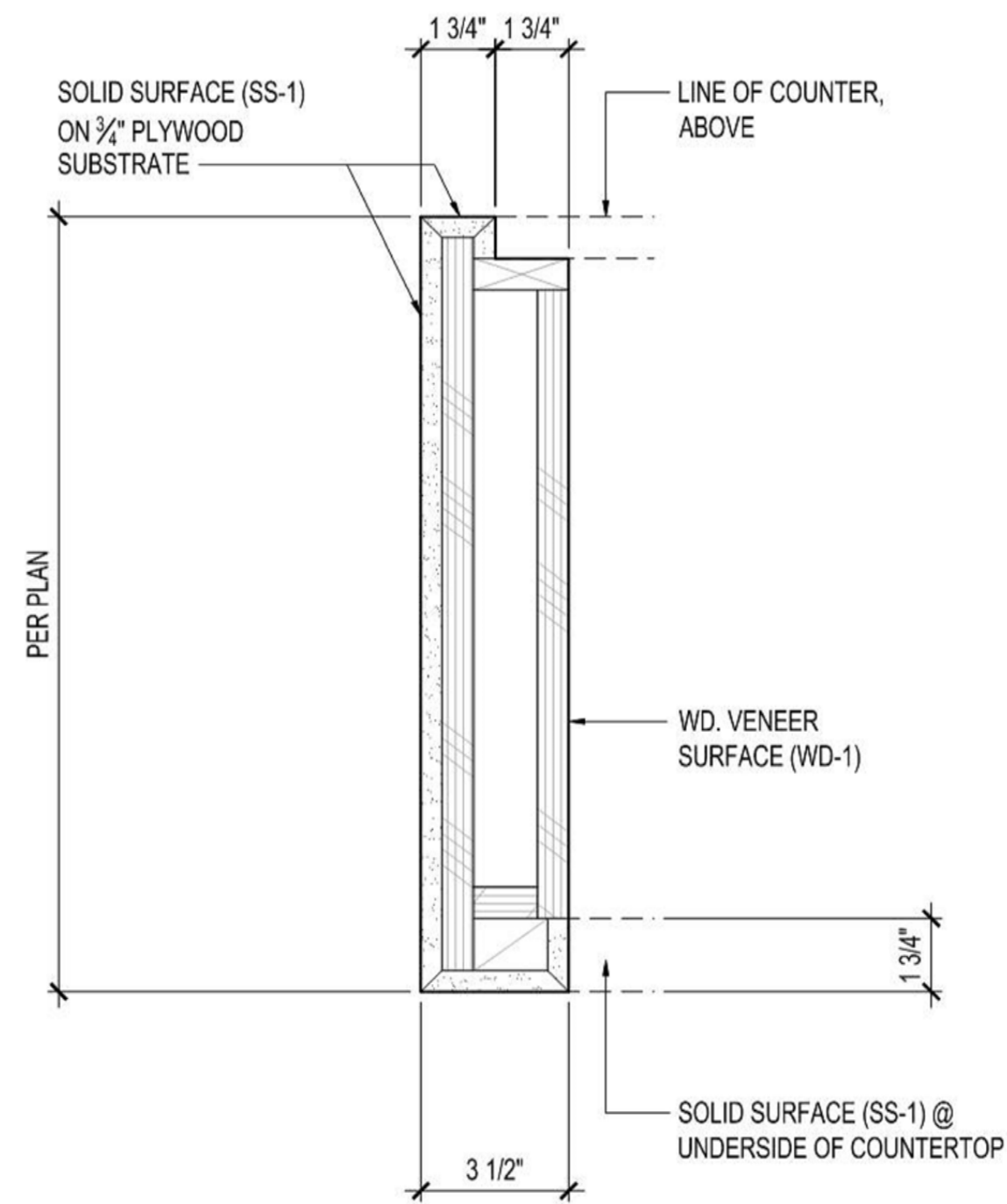
ELEVATION PODIUM SCALE: 1" = 1'-0"



SECTION CHARGING STATION SCALE: 1" = 1'-0"

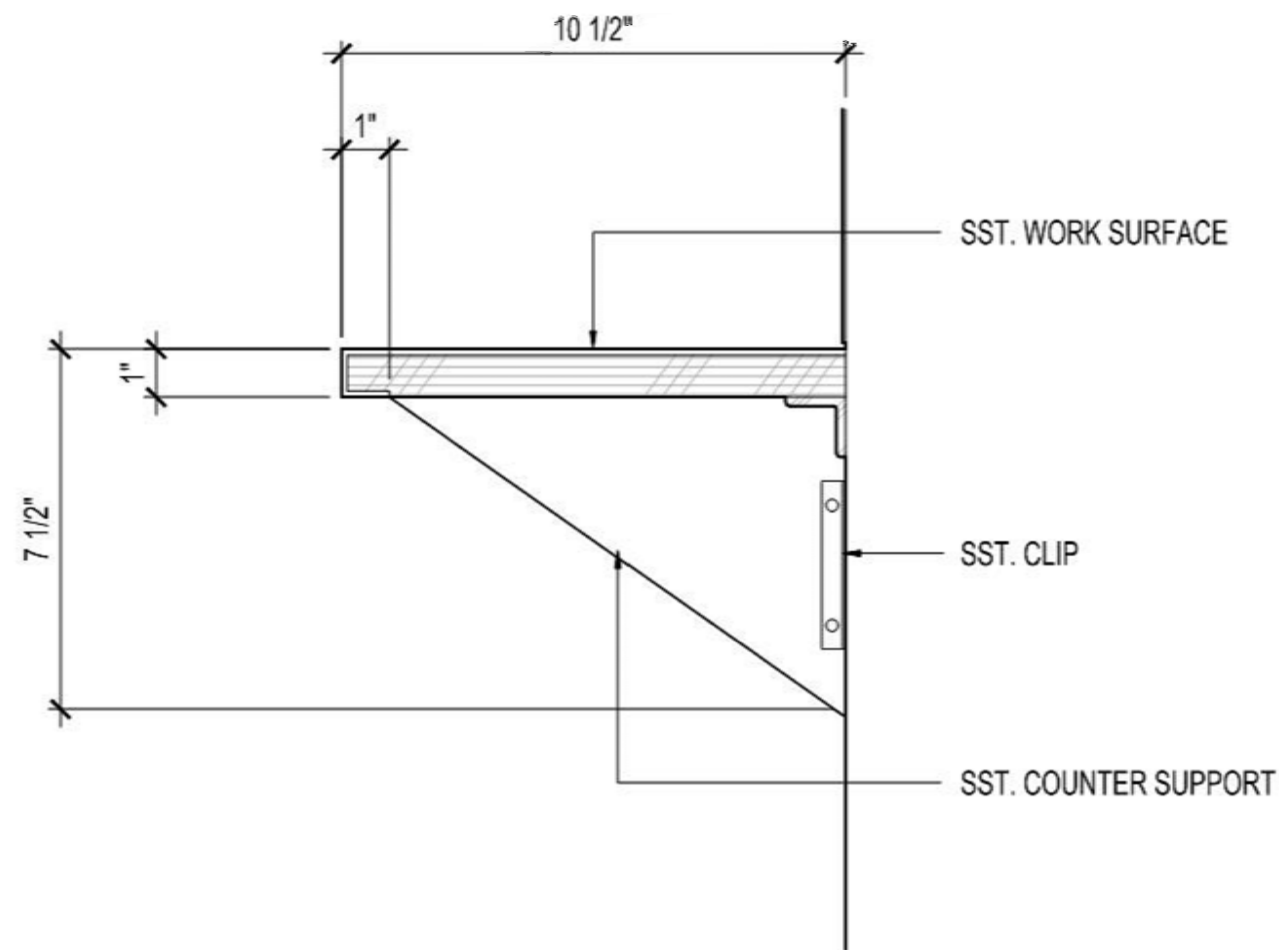
REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D





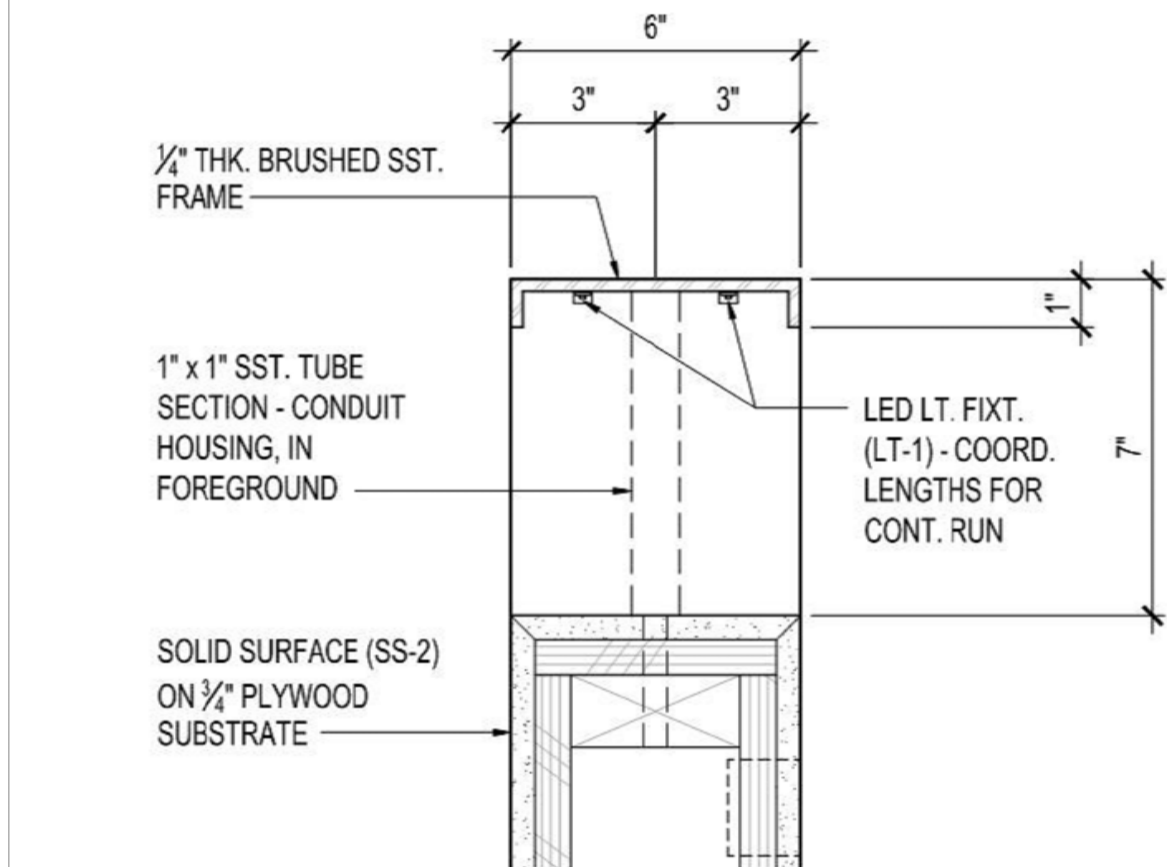
**DETAIL**  
CHARGING STATION  
SCALE: 3" = 1'-0"

1  
A1.11



**DETAIL**  
EXISTING CHARGING STATION RETROFIT  
SCALE: 6" = 1'-0"

2  
A1.11



**DETAIL**  
CHARGING STATION  
SCALE: 3" = 1'-0"

3  
A1.11

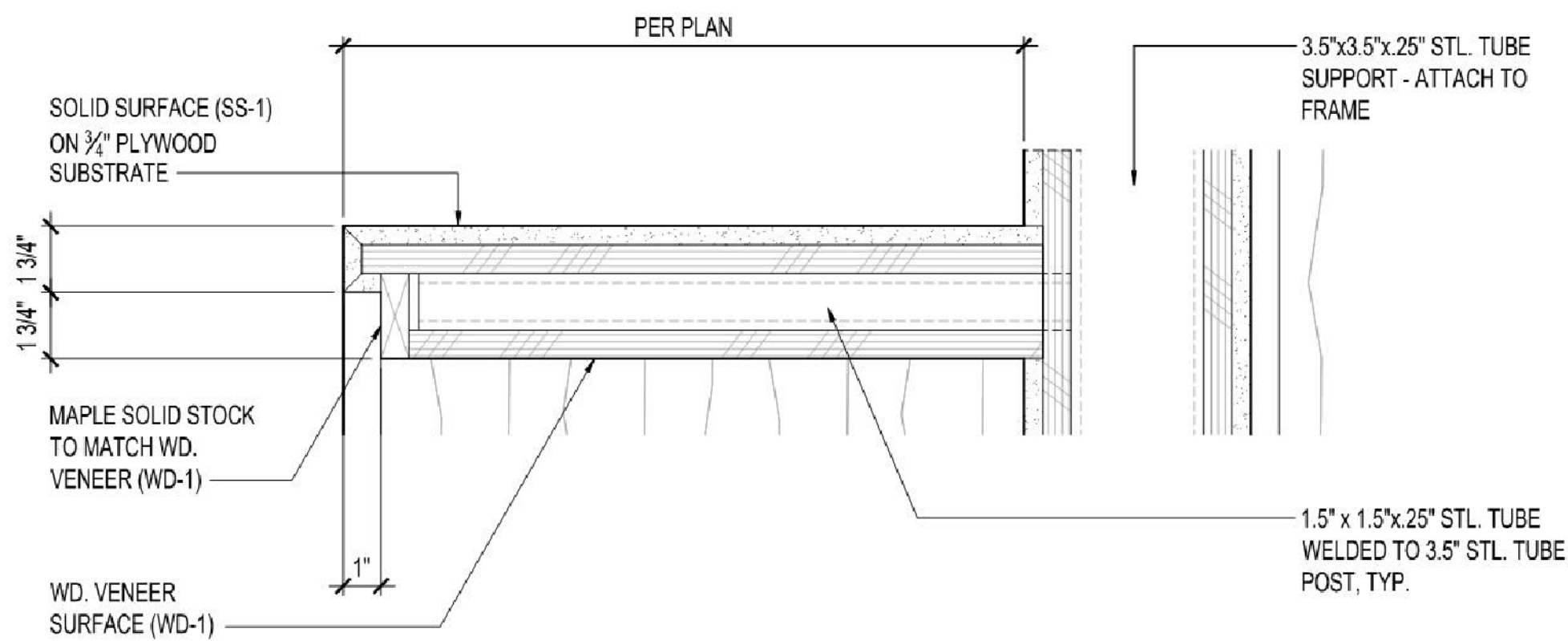
**GENERAL NOTES**

1. ALL EXPOSED STEEL TO BE STAINLESS STEEL – BRUSHED FINISH, U.N.O. WELD JOINTS PER NOMMA FINISH #1 STANDARD.
2. PROVIDE 1/8" RADIUS EASED EDGE AT ALL SOLID SURFACE OUTSIDE CORNERS. FOLLOW MANUF. INSTRUCTIONS FOR SURFACE HANDLING, TREATMENT & FINISHING.
3. PROVIDE TIGHT, CLEAN, MITERED CORNERS AT ALL OUTSIDE EDGE CONDITIONS, U.N.O. PER SPECIFICATIONS AND AWI & INDUSTRY STANDARDS.

**FINISH SCHEDULE**

REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION

- |      |                   |
|------|-------------------|
| MT-1 | METAL BASE        |
| WD-1 | WOOD VENEER       |
| SS-1 | SOLID SURFACE     |
| SS-2 | SOLID SURFACE     |
| LT-1 | LED LIGHT FIXTURE |

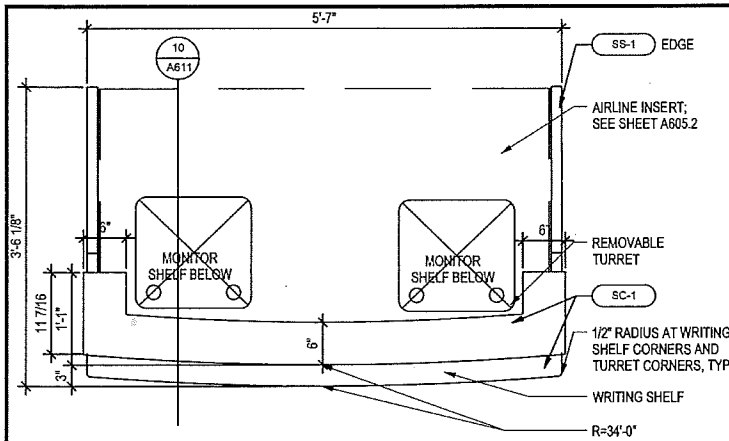


**DETAIL**  
CHARGING STATION  
SCALE: 3" = 1'-0"

4  
A1.11

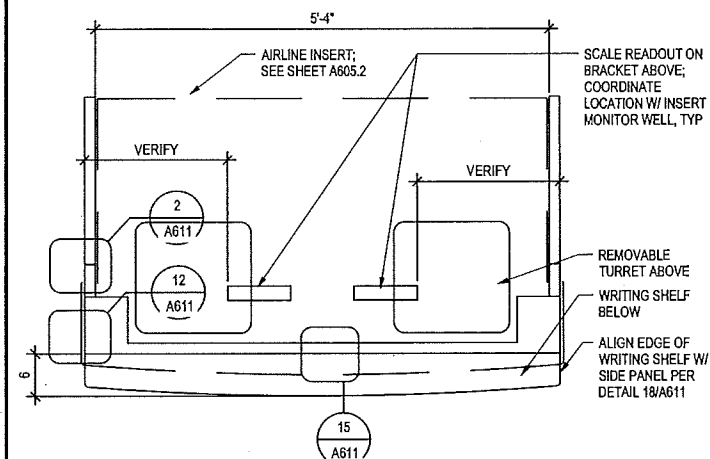
R E V I S I O N S									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D





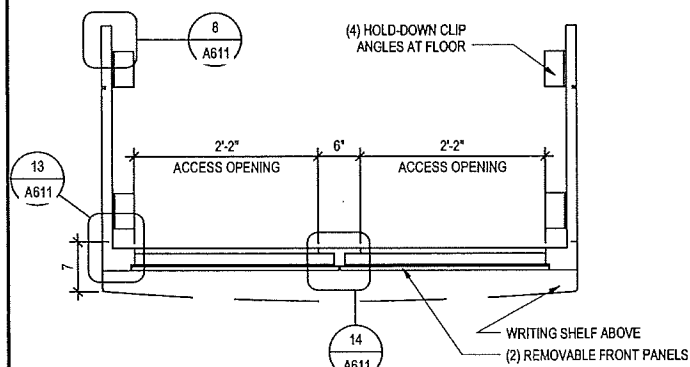
# DETAIL

AGENT PODIUM SHELL PLAN  
SCALE: 1" = 1'-0"



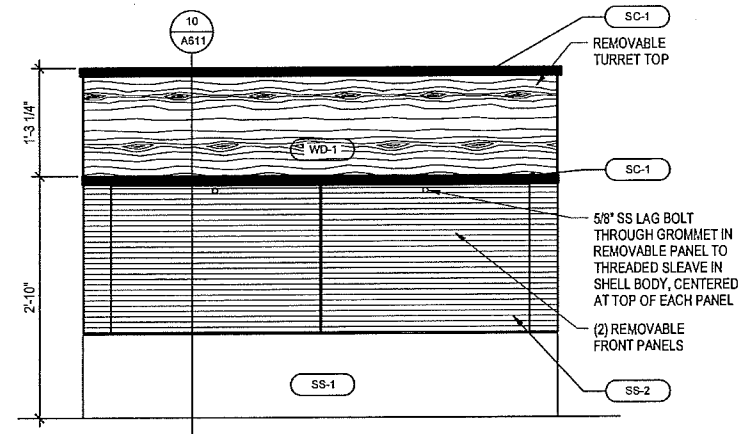
# DETAIL

AGENT PODIUM SHELL PLAN SECTION THROUGH TURRET  
SCALE: 1" = 1'-0"



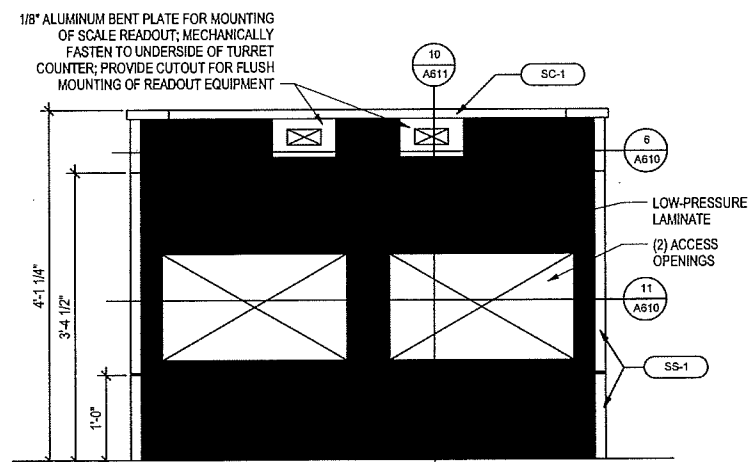
# DETAIL

AGENT PODIUM SHELL PLAN SECTION THROUGH OPENINGS  
SCALE: 1" = 1'-0"



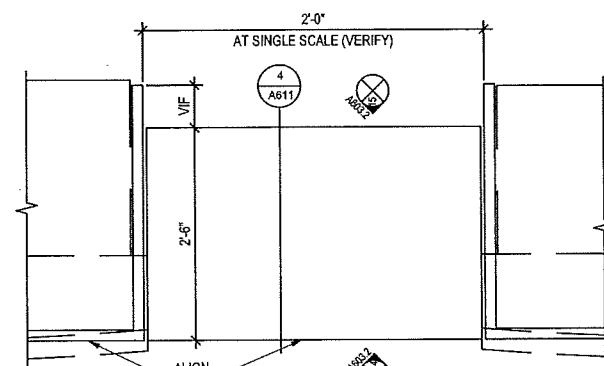
# DETAIL

AGENT PODIUM SHELL FRONT ELEVATION  
SCALE: 1" = 1'-0"



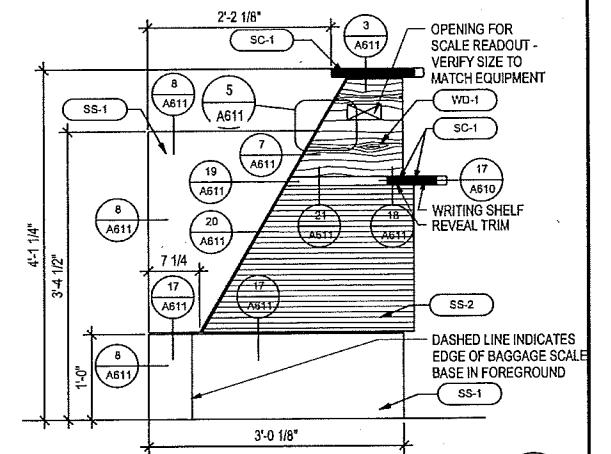
# DETAIL

AGENT PODIUM SHELL REAR ELEVATION  
SCALE: 1" = 1'-0"



# DETAIL

BAGGAGE SCALE SHELL PLAN (SIM AT SINGLE SCALE)  
SCALE: 1" = 1'-0"

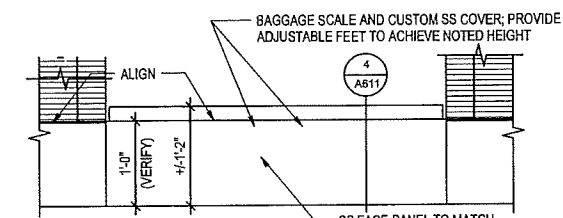


# DETAIL

TICKETING AGENT PODIUM SHELL SIDE ELEVATION  
SCALE: 1" = 1'-0"

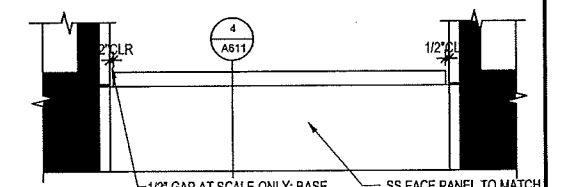
## AGENT PODIUM SHELL AND INSERT GENERAL NOTES

1. PROVIDE 1/8" RADIUS AT ALL FORMED/WELDED CORNERS OF STAINLESS STEEL SHEET LAMINATED PANELS.
2. EASE ALL EXPOSED STAINLESS STEEL FLAT BAR EDGES W/ 1/32" CORNER CHAMFER.
3. MECHANICALLY ATTACH ALL STAINLESS STEEL EDGES; NO VISUALLY EXPOSED SCREW HEADS OR ATTACHMENT ALLOWED.
4. ALL PLYWOOD TO BE PREMIUM GRADE.
5. ALL CONCEALED OR VISUALLY NON-EXPOSED SURFACES SHALL HAVE LOW-PRESSURE LAMINATE FINISH, UNLESS OTHERWISE NOTED.
6. ALL ACCESS OPENING EDGES TO BE FACED W/ PLASTIC LAMINATE TO MATCH PANEL FACE, UNLESS OTHERWISE NOTED.
7. EASE ALL EXPOSED AND ACCESSIBLE CABINET EDGES, INCLUDING ALL PLYWOOD AND OTHER PANELS, COUNTERTOPS, CABINET BODIES, ETC.
8. TYPICAL DRAWER CONSTRUCTION AND FINISHES SHALL BE AS FOLLOWS:  
- FRONT: 3/4" PLYWOOD W/ LAMINATE-FACED FINISH  
- BOX SIDES AND BACK: 1/2" PLYWOOD W/ CLEAR MATTE FINISH  
- BOX BOTTOM: 1/4" PLYWOOD W/ LAMINATE-FACED FINISH
9. REFER TO PORT OF SEATTLE CASEWORK STANDARDS MANUAL FOR FINISH SPECIFICATIONS.
10. ALL MATERIALS (PLYWOOD, PARTICLE BOARD, PLAM) TO BE CLASS B MINIMUM RATED PER NFPA 415.



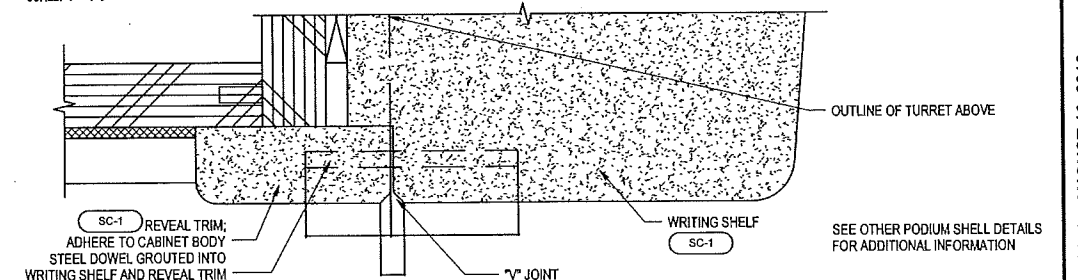
# DETAIL

BAGGAGE SCALE SHELL FRONT ELEVATION  
SCALE: 1" = 1'-0"



# DETAIL

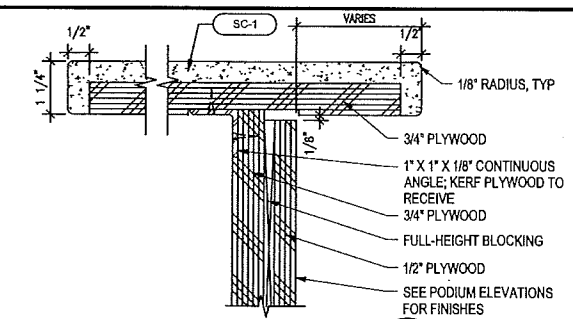
BAGGAGE SCALE SHELL REAR ELEVATION  
SCALE: 1" = 1'-0"



# DETAIL

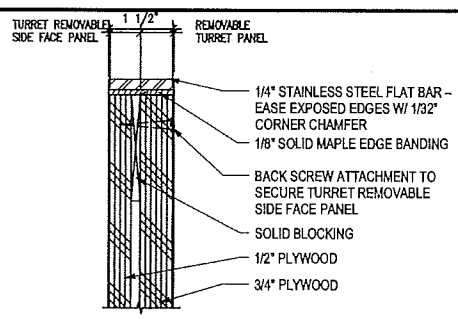
AGENT PODIUM SHELL REVEAL TRIM  
SCALE: 12" = 1'-0"





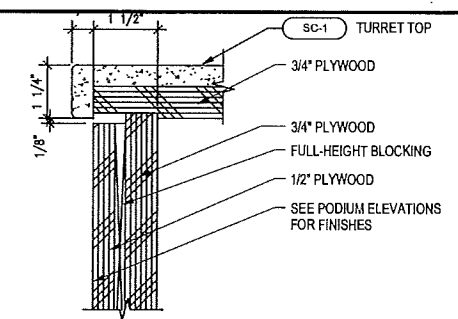
**DETAIL**

AGENT PODIUM SHELL TURRET TOP  
SCALE: 6" = 1'-0"



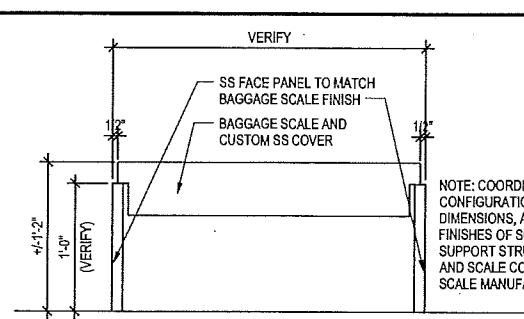
**DETAIL**

AGENT PODIUM SHELL TURRET EDGE  
SCALE: 6" = 1'-0"



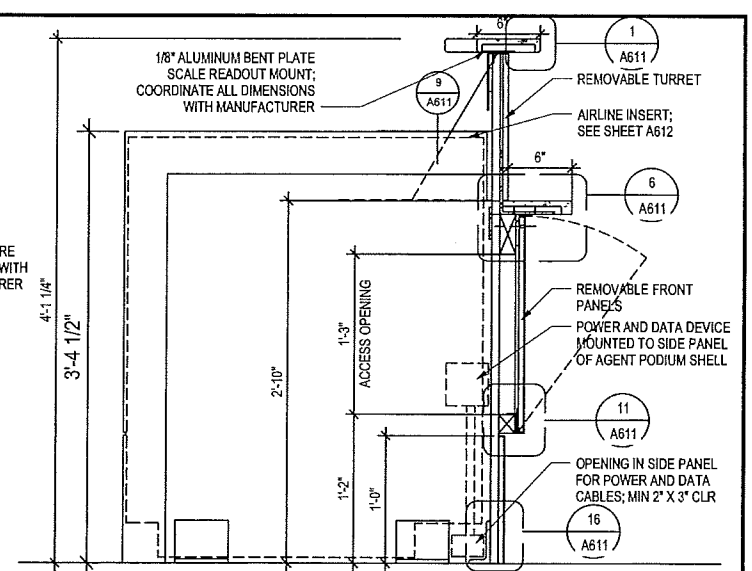
**DETAIL**

AGENT PODIUM SHELL TURRET TOP SIDE  
SCALE: 6" = 1'-0"



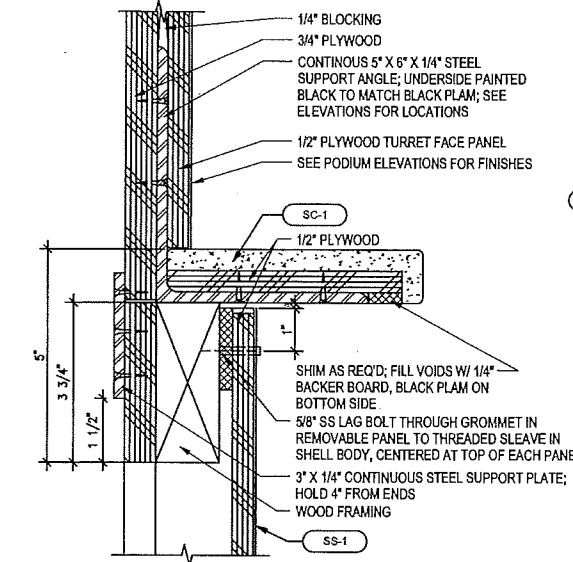
**DETAIL**

BAGGAGE SCALE SHELL SECTION  
SCALE: 1 1/2" = 1'-0"



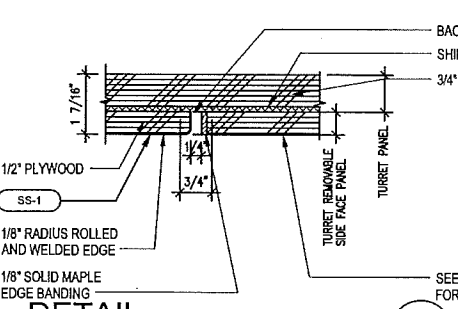
**DETAIL**

AGENT PODIUM SHELL SECTION  
SCALE: 1 1/2" = 1'-0"



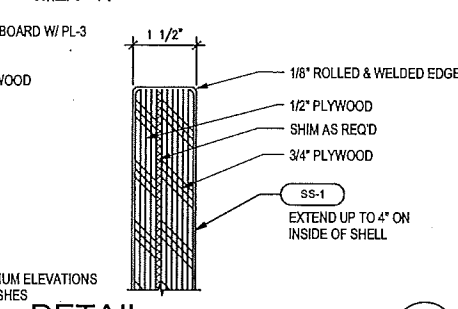
**DETAIL**

AGENT PODIUM SHELL SHELF  
SCALE: 6" = 1'-0"



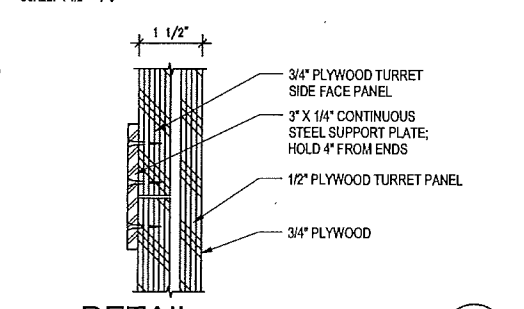
**DETAIL**

AGENT PODIUM SHELL TURRET AT SIDE PANEL  
SCALE: 6" = 1'-0"



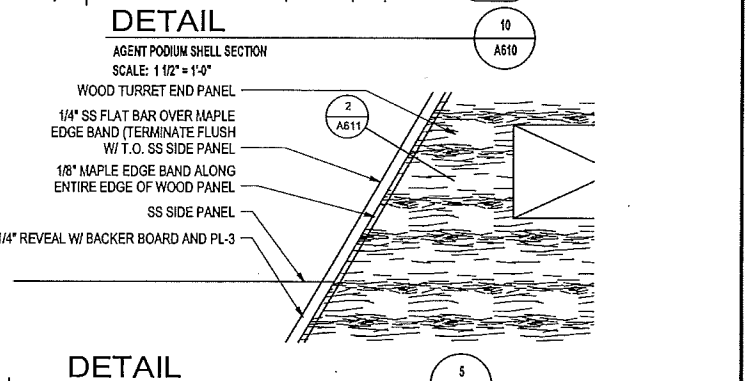
**DETAIL**

AGENT PODIUM SHELL SIDE PANEL TOP (SIM AT PANEL END)  
SCALE: 6" = 1'-0"



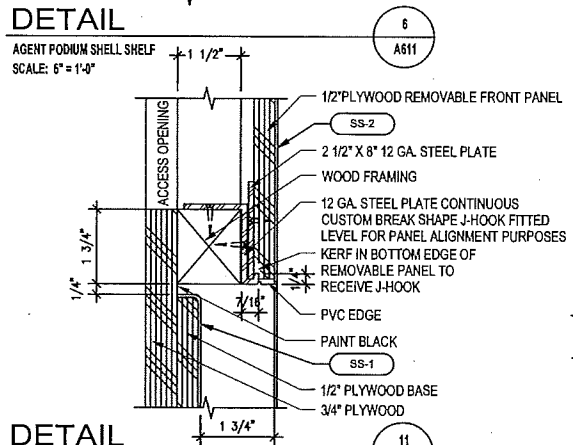
**DETAIL**

AGENT PODIUM SHELL TURRET CONNECTION  
SCALE: 6" = 1'-0"



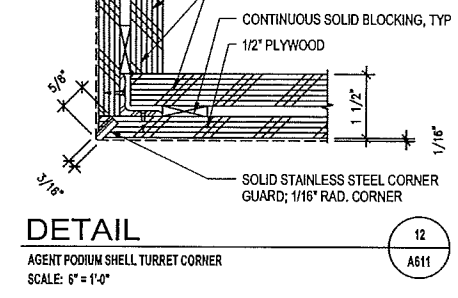
**DETAIL**

AGENT PODIUM TURRET TRIM DETAIL  
SCALE: 6" = 1'-0"



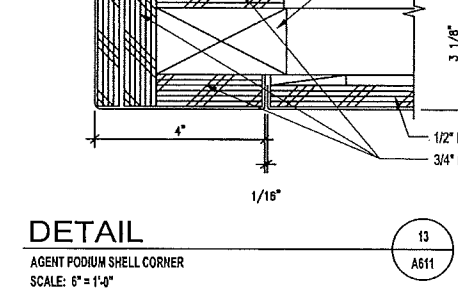
**DETAIL**

AGENT PODIUM SHELL REMOVABLE PANEL AT BASE  
SCALE: 6" = 1'-0"



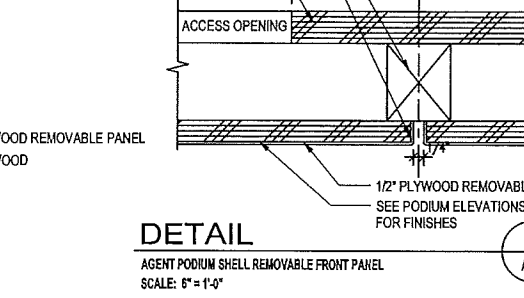
**DETAIL**

AGENT PODIUM SHELL TURRET CORNER  
SCALE: 6" = 1'-0"



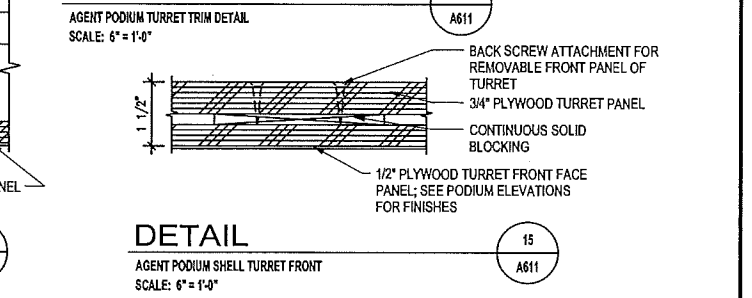
**DETAIL**

AGENT PODIUM SHELL CORNER  
SCALE: 6" = 1'-0"



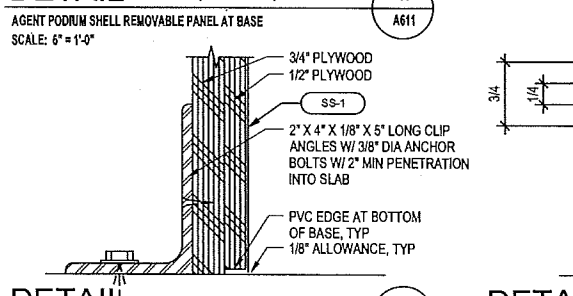
**DETAIL**

AGENT PODIUM SHELL REMOVABLE FRONT PANEL  
SCALE: 6" = 1'-0"



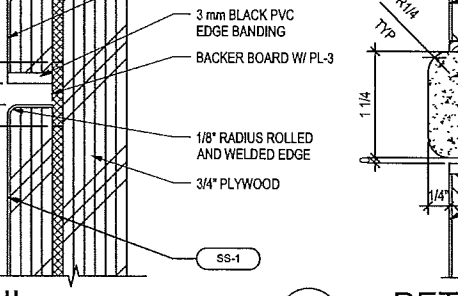
**DETAIL**

AGENT PODIUM SHELL TURRET FRONT  
SCALE: 6" = 1'-0"



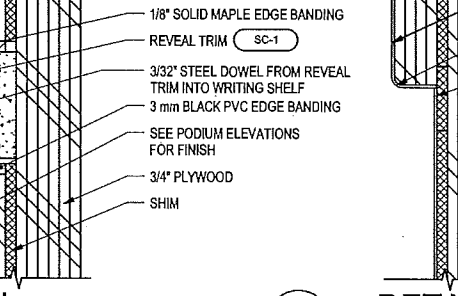
**DETAIL**

AGENT PODIUM SHELL BASE  
SCALE: 6" = 1'-0"



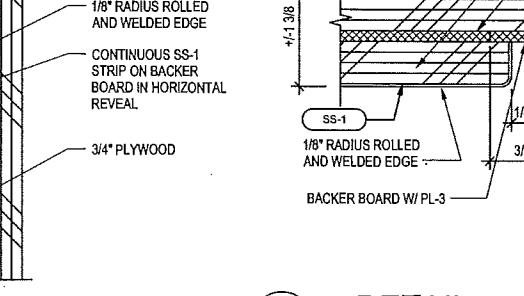
**DETAIL**

AGENT PODIUM SHELL REVEAL AT BASE  
SCALE: 12" = 1'-0"



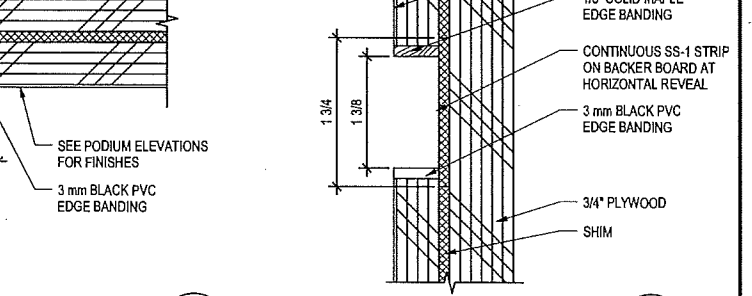
**DETAIL**

AGENT PODIUM SHELL REVEAL AT SHELF  
SCALE: 12" = 1'-0"



**DETAIL**

AGENT PODIUM SHELL REVEAL AT SHELF  
SCALE: 12" = 1'-0"



**DETAIL**

AGENT PODIUM SHELL REVEAL ALIGNED W/ SHELF  
SCALE: 12" = 1'-0"

Portland Vancouver Seattle  
503.224.9990 360.683.7879 206.461.8895  
www.mackenzie.com

Architecture • Interiors  
Planning • Engineering

PROJECT: 11049  
DESIGNER: BRETT HANSON  
DATE: AUGUST 16, 2016  
CHECKED BY: KDD  
CHECKED/APPROVED BY: ---

NO.	DATE	BY	DESCRIPTION	APPD

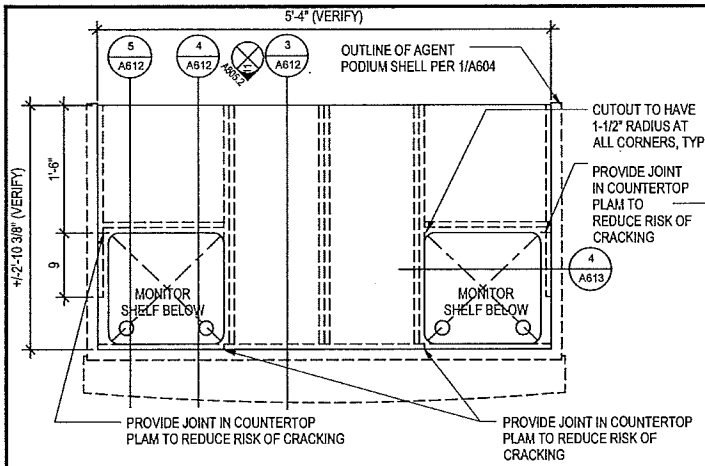
11049 REGISTERED ARCHITECT  
Brett Hanson  
STATE OF WASHINGTON

PROJECT MANAGER: PATTY BERGSTEDT  
PROJECT ENGINEER: ---  
DESIGN ENGINEER: ---  
DATE: AUGUST 16, 2016  
CHECKED/APPROVED BY: ---

Port of Seattle SEA-TAC INTERNATIONAL AIRPORT  
PROJECT: ZONE 5 TICKET LOBBY MODIFICATIONS  
SHEET TITLE: DETAILS

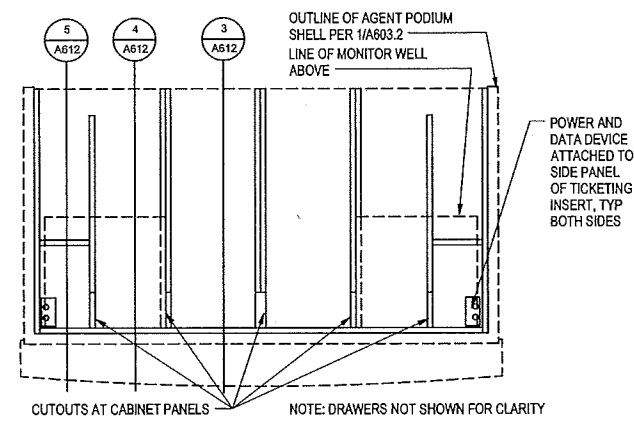
WORK PROJECT NO.: U00253  
CONSULTANT'S NO.: ---  
PORT OF SEATTLE NO.: ---  
SERVICE DIRECTIVE: 2 STIA-SW1605 A6.11





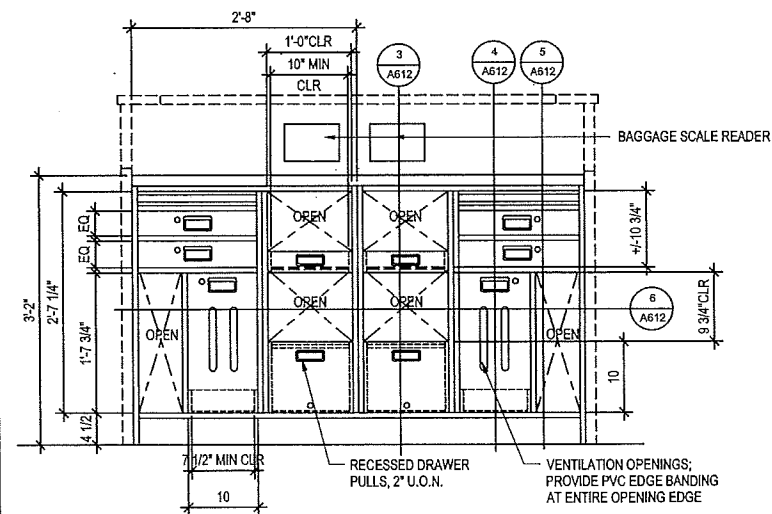
# DETAIL

TICKETING INSERT PLAN  
SCALE: 1" = 1'-0"



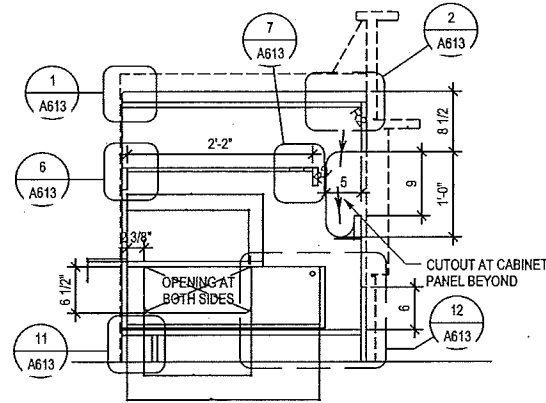
# DETAIL

TICKETING INSERT PLAN SECTION  
SCALE: 1" = 1'-0"



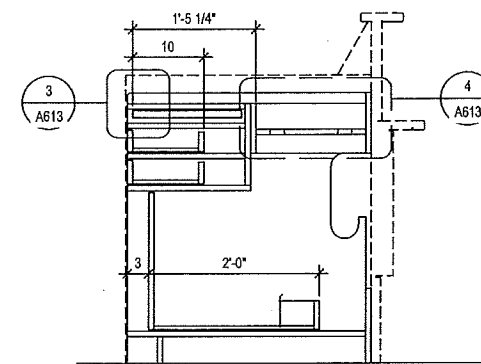
# DETAIL

TICKETING INSERT ELEVATION  
SCALE: 1" = 1'-0"



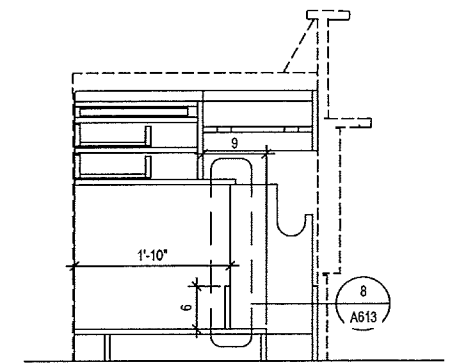
# DETAIL

TICKETING INSERT SECTION THROUGH PRINTERS  
SCALE: 1" = 1'-0"



# DETAIL

TICKETING INSERT SECTION THROUGH DRAWERS  
SCALE: 1" = 1'-0"



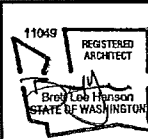
# DETAIL

TICKETING INSERT SECTION THROUGH STORAGE WELL  
SCALE: 1" = 1'-0"



PROJECT: 11049  
DESIGNER: KDD  
DRAWN BY: TCU  
SCALE: AS NOTED  
DATE: AUGUST 16, 2016  
CHECKED BY: KDD  
CHECKED/APPROVED BY: ---

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

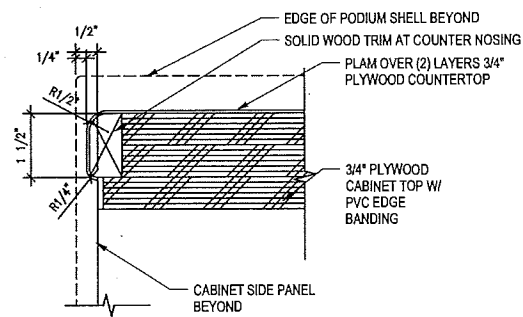


PROJECT MANAGER: PATTY BERGSTEDT  
PROJECT ENGINEER: ---  
DESIGN ENGINEER: ---  
DRAWER: ---  
SCALE: ---  
DATE: AUGUST 16, 2016  
CHECKED/APPROVED BY: ---

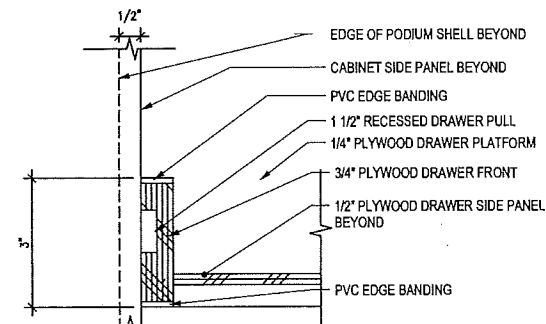
Port of Seattle SEA-TAC INTERNATIONAL AIRPORT  
PROJECT: ZONE 5 TICKET LOBBY MODIFICATIONS  
SHEET TITLE: DETAILS

WORK PROJECT NO.: U00253  
CONSULTANT'S NO.: ---  
PORT OF SEATTLE NO.: STIA-SW1605 A6.12  
SERVICE DIRECTIVE: 2

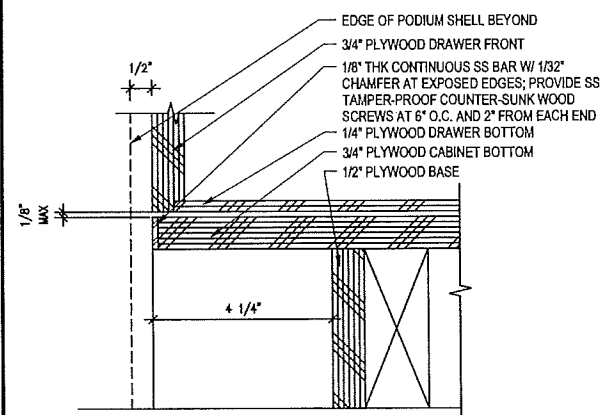




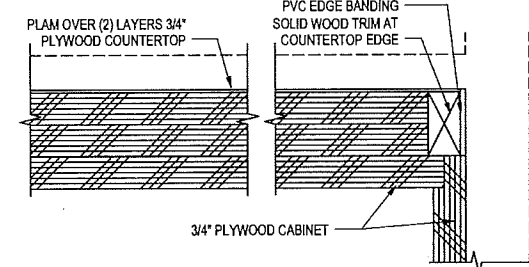
**DETAIL 1**  
TICKETING INSERT COUNTER NOSING  
SCALE: 6" = 1'-0"



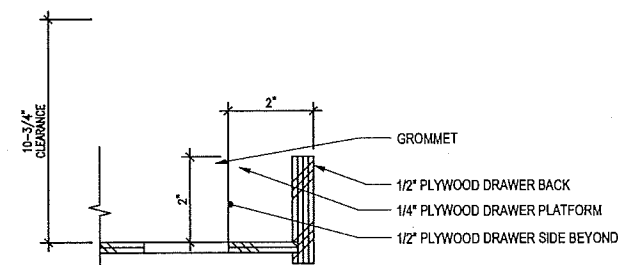
**DETAIL 6**  
TICKETING INSERT DRAWER FACE  
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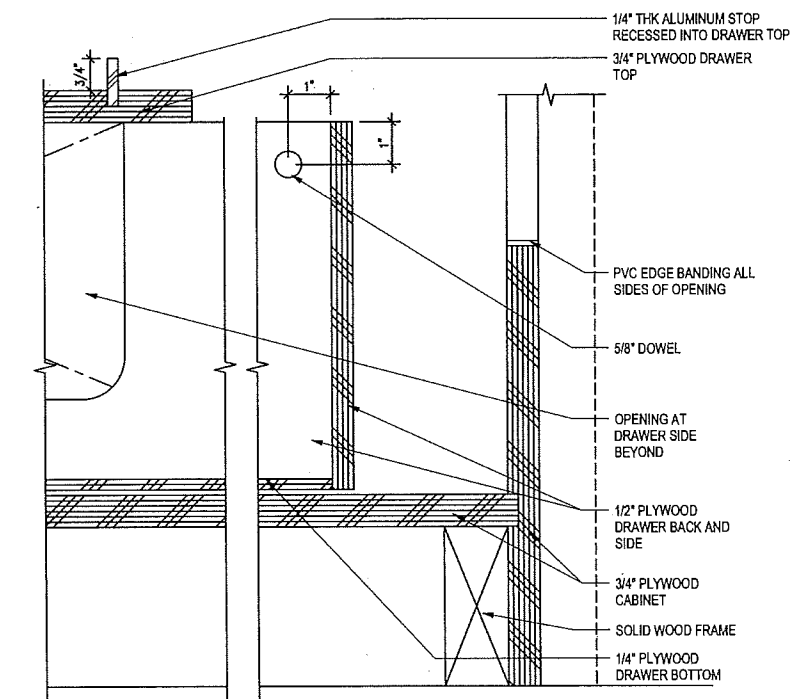
**DETAIL 11**  
TICKETING INSERT BASE  
SCALE: 6" = 1'-0"



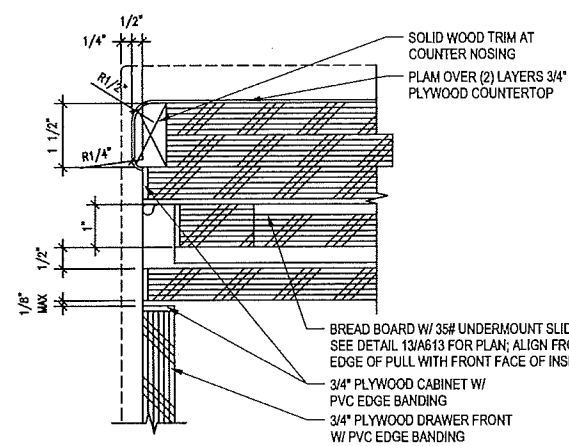
**DETAIL 2**  
TICKETING INSERT COUNTER  
SCALE: 6" = 1'-0"



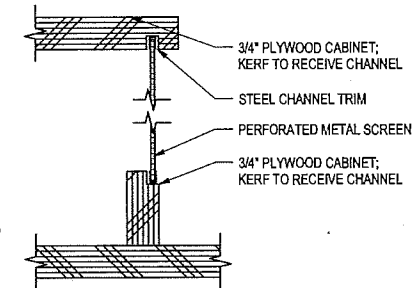
**DETAIL 7**  
TICKETING INSERT DRAWER BACK  
SCALE: 6" = 1'-0"



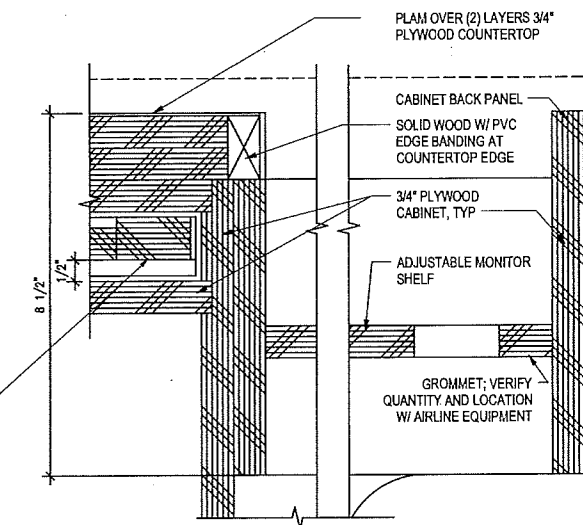
**DETAIL 12**  
TICKETING INSERT BACK  
SCALE: 6" = 1'-0"



**DETAIL 3**  
TICKETING INSERT COUNTER AT WRITING SURFACE  
SCALE: 6" = 1'-0"



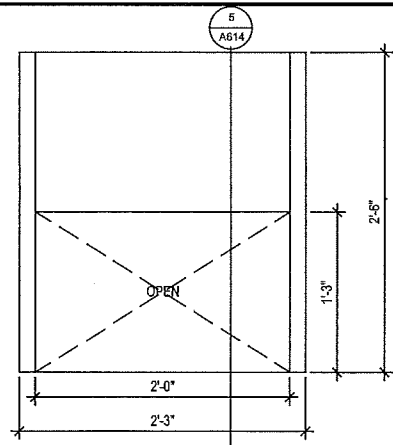
**DETAIL 8**  
TICKETING INSERT MESH PARTITION  
SCALE: 6" = 1'-0"



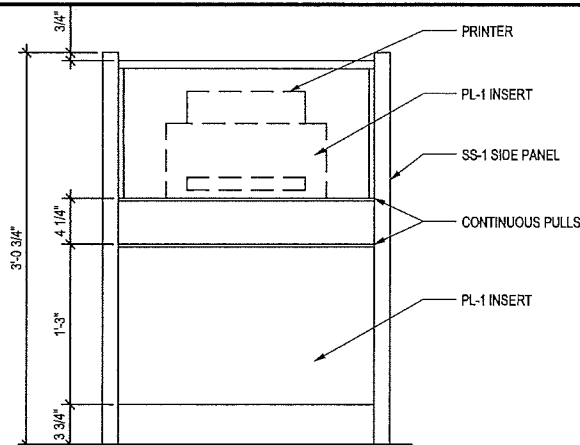
**DETAIL 4**  
TICKETING INSERT MONITOR WELL  
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REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

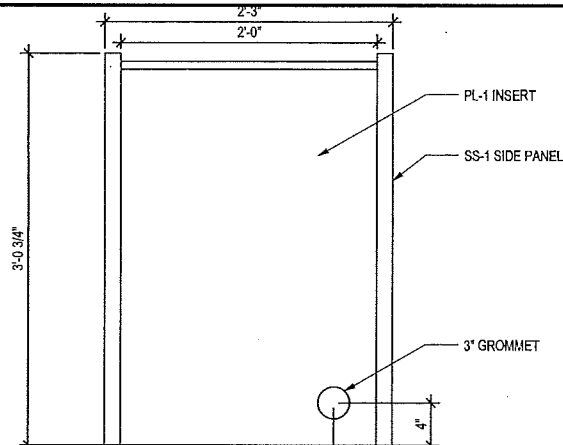




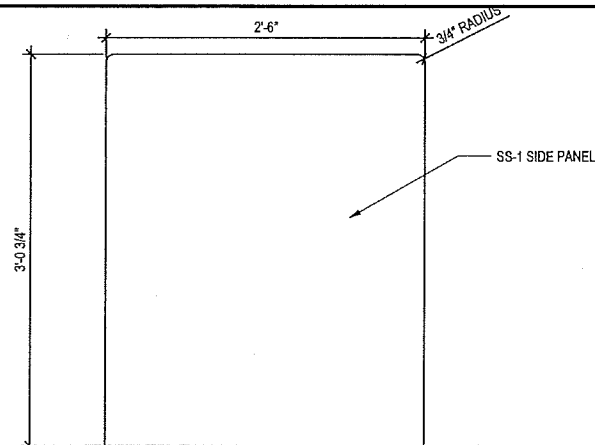
**DETAIL 1**  
PRINTER CABINET PLAN - CLOSED CONFIGURATION  
SCALE: 1 1/2" = 1'-0"



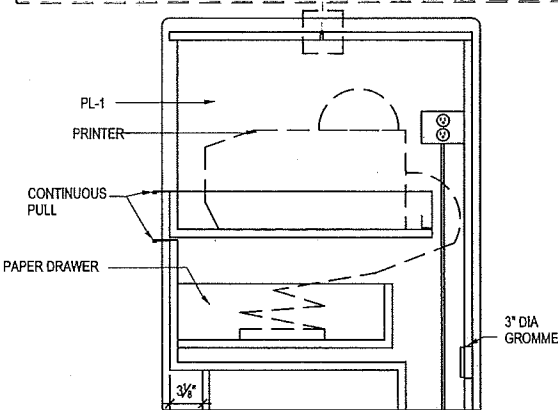
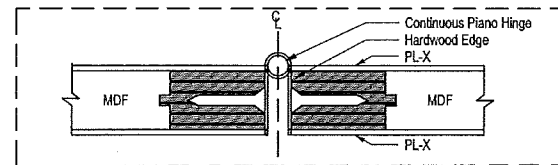
**DETAIL 2**  
PRINTER CABINET FRONT ELEVATION - CLOSED CONFIGURATION  
SCALE: 1 1/2" = 1'-0"



**DETAIL 3**  
PRINTER CABINET REAR ELEVATION  
SCALE: 1 1/2" = 1'-0"



**DETAIL 4**  
PRINTER CABINET SIDE ELEVATION  
SCALE: 1 1/2" = 1'-0"



**DETAIL 5**  
PRINTER CABINET SECTION - CLOSED CONFIGURATION  
SCALE: 1 1/2" = 1'-0"

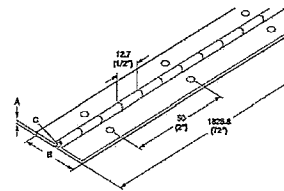
## HÄFELE

Hinges and Stays

### Furniture Hinges

#### Piano Hinge

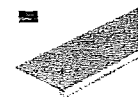
- Hinges are pre-drilled and free of machine oil
- Available in steel or 304 grade with a bright anodized (24) finish
- DA finish provides a 25% more decorative look
- All holes are countersunk for screws
- Hinges can be cut by the customer to desired length
- Special order hinges are available in a minimum quantity of 300 ft. (91m) and 150 ft. (45.7m)



Continuous Hinge  
For furniture, cabinetry and marine applications  
Variable length: 12.7 mm (1/2)  
Hole spacing: 50 mm (2)  
Length: 10.0 mm (3/8)

Material	Finish	Clear Width (in)	Clear Width (mm)	Pin Diameter (in)	Pin Diameter (mm)	Item No.
steel	polished brass	27 (1 1/8)	1.02 (26)	2.29 (58)	58.1	351.09.513
steel	polished nickel	27 (1 1/8)	1.02 (26)	2.29 (58)	58.1	351.09.512
steel	polished chrome	27 (1 1/8)	1.02 (26)	2.29 (58)	58.1	351.09.522
steel	polished nickel	31.8 (1 1/4)	1.02 (26)	2.29 (58)	58.1	351.09.523
steel	polished chrome	31.8 (1 1/4)	1.02 (26)	2.29 (58)	58.1	351.09.524
steel	polished nickel	31.8 (1 1/4)	1.02 (26)	2.29 (58)	58.1	351.09.525
steel	polished chrome	31.8 (1 1/4)	1.02 (26)	2.29 (58)	58.1	351.09.526
steel	polished nickel	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.527
steel	polished chrome	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.528
steel	polished nickel	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.529
steel	polished chrome	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.530
steel	polished nickel	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.531
steel	polished chrome	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.532
steel	polished nickel	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.533
steel	polished chrome	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.534
steel	polished nickel	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.535
steel	polished chrome	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.536
steel	polished nickel	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.537
steel	polished chrome	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.538
steel	polished nickel	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.539
steel	polished chrome	35.1 (1 3/8)	1.02 (26)	2.29 (58)	58.1	351.09.540

Packing: 5 pcs. (includes screws)



View Full-Size

### PRINTER CABINET SPEC DATA

SEA AR SC-2  
ZONE 1 PRINTER CABINETS  
08.05.13

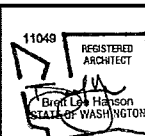
### GENERAL NOTES AND SPECIFICATION DATA

- (2) POS PINTER CABINETS, FREE-STANDING UNITS - COMPLY WITH AWS GRADE PREMIUM INCLUDING "RULES" SECTION, SECURE TO FLOOR WITH ADHESIVE SEALANT ALONG SIDE PANELS.
- PORT OF SEATTLE, SEATTLE-TACOMA INTERNATIONAL AIRPORT, INTERNATIONAL WINDOW WALL - TICKET COUNTERS AND BAG BELT, MC-0317526, WORK PROJECT #104662, PROJECT MANUAL DIVISION
- WOOD AND PLASTICS, SPECIFICATIONS SECTION 06410 - CUSTOM CABINETS APPLIES.
- "SIDE PANEL" REFERS TO STAINLESS STEEL AND PANELS OF PRINTER CABINET. "INSERT" REFERS TO LAMINATE-FACED CABINET BETWEEN SIDE PANELS. MECHANICALLY FIX INSERT TO SIDE PANELS.
- SPECIALTY CABINET HARDWARE NOT SPECIFIED IN REFERENCE DOCUMENT LISTED IN #2:
  - 1 1/2" PIANO HINGE, 304 STAINLESS STEEL CONTINUOUS FOR LENGTH OF LID
  - EPCC EDGE PULL, CONTINUOUS, CUSTOM LENGTH ANODIZED ALUMINUM, DP42-L-A (8' STOCK LENGTH)
  - ALUMINUM 90 DEGREE 1 1/2" ANGLE STOCK, 1/2" LEG THICKNESS, MILL FINISH (4' STOCK LENGTH)
- PROVIDE 3MM PVC EDGE BANDING FOR CABINET INSERT, SHELF FRONT, DRAWER FRONT, EXCEPT AS NOTED - EDGE BANDING TO MATCH ESI NORTH SEAT #2477E.
- PLASTIC LAMINATE: PL-1, GP GRADE AS SPECIFIED FOR LOCATION, MATCH NEVAMAR MARITIME GRAY#S6027T.
- SILENCERS AT HINGED CABINET TOP TO BE MECHANICALLY FASTENED TYPE, ATTACH TO TOP EDGE OF INSERT SIDE PANELS.
- EASE CORNERS AND EDGES AT CUT ENDS OF ALUMINUM PULLS AND TRIM 1/2".
- MACHINE EASE CORNERS AND EDGES AT PLASTIC LAMINATE FACINGS EXCEPT WHERE PVC EDGE BANDING PROVIDED - FOLLOW AWS PREMIUM GRADE RULES SECTION.
- PROVIDE SHOP DRAWINGS AND SUBMITTALS FOR PRINTER CABINET ACCORDING TO #2 ABOVE.



PROJECT ENG ARCH  
BRETT HANSON  
DESIGNER  
KDD  
DRAWN BY:  
TCU  
SCALES  
AS NOTED  
DATE:  
AUGUST 16, 2016  
CHECKED BY:  
KDD  
CHECKED/APPROVED BY:

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

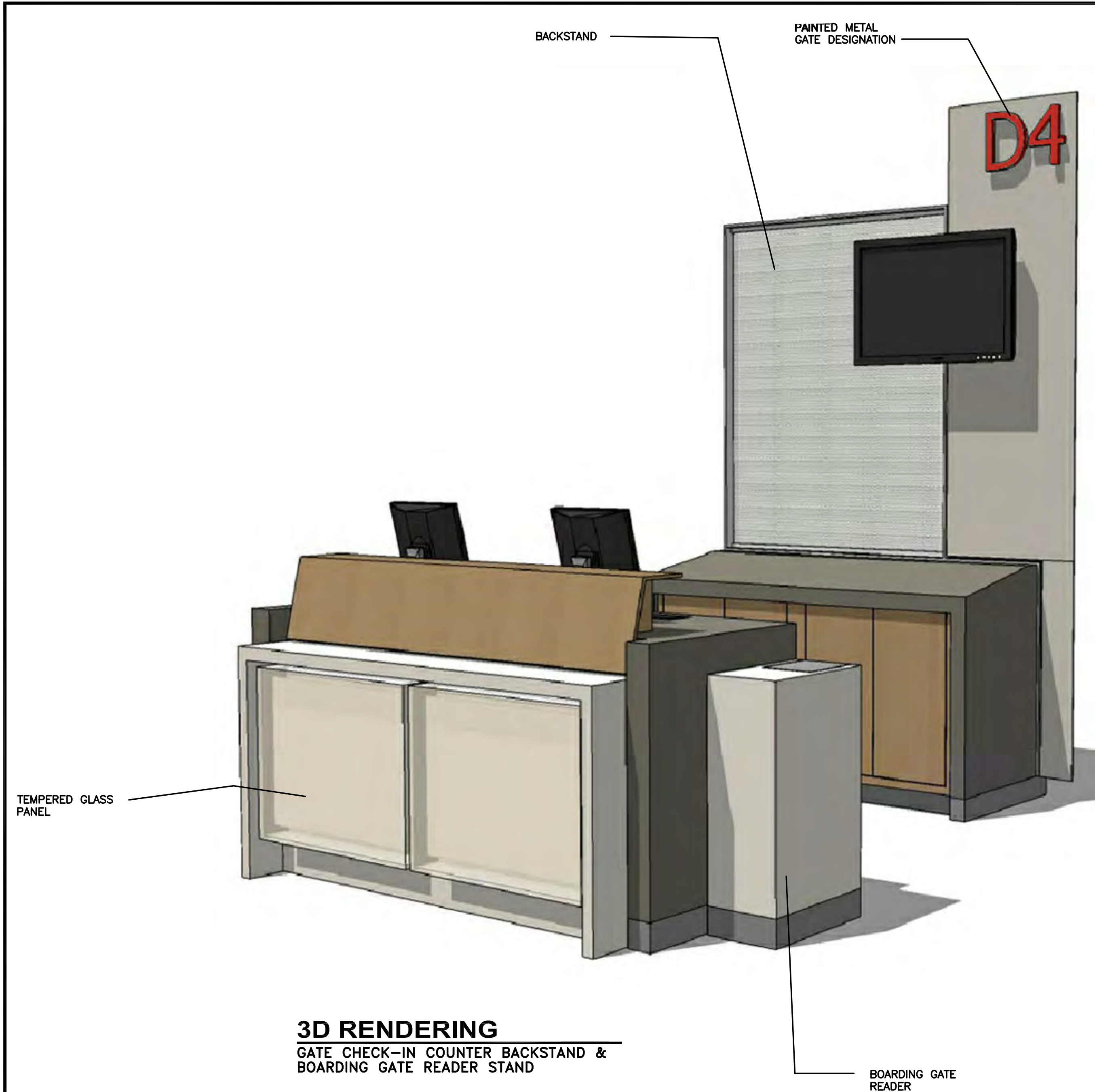


PROJECT MANAGER  
PATRY BERGSTEDT  
PROJECT ENGINEER  
DESIGN ENGINEER  
DRAFTER  
SCALE  
DATE:  
AUGUST 16, 2016  
CHECKED/APPROVED BY:

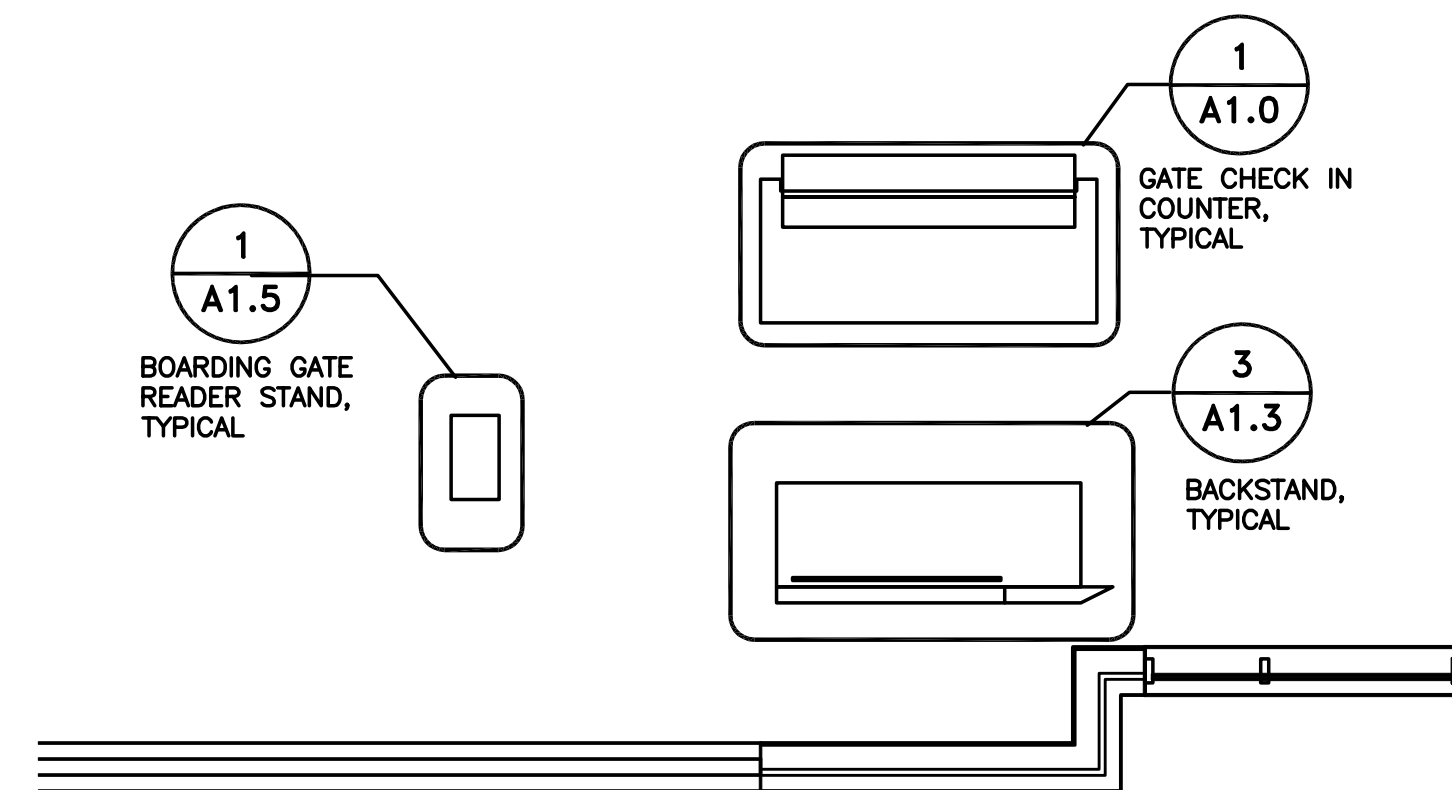
Port of Seattle  
SEA-TAC INTERNATIONAL AIRPORT  
PROJECT: ZONE 5 TICKET LOBBY MODIFICATIONS  
SHEET TITLE: DETAILS

WORK PROJECT NO.  
U00253  
CONSULTANT'S NO.  
PORT OF SEATTLE NO.  
STIA-SW1605 A6.14  
SERVICE DIRECTIVE  
2

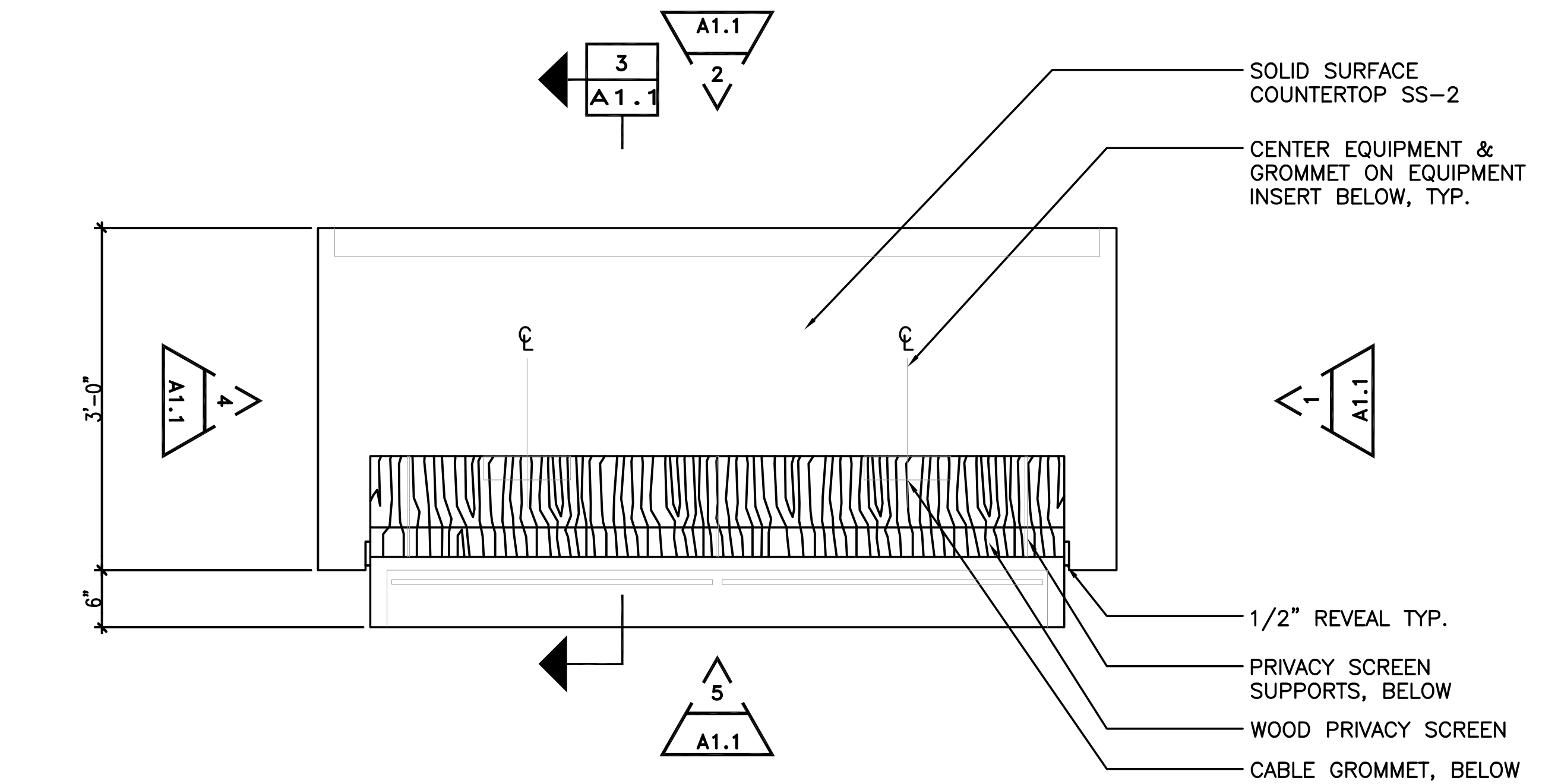




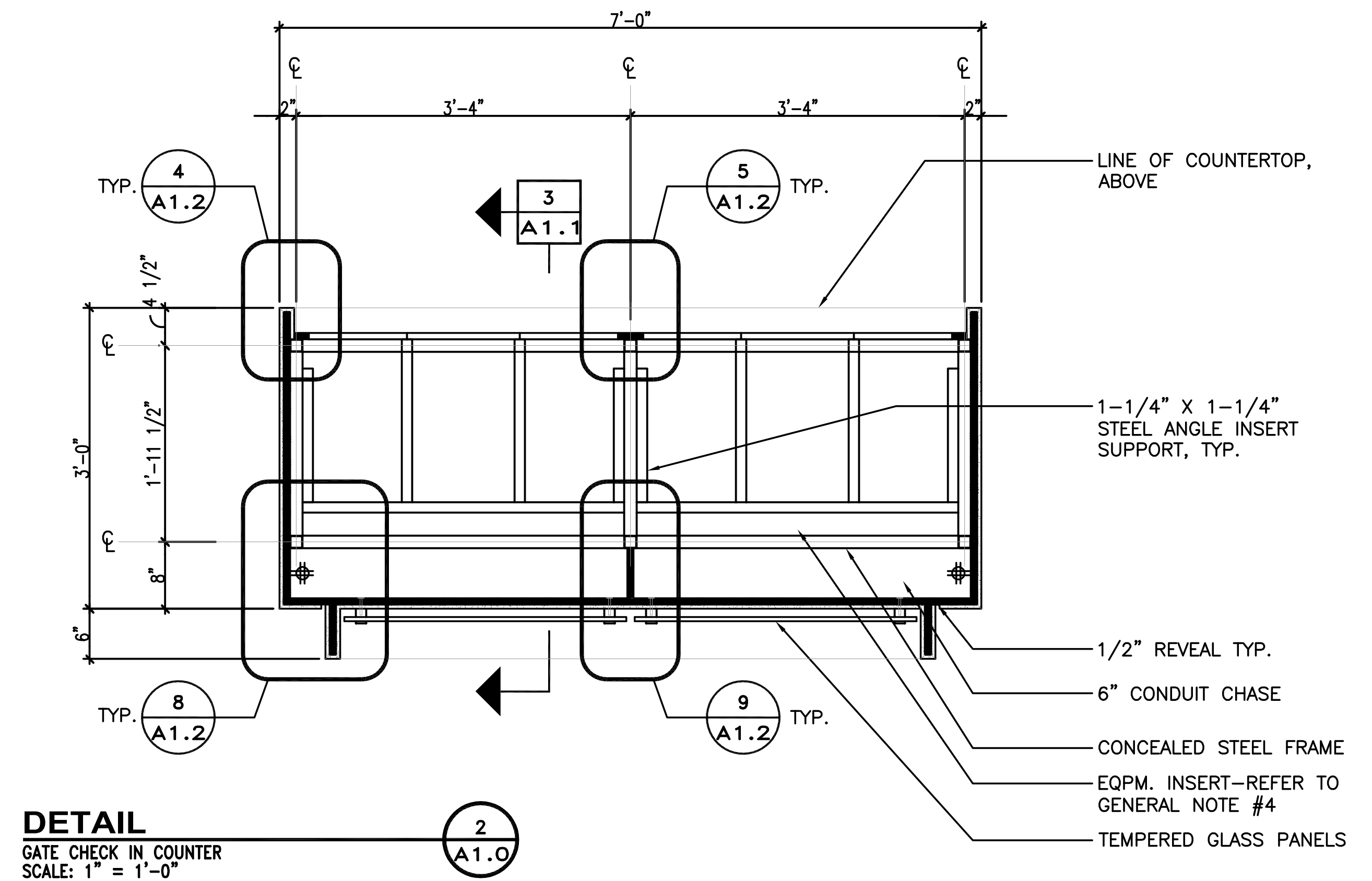
**3D RENDERING**  
GATE CHECK-IN COUNTER BACKSTAND &  
BOARDING GATE READER STAND



**ENLARGED PLAN**  
GATE CHECK - IN  
SCALE: 1/4" = 1'-0"



**ENLARGED PLAN**  
GATE CHECK - IN COUNTER  
SCALE: 1" = 1'-0"

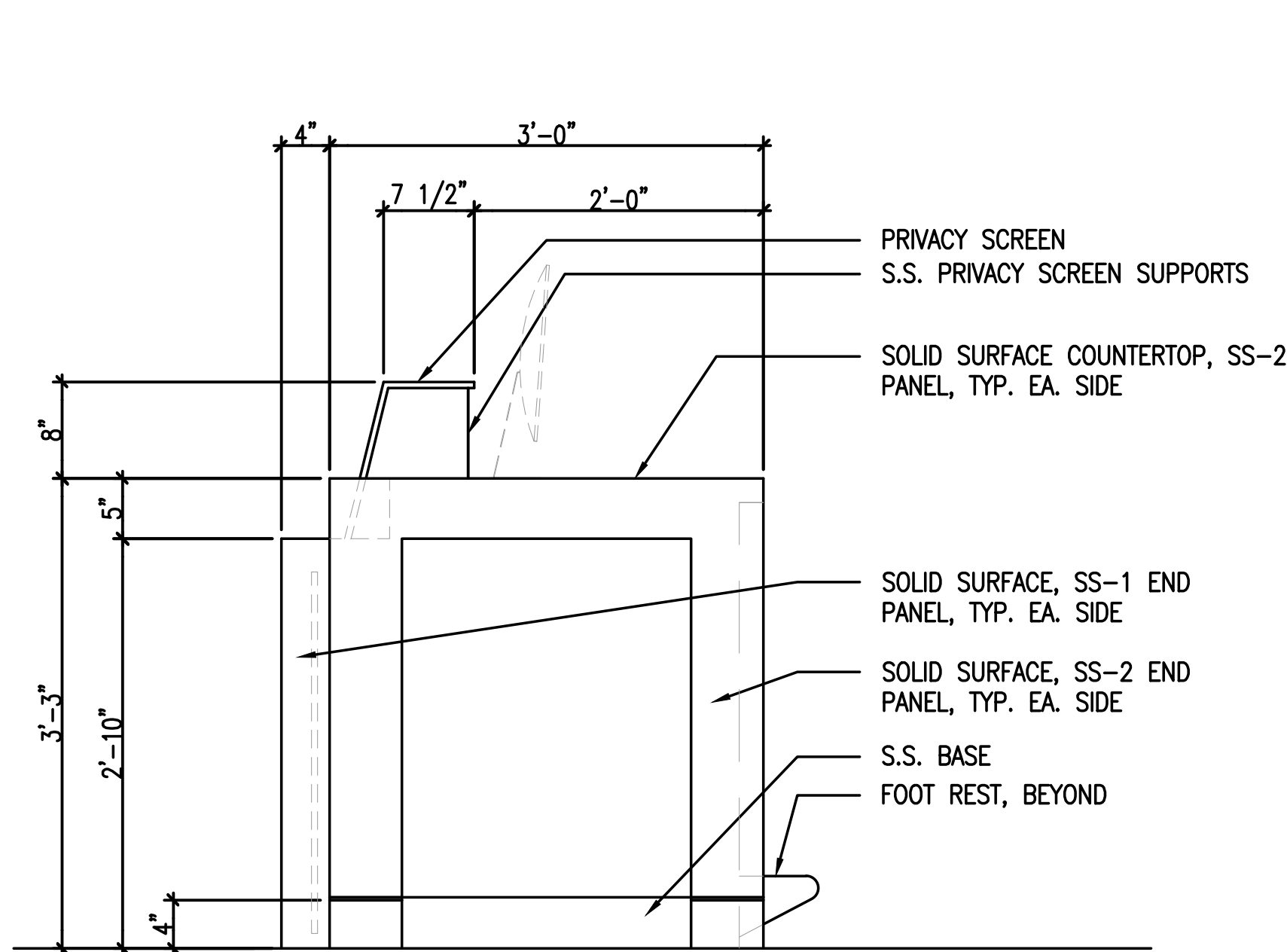


**DETAIL**  
GATE CHECK IN COUNTER  
SCALE: 1" = 1'-0"



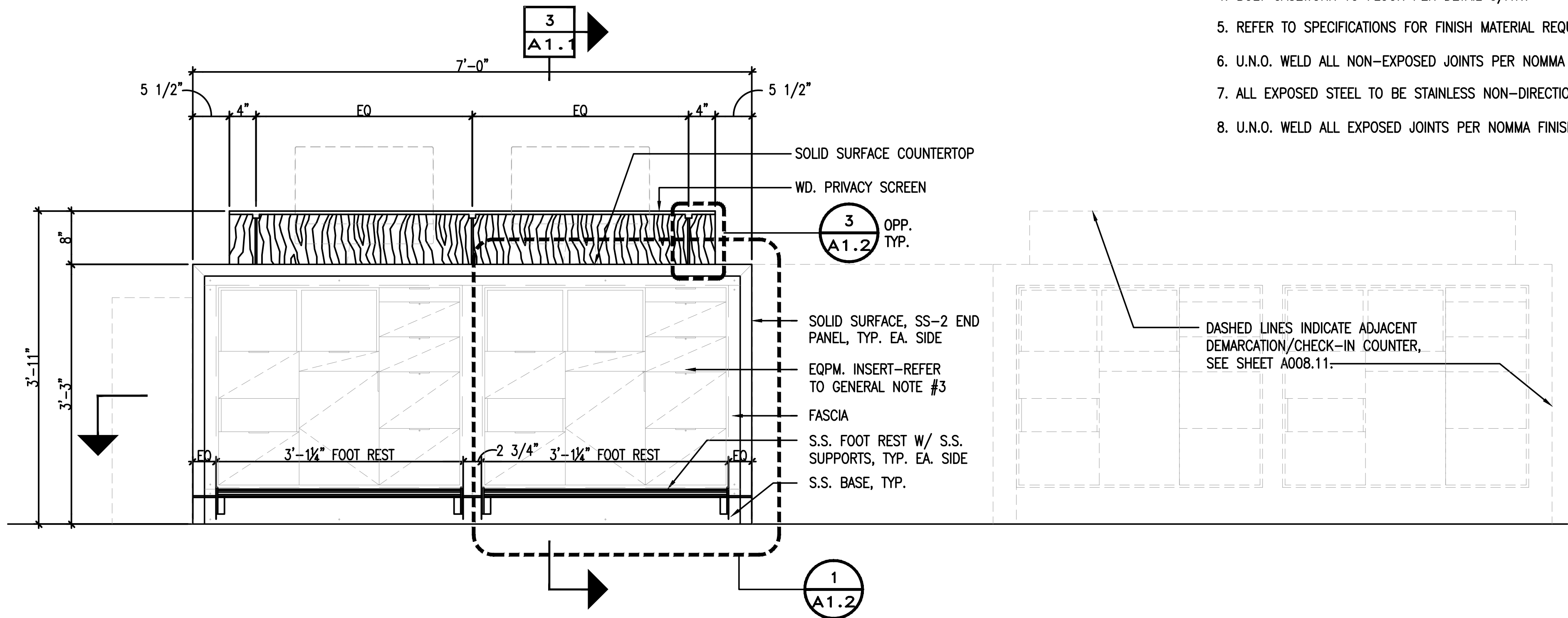
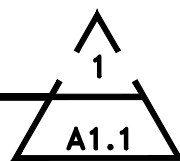
GENERAL NOTES

- CONTRACTORS:
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  - REFER TO FLOOR PLAN FOR GATE CHECK-IN COUNTER/BGR STAND ORIENTATION.
  - ALL CASEWORK SHALL BE CONSTRUCTED OF FIRE RESISTANT TREATED PLYWOOD WITH ALL SURFACES COVERED WITH PLASTIC LAMINATE OR SOLID SURFACE MATERIAL MEETING CLASS B OR HIGHER WHEN TESTED IN ACCORDANCE WITH ASTM E84.
  - BOLT CASEWORK TO FLOOR PER DETAIL 5/A1.7
  - REFER TO SPECIFICATIONS FOR FINISH MATERIAL REQUIREMENTS.
  - U.N.O. WELD ALL NON-EXPOSED JOINTS PER NOMMA FINISH #2 STANDARD.
  - ALL EXPOSED STEEL TO BE STAINLESS NON-DIRECTIONAL FINISH.
  - U.N.O. WELD ALL EXPOSED JOINTS PER NOMMA FINISH #1 STANDARD.



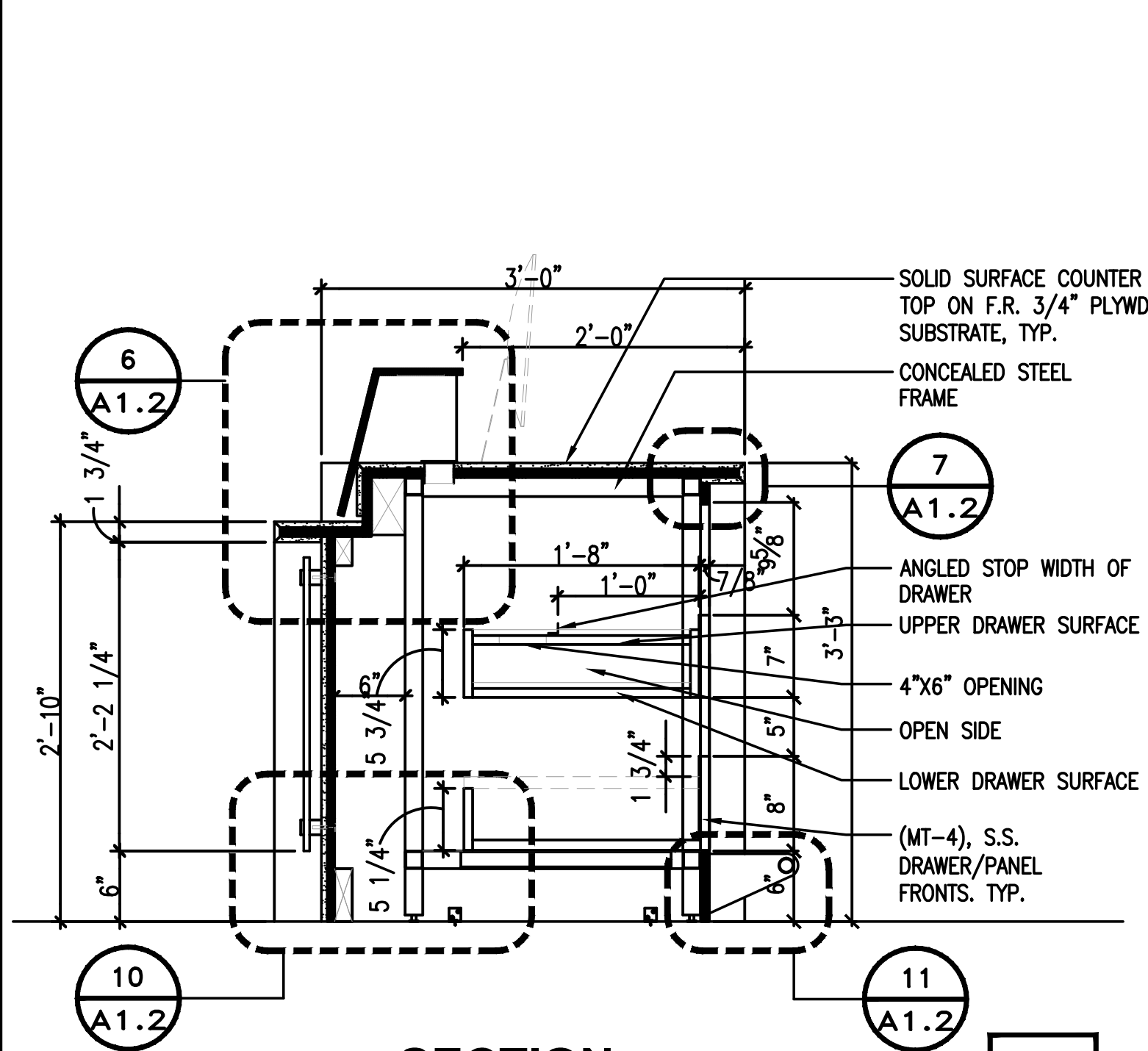
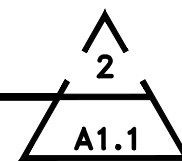
SIDE ELEVATION

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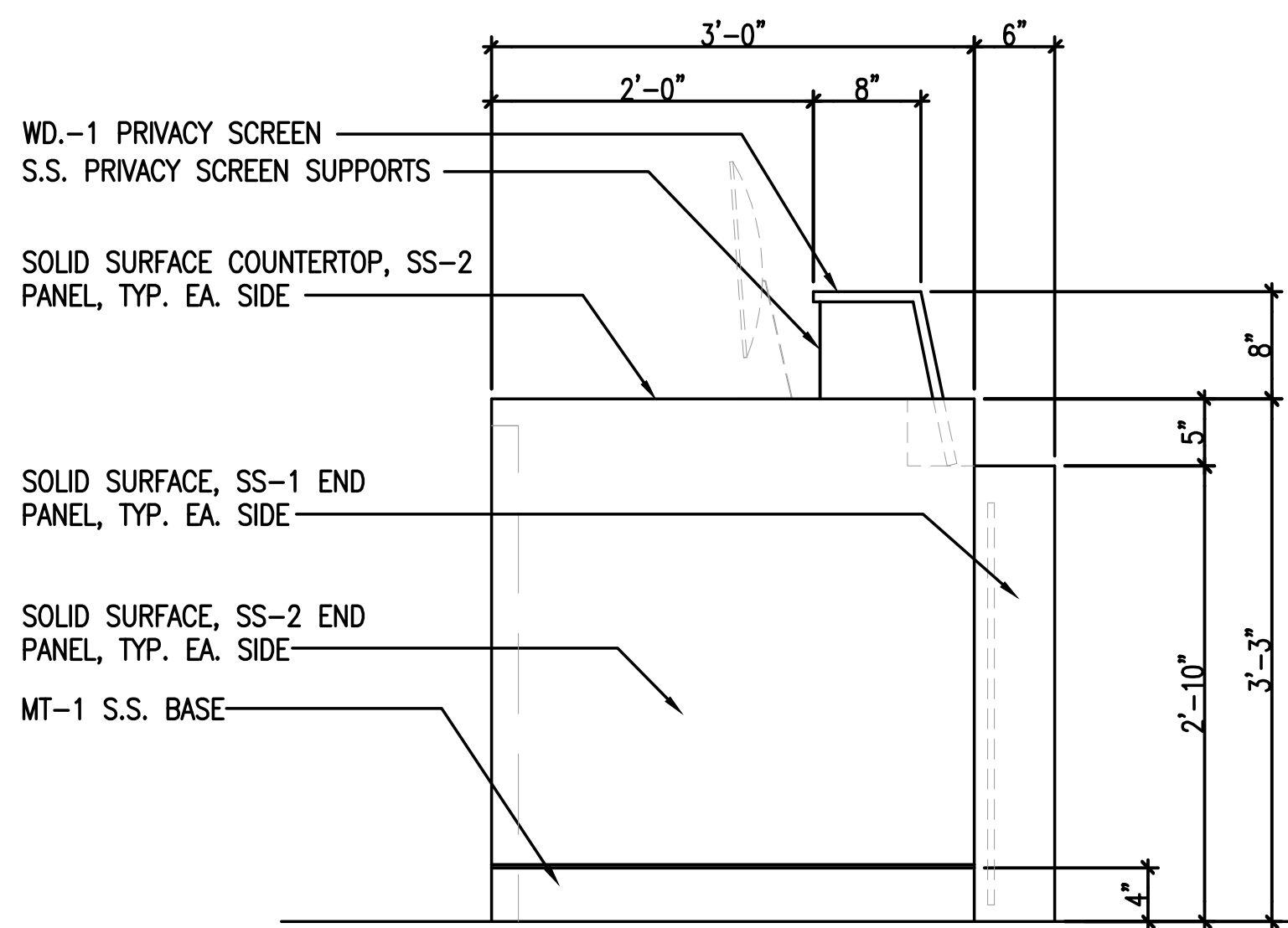
INTERIOR ELEVATION

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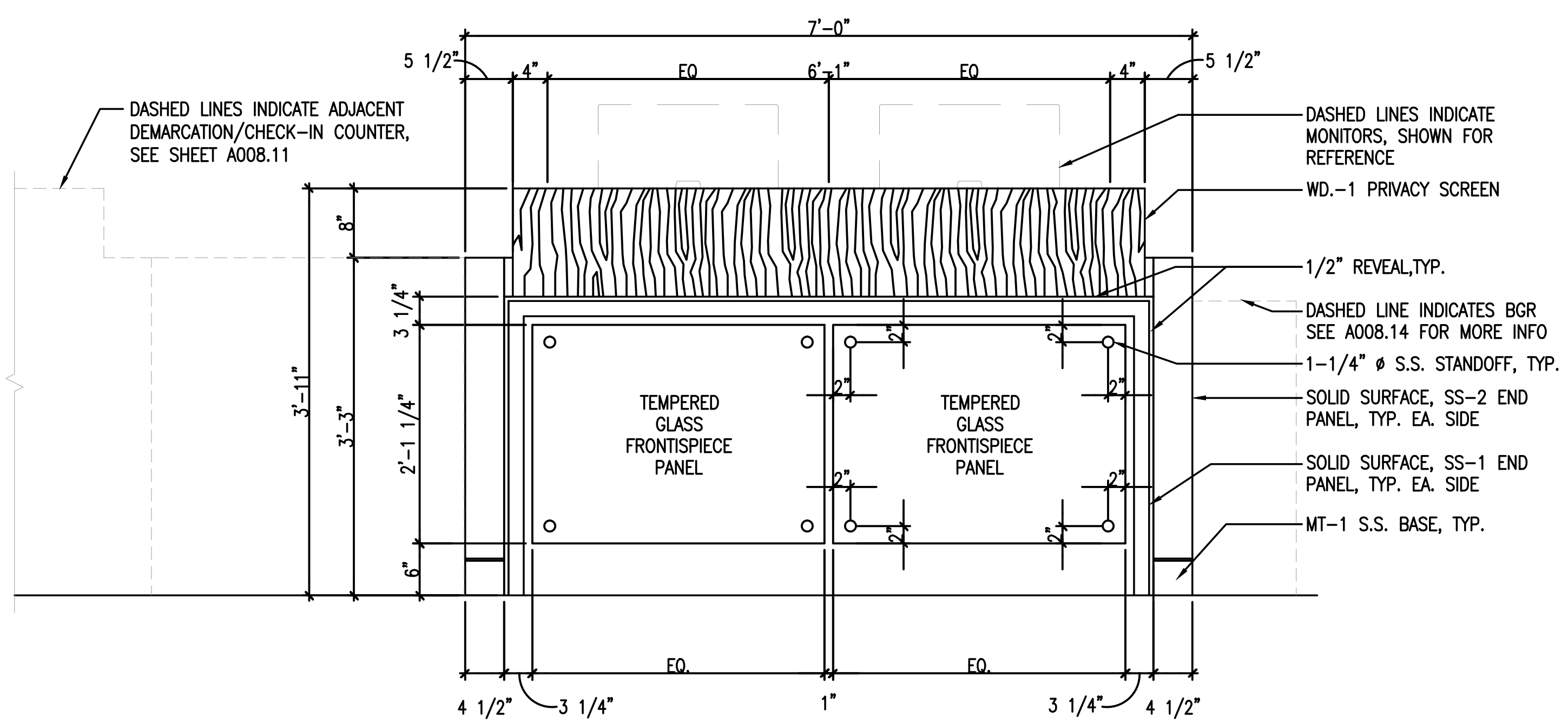
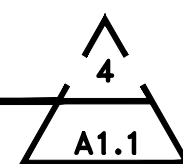
SECTION

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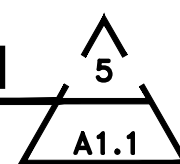
SIDE ELEVATION

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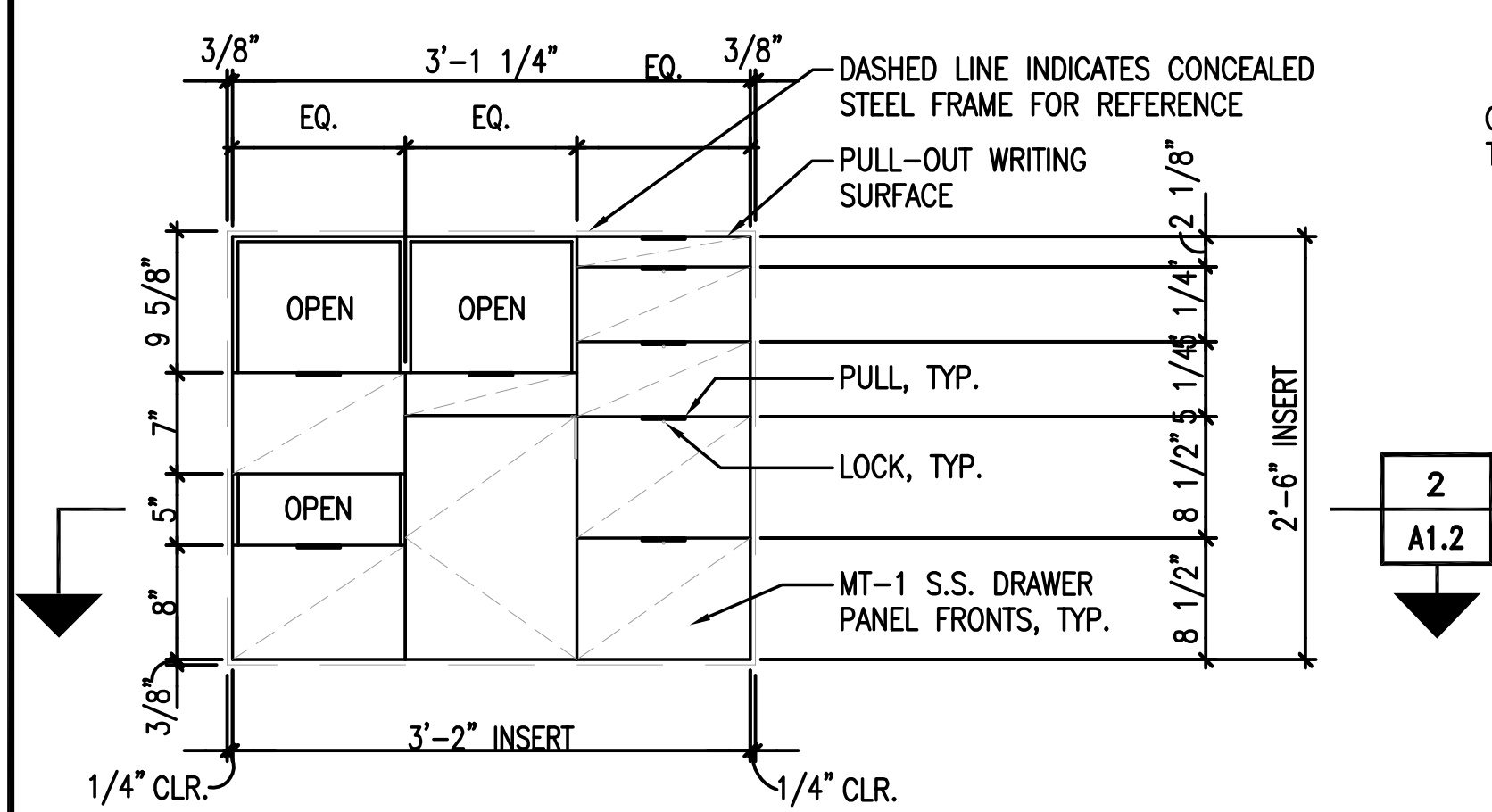
FRONT ELEVATION

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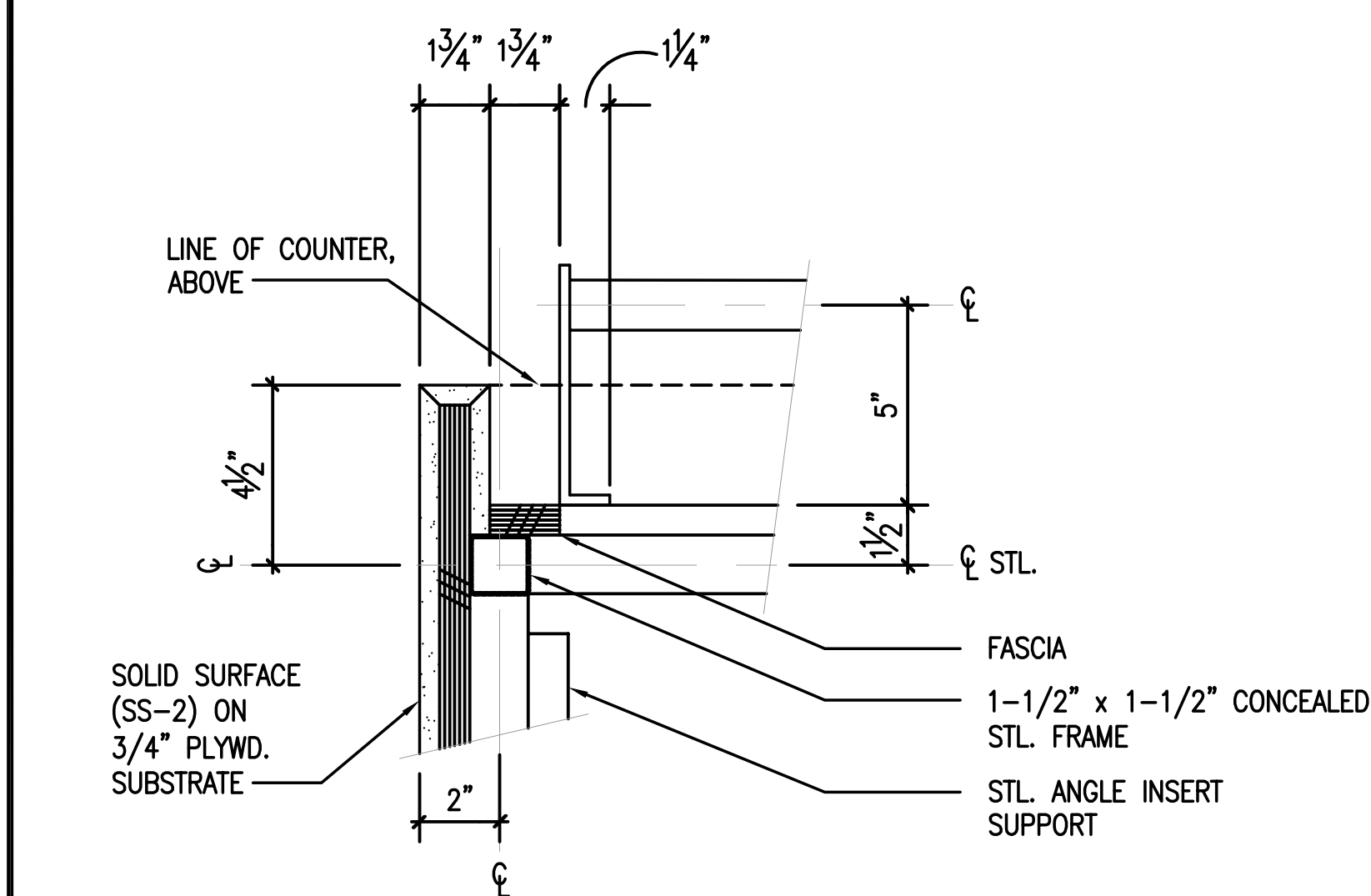


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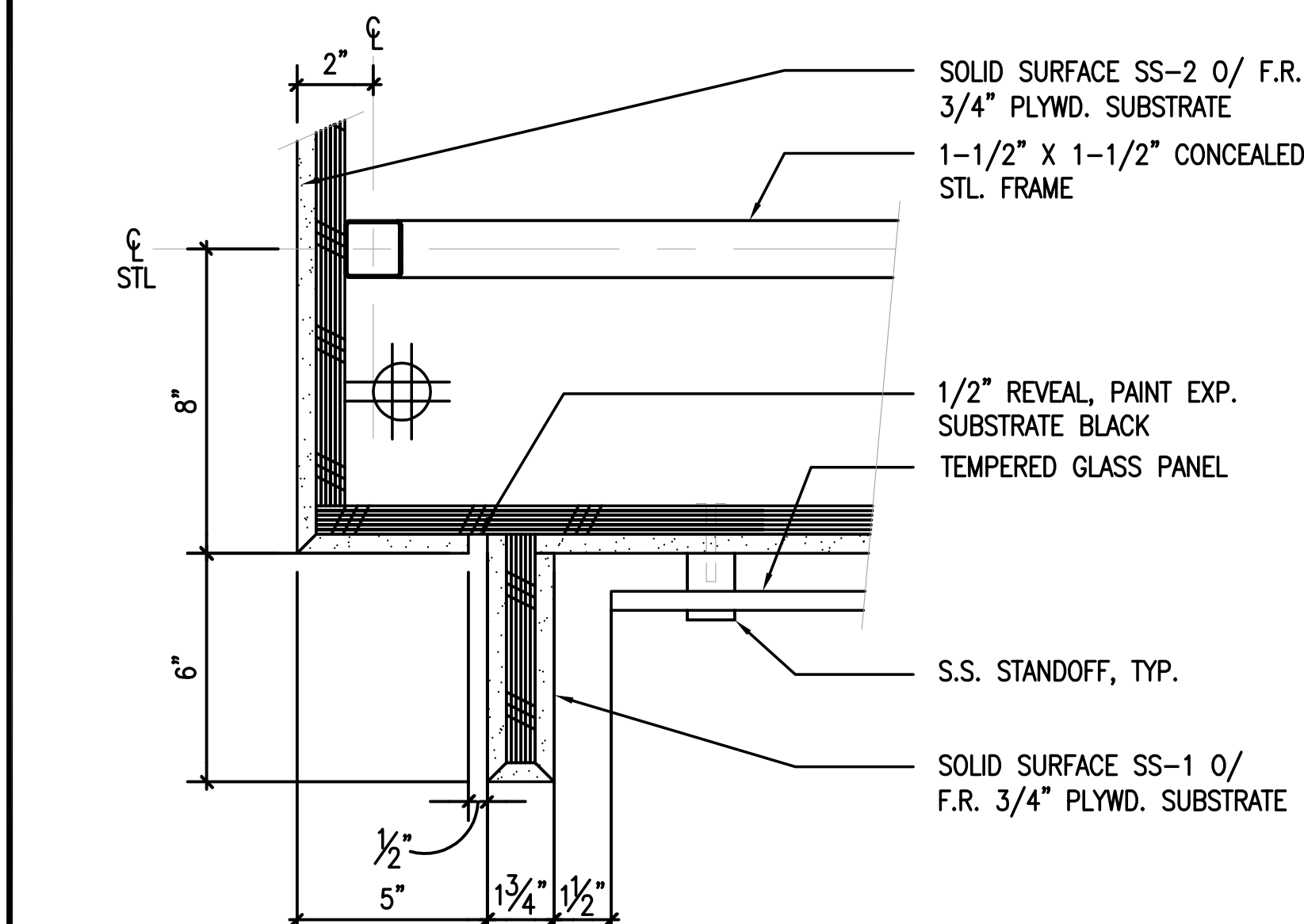




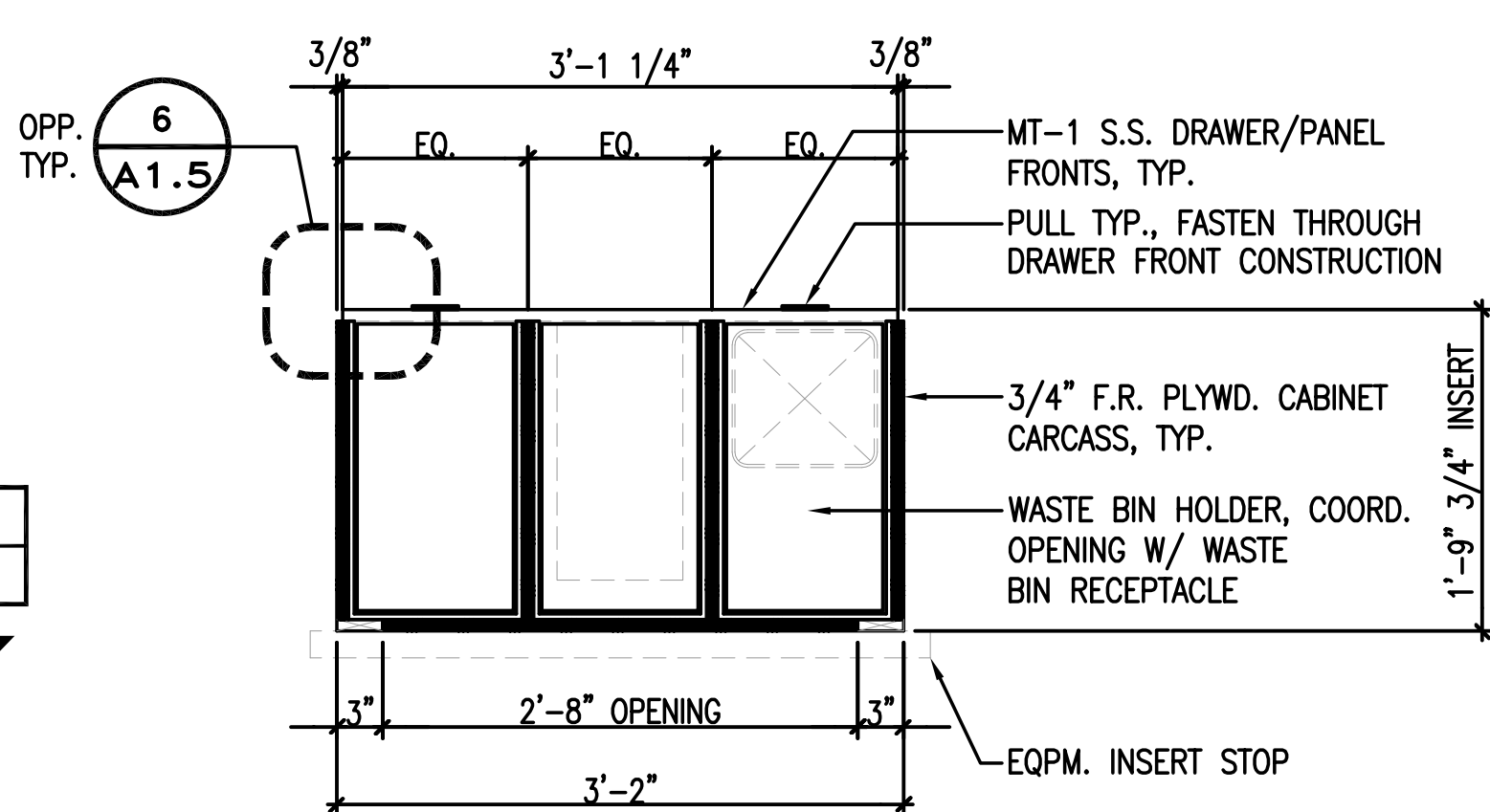
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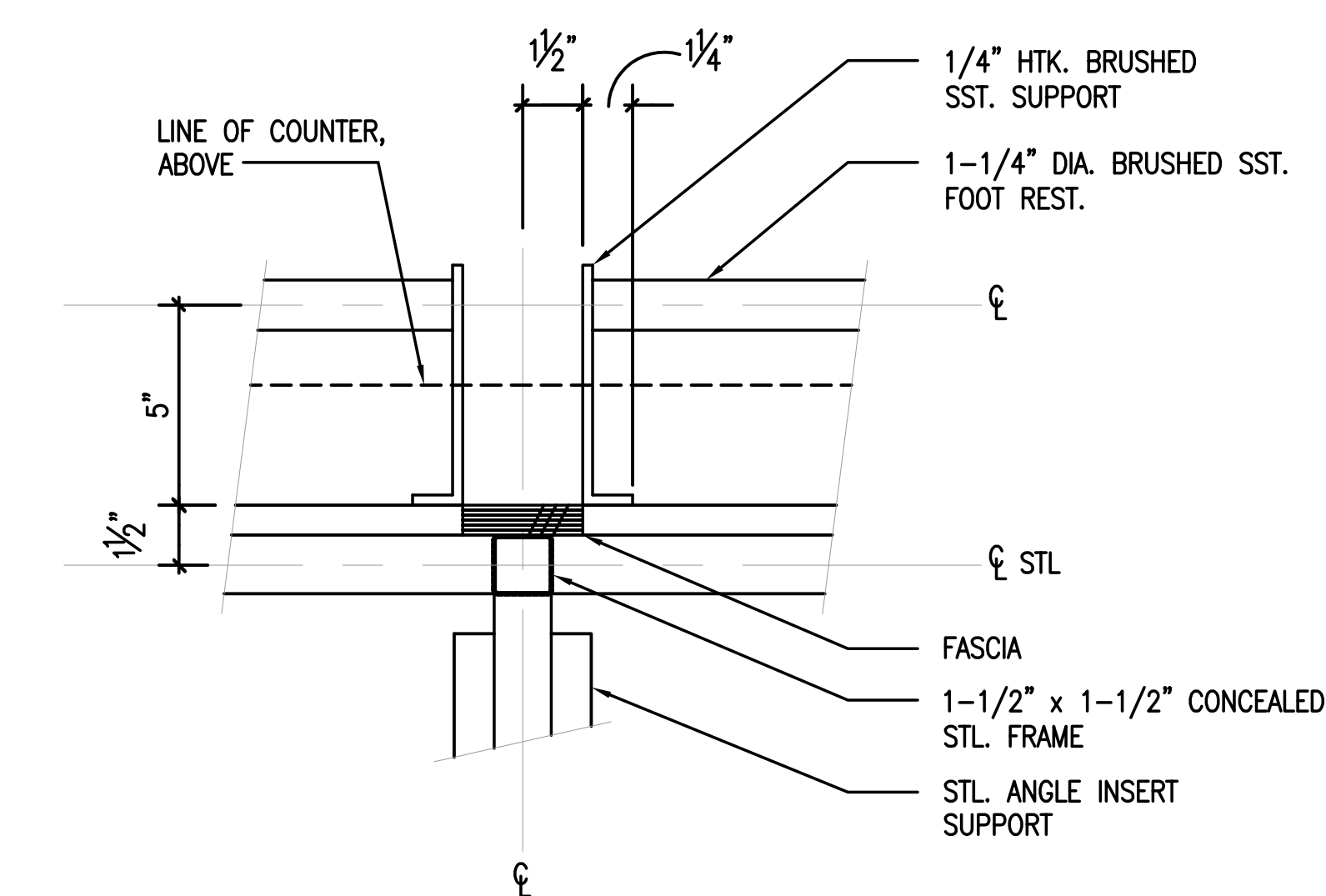
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GATE CHECK-IN COUNTER  
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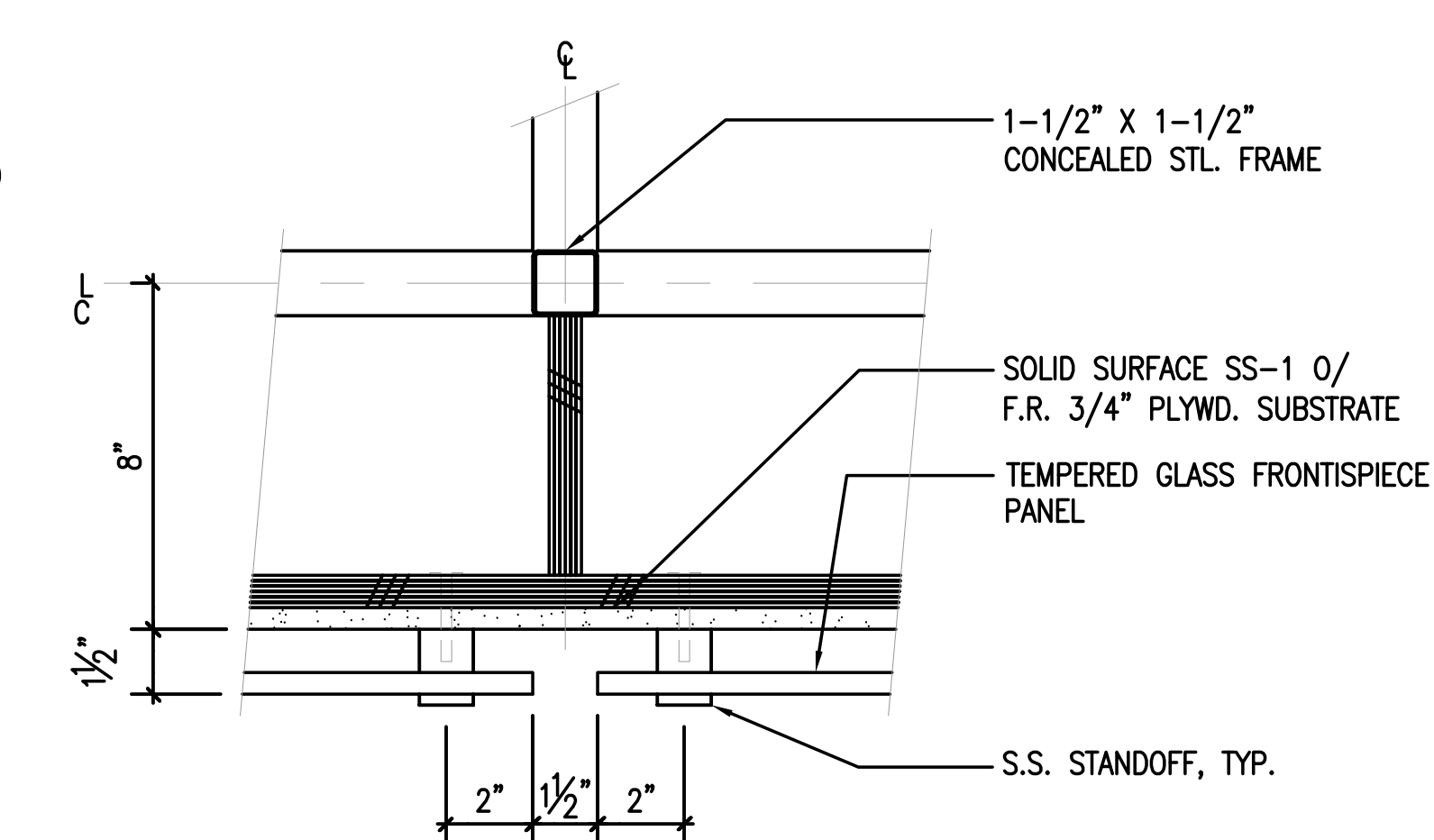
**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"



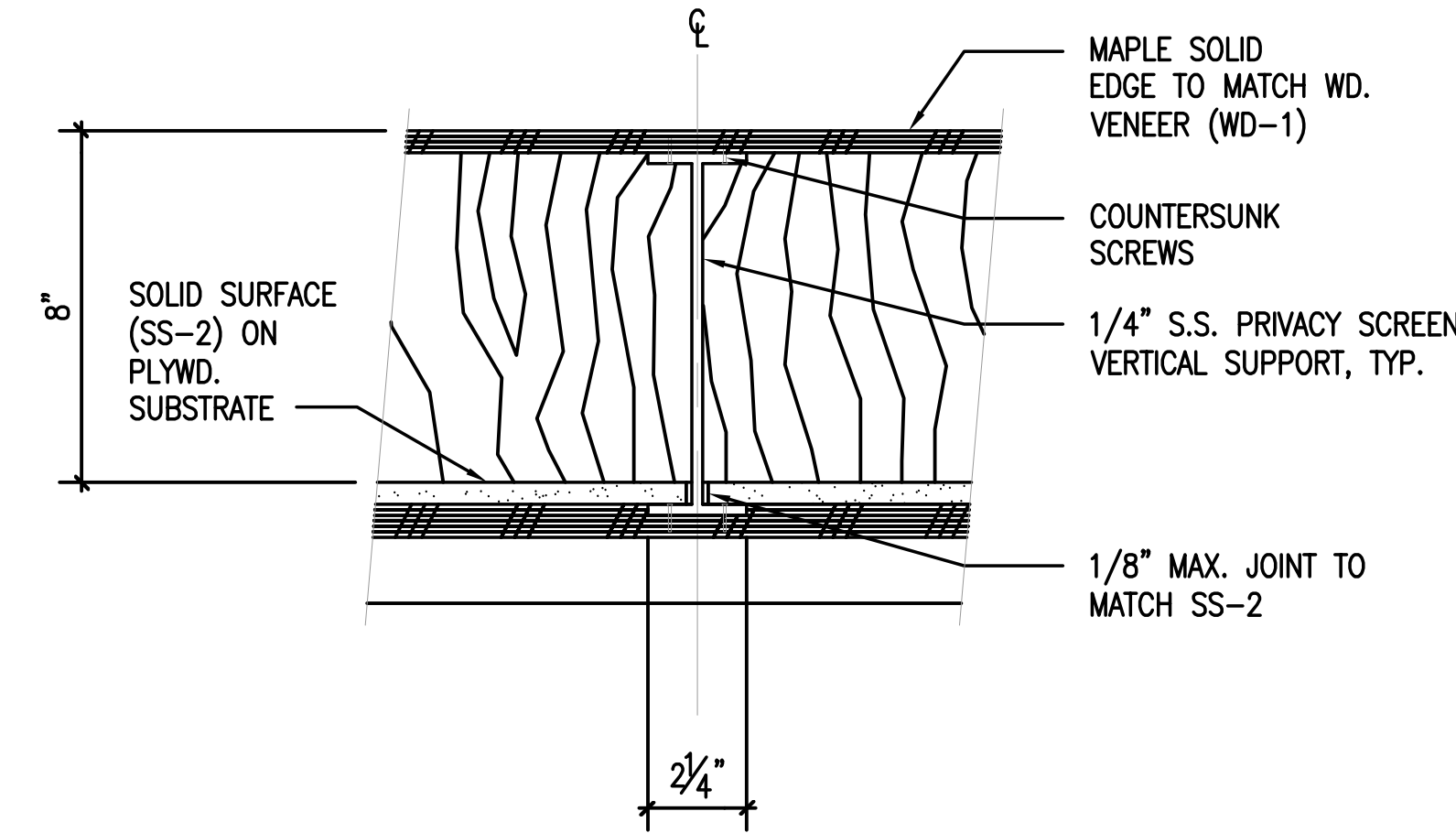
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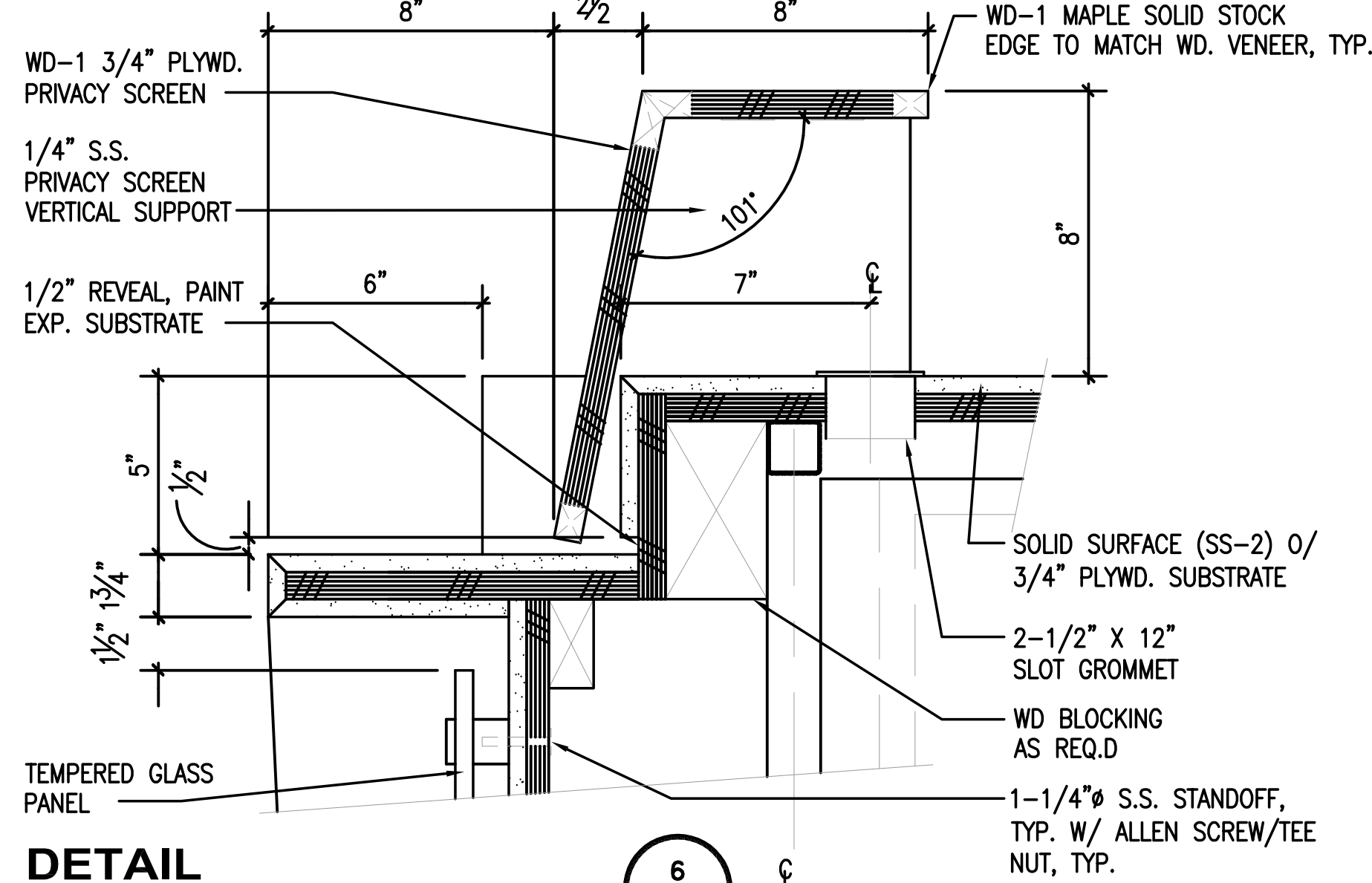
**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"



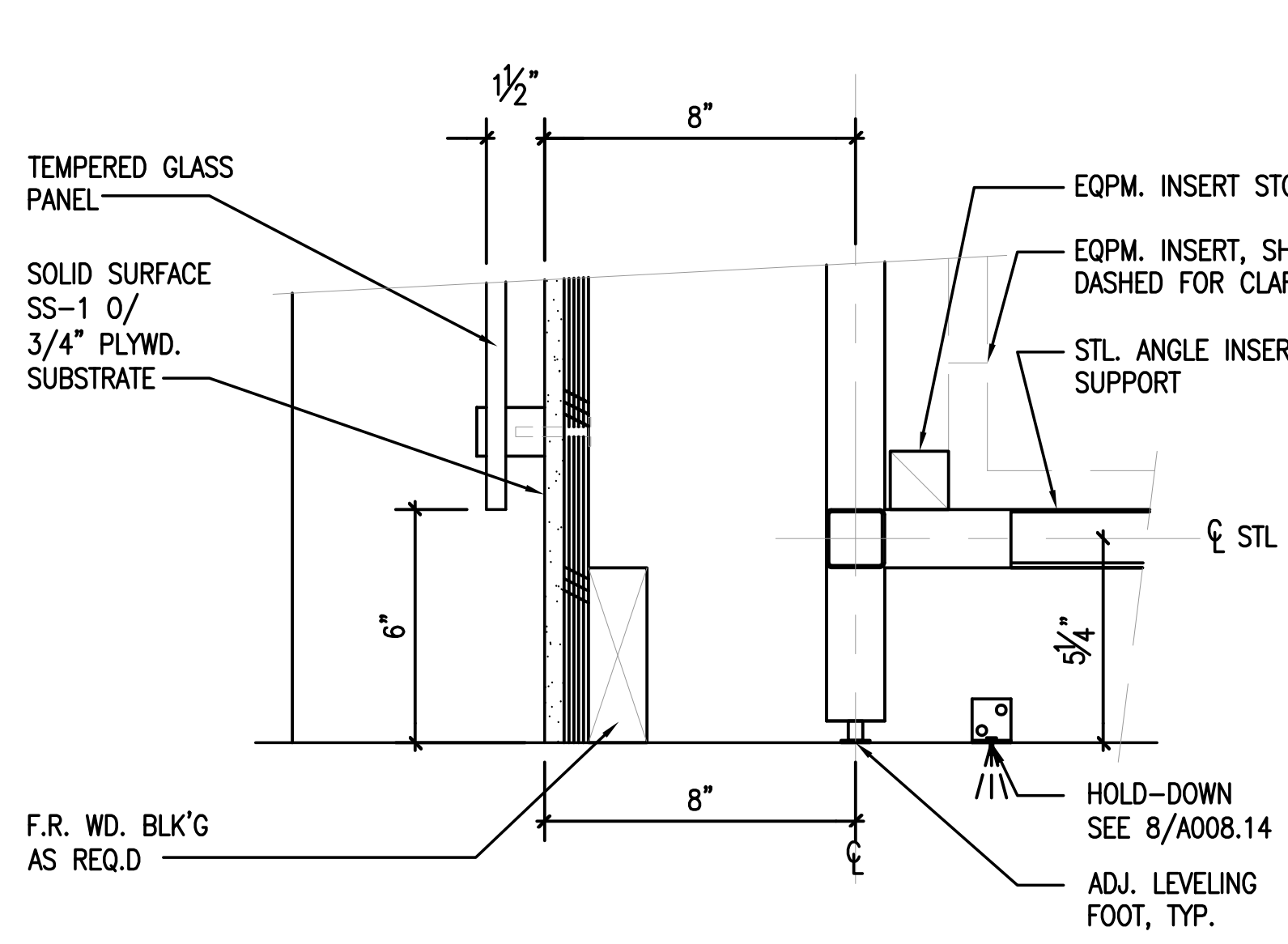
**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"



**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"

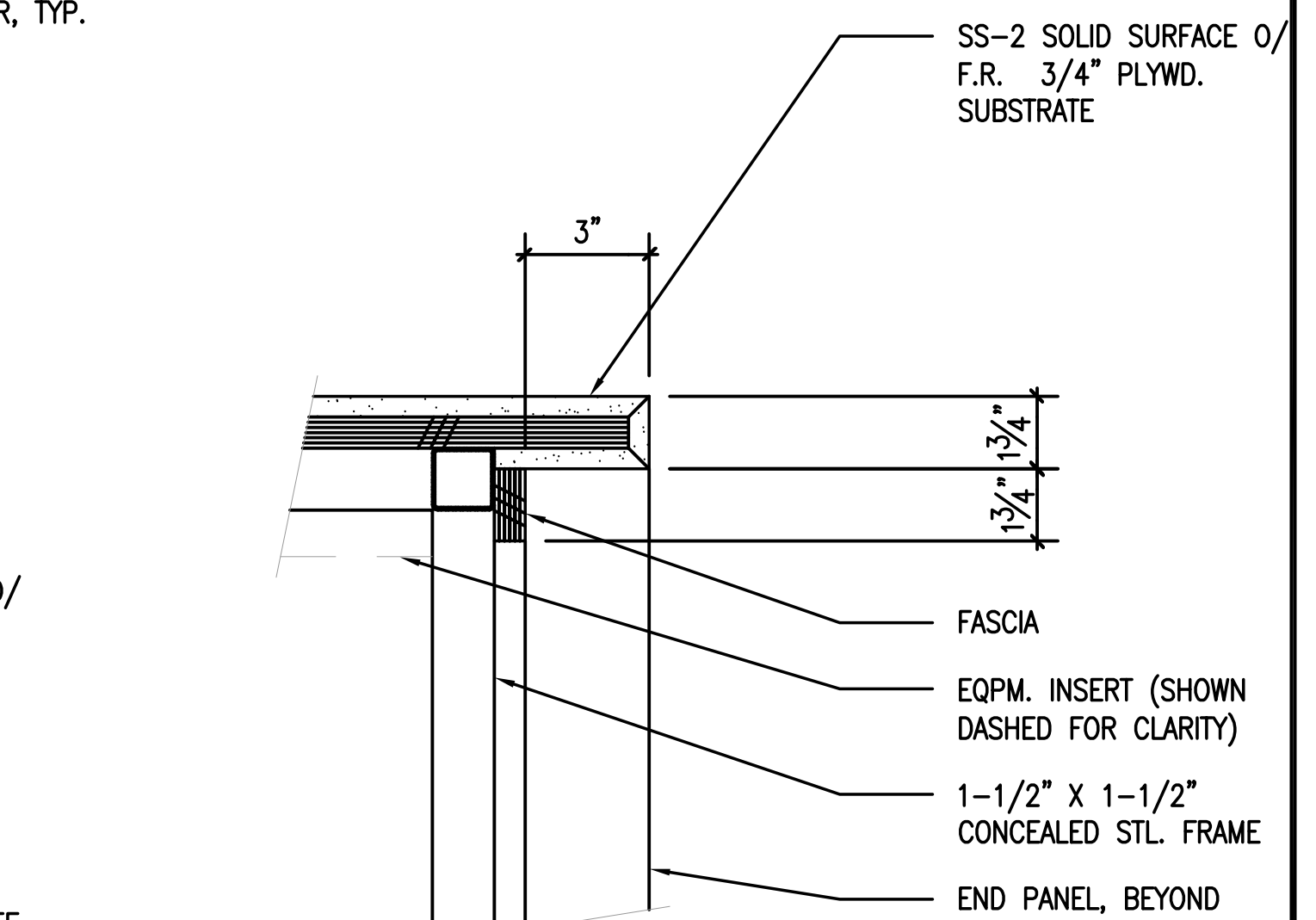


**DETAIL**  
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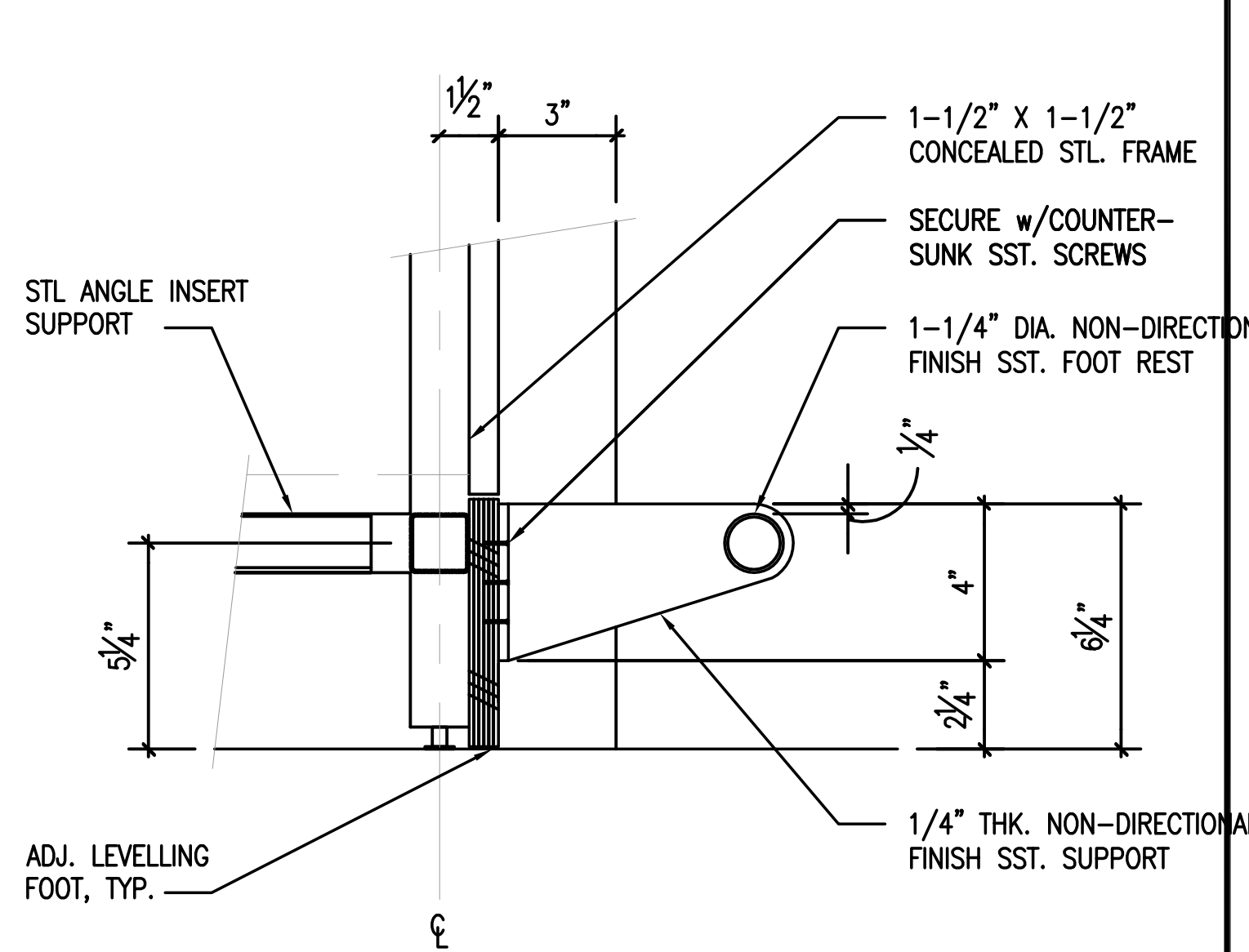


**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"

- GENERAL NOTES**
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**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"



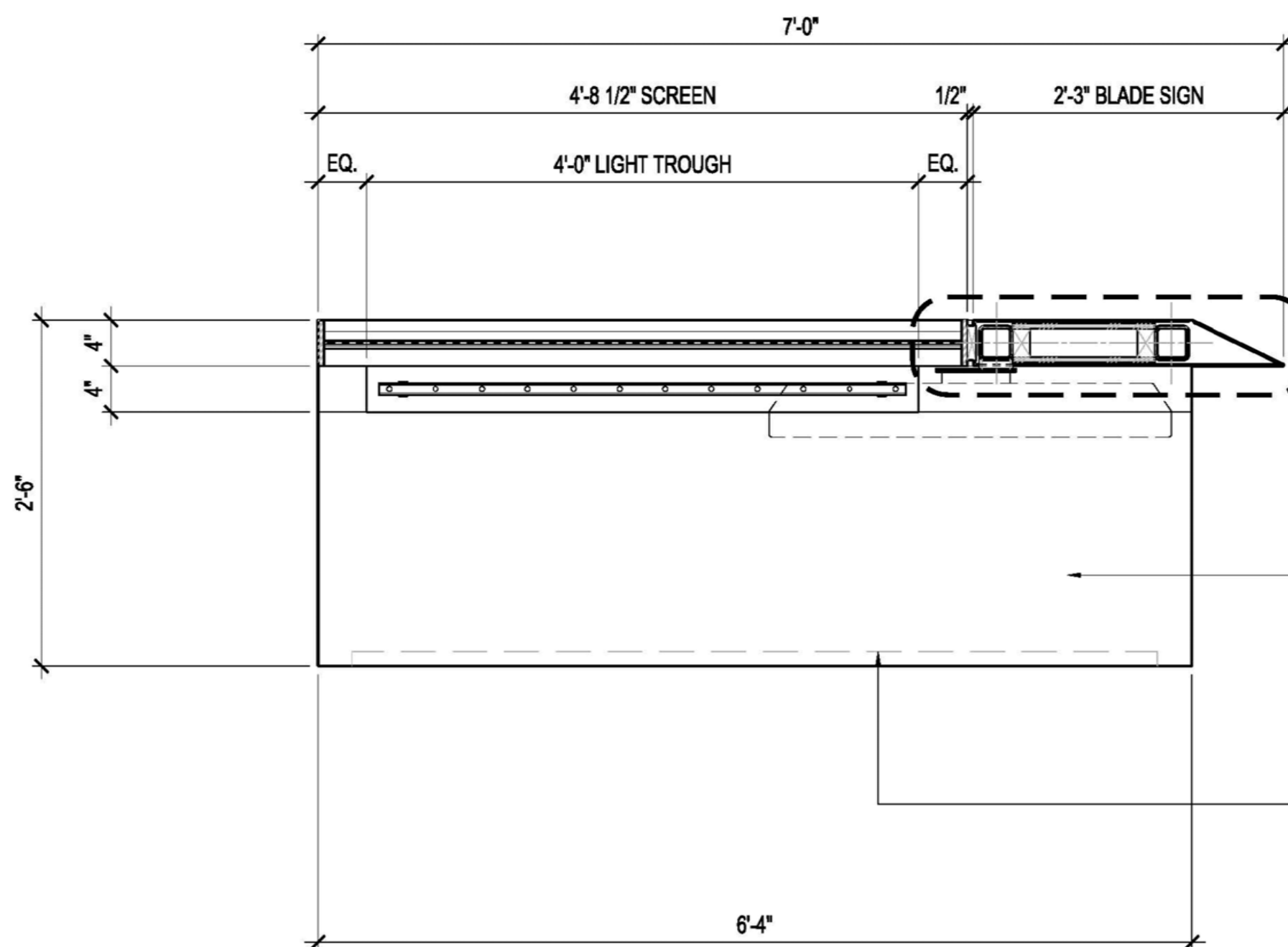
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SCALE: 3" = 1'-0"

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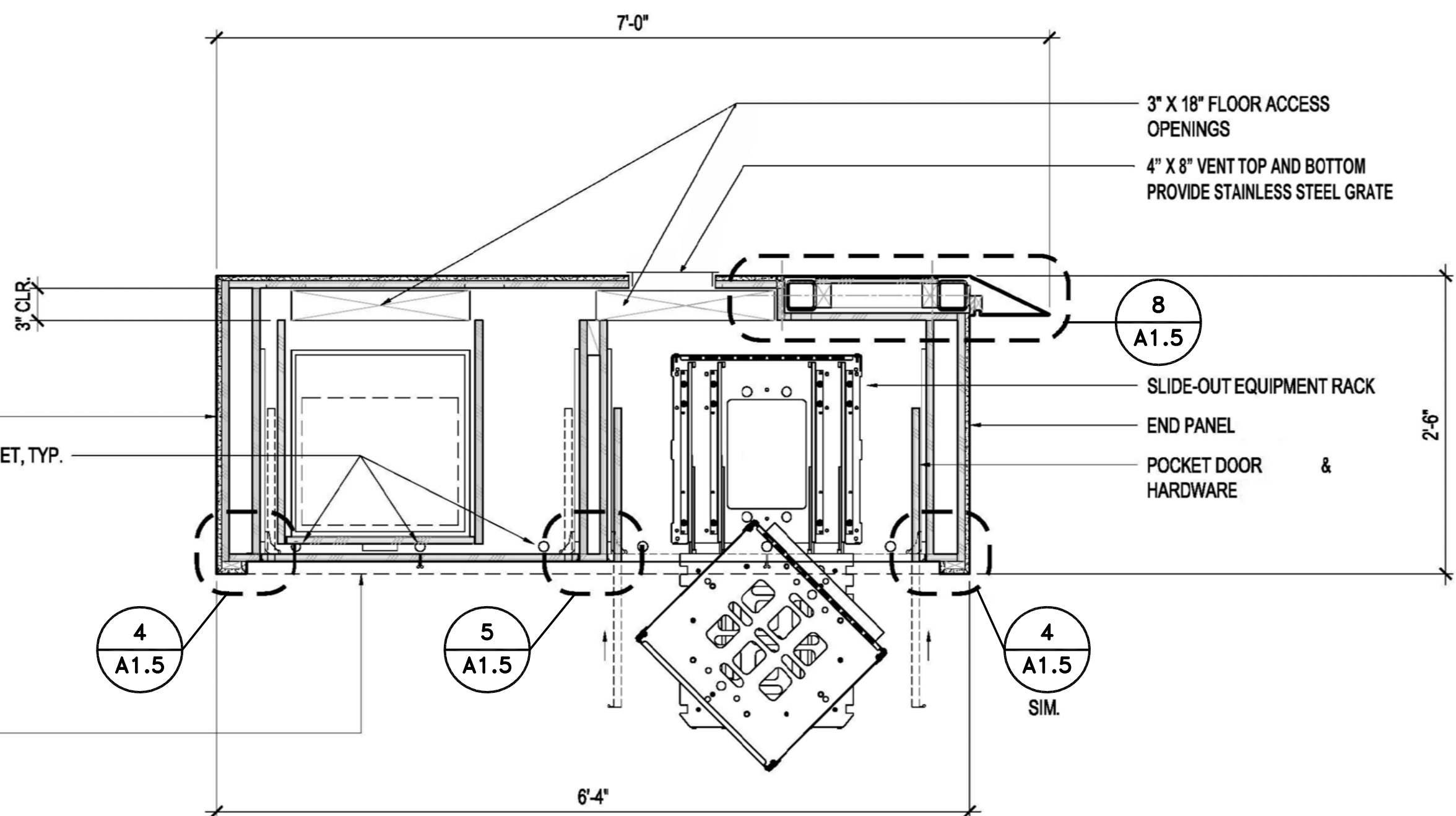
GENERAL NOTES

- CONTRACTORS:**  
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2. REFER TO FLOOR PLAN FOR GATE CHECK-IN COUNTER/BGR STAND ORIENTATION.  
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4. BOLT CASEWORK TO FLOOR PER DETAIL 5/A1.7  
5. REFER TO SPECIFICATIONS FOR FINISH MATERIAL REQUIREMENTS.  
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8. U.N.O. WELD ALL EXPOSED JOINTS PER NOMMA FINISH #1 STANDARD.



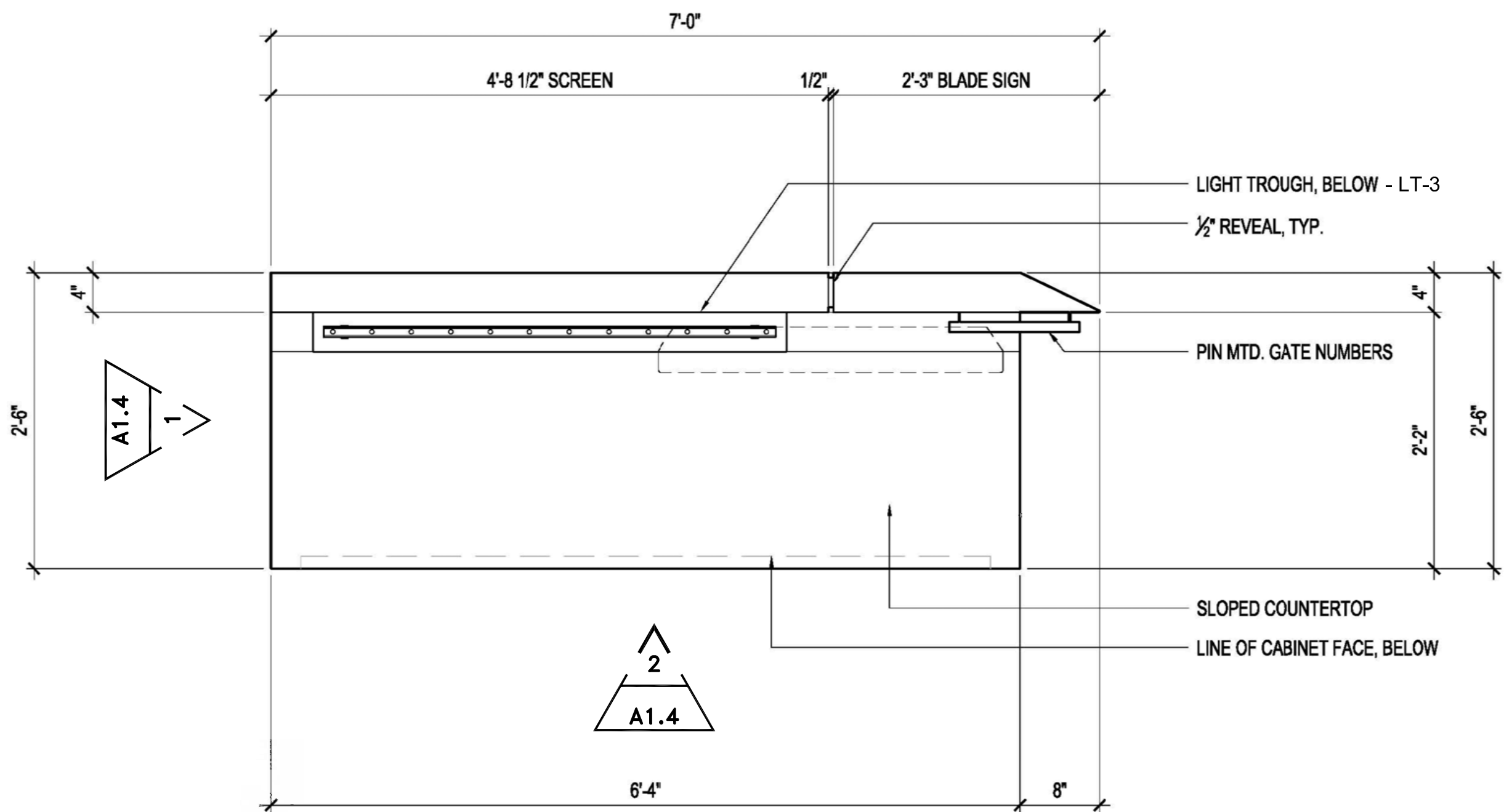
**DETAIL**  
BACKSTAND - RIGHT PYLON  
SCALE: 1" = 1'-0"  
LEFT PYLON OPPOSITE SIMILAR

1  
A1.3



**DETAIL**  
BACKSTAND - RIGHT PYLON  
SCALE: 1" = 1'-0"  
LEFT PYLON OPPOSITE SIMILAR

2  
A1.3



**ENLARGED PLAN**  
BACKSTAND - RIGHT PYLON  
SCALE: 1" = 1'-0"  
LEFT PYLON OPPOSITE SIMILAR

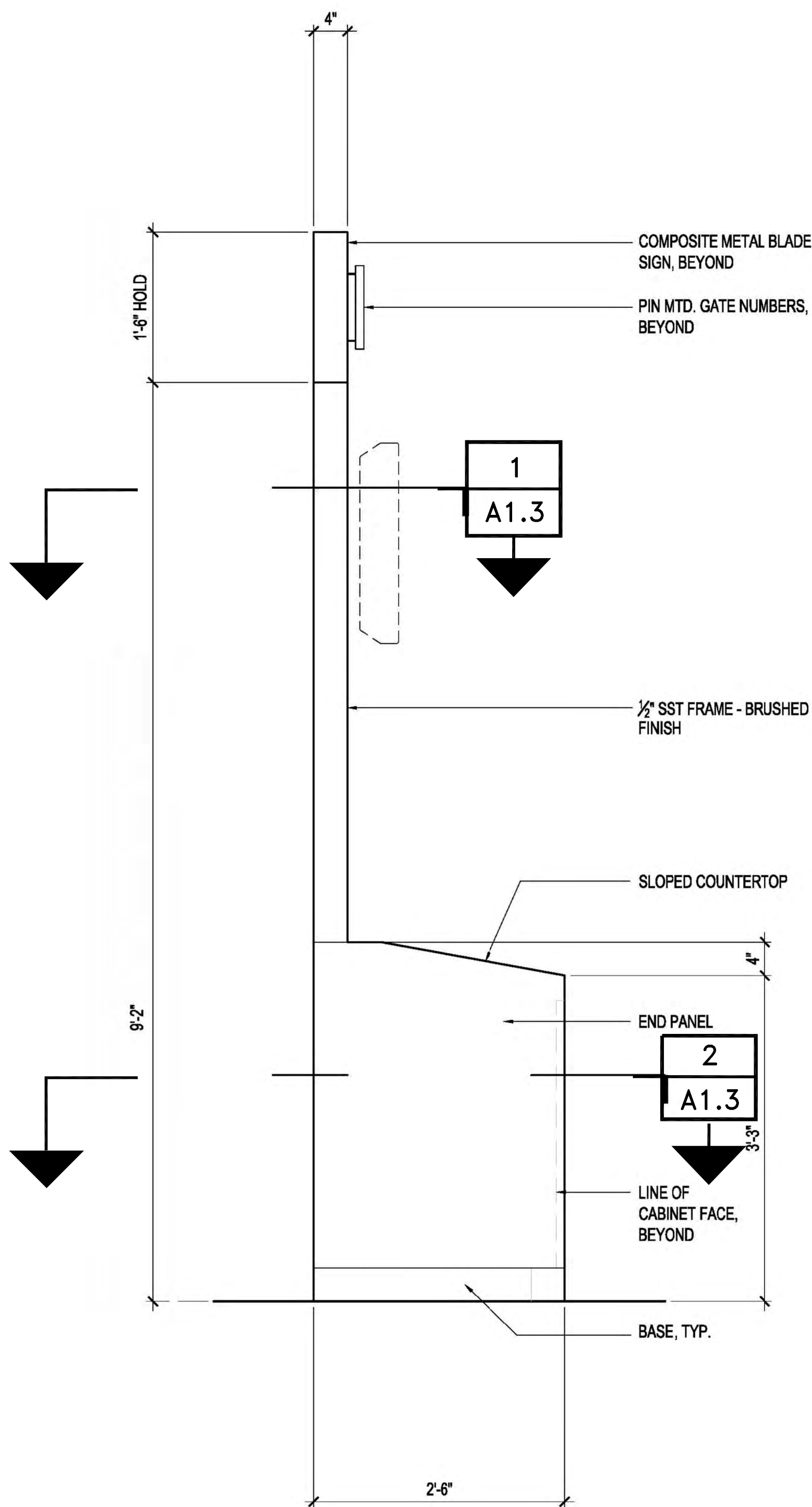
3  
A1.3

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D



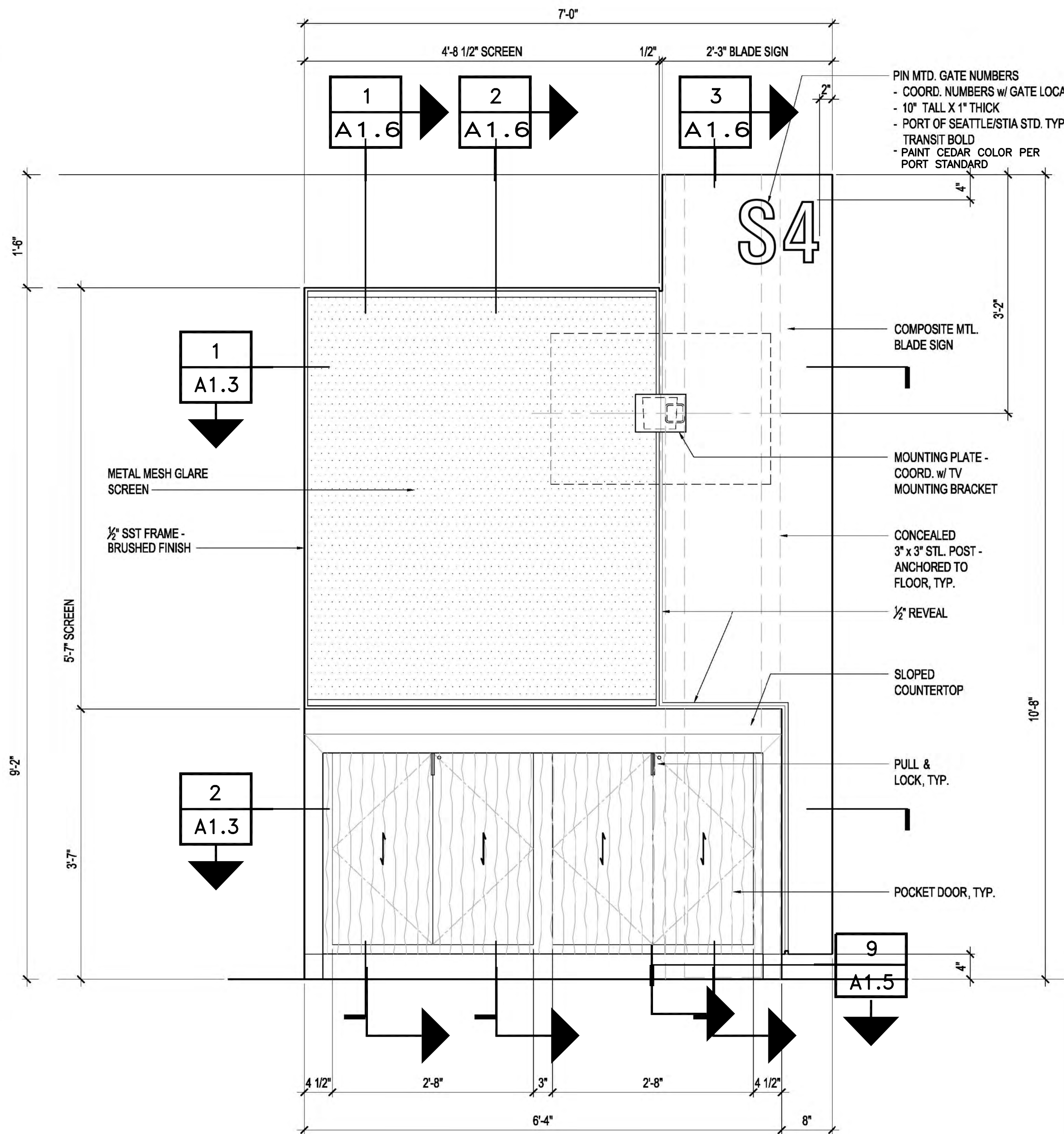
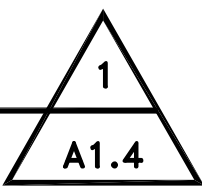
GENERAL NOTES

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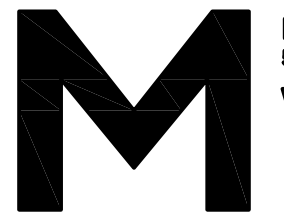
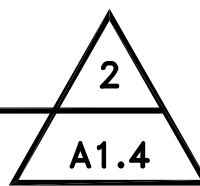
ELEVATION

BACKSTAND  
SCALE: 1" = 1'-0"



ELEVATION

BACKSTAND  
SCALE: 1" = 1'-0"



Portland  
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Architecture Interiors  
Planning Engineering

MCKENZIE

PROJECT ENG./ARCH:  
BRETT HANSON

DESIGNER:

DRAWN BY:  
TCU

SCALE:  
AS SHOWN

DATE:

CHECKED BY:

CHECKED/APPROVED BY:

R E V I S I O N S									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:  
PATTY BERGSTEDT

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:

DATE:

CHECKED/APPROVED BY:

Port of Seattle  
SEA-TAC INTERNATIONAL AIRPORT  
PROJECT: STANDARD HOLDROOM CASEWORK

SHEET TITLE: CASEWORK DETAILS  
BACKSTAND

WORK PROJECT NO.

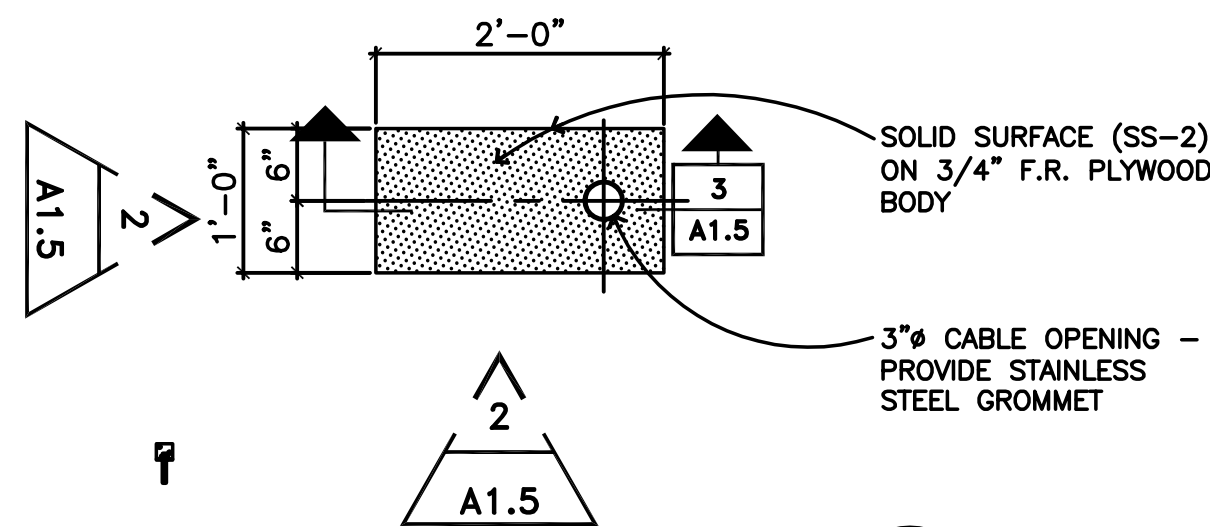
CONSULTANT'S NO.

PORT OF SEATTLE NO.  
A1.4

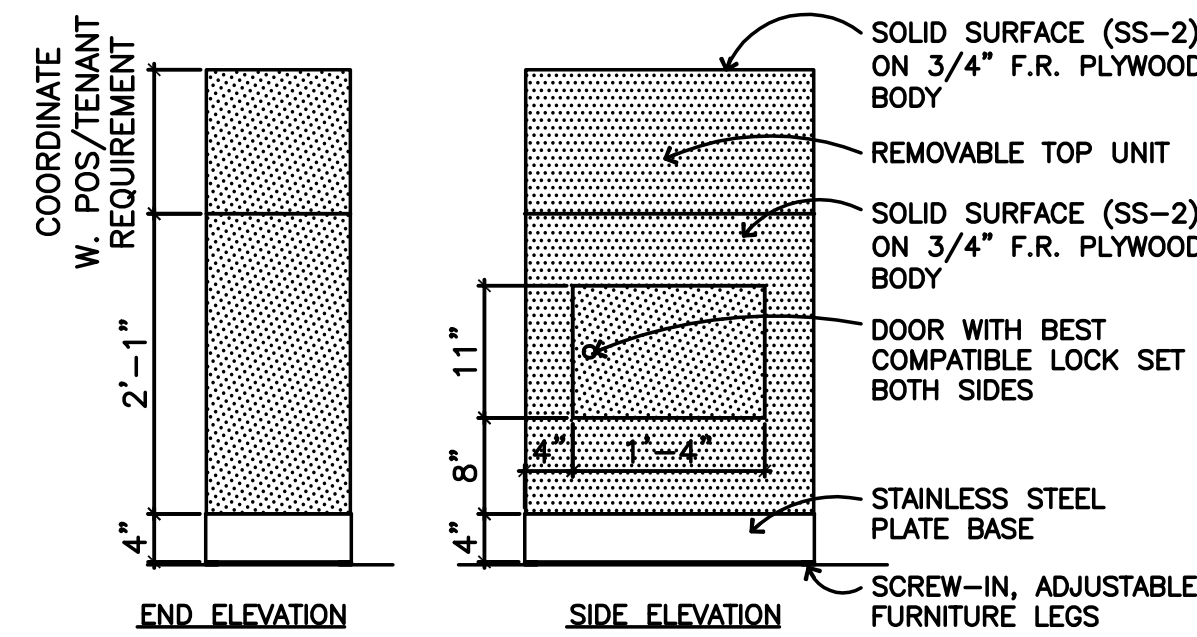


GENERAL NOTES

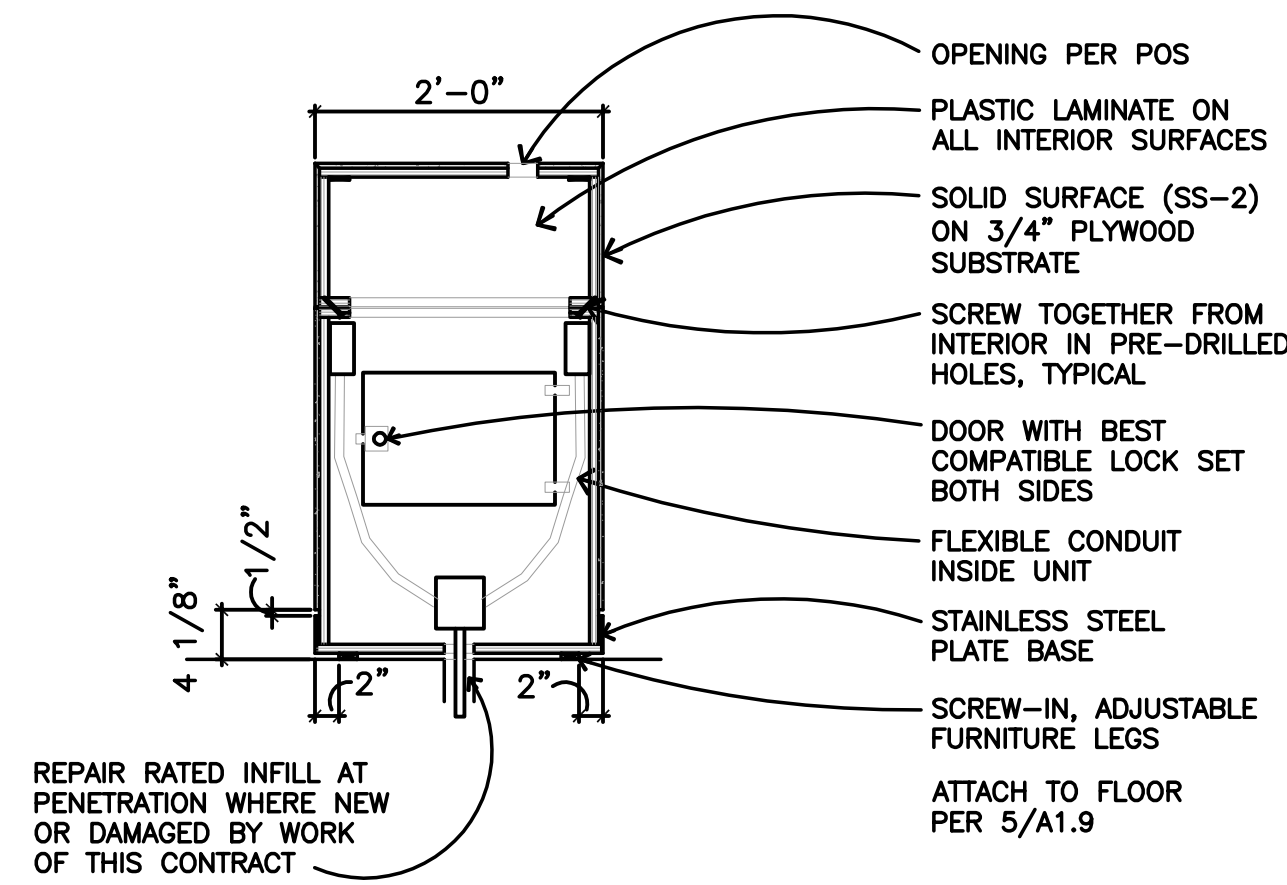
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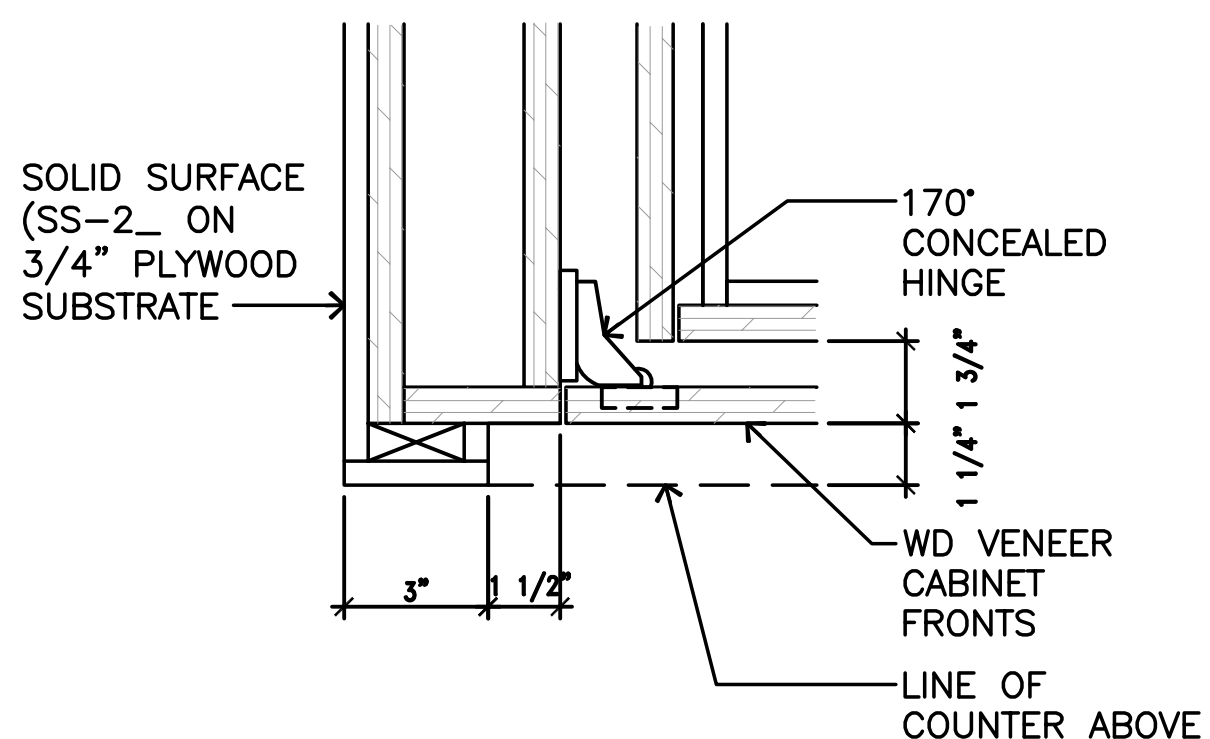
**DETAIL**  
BOARDING GATE READER STAND  
SCALE: 3/4" = 1'-0"



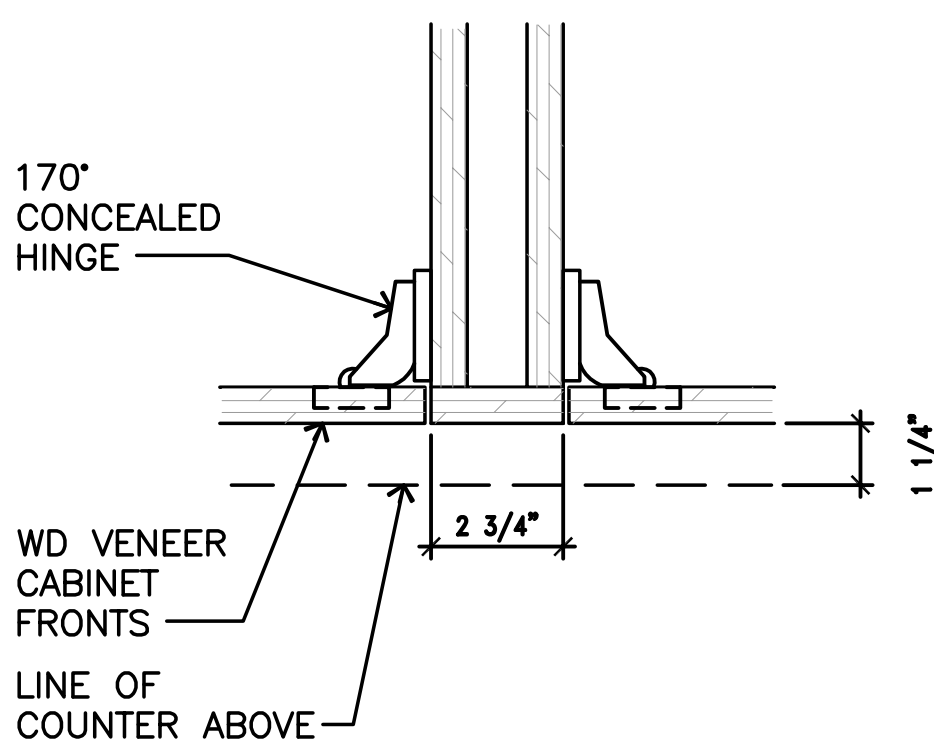
**ELEVATION**  
BOARDING GATE READER STAND  
SCALE: 3/4" = 1'-0"



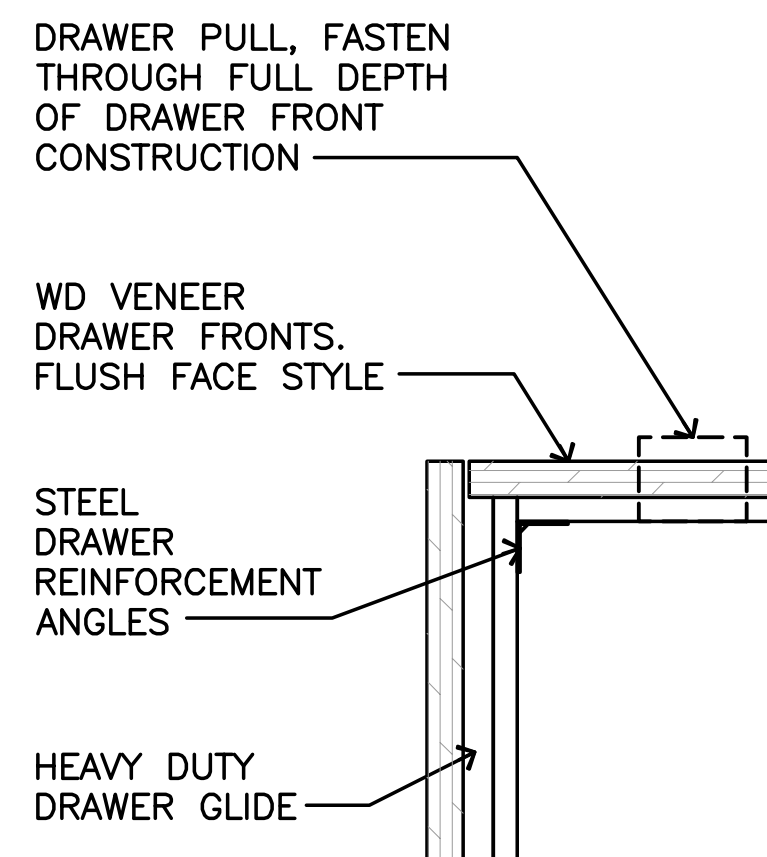
**DETAIL**  
BOARDING GATE READER STAND  
SCALE: 3/4" = 1'-0"



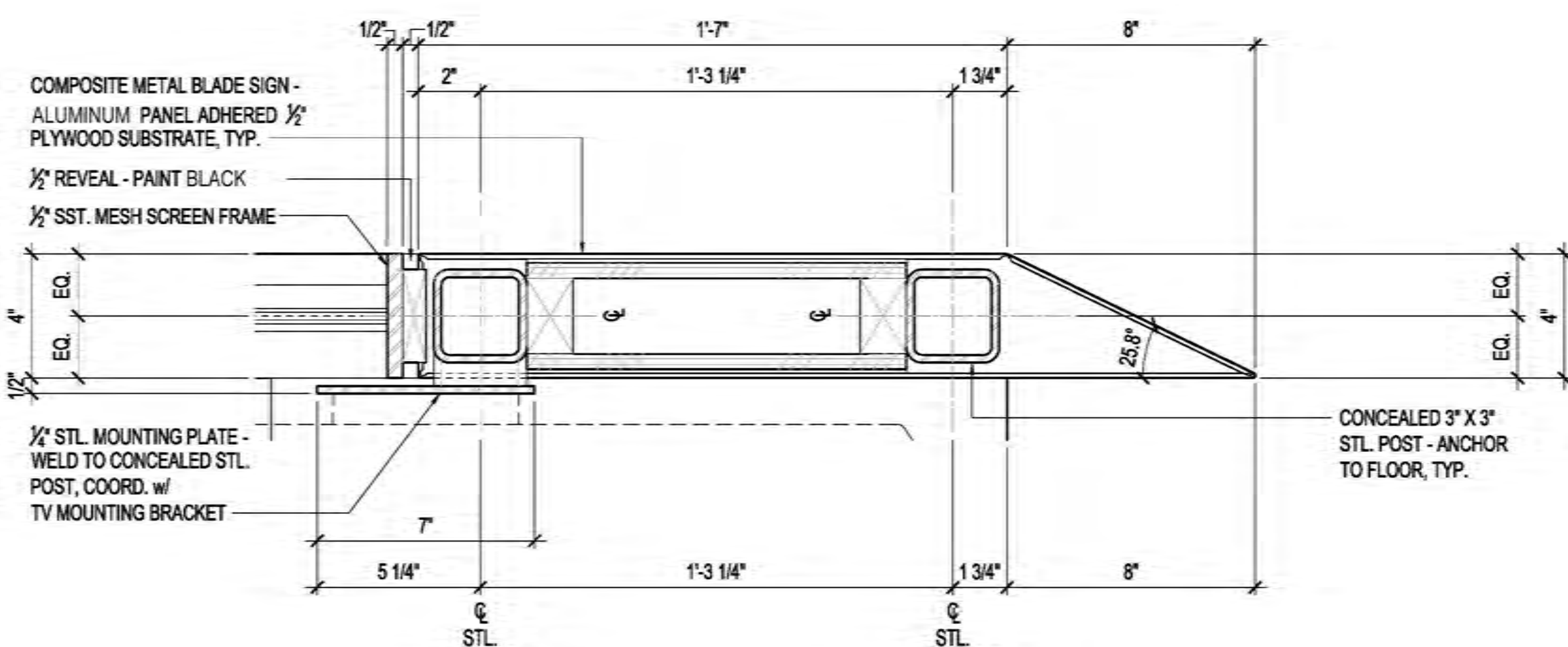
**DETAIL**  
BACKSTAND  
SCALE: 3" = 1'-0"



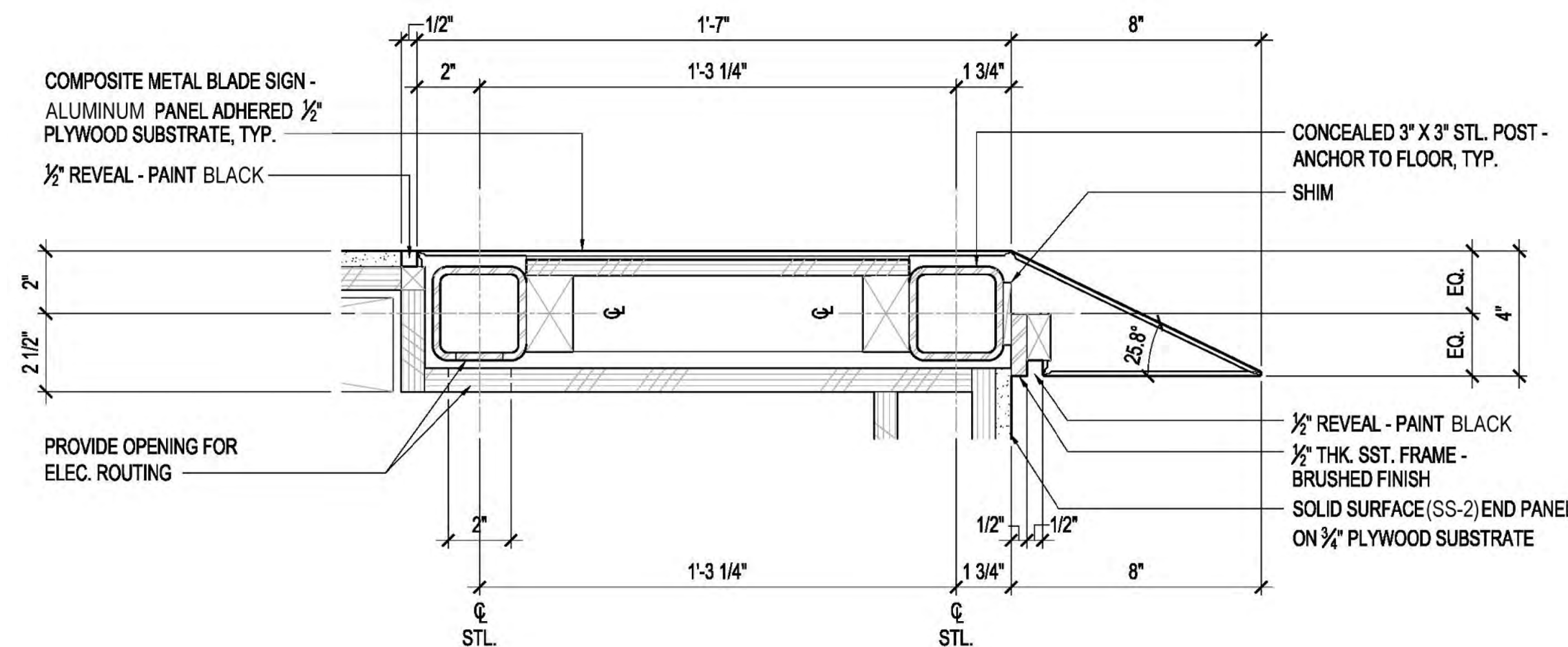
**DETAIL**  
BACKSTAND  
SCALE: 3" = 1'-0"



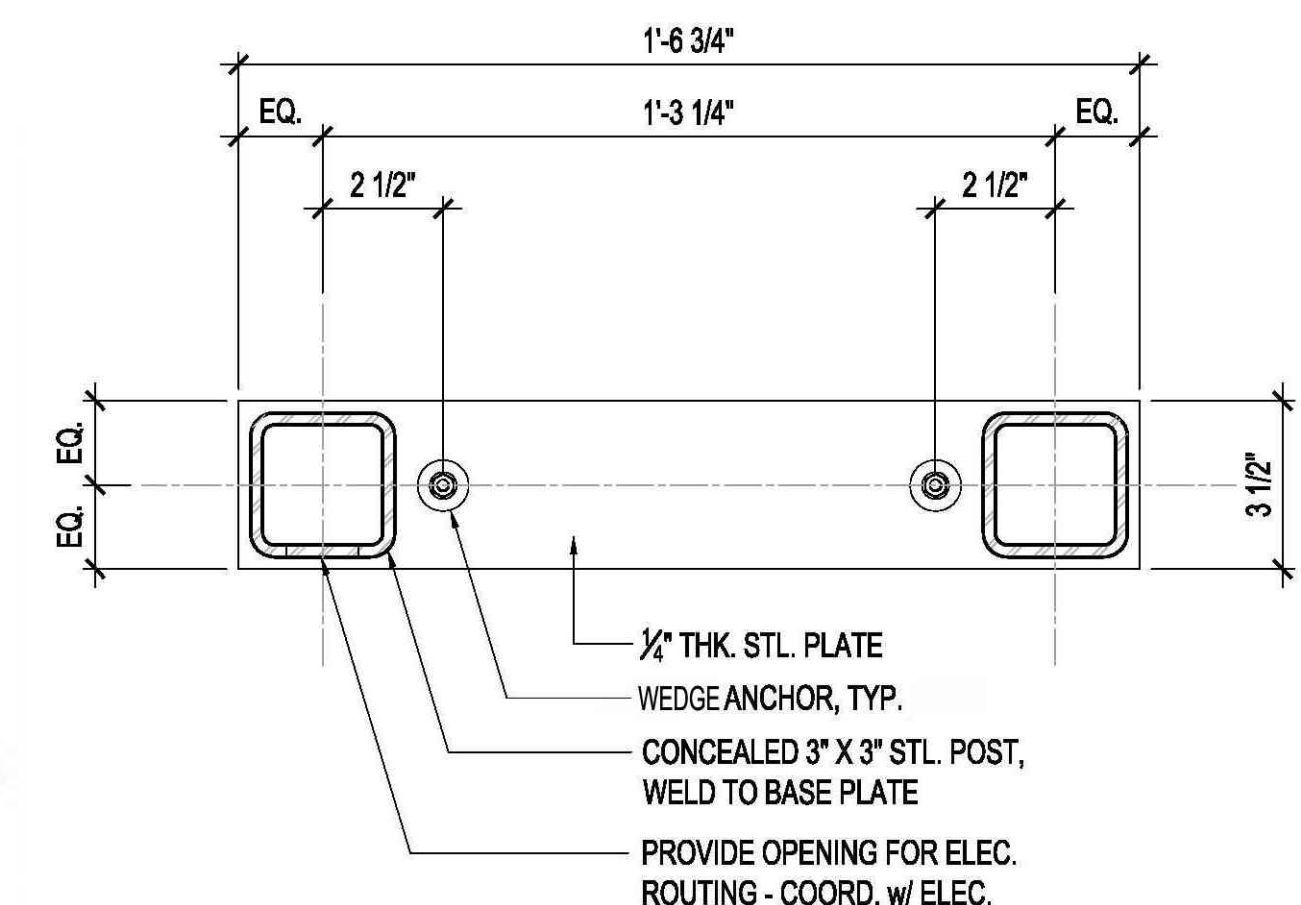
**DETAIL**  
DRAWER  
SCALE: 3" = 1'-0"



**DETAIL**  
BACKSTAND  
SCALE: 3" = 1'-0"



**DETAIL**  
BACKSTAND  
SCALE: 3" = 1'-0"



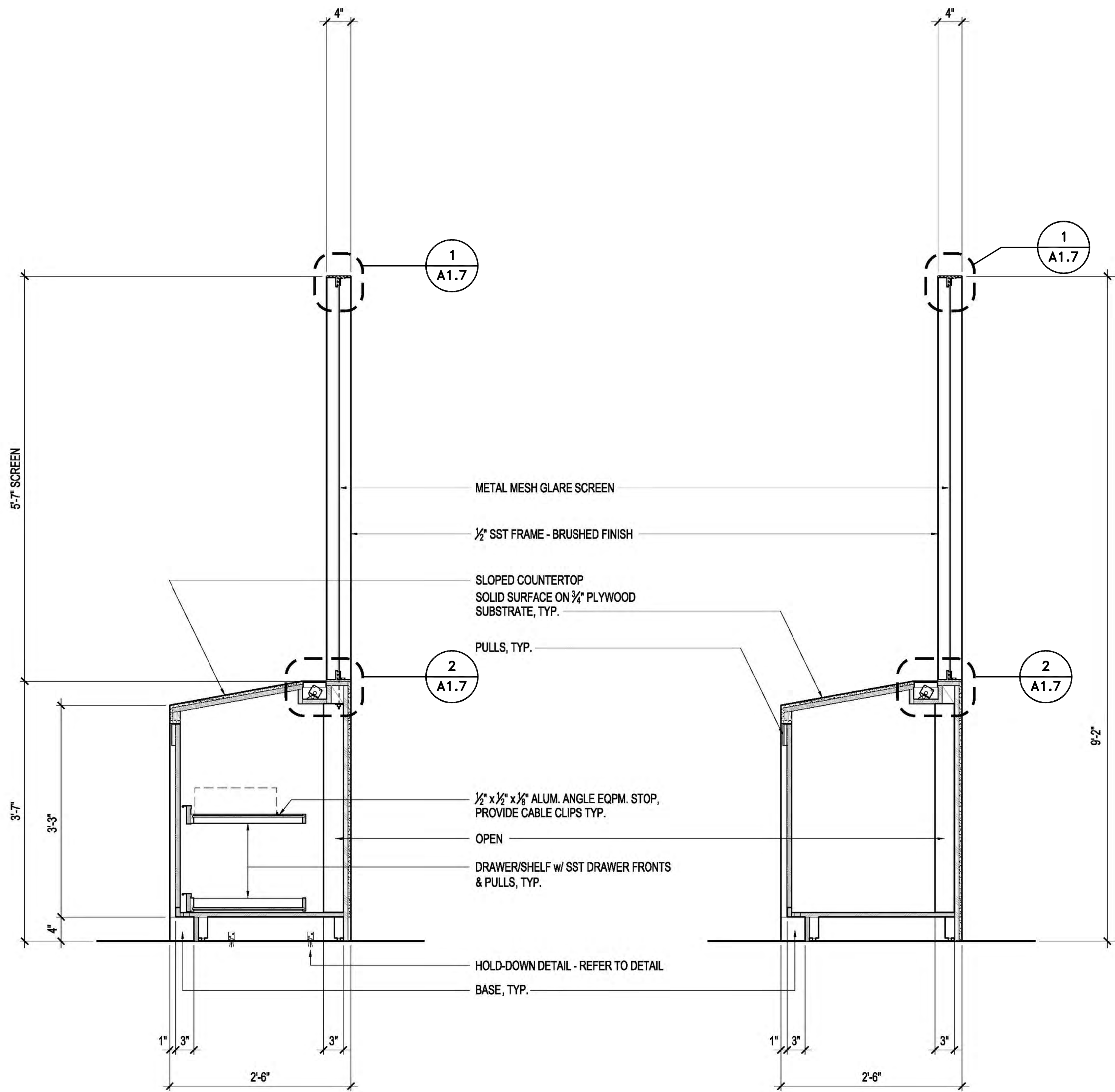
**DETAIL**  
BACKSTAND  
SCALE: 3" = 1'-0"

REVISIONS									
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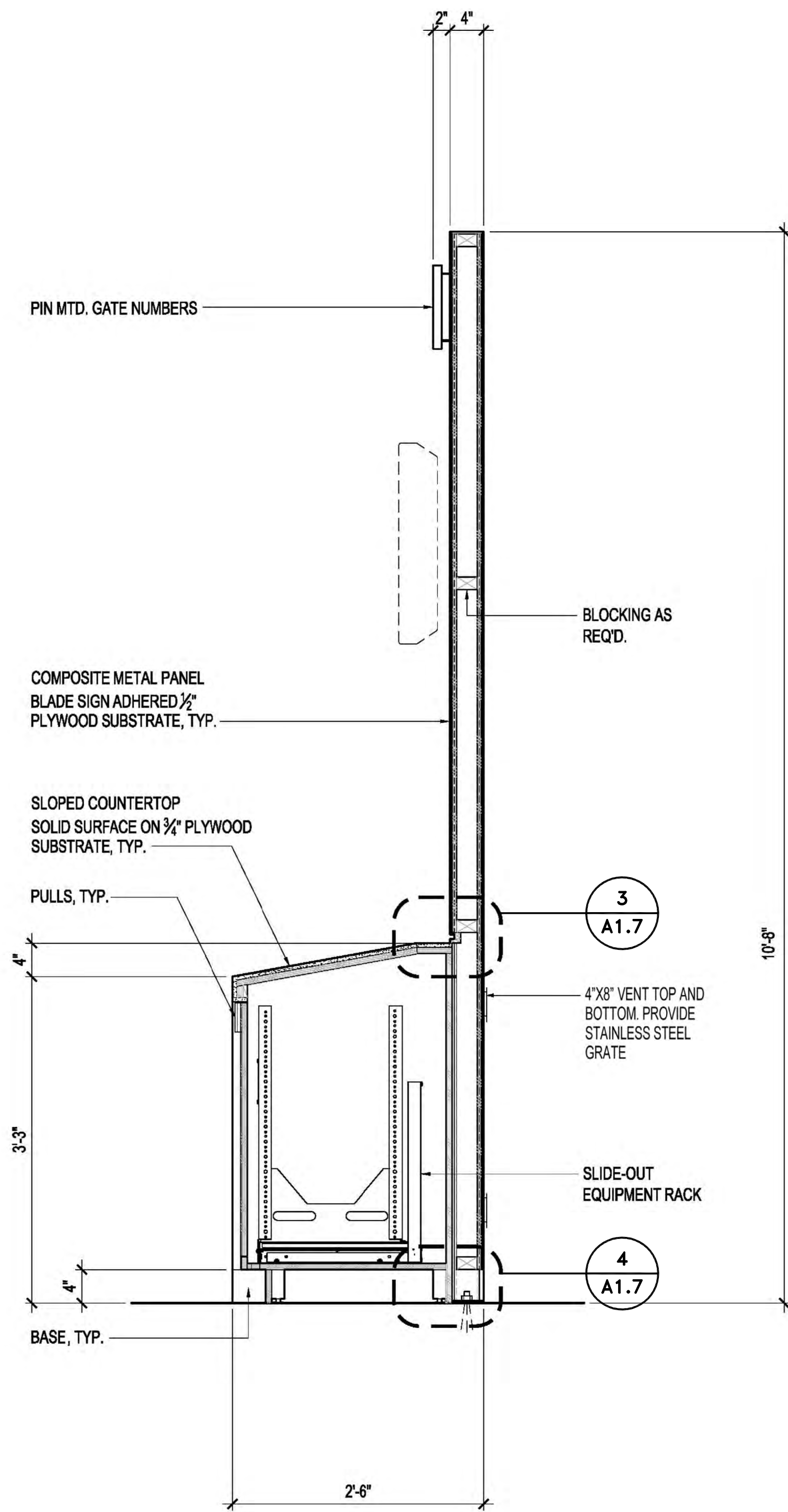
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SECTION 1  
BACKSTAND  
SCALE: 1" = 1'-0"

SECTION 2  
BACKSTAND  
SCALE: 1" = 1'-0"



SECTION 3  
BACKSTAND  
SCALE: 1" = 1'-0"

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D





PROJECT MANAGER:	<b>PATTY BERGSTEDT</b>
PROJECT ENGINEER:	
DESIGN ENGINEER:	
DRAFTER:	
SCALE:	
DATE:	
CHECKED/APPROVED BY:	