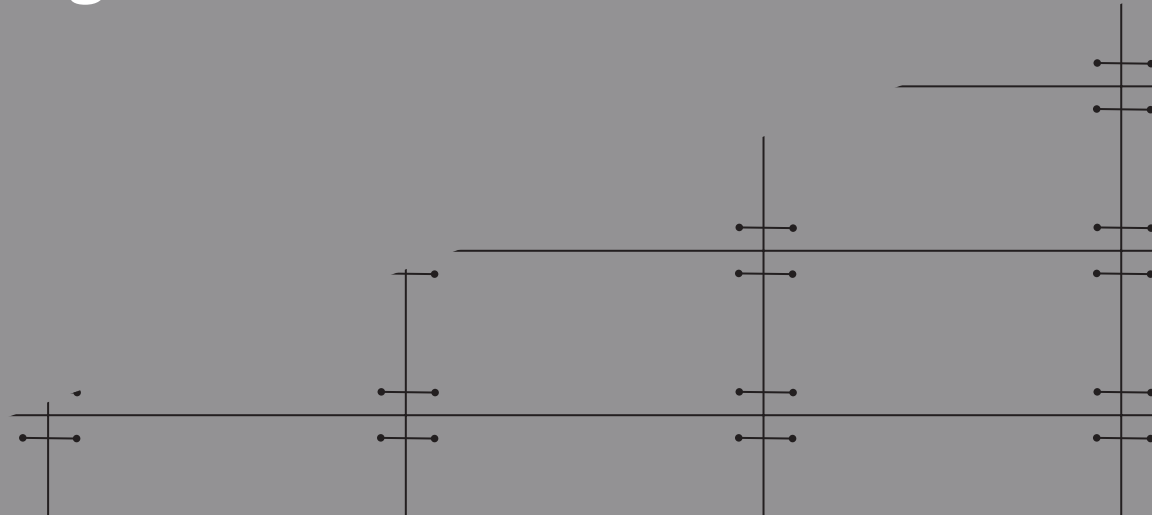


SEATTLE-TACOMA INTERNATIONAL AIRPORT

# Design Guidelines and Standards



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





# 1

## DESIGN VISION

- 1.1** Exploring The History  
and Evolution of Sea-Tac
- 1.2** Crafting the Pacific  
Northwest Sense of Place
- 1.3** Mapping The Journey
- 1.4** Adopting An Experience  
Design Approach
- 1.5** Integrating Sustainable  
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- 1.6** Tenant Relationships
- 1.7** Form and Function

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- 3.3** Roofing
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# DESIGN VISION



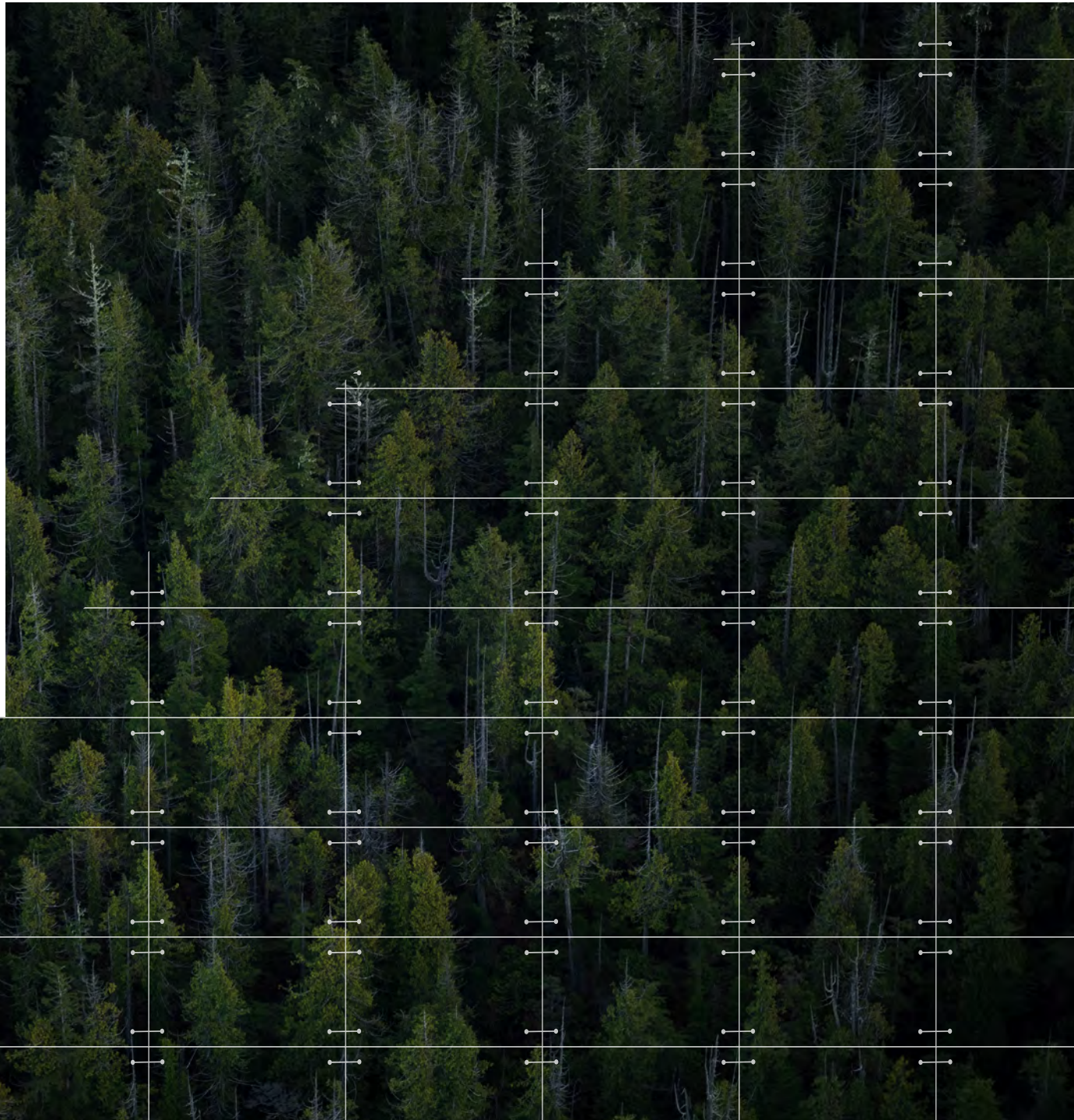


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## DESIGNING THE FUTURE

### Welcome to Sea-Tac Airport.

As a premier destination for domestic and international air travel, Sea-Tac 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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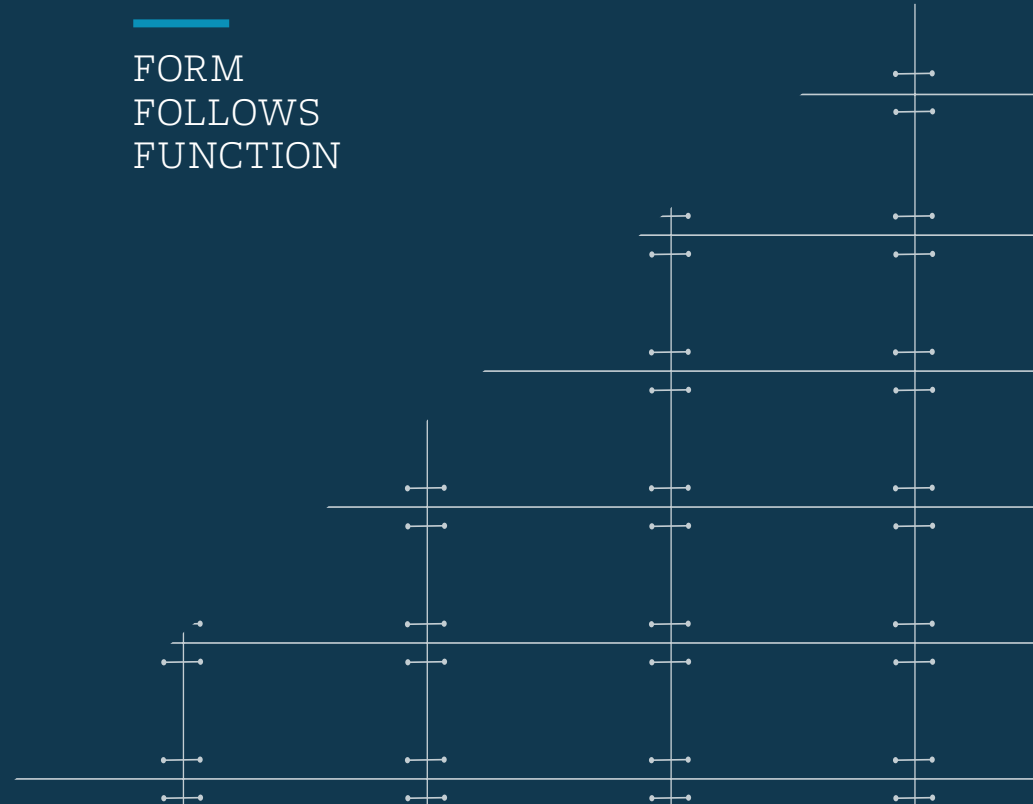
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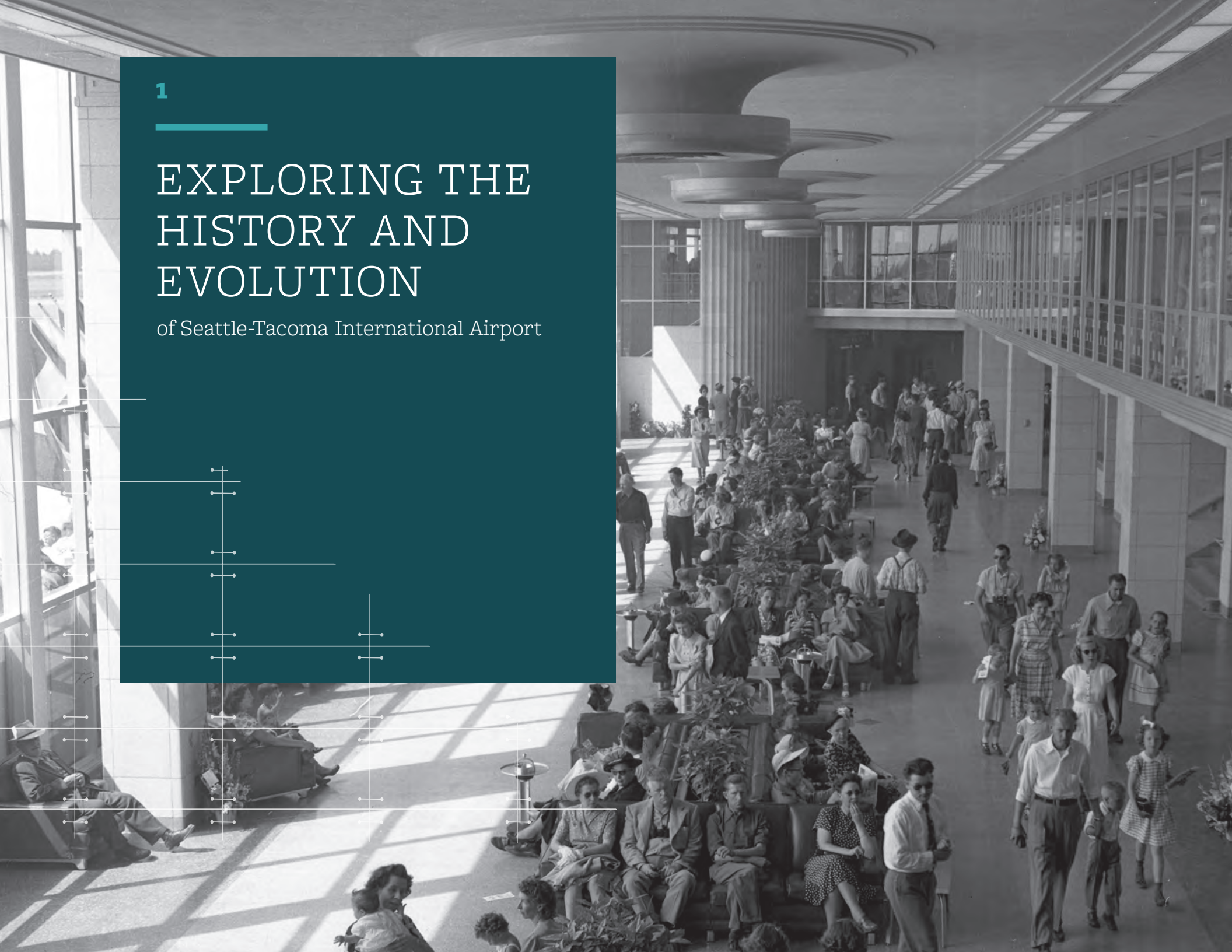




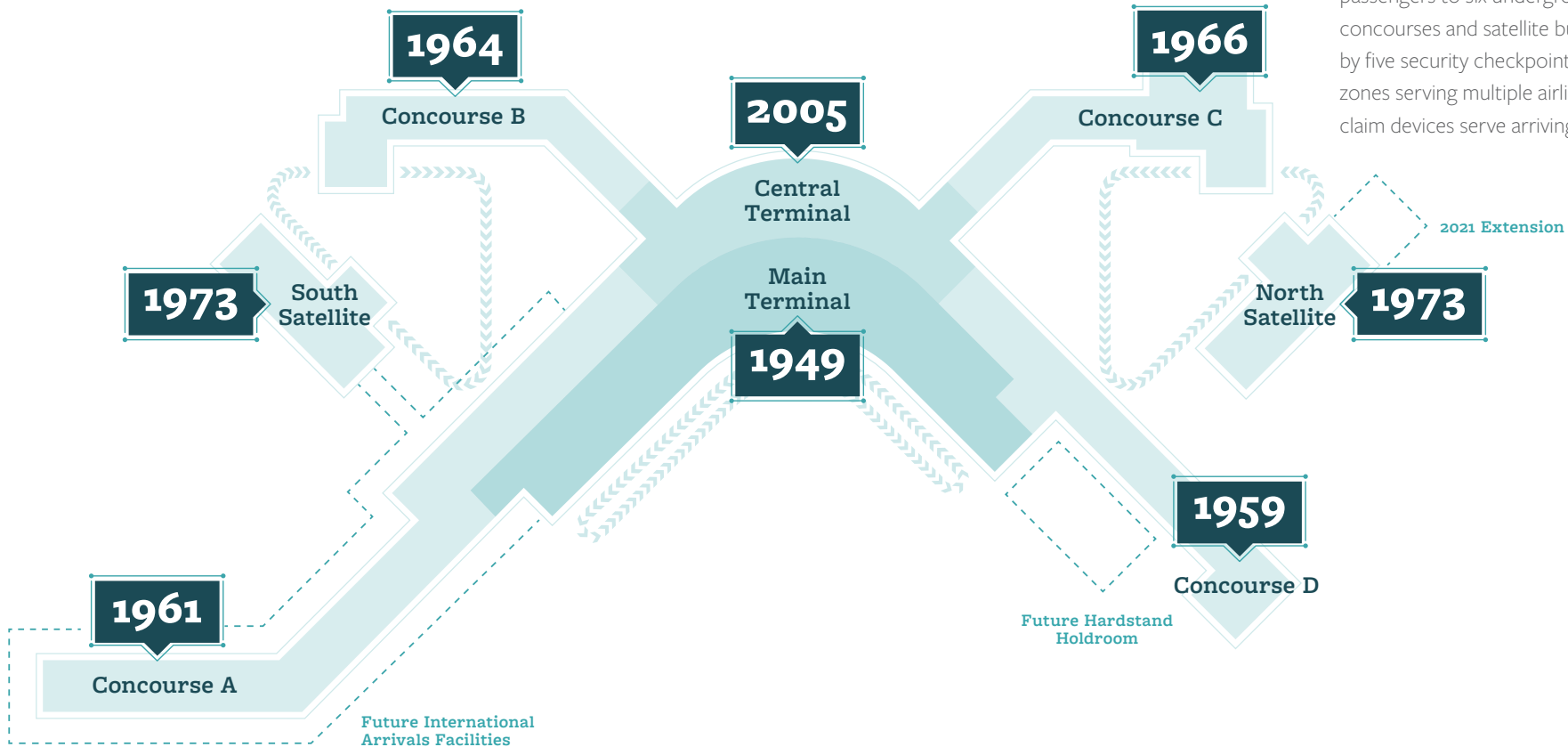
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# EXPLORING THE HISTORY AND EVOLUTION

of Seattle-Tacoma International Airport

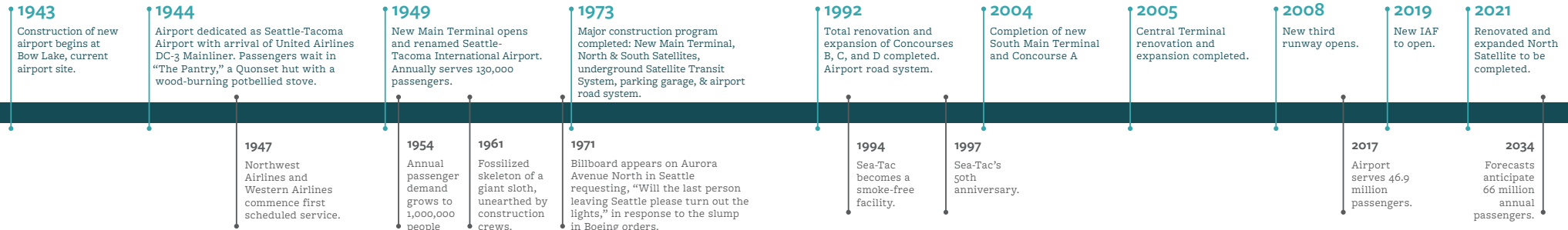


## HISTORICAL SEA-TAC GROWTH: CONSTRUCTION DATES



Sea-Tac 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-TAC 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

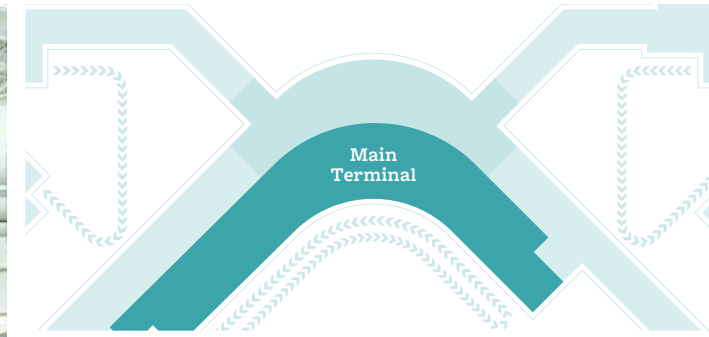
### HIGHLIGHTS

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-Tac 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, a major renovation and expansion of the North Satellite building, and the Concourse D Hardstand Holdroom facility.

*The front door of Sea-Tac,  
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

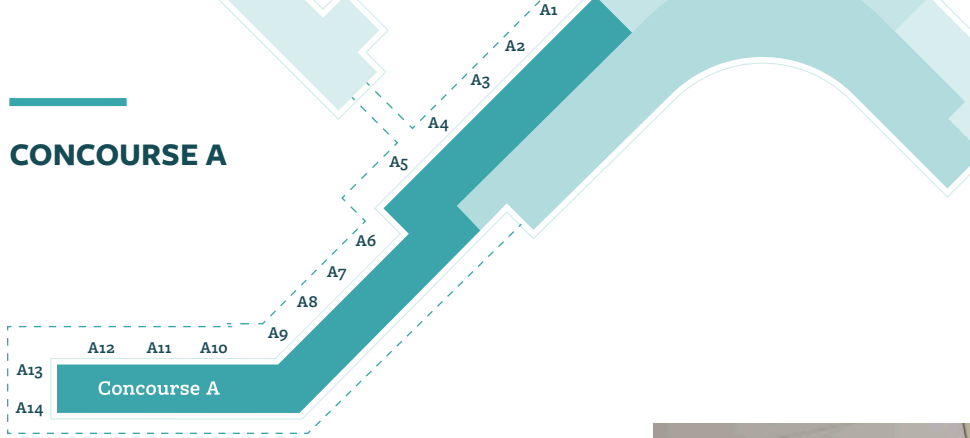
### HIGHLIGHTS

The Central Terminal is the airport's living room, the jewel of Sea-Tac'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



### 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-Tac'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**

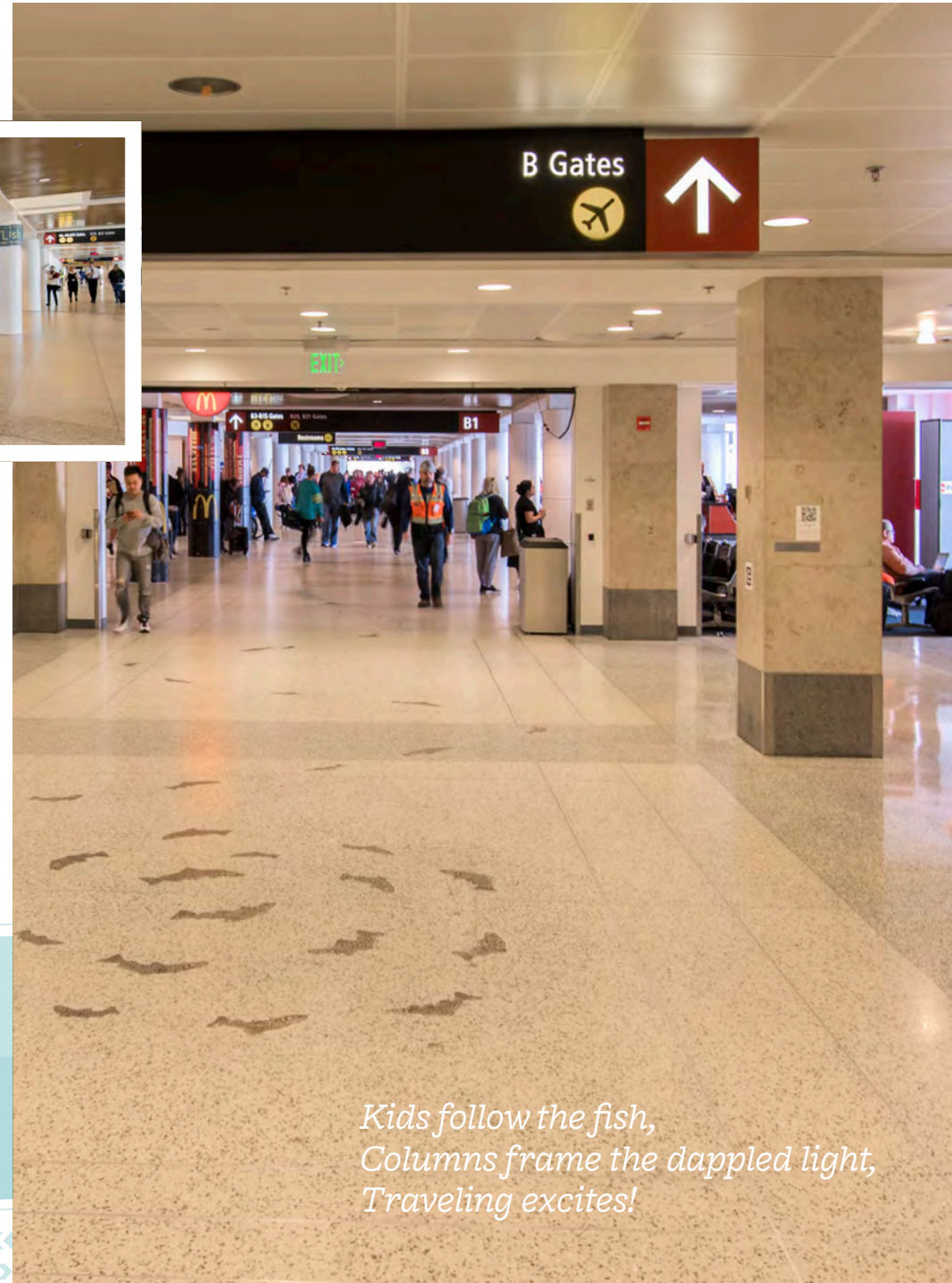
SIGNIFICANT

## Renovations

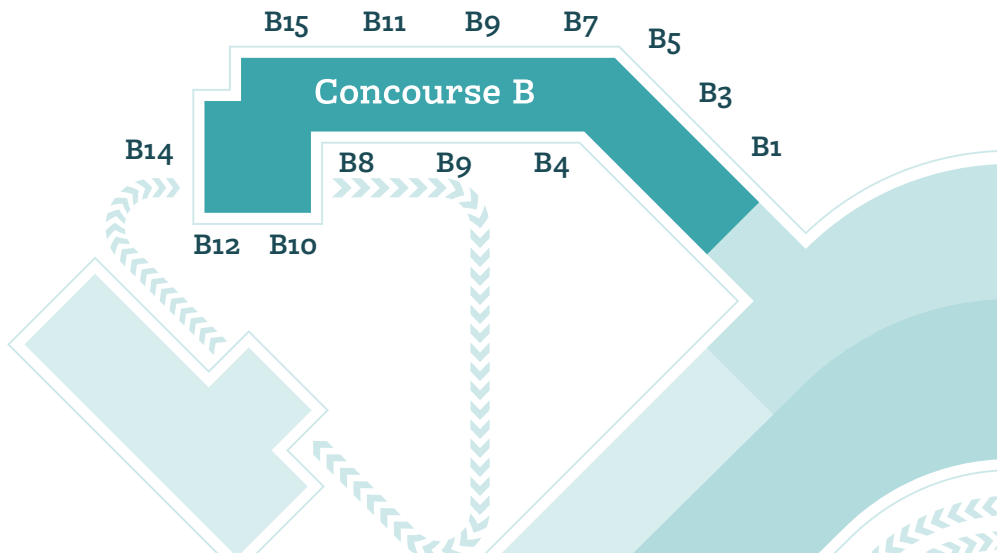
**1992** Expansion and remodel

### 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.

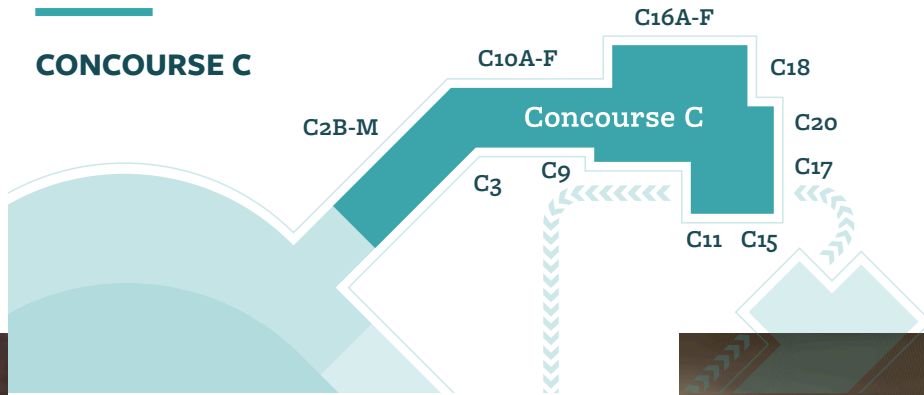


*Kids follow the fish,  
Columns frame the dappled light,  
Traveling excites!*





## CONCOURSE C



### AT A GLANCE

OPENED IN

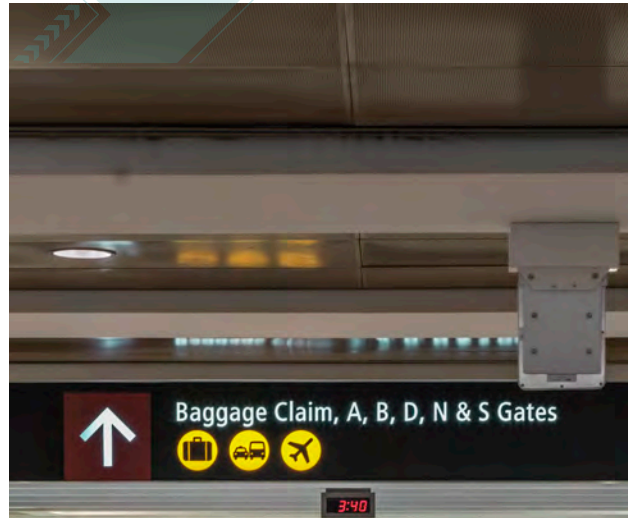
1966

SIGNIFICANT

## Renovations

1992 Expansion and remodel

2016 Vertical circulation expansion



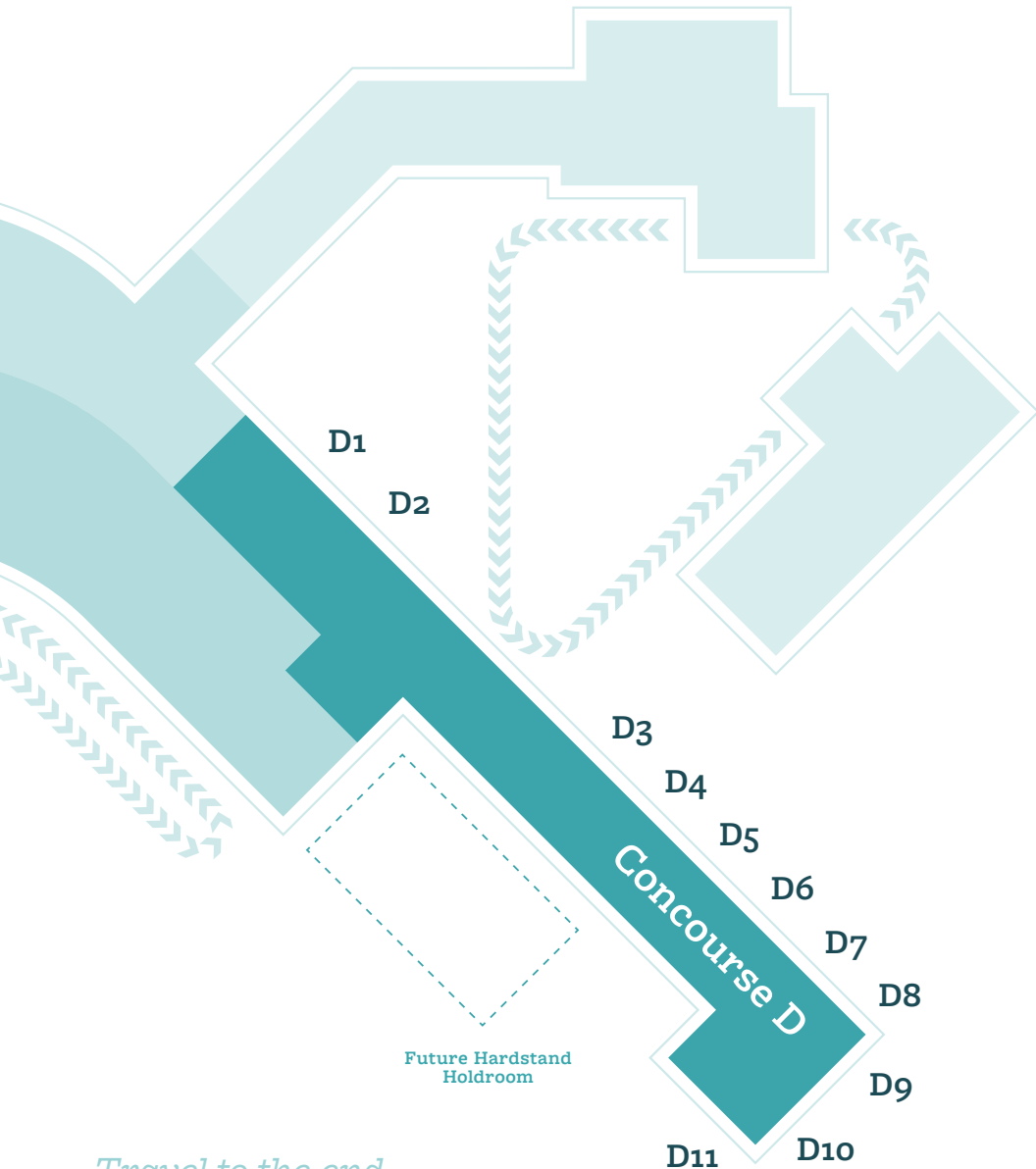
### HIGHLIGHTS

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

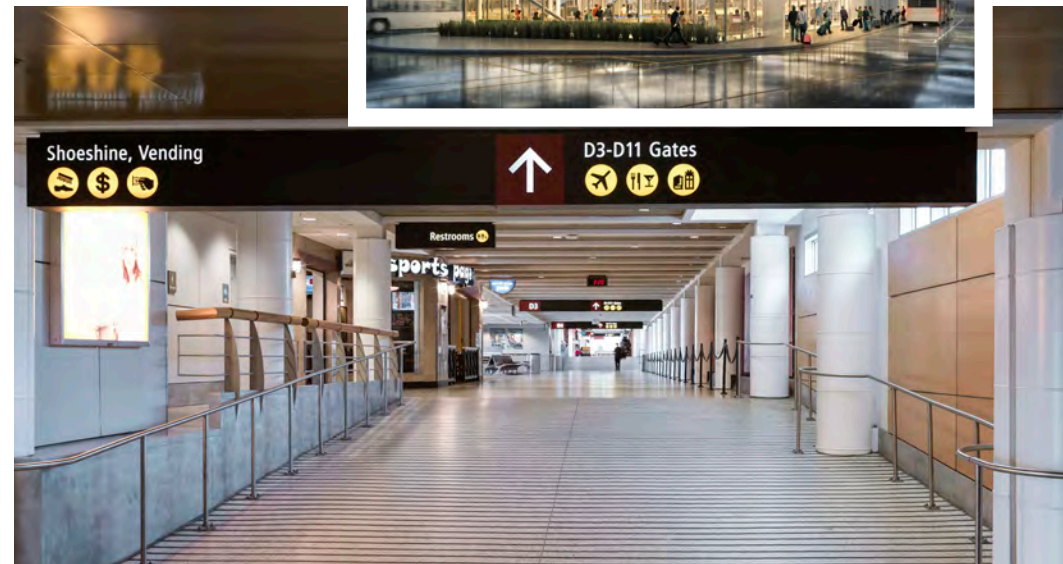
**2018** Hardstand holdroom  
addition

## HIGHLIGHTS

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

## LOOKING FORWARD

The Concourse D hardstand 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

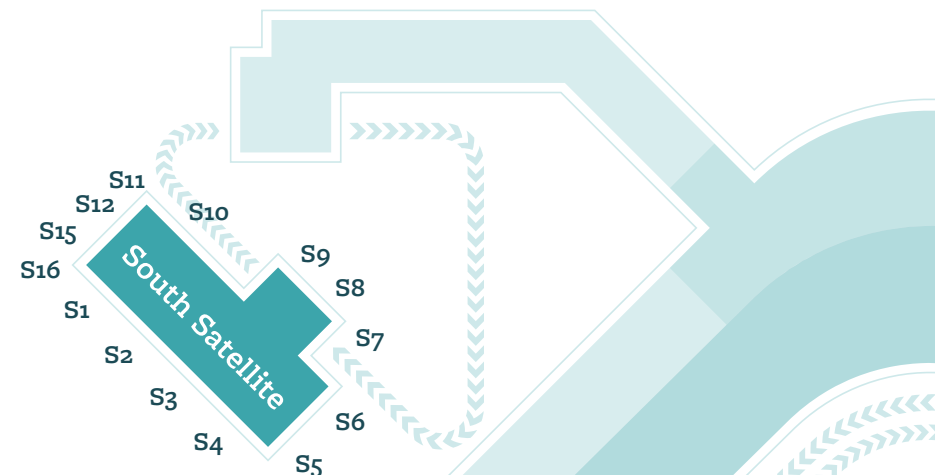
### HIGHLIGHTS

The South Satellite was built with the North Satellite and Main Terminal as part of the major 1973 expansion of Sea-Tac. 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

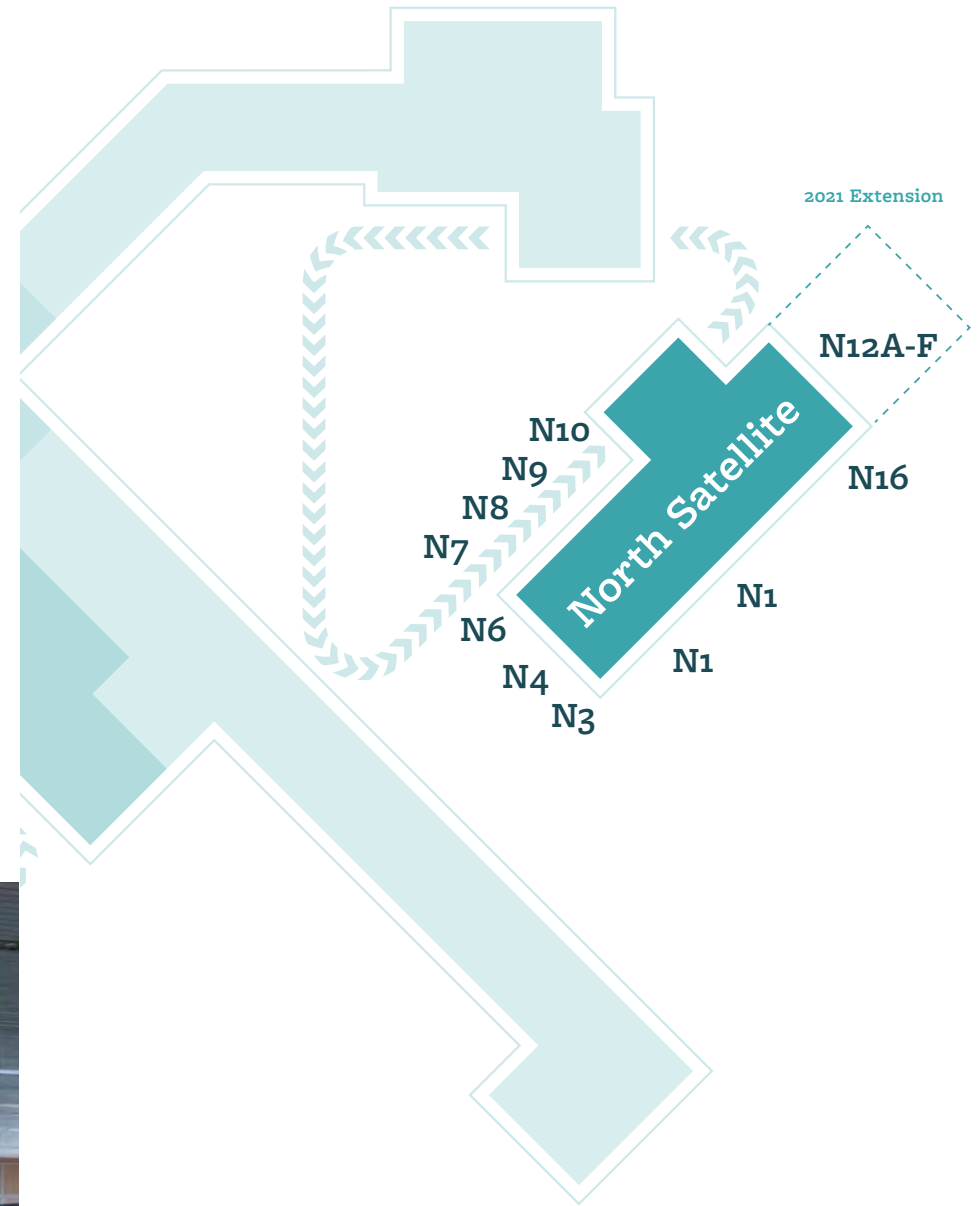
**2021** West extension and  
total renovation

### HIGHLIGHTS

For 45 years the North Satellite has served as the center for Sea-Tac'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-Tac. 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.*

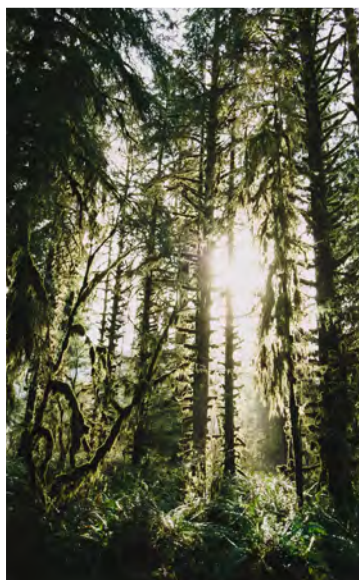
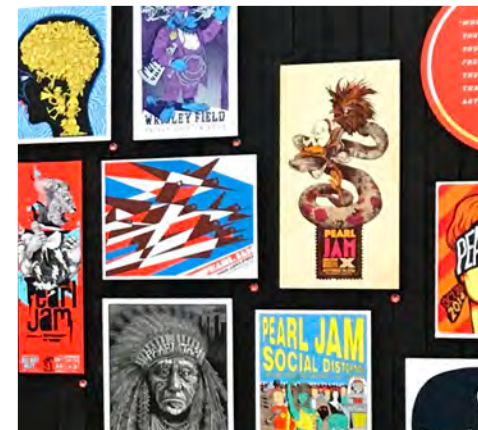


2

## CRAFTING THE PACIFIC NORTHWEST SENSE OF PLACE







## EVOKING THE VIBE

A socially conscious approach to design embodies the ethos of the Northwest region. Sea-Tac 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-Tac 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-Tac airport apart from all other airports. Design consultants that shape the future of Sea-Tac should express this Northwest sense of place through a variety of means—architecture, interior design, art, graphics, and other media.



## 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.

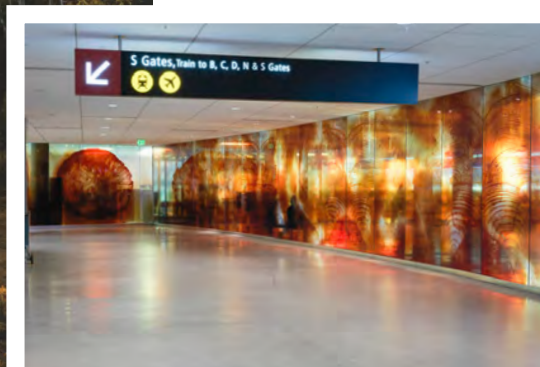
### 8 Dining, retail, and advertising

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-Tac's 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-Tac. Second, each new design should be progressive and forward looking while being respectful of the modernism of existing terminal facilities.



### PROGRESSIVE NORTHWEST MODERN FUNDAMENTALS

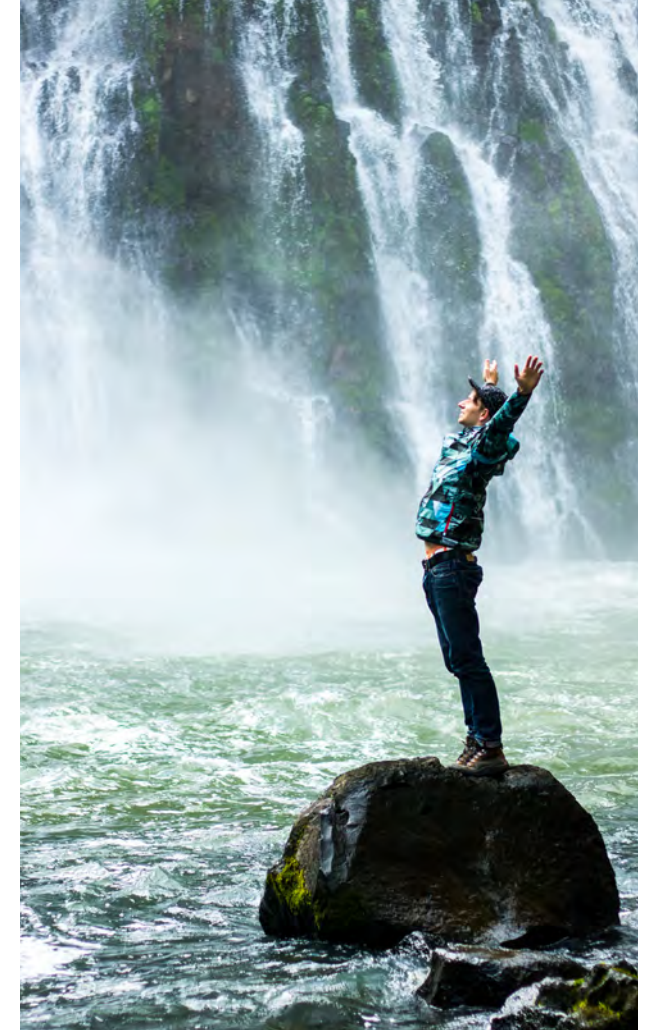
- 1** Maintain continuity with existing architecture.
- 2** Be respectful of the existing terminal's modernism.



## 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-Tac, 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-Tac. 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-Tac. 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.



SEA-TAC DESIGN PREREQUISITES

**honest use of materials**

LOCAL, NATURAL FINISHES

**incorporate natural light**

CONNECTION TO THE OUTDOORS

**structural honesty**

EXPOSED STRUCTURE

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## CRAFTING AN AUTHENTIC EXPERIENCE

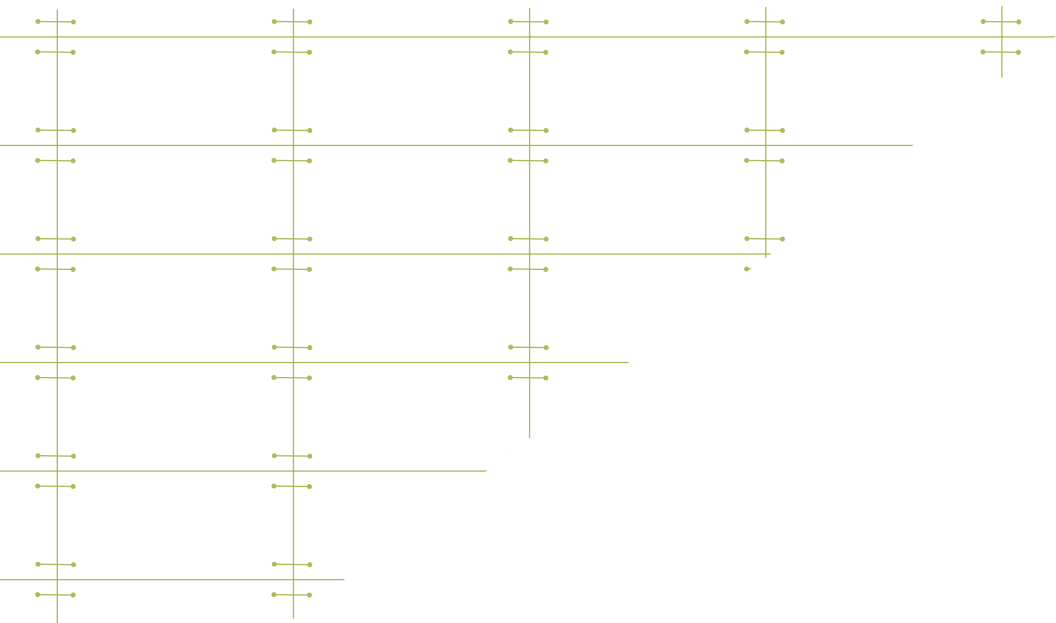
Consider the Japanese principle of **shibui** when determining the airport's look and feel. A timeless tranquility is a preferred goal. Shibui objects appear to be simple, but closer inspection reveals subtle details, such as textures that balance simplicity with complexity. As a result, this balance ensures that one never tires of an object (or space) allowing its aesthetic values to grow over the years.

**shibui** | shi-bü-ē  
adjective

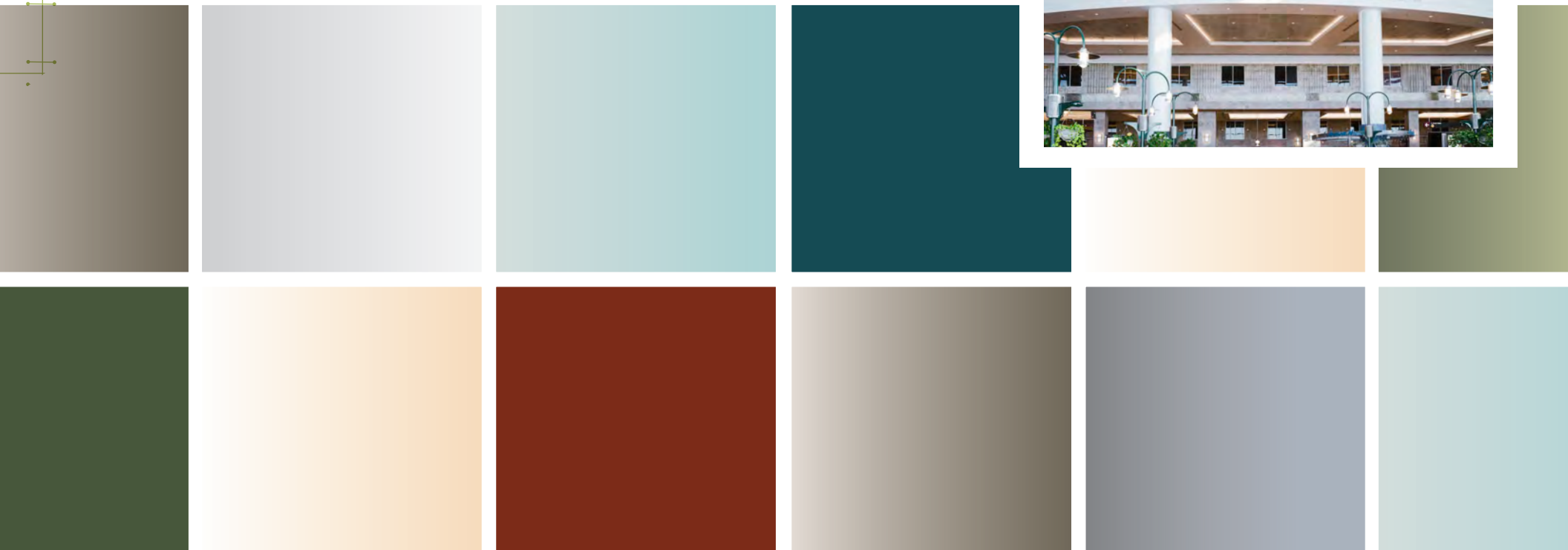
An enriched, subdued appearance or experience of intrinsically fine quality with economy of form, line, and effort.





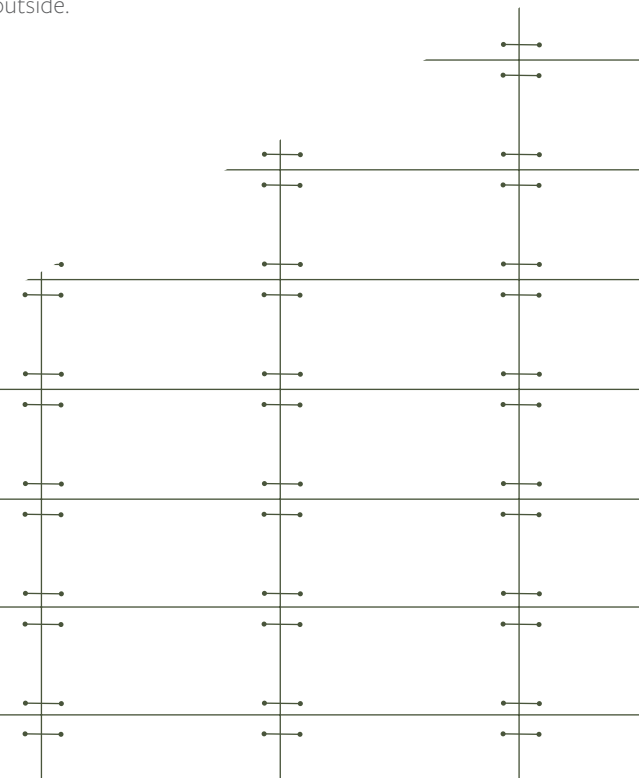


Consider the emotional impact of **color and pattern**, and their role in defining a Northwest sense of place for passengers. Lighter, softer palettes and a warm overall feeling are desired Progressive Northwest Modern design traits. For example, color and pattern play a key role in defining less permanent 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.





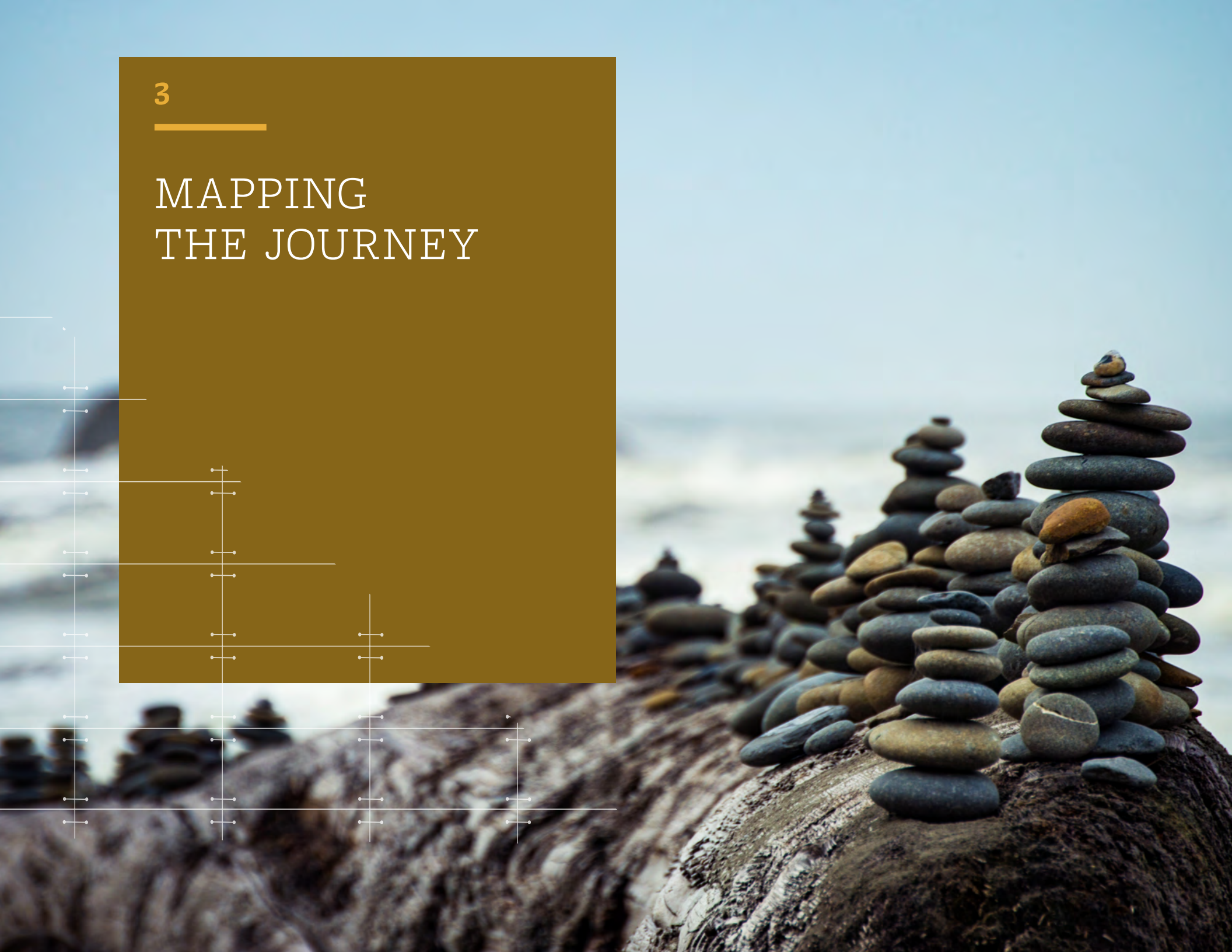
For some guests, a connection through Sea-Tac is their only exposure to the Pacific Northwest region. But the changing nature of air travel, impacted by our everything/everywhere culture, means that Sea-Tac is so much more than just a place to travel through. Sea-Tac, while obviously serving air travel 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-Tac's design, and it should be immediately apparent when a person disembarks from an airplane, or enters the terminal from outside.





3

# MAPPING THE JOURNEY



## CONSIDERING PASSENGERS & EMPLOYEES

Sea-Tac 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-Tac 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.



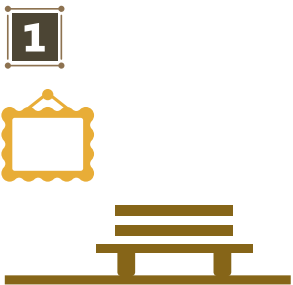
SEA-TAC DESIGN CONSIDERATIONS

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





ENHANCING THE SPATIAL EXPERIENCE



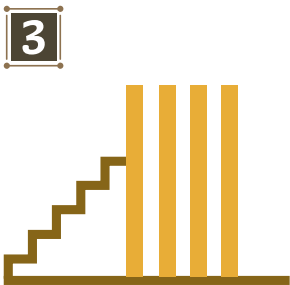
Public Spaces

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



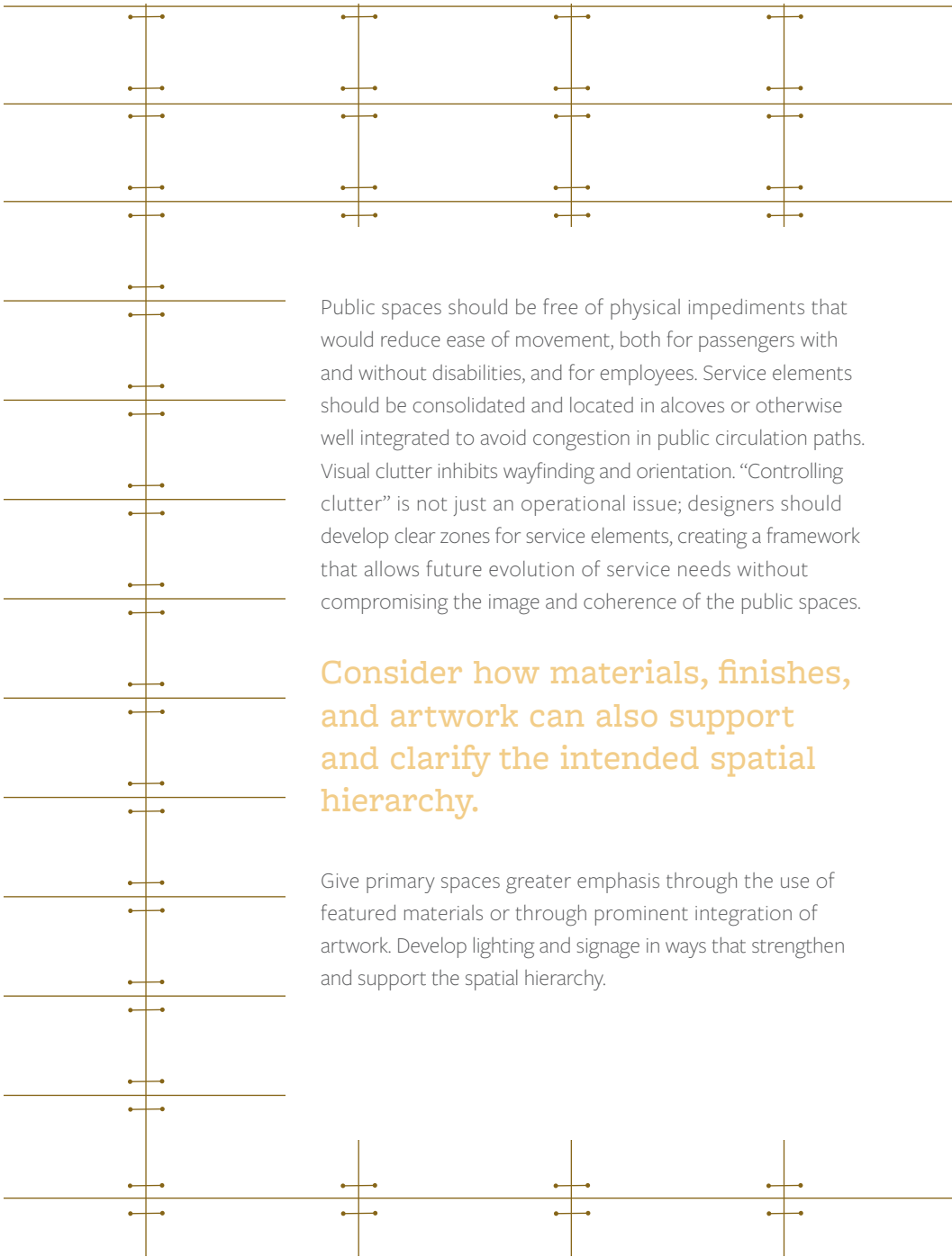
Public Circulation

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-Tac. Design consultants are encouraged to think about the different passenger journeys through Sea-Tac: 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-Tac, 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-Tac 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-Tac 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



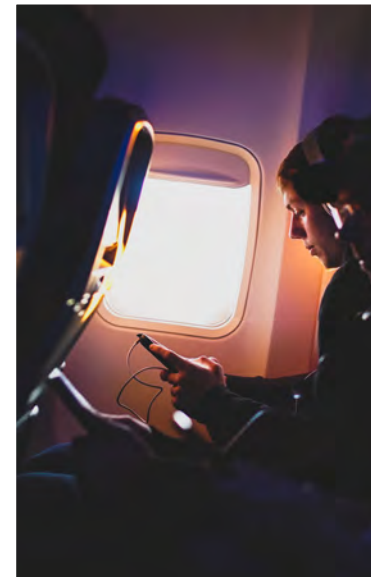
SPECIAL NEEDS



ASSISTED



ANIMAL





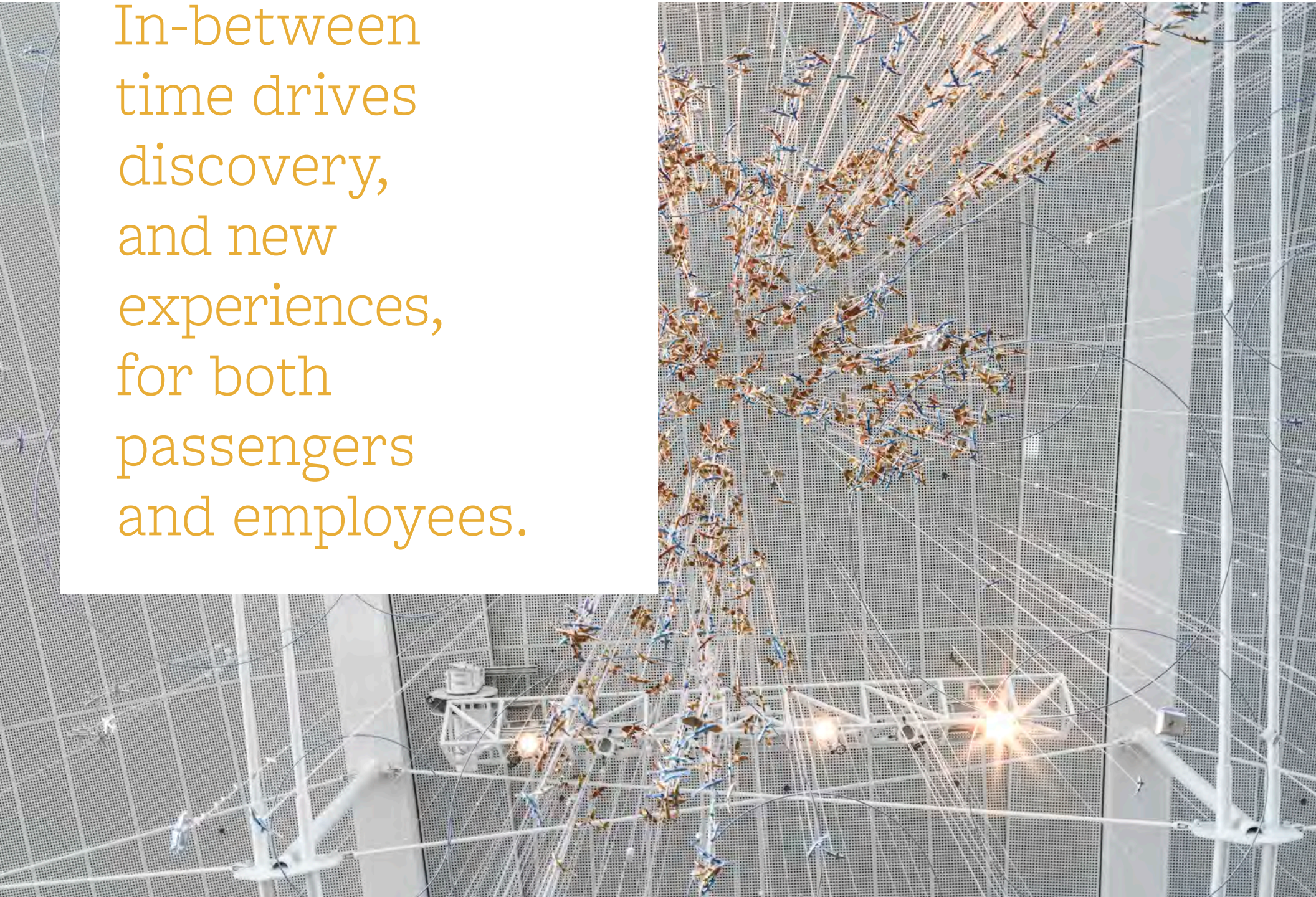


Consultants may find that creating a journey map will guide their programming and planning. For example, crafting a narrative for key passenger types, then physically mapping this through all the journey moments, can result in more thoughtful approaches to architecture and interior design. A key component to this mapping is to consider how a passenger's journey through Sea-Tac 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-Tac.

**Great design is great for business!**



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





## PROVIDING CLARITY OF WAYFINDING

Sea-Tac 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-Tac 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-Tac 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.

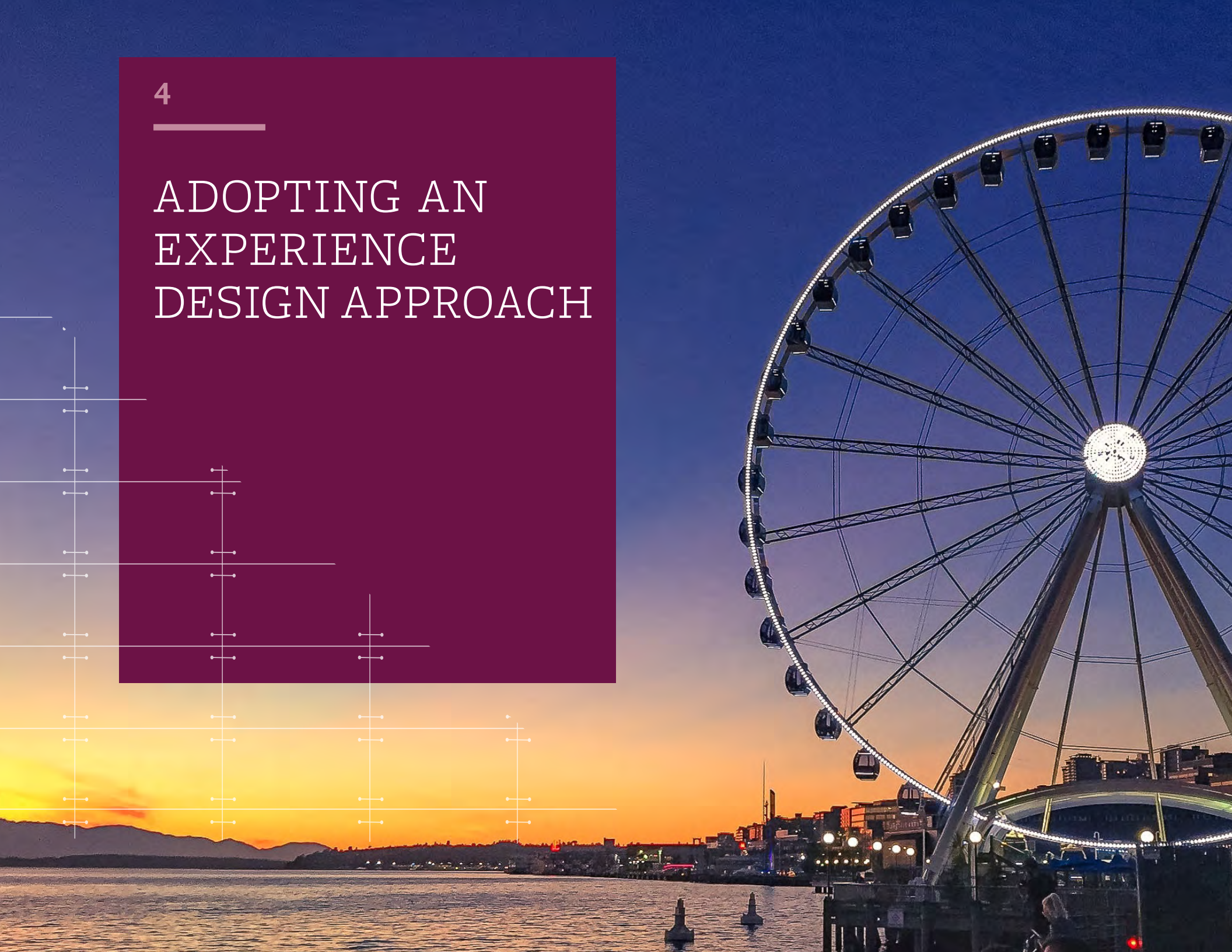
Additionally, new technologies will have a direct impact on wayfinding, from dynamic overhead signage to smart phone apps, all working in concert with static messaging to guide passengers through the Sea-Tac experience.





4

# ADOPTING AN EXPERIENCE DESIGN APPROACH





## 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-Tac brand, and the ideas, emotions, and memories that these moments create.

Sea-Tac 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-Tac 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-Tac, 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.





"WHEN YOU TRUST PEOPLE  
YOU WORK WITH AND  
YOU LET THEM HAVE THAT  
FREEDOM, THAT'S WHEN  
THE CHEMISTRY HAPPENS.  
THAT'S WHEN THE REAL  
ART GOES DOWN."

- JEFF AMENT  
PEARL JAM

PEARL JAM  
OCTO 2012

PEARL JAM  
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PEARL JAM  
OCTO 2012

PEARL JAM  
OCTO 2012



## COMFORTABLE NOT CROWDED

Consultants addressing the physical environment at Sea-Tac are encouraged to create “homes” for a myriad of things: ATMs, shoe shine stands, vending, baggage carts, and advertising. The goal is seamless integration.

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

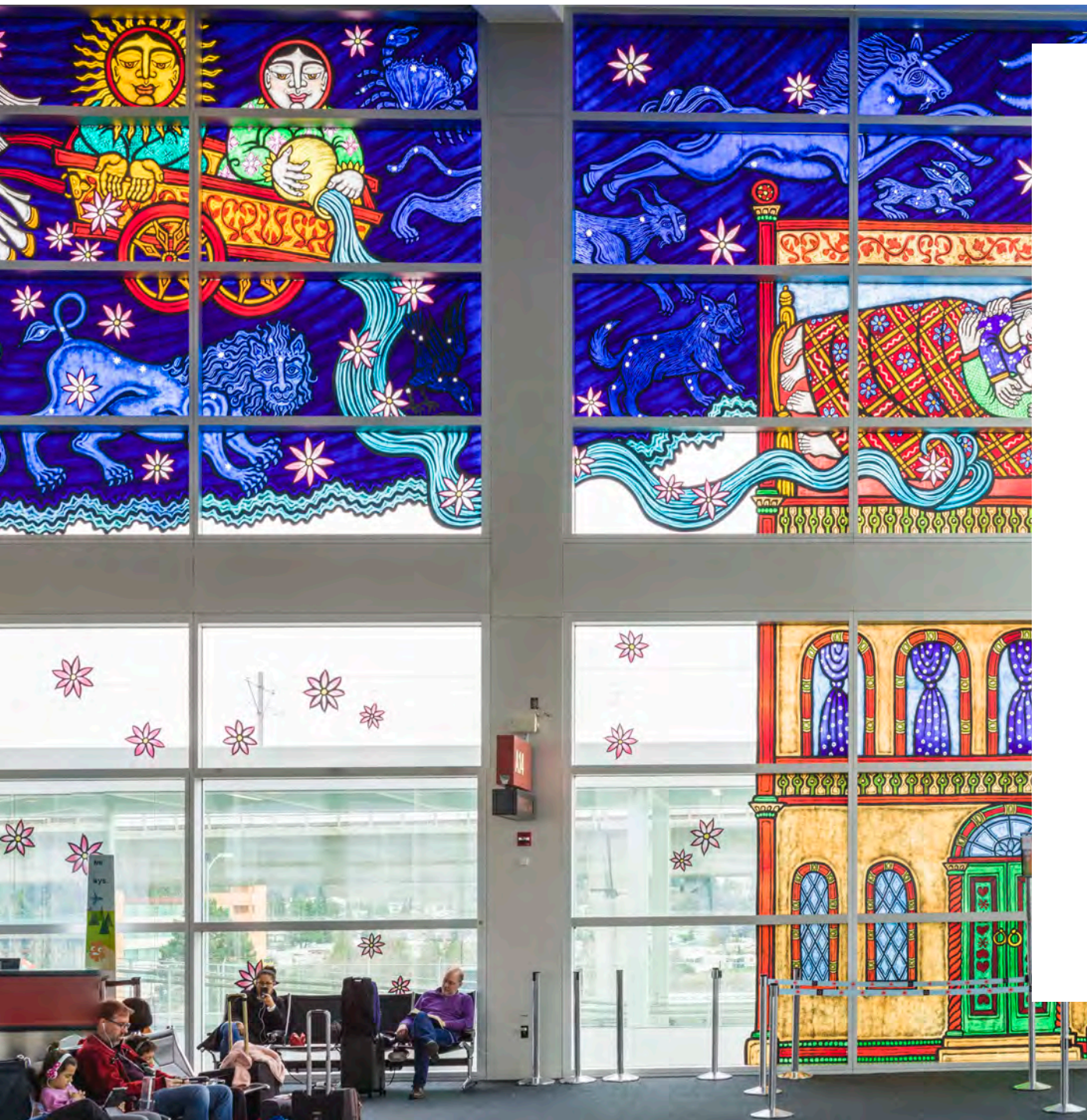
It is an undeniable fact that great restroom design sets the baseline for every passenger's expectation of a great airport experience. The goal is a restroom experience that is like that of a premier hotel, that has rigorous attention given to the smallest detail, that goes beyond the basics. Whether 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-Tac 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-Tac, 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

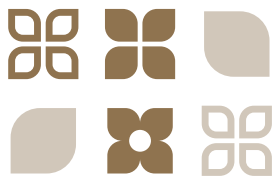
# INTEGRATING SUSTAINABLE PRACTICES





## 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-Tac is a pioneer. Sea-Tac'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-Tac 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

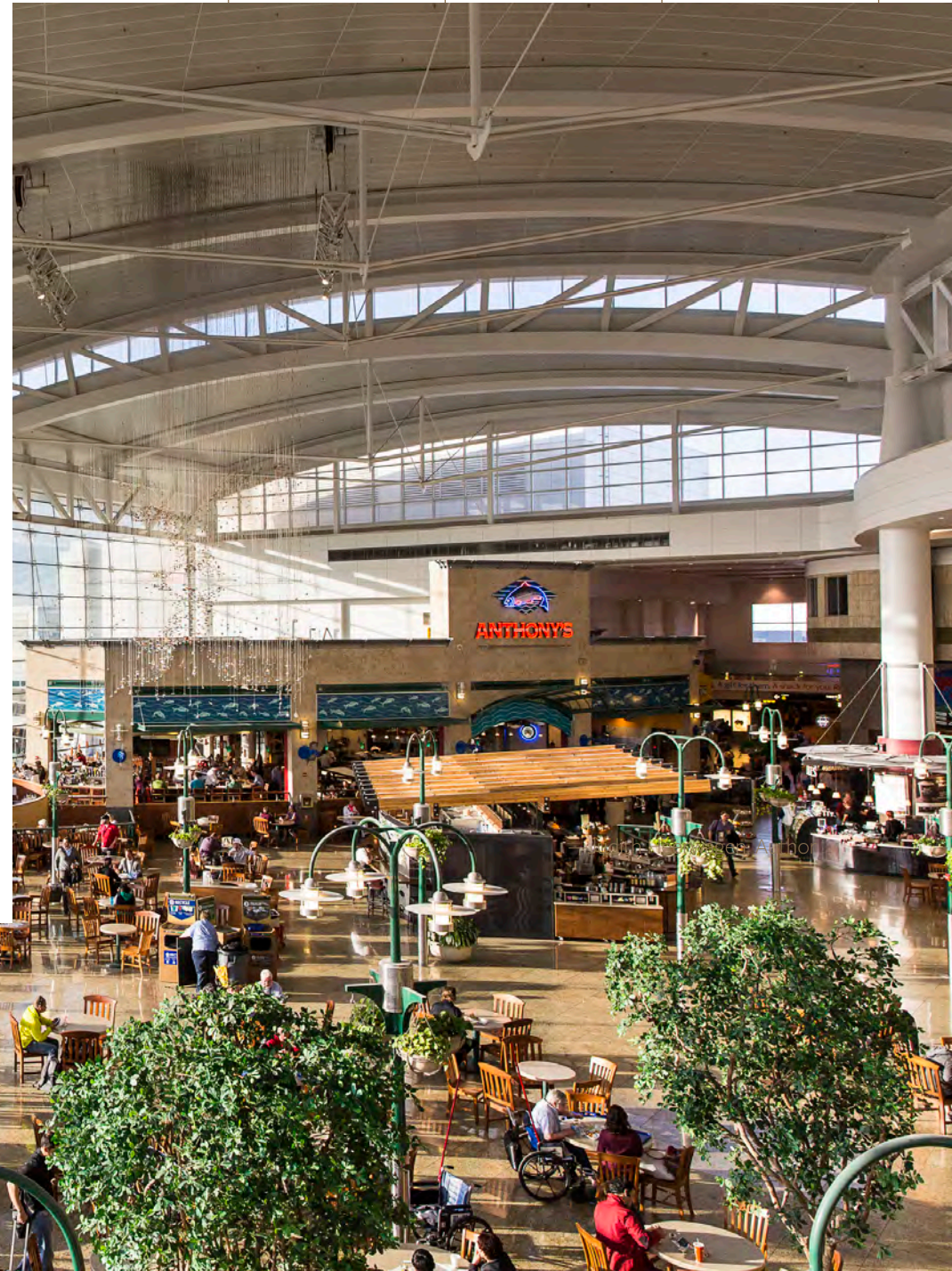
In architecture, a sustainable design strategy that incorporates reconnecting people with the natural environment.





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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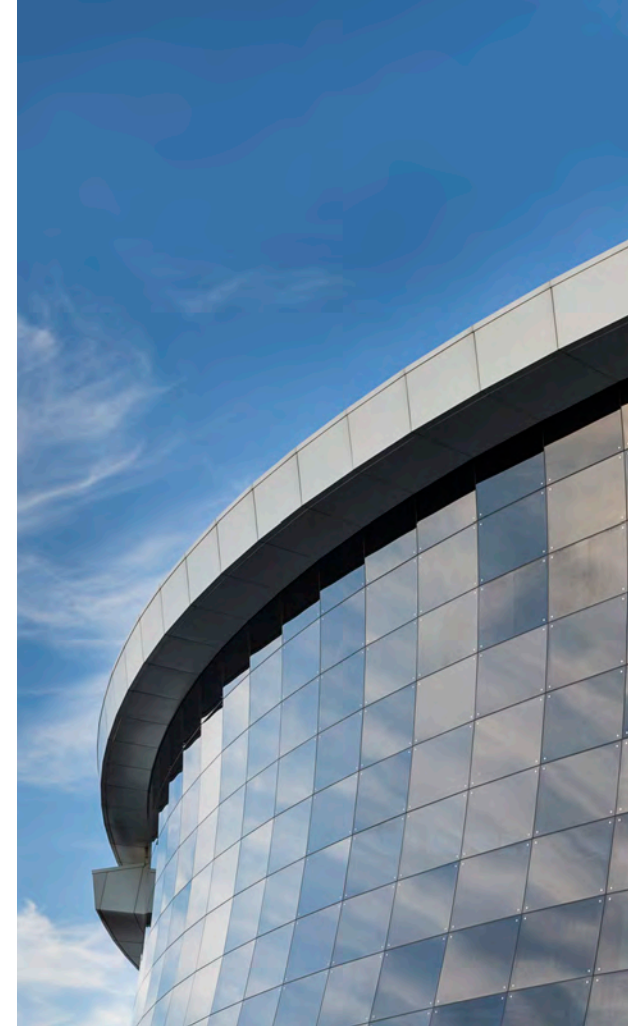
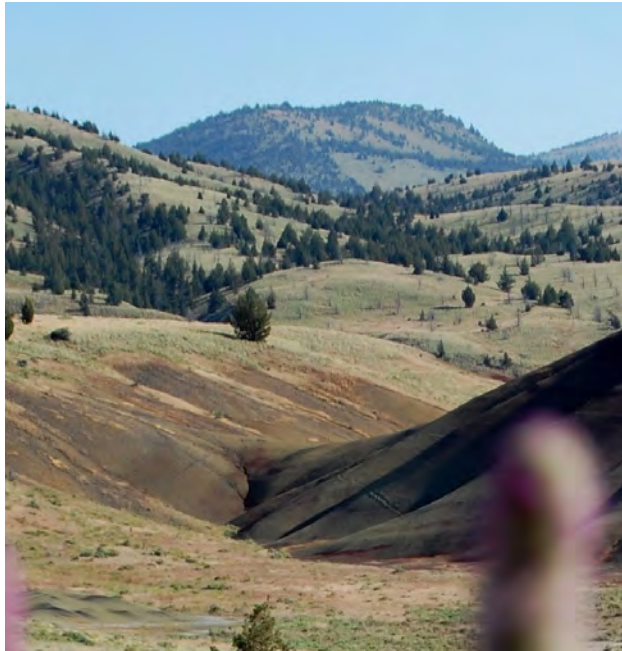
## DESIGN RESILIENCY

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-Tac 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.

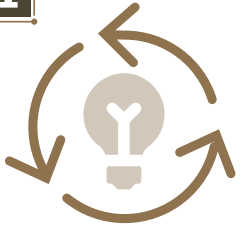




## SUSTAINABILITY GOALS

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

1



### 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**

2

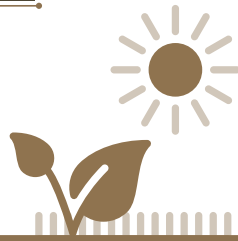


### manage material use

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**

3

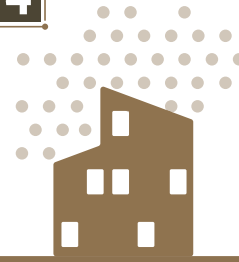


### support landscape

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

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

4

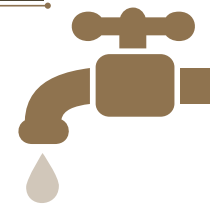


### enhance environment

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**

5



### 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-Tac'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-Tac's Sustainable Aviation Fuels Northwest project

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

for the Sea-Tac'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-Tac'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-Tac'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-Tac has undertaken highly innovative initiatives, exemplified by the pivotal centralized pre-conditioned air project. Sea-Tac 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-Tac provides electric vehicle charging stations in the garage. Sea-Tac'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-Tac, 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-Tac 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-Tac concession landscape.


Sea-Tac'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-Tac'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-Tac.

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-Tac 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-Tac'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.

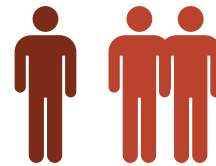
4



### 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

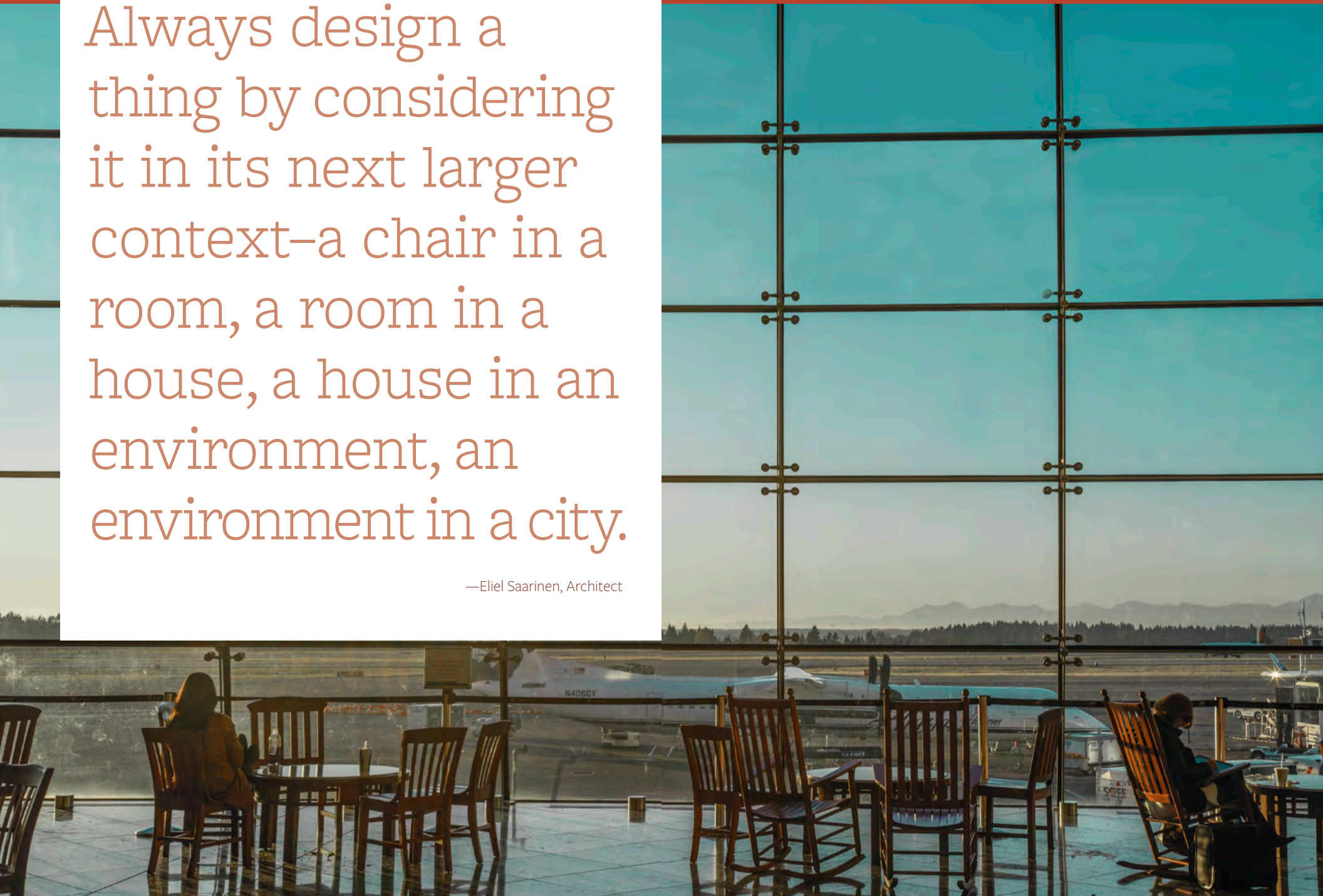
Bringing your designer/architect/general contractor to Sea-Tac review meetings will be beneficial from a process standpoint, allowing for resolution of issues in a quick and timely manner.

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-Tac 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-Tac 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-Tac.

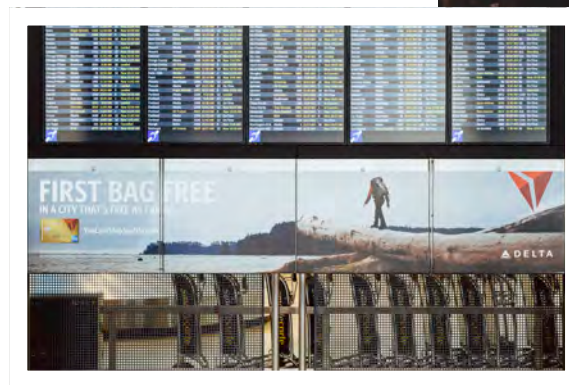
Consultants should understand the type and size of advertisements scheduled for the area they are affecting, and plan accordingly. An integrated approach is desired, with advertisements embedded in the design, not added-on as an afterthought. For example, large format internally illuminated ads work 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



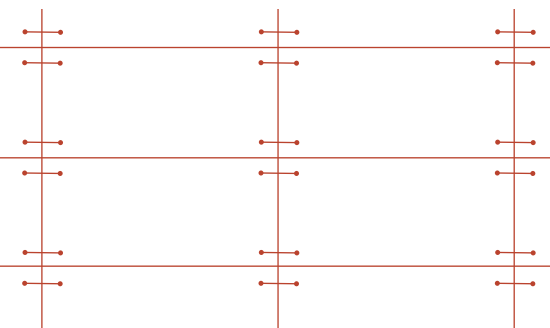




**Other entities/partners are also an important source of non-airline revenue generation.** Luggage cart rentals, banking, rental cars, luggage wrap, vending, even shoe shine stands are just some of the services that your design must respond to. Understanding the variety of space requirements to allow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

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

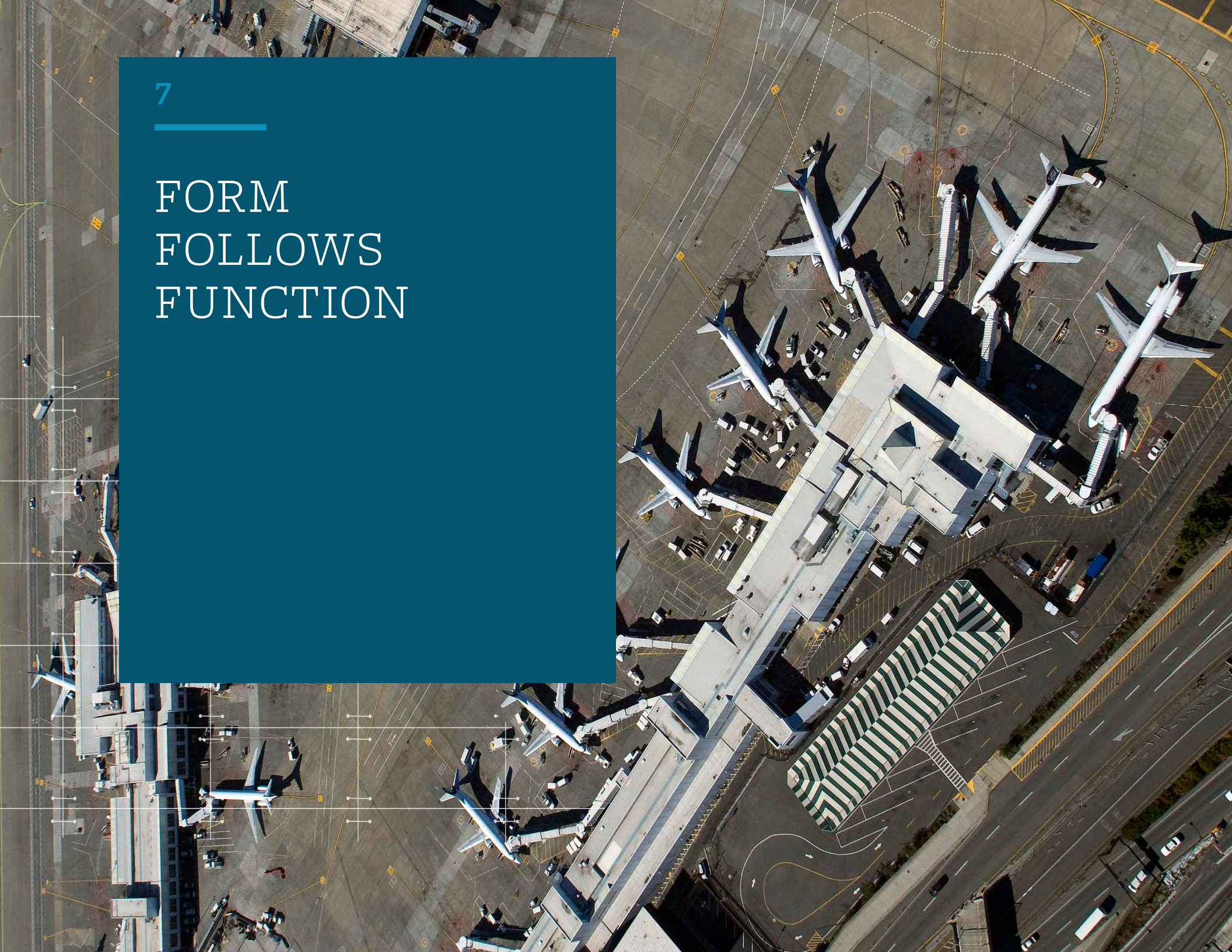
How your design works to this end, benefiting both tenants, and therefore Sea-Tac, is crucial.





7

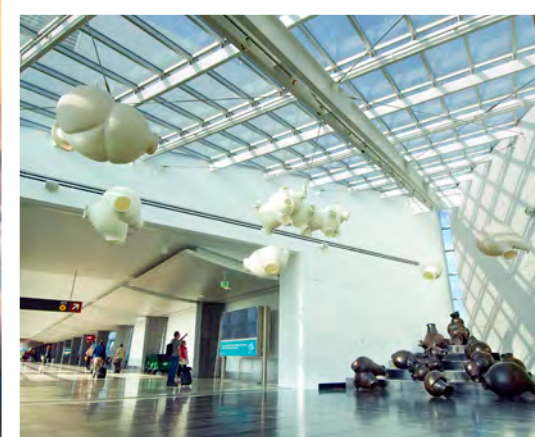
# FORM FOLLOWS FUNCTION





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-Tac 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.



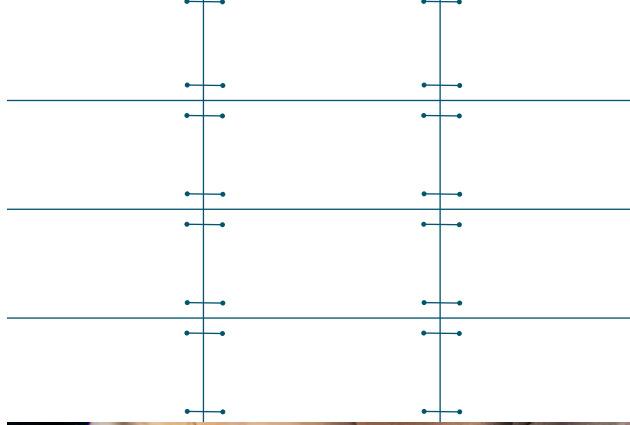
form follows function



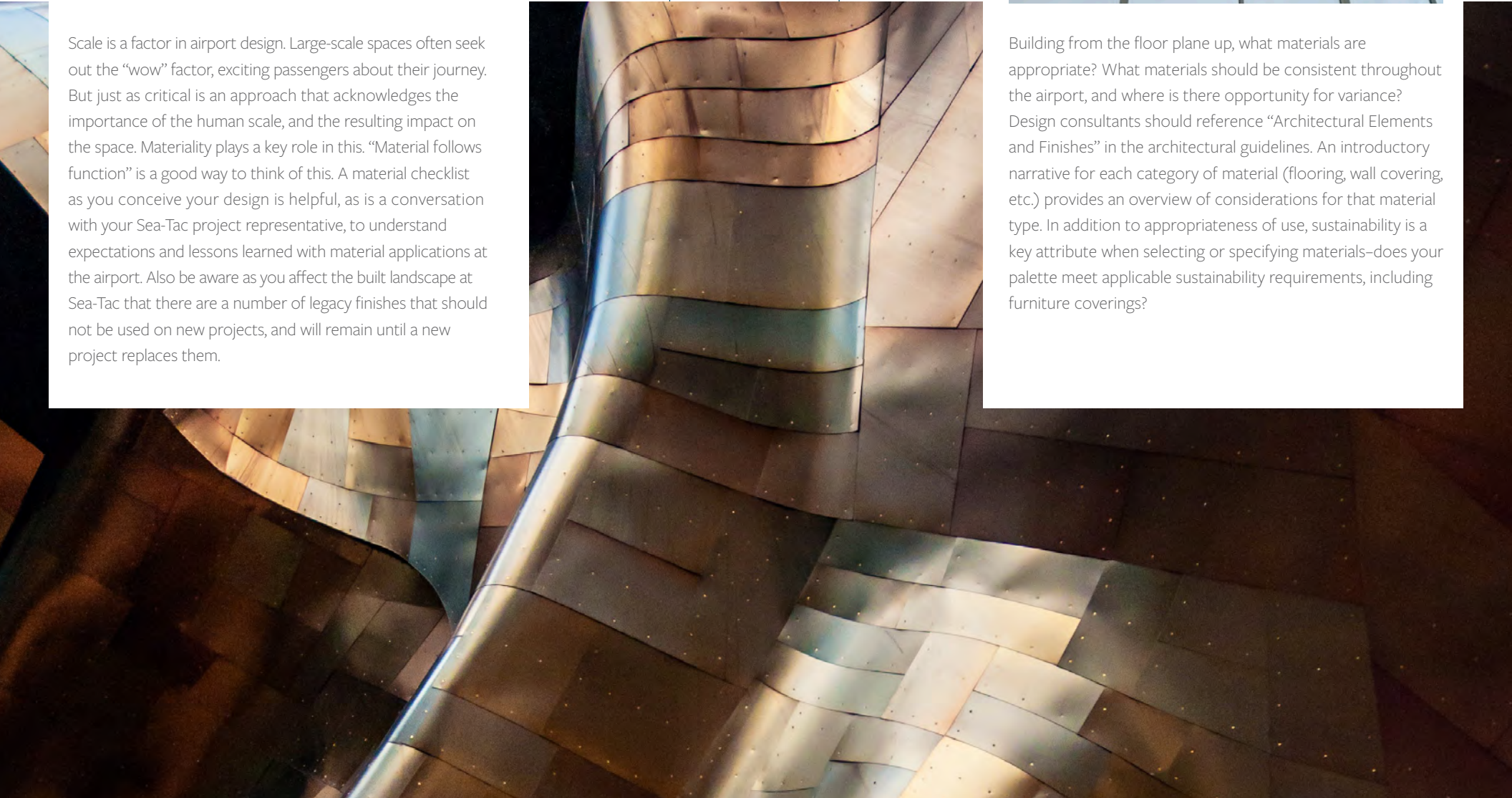
## MATERIALITY FOLLOWS FUNCTION

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-Tac 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-Tac 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-Tac 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



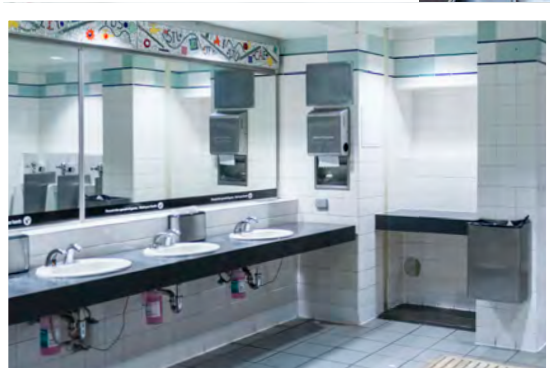
## BALANCING MATERIALITY & MAINTENANCE

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-Tac project manager, especially before selecting or specifying restroom materials.



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



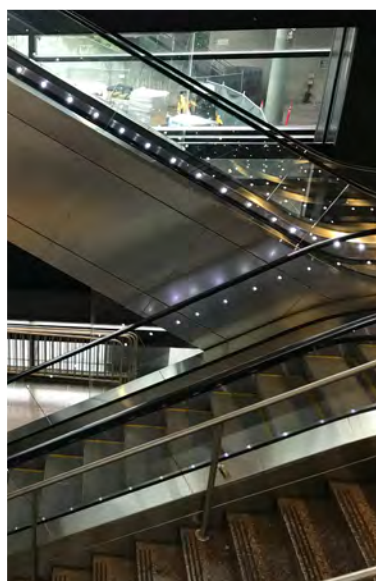
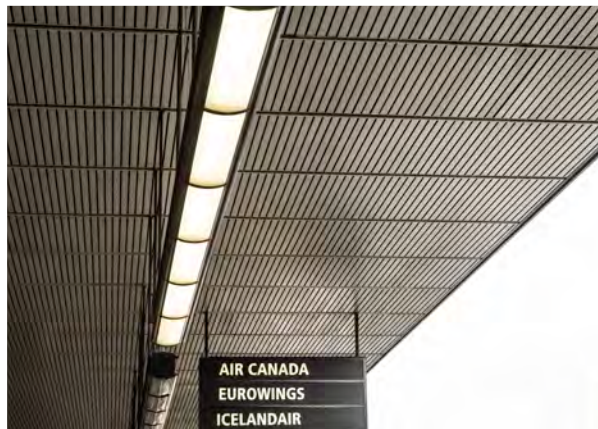
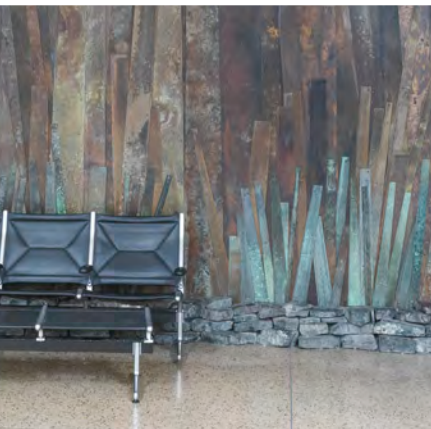


The details  
are not the  
details, they  
make the design.

—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.



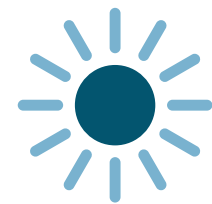
An aerial photograph of a city, likely Seattle, taken during sunset. The sun is low on the horizon, casting a warm orange glow over the city and the water. The city's buildings and infrastructure are visible, with the airport terminal and runways in the foreground.

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-Tac 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:







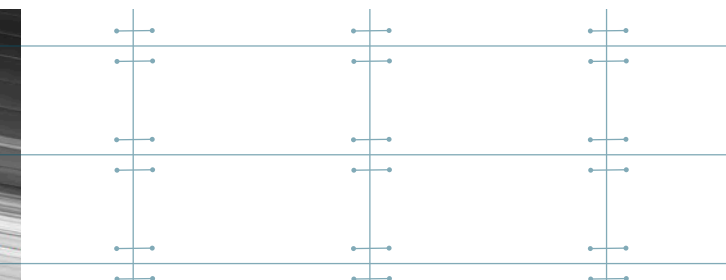
## UNIVERSAL DESIGN

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-Tac, 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-Tac airport for consultants, their partners, and Sea-Tac tenants.

**Sea-Tac 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





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DESIGN

## 2

### DESIGN GUIDELINES

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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-Tac), 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-Tac Airport's public-facing real estate facilities, including for Sea-Tac 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-Tac 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-Tac 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-Tac.



The guidelines are primarily intended for an architecture and design audience (including administrators, project managers, and facilities maintenance personnel), both internal Sea-Tac 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-Tac 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-Tac 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-Tac. 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)
- 2017 Vitra Meda Gate Seating Standards
- Maintainability and Janitorial Standards

### 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
- Restroom 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-Tac’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-Tac. 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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**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 seven Design Review Committees:

- Architectural Review Committee (ARC)
- Facility Asset Review Meeting (FARM)
- Mechanical Utility System Team (MUST)
- Proactive Electrical System Team (PEST)
- Sea-Tac Telecommunications Architecture Team (START)
- Wayfinding and Visual Environment Team (WAVE)
- Water Infrastructure System Evaluation (WISE)



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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

FARM is organized by Maintenance and intended to review the CMMS form.

### 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-Tac 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.

### 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-Tac Telecommunications Architecture Team

The Sea-Tac 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-Tac.

### WISE: Water Infrastructure System Evaluation

[WISE definition forthcoming.]

### 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 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

### Master Specification

The Port of Seattle maintains a master specification which is used by both the Aviation and the Seaport Divisions. The master specification is intended as a foundation from which design teams can build their project specifications. The master 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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Sea-Tac 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-Tac 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 LEED certification.



We categorize Sea-Tac 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>



## CONSTRUCTION TYPES

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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>

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

The Sea-Tac 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



### 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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- Accessibility/ADA
- Acoustics
- Circulation
- Connectivity
- Integrated Design
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## Sea-Tac 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-Tac Airport.

All projects at Sea-Tac 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-Tac 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, 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-Tac 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-Tac 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-Tac 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-Tac Airport. Design teams should review these documents and coordinate with their project manager if there are issues requiring clarification or interpretation.

### Applicable LEED Credit Requirements:

- IEQ – Acoustic Performance
- IEQ – Low-Emitting Materials



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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-Tac 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-Tac can be referenced at the following link:

<https://www.portseattle.org/sea-tac/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-Tac. 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
- 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.

### Applicable LEED Credit Requirements:

- IEQ – Low-Emitting Materials



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

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-Tac 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

- Water fountains should be located near restrooms
- The location and placement of fire extinguishers, AEDs, and first aid kits should be considered during the design development phase

## Sea-Tac 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-Tac 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)



Design teams should coordinate storage requirements and locations with their Sea-Tac 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)
- Emergency safety equipment (blankets, water, emergency response supplies)—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 (man-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 man-lifts need to have 10 foot high doors and dedicated electrical outlets
- The space needs to be big enough to maneuver the man-lift in and out
- Storage rooms should have robust wainscoting

### Applicable LEED Credit Requirements:

- MR – Storage & Collection of Recyclables

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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-Tac 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-Tac (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. A more detailed biophilic design strategy document is available for reference.
- Focusing on maintaining ecosystem vitality and air, water, and soil quality

#### Material Selection

Material selection and use is important in order to achieve Sea-Tac’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 the LEED program. However, where projects are not an actual building or LEED requirements cannot be met, they should incorporate LEED concepts as much as possible by following the intent of LEED within 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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Additionally, the following LEED credit requirements are applicable to the Architecture Standards:

**IEQ – Low-Emitting Materials**

The intent is to reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment.

- *Applicable to Interior paints and coatings applied on-site, interior adhesives and sealants applied on site, flooring, composite wood, ceilings, walls, thermal and acoustic insulation.*

**MR – Building Product Disclosure & Optimization – Environmental Product Declarations**

The intent is to encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. The intent is also to reward project teams for selecting products from manufacturers who have verified improved environmental life-cycle impacts.

- *Applicable to architectural, casework, furniture and lighting, finishes.*

**IP – Integrative Process**

The intent is to support high-performance, cost-effective project outcomes through an early analysis of the interrelationships among systems.

- *Applicable to Integrated Design*

**MR - Building Product Disclosure & Optimization – Material Ingredients**

The intent is to encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts; to reward project teams for selecting products for which the chemical ingredients in the product are inventoried using an accepted methodology and for selecting products verified to minimize the use and generation of harmful substances; and to reward raw material manufacturers who produce products verified to have improved life-cycle impacts.

- *Applicable to architectural, casework, furniture and lighting, finishes.*

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## MR – Building Product Disclosure & Optimization – Sourcing of Raw Materials

The intent is to encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. The intent is also to reward project teams for selecting products have been verified as extracted or sourced in a responsible manner.

- *Applicable to architectural, casework, furniture and lighting, finishes.*

## IEQ – Acoustic Performance

The intent is to provide workspaces that promote occupants' well-being, productivity, and communications through effective acoustic design.

- *Applicable to acoustics.*

## MR – Storage & Collection of Recyclables

The intent is to reduce the waste that is generated by building occupants and hauled to and disposed of in landfills.

- *Applicable to recycling storage & collection areas.*

## IEQ – Environmental Tobacco Smoke Control

The intent is to prevent or minimize exposure of building occupants, indoor surfaces, and ventilation air distribution systems to environmental tobacco smoke.

- *Applicable to building entrances (signage).*

## SS – Heat Island Reduction

The intent is to minimize effects on micro-climates and human and wildlife habitats by reducing heat islands.

- *Applicable to roofing and pavement materials.*

## WE – Indoor Water Use Reduction

The intent is to reduce indoor water consumption.

- *Applicable to water fixtures.*

## SS – Light Pollution Reduction

The intent is to increase night sky access, improve nighttime visibility, and reduce the consequences of development for wildlife and people.

- *Applicable to lighting fixtures.*



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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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## Sea-Tac 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.

#### Contents

- Spatial Experience
- Space Allocation
- Wayfinding
- Diversity
- Services & Amenities

### Spatial Experience

#### 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.

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**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.

**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 Retail and Other Amenities

Integration of retail facilities enhances the traveler experience, and should be fully considered and integrated early in the design process.



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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-Tac. (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.

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#### 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.



## 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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- Airport Site Plan
- Airport Access Plan
- Secure vs. Non-secure
- Airport Levels
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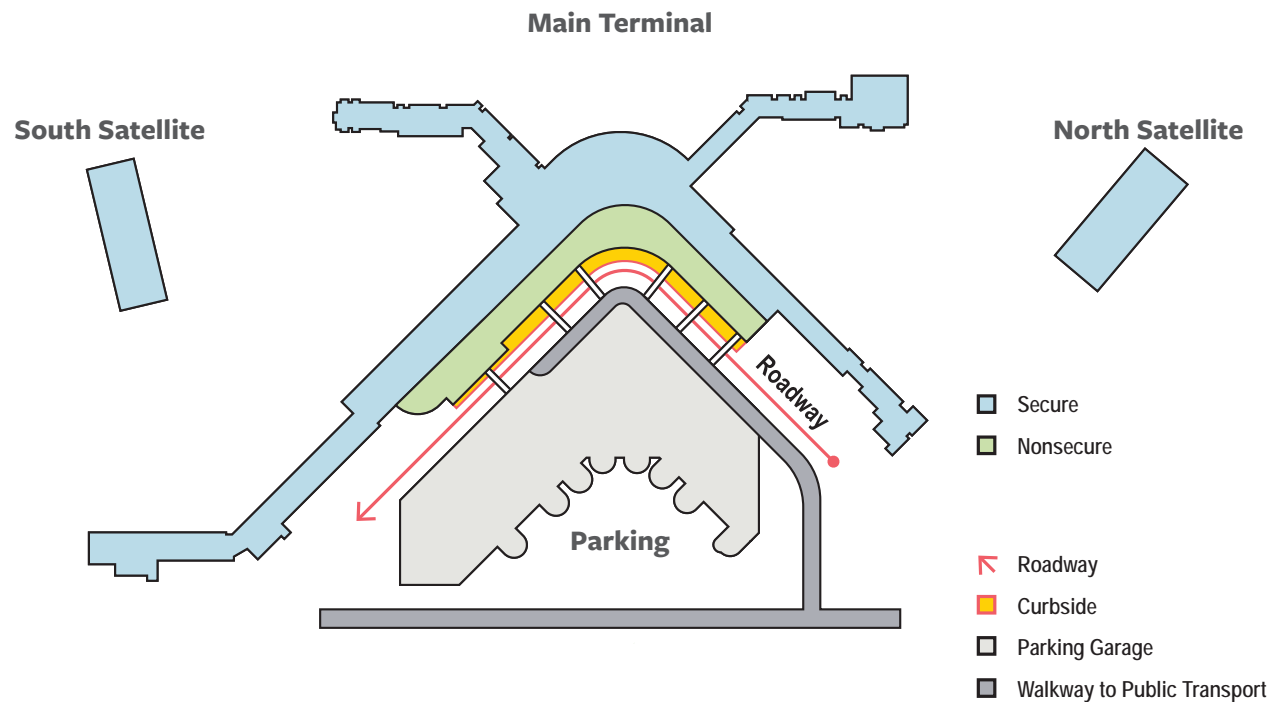
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The Airport site is comprised of a system of several buildings and roadways. These buildings were built at different times, but all function together to support our passengers on their journeys.





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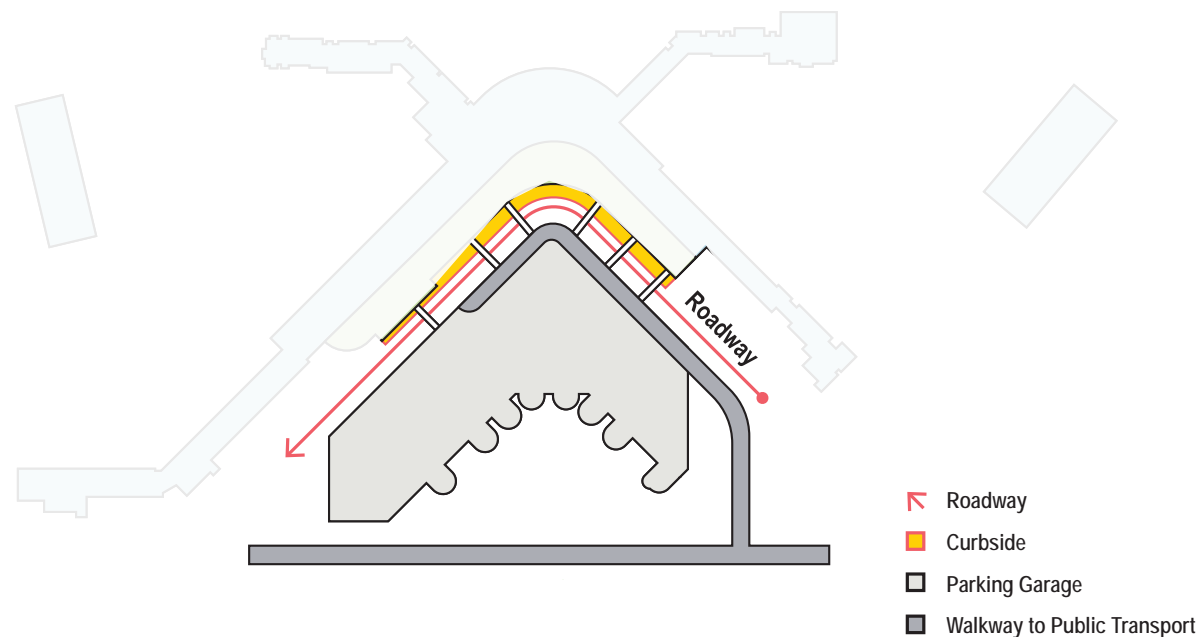
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The Airport site is accessed by a main roadway that splits to the Departures and Arrivals Levels by way of the Curbside zone on each level. It also provides access to the Parking Garage. Passengers may access the Airport by light rail, public buses, charter buses, taxis, and car services.



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

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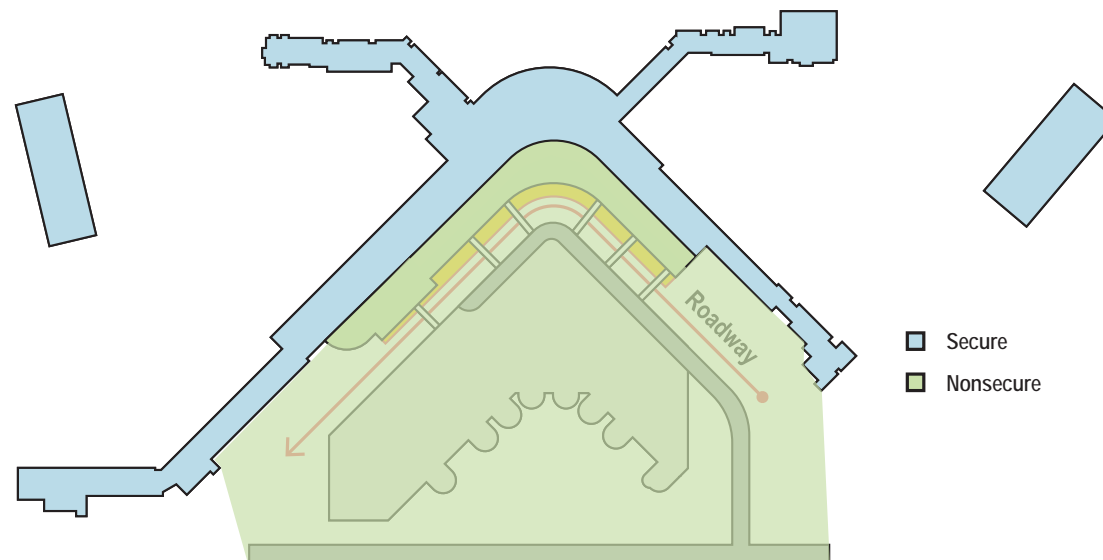
The Non-secure zone includes buildings and infrastructure that are connected to activities that happen on land, such as driving and accessing the city. It includes the following:

- Roadway and Curbside
- Parking
- SoundTransit Access

#### 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
- Satellites
- Central Terminal



- Secure
- Nonsecure

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The Airport 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 Airport and their vertical relationships.



- Departures Level
- Skybridge Level
- Arrivals Level
- Parking Garage



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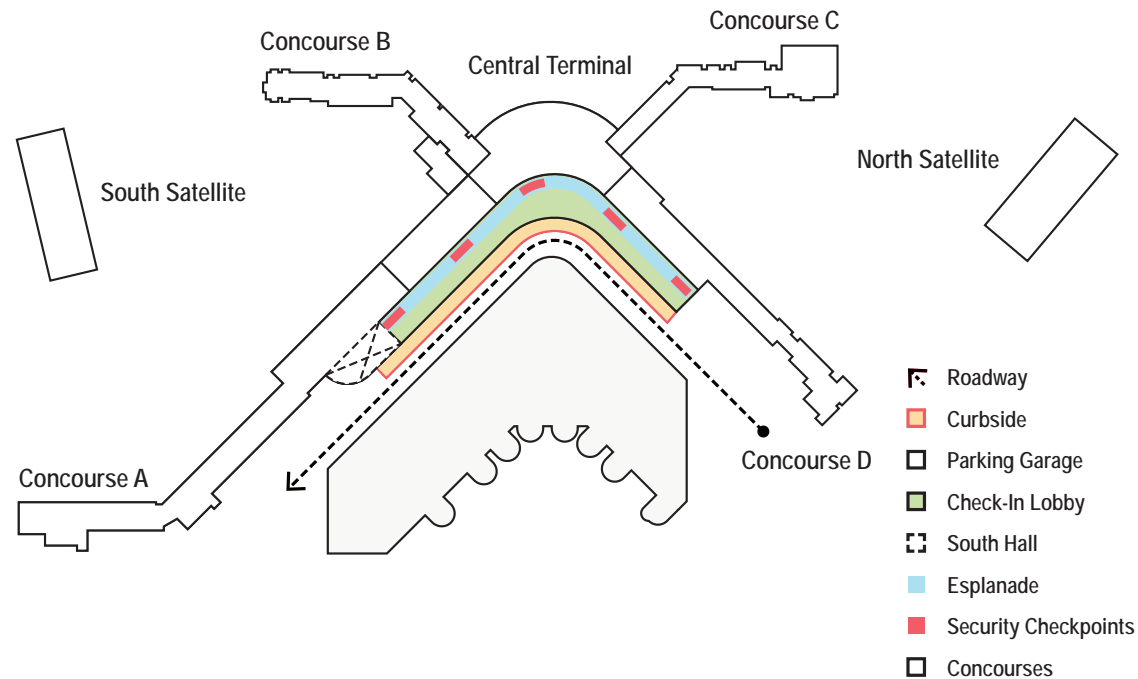
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The Departures Level is the main passenger-facing level of the Airport. Passengers arrive at the airport, whether by land or air, on the Departures Level. Passengers' first impressions of our Airport are set on this level. It has components that are non-secure and secure, and spans across all our buildings.



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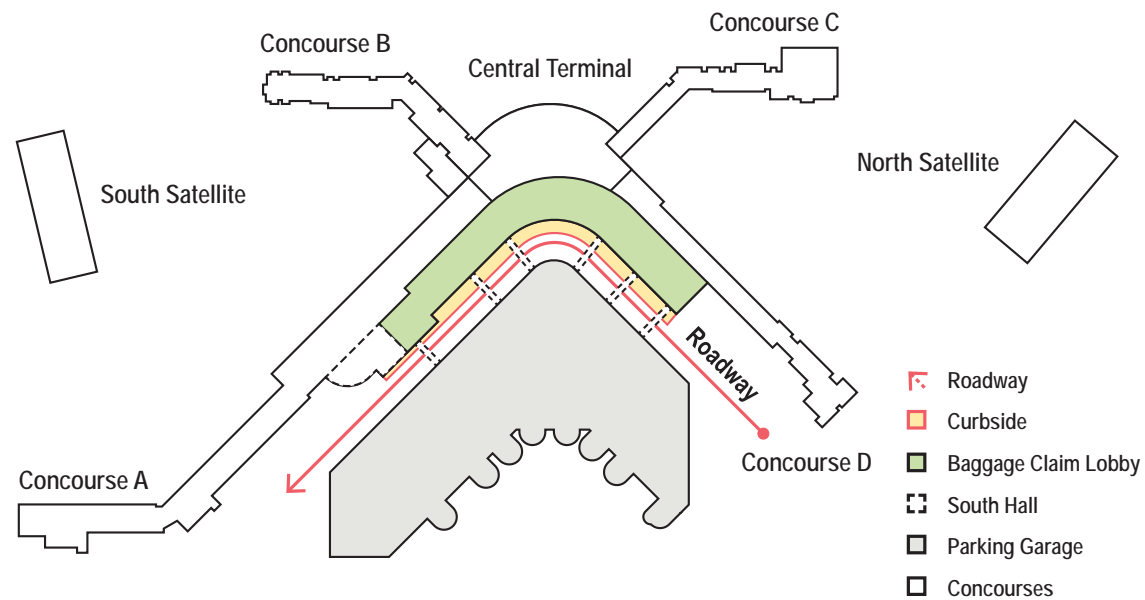
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The Arrivals Level is the level on which passengers receive their baggage and access transportation to enter the city. It's also where locals come to welcome and pick up their guests. It is a floor of introductions and reunions. All of its spaces are non-secure.



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The Satellite Transit System provides transportation among the concourses and satellites. It is composed of three routes: South Loop (blue), Shuttle (yellow), and North Loop (green). The finishes are intended to signal the loop on which passengers are riding. The system runs underground and is in the secure zone.

### South Loop (Blue)

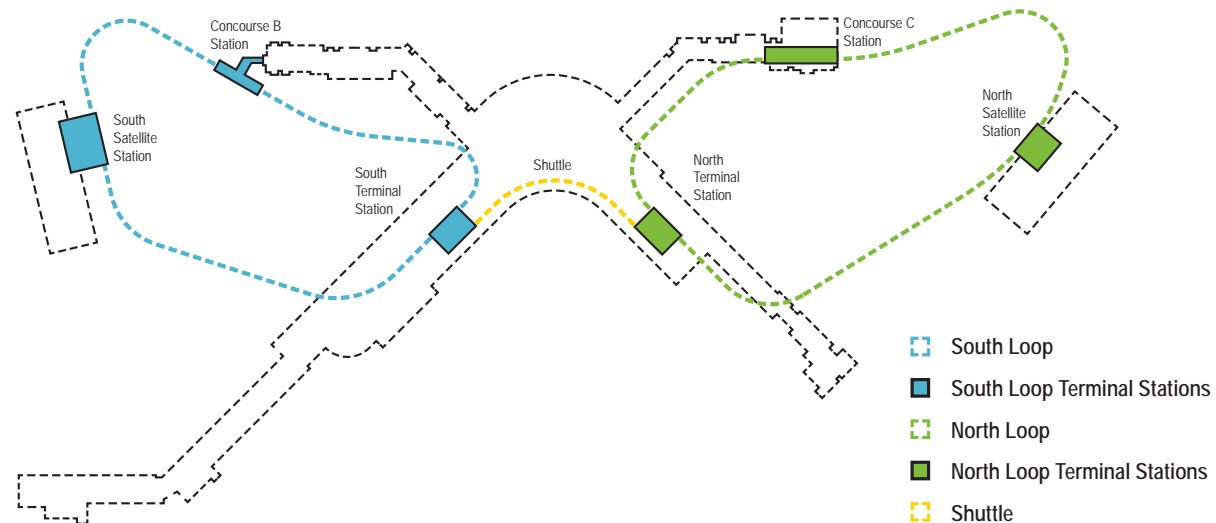
The South Loop connects Concourses A, B, and South Satellite.

### 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.





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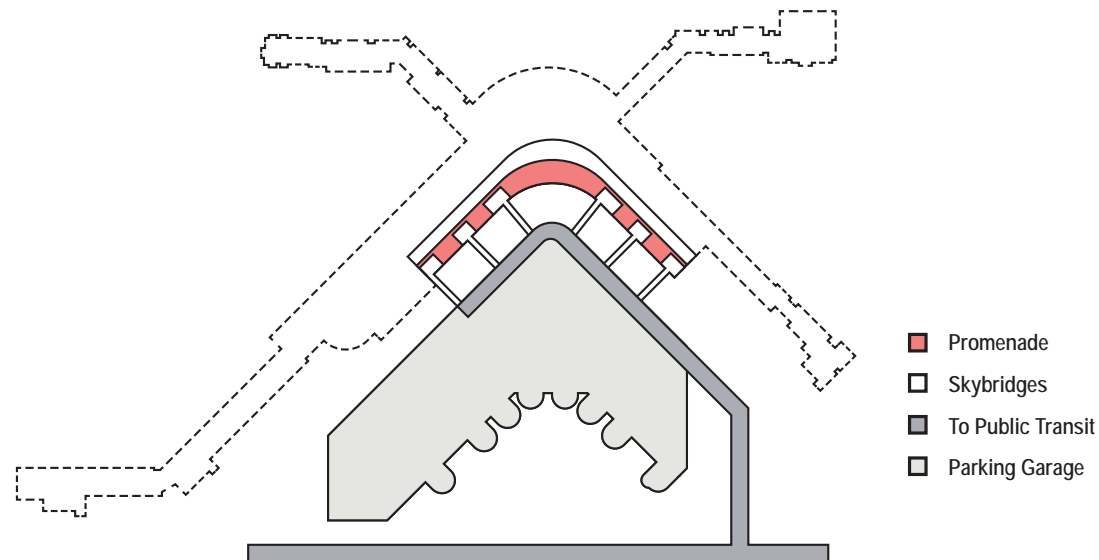
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The Skybridge Level connects passengers across the Roadway and Curbside areas to Parking and to Public Transit. It is in the non-secure zone.



## PRE-SECURITY

### Departures Level

The non-secure areas of the Departures Levels function to welcome passengers to the Airport and prepare them to board their flights.

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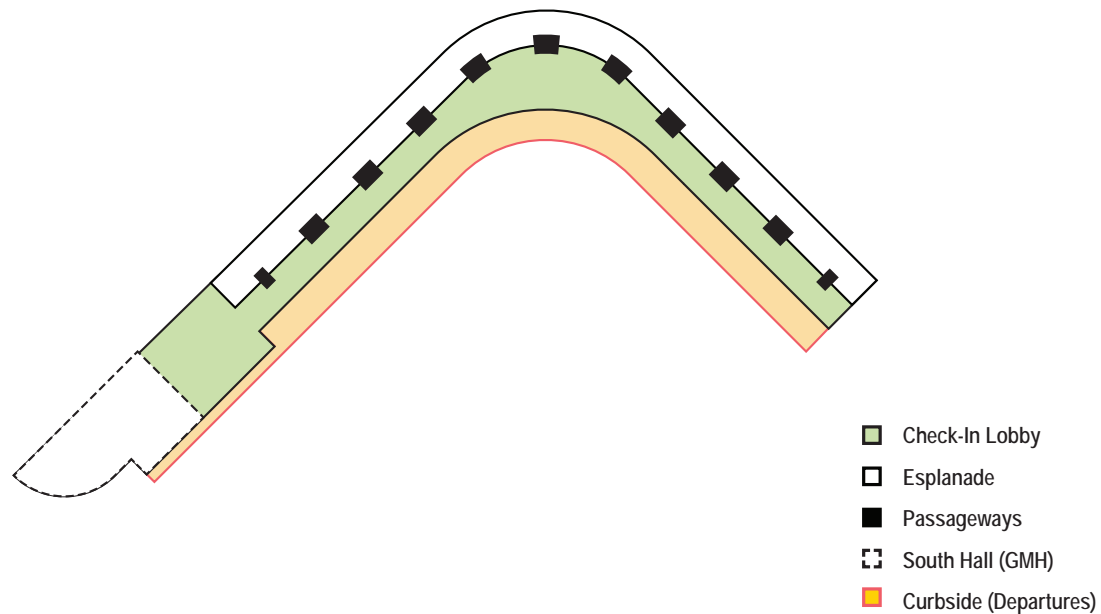
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### Arrivals Level

The pre-security areas of the Arrivals Levels function to welcome passengers to Seattle and Tacoma, and help them claim their baggage and transition back to life on the ground.

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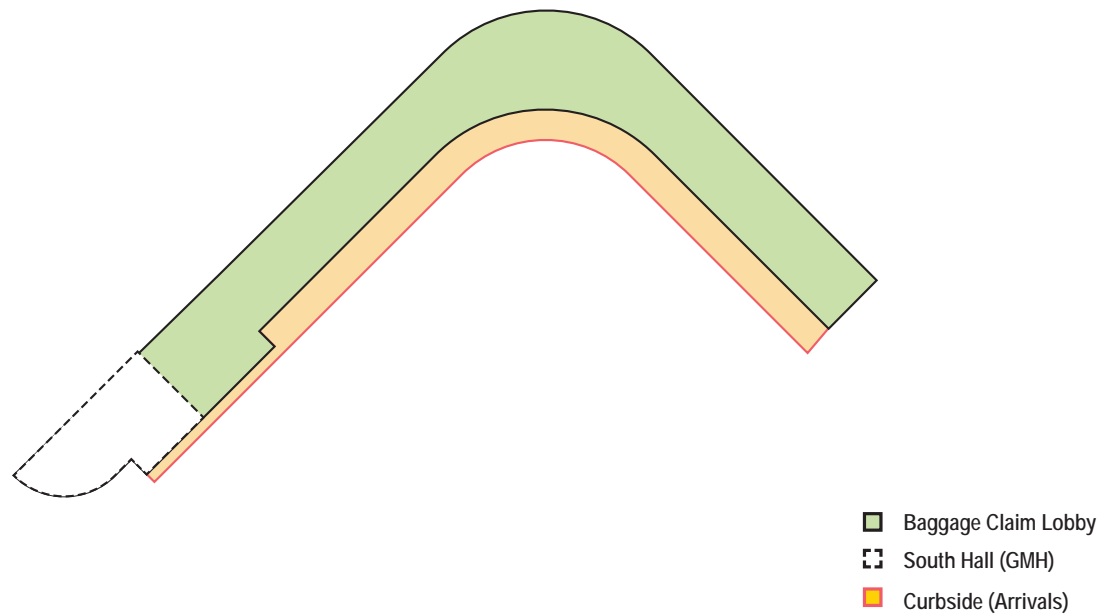
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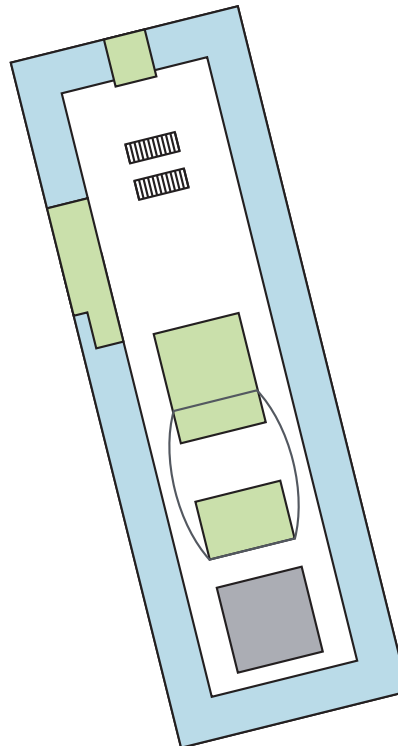
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The Satellites and Concourses serve the same purpose: connecting passengers to their gates for boarding. While the Concourses are accessible by foot, directly from security, the Satellites are accessed by the Satellite Transit System. Both Satellites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

#### Non-secure

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

#### Secure

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

#### Miscellaneous

- Conveying (Elevators, Escalators, Moving Walkways)
- Restrooms
- Mother's Suite
- Quiet Rooms
- Animal Relief Areas
- Children's Play Areas
- Storage
- Loading Docks



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Baggage Claim Lobby

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

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**Finishes**

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

**Equipment**

- Security Camera

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##### South Arrivals (GML)

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##### Esplanade

##### Mezzanine

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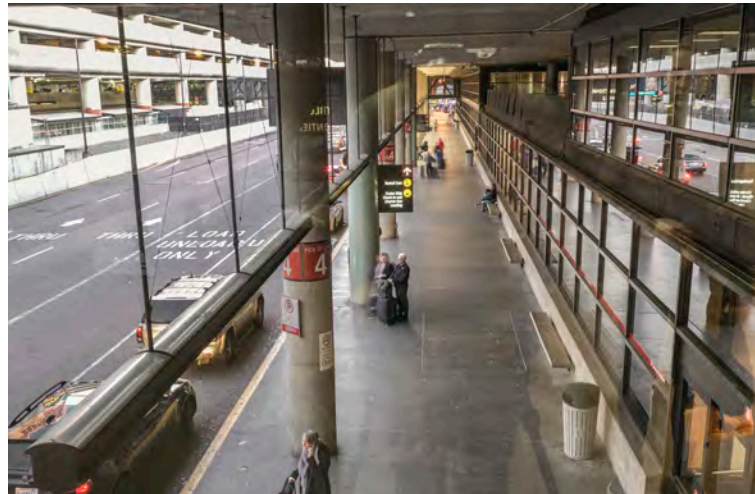
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The (Arrivals) Curbside walkway is the zone between the arrivals level roadway curb and the front of the terminal, typically used by passengers who have arrived by plane.

#### Adjacencies

Baggage Claim Lobby

Parking Garage

#### Planning Notes

- The space should feel enlivened with sufficient seating.
- Original concrete columns should remain unpainted.
- Confirm any provisions for smoking areas with the project manager. Keep smoking areas away from doors and air intake.
- Concrete to remain raw and exposed.



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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

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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.
- Original concrete columns should remain unpainted.
- Confirm any provisions for smoking areas with the project manager. Keep smoking areas away from doors and air intake.
- Concrete to remain raw and exposed.

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- Concrete Floor

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### Equipment

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



## BAGGAGE CLAIM LOBBY

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The Baggage Claim Lobby 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.

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- Public Entrance Doors

### Partitions

- Demountable Partitions

### Conveying

- Baggage Claim Rails

### Furniture

- Meda Gate Seating

### Finishes

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

### Ceilings

- Acoustic Ceiling Tile
- Linear Metal Ceiling

### Equipment

- Security Camera
- Baggage Claim Devices
- Interior Waste/Recycling Receptacles

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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 Lobby

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.



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### 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

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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

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Security Checkpoints

#### Planning Notes

- Original columns finished in black granite should remain; any additional columns should follow new column guidelines.
- Signage is supplied by Sea-Tac for all common use check-in casework. Some airlines may provide their own signage, as approved by Sea-Tac. Appropriate storage should be provided.
- Intend to make Check-In continuous with the Esplanade.

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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 Seaters

### 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



Non-secure

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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 palate 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.

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**Conveying**

- Elevator
- Guardrails

**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

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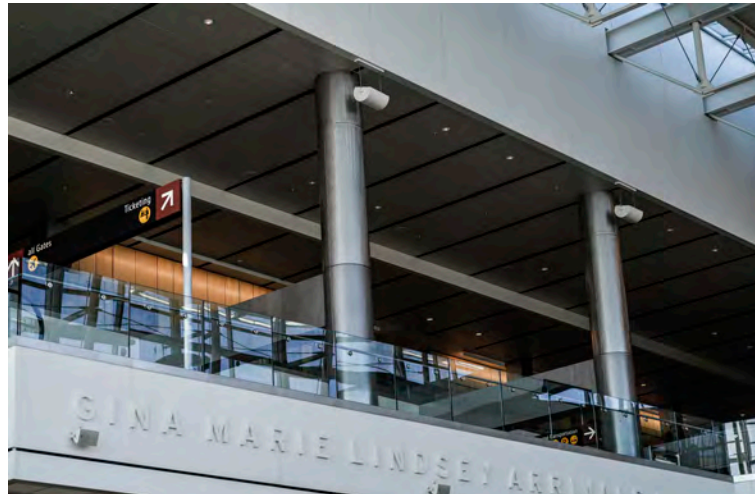
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The mezzanine is located above and visible from the Esplanade. There is limited passenger access, as it includes Port of Seattle, airline, and other offices.

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**Planning Notes**

- Railing to be glass to maintain openness and transparency.



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- Mezzanine

**Passageways**

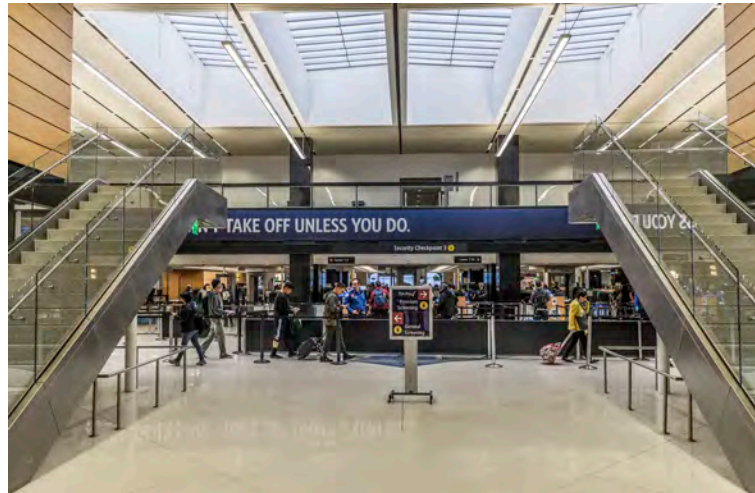
- Parking Garage

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**Adjacencies**

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

**Planning Notes**

- Consider art integration in this space.

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 Lobby. The passageways are also known as breezeways.

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Skybridges

Curbside (Arrivals)

Curbside (Departures)

Baggage Claim Lobby

South Arrivals (GML)

Check-In Lobby

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**Passageways**

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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**

- Bird Control



**Non-secure**

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Baggage Claim Lobby

South Arrivals (GML)

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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 SoundTransit.

**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 are carpeted.
- 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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Curbside (Departures)

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South Arrivals (GML)

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**Conveying**

- 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.

#### Adjacencies

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-Tac 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 Receptacles
- Bird Control

## CENTRAL TERMINAL

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#### Adjacencies

Security Checkpoints

Concourses A, B, C, D

Transit Stations

Corridors

Restrooms

#### 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.

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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**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



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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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Holdrooms

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.

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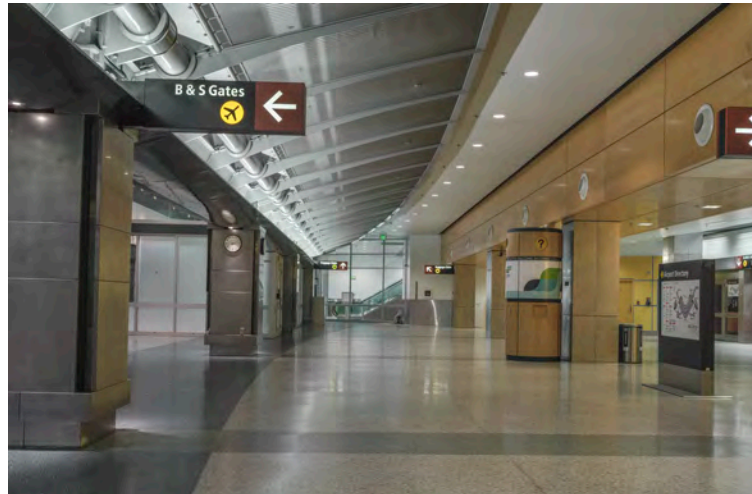
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The Satellite Transit System (STS) Stations connect passengers from the main terminal, Concourses, and Satellites. The sub-grade stations include the escalator/elevator wells, the Mezzanine circulation level, the station lobbies, and the trains themselves.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

#### Adjacencies

Corridors

Conveying

Concourses A, B, C, D

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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### Fenestration

- STS Doors

### Conveying

- Interior Stairs
- Guardrails
- Metal Railings

### Finishes

- Terrazzo - Light
- Interior Paint Type 1
- Wallcovering
  - 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.

**Adjacencies**

Central Terminal

Concourses & Satellites

Restrooms

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.
- The contractor shall field coordinate with all trades to install infrastructure and other items to preserve the right of way clearances.
- Specify corner protectors.

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### Conveying

- Metal Railings (at stairs and ramps)

### Casework

- Flight Information Display

### Finishes

- Interior Paint Type 1
- Wallcovering
- Column Enclosures

### Ceilings

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

### Equipment

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



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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.

#### Adjacencies

Corridors

Restrooms

Concourses A, B, C, D

North, South Satellites

Aircraft Passenger

Loading Bridges

#### 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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### Fenestration

- Concourse Entry/Exit

#### Doors

### Casework

- Charging Station
- Gate Check-In Counter
- Flight Information Display

### Furniture

- Meda Gate Seating
- Amoeba
- Flower Bench
- Cloverleaf Sofa - X Seats
- Monopod
- Park Swivel Armchair

### 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

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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-Tac before their departure. Likewise, they provide the first impression for arriving passengers.

#### 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 Master Specification.

#### Fenestration

- Concourse Entry/Exit Doors



## INTERNATIONAL ARRIVALS

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The International Arrivals area welcomes passengers from international flights.

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- Queue Rails

### Finishes

- Carpet Tile
- Interior Paint Type 1
- Wallcovering
  - PLam Wall System 1
  - Base & Wainscot
  - Chair Rails
- Stainless Steel Column Covers

### Ceilings

- Linear Metal Ceiling

### Equipment

- Fire Extinguisher
- Fire Extinguisher Cabinet
- Emergency Cones

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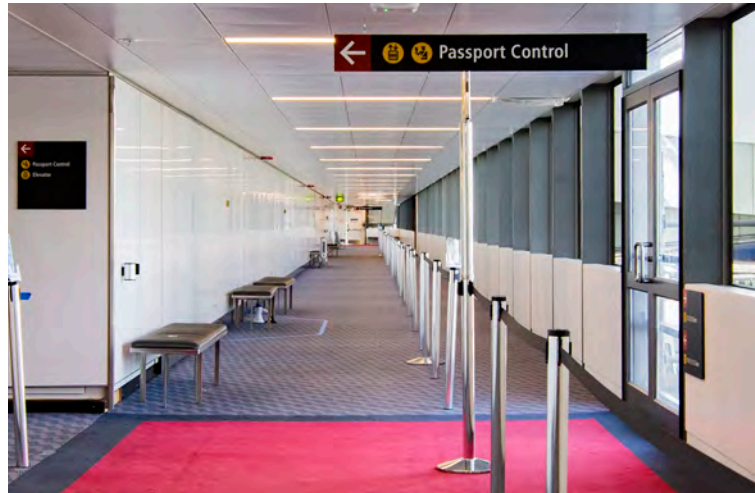
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The Federal Inspection Services areas are used for processing passengers arriving from abroad through immigration and customs.

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### Conveying

- Guardrails
- Queue Rails

### Finishes

- Carpet Tile
- Interior Paint Type 1
- Wallcovering
  - PLam Wall System 2
  - Base & Wainscot
  - Chair Rails
- Stainless Steel Column Covers

### Ceilings

- Linear Metal Ceiling

### Secure

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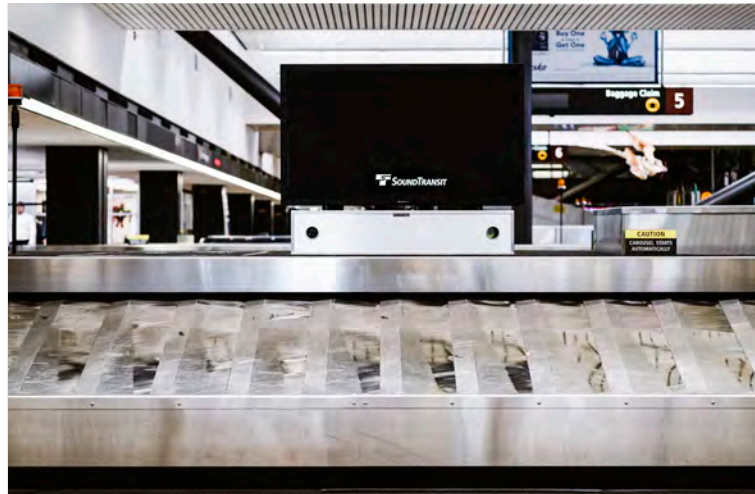
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### Adjacencies

International Arrivals

Federal Inspection Services

South Arrivals Hall

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Concourses & Satellites

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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### Conveying

- Guardrails
- Queue Rails
- Baggage Claim Rails

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### Furniture

- Meda Gate Seaters

### Finishes

- Carpet Tile
- Interior Paint Type 1
- Wallcovering
  - PLam Wall System 3
  - Base & Wainscot
  - Chair Rails
  - Wall & Corner Guards
- Stainless Steel Column  
Covers

### Ceilings

- Linear Metal Ceiling

### Equipment

- Security Camera
- Fire Extinguisher
- Fire Extinguisher Cabinets
- Stanchions
- Interior Waste/Recycle  
Receptacles



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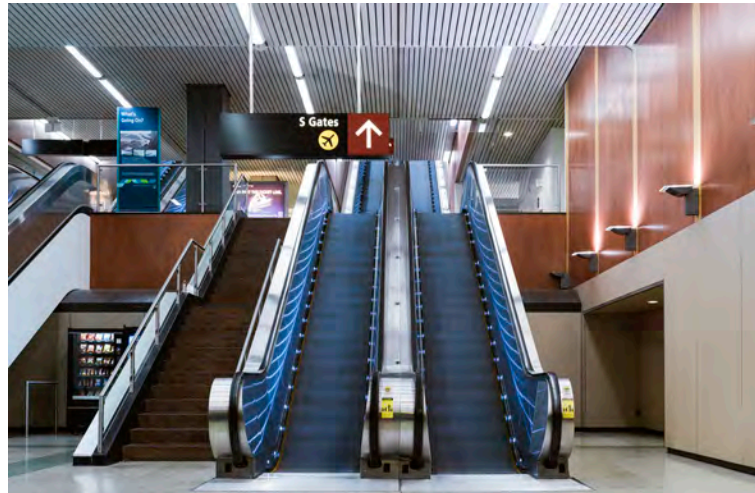
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One of the first points of contact for passengers, the elevator lobbies, escalators, moving walkways, and other areas of conveying should be clean and simple by design. Visual interest can be created through the selection of materials and the application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

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Check-In Lobby

Passageways

Mezzanine

Esplanade

South Arrivals Hall

Central Terminal

Baggage Claim Lobby

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Parking Garage

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.

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**Conveying**

- Guardrails
- Metal Railings

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- Metal Wall System

**Ceilings**

- Linear Metal Ceiling

**Equipment**

- Emergency Cones

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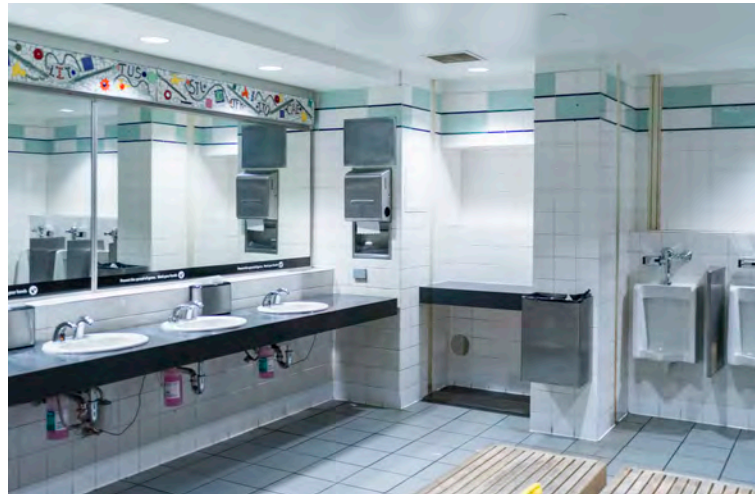
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Restrooms provide passengers the opportunity to refresh while traveling. They should be welcoming, clean, and easy to maintain. We provide men's, women's, and family restrooms.

NOTE: New standards are under development; confirm with your Project Manager.

#### Adjacencies

Mezzanine  
Esplanade  
Central Terminal  
Baggage Claim Lobby  
Concourses & Satellites  
Corridors  
Holdrooms  
Parking Garage

#### Planning Notes

- Provide at least one family restroom per restroom pair, where space allows. Each family restroom should be ADA compliant and include an adult changing table.
- Men's/ women's toilet fixture count ratios should be confirmed with the Airport.
- Restroom should exceed code (IBC Appendix Chapter 29, Minimum Plumbing Fixtures, Table A-29-A) for toilet fixture counts and 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%.



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### Fenestration

- Restroom Doors
- Access Panels

### Finishes

- Tile Flooring
- Interior Paint Type 1
- PLam Wall System 3

### Ceilings

- Gypsum Board Ceiling

### Equipment

#### All restrooms (unless otherwise noted):

- Toilet
- Urinal (men's, family only)
- Sink
- Faucet
- Water Heater
- Drinking Fountain
- Floor Drain
- Trash Receptacle
- Mirror
- Grab Bars
- Soap Dispenser
- Toilet Paper/Cover Dispenser
- Napkin Disposal (women's, family only)
- Paper Towel Dispenser
- Garment Hook & Shelves
- Baby Changing Station

#### Family restroom only:

- Full-Length Mirror
- Adult Changing Table
- Diaper Dispenser

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Children's Play Areas

USO

The Mother's Suite is a quiet, private space where moms can nurse, pump, and spend time in rocking chairs with their babies. The rooms have adjustable lighting, several rocking chairs, foot stools, electrical outlets and side tables. Military families can also access the Mother's Suite in the USO located on the mezzanine level of the main terminal.

NOTE: This space type is still in development.

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**Fenestration**

- Mother’s Suite Door

**Finishes**

- Carpet Tile
- Interior Paint Type 1

**Equipment**

- Wall Power
- Paper Towel Dispenser
- Interior Waste/Recycle Receptacle



## QUIET ROOMS

### Miscellaneous



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##### Mother's Suite

#### Quiet Rooms

##### Animal Relief Areas

##### Children's Play Area

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Quiet Rooms are fully enclosed internal rooms intended for rest or prayer. They additionally provide an opportunity for rest and respite from the activity of the airport. They are important spaces for supporting passengers who may feel overwhelmed during their travels.

NOTE: This space type is still in development.

#### Adjacencies

Corridors

Concourses & Satellites

#### Finishes

- Carpet Tile
- Interior Paint Type 1

### Miscellaneous

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Today's passengers often travel with pets or service animals. Animal Relief Areas provide an opportunity for our pet passengers to stretch and relieve themselves before or after their flights.

NOTE: See North Satellite Renovation (project number 104791) for the example of an Animal Relief Area (drawing A2.13, grid line 12B).

#### Adjacencies

Corridors  
Concourses A, B, C, D  
North, South Satellite  
Restrooms  
Children's Play Area

#### Planning Notes

- Provide 1 per concourse.
- DO NOT provide communal drinking bowls.
- Provide ventilation to the same standard as a restroom.
- All finishes must not be harmed by water spray.
- Pet relief areas should be ADA compliant and included where appropriate space, HVAC, and other requirements can be met.
- Review input from an ADA agency, such as Open Doors.
- The pet pad should be designed and built using a flushable system. The pad can be washed with an automatic drain system.
- Provide sub-floor and 4" baseboard waterproofing membrane.
- Provide water bowl filling station.
- Provide dedicated Janitor Closet.

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### Finishes

- Tile (flooring and walls for sanitary washing)
- AstroTurf (as used in kennels)
- Interior Paint

### Equipment

- Sink (for passengers' hand washing)
- Mop Sink
- Soap Dispenser
- Paper Towel Dispenser
- Bag Dispenser (for animal waste collection bags)
- Interior Waste/Recycle Receptacle (for bagged animal waste disposal)



## CHILDREN'S PLAY AREA

### Miscellaneous

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Children's Play Areas provide equipment and toys for our younger passengers' entertainment and seating for their accompanying adults. The equipment is usually completely provided by a vendor.

#### Adjacencies

Corridors

Concourses & Satellites

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Mother's Suite

Animal Relief Areas

#### Planning Notes

- Locate near a (family) restroom which is accessible by children and has a sink and baby changing table.
- Location near a Mother's Suite is also preferable.
- Accommodate luggage and strollers.

- Provide a shoe storage rack (for children's shoes).
- Provide glass wall partition along the wall facing the main circulation pathways.
- Provide comfortable seating for parents and guardians to wait.

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**Children’s Play Area**

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**Fenestration**

- Storefront

**Finishes**

- Carpet Tile
- Interior Paint
- Wallcovering (child-friendly)

**Ceilings**

- Acoustic Ceiling Tile

**Equipment**

- Security Camera
- WiFi Diffuser
- Wall Power
- Interior Waste/Recycle Receptacle

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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. Please coordinate with your project manager.

**Adjacencies**

Curbside (Arrivals)  
Curbside (Departures)  
Check-In Lobby  
Baggage Claim Lobby  
Parking Garage  
Concourses & Satellites  
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.



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### Planning Notes

- Locations for trash compactors to include overhead clearance for the compactor to be tilted up and slid off of the flatbed truck. Also, ample maneuvering room must be included.
- Trash collection areas need to have waterproof, non-skid flooring, power washing equipment, drains, and separators.
- 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.

The Loading Docks are where recycling and waste are compacted, stored, and loaded onto trucks for disposal.

#### Applicable LEED Credit Requirements:

- 01 MR – Storage & Collection of Recyclables

- Provide space to easily move a truck to pick up the compactors without requiring multi-point turns.
- Provide space for the truck moving compactors to move in and out without interfering with other load dock, terminal, or airfield operations.
- 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.)

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- Provide space for a bottle shredder, including drainage, and sufficient space to store shredded bottles awaiting pickup.
- Provide space for a barrel washing station to enable easy cleanup of trash equipment and the compactor area.
- 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 drainage and sewage capabilities to accommodate drains for each compactor and drainage for the barrel washing station.
- 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.
- Use of trash compactors is currently logged by users; provide connectivity for data.
- Provide power for all relevant equipment.
- 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.
- Dock levelers are required.
- Provide enclosed access, so that system operators do not have to carry materials outside during inclement weather.
- 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.
- 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).

# 3

The background of the slide features a low-angle, upward-looking photograph of a modern building's glass and steel facade. The image is heavily tinted with a dark green color. Overlaid on the right side of the image is a faint, white technical architectural drawing, showing a grid of lines and small circular markers, resembling a structural or elevation drawing.

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## ARCHITECTURAL STANDARDS



# 3

## ARCHITECTURAL STANDARDS

### 3.1 Architectural Elements

- LEED Requirements
- Exterior
- Interior

### 3.2 Building Envelope

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  - Glazed Aluminum
- Window Wall
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  - Clear Glass
- Panel Systems
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  - Aluminum
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  - 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
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    - 60-Min Fire-Rated
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  - 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

- Meda Gate Seaters
  - Powered
  - Recliner Powered
  - ADA
  - Non-powered
- Amoeba
- Flower Bench
- Cloverleaf Sofa - X Seats
- Monopod
- Park Swivel Armchair

### 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

- AV/IT
  - Floor Power Cover
  - Wall Power
  - WiFi Diffuser
  - Entry Door Card Reader
  - Door Access Keypad
  - Security Camera

- Fire/Life Safety
  - Fire Extinguisher
  - Fire Extinguisher Cabinet
  - Emergency Cones

Plumbing

- Toilet & Urinal
- Sink
- Mop Sink
- Faucet
- Drinking Fountain
- Floor Drain

Restroom Accessories

- Trash Receptacle
- Mirror
- Grab Bars
- Dispensers
- Garment Hooks & Shelves
- Baby Changing Station

Bollards

Stanchions

- Magnetic Stanchion
- Screw-In Stanchion
- Stanchion Base

Landscape Containers

- Movable Interior
- Landscape Containers
- Planters

Waste Receptacles

- Interior Waste/Recycle Receptacle
- Exterior Waste/Recycle Receptacle
- Cigarette Trash Receptacle

Pest Control

- Bird Control

Miscellaneous

- Baggage Claim Device
- Vending Machines
- Bag Dispenser
- Compactor
- Cabinet Lock

### 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.



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 Protection 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, 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-Tac 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

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

DV DG AS A





## CURTAIN WALLS

### Structural Glass

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<b>CATEGORIES</b>	Glazing
<b>ACCEPTABLE MATERIALS</b>	Clear laminated tempered glass Insulated units Suspended or ground-supported Fittings or metal mullions Glass fins
<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></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





### Tinted Glass

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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 coefficient, 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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CATEGORIES	Glazing
ACCEPTABLE MATERIALS	Clear insulated glass with low-E coating Clear insulated glass with low-E coating, with frit pattern Translucent laminated glass Anodized Aluminum Mullions
NOTES	<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>



### Clear Glass

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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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<b>CATEGORIES</b>	Glazing
<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> </ul>
<b>LOCATIONS</b>	Building Exterior for Concourses A, B, C, D



## PANEL SYSTEMS

### Metal Foam

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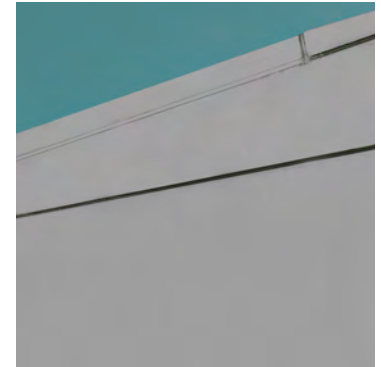
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<b>CATEGORIES</b>	Cladding & Panels
<b>RECOMMENDED MANUFACTURERS</b>	Centria ASP. I.B.P
<b>COLOR</b>	Metal panels of the terminal to match existing anodized bronze color. Metal panels at the concourses to match existing white color.
<b>FINISHES</b>	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>
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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>	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.
<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 Coefficient (STC) rating of 40.</li> </ul>
<b>LOCATIONS</b>	Building Exterior



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### Bronze Anodized Aluminum

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#### CATEGORIES

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#### COLOR

Metal panels of the terminal to match existing anodized bronze color. Metal panels at the concourses are to match the existing white color.

#### FINISHES

Colors to match existing bronze anodized aluminum finishes

#### NOTES

- The surface of the metal panel shall be smooth and dead flat.
- Textured surface not permitted because textured panels hold contaminants that increase streaking and are difficult to clean.
- Panels to be self-cleaning, with a finish that is durable to climatic conditions.
- Match existing systems where required.
- 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.
- Radar reflection shall be taken into consideration for all airside exterior metal wall panels.
- Panel material shall have a minimum Sound Transmission Coefficient (STC) rating of 40.

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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>	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 Coefficient (STC) rating of 40.</li> </ul>
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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; 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.
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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	Envelope
FINISHES	Paint
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 Curbside Arrivals and Departures



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<b>CATEGORIES</b>	Envelope
<b>FINISHES</b>	For Linear Metal Ceiling System: Panels to have backed enamel finish, white color to match existing For Metal Panel System: Fluoropolymer exterior finish
<b>ACCEPTABLE MATERIALS</b>	For Linear Metal Ceiling System: Match existing panel profile For Metal Panel System: Minimum 20 gauge corrosion resistant sheet metal Panel texture to be smooth Perforations to match existing
<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>
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<b>CATEGORIES</b>	Envelope
<b>COLOR</b>	White
<b>HARDWARE SET</b>	Hold-down clips
<b>NOTES</b>	<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>
<b>LOCATIONS</b>	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





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<b>CATEGORIES</b>	Exterior
<b>RECOMMENDED MANUFACTURERS</b>	For fasteners: Samafil Inc. Johns Manville Durolast
<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.
- 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 65 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.

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- Provide 42” high parapet walls or rails on roofs, bridges, and other elevated walk surfaces above 4’; where not feasible, provide other fixed fall protection system for 2 or more concurrent personnel.
- 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.

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<b>CATEGORIES</b>	Exterior
<b>NOTES</b>	Buildings with gutters shall have concrete downspouts connected to storm drainage system.



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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></ul>

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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>

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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>

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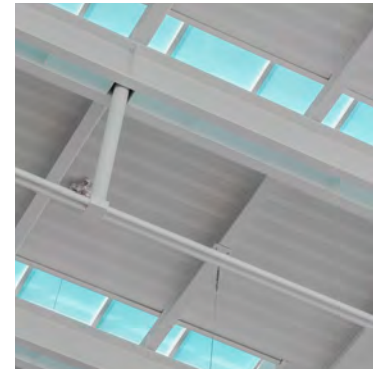
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<b>CATEGORIES</b>	Exterior
<b>PRODUCT NAME</b>	For Aluminum Extrusions: Kynar 500 coating system or Hylar 5000 coating system For Skylight Systems: Okeeffe's, Inc. Evergreen House DeaMor Kalwall
<b>RECOMMENDED MANUFACTURERS</b>	Kalwall Skywall
<b>DESCRIPTION</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> <li>• Maintain single source responsibility for the entire system, including fabrication, installation, and total coordination of all work.</li> </ul>





### 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.

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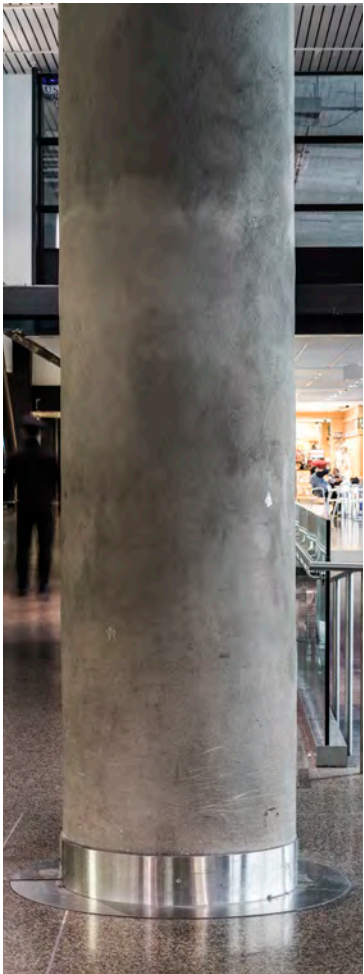
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<b>CATEGORIES</b>	Superstructure
<b>FINISHES</b>	If left uncovered, use sealed plain concrete finish If painted, verify with Port of Seattle Project Manager Light sandblast to eliminate slight imperfections Column enclosures
<b>ACCEPTABLE MATERIALS</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>	Check-In Lobby Curbside - Arrivals Curbside - Departures Baggage Claim Lobby Parking Garage Promenade South Arrivals Hall (GML) Concourses & Satellites



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<b>CATEGORIES</b>	Superstructure
<b>FINISHES</b>	<p>Stucco</p> <p>Pre-cast concrete panels</p> <p>Manufactured metal cover</p> <p>If left uncovered, use sealed, plain concrete finish</p> <p>If light sandblast finish, seal prior to sandblast</p>
<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>	<p>Curbside (Arrivals)</p> <p>Curbside (Departures)</p> <p>Parking Garage</p>

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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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<b>CATEGORIES</b>	Superstructure
<b>DESCRIPTION</b>	Sealed concrete floor
<b>NOTES</b>	<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>
<b>LOCATIONS</b>	Curbside (Arrivals) Curbside (Departures) Conveying - Elevators (new projects; charges of lifts) Storage Janitor Closet Parking Garage Loading Dock

## EXPOSED STEEL STRUCTURE

### Beams & Bracing

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<b>CATEGORIES</b>	Superstructure
<b>FINISHES</b>	Depending on location, white (Interior Paint Type 1) or dark bronze (Interior Paint Type 2) paint
<b>ACCEPTABLE MATERIALS</b>	Structural steel
<b>NOTES</b>	<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>
<b>LOCATIONS</b>	Check-In Lobby Passageways Skybridges Baggage Claim Lobby South Arrivals Hall (GML) Central Terminal

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<b>CATEGORIES</b>	Exterior Superstructure
<b>ACCEPTABLE MATERIALS</b>	Portland cement concrete (PCC)
<b>NOTES</b>	<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>
<b>LOCATIONS</b>	Parking Garage Loading Dock

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### CATEGORIES

Superstructure

### FINISHES

Metal floor cover plates

Metal wall cover plates

Ceiling cover plates

### NOTES

- Expansion and control joints shall be located to accommodate building movement, with interior bellows sloped to drain.
- All expansion joints at interior and exterior finishes shall be covered with appropriate expansion joint covers.
- Ensure a smooth transition at interface of joint cover and adjacent finish.

### LOCATIONS

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.

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CATEGORIES	Exterior
DESCRIPTION	Automatic sliding doors
HARDWARE SET	Overhead motion sensor Stainless Steel
ACCEPTABLE MATERIALS	Tinted glass Anodized aluminum frames
NOTES	<ul style="list-style-type: none"><li>No exposed fasteners are allowed.</li><li>All exterior doors to have full height glass.</li></ul>
LOCATIONS	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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## DOORS

### Flush Panel Hollow Metal Door

#### Restrooms

<b>CATEGORIES</b>	Interior
<b>RECOMMENDED MANUFACTURERS</b>	Hardware: Intellikey
<b>SIZE</b>	Door panel height: 8' - 0"
<b>COLOR</b>	Door frame should be inset into rough opening.
<b>HARDWARE SET</b>	<p>Lever type door pulls</p> <p>Mortised lock-set, keyed on both sides</p> <p>Concealed finger pull, both sides</p> <p>Concealed offset mortised hinge with non-removable pins</p> <p>Smoke gasket</p> <p>Overhead concealed closer with kick-plate (on push side): stainless steel, 8400 series 12" (or 18" as required) x US26D, Ives Or similar.</p>
<b>ACCEPTABLE MATERIALS</b>	16" - gauge minimum brushed stainless steel, hollow metal door and frame assembly
<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> </ul>
<b>LOCATIONS</b>	Restrooms

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## DOORS

### Flush Panel Hollow Metal Door

#### Mother's Suite

<b>CATEGORIES</b>	Interior
<b>RECOMMENDED MANUFACTURERS</b>	Hardware: Intellikey
<b>SIZE</b>	Door panel width: 3' - 0" Door panel height: 7' - 0"
<b>HARDWARE SET</b>	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.
<b>ACCEPTABLE MATERIALS</b>	16" -gauge minimum brushed stainless steel hollow metal door and frame assembly
<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 finishes.</li></ul>
<b>LOCATIONS</b>	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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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.

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Overhead Roll-Up Doors

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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>	Unpainted slats Sheet material sanded finish to be non-directional (100 grit) Formed or cast materials with flat faces are required to have non-directional sanded finish (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>	Anodized aluminum Natural Stainless steel
<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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CATEGORIES	Interior
RECOMMENDED MANUFACTURERS	Julius Blum/Blumcraft Livers Bronze Company Newman Brothers, Inc.
DESCRIPTION	Interior glazing to create a permanent partition between spaces
FINISHES	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
ACCEPTABLE MATERIALS	Glazing: Clear Glass Translucent laminated glass monolithic float glass Sandblasted glass Fritted glass Stainless Steel

## 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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<b>CATEGORIES</b>	Interior
<b>ACCEPTABLE MATERIALS</b>	Aluminum or stainless steel window frames Clear, non-colored glass Translucent laminated glass Sandblasted glass Fritted glass
<b>NOTES</b>	<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>	<p>For aluminum, use shop applied enamel or Fluoropolymer finish</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>
<b>ACCEPTABLE MATERIALS</b>	<p>Aluminum</p> <p>Stainless steel</p> <p>Galvanized steel</p>
<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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<b>CATEGORIES</b>	Exterior
<b>FINISHES</b>	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
<b>HARDWARE SET</b>	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
<b>ACCEPTABLE MATERIALS</b>	Fabricate all blades and frames from extruded aluminum, stainless steel, or galvanized steel
<b>NOTES</b>	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> <ul style="list-style-type: none"> <li>Brushed</li> <li>Powder coated</li> <li>Primed and painted</li> <li>Enamel</li> <li>Finish to match surrounding wall or ceiling color, unless approved otherwise</li> </ul>
<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

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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

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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

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





## DEMOUNTABLE PARTITIONS

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**Demountable Partitions**

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Green-Board

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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>

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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

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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>



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Metal Railings

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CATEGORIES	Exterior
FINISHES	Steel is hot-dipped galvanized after fabrication 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
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>	Julius Blum Blumcraft Livers Bronze Company Newman Brothers Inc.: Econorail™ glass rail system
<b>FINISHES</b>	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
<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>





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- Check-In Lobby
- Baggage Claim
- Promenade
- Esplanade
- Central Terminal
- South Arrivals Hall (GML)
- Concourses & Satellites
- International Arrivals
- Federal Inspection Services
- International Arrivals Baggage Claim

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CATEGORIES	Interior
ACCEPTABLE MATERIALS	Stainless steel, metal panel top surface
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	Federal Inspection Services
	International Arrivals Baggage Claim

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Baggage Claim Rails

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CATEGORIES	Interior
FINISHES	<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>
ACCEPTABLE MATERIALS	Stainless steel handrail and base with perforated metal screen
NOTES	<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></ul>
LOCATIONS	<p>Baggage Claim Lobby</p> <p>International Arrivals Baggage Claim</p>



### 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-Tac. In other instances, the airlines provide their own casework. Sea-Tac 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.
- Use master keying system for all locks.
- Select materials that are expected to be available in the future.
- Inside the airport, 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.
- Preference will be given to the use of wood products made from FSC (Forest Stewardship Council) certified wood.



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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
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## CHECK-IN BAGGAGE SCALE SHELL

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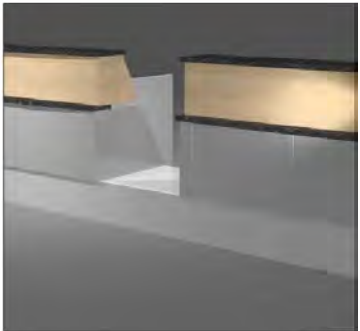
**Casework**

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**Check-In Baggage Scale**  
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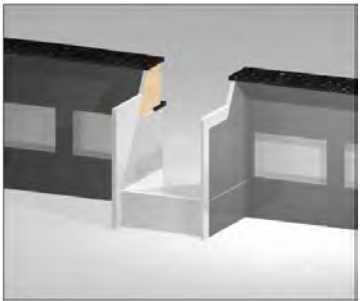
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<b>SIZE</b>	2' - 6" L 2' - 6" W 1' - 0" H
<b>FINISHES</b>	Stainless steel
<b>LOCATIONS</b>	Check-In Lobby
<b>LINKS</b>	Design Intent Drawings



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Rear View

RENDERED ILLUSTRATIONS



TICKET LIFT PODIUM

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<b>SIZE</b>	2' - 3" L 2' - 9" W 4' - 0 1/8" H
<b>COMPONENTS</b>	Podium shell Podium insert
<b>FINISHES</b>	Maple wood veneer Stainless steel
<b>LOCATIONS</b>	Concourses C, D North, South Satellites
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Front View



Rear View

RENDERED ILLUSTRATIONS

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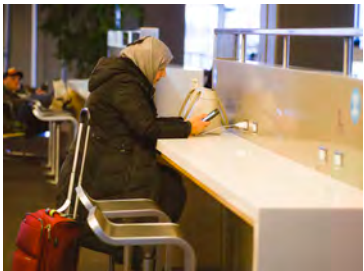
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<b>SIZE</b>	13' - 3" L 3' - 6" W 4' - 8" H
<b>COMPONENTS</b>	Countertops Divider with power and lighting Stools anchored to floor
<b>FINISHES</b>	Metal base Wood veneer Solid surface
<b>NOTES</b>	<ul style="list-style-type: none"><li>The charging station is a counter height ledge that provides passengers a place to rest and charge their devices.</li><li>Passengers are likely to lean on this perch, so it should support the appropriate weight.</li></ul>
<b>LOCATIONS</b>	Holdrooms
<b>LINKS</b>	Design Intent Drawings



3D RENDERING  
CHARGING STATION

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 stand
FINISHES	Refer to drawings
NOTES	<ul style="list-style-type: none"><li>This casework is also the standard for ground transport and cruise ship counters.</li><li>Provide and maintain access to power outlets when providing cabinet inserts.</li></ul>
LOCATIONS	Holdroom
LINKS	Design Intent Drawings



FLIGHT INFORMATION DISPLAY

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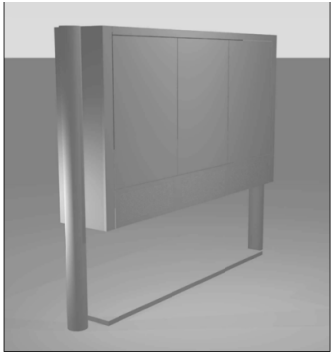
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SIZE	11' - 8" L 1' - 10 7/8" W 9' - 8 8" H
FINISHES	Stainless steel
LOCATIONS	Check-In Lobby Esplanade Central Terminal Concourses & Satellites Holdrooms
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Rear View



### 3.9 FURNITURE

Furniture is situated throughout Sea-Tac 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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Meda Gate Seaters  
Amoeba  
Flower Bench  
Cloverleaf Sofa - X Seats  
Monopod  
Park Swivel Armchair

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

- There should be a mixture of hard and soft seating.
- 75% of seating should be powered.
- 10-15% should be soft seating (not ganged gate seating).
- 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.
- Maximize the number of seats in a holdroom while maintaining 5 ft spacing between seats.
- 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.

### 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



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## MEDA GATE SEATERS

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### Furniture

#### Meda Gate Seaters

Powered

Recliner Powered

ADA

Non-Powered

Amoeba

Flower Bench

Cloverleaf Sofa - X Seats

Monopod

Park Swivel Armchair

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#### CATEGORY

Gate seating

#### DESCRIPTION

2 arm rests per seat for powered units

Shared arm rests for non-powered units

Power module placed between seats for powered units (on T-form)

Power arm configuration (top to bottom): twin USB; electrical; electrical

Male end electrical plug shall be standard straight cord, NOT right angle

Raised ADA seats typically on the outside unless the entire row is ADA

Raised arms for raised ADA seats

#### MANUFACTURER

Vitra

#### SIZE

113 3/8" (288 cm) length (all except 2 Seater, 2 Seater Recliner, and 10 Seater)

#### COLOR

Basalt Gray (RAL 7012)

#### FINISH

Base, legs, and armrest: polished Aluminum

Glides: rubber for carpet; magnetic for terrazzo in Baggage Claim Lobby

Seat: polyurethane integral-skin foam

Table: black solid-core laminate

Power: polished aluminum with black cable channels

Cup holder: black plastic

ADA designator inlay: black symbol on white

#### LINKS

<https://www.vitra.com/en-au/public/product/details/meda-gate>



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Furniture

Meda Gate Seaters

- Powered
- Recliner Powered
- ADA
- Non-Powered

- Amoeba
- Flower Bench
- Cloverleaf Sofa - X Seats
- Monopod
- Park Swivel Armchair

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NOTES

- 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).
- Use entire row of all ADA seating when applicable to the seating layout.
- Approximately 6-10 PRM/ADA seats per gate, located near gate door and in line of sight to podium.

LOCATION

Holdroom



MEDA GATE SEATERS

Powered

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Furniture

Meda Gate Seaters

Powered

- Recliner Powered
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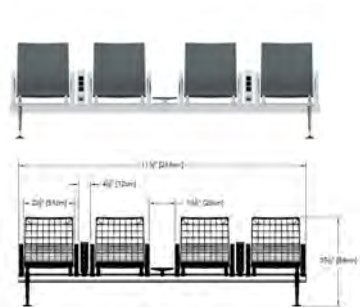
Non-Powered

- Amoeba
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OPTION NAME	Meda Gate 4 Seater - Powered
COMPONENTS	Arm   Seat   Arm with cup holder   Power   Arm   Seat   Arm   Small Table   Arm   Seat   Arm   Power   Arm with cup holder   Seat   Arm
OPTION NAME	Meda Gate 8 Seater - Powered
DESCRIPTION	4 Seat with back-to-back connector legs
COMPONENTS	Arm   Seat   Arm with cup holder   Power   Arm   Seat   Arm   Small Table   Arm   Seat   Arm   Power   Arm with cup holder   Seat   Arm
OPTION NAME	Meda Gate 10 Seater - Powered
DESCRIPTION	4 Seat with back-to-back connector legs and airfield view end seating (no arms; power module between seats)
COMPONENTS	Arm   Seat   Arm with cup holder   Power   Arm   Seat   Arm   Small Table   Arm   Seat   Arm   Power   Arm with cup holder   Seat   Arm



MEDA GATE SEATERS

Recliner Powered

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<b>OPTION NAME</b>	Meda Gate 2 Seater Recliner - Powered
<b>COMPONENTS</b>	Arm   Seat   Arm with cup holder   Power   Arm with cup holder   Seat   Arm
<b>OPTION NAME</b>	Meda Gate 4 Seater Recliner - Powered
<b>COMPONENTS</b>	Arm   Seat   Arm with cup holder   Power   Arm   Seat   Arm   Small Table   Arm   Seat   Arm   Power   Arm with cup holder   Seat   Arm



MEDA GATE SEATERS

ADA

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OPTION NAME	Meda Gate 4 Seater (2 ADA) - Powered
COMPONENTS	Arm   ADA Seat   Arm with cup holder   Power   Arm   Seat   Arm   Small Table   Arm   Seat   Arm   Power   Arm with cup holder   ADA Seat   Arm
OPTION NAME	Meda Gate 4 Seater (all ADA) - Powered
COMPONENTS	Arm   ADA Seat   Arm with cup holder   Power   Arm   ADA Seat   Arm   Small Table   Arm   ADA Seat   Arm   Power   Arm with cup holder   ADA Seat   Arm
OPTION NAME	Meda Gate 5 Seater (2 ADA)
COMPONENTS	Arm   ADA Seat   Arm with cup holder   Seat   Arm with cup holder   Seat   Arm with cup holder   Seat   Arm with cup holder   ADA Seat   Arm
OPTION NAME	Meda Gate 5 Seater (all ADA)
COMPONENTS	Arm   ADA Seat   Arm with cup holder   ADA Seat   Arm with cup holder   ADA Seat   Arm with cup holder   ADA Seat   Arm with cup holder   ADA Seat   Arm



## MEDA GATE SEATERS

### Non-Powered

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Powered  
Recliner Powered  
ADA

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<b>OPTION NAME</b>	Meda Gate 2 Seater
<b>COMPONENTS</b>	Arm   Seat   Arm with cup holder   Seat   Arm
<b>OPTION NAME</b>	Meda Gate 5 Seater
<b>COMPONENTS</b>	Arm   Seat   Arm with cup holder   Seat   Arm with cup holder   Seat   Arm with cup holder   Seat   Arm with cup holder   Seat   Arm
<b>OPTION NAME</b>	Meda Gate 10 Seater
<b>DESCRIPTION</b>	5 Seat with back-to-back connector legs
<b>COMPONENTS</b>	Arm   Seat   Arm with cup holder   Seat   Arm with cup holder   Seat   Arm with cup holder   Seat   Arm with cup holder   Seat   Arm





## AMOEBA

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<b>CATEGORY</b>	Soft seating
<b>DESCRIPTION</b>	Upholstered organic shaped chair
<b>MANUFACTURER</b>	Vitra
<b>SIZE</b>	Width 24.5" (62 cm) Height 32.25" (82 cm) Depth 33.75" (86 cm) Seat Height 10.75" (27 cm)
<b>FABRIC</b>	Micropore
<b>LINKS</b>	<a href="https://www.vitra.com/en-au/living/product/details/amoeba">https://www.vitra.com/en-au/living/product/details/amoeba</a>
<b>LOCATION</b>	Holdroom



FLOWER BENCH

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CATEGORY	Soft seating
DESCRIPTION	Upholstered petal shaped bench
MANUFACTURER	Vitra
SIZE	Width 47" (120 cm) Depth 52.25" (132.5 cm) Seat Height 15.75" (40 cm)
FABRIC	Micropore
LINKS	<a href="https://www.vitra.com/en-au/public/product/details/flower">https://www.vitra.com/en-au/public/product/details/flower</a>
LOCATION	Holdroom



## CLOVERLEAF SOFA - X SEATS

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<b>CATEGORY</b>	Soft seating
<b>DESCRIPTION</b>	Modular sofa system consisting of right, left, middle, and extended unit
<b>MANUFACTURER</b>	Verpan
<b>SIZE</b>	Width 43" (110 cm) Height 31" (80 cm) Seat Height 16" (40 cm)
<b>FABRIC</b>	Micropore
<b>LINKS</b>	<a href="http://www.verpan.com/products/lounge-seating/cloverleaf-sofa-3-units">http://www.verpan.com/products/lounge-seating/cloverleaf-sofa-3-units</a>
<b>LOCATION</b>	Holdroom



## MONOPOD

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<b>CATEGORY</b>	Soft seating
<b>DESCRIPTION</b>	Upholstered plastic shell with heavily weighted base
<b>MANUFACTURER</b>	Vitra
<b>SIZE</b>	Width 18.75" (48 cm) Height 30" (76.5 cm) Base Depth 16" (41 cm) Seat Height 14.5" (36.5 cm)
<b>FABRIC</b>	Micropore
<b>LINKS</b>	<a href="https://www.vitra.com/en-au/living/product/details/monopod">https://www.vitra.com/en-au/living/product/details/monopod</a>
<b>LOCATION</b>	Holdroom





## PARK SWIVEL ARMCHAIR

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<b>CATEGORY</b>	Soft seating
<b>DESCRIPTION</b>	Upholstered armchair with a cubic shape of simple, clean lines
<b>MANUFACTURER</b>	Vitra
<b>SIZE</b>	Width 30" (76 cm) Height 31" (78.5 cm) Depth 33.5" (85 cm) Seat Height 17.5" (44 cm)
<b>FABRIC</b>	Micropore
<b>FINISH</b>	Polyethylene and polyurethane foam
<b>LINKS</b>	<a href="https://www.vitra.com/en-au/living/product/details/park-swivel-armchair">https://www.vitra.com/en-au/living/product/details/park-swivel-armchair</a>
<b>LOCATION</b>	Holdroom



An aerial photograph of Seattle-Tacoma International Airport (Sea-Tac). In the foreground, a grassy field and a road with a directional sign pointing left towards 'J' and 'T' are visible. The middle ground features the airport's main terminal building, a large control tower, and a DoubleTree hotel. In the background, snow-capped mountains rise against a clear blue sky. An Alaska Airlines plane is seen in flight on the left side of the image.

### 3.10 LIGHTING

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

### Architectural Standards

The overall lighting strategy for Sea-Tac 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

DV DG AS A

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





### Architectural Standards

### Finishes

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-Tac 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., grey, 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



## 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  
Type 6,6 nylon yarn  
Soil resistant fiber  
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

- 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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FLOORING

Carpet Tile

Type 1

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- Concourses A, B, C, D
- North, South Satellites
- International Arrivals
- Federal Inspection Services
- International Arrivals Baggage Claim
- Aircraft Passenger Loading Bridges





## 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"  
Yarn weight is 32 ounces per square yard  
Type 6,6 nylon yarn  
Soil resistant fiber  
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 (see master spec on website)

#### COLOR

Neutral color

#### NOTES

- 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.

#### LOCATIONS

Skybridge



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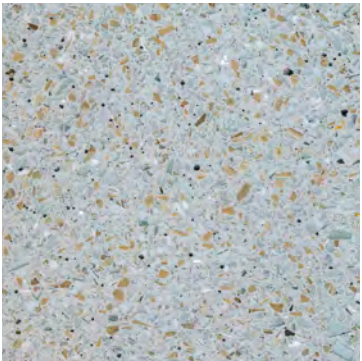
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FLOORING

Terrazzo

Light

<b>COLOR</b>	Off-white Color of the aggregate can be varied
<b>FINISH</b>	Non-slip surface type sealer
<b>NOTES</b>	<ul style="list-style-type: none"><li>• Terrazzo colors and finishes on stairs must match, or be compatible with the adjacent terrazzo floor finishes and other adjacent floor treatments.</li><li>• Use pre-cast terrazzo stair treads and risers, terrazzo base, and non-skid nosing insert.</li></ul>
<b>LOCATION</b>	Terrazzo finish is to be used on all stairs in public circulation areas. Utilize in all new locations



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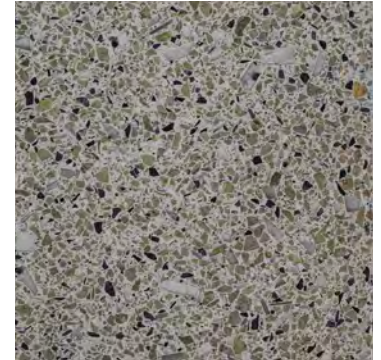
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## FLOORING

### Terrazzo

#### Mid

<b>COLOR</b>	Mid-brown Darker color can be used as transition points
<b>FINISH</b>	Non-slip surface type sealer
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Terrazzo colors and finishes on stairs must match, or be compatible with the adjacent terrazzo floor finishes and other adjacent floor treatments.</li> <li>Use pre-cast terrazzo stair treads and risers, terrazzo base, and non-skid nosing insert.</li> </ul>
<b>LOCATION</b>	Terrazzo finish is to be used on all stairs in public circulation areas.



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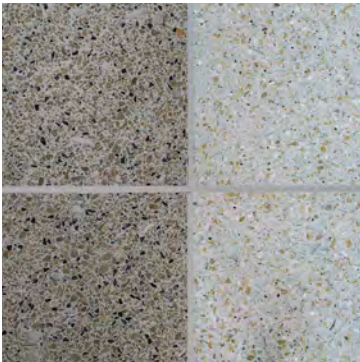
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FLOORING

Terrazzo

Accent

DESCRIPTION	Varies
COLOR	Color of the aggregate can be varied also
FINISH	Non-slip surface type sealer
NOTES	<ul style="list-style-type: none"><li>Requires approval by ARC.</li><li>Terrazzo colors and finishes on stairs must match, or be compatible with the adjacent terrazzo floor finishes and other adjacent floor treatments.</li><li>Use pre-cast terrazzo stair treads and risers, terrazzo base, and non-skid nosing insert.</li></ul>
LOCATION	Terrazzo finish is to be used in all stairs in public circulation areas.



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Terrazzo

Legacy

DESCRIPTION	Legacy terrazzo to be used for repairs New terrazzo standard to be used instead of legacy terrazzo when large areas need replacement
COLOR	Dark brown
FINISH	Non-slip surface type sealer
LOCATIONS	Baggage Claim Lobby Esplanade Check-In Lobby Concourses

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Stone Flooring

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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

DESCRIPTION	Porcelain ceramic tiles with integral material and color
SIZE	Minimum of 12” x 12”
COLOR	Medium to medium light color palette
FINISH	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)
NOTES	<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>
LOCATIONS	Animal Relief Area

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Broadloom Area Rug

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- Check-In Lobby
- Baggage Claim Lobby
- Esplanade





## Walk-Off Mat

### Type 1

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#### PRODUCT NAME

Abrasive Action II Walk-Off Mat 6'-0" Roll Powerbond

#### DESCRIPTION

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

#### SIZE

12" x 12"

#### NOTES

- 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.
- 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.
- Extruded aluminum shall be ASTM B 221, with alloy 6063-T5.
- Provide edge members in single lengths.

#### LOCATIONS

Check-In Lobby  
Baggage Claim Lobby  
South Arrivals Hall (GML)



## FLOORING

### 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-T5.</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	<ul style="list-style-type: none"><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>• Preference will be given to products with a high percentage of recycled content.</li></ul>



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Astro Turf

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DESCRIPTION	Washable permeable surface with drainage system underneath
LOCATIONS	Animal Relief Area

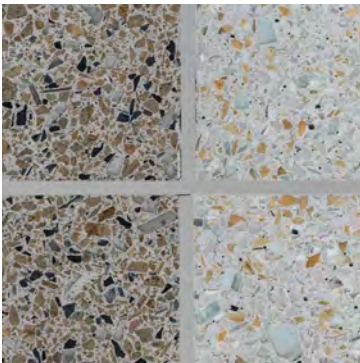


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Transition Details

Terrazzo to Terrazzo

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



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Transition Details

Walk-Off Mat to Terrazzo

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

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Expansion Control Cover Plates

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





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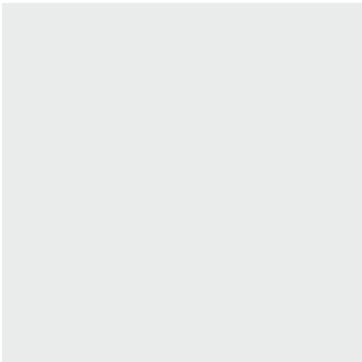
- Paint finishes for walls should be chip-resistant and suitable for high-traffic areas.
- “Port Super White” is the standard paint color.
- Low VOC paint should be specified.
- Any accent paint on walls should be neutral colors.
- Any painted drywall should be above 8 feet — out of passengers’ reach.

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



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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

PRODUCT NAME	8090-52102 Ramp Gray
ACCEPTABLE MANUFACTURERS	Sherwin Williams
COLOR	Gray
FINISH	Flat
NOTES	<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>
LOCATIONS	Exterior Ramp Level



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PAINT

Exterior Paint

Type 2

FINISH

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

NOTES

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

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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.

## PAINT

### 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.

PAINT

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>



PAINT

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>

## PAINT

### 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>

## PAINT

### Slip-Resistant Floor Coating

#### Hardener

<b>PRODUCT NAME</b>	ArmorSeal 8100 Epoxy (Part B) B7oV8100
<b>ACCEPTABLE MANUFACTURERS</b>	Sherwin Williams
<b>DESCRIPTION</b>	Aluminum oxide non-slips #46-70 grit for combination with matrix
<b>COLOR</b>	Hardener
<b>FINISH</b>	N/A
<b>NOTES</b>	<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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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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### Wallcovering

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-Tac 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

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

- Rubber Base
- PLam panels

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

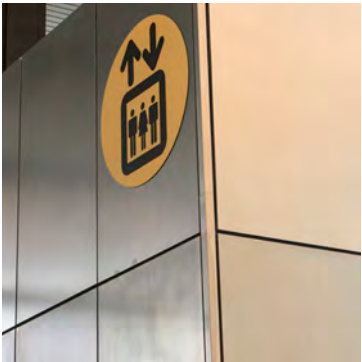
Base

## WALLCOVERING

### Systems

#### PLam System Type 1

<b>ACCEPTABLE MANUFACTURERS</b>	Formica Nevamar WilsonArt Laminart InPro Sanparrel
<b>DESCRIPTION</b>	Colored, high-pressure decorative laminate with solid color core Panel trim: stainless steel flat bar, half round trim, or aluminum trim
<b>SIZE</b>	Panel trim: PVC edging to be 2mm or 3mm thick flat strip 36" base and wainscot on high traffic areas
<b>COLOR</b>	Neutral color
<b>FINISH</b>	Matte finish Panel trim: wood tape PVC edging
<b>NOTES</b>	<ul style="list-style-type: none"><li>• Old standard followed in south pier.</li><li>• Hang on a French Cleat system.</li><li>• For plastic laminate, apply full coverage of manufacturer's recommended quantity of adhesive to each surface.</li><li>• Generally, light to medium neutral colors and subtle patterns are preferred.</li><li>• Custom colors and textured plastic laminate finishes are not allowed.</li></ul>



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#### PLam System Type 1

##### 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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- Promenade
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- Satellite Transit System Stations
- International Arrivals
- Federal Inspection Services
- International Arrivals Baggage Claim
- Aircraft Passenger Loading Bridges

WALLCOVERING

Systems

PLam System Type 2

<b>ACCEPTABLE MANUFACTURERS</b>	Formica Nevamar WilsonArt Laminart InPro Sanparrel
<b>DESCRIPTION</b>	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
<b>COLOR</b>	Neutral color
<b>FINISH</b>	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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Baggage Claim Lobby

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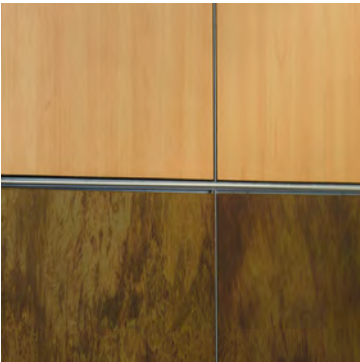
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PLam System Type 3

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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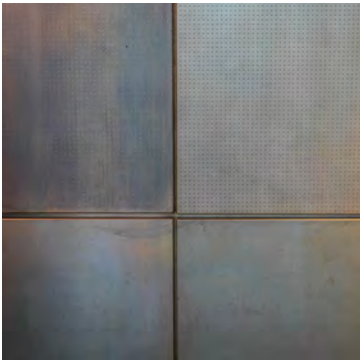
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DESCRIPTION	<p>Wainscot (36" A.F.F.)</p> <p>Lower panel: ribbed stainless steel</p> <p>Upper panel: smooth stainless steel</p> <p>Stainless steel:</p> <p>Sheet material is required to be non-directional, 100 grit</p> <p>Formed or cast materials with 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>
FINISH	<p>Use finishes which give the overall surface a matte and non-reflective look, and an even color tone throughout</p> <p>Finishes shall not exhibit visual changes when subjected to fingerprints and scratches</p>
NOTES	<ul style="list-style-type: none"><li>• 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.</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, shall be provided at reveal locations.</li><li>• 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.</li><li>• Exposed fasteners shall not be used.</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>• Sandblasted finish, sealers, and coatings are not allowed in any stainless steel finish.</li></ul>



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Metal Wall System

LOCATIONS

- Elevator
- Check-In Lobby
- Baggage Claim Lobby
- Esplanade
- Central Terminal
- South Arrivals Hall (GML)

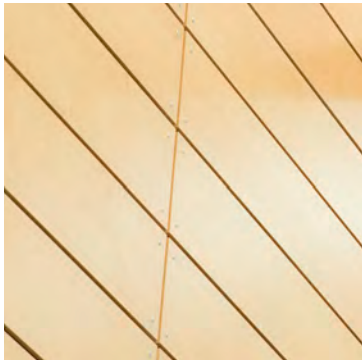
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#### Wood Paneling System

<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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LOCATIONS

- Check-In Lobby
- Baggage Claim Lobby
- Esplanade
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- Concourses A, B, C, D
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- Satellite Transit System Stations

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Stone Wallcovering System

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



## WALLCOVERING

### Systems

#### Fabric Wrapped Panel System

<b>DESCRIPTION</b>	Acoustic panel core with acoustically absorbent semi-rigid fiberglass.
<b>NOTES</b>	<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>
<b>LOCATIONS</b>	Concourses A, B, C, D Holdrooms
<b>LINKS</b>	Design Intent Drawings

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## WALLCOVERING

### Systems

#### Pre-Cast Concrete Panels System

##### ACCEPTABLE MANUFACTURERS

Tecon Pacific  
Architectural Pre-Cast Structures  
Panorama Building Systems, Ltd.  
Olympian Pre-Cast, Inc.  
Walters & Wolf Pre-Cast

##### FINISH

Light sandblast to eliminate imperfections

##### NOTES

- Concrete surfaces to be appropriately sealed prior to application of 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.
- Use only penetrating type of concrete sealers. Film forming sealers may not be able to hold against outward moisture migration.
- 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.
- For sidings and panels, provide clearance at panel edges, corners, and transitions.
- Use concealed fasteners where practical.
- All structural and movement joints shall be appropriately covered.

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#### Plastic Laminate

**NOTES**

For plastic laminate, apply full coverage of manufacturer’s recommended quantity of adhesive to each surface.

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#### Fabric Wallcovering

<b>PRODUCT NAME</b>	Xorel
<b>ACCEPTABLE MANUFACTURERS</b>	Carnegie - Xorel
<b>DESCRIPTION</b>	Vinyl coated fabrics or wall fabrics
<b>FINISH</b>	<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>
<b>NOTES</b>	<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>
<b>LOCATIONS</b>	Holdrooms

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Limestone Travertine

DESCRIPTION	Legacy wallcovering material
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Materials

Gazelle Granite

DESCRIPTION	Legacy wallcovering material
LOCATIONS	Central Terminal



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Rubber Wall Base

**PRODUCT NAME** Millwork Mandalay Rubber Wall Base



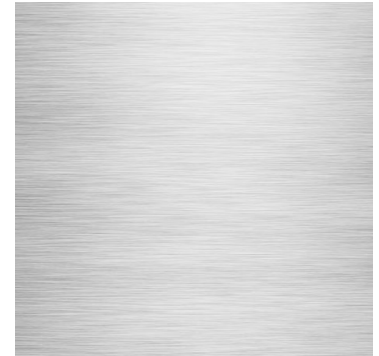
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## WALLCOVERING

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#### 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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Baggage Claim Lobby  
Promenade  
Central Terminal  
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North, South Satellites  
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Chair Rails

NOTES	Locate at height of chair back.
LOCATIONS	Holdrooms All areas with wainscot

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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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### Column Enclosures

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 grey 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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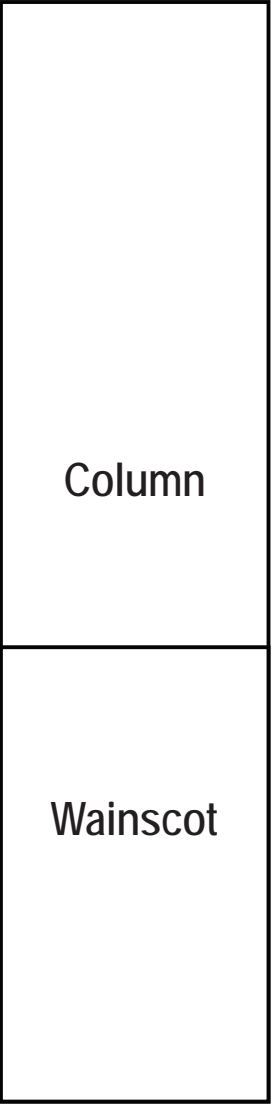
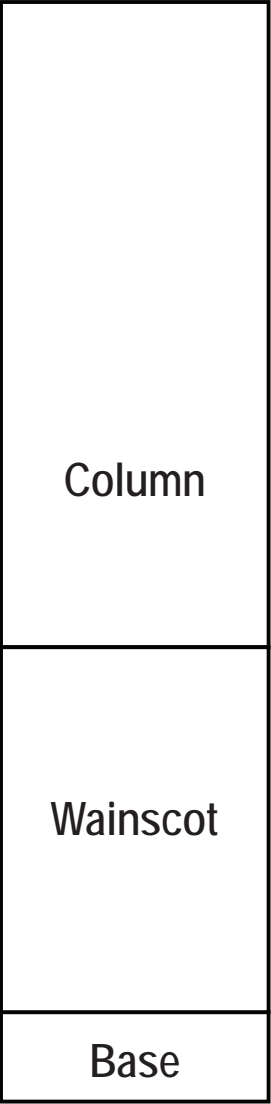
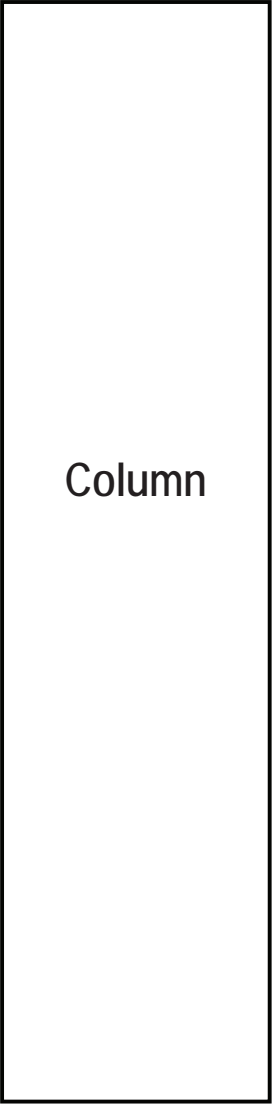
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## COLUMN ENCLOSURES

### Granite

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DESCRIPTION	Black granite
SIZE	3/4" thick
FINISH	Vinyl corner guards
NOTES	<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>
LOCATIONS	Check-In Lobby Baggage Claim Lobby Promenade Esplanade
LINKS	Design Intent Drawings



## COLUMN ENCLOSURES

### Stainless Steel

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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

Esplanade  
Central Terminal  
South Arrivals Hall (GML)  
Concourses A, B, C, D  
North, South Satellites  
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#### LINKS

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COLUMN ENCLOSURES

Manufactured Metal

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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	<ul style="list-style-type: none"><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><li>• Columns must be protected with column corner guards of compatible durable material.</li></ul>
LOCATIONS	Baggage Claim Lobby Concourses A, B, C, D North, South Satellites



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  
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## COLUMN ENCLOSURES

### 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.

#### LOCATIONS

North, South Satellites  
International Arrivals  
Federal Inspection Services  
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>





### 3.12 CEILINGS

DV DG AS A

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



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Metal 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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<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>	Passageways Holdrooms Baggage Claim Central Terminal South Arrivals Hall (GML) Concourses A, B, C, D



## METAL CEILING

### Tile

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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 A, B, C, D Transit Stations





## METAL CEILING

### Linear

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Acoustic Ceiling Tile (ACT)

#### Metal Ceiling

Tile

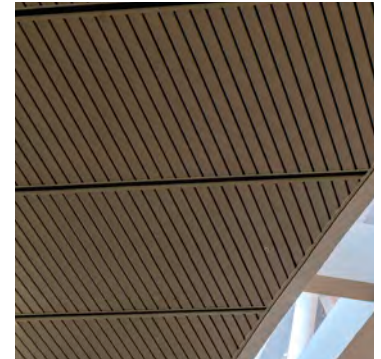
#### Linear

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>





METAL CEILING

Linear

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- Baggage Claim (A, B)
- Check-In Lobby (A)
- Escalators (A)
- Curbside - Departures (A)
- Promenade (A)
- Esplanade (A, B)
- Central Terminal (A, B)
- South Arrivals Hall (GML) (A, B)
- Satellites North, South (A)
- Satellite Transit System Stations (A, B)
- International Arrivals (A)
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- Aircraft Passenger Loading Bridges (B)
- International Arrivals Baggage Claim (A)

GYPSUM BOARD CEILING

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- Acoustic Ceiling Tile (ACT)
- Metal Ceiling

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FINISH

Three-coat paint finish system for all exposed work  
Flat finish  
Non-textured treatment  
Tapered edges

NOTES

- 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.
- Use corrosion resistant coated steel trims, control joints, and accessories.
- Install smoke barriers as required by code. Smoke barriers to have clear glazing and frameless concealed fasteners.

LOCATIONS

Restrooms  
Soffits

### 3.13 EQUIPMENT

Equipment is installed throughout Sea-Tac for safety, sanitation, and amenities.

DV DG AS A



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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-Tac 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.

### Applicable LEED Credit Requirements:

Equipment (Plumbing)

- WE – Indoor Water Use Reduction



**New**



**Archive**



**Sustainable**

## Floor Power Cover

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<b>CATEGORIES</b>	Technology
<b>FINISH</b>	Finish to match carpet
<b>SIZE</b>	Maximum 1/4" above finish floor
<b>NOTES</b>	Cover those not under seats with carpet
<b>LOCATIONS</b>	Holdroom Corridor
<b>LINKS</b>	MEP Standards





Wall Power

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## WiFi Diffuser

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#### CATEGORIES

Technology

#### DESCRIPTION

Placed for function; these are often retrofit

Should be concealed when possible

Size should be minimal and blend in with surrounding finishes

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CATEGORIES	Security
PRODUCT NAME	Parabit Entry Door Card Reader
FINISH	Black
LOCATIONS	All areas



Door Access Keypad

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CATEGORIES	Security
PRODUCT NAME	Door Access Keypad
LOCATIONS	All areas



## Security Camera

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<b>CATEGORIES</b>	Security
<b>DESCRIPTION</b>	Size should be minimal and blend in with the surrounding finishes
<b>NOTES</b>	Provide tie-offs to service elevated equipment
<b>LOCATIONS</b>	All areas





Fire Extinguisher

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CATEGORIES	Safety
PRODUCT NAME	340 Fire Extinguisher
LOCATIONS	All areas



## FIRE/LIFE SAFETY

### Fire Extinguisher Cabinet

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<b>CATEGORIES</b>	Safety
<b>PRODUCT NAME</b>	Fire Extinguisher Cabinet, Semi-Recessed
<b>MODEL NUMBER</b>	Architectural Series AL-2409-6R, Duo Break Glass Door” by Larsen’s manufacturing Company or matching product
<b>MANUFACTURER</b>	Larsen’s Manufacturing Company J.L. Industries Potter-Roemer Division/Smith Industries, Inc. Watrous Division of American Specialties
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Cabinets shall be semi-recessed mounted, protruding not more than 2-1/2” from face of the wall. Each cabinet shall be sized accordingly to house one fire extinguisher.</li> <li>Recess to prevent damage.</li> </ul>
<b>LOCATIONS</b>	All areas



## FIRE/LIFE SAFETY

### Emergency Cones

Design Vision
Design Guidelines
<b>Architectural Standards</b>
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Furniture
Lighting
Finishes
Ceilings
<b>Equipment</b>
AV/IT
<b>Fire/Life Safety</b>
Fire Extinguisher
Fire Extinguisher Cabinet
<b>Emergency Cones</b>
Plumbing
Restroom Accessories
Bollards
Stanchions
Landscape Containers
Waste Receptacles
Pest Control
Miscellaneous
Appendix

<b>CATEGORIES</b>	Safety
<b>DESCRIPTION</b>	Used by maintenance for temporary signage to indicate slip or trip hazards To be provided with plastic case that is mounted on wall for emergency cones to slide in
<b>LOCATIONS</b>	Near food areas and escalators

PLUMBING

Toilet & Urinal

Design Vision  
Design Guidelines

Architectural Standards

Architectural Elements  
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Ceilings

Equipment

AV/IT  
Fire/Life Safety

Plumbing

Toilet & Urinal

Sink  
Mop Sink  
Faucet  
Drinking Fountain  
Floor Drain  
Restroom Accessories  
Bollards  
Stanchions  
Landscape Containers  
Waste Receptacles  
Pest Control  
Miscellaneous

Appendix

NOTES

- Comply with the identified standard in the most recently published Seattle-Tacoma International Airport Mechanical Systems Standards.
- The majority of urinals should be hung at standard height with rim at 24” above floor. Only the minimum number of urinals required by ADA should be mounted at 17” above floor.

LOCATIONS

Restroom

LINKS

MEP Standards



PLUMBING

Sink

Design Vision

Design Guidelines

**Architectural Standards**

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Furniture

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Ceilings

**Equipment**

AV/IT

Fire/Life Safety

**Plumbing**

Toilet & Urinal

**Sink**

Mop Sink

Faucet

Drinking Fountain

Floor Drain

Restroom Accessories

Bollards

Stanchions

Landscape Containers

Waste Receptacles

Pest Control

Miscellaneous

NOTES

- The restrooms should be designed with trough sinks for visual appearance and ease of cleaning.
- Trough sinks should have drains at each position to eliminate travel of waste between stations.
- Trough sinks should either be limited to two positions with dryers on either side or more positions if the dryers are integrated into the lavatory. The purpose is to limit water dripping on the floor, creating a slip hazard and unclean appearance.
- Counter space should be minimized or eliminated to prevent water buildup on surfaces around sink.
- All devices and accouterments should be mounted close to the bottom of the lavatory unit, or hidden from view while still being accessible for maintenance.
- All elements of the lavatory should be hands-free.
- Comply with the identified standard in the most recently published Port of Seattle Mechanical Systems Standards.
- Per ADA standards, wheelchair accessible lavatories should be available in each restroom.

LOCATIONS

Restroom

LINKS

MEP Standards





PLUMBING

Mop Sink

Design Vision  
Design Guidelines  
**Architectural Standards**

- Architectural Elements
- Building Envelope
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- Partitions
- Conveying
- Casework
- Furniture
- Lighting
- Finishes
- Ceilings

**Equipment**

- AV/IT
- Fire/Life Safety

**Plumbing**

- Toilet & Urinal
- Sink

**Mop Sink**

- Faucet
- Drinking Fountain
- Floor Drain

- Restroom Accessories
- Bollards
- Stanchions
- Landscape Containers
- Waste Receptacles
- Pest Control
- Miscellaneous

Appendix

DESCRIPTION	With hot & cold water and hose connection
LOCATIONS	Janitor Closet
LINKS	MEP Standards



PLUMBING

Faucet

Design Vision  
Design Guidelines

Architectural Standards

Architectural Elements  
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Structure  
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Conveying  
Casework  
Furniture  
Lighting  
Finishes  
Ceilings

Equipment

AV/IT  
Fire/Life Safety

Plumbing

Toilet & Urinal  
Sink  
Mop Sink

Faucet

Drinking Fountain  
Floor Drain

Restroom Accessories  
Bollards  
Stanchions  
Landscape Containers  
Waste Receptacles  
Pest Control  
Miscellaneous

Appendix

NOTES

- Comply with currently identified standard in most recently published Seattle-Tacoma International Airport Mechanical Systems Standards.
- Must meet accessibility standards.

LOCATIONS

Restroom

LINKS

MEP Standards



## PLUMBING

### Drinking Fountain

#### Design Vision Design Guidelines Architectural Standards

Architectural Elements  
Building Envelope  
Roofing  
Structure  
Fenestration  
Partitions  
Conveying  
Casework  
Furniture  
Lighting  
Finishes  
Ceilings

#### Equipment

AV/IT  
Fire/Life Safety

#### Plumbing

Toilet & Urinal  
Sink  
Mop Sink  
Faucet

#### Drinking Fountain

Floor Drain

Restroom Accessories  
Bollards  
Stanchions  
Landscape Containers  
Waste Receptacles  
Pest Control  
Miscellaneous

#### Appendix

<b>DESCRIPTION</b>	Combination water fountain and bottle filling station
<b>FINISH</b>	Stainless steel
<b>NOTES</b>	<ul style="list-style-type: none"> <li>• All drinking fountain stations should have at least one 4" deep water bottle filling station integrated.</li> <li>• Recess to prevent damage.</li> <li>• Isolation valves shall be accessible without removing fountain assembly.</li> <li>• Do NOT disable the use counter during installation.</li> <li>• Preferred access maintenance panel shall be located behind the unit for servicing.</li> <li>• Comply with currently identified standard in most recently published Seattle-Tacoma International Airport Mechanical Systems Standards and meet accessibility standards.</li> </ul>
<b>LOCATIONS</b>	Adjacent to restroom entry
<b>LINKS</b>	MEP Standards



## PLUMBING

### Floor Drain

#### Type 1

<b>PRODUCT NAME</b>	Adjustable Floor Drain with a Square Nickel Strainer and Coring Sleeve
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Comply with currently identified standard in most recently published Seattle-Tacoma International Airport Mechanical Systems Standards.</li> <li>Must meet accessibility standards.</li> </ul>
<b>LOCATIONS</b>	Restroom
<b>LINKS</b>	MEP Standards



#### Design Vision Design Guidelines Architectural Standards

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Casework  
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Lighting  
Finishes  
Ceilings

#### Equipment

AV/IT  
Fire/Life Safety

#### Plumbing

Toilet & Urinal  
Sink  
Mop Sink  
Faucet  
Drinking Fountain

#### Floor Drain

Restroom Accessories  
Bollards  
Stanchions  
Landscape Containers  
Waste Receptacles  
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Miscellaneous

#### Appendix

PLUMBING

Floor Drain

Type 2

Design Vision  
Design Guidelines

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- Conveying
- Casework
- Furniture
- Lighting
- Finishes
- Ceilings

Equipment

- AV/IT
- Fire/Life Safety

Plumbing

- Toilet & Urinal
- Sink
- Mop Sink
- Faucet
- Drinking Fountain

Floor Drain

- Restroom Accessories
- Bollards
- Stanchions
- Landscape Containers
- Waste Receptacles
- Pest Control
- Miscellaneous

Appendix

NOTES

- Comply with currently identified standard in most recently published Seattle-Tacoma International Airport Mechanical Systems Standards
- Must meet accessibility standards.

LOCATIONS

Janitor Closet

LINKS

MEP Standards





RESTROOM ACCESSORIES

Trash Receptacle

Design Vision  
Design Guidelines

Architectural Standards

- Architectural Elements
- Building Envelope
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- Conveying
- Casework
- Furniture
- Lighting
- Finishes
- Ceilings

Equipment

- AV/IT
- Fire/Life Safety
- Plumbing

Restroom Accessories

Trash Receptacle

- Mirror
- Grab Bars
- Dispensers
- Garment Hooks & Shelves
- Baby Changing Station

- Bollards
- Stanchions
- Landscape Containers
- Waste Receptacles
- Pest Control
- Miscellaneous

Appendix

PRODUCT NAME

- Recessed Paper Towel/Trash Receptacle

NOTES

- Provide one “out-of-the-way” paper towel dispenser, preferably near but not directly above the baby changing station.
- The Port will specify the paper towel dispenser based on current mechanical system standards during design.
- Provide flexibility for additional paper towel dispensers in the future by identifying locations and wiring for those dispensers in the design documents.

LOCATIONS

Restroom



## RESTROOM ACCESSORIES

### Mirror

Design Vision

Design Guidelines

#### Architectural Standards

Architectural Elements

Building Envelope

Roofing

Structure

Fenestration

Partitions

Conveying

Casework

Furniture

Lighting

Finishes

Ceilings

#### Equipment

AV/IT

Fire/Life Safety

Plumbing

#### Restroom Accessories

Trash Receptacle

#### Mirror

Grab Bars

Dispensers

Garment Hooks & Shelves

Baby Changing Station

Bollards

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Landscape Containers

Waste Receptacles

Pest Control

Miscellaneous

Appendix

#### PRODUCT NAME

Channel Frame Mirror

#### NOTES

- Mirrors should have vandal resistant coating and be provided at each washing station plus an additional full length mirror per restroom.
- Provide an additional “vanity station” mirror with ledge and GFCI outlet above the counter for personal appliances where feasible.

#### LOCATIONS

Restroom



RESTROOM ACCESSORIES

Grab Bars

Medium Length Grab Bar

PRODUCT NAME	Medium Length Grab Bar
NOTES	Install per ADA requirements.
LOCATIONS	Restroom



Design Vision  
Design Guidelines  
**Architectural Standards**

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- Furniture
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- Finishes
- Ceilings

**Equipment**

- AV/IT
- Fire/Life Safety
- Plumbing

**Restroom Accessories**

- Trash Receptacle
- Mirror
- Grab Bars**
- Dispensers
- Garment Hooks & Shelves
- Baby Changing Station

- Bollards
- Stanchions
- Landscape Containers
- Waste Receptacles
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Appendix

RESTROOM ACCESSORIES

Grab Bars

Long Grab Bar

PRODUCT NAME	Long Grab Bar
NOTES	Install per ADA requirements.
LOCATION	Restrooms



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Design Guidelines

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Equipment

- AV/IT
- Fire/Life Safety
- Plumbing

Restroom Accessories

- Trash Receptacle
- Mirror
- Grab Bars
- Dispensers
- Garment Hooks & Shelves
- Baby Changing Station

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Appendix

RESTROOM ACCESSORIES

Grab Bars

Short Grab Bar

PRODUCT NAME	Short Grab Bar
NOTES	Install per ADA requirements.
LOCATION	Restrooms



- Design Vision
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  - Conveying
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  - Finishes
  - Ceilings
- Equipment
  - AV/IT
  - Fire/Life Safety
  - Plumbing
- Restroom Accessories
  - Trash Receptacle
  - Mirror
  - Grab Bars
  - Dispensers
  - Garment Hooks & Shelves
  - Baby Changing Station
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- Waste Receptacles
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Appendix



RESTROOM ACCESSORIES

Dispensers

Toilet Paper Dispenser

LOCATIONS

Restrooms



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Design Guidelines

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- Lighting
- Finishes
- Ceilings

Equipment

- AV/IT
- Fire/Life Safety
- Plumbing

Restroom Accessories

- Trash Receptacle
- Mirror
- Grab Bars

Dispensers

- Garment Hooks & Shelves
- Baby Changing Station

- Bollards
- Stanchions
- Landscape Containers
- Waste Receptacles
- Pest Control
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Appendix

RESTROOM ACCESSORIES

Dispensers

Paper Towel Dispenser

LOCATIONS	Restrooms
-----------	-----------

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Design Guidelines

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- Ceilings

Equipment

- AV/IT
- Fire/Life Safety
- Plumbing

Restroom Accessories

- Trash Receptacle
- Mirror
- Grab Bars

Dispensers

- Garment Hooks & Shelves
- Baby Changing Station

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Appendix

RESTROOM ACCESSORIES

Dispensers

Napkin Dispenser

LOCATIONS

Restrooms



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Design Guidelines

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- Lighting
- Finishes
- Ceilings

Equipment

- AV/IT
- Fire/Life Safety
- Plumbing

Restroom Accessories

- Trash Receptacle
- Mirror
- Grab Bars

Dispensers

- Garment Hooks & Shelves
- Baby Changing Station

- Bollards
- Stanchions
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Appendix

RESTROOM ACCESSORIES

Dispensers

Surface Mounted Foam Soap Dispenser

Design Vision  
Design Guidelines

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Equipment

- AV/IT
- Fire/Life Safety
- Plumbing

Restroom Accessories

- Trash Receptacle
- Mirror
- Grab Bars

Dispensers

- Garment Hooks & Shelves
- Baby Changing Station

- Bollards
- Stanchions
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- Pest Control
- Miscellaneous

Appendix

NOTES

- Comply with currently identified standard in most recently published Seattle-Tacoma International Airport Mechanical Systems Standards.
- Must meet ADA accessibility standards.

LOCATIONS

Restrooms



RESTROOM ACCESSORIES

Garment Hooks & Shelves

Design Vision  
Design Guidelines

Architectural Standards

- Architectural Elements
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- Finishes
- Ceilings

Equipment

- AV/IT
- Fire/Life Safety
- Plumbing

Restroom Accessories

- Trash Receptacle
- Mirror
- Grab Bars
- Dispensers

Garment Hooks & Shelves

- Baby Changing Station
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- Waste Receptacles
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- Miscellaneous

Appendix

PRODUCT NAME	Single Robe Hook
NOTES	<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>
LOCATIONS	Restrooms





## RESTROOM ACCESSORIES

### Baby Changing Station

Design Vision

Design Guidelines

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#### Equipment

AV/IT

Fire/Life Safety

Plumbing

#### Restroom Accessories

Trash Receptacle

Mirror

Grab Bars

Dispensers

Garment Hooks & Shelves

#### Baby Changing Station

Bollards

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Landscape Containers

Waste Receptacles

Pest Control

Miscellaneous

Appendix

#### PRODUCT NAME

Baby Changing Station

#### NOTES

- Countertop baby changing stations are required.
- Stations should be located near waste receptacles and paper towel dispenser.
- Baby changing stations should not be located inside ADA stalls.
- Adult changing stations should be provided in family restrooms.

#### LOCATIONS

Restrooms



BOLLARDS

Design Vision  
Design Guidelines

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Equipment

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Fire/Life Safety  
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Restroom Accessories

Bollards

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Miscellaneous

Appendix

CATEGORIES	Security
FINISH	Stainless steel
NOTES	<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></ul>
LOCATIONS	Curbside (Arrivals) Curbside (Departures) Parking Garage Loading Dock



## Magnetic Stanchion

### Design Vision Design Guidelines Architectural Standards

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Building Envelope  
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Ceilings

### Equipment

AV/IT  
Fire/Life Safety  
Plumbing  
Restroom Accessories  
Bollards

### Stanchions

#### Magnetic Stanchion

Screw-In Stanchion  
Stanchion Base  
Landscape Containers  
Waste Receptacles  
Pest Control  
Miscellaneous

### Appendix

<b>CATEGORIES</b>	Miscellaneous
<b>FINISH</b>	Polished chrome with black ribbon
<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>• This is the preferred solution.</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

## Screw-In Stanchion

### Design Vision Design Guidelines Architectural Standards

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Ceilings

### Equipment

AV/IT  
Fire/Life Safety  
Plumbing  
Restroom Accessories  
Bollards

### Stanchions

Magnetic Stanchion

### Screw-In Stanchion

Stanchion Base

Landscape Containers

Waste Receptacles

Pest Control

Miscellaneous

### Appendix

<b>CATEGORIES</b>	Miscellaneous
<b>FINISH</b>	Polished chrome with black ribbon
<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

## Stanchion Base

Design Vision  
Design Guidelines

### Architectural Standards

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Ceilings

### Equipment

AV/IT  
Fire/Life Safety  
Plumbing  
Restroom Accessories  
Bollards

### Stanchions

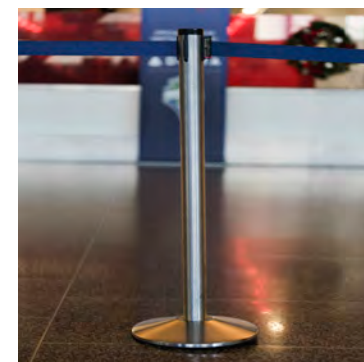
Magnetic Stanchion  
Screw-In Stanchion

### Stanchion Base

Landscape Containers  
Waste Receptacles  
Pest Control  
Miscellaneous

Appendix

<b>CATEGORIES</b>	Miscellaneous
<b>PRODUCT NAME</b>	Base
<b>FINISH</b>	Polished chrome with black ribbon
<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





Movable Interior Landscape Containers

Design Vision  
Design Guidelines

Architectural Standards

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Ceilings

Equipment

AV/IT  
Fire/Life Safety  
Plumbing  
Restroom Accessories  
Bollards  
Stanchions

Landscape Containers

Movable Interior

Landscape Containers

Planters  
Waste Receptacles  
Pest Control  
Miscellaneous

Appendix

CATEGORIES	Landscaping
FINISH	No. 4, non-directional, 100 grit brushed stainless steel finish or painted black aluminum
NOTES	<ul style="list-style-type: none"><li>Planters and other landscape containers must be in locations where they do not interfere with or block public view of directional and informational signage.</li><li>Design and finishes must be consistent or compatible with the adjacent interior finishes.</li><li>Use stainless steel or aluminum materials.</li><li>Preference shall be given to products that contain a high percentage of recycled content and/or are manufactured within 500 miles of the project.</li></ul>
LOCATIONS	All areas

LANDSCAPE CONTAINERS

Planters

Design Vision

Design Guidelines

**Architectural Standards**

Architectural Elements

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AV/IT

Fire/Life Safety

Plumbing

Restroom Accessories

Bollards

Stanchions

**Landscape Containers**

Movable Interior

Landscape Containers

**Planters**

Waste Receptacles

Pest Control

Miscellaneous

Appendix

<b>CATEGORIES</b>	Landscaping
<b>NOTES</b>	<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>
<b>LOCATIONS</b>	All areas

## WASTE RECEPTACLES

### Interior Waste/Recycle Receptacle

#### Design Vision Design Guidelines Architectural Standards

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Ceilings

#### Equipment

AV/IT  
Fire/Life Safety  
Plumbing  
Restroom Accessories  
Bollards  
Stanchions  
Landscape Containers

#### Waste Receptacles

##### Interior Waste/ Recycle Receptacle

Exterior Waste/  
Recycle Receptacle  
Cigarette Trash  
Receptacle

Pest Control  
Miscellaneous

#### Appendix

<b>CATEGORIES</b>	Trash and recycling
<b>PRODUCT NAME</b>	Transit receptacle, stainless w/ sandstone finish Black polyethylene lid w/ white graphics
<b>DESCRIPTION</b>	Combined waste/recycle receptacles improve public access to recycling, reduce visual clutter, and minimize maintenance
<b>MANUFACTURER</b>	Forms+Surfaces
<b>FINISH</b>	Stainless steel: satin, sandstone Powder coat steel: F&I approved colors Polyethylene lid: black w/ white graphics
<b>SIZE</b>	Size not to exceed 41" W x 20" D x 37" H
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Multiple slots, with corresponding internal liners, that maintain separate streams of collected recyclables (paper, cans, and plastic) and waste.</li> <li>Containers in check-in areas are based on the Simple Human units currently in use in Alaska.</li> <li>Side-loading service doors are preferred over top-loading alternatives.</li> <li>Labels that communicate recycle and waste disposal options use a combination of F&amp;I sign shop approved text and symbols.</li> <li>Distribute receptacles evenly throughout interior and exterior airport facilities, in high-traffic areas, and near point sources that generate waste.</li> <li>Stand-alone recycle and waste receptacles of similar design with distinguishing signage may be collocated as an alternative where combined waste/recycle receptacles are not practical.</li> </ul>
<b>LOCATIONS</b>	All areas



## WASTE RECEPTACLES

### Exterior Waste/Recycle Receptacle

#### Design Vision Design Guidelines Architectural Standards

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#### Waste Receptacles

Interior Waste/  
 Recycle Receptacle

#### Exterior Waste/ Recycle Receptacle

Cigarette Trash  
 Receptacle

Pest Control  
 Miscellaneous

#### Appendix

<b>CATEGORIES</b>	Trash and recycling
<b>DESCRIPTION</b>	Combined waste/recycle receptacles improve public access to recycling, reduce visual clutter, and minimize maintenance
<b>MANUFACTURER</b>	Forms+Surfaces
<b>MODEL NUMBER</b>	SLDIS-45-TD
<b>FINISH</b>	Stainless steel: satin, sandstone Powder coat steel: F&I approved colors Steel or similarly durable metal lid: no ashtrays
<b>NOTES</b>	<ul style="list-style-type: none"> <li>Multiple slots, with corresponding internal liners, that maintain separate streams of collected recyclables (paper, cans, and plastic) and waste.</li> <li>Side-loading service doors are preferred over top-loading alternatives.</li> <li>Labels that communicate recycle and waste disposal options use a combination of F&amp;I sign shop approved text and symbols.</li> <li>Distribute receptacles evenly throughout interior and exterior airport facilities, in high-traffic areas, and near point sources that generate waste.</li> <li>Stand-alone recycle and waste receptacles of similar design with distinguishing signage may be collocated as an alternative where combined waste/recycle receptacles are not practical.</li> </ul>
<b>LOCATIONS</b>	Curbside (Arrivals) Curbside (Departures) Parking Garage Loading Docks

WASTE RECEPTACLES

Cigarette Trash Receptacle

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Waste Receptacles

- Interior Waste/  
Recycle Receptacle
- Exterior Waste  
Recycle Receptacle

Cigarette Trash  
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CATEGORIES	Trash and recycling
PRODUCT NAME	Humo Ash Urn
DESCRIPTION	Ash trays will be located only in designated exterior smoking areas and not within 25 feet of entry doors or ventilation air intakes. Coordinate or match ash tray/ash urn design with that of exterior waste receptacle to achieve a consistent look and minimize visual clutter.
LOCATIONS	Curbside - Arrivals Curbside - Departures





PEST CONTROL

Bird Control

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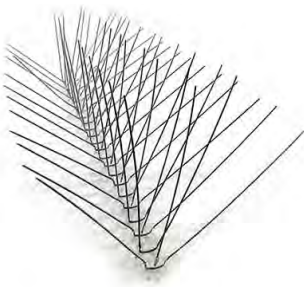
**Pest Control**

**Bird Control**

- Miscellaneous

Appendix

<b>DESCRIPTION</b>	System utilized to prevent bird perching or nesting by minimizing perch points
<b>NOTES</b>	For specifications, a single metal line is preferred over barbs.
<b>LOCATIONS</b>	On beams, parapets, pipes, horizontal mullions, etc.; use as appropriate inside and outside the building.



MISCELLANEOUS

Baggage Claim Device

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<b>FINISH</b>	Stainless steel, metal panel top surface Stainless steel lacing for belt splices
<b>DESCRIPTION</b>	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
<b>NOTES</b>	<ul style="list-style-type: none"><li>• Rip stop fibers shall be integrated into belt material.</li><li>• A minimum 12” clearance is required all around the belt for long term maintainability and ease of access to pull bearing.</li><li>• At merge conveyors, use laced belt or interrupted belt; continuous belts are not allowed.</li><li>• Use belt tracking.</li><li>• Do not use end roll tracking; always install snub rollers.</li></ul>
<b>LOCATIONS</b>	Baggage Claim International Arrivals Baggage Claim

MISCELLANEOUS

Vending Machines

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<b>CATEGORIES</b>	Vending
<b>NOTES</b>	<ul style="list-style-type: none"><li>• Ensure vending is located away from expansion joints so that loaded palate jacks do not need to cross over expansion joints to get there.</li><li>• Vending machine should be located strategically off walls and in alcoves</li><li>• Do not locate below an access panel.</li></ul>
<b>LOCATIONS</b>	Distributed throughout airport near waiting areas, Holdrooms, Corridors, Conveying, or Restrooms



MISCELLANEOUS

Bag Dispenser

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CATEGORIES	Pet Relief
DESCRIPTION	Dispenser of plastic bags for collection of animal waste.
LOCATIONS	Animal Relief Areas

MISCELLANEOUS

Compactor

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<b>CATEGORIES</b>	Trash and recycling
<b>PRODUCT NAME</b>	30 cubic yard model
<b>MODEL NUMBER</b>	JV (SCR-o2, SC-T2, SC-o2)
<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>





MISCELLANEOUS

Cabinet Lock

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**Cabinet Lock**

CATEGORIES	Security
NOTES	All cabinet locks must accept the BEST 7 pin SFIC core (Small Format and Interchangeable Core).



4

# APPENDIX

# 4

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## APPENDIX

### **4.1 Resources**

- Definitions & Acronyms
- Regulations
- Change Log
- Northwest Sense of Place Guidelines

### **4.2 Forms & Document Library**

- Utilities Connections Applications Documents

### **4.3 Maintainability Standards**

- General Directions
- Architecture
- Janitorial
- Civil/Site Work
- Pavement & Grounds
- Roof & Roofing
- Plumbing & Wastewater
- HVAC & Steam
- Fire Protection
- Baggage Handling Systems
- Baggage Ramp
- PLB Maintainability Standards
- Electrical
- Electronic Systems

### **4.4 Design Intent Drawings**



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## 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-Tac 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-TAC</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

To facilitate communication and tracking of changes to this document, please refer to the below chart. As changes are made, they will be noted on the change log.

[illegible]

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

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- 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

#### **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
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- 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

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- Dynamic displays: Video screens, digital walls, projections, screensavers on monitors; real-time video—Ballard Locks, local beaches, neighborhoods, etc

#### 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



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### 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—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

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**Other Contributors to Sense of Place**

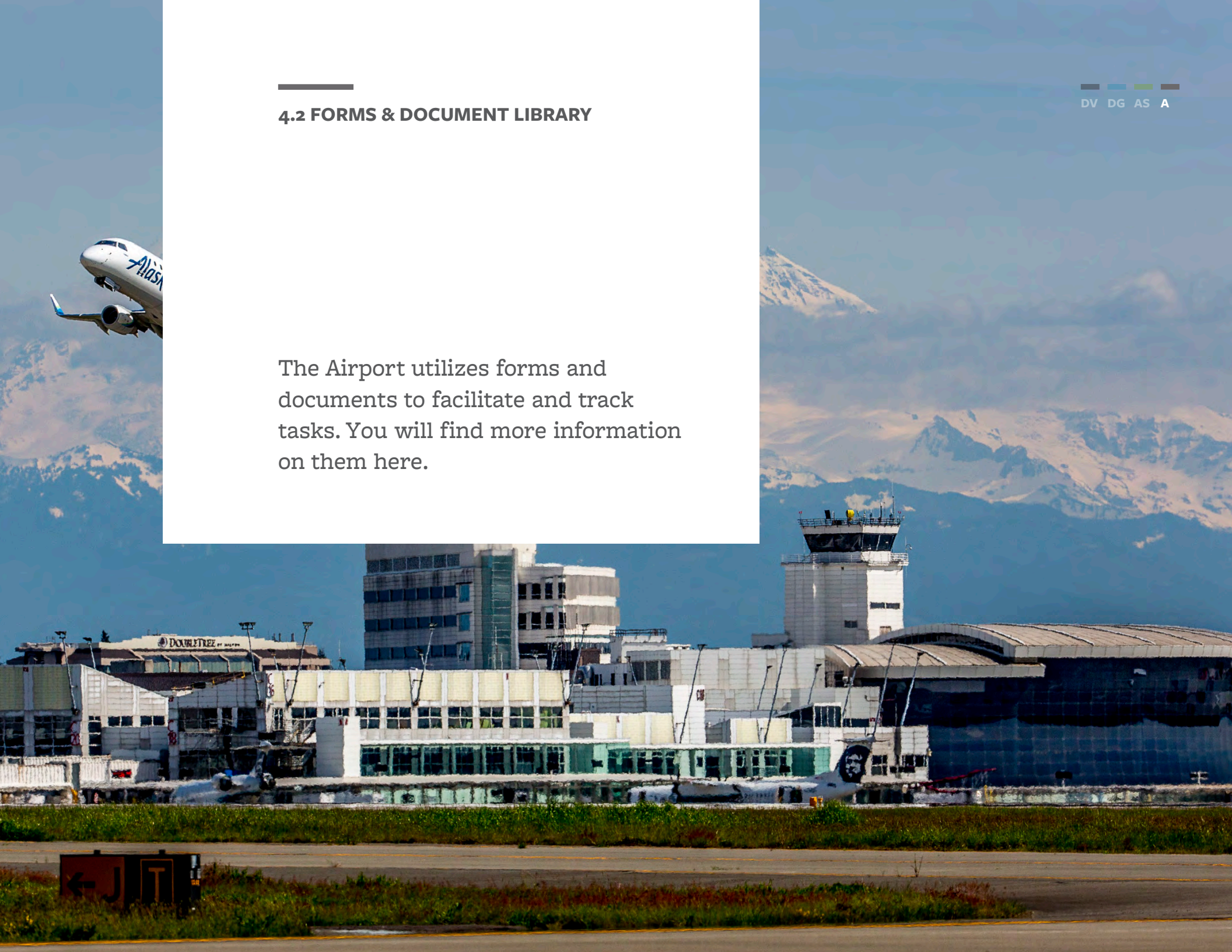
- Several additional themes were identified that although not specific to a Northwest character, are significant and desirable for a memorable sense of place at Sea-Tac
- Designing around the passenger journey by responding to the passenger mindset:
  - Own the passenger experience
  - Convey the excitement 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
- 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



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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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CATEGORY	DOCUMENT	VERSION	DESCRIPTION	LINK	CONTACT
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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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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CATEGORY	DOCUMENT	VERSION	DESCRIPTION	LINK	CONTACT
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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	Master Specifications		A foundation from which design teams can build their project specifications, not intended to cover specific projects.		Port of Seattle
	2014 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>	
	Comment Submittal Sheet			<a href="http://collab.portseattle.org/sites/avpmg/resources/Policies%20and%20Procedures/Project%20Delivery%20Process/Documentation%20Process%20Comments.xlsx">http://collab.portseattle.org/sites/avpmg/resources/Policies%20and%20Procedures/Project%20Delivery%20Process/Documentation%20Process%20Comments.xlsx</a>	



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CATEGORY	DOCUMENT	VERSION	DESCRIPTION	LINK	CONTACT
	AV/PMG Project Process Documentation	2015	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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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.
- Provide bollards, timbers, rails, or jersey barriers to protect charging stations and other equipment.
- Where bollards are installed, anchor bolts shall be designed for GSE tug impact. (Pushback tugs on the AOA weigh up to 160,000 pounds.) Bollards installed at slab on grade shall be concrete filled minimum 6” diameter pipe, painted safety yellow with 3’ embedment.
- 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.
- 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.
- 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.



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- 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; do not degrade existing coverage.
- Radio coverage is required in all spaces. Do not degrade existing radio coverage with new facilities or equipment.

### 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:

- All equipment requiring any type of inspection or service shall, at a minimum, adhere to all OEM clearance requirements as defined in manufacturer's literature, drawing, and manuals. 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. Examples:
  - HVAC boxes have air filters that slide out – allow room for the removal and insertion of the new filters.
  - Clear distance to extract tubes from chiller can be almost the full length of the chiller.
  - Conveyor systems have end rolls that come out the bottom and bearings that require additional distance for bearing pullers for side extraction.
  - Provide 24" clear width and 80" clear height in utility chases. The clear measurement shall be between the brackets, insulation and all other objects. Provide access to pipe chases from exterior of restrooms.

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#### Maintenance Access:

- Provide safe and efficient pathways for access to equipment.
- Access to routine lubrication and service points shall be by foot at ground level without obstruction or by stairways and OSHA and WISHA-compliant access platforms or catwalks.
- 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 30" above the ceiling grid. See common lift sizes used at SEA at the end of this section.

- Provide clear access to valves and cleanouts.
- Access to equipment rooms shall accommodate pallet jack deliveries, which include minimal ramp break over angles.
- Provide walkways with 80" headroom and width sufficient to move tools and equipment along the pathway.
- No equipment shall be positioned in a confined space. Provisions shall be made to eliminate the Confined Space Requirements by mounting equipment outside any confined spaces.

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- Doors and floors must accommodate the AVM lifts which will likely be used in the facility. The articulating lift will be used in high ceiling areas, and there must be at least one entrance point for the articulating lift to each high ceiling area. In the facility design, 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):

#### Scissors:

Genie GS-2632

Platform height 26'

Lift capacity 500 lbs

Stored dimensions 7'-5" tall with rails up, 6'-3" rails down.

Footprint 8' x 2'-8"

Weight 4,413 lbs

Genie GR-20

Platform height 19'-11"

Lift capacity 350 lbs

Stored dimensions 6'-2" tall

Footprint 4'-5" x 2'-7.5"

Weight 2,451 lbs

#### Articulating Crawler:

JLG X770AJ

Machine Height 6 ft 7 in. / 1.99 m

Machine Length 20 ft 9 in. / 6.32 m

Machine Width 3 ft 3 in. / 0.99 m

Outrigger Footprint Length 14 ft / 4.27 m

Outrigger Footprint Width 13 ft 6 in. / 4.11 m

Platform Dimension A 4 ft 10 in. / 1.47 m

Platform Dimension B 2 ft 6 in. / 0.76 m

Platform Height 77 ft 5 in. / 23.6 m

Track Length 6 ft 10 in. / 2.08 m

Maximum Ground Bearing Pressure 8 psi / 0.55 Kg/cm<sup>2</sup>

Ground Bearing Pressure - Outriggers 65 psi / 4.57 Kg/cm<sup>2</sup>

Machine Weight 9665 lb / 4383.97 kg

<https://www.jlg.com/en/equipment/electric-hybrid-boom-lifts/compact-crawlers/x770aj?Cookie=language>

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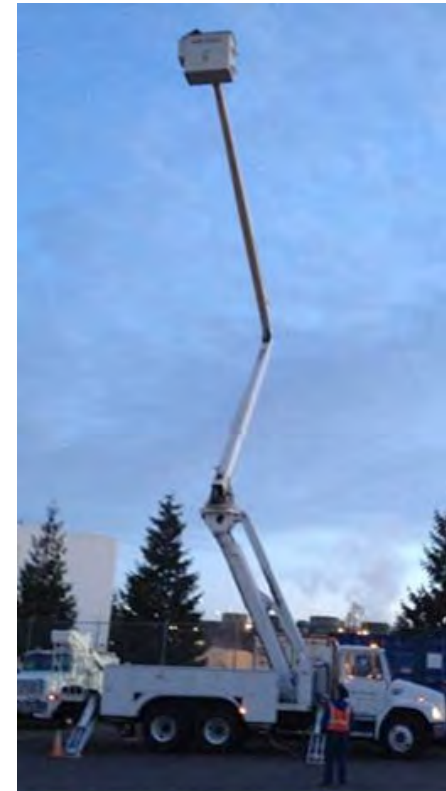
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#### Bucket Truck for AOA Building Lighting Maintenance:

Actual truck width with outriggers down is 16'. 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' bucket truck is about 37' long; with the outriggers down, it is approximately 20' wide. The platform can reach 80' 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' 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 – remove it. This includes pipes that penetrate roofs; do not cut them off below the deck and leave the stub up through the roof. Remove it all; patch the holes and surfaces; provide fire stops.

### Service Lighting:

Provide at least 15 foot candle lighting on roof access to walkways, in mechanical chases, and all service locations.

### 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.

### Confined Space:

Create no confined spaces.



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#### Future:

- Designer and builder shall design and build with allowances for future upgrades, access and loading.

Examples:

- Utility tunnels are seeing increasing use of new technology - provide room for future systems.
- Aircraft locations are growing, drive lanes are realigned, and the old trench grating isn't holding up.
- Power centers with additional capacity.
- Unless there is a specific location for reinstallation, it is unlikely that the products will need to be salvaged for turnover to the POS. Exceptions include Paralene ceiling and other high value products that are out of production or which otherwise make sense to save. All salvaged items shall be identified on the drawings by 90% and approved by Aviation Maintenance.

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#### Training:

- 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 7:30 a.m. Swing 4:45 p.m. Grave 5:00 a.m. Weekend Days 7:30 a.m.	Days 12:00 - 12:30 Swing 19:30 -20:00 Grave 04:00 - 4:30 Weekend Days 12:00 - 12:30	Days 4x10 Swing 5x8 Grave 5x8 Weekend Days 4x10
BHS Baggage Handling Systems OE	Wednesday	Days 7:30 a.m. Swing 2:30 p.m. Grave 11:30 p.m.	flexible	Days 4x10 05:30-15:30 Swing 4x10 14:00 - midnight Grave 4x10 22:00-08:00
PLB Passenger Loading Bridge OE	Wednesday or Tuesday with Friday for full crew	Days 7:00 a.m. Swing 2:30 p.m. Grave 11:30 p.m.	flexible	Days 4x10 06:30-17:00 Swing 4x10 13:30 - midnight Grave 4x10 22:30-09:00
Carpenters Architectural	Tues Wed Thurs	7:00 a.m. to 3:30 p.m.	11:00 a.m.	Weekdays 4x10
Electricians	Wednesday (not third)	Days 7:30 a.m. Swing 3:30 p.m. Grave 11:30 p.m.	Days noon -12:30 Swing 6-6:30 p.m. Grave 5-5:30 a.m.	Days 07:00-15:30 Swing 15:00 - 23:30 Grave 23:00-07:30
ET Electronic Technicians	Wednesday	Days 7:30 a.m. Swing 3:30 p.m. Grave 11:30 p.m.	flexible	various
Civil Field Crew	Tues Wed Thurs	Days 7:00 a.m.	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	7:00 a.m.	flexible	

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#### General Maintenance Notes:

- Adequate space shall be provided for the operation and maintenance (O&M) of installed equipment. Check manufacturer's catalogs for equipment sizes. Ensure mechanical specifications include the maximum allowable equipment sizes.
- 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.
- Provide and maintain access to power outlets when providing cabinet inserts.
- Drinking fountains and fire extinguisher cabinets shall be recessed to prevent damage.
- Building system components shall be accessible for periodic inspection and maintenance.  
Example: Anchors for cable supported curtain walls.

- Stairway shall be provided in the design for servicing of roof mounted equipment; ladders may be an exception after review with Aviation Maintenance.
- Buildings with gutters shall have concrete downspouts connected to storm drainage system.
- Stairways shall be provided with non-slip nosing and tread.
- Consider types of traffic in the area - office, public corridor with baggage, and motorized pallet jack traffic.
- High quality architectural fiber ceiling tiles with easy in and out removal is preferred over metal ceiling tile.
- 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.
- Bird deterrents shall be installed where directed by the POS wildlife biologist. Birds are currently a problem on both interior and exterior surfaces where birds can roost. Bird spikes or other deterrent, as approved by the Engineer, are required on exterior lighting and fixtures likely to be attractive to perching or roosting birds.

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### 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.
- Expansion and control joints shall be located to accommodate building movement with interior bellows sloped to drain.
- 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.
- 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.



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### Doors, Doorways and Access Panels:

- Thresholds should not be used in equipment room doorways.
- 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.
- 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.
- Provide hardware compatible with ~180° door swing.
- 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
D018		Allen-Bradley pilot devices. Widely used as JAM RESET switches in conveyor system.
CH751	Y11	Loading Bridge Cabinet Locks
CAT 45		Plumbing & Piping access panels
CAT 74		Dispensers, Restroom accessories
B286A		Illinois Lock, 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

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#### Door coordination on drawings:

- Design drawings shall have correct room and door numbers as issued by Port of Seattle.
- All room and door numbers will be assigned by the POS lock shop.
- Structural and mechanical drawings shall be cross-checked to determine that access openings are provided, properly sized, and located for servicing the facility and equipment.
- Provide details for expansion joints for roofs, floors, and walls at required intervals.
- Door detail shall show maximum swing of ~180° unless the door hits an obstruction.
- Power and generator room doors should open to the exterior of the building.

#### 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.
- Stainless steel may be appropriate as wall protection as it doesn't need painting.
- 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.
- On permanent corners such as restrooms with radius metal entries, if heavy gauge is not available, detail for grout fill.

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#### Floor finishes:

- Exposed concrete floors
- Epoxy sealant on the floors in electrical and communications rooms.
- 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.
- Unless indicated otherwise, other concrete floors shall receive a hardener and sealer, not paint.
- Floor finishes shall be high quality, low-maintenance, suitable for high traffic, and appropriate for the intended use (e.g. ceramic tile, terrazzo, and carpeting, sealed concrete).
- Select floor finishes considering maintenance activities, moisture, soiling (abrasiveness and staining), chemicals, wheel loads, dropped objects, movable furniture, foot traffic, and traffic patterns.

### Janitorial

#### 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.
- Dedicated 120V 20A circuits for trash compactors coordinated with the seating plan and facility layout. Locate one compactor circuit per holdroom and one compactor circuit at every other column along both sides of the walkways or concourses. Compactors provided by the Port.
- Show placeholders on the drawings for trash receptacles paired with recycle receptacles. In food courts, we collect compost, recycling, and garbage in separate containers. In terminal concourse areas, we collect recycling and garbage (but not compost) using either multi-slot (preferred) or clusters of 2 or 3 standalone bins.
- Keys: for restroom accessories see the key list under Architecture on page 8.
- 120V 20A outlets for full coverage vacuuming in the carpeted areas. Vacuum maximum cord length is 50’.
- Provide circuits along the walls of carpeted holdrooms to accommodate 120VAC 18A carpet steam cleaners with 50’ power cords.
- Aesthetically acceptable means of closing restrooms for service:
- “Bank rails” and temporary signs positioned in front of the restrooms are not acceptable.
- Hinged doors are preferred vs. the roll down screen for closures.
- Open area above or through door is required for HVAC air flow.
- From a distance, passengers should be able to see the restrooms are closed.
- “Closed and redirection” signage should be designed into the hidden side of the door while the restrooms are open.
- Bird deterrents shall be installed where directed by the POS wildlife biologist. Birds are currently a problem on both interior and exterior surfaces where birds can roost. Bird spikes or other deterrent, as approved by the biologist, are required on exterior lighting.
- Provide 42” high fall protection handrail for all elevated surfaces above 4’ where personnel may walk; where not feasible, provide other fixed fall protection system for use by 2 or more concurrent personnel.

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#### Janitorial Closets:

- The janitorial closet(s) shall be in close proximity to the restrooms.
- Cleaning supplies and equipment shall be stored out of customers' view when not in use.
- Restroom service cart space:
- Utility cart 24"x51"
- Tilt cart 33"x73"
- Garbage can 24" diameter
- When pushed together the above require 34 SF.
- Mop (service) sink in the corner with hot & cold water with hose connection. (See F&I Mechanical Standards)
- Sealed concrete floor with slope to floor drain.
- Stainless steel wainscot with waterproof and mold resistant green-board behind and above the wainscot.

- Sealant/waterproofing should go from the horizontal surface up the wall 4" behind the stainless steel wainscot.
- 42" wide door with adequate room to maneuver the equipment stored in the room and functionally use the mop sink.
- 20 Foot-candle LED lighting.
- The lid/ceiling should be a hard lid/ ceiling same as, or similar to, GWB ceiling.
- Level 3 finish for GWB; 1 coat PVA primer, 2 finish coats Sea-Tac Airport "super white" latex enamel eggshell.
- 18" deep shelving for 60 cubic feet of consumables.
- Two single gang duplex 120VAC 20A self-testing GFCI protected outlets for general use.
- Space to hang one 36" wide vacuum on the wall.
- New facilities shall include a front load washer and dryer, with power, water, and exhaust.



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- 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 POS Project Manager and AVM Manager. The equipment will not be purchased by the project.

### Walk behind machine burnisher (Basis is Tenant B5 or B7)

- Machine Height: 43 in
- Machine Width: 24.5 in
- Machine Length: 59 in
- Dedicated 120VAC 20A charging circuit

### Walk behind scrubber (Basis Tenant T2)

- Machine Height Maximum (Handle Lowest Position): 36.6 in
- Machine Width: 17.4 in / 18.8 in
- Squeegee Width: 27.4 in
- Machine Length: 44.1 in
- Cold water hose bib with mop sink or drain to sewer

### Wide vacuum cleaner (Basis Tenant V-WA-30)

- Machine Height: 39.75 in
- Machine Width: 30.5 in
- Machine Length: 36 in
- No power required for storage location

### Wet Vacuum (Basis Tenant V-WD-15)

- Machine Height: 37.5 in
- Machine Width: 15.5 in
- Machine Length: 29 in
- 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 in
- Width: 15 in
- Length: 18 in
- No power required for storage location

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#### Plants:

Coordinate approved plant list from Steve Osmek.

#### 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 & Grounds

#### 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 Access:

- 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.
- 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.
- Curbs for mechanical equipment and other roof penetrations shall have 18" separation from adjacent vertical surface for working clearances.
- 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.

#### Service Power:

Provide 120V 20A convenience power outlets on roof tops within 25' of service equipment.

#### Fall Protection:

- Fall protection is required for open-sided floors and platforms above four feet WAC 296-800-26010-1 (<http://wisha-training.lni.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.

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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.
- Maintain clear access to valves and cleanouts. Provide appropriately sized and secure access doors in walls and hard ceilings where cleanouts are located.
- Provide access roads and service areas around outdoor equipment for removing large internal equipment.
- 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.)



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### 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.

### 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):

- Graphics shall be created using CAD drawings, program code, and formatting to match existing 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 allowed.

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### 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.
- 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 Doors/access (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.

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- 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.
- Provide Access doors and panels provided at locations which require cleaning (e.g., reheat coils, VAV terminals).
- Duct access doors provided upstream of VAV terminals to allow cleaning and lubrication.

### 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.



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### 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.
- 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.

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#### 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.

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### 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.

### 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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## Baggage Handling Systems

### 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.
- Auto Tag reader (ATR): Walkways should also be made wide enough to access 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.
- Safety Cables, 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.

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#### 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.

#### Pusher:

Pushers are the preferred alternative to diverters -post screening.

#### Diverters:

- Pre-screening only. Must be accessible from underside.
- Refrain from sprinkler system too close to lower cover which could prevent the removal.
- Clearance to access drives assembly with no obstructions.

#### 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.

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#### 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 and 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.

#### Building Fire System:

- coordinate with each Trade for location.

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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.

#### 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.
- Columns and Bridge
- 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.
- Vertical Drive assembly.
- Full platform around vertical drive on top of the cab tunnel.
- Platform must be removable in the event the column needs to be replaced.



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#### Add-ons or accessories:

- 400 Hertz
- Design criteria shall include provisions the 400 Hz power attachments.
- Equipment location will not block access to fittings and switches.
- PC Air
- 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
- Designated location.
- 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:
- 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

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#### 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 maintenance 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.

#### Fall Protection:

- Fall protection for roof access shall be part of the standard design.
- Fall protection around roof mounted equipment shall allow for maintenance activities.
- Fall protection shall be provided for servicing of the open cab located at cab entry point.

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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).

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#### 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.

#### 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.



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#### 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 ampacity 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.

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#### Secondary Unit Substations & Switchgear:

- Surge lightning and transient protection installed on service entrances, solid-state uninterruptible power supplies, and isolation transformers.
- 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.

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### 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.

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#### Low Voltage Switchgear and Transformer:

- 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.

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### 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 present and where supplying electronic/computer & server loads.
- Adequate workspace around equipment. Sufficient working space for two people.



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### 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.

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### 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 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.
- 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.
- 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.

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- 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.

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Pavement & Grounds  
Roof & Roofing  
Plumbing & Wastewater  
HVAC & Steam  
Fire Protection  
Baggage Handling Systems  
Baggage Ramp  
PLB Maintainability Standards  
Electrical

#### Electronic Systems

Design Intent Drawings

#### 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.
- 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.



### Electronic Systems (Telecommunications and Airport Systems)

---

- Design Vision
- Design Guidelines
- Architectural Standards
- Appendix**
  - Resources
  - Forms & Document Library
  - Maintainability Standards**
    - General Directions
    - Architecture
    - Janitorial
    - Civil/Site Work
    - Pavement & Grounds
    - Roof & Roofing
    - Plumbing & Wastewater
    - HVAC & Steam
    - Fire Protection
    - Baggage Handling Systems
    - Baggage Ramp
    - PLB Maintainability Standards
    - Electrical
    - Electronic Systems**
  - Design Intent Drawings

---

#### 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.

### Electronic Systems (Telecommunications and Airport Systems)

Design Vision  
Design Guidelines  
Architectural Standards

#### Appendix

Resources  
Forms & Document Library  
**Maintainability Standards**  
General Directions  
Architecture  
Janitorial  
Civil/Site Work  
Pavement & Grounds  
Roof & Roofing  
Plumbing & Wastewater  
HVAC & Steam  
Fire Protection  
Baggage Handling Systems  
Baggage Ramp  
PLB Maintainability Standards  
Electrical

#### Electronic Systems

Design Intent Drawings

#### 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 useable. 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.

- 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.

## Electronic Systems (Telecommunications and Airport Systems)

Design Vision

Design Guidelines

Architectural Standards

Appendix

Resources

Forms & Document Library

Maintainability Standards

General Directions

Architecture

Janitorial

Civil/Site Work

Pavement & Grounds

Roof & Roofing

Plumbing & Wastewater

HVAC & Steam

Fire Protection

Baggage Handling Systems

Baggage Ramp

PLB Maintainability Standards

Electrical

Electronic Systems

Design Intent Drawings

### 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

DV DG AS A

This section include design intent drawings for various features produced for the Airport.



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## ACKNOWLEDGEMENTS

Thank you to the contributing members of the Gensler team that helped us produce these guideline and standards.

Karen Thomas

Jeff Henry

Ryan Feters

Ryan Blanchard

Kelsey Meden

Tiffany Ricardo

Jacob Simons

Meaghan Beever

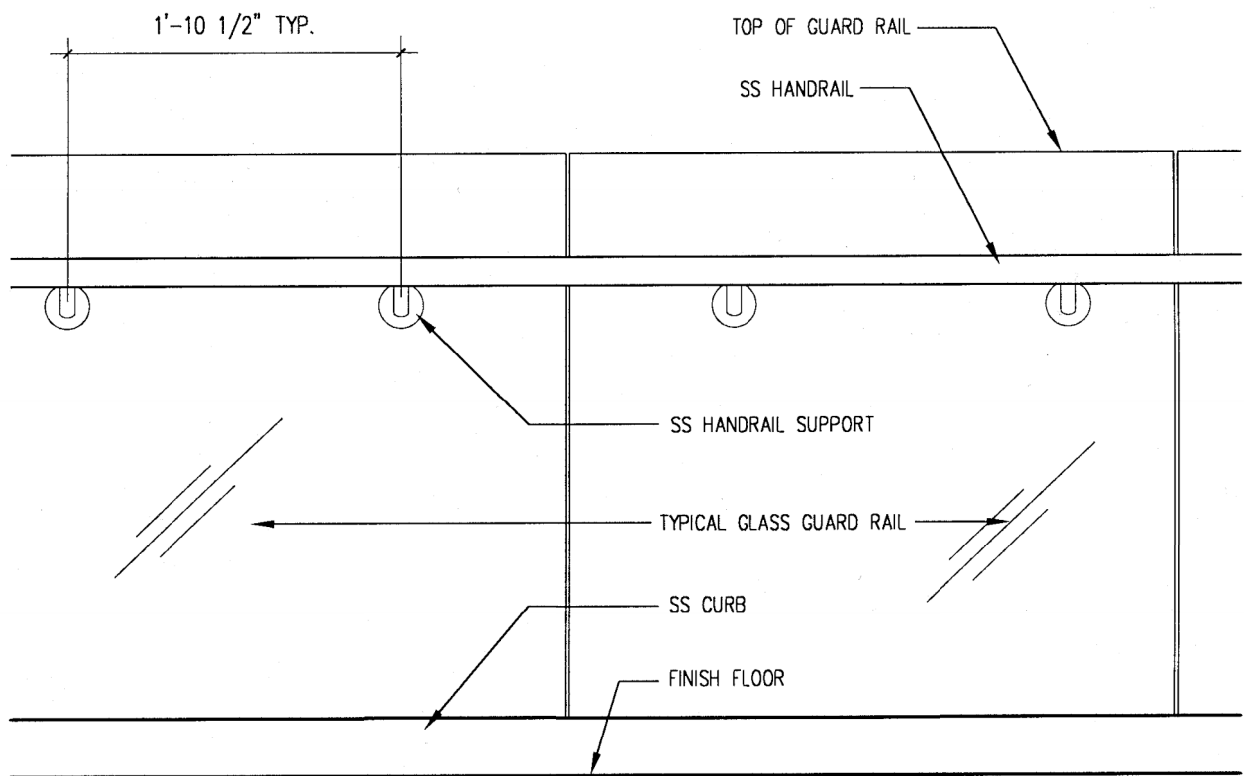
Fiona Anastas

Jessica Lutz

Tod Loebel

Sanwal Deen

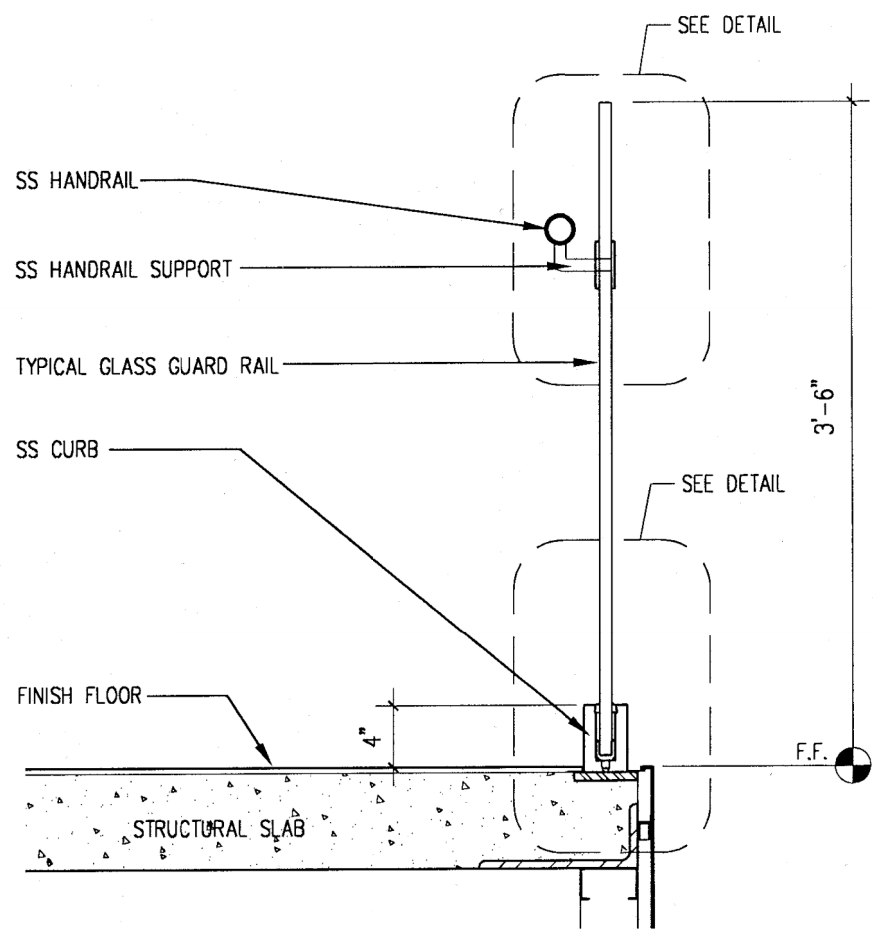
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**TYPICAL GUARD RAIL ELEVATION**  
NTS; For Reference Only



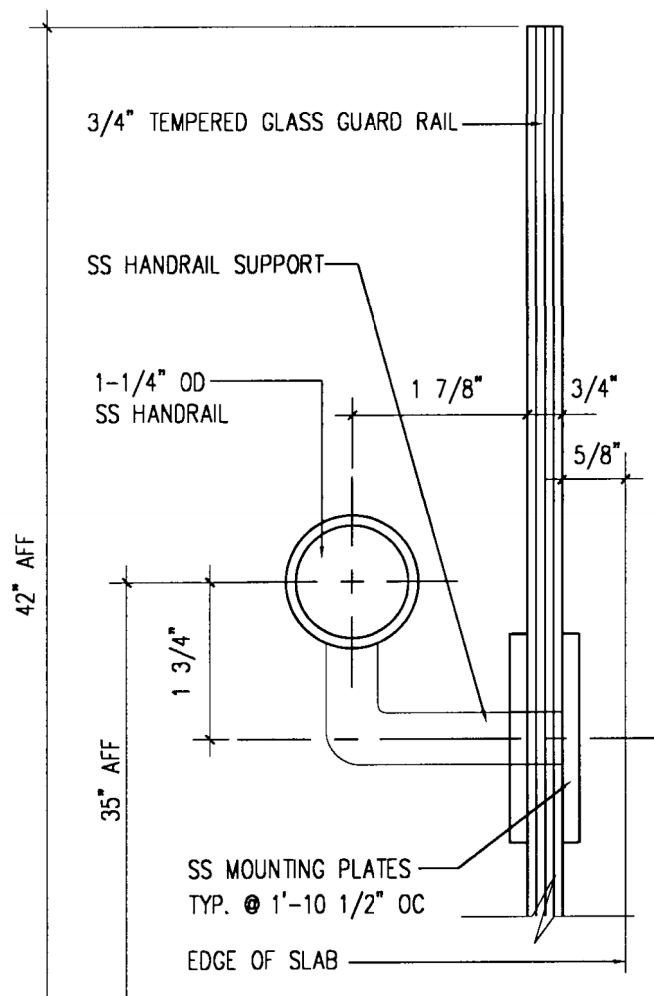
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**TYPICAL GUARD RAIL SECTION**

NTS; For Reference Only

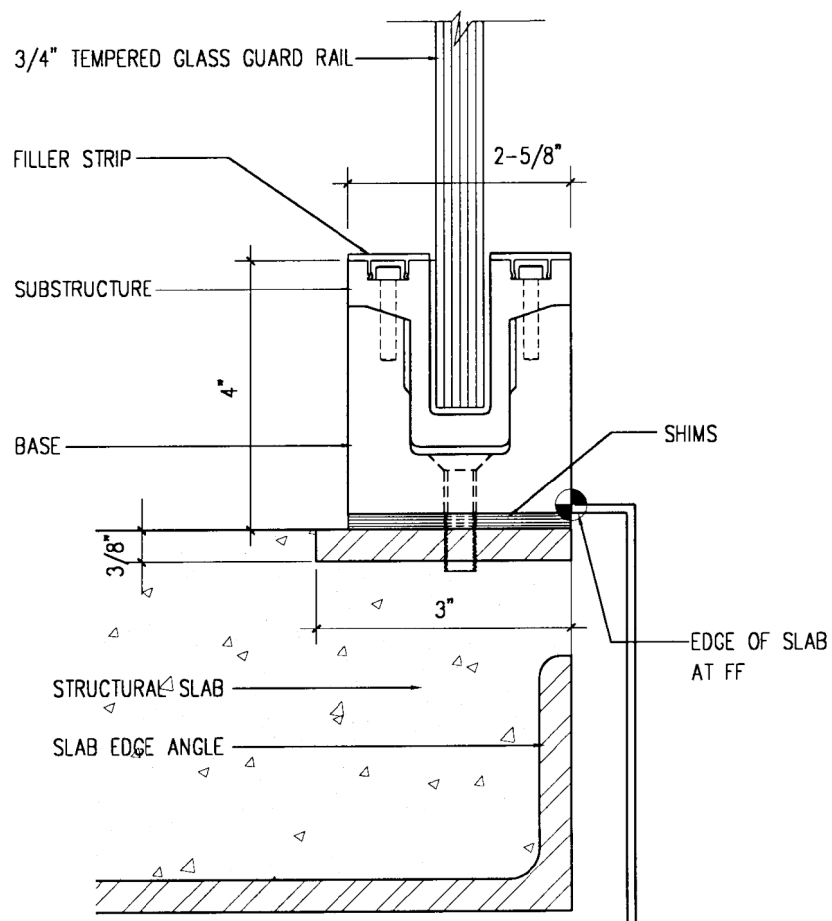
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## GLASS GUARD RAIL TYPICAL DETAIL @ TOP

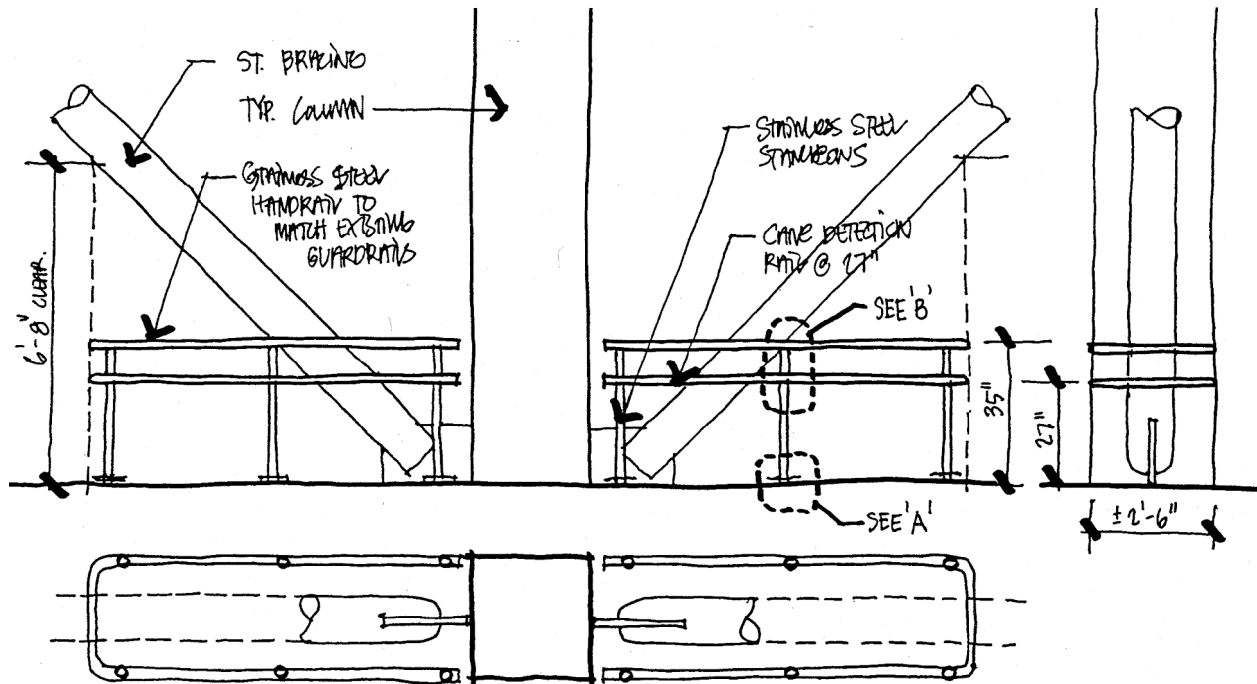
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CSI Master Specification Division: 05520



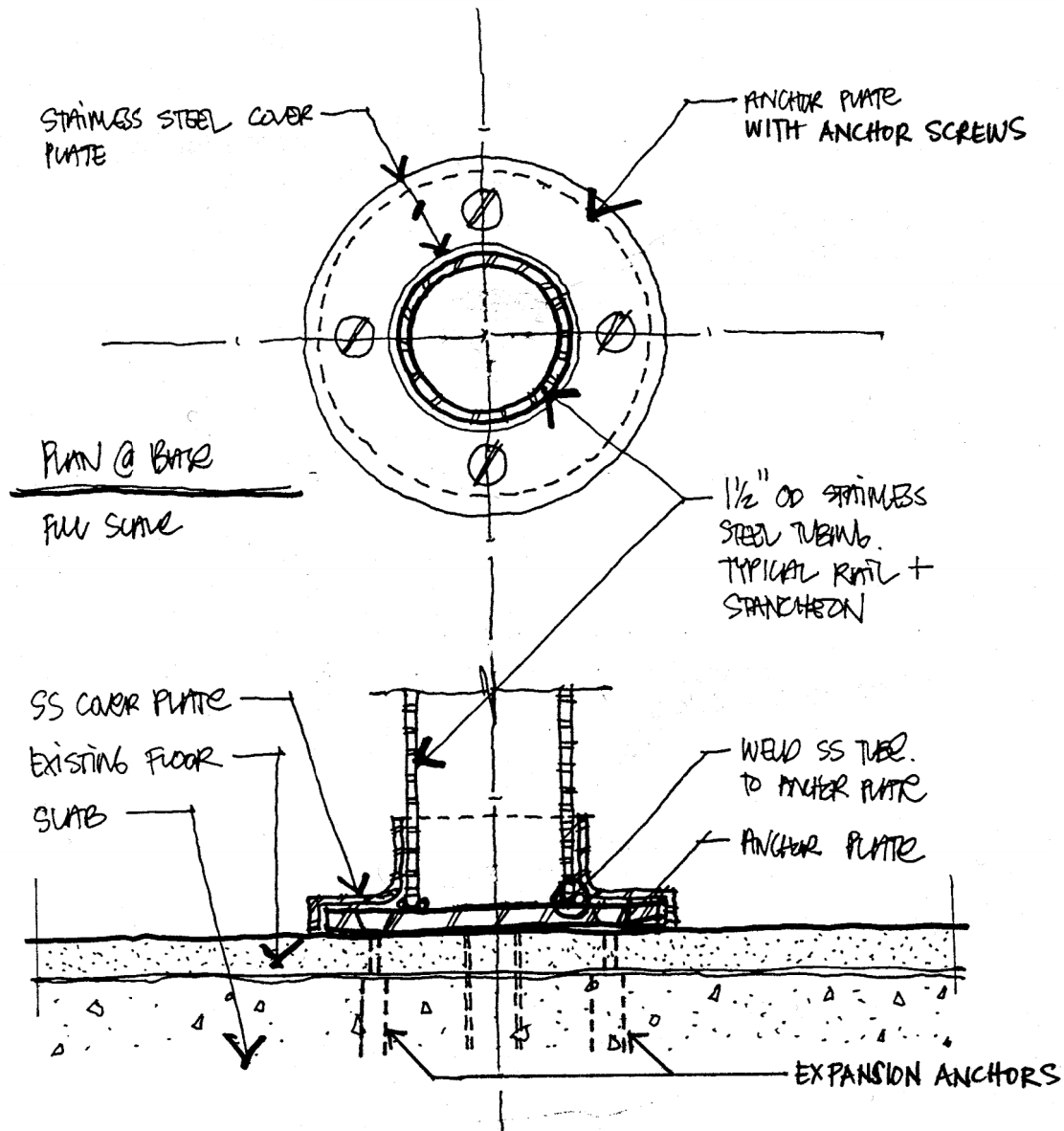
## GLASS GUARD RAIL TYPICAL DETAIL @ BASE

NTS; For Reference Only



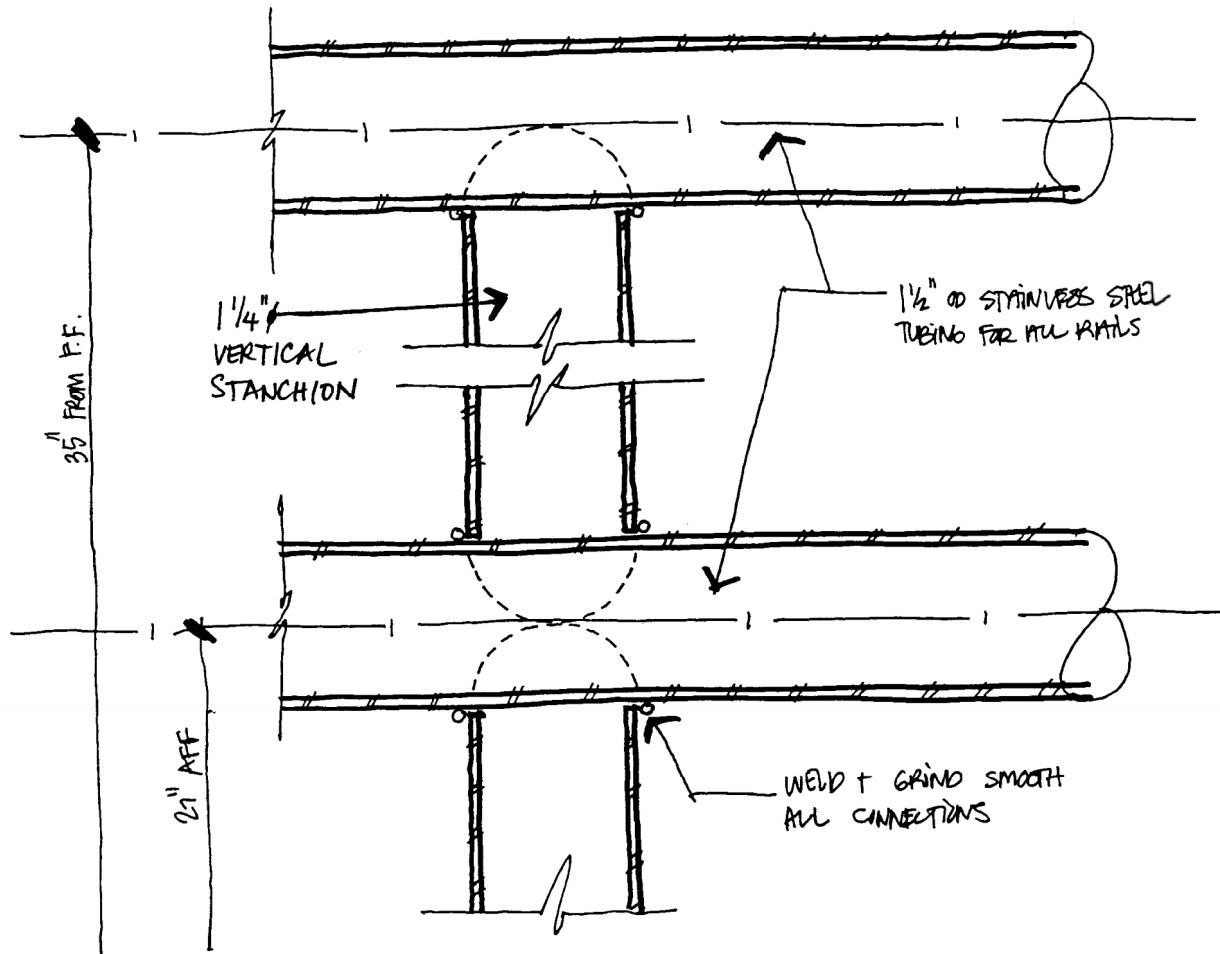
## PLAN AND ELEVATION TYPICAL GUARDRAIL AT SEISMIC BRACES

NTS; For Reference Only



## SECTION A: @ BASE

NTS; For Reference Only

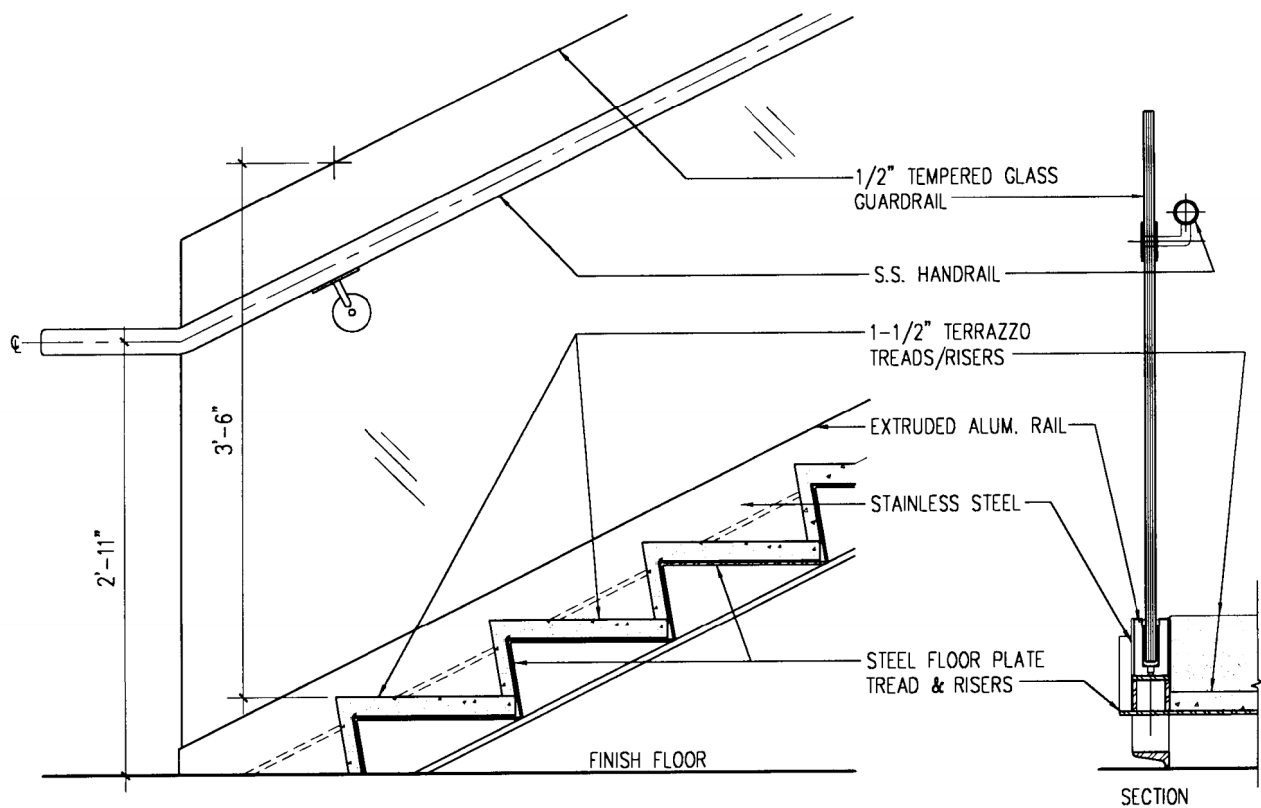


## SECTION B: THRU VERTICAL STANCHION

NTS; For Reference Only



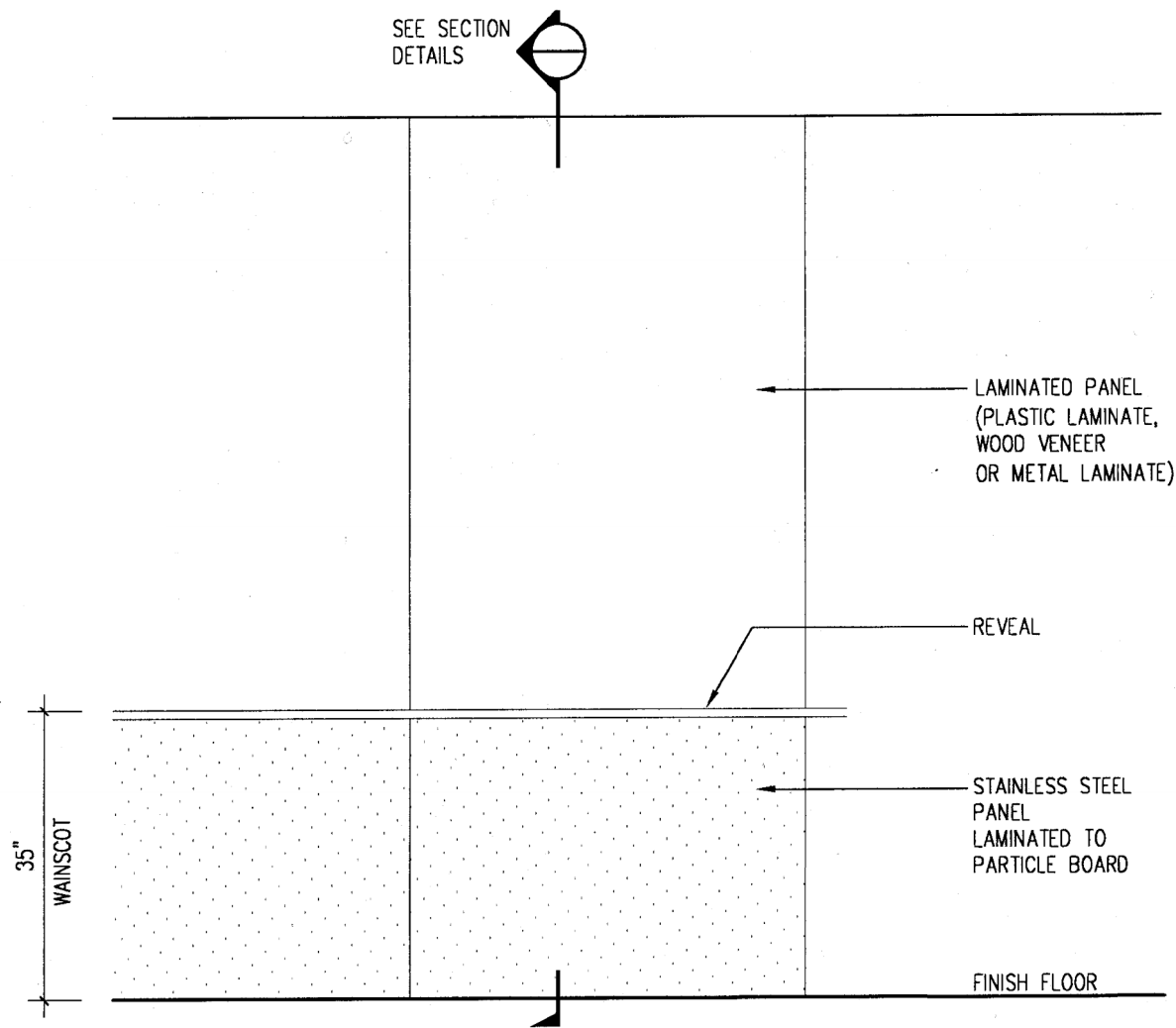
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## TYPICAL STAIR RAILING

NTS; For Reference Only

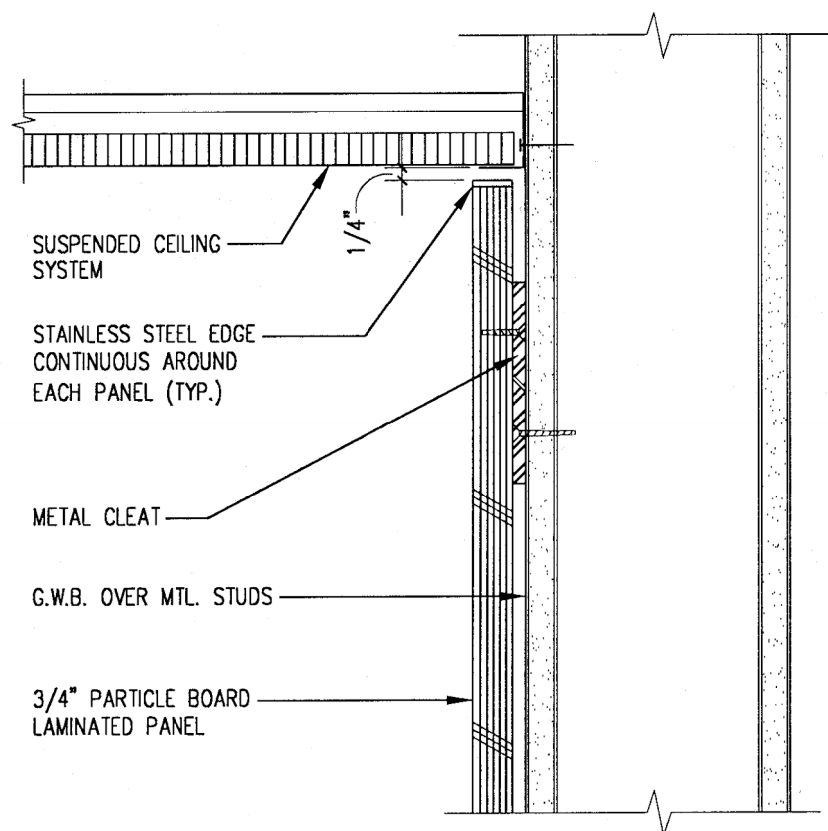
CSI Master Specifications Division: 06420



**TYPICAL WALL ELEVATION**

NTS; For Reference Only

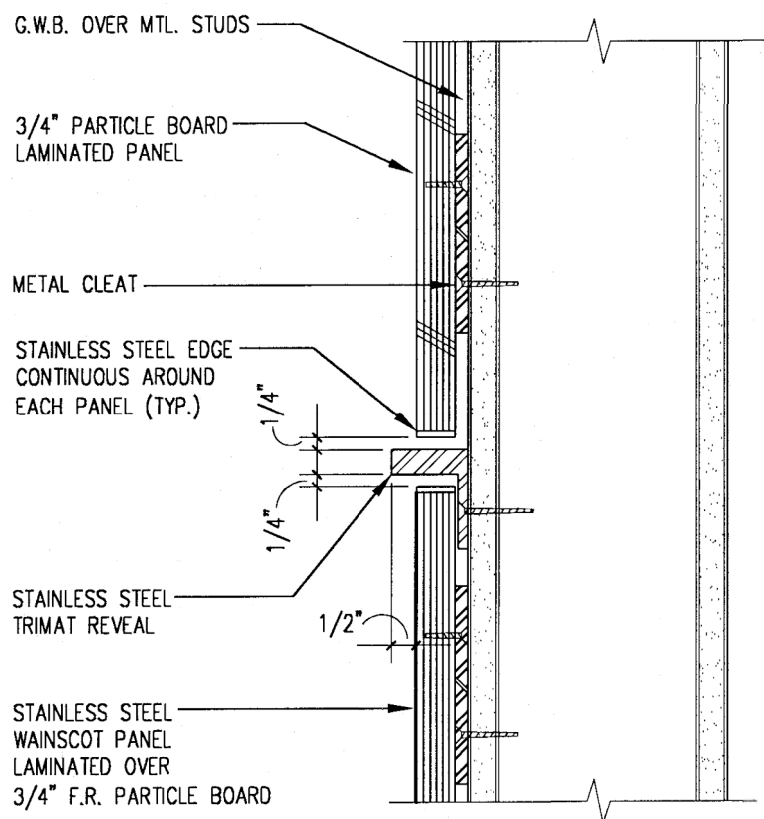
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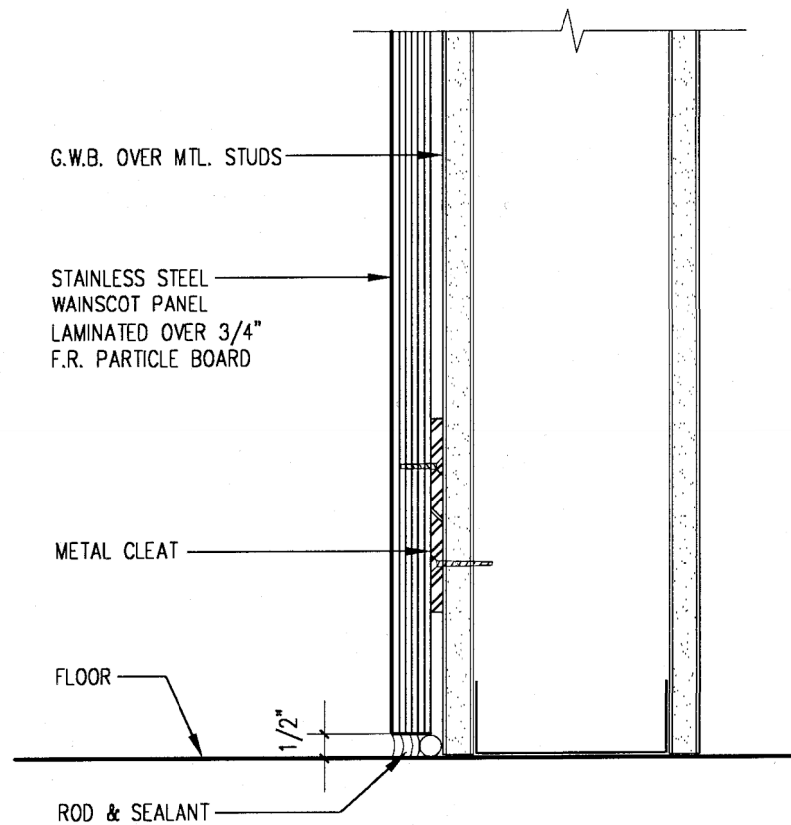
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## WALL DETAIL @ WAINSCOT TRANSITION

NTS; For Reference Only

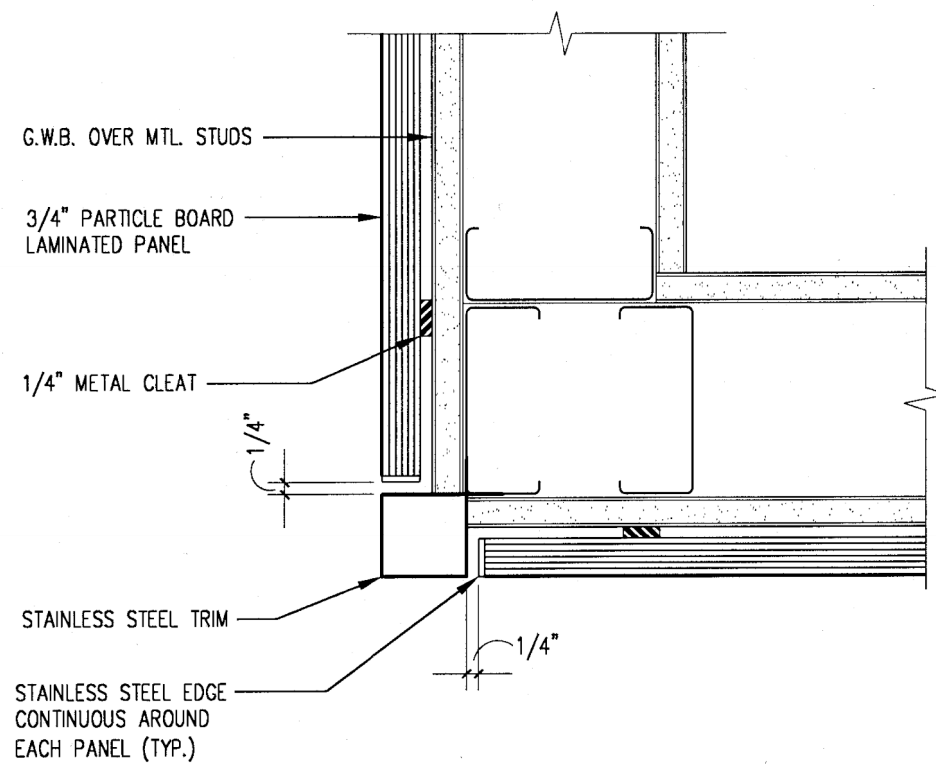
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NTS; For Reference Only

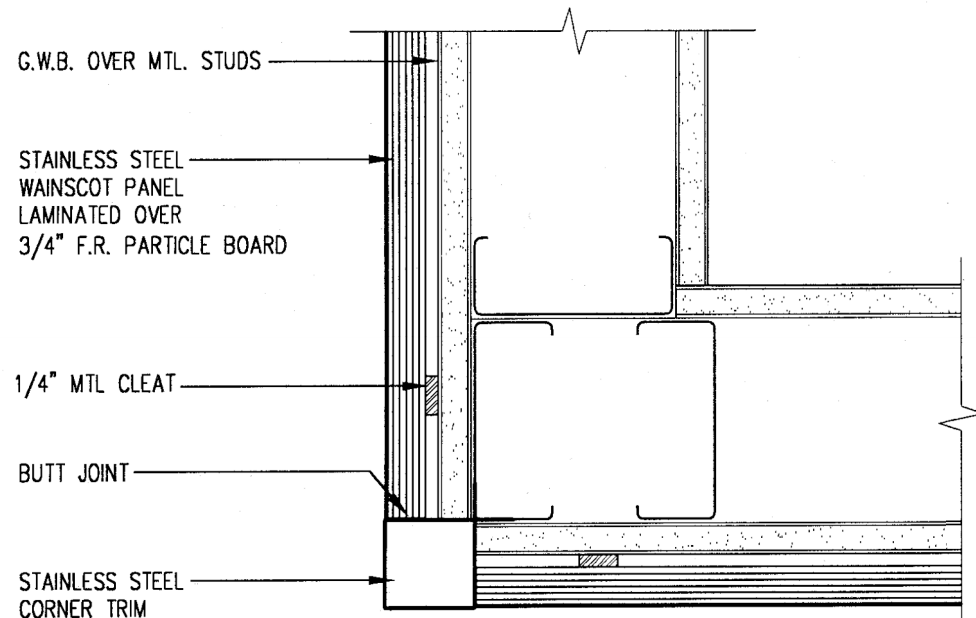
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NTS; For Reference Only

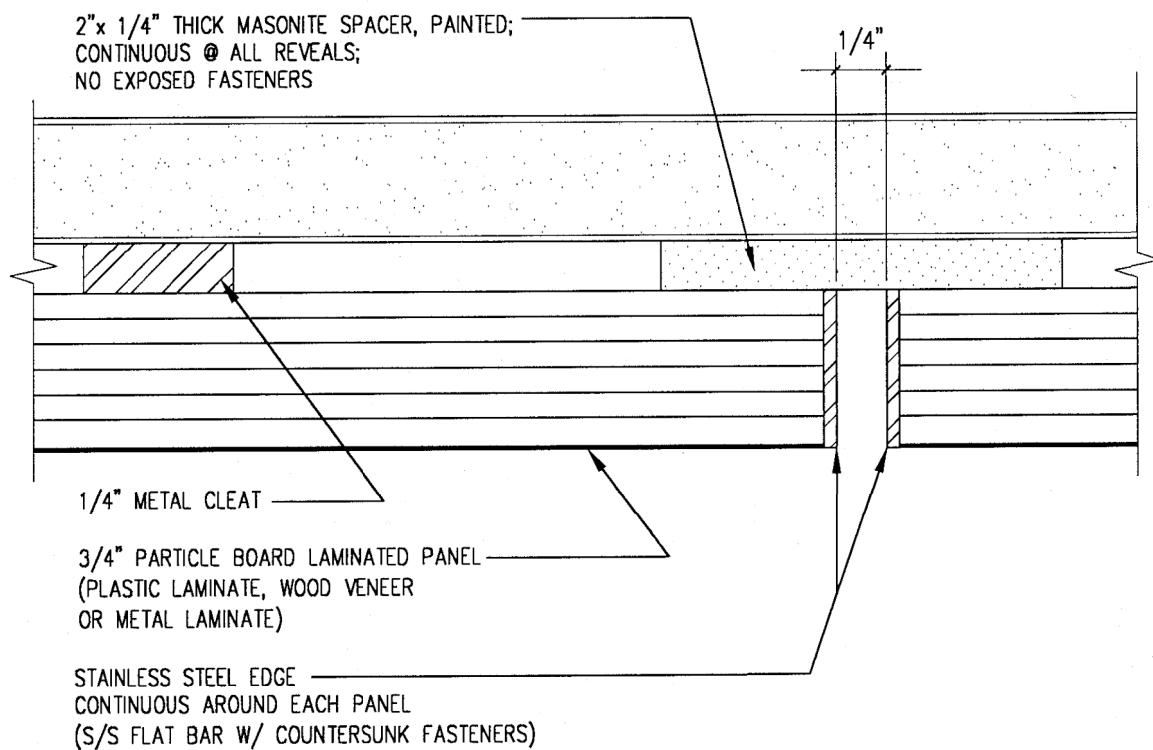




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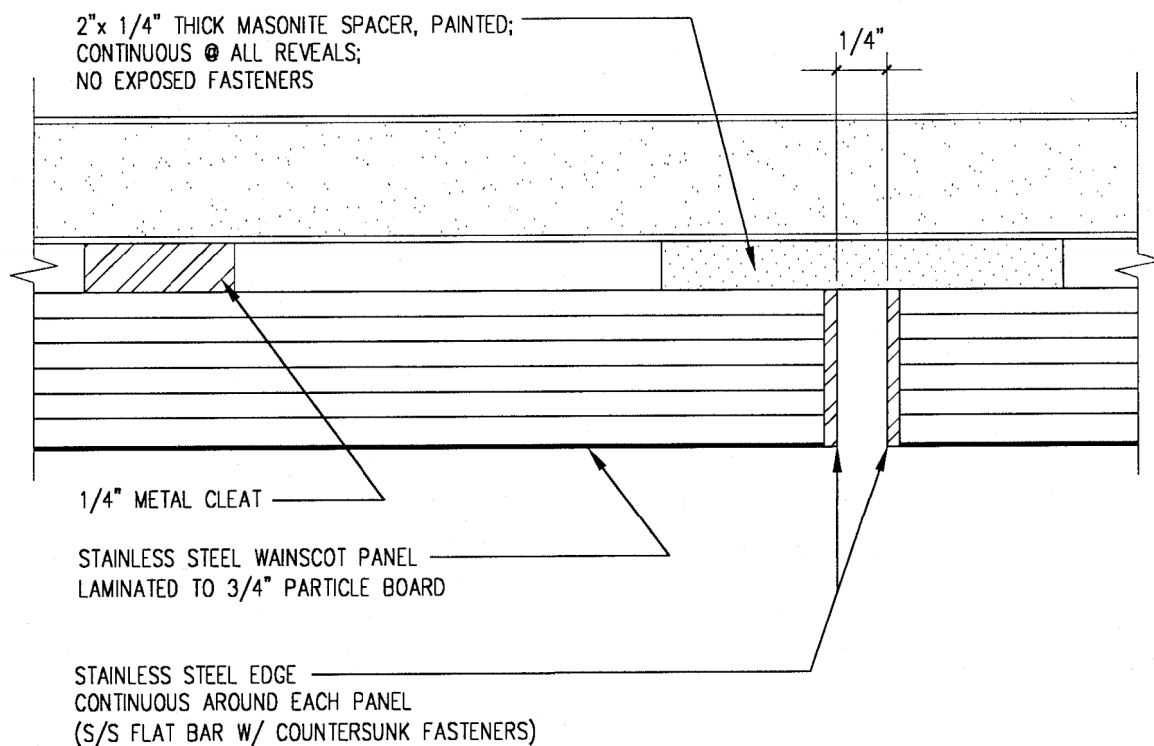
NTS; For Reference Only

CSI Master Specifications Division: 06420



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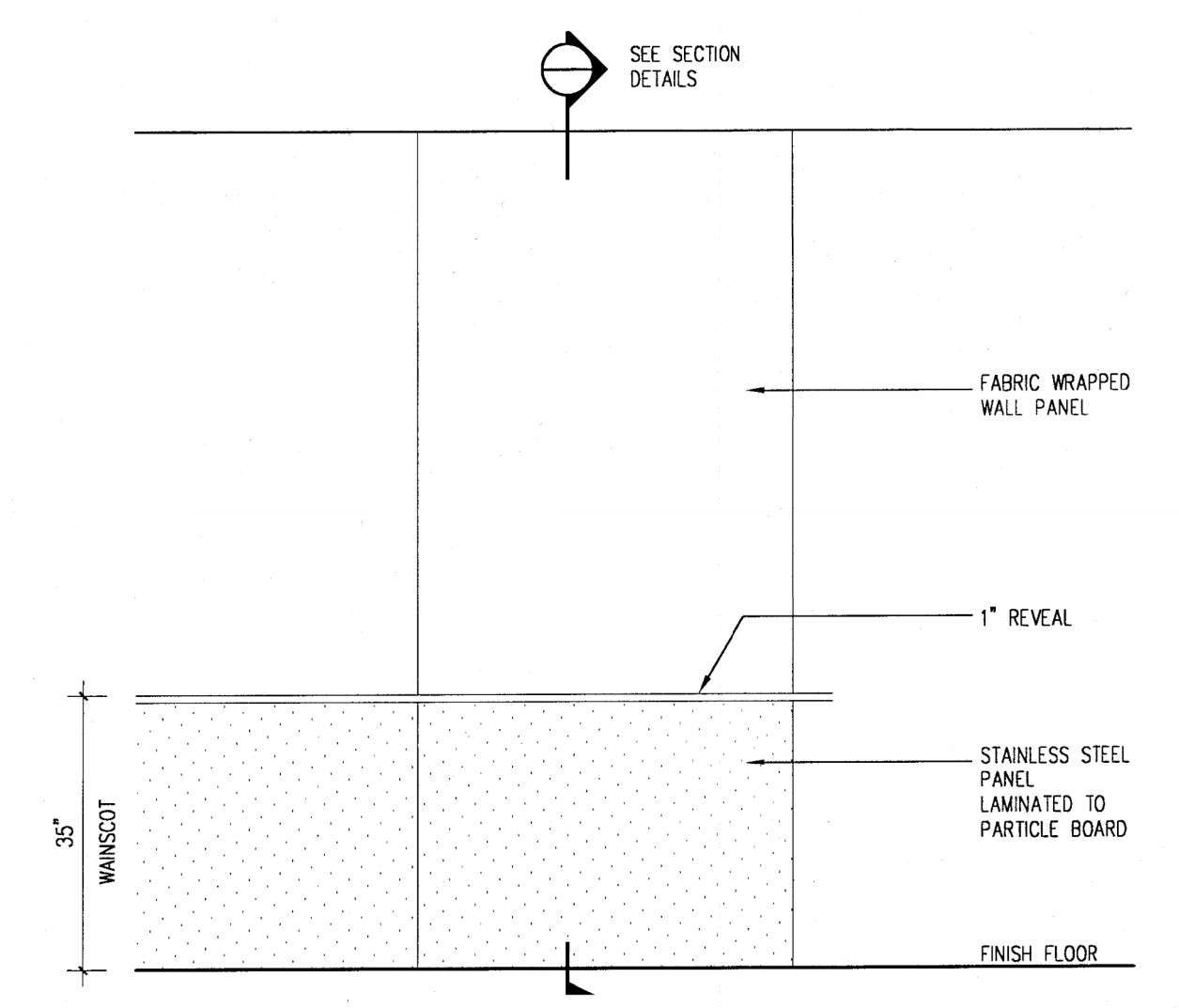
NTS; For Reference Only



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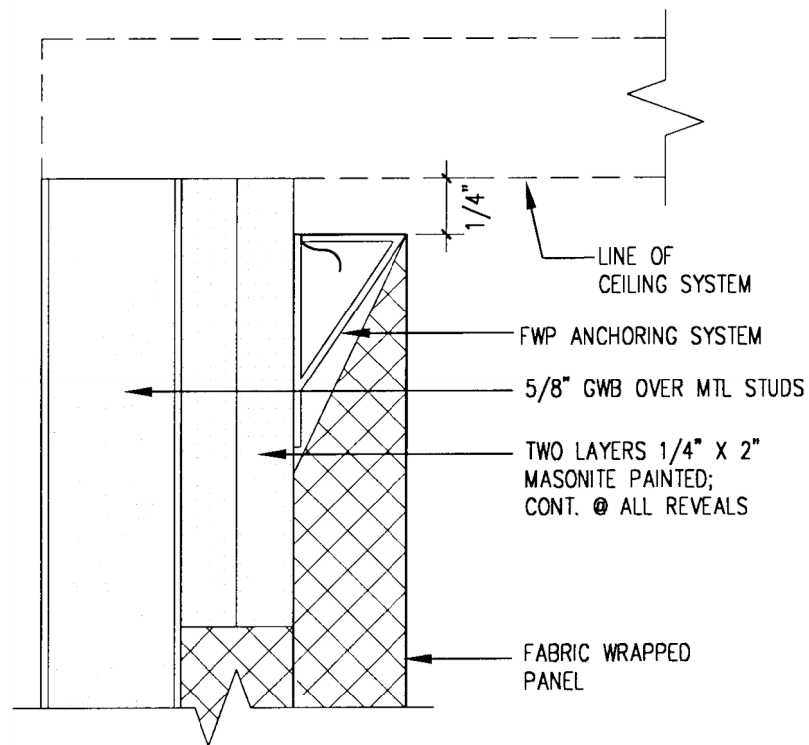
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NTS; For Reference Only

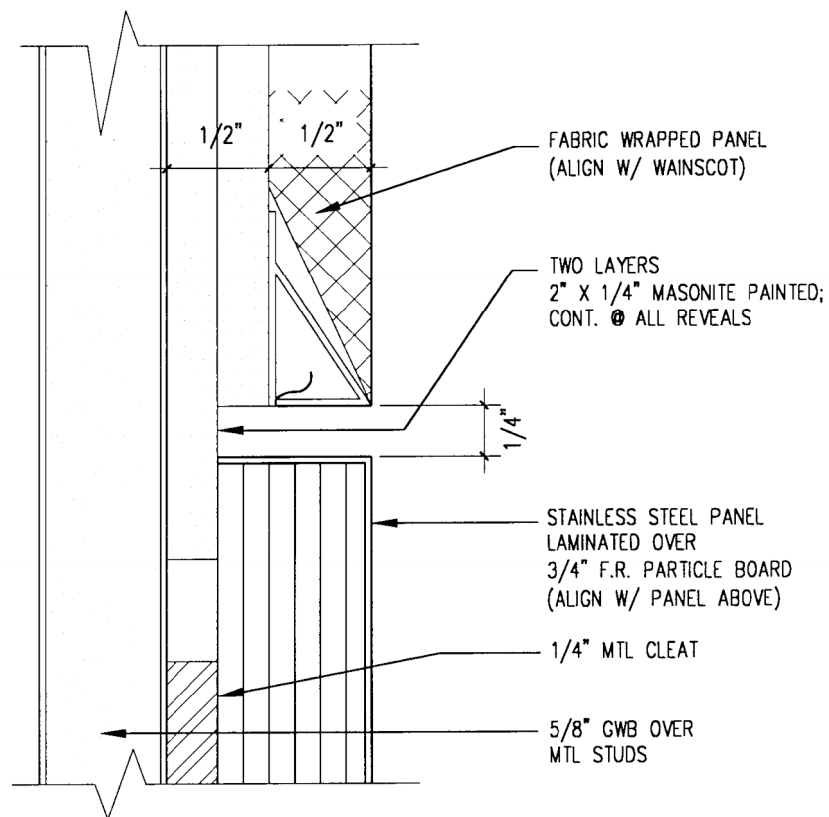
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## WALL DETAIL @ CEILING

NTS; For Reference Only

CSI Master Specification Division: 09720

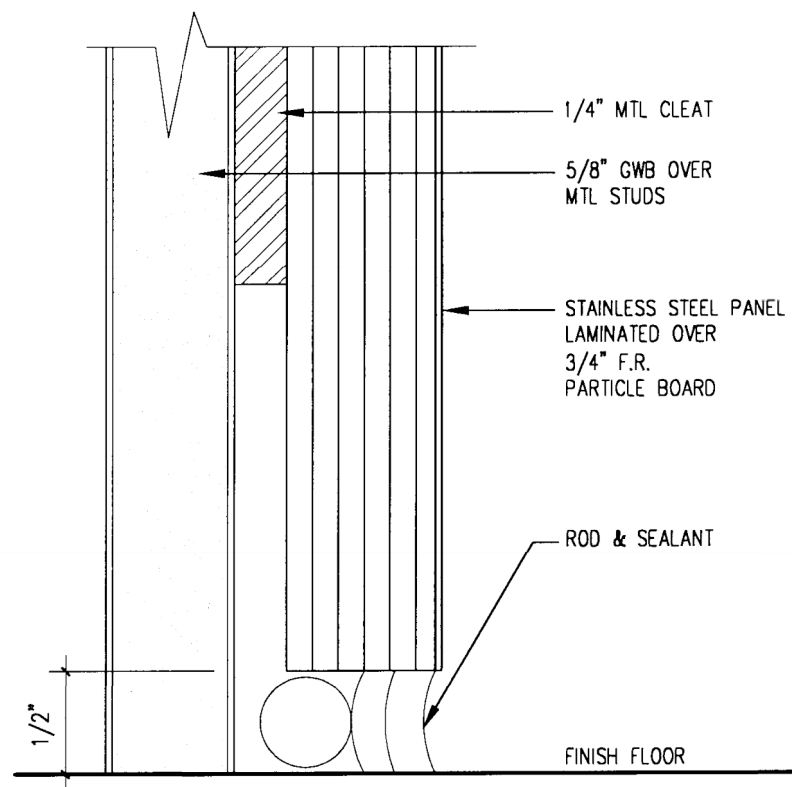


WALL DETAIL @ WAINSCOT TRANSITION

NTS; For Reference Only



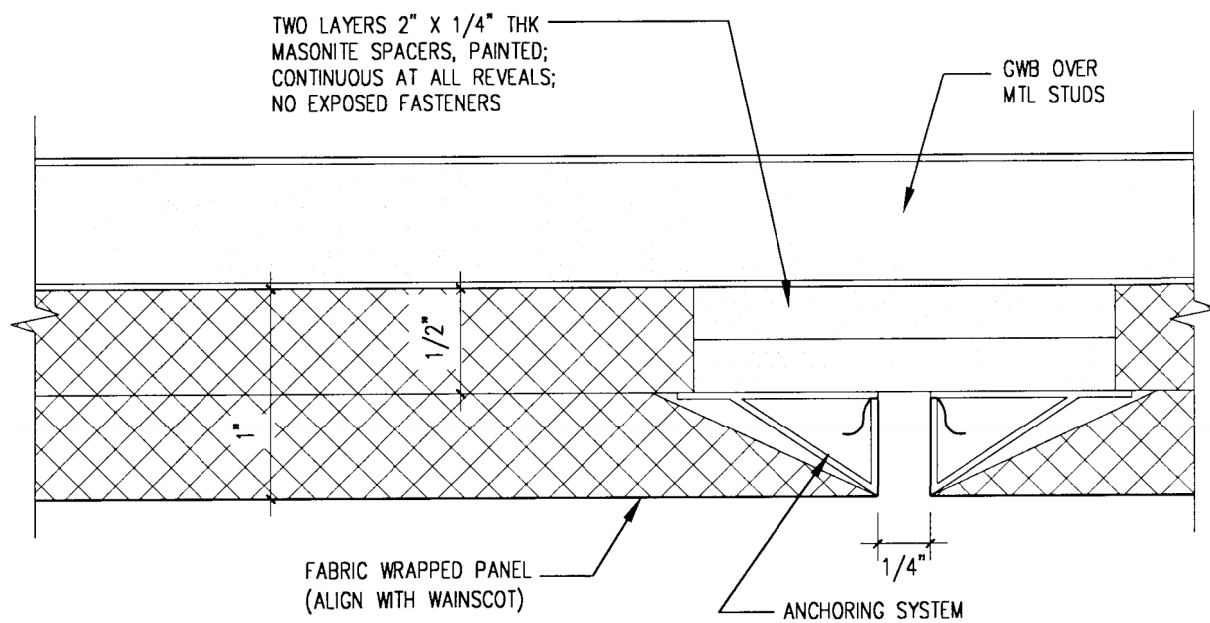
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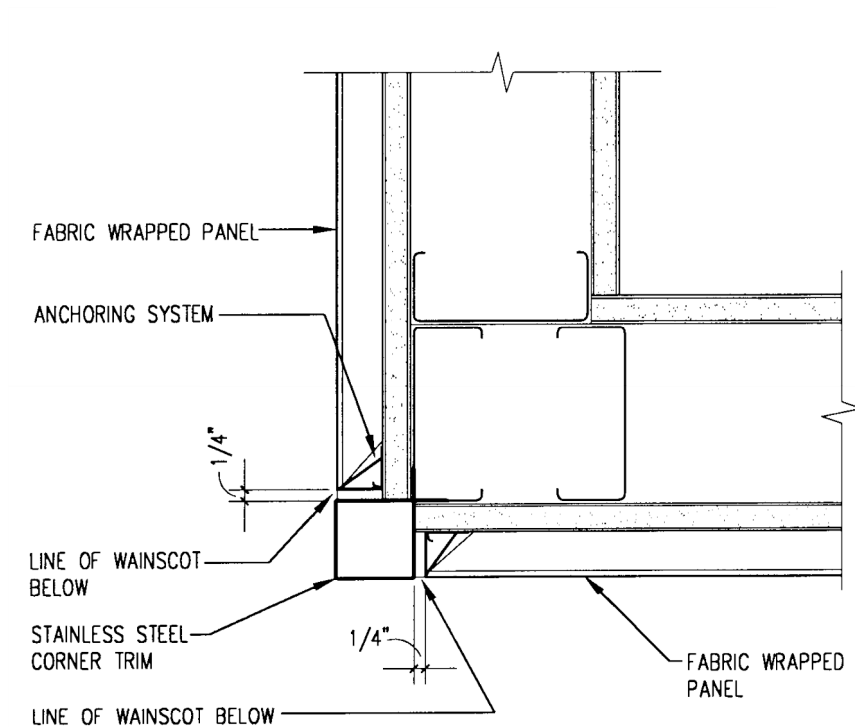
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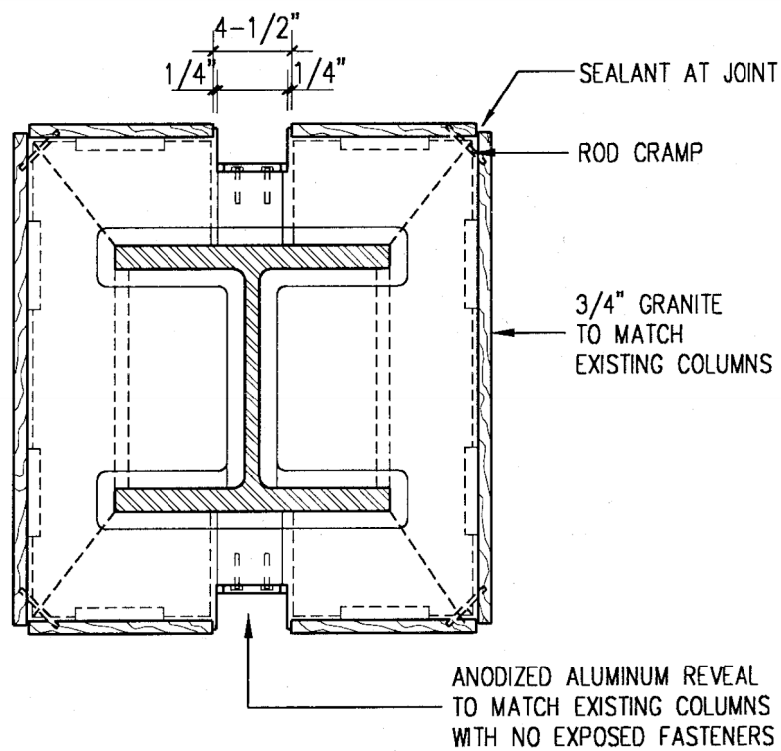
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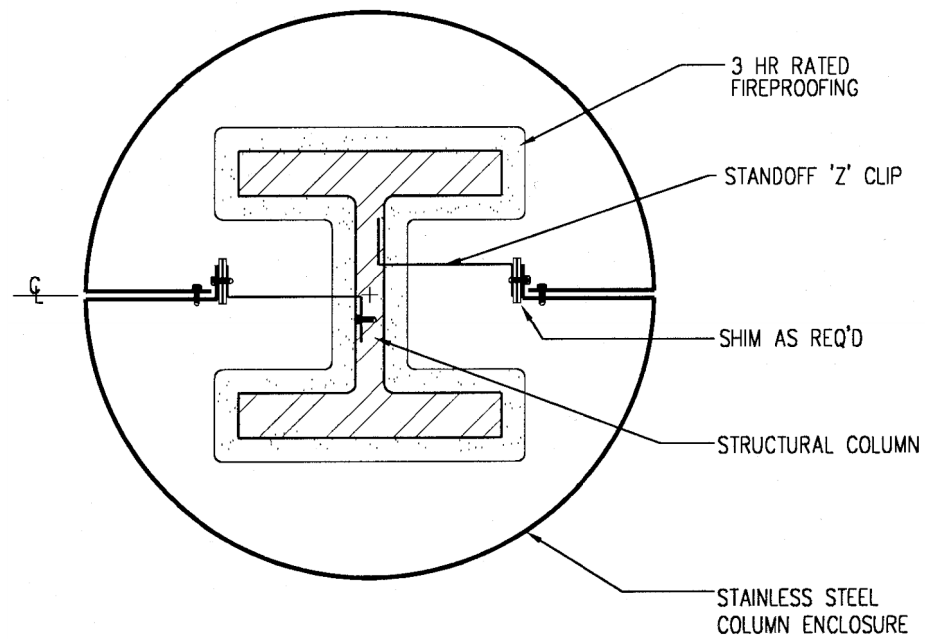
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NTS; For Reference Only

CSI Master Specifications Division: 03400, 05580, 06420, 09250, 09750



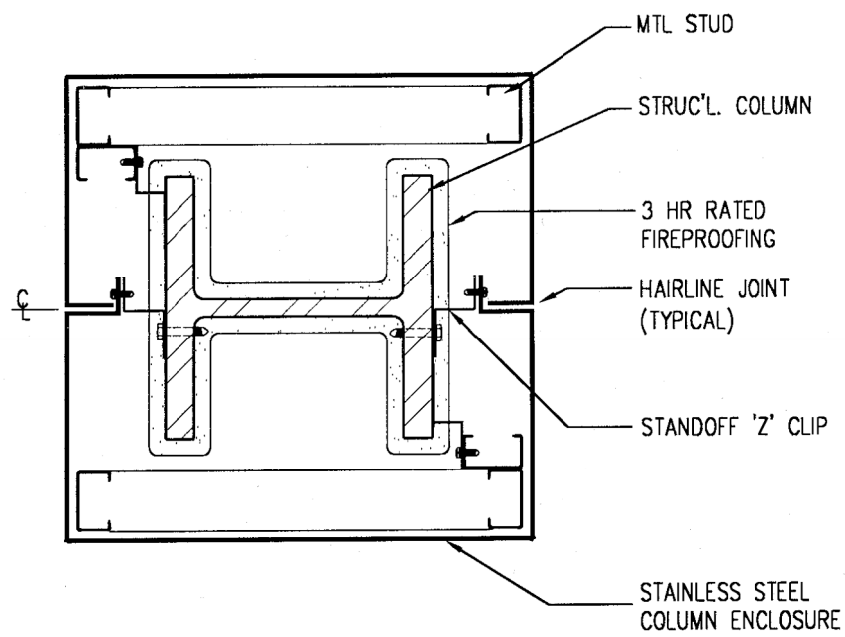
**TYPICAL DETAIL GRANITE COLUMN COVER**  
**NTS; For Reference Only**



TYPICAL DETAIL METAL COLUMN COVER

NTS; For Reference Only

CSI Master Specifications Division: 03400, 05580, 06420, 09250, 09750

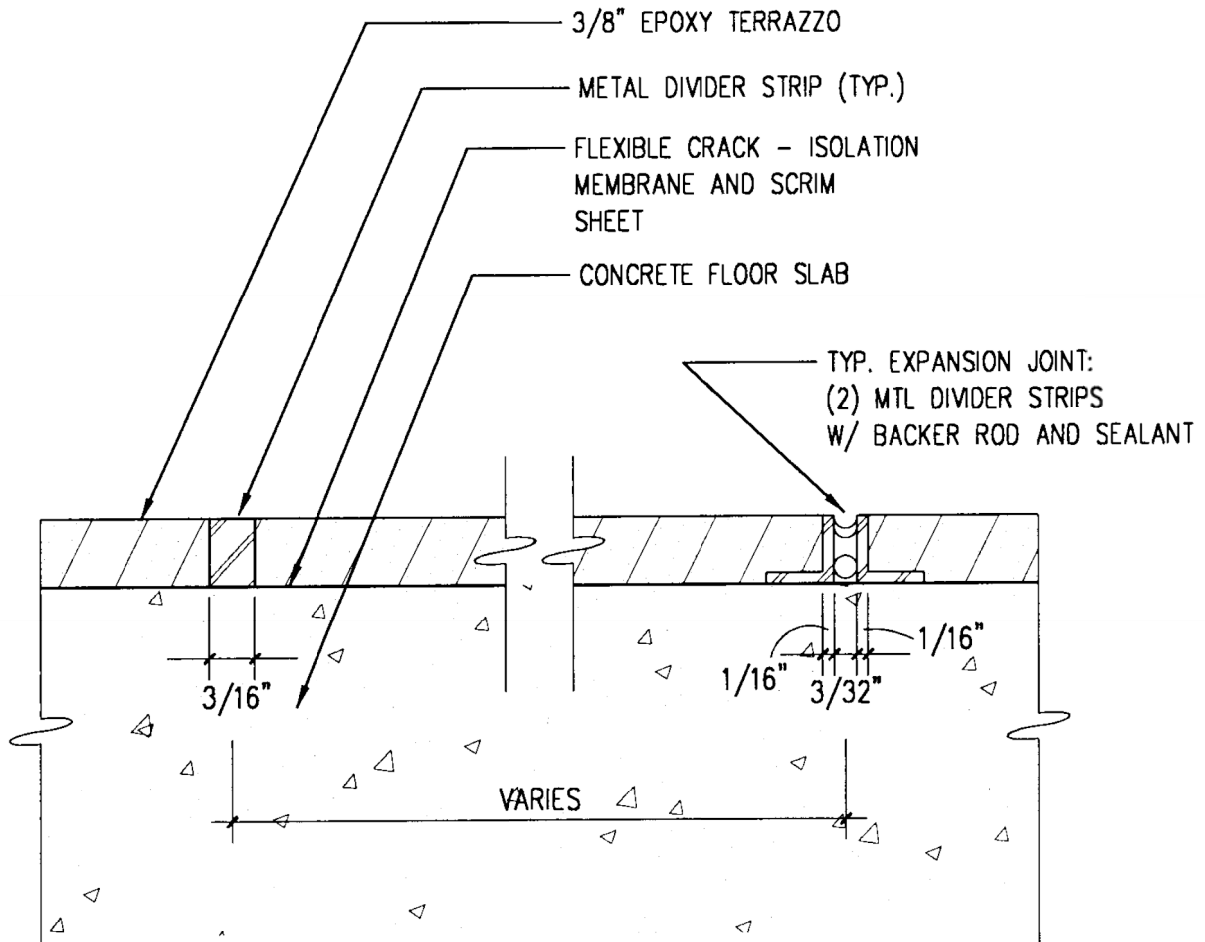


## TYPICAL DETAIL METAL COLUMN COVER

NTS; For Reference Only



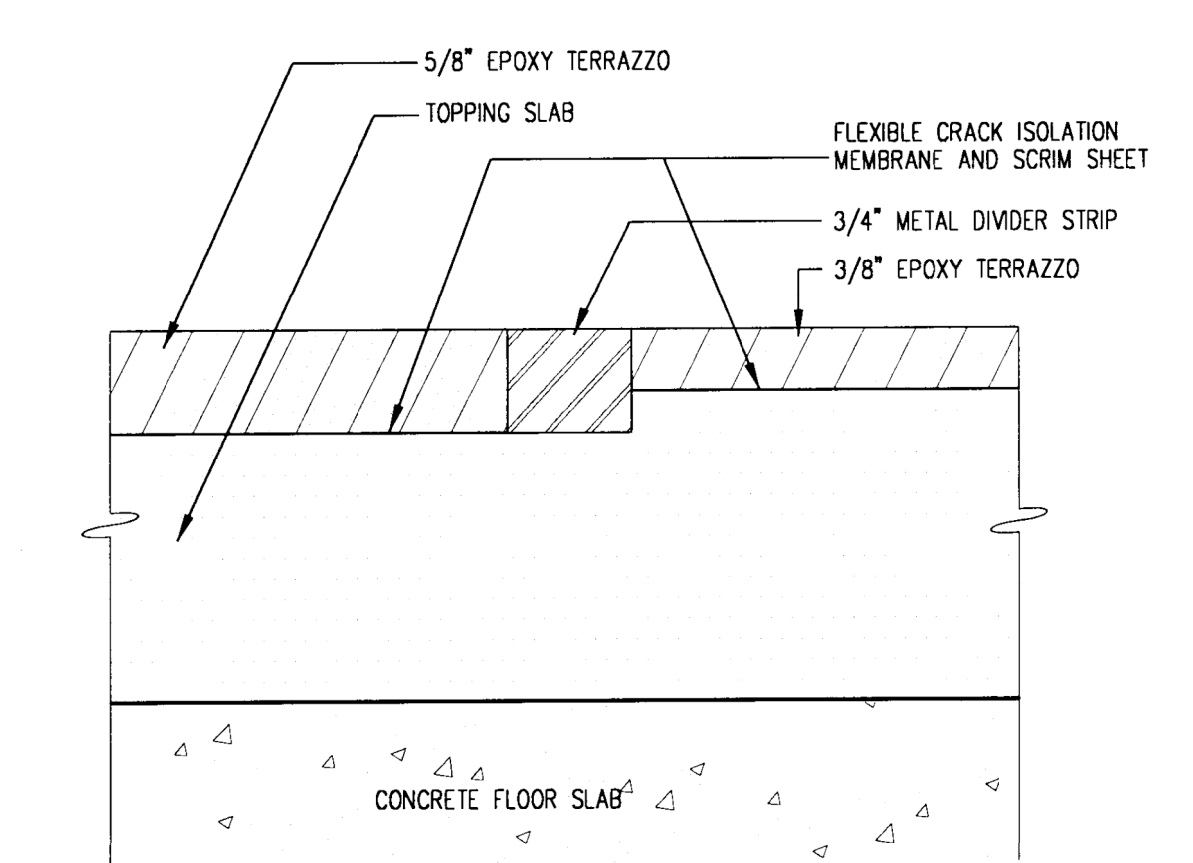
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## TYPICAL TERRAZZO FLOOR DETAIL

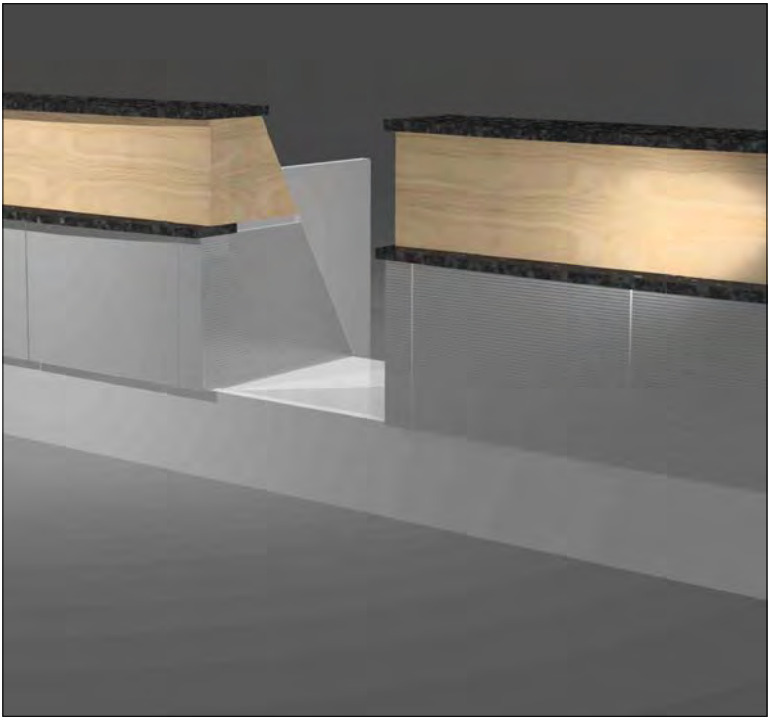
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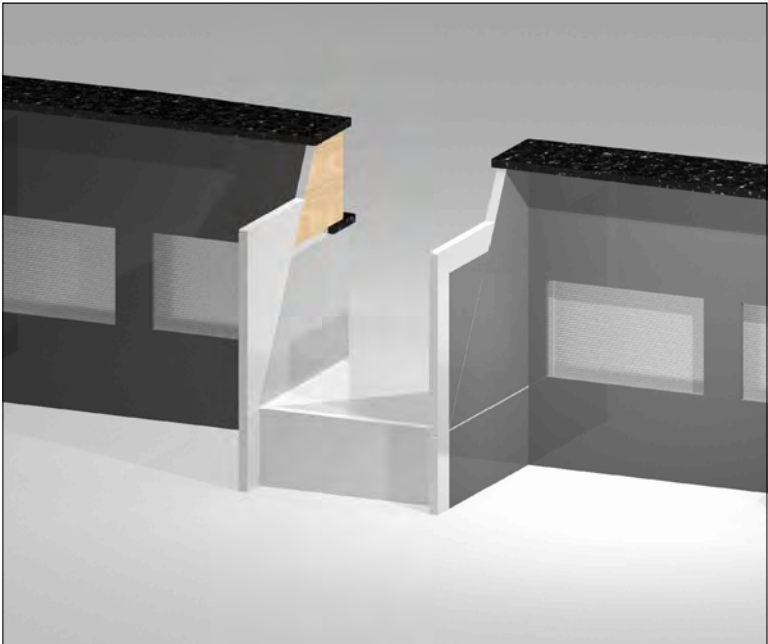


## TYPICAL TERRAZZO FLOOR DETAIL

NTS; For Reference Only



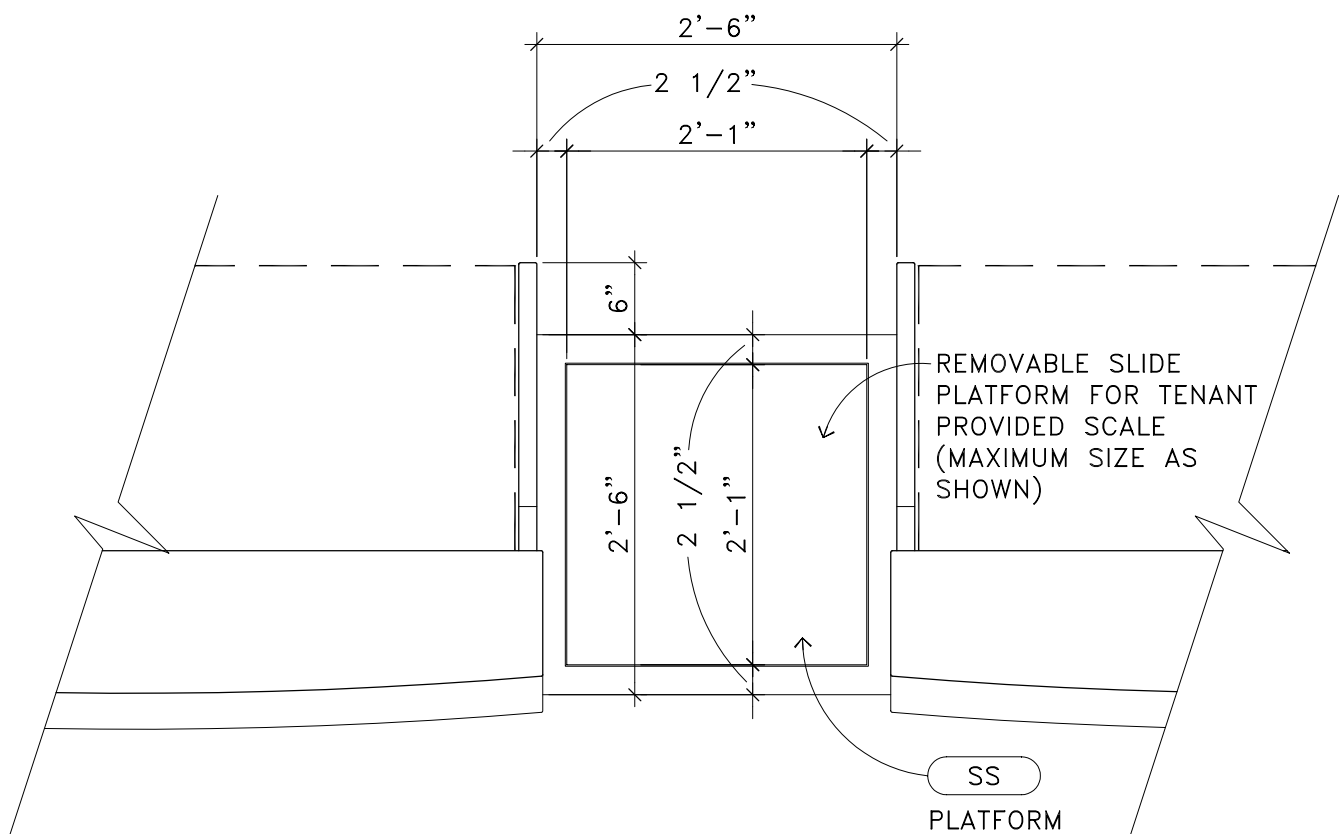
Front View



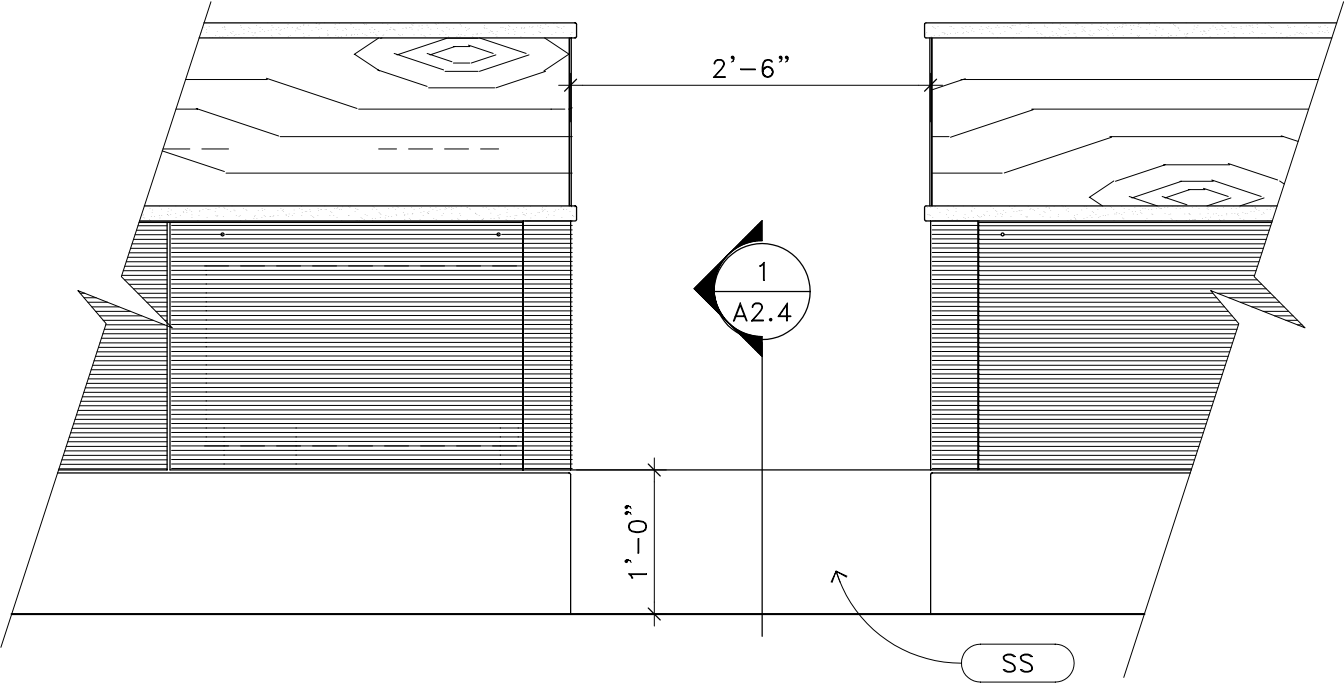
Rear View

RENDERED ILLUSTRATIONS

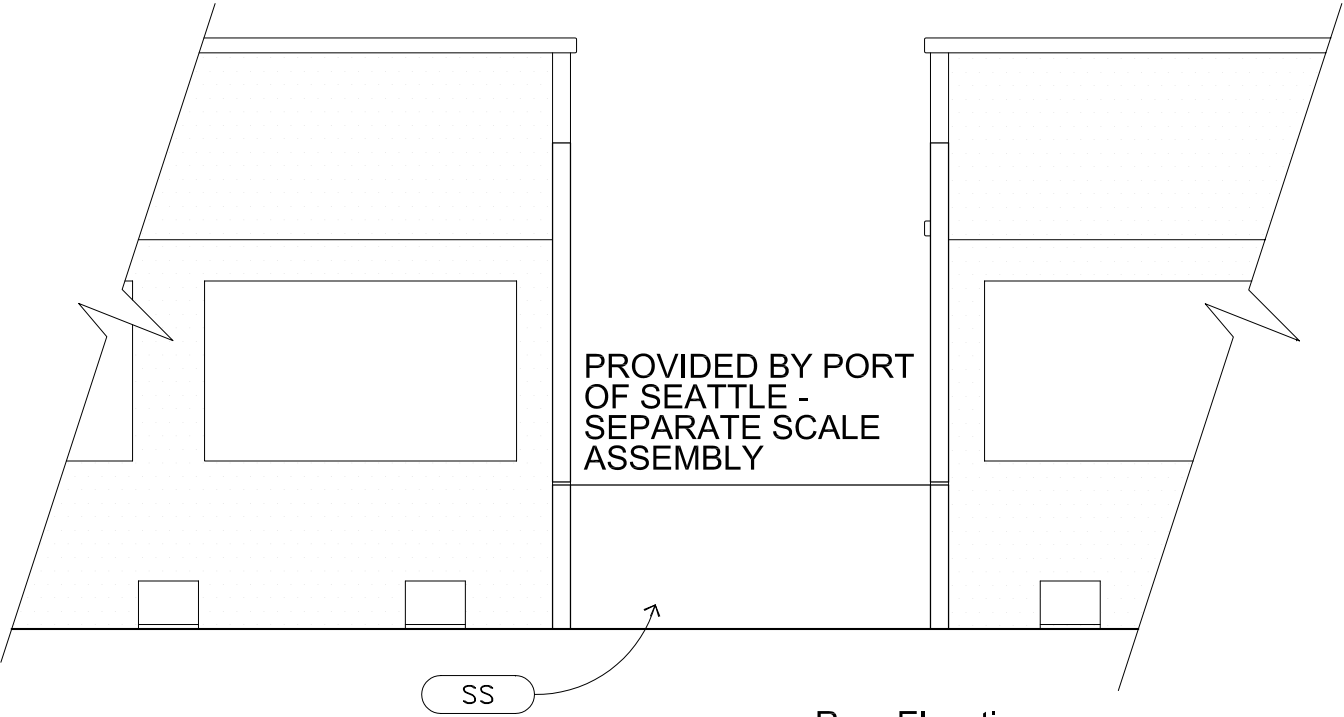
NOTES: 1. EASE ALL STAINLESS STEEL EDGES.  
2. MECHANICALLY ATTACH ALL STAINLESS STEEL EDGES.  
NO VISUALLY EXPOSED SCREW HEADS OR ATTACHMENT ALLOWED.



## PLAN VIEW

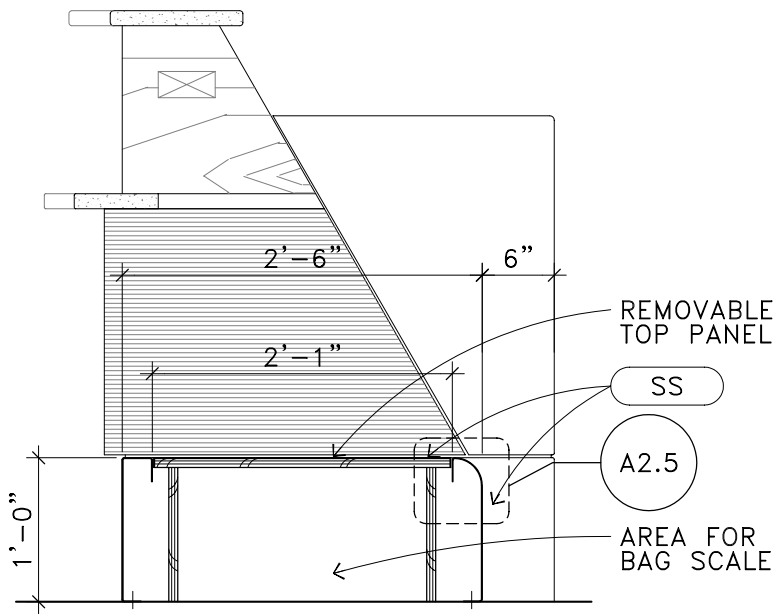


Front Elevation



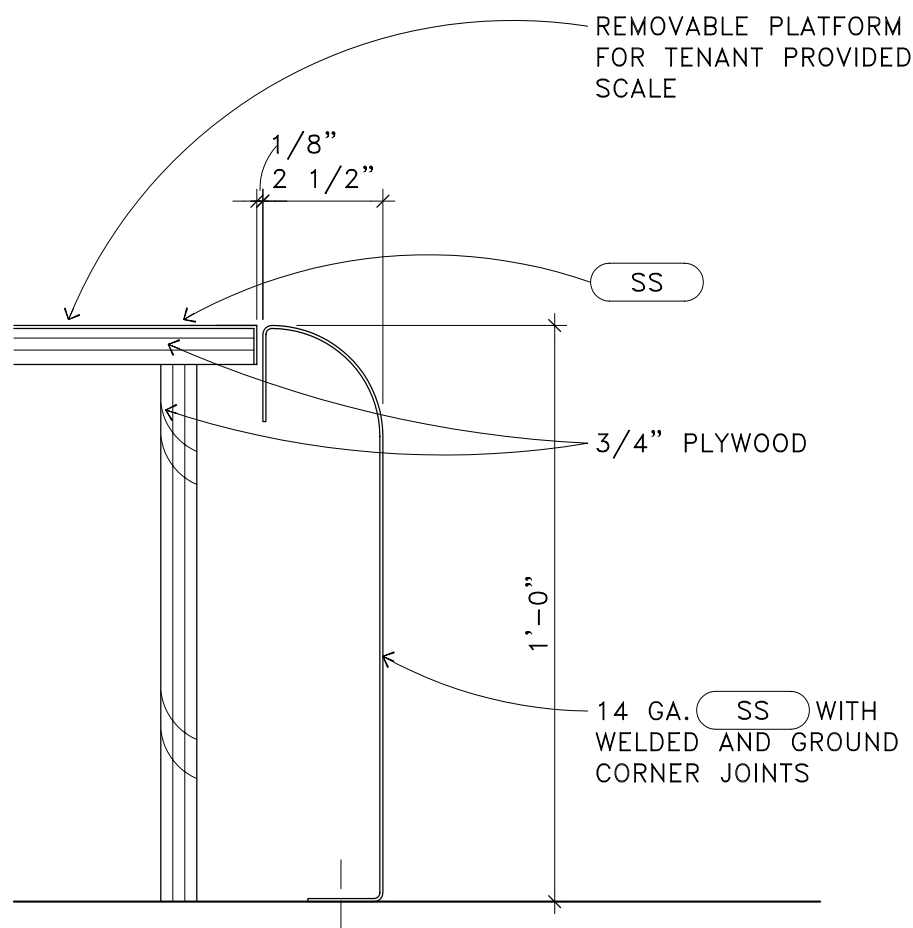
Rear Elevation

ELEVATIONS



SECTION





SECTION

1. G.C. TO CONFIRM & COORDINATE ALL EQUIPMENT SIZES, CLEARANCES & ACCESS REQUIREMENTS PRIOR TO FABRICATION.
2. REFER TO FLOOR PLAN FOR CHARGING STATION ORIENTATION.



1  
A1.8

PROJECT ENGR./ARCH:	<b>BRETT HANSON</b>
DESIGNER:	
DRAWN BY:	<b>TCU</b>
SCALE:	<b>AS SHOWN</b>
DATE:	
CHECKED BY:	
CHECKED/APPROVED BY:	

PROJECT MANAGER:	PATTY BERGSTEDT
PROJECT ENGINEER:	
DESIGN ENGINEER:	
DRAFTER:	
SCALE:	
DATE:	
CHECKED/APPROVED BY:	

WORK PROJECT NO.

---

CONSULTANT'S NO.

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PORT OF SEATTLE NO.

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**A1.8**

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

**LEGEND**

← WOOD GRAIN DIRECTION

 WOOD GRAIN DIRECTION

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<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:	



SEA-TAC INTERNATIONAL AIRPORT

PROJECT: STANDARD HOLDROOM CASEWORK

SHEET TITLE: **CASEWORK DETAILS**  
**CHARGING STATION**

WORK PROJECT NO.

CONSULTANT'S NO.

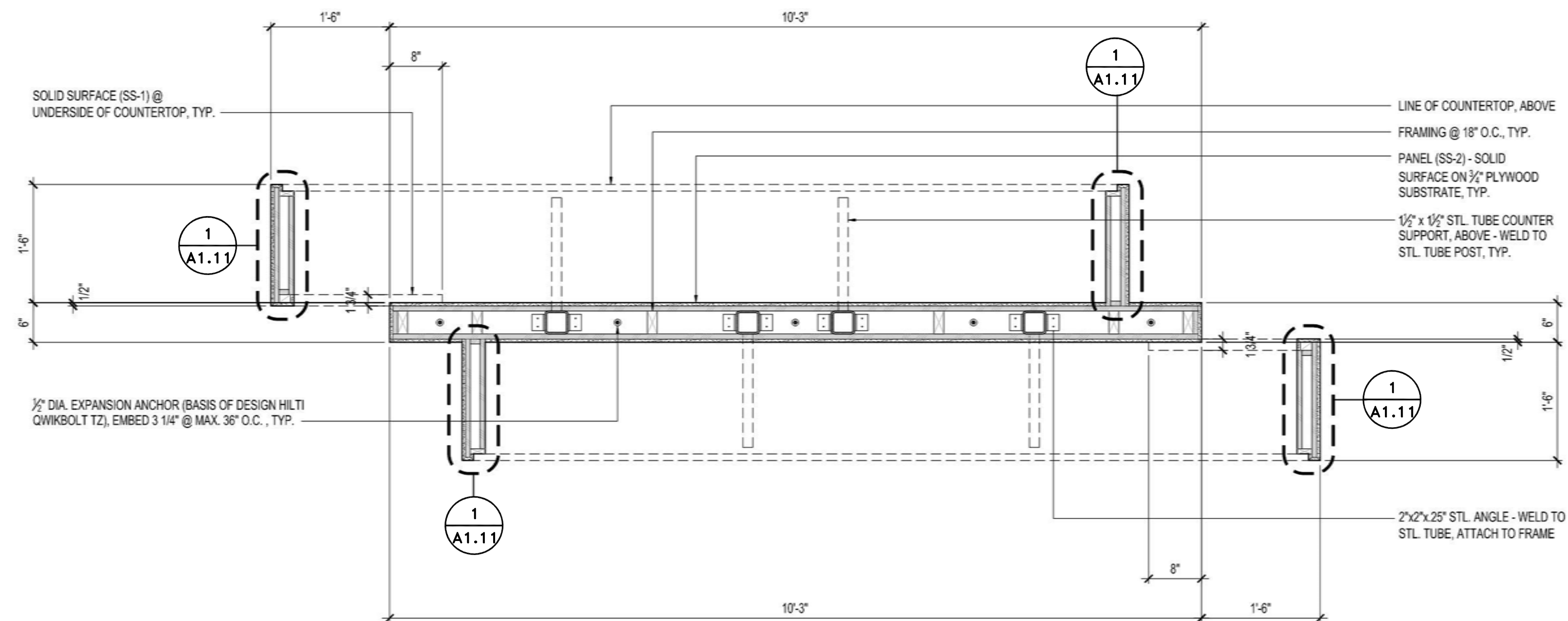
CITY OF SEATTLE NO.

**A1.9**

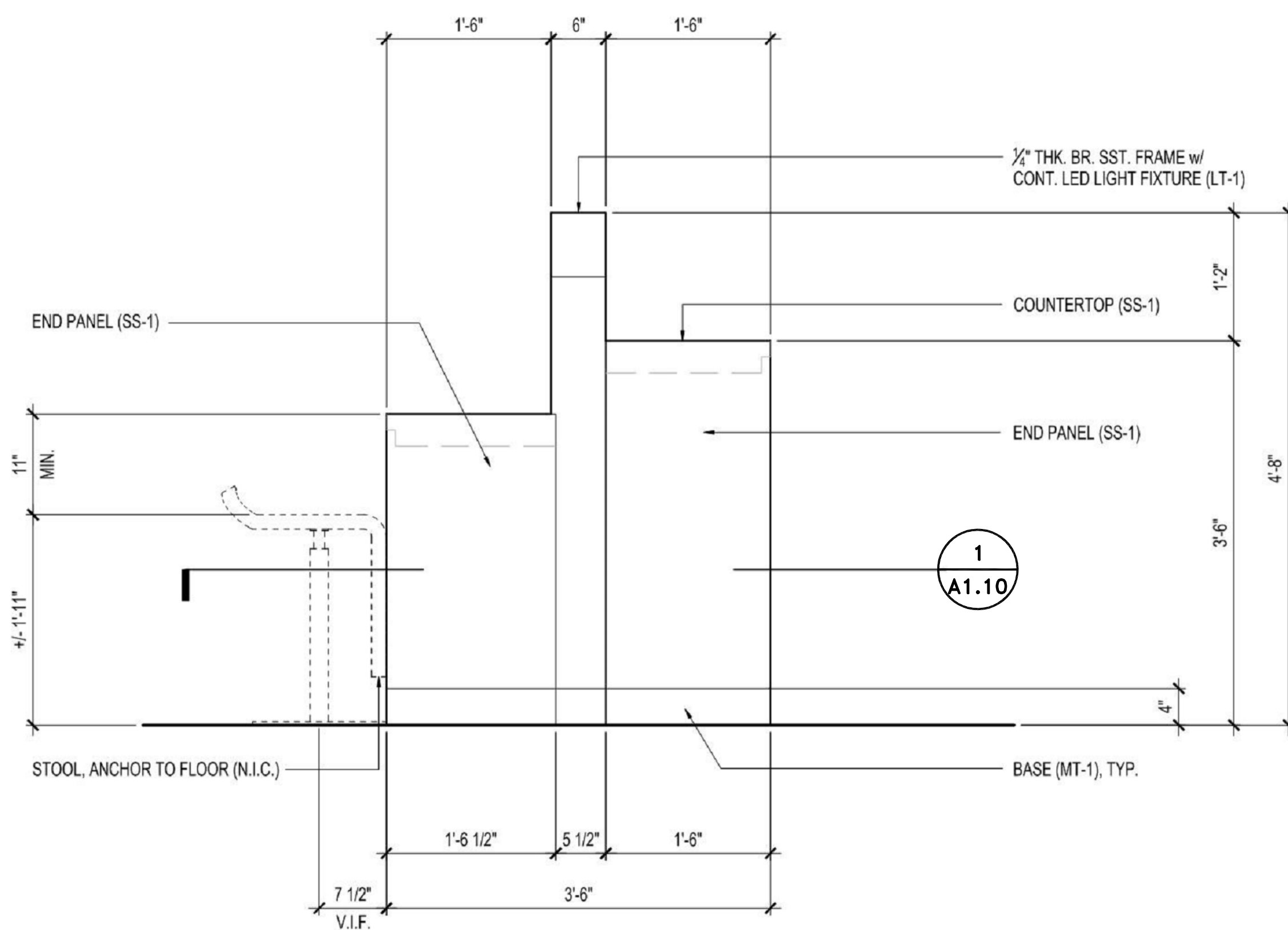
1. G.C. TO CONFIRM & COORDINATE ALL EQUIPMENT SIZES, CLEARANCES & ACCESS REQUIREMENTS PRIOR TO FABRICATION.
2. REFER TO FLOOR PLAN FOR CHARGING STATION ORIENTATION.

REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION

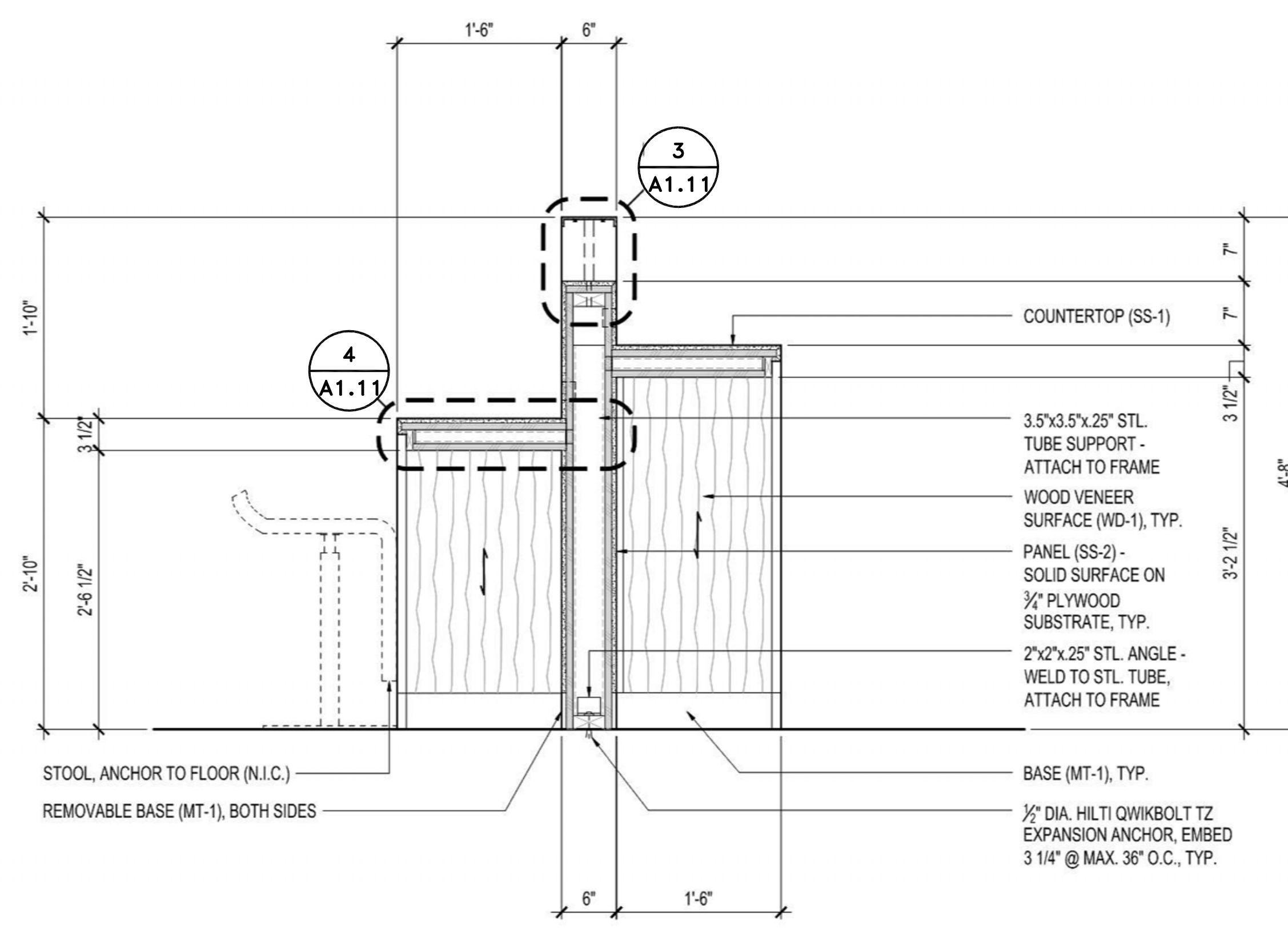
MT-1	METAL BASE
WD-1	WOOD VENEER
SS-1	SOLID SURFACE
SS-2	SOLID SURFACE
LT-1	LED LIGHT FIXTURE



**DETAIL**  
CHARGING STATION  
SCALE: 1" = 1'-0"



**ELEVATION**  
PODIUM  
SCALE: 1" = 1'-0"

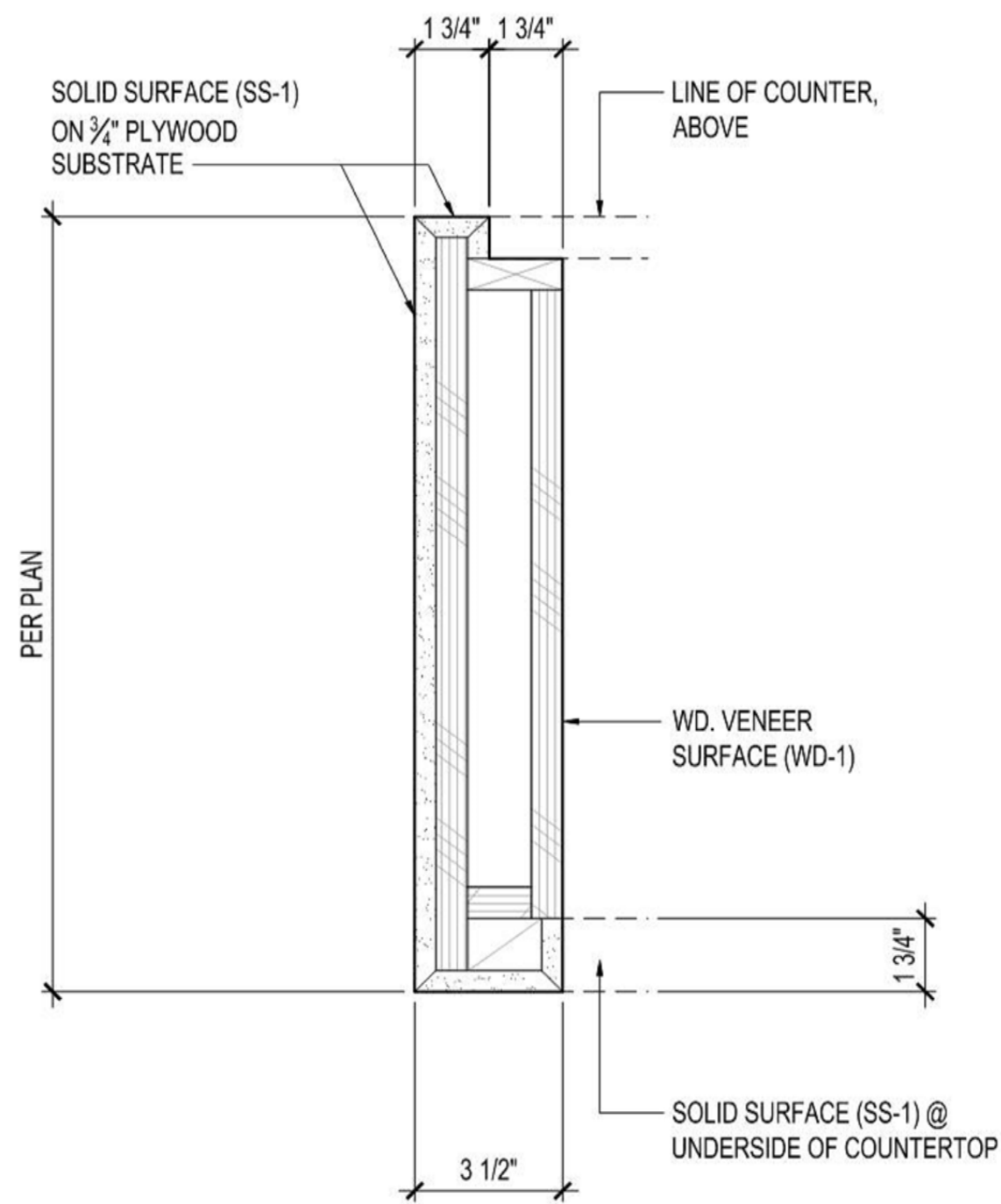


**SECTION**  
**CHARGING STATION**  
**1"=1'-0"**

	3
	A1.10

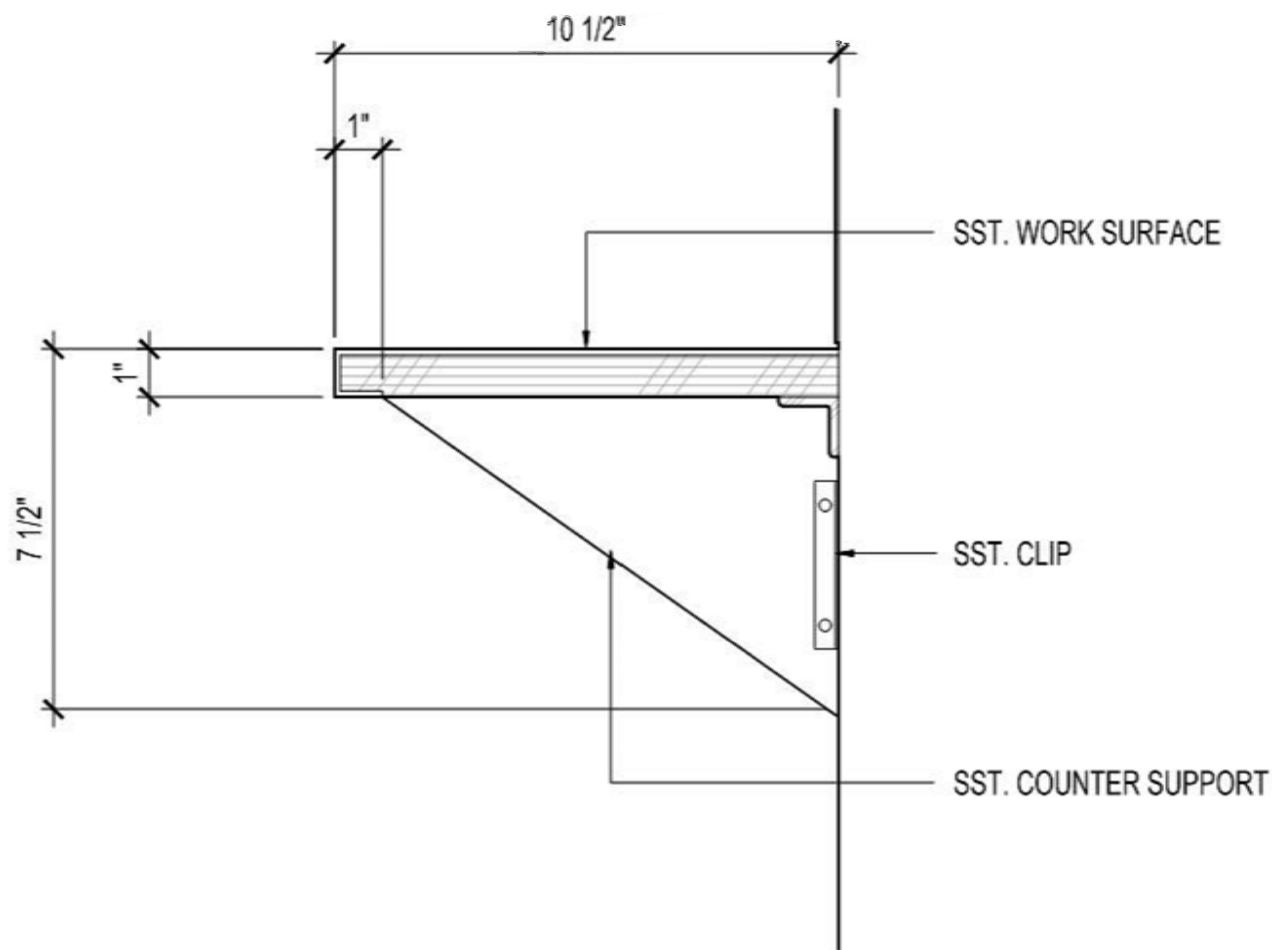
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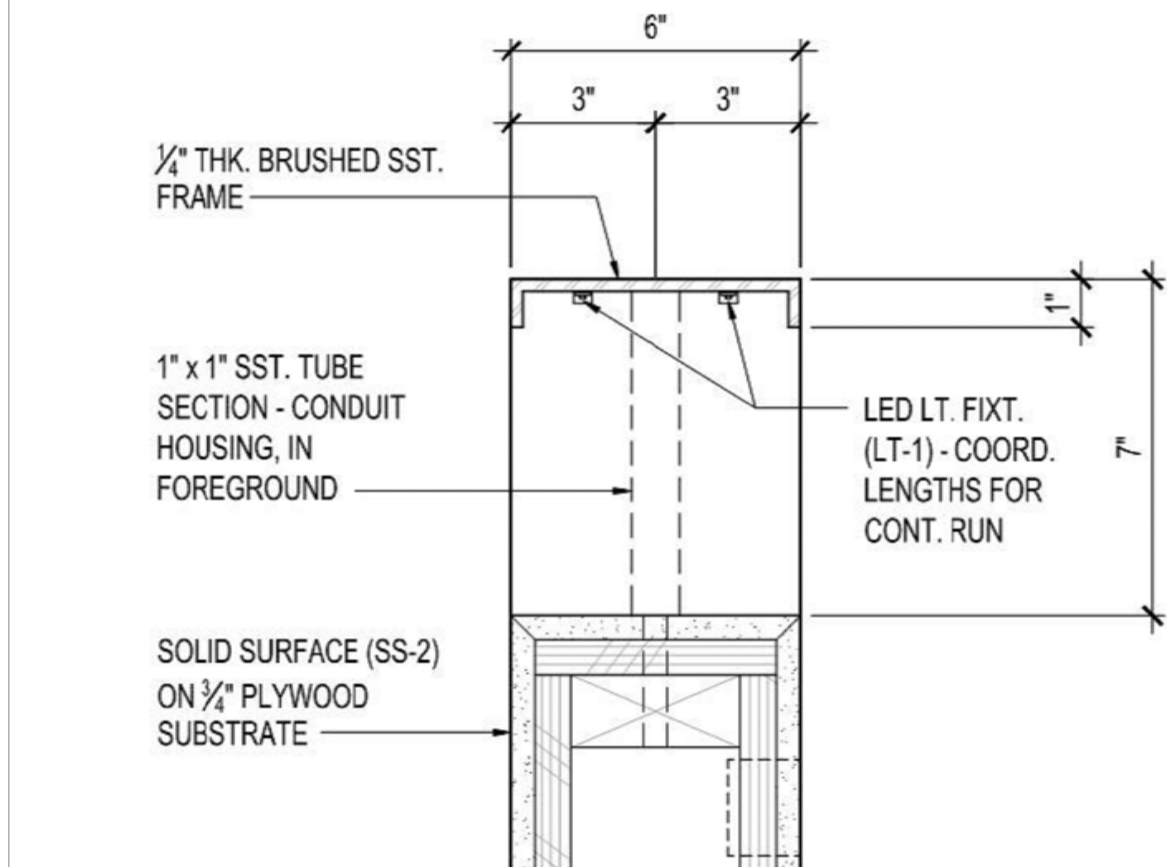
**DETAIL**  
CHARGING STATION  
SCALE: 3" = 1'-0"

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

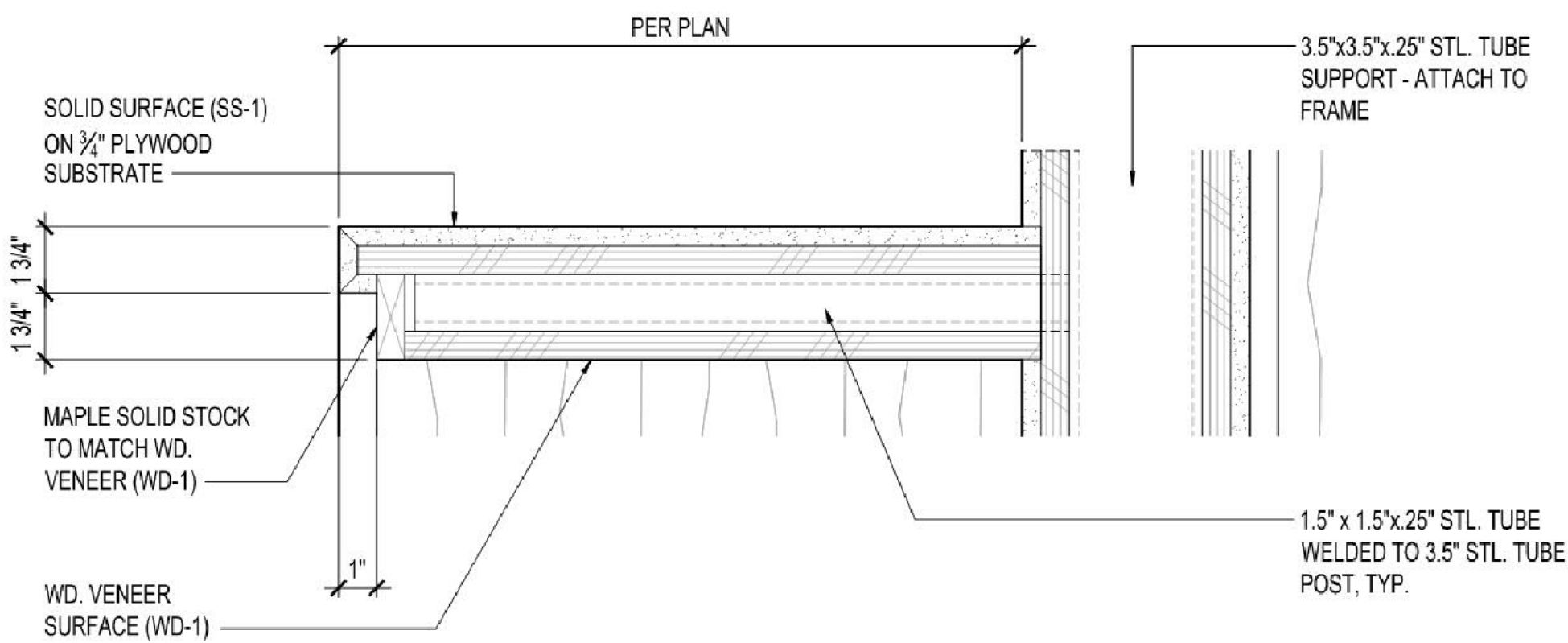
**GENERAL NOTES**

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

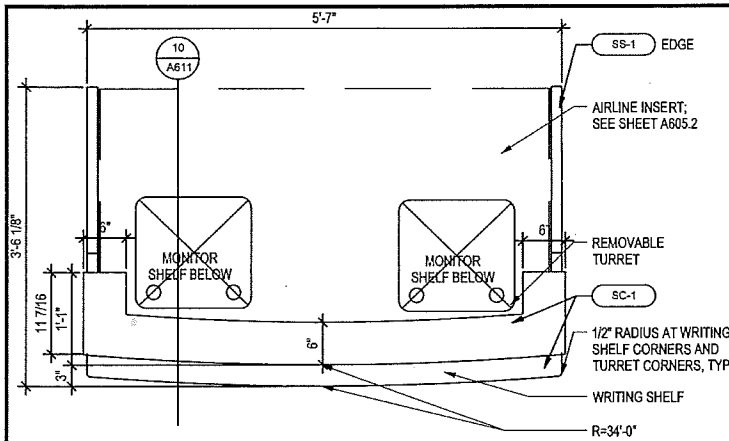
- |      |                   |
|------|-------------------|
| MT-1 | METAL BASE        |
| WD-1 | WOOD VENEER       |
| SS-1 | SOLID SURFACE     |
| SS-2 | SOLID SURFACE     |
| LT-1 | LED LIGHT FIXTURE |



**DETAIL**  
CHARGING STATION  
SCALE: 3" = 1'-0"

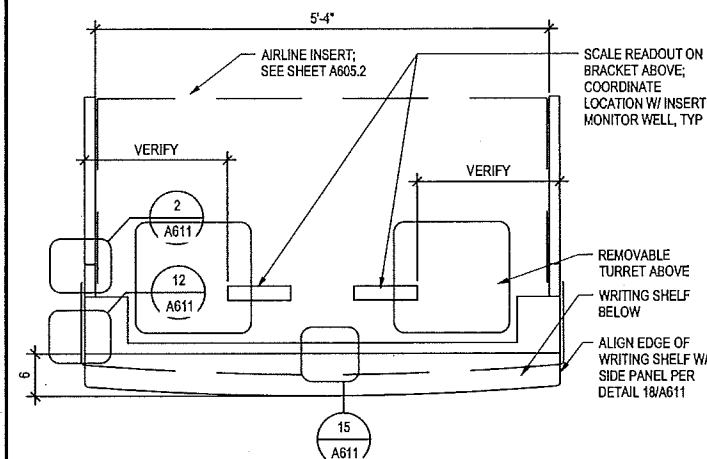
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A1.11

R E V I S I O N S									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D



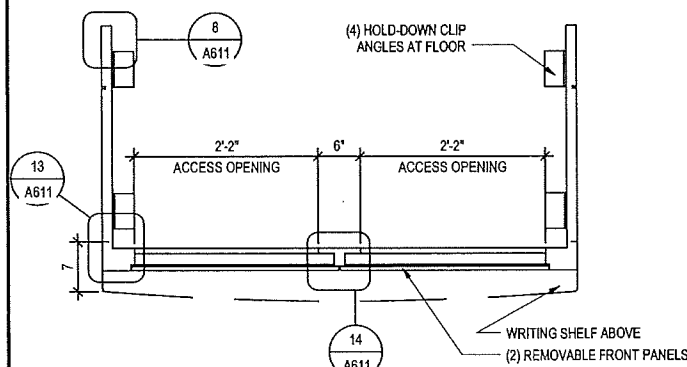
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AGENT PODIUM SHELL PLAN  
SCALE: 1" = 1'-0"



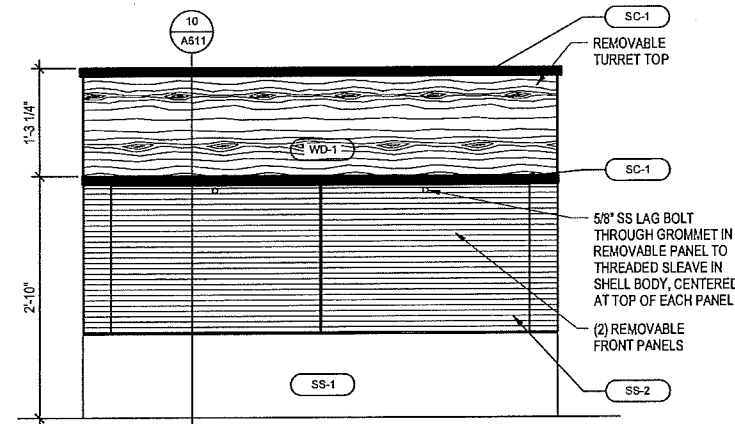
# DETAIL

AGENT PODIUM SHELL PLAN SECTION THROUGH TURRET  
SCALE: 1" = 1'-0"



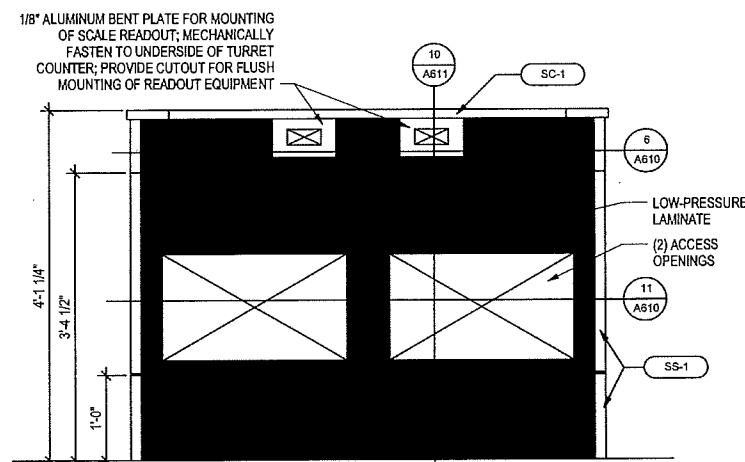
# DETAIL

AGENT PODIUM SHELL PLAN SECTION THROUGH OPENINGS  
SCALE: 1" = 1'-0"



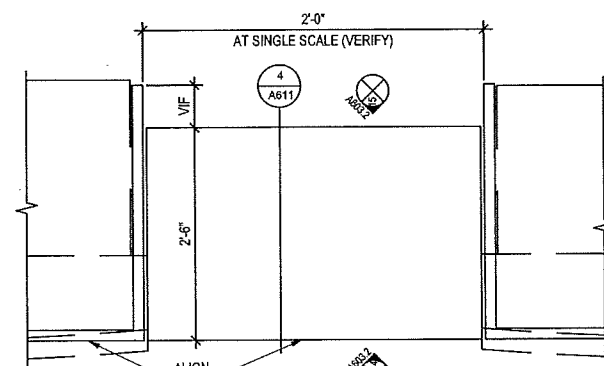
# DETAIL

AGENT PODIUM SHELL FRONT ELEVATION  
SCALE: 1" = 1'-0"



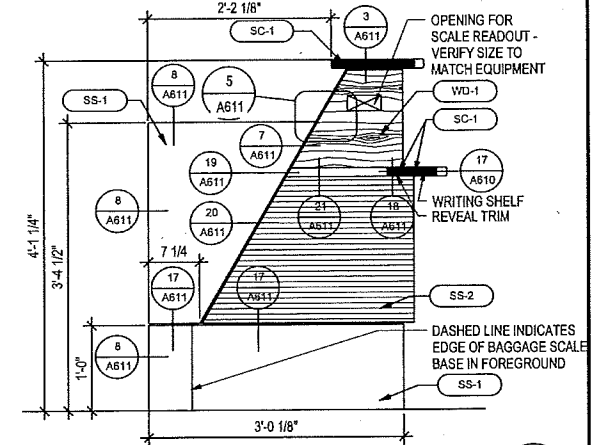
# DETAIL

AGENT PODIUM SHELL REAR ELEVATION  
SCALE: 1" = 1'-0"



# DETAIL

BAGGAGE SCALE SHELL PLAN (SIM AT SINGLE SCALE)  
SCALE: 1" = 1'-0"

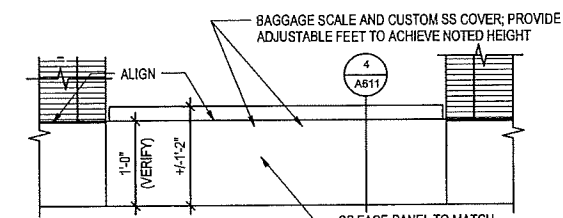


# DETAIL

TICKETING AGENT PODIUM SHELL SIDE ELEVATION  
SCALE: 1" = 1'-0"

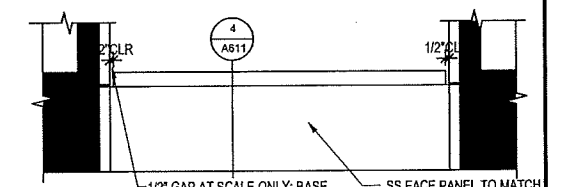
## AGENT PODIUM SHELL AND INSERT GENERAL NOTES

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.



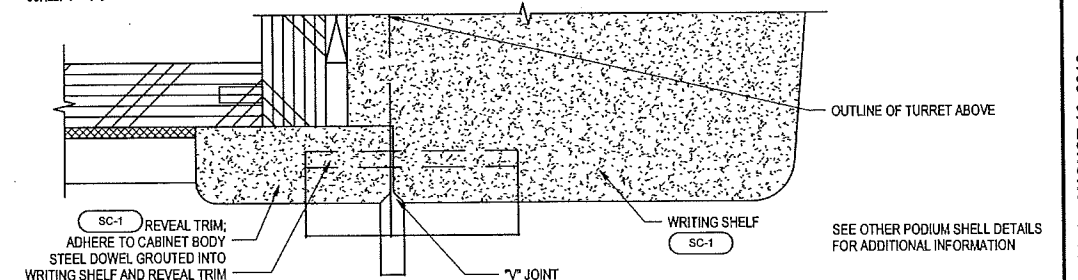
# DETAIL

BAGGAGE SCALE SHELL FRONT ELEVATION  
SCALE: 1" = 1'-0"



# DETAIL

BAGGAGE SCALE SHELL REAR ELEVATION  
SCALE: 1" = 1'-0"



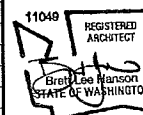
# DETAIL

AGENT PODIUM SHELL REVEAL TRIM  
SCALE: 12" = 1'-0"



PROJECT MANAGER:  
BRETT RANSON  
DESIGNER:  
KDD  
DRAWN BY:  
TCU/TNJ  
SCALE:  
AS NOTED  
DATE:  
AUGUST 16, 2016  
CHECKED BY:  
KDD  
CHECKED/APPROVED BY:

REVISIONS					
NO.	DATE	BY	DESCRIPTION	APP'D	

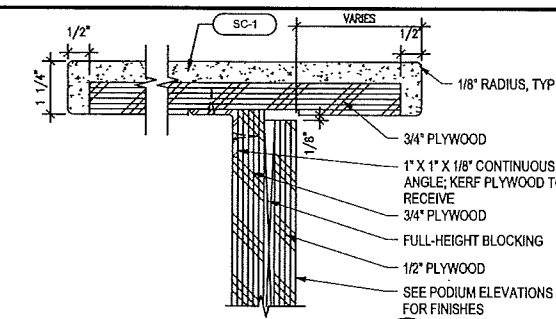


PROJECT MANAGER:  
PATTY BERGSTEDT  
PROJECT ENGINEER:  
DESIGN ENGINEER:  
DRAWER:  
SCALE:  
DATE:  
AUGUST 16, 2016  
CHECKED/APPROVED BY:

Port of Seattle  
SEA-TAC INTERNATIONAL AIRPORT  
PROJECT:  
ZONE 5 TICKET LOBBY MODIFICATIONS  
SHEET TITLE: DETAILS

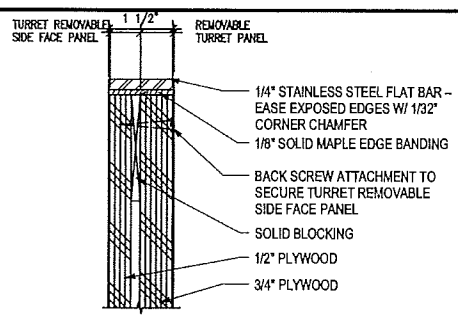
WORK PROJECT NO.  
U00253  
CONSULTANT'S NO.  
PORT OF SEATTLE NO.  
STIA-SW1605 A6.10  
SERVICE DIRECTIVE:  
2





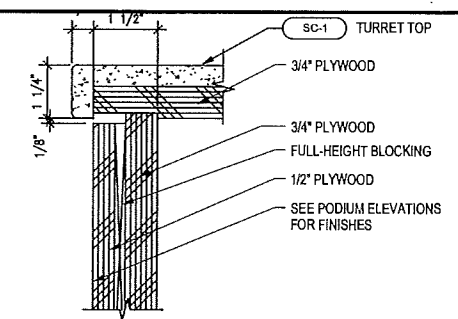
DETAIL 1

AGENT PODIUM SHELL TURRET TOP  
SCALE: 6" = 1'-0"



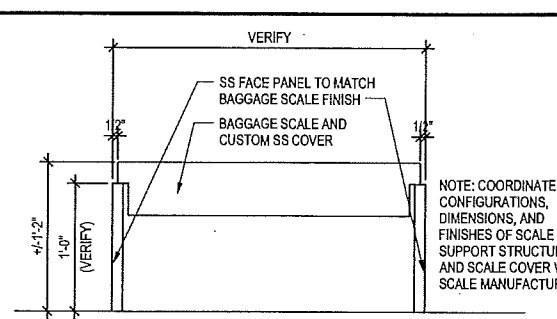
DETAIL 2

AGENT PODIUM SHELL TURRET EDGE  
SCALE: 6" = 1'-0"



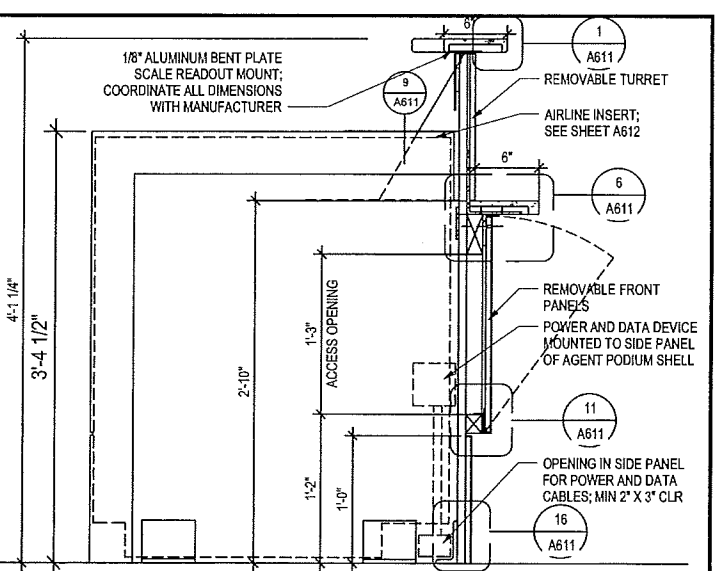
DETAIL 3

AGENT PODIUM SHELL TURRET TOP SIDE  
SCALE: 6" = 1'-0"



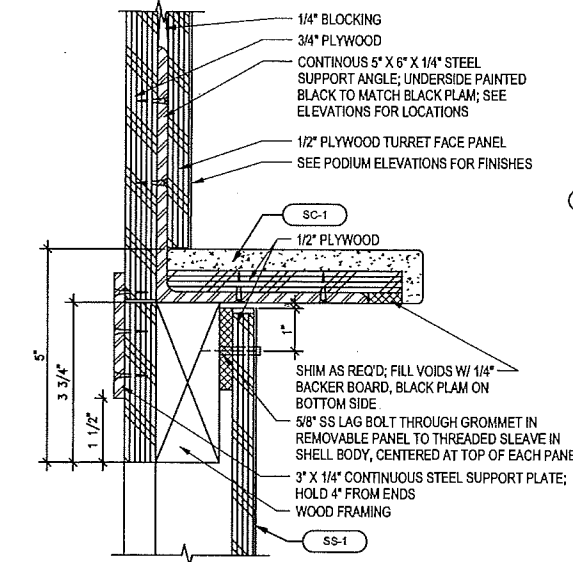
DETAIL 4

BAGGAGE SCALE SHELL SECTION  
SCALE: 1 1/2" = 1'-0"



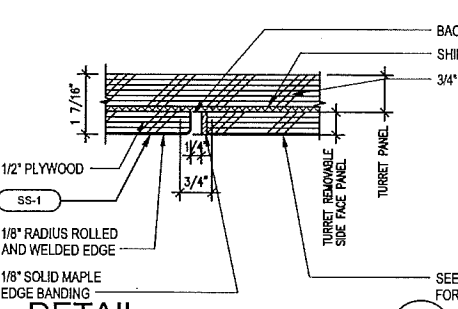
DETAIL 10

AGENT PODIUM SHELL SECTION  
SCALE: 1 1/2" = 1'-0"



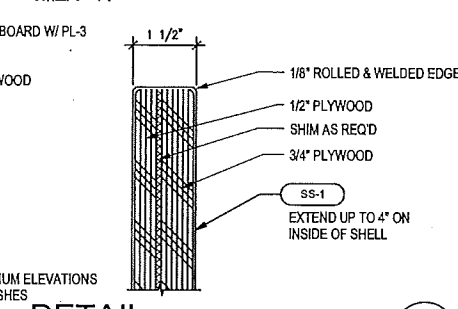
DETAIL 6

AGENT PODIUM SHELL  
SCALE: 6" = 1'-0"



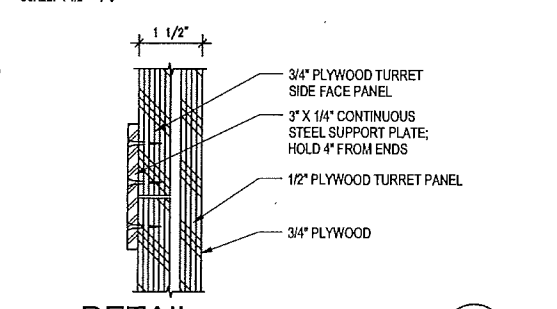
DETAIL 7

AGENT PODIUM SHELL TURRET AT SIDE PANEL  
SCALE: 6" = 1'-0"



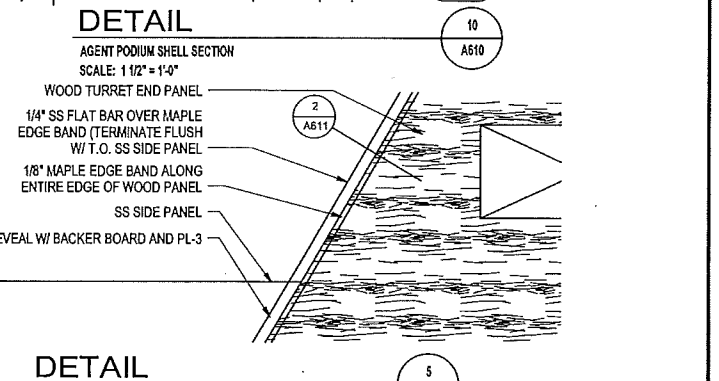
DETAIL 8

AGENT PODIUM SHELL SIDE PANEL TOP (SIM AT PANEL END)  
SCALE: 6" = 1'-0"



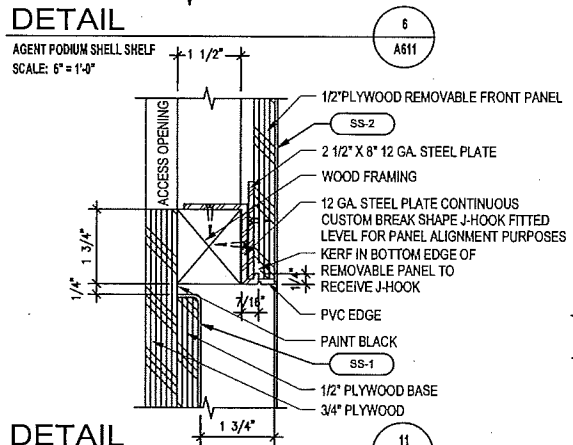
DETAIL 9

AGENT PODIUM SHELL TURRET CONNECTION  
SCALE: 6" = 1'-0"



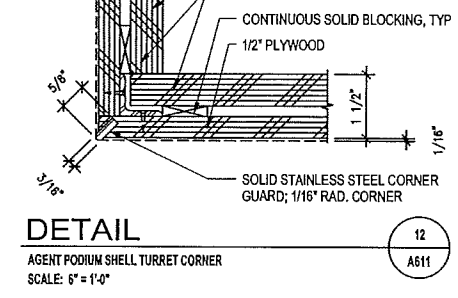
DETAIL 5

AGENT PODIUM TURRET TRIM DETAIL  
SCALE: 6" = 1'-0"



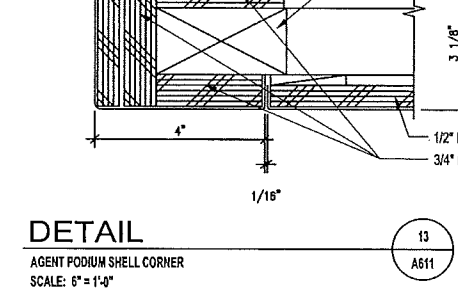
DETAIL 11

AGENT PODIUM SHELL REMOVABLE PANEL AT BASE  
SCALE: 6" = 1'-0"



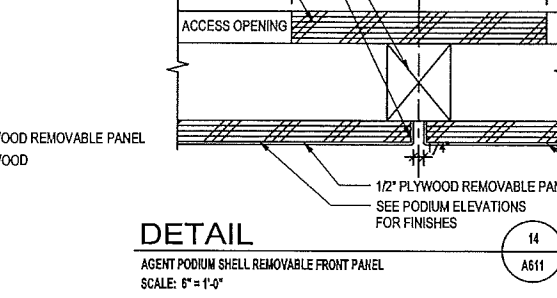
DETAIL 12

AGENT PODIUM SHELL TURRET CORNER  
SCALE: 6" = 1'-0"



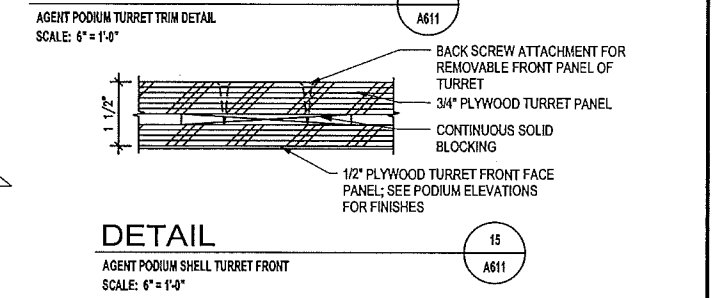
DETAIL 13

AGENT PODIUM SHELL CORNER  
SCALE: 6" = 1'-0"



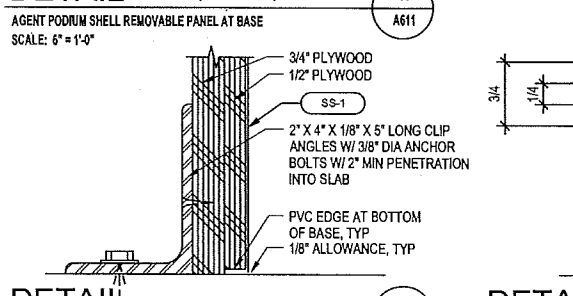
DETAIL 14

AGENT PODIUM SHELL REMOVABLE FRONT PANEL  
SCALE: 6" = 1'-0"



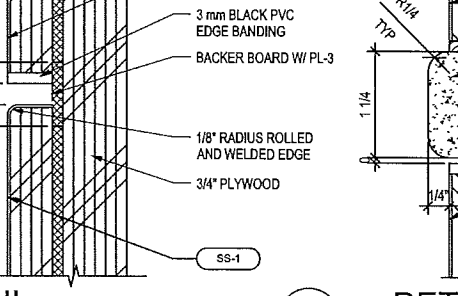
DETAIL 15

AGENT PODIUM SHELL TURRET FRONT  
SCALE: 6" = 1'-0"



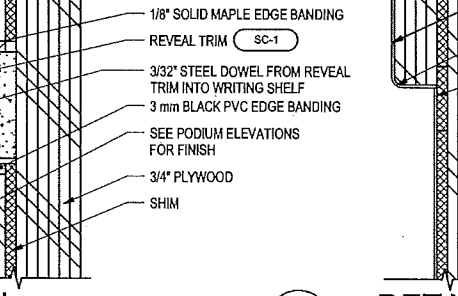
DETAIL 16

AGENT PODIUM SHELL BASE  
SCALE: 6" = 1'-0"



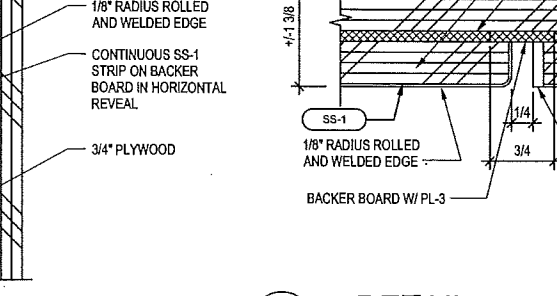
DETAIL 17

AGENT PODIUM SHELL REVEAL AT BASE  
SCALE: 12" = 1'-0"



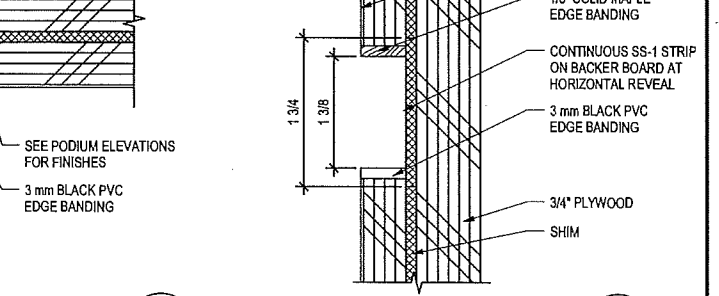
DETAIL 18

AGENT PODIUM SHELL REVEAL AT SHELF  
SCALE: 12" = 1'-0"



DETAIL 19

AGENT PODIUM SHELL REVEAL AT SHELF  
SCALE: 12" = 1'-0"



DETAIL 21

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: ---

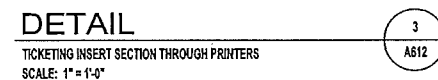
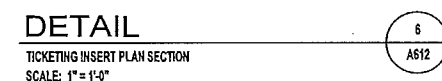
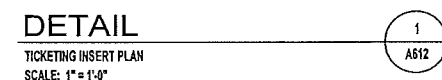
NO.	DATE	BY	DESCRIPTION	APPROVED

11049 REGISTERED ARCHITECT  
Brett Hanson  
STATE OF WASHINGTON

PROJECT MANAGER: PATTY BERGSTEDT  
PROJECT ENGINEER: ---  
DESIGN ENGINEER: ---  
DATE: AUGUST 16, 2016  
CHECKED/APPROVED BY: ---

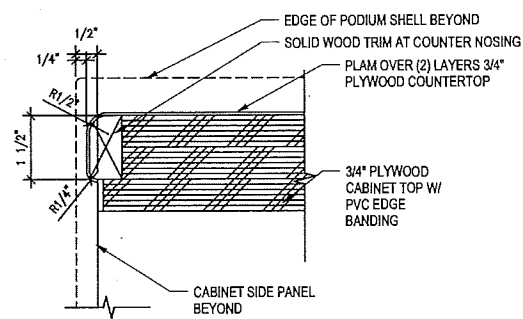
Port of Seattle SEA-TAC INTERNATIONAL AIRPORT  
PROJECT: ZONE 5 TICKET LOBBY MODIFICATIONS  
SHEET TITLE: DETAILS

WORK PROJECT NO.: U00253  
CONSULTANT'S NO.: ---  
PORT OF SEATTLE NO.: ---  
SERVICE DIRECTIVE: 2 STIA-SW1605 A6.11

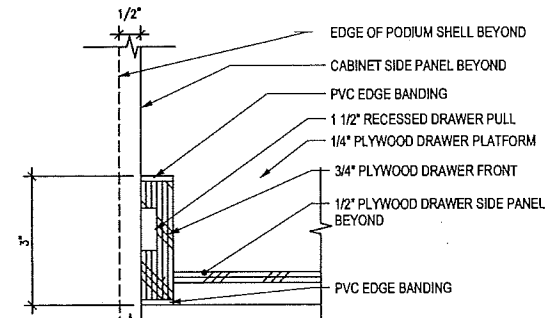


Port of Seattle SEA-TAC INTERNATIONAL AIRPORT  
PROJECT: ZONE 5 TICKET LOBBY MODIFICATIONS  
SHEET TITLE: DETAILS

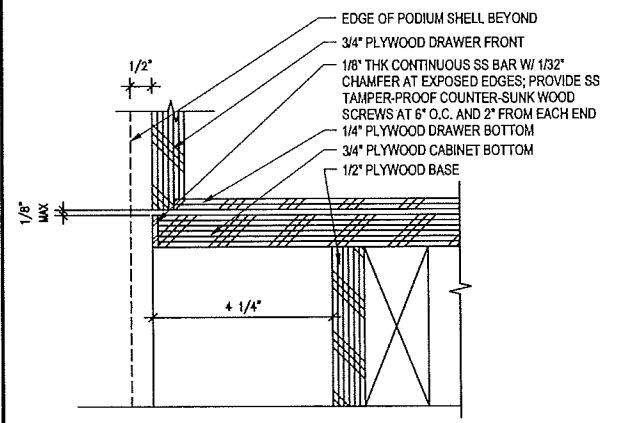
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	U00253	
	CONSULTANT'S NO.	
	PORT OF SEATTLE NO.	
		STIA-SW1605 A6.12



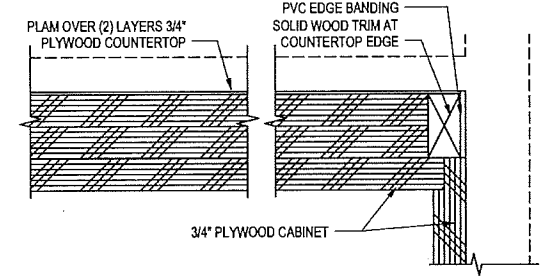
**DETAIL 1**  
TICKETING INSERT COUNTER NOSING  
SCALE: 6" = 1'-0"



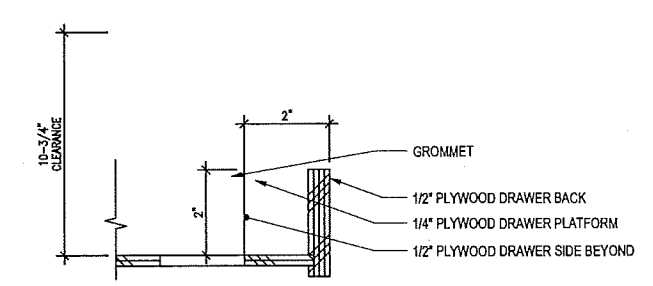
**DETAIL 6**  
TICKETING INSERT DRAWER FACE  
SCALE: 6" = 1'-0"



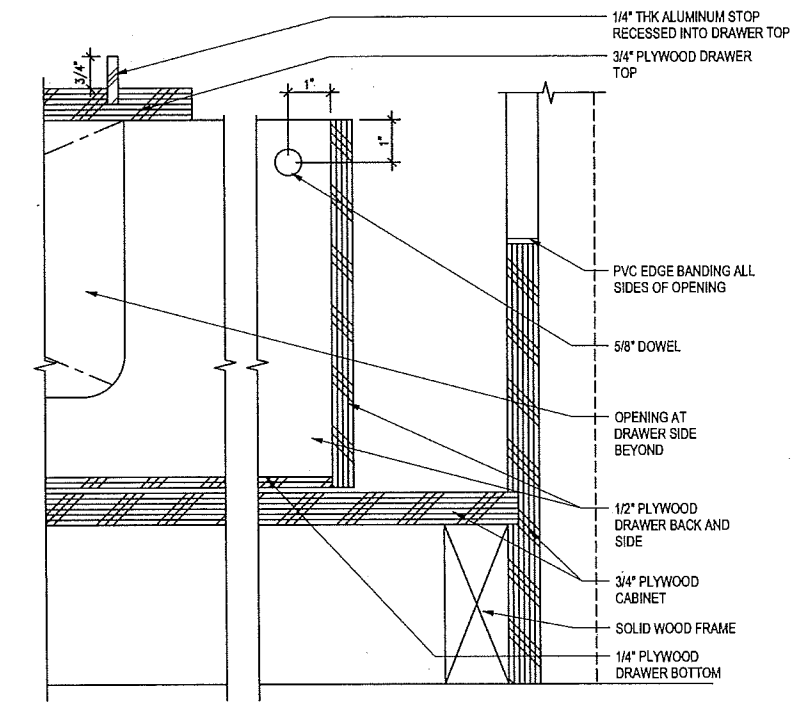
**DETAIL 11**  
TICKETING INSERT BASE  
SCALE: 6" = 1'-0"



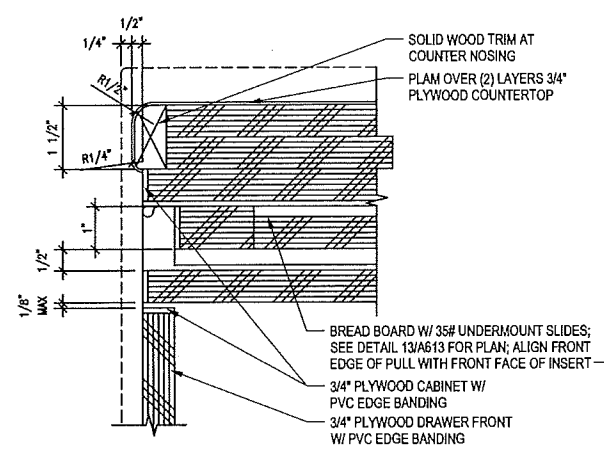
**DETAIL 2**  
TICKETING INSERT COUNTER  
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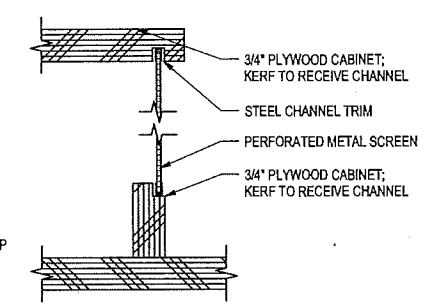
**DETAIL 7**  
TICKETING INSERT DRAWER BACK  
SCALE: 6" = 1'-0"



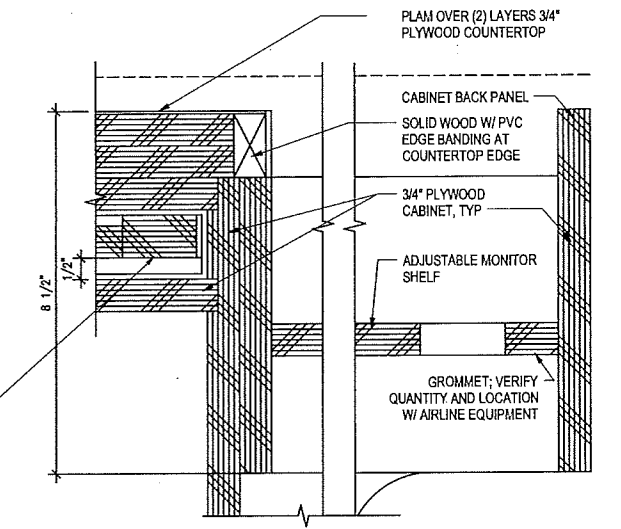
**DETAIL 12**  
TICKETING INSERT BACK  
SCALE: 6" = 1'-0"



**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  
SCALE: 6" = 1'-0"



PROJECT MANAGER:  
BRETT HANSON  
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

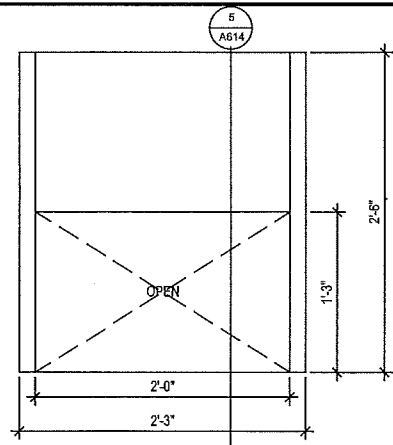
11049 REGISTERED ARCHITECT  
Brett Hanson  
STATE OF WASHINGTON  
PROJECT MANAGER:  
PATTY BERGSTEDT  
PROJECT ENGINEER:  
DESIGN ENGINEER:  
DRAWN BY:  
SCALE:  
DATE:  
AUGUST 16, 2016  
CHECKED/APPROVED BY:

SEA-TAC INTERNATIONAL AIRPORT  
ZONE 5 TICKET LOBBY MODIFICATIONS

PROJECT:  
SHEET TITLE: **DETAILS**

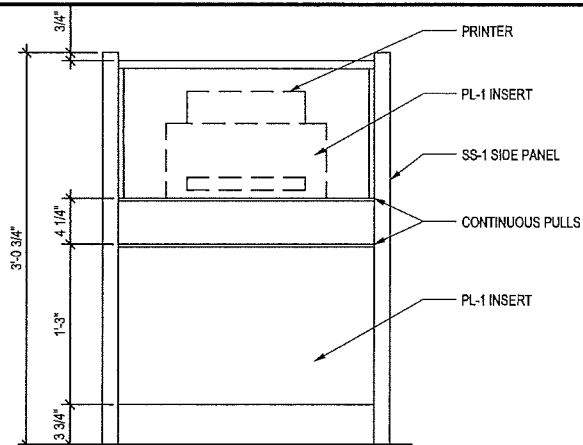
WORK PROJECT NO.  
U00253  
CONSULTANT'S NO.  
PORT OF SEATTLE NO.  
STIA-SW1605 A6.13

SERVICE CONTRACT NO.  
2



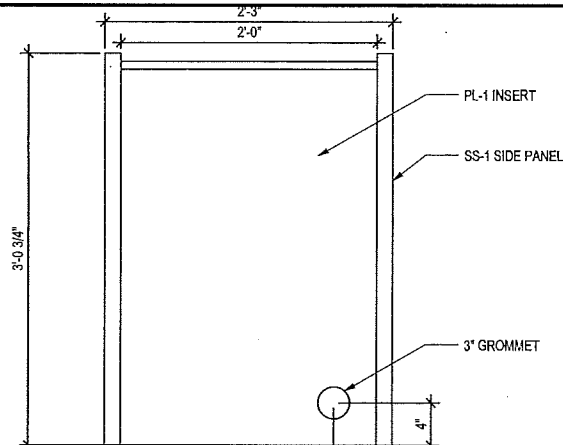
#### DETAIL

PRINTER CABINET PLAN - CLOSED CONFIGURATION  
SCALE: 1 1/2" = 1'-0"



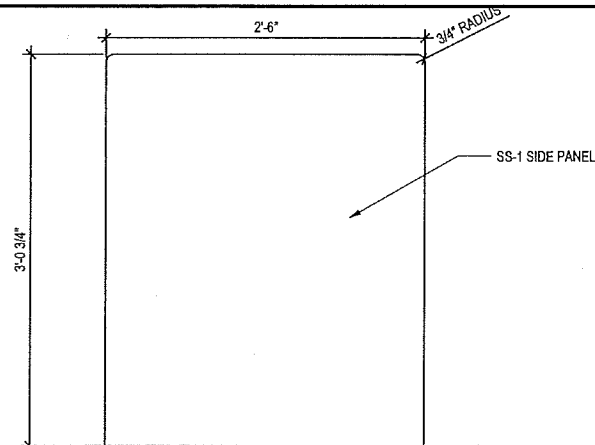
#### DETAIL

PRINTER CABINET FRONT ELEVATION - CLOSED CONFIGURATION  
SCALE: 1 1/2" = 1'-0"



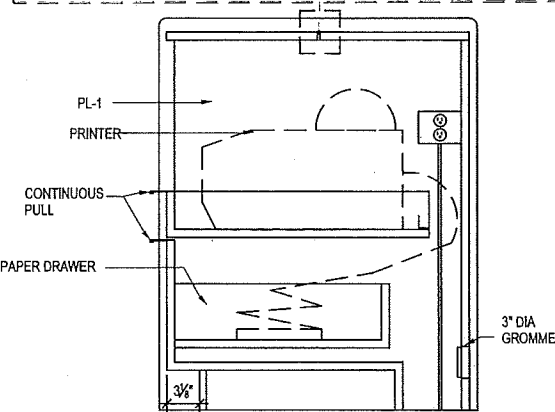
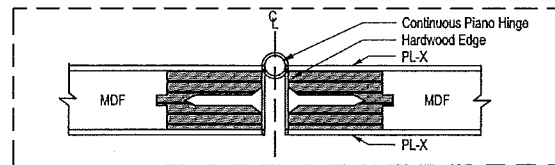
#### DETAIL

PRINTER CABINET REAR ELEVATION  
SCALE: 1 1/2" = 1'-0"



#### DETAIL

PRINTER CABINET SIDE ELEVATION  
SCALE: 1 1/2" = 1'-0"



#### DETAIL

PRINTER CABINET SECTION - CLOSED CONFIGURATION  
SCALE: 1 1/2" = 1'-0"

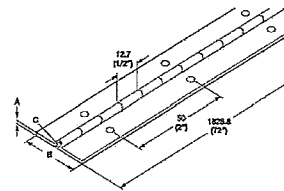
### HÄFELE

Hinges and Stays

#### Furniture Hinges

##### Piano Hinge

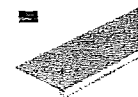
- Hinges are pre-drilled and free of machine oil.
- Available in steel or 304 grade with a bright anodized (24) finish.
- DA finish provides a 25% more decorative look.
- All holes are countersunk for screws.
- Hinges can be cut by the customer to desired length.
- Special order hinges are available in a minimum quantity of 300 ft. (50m) and 150 ft. (50m) steel.



Continuous Hinge  
For furniture, cabinetry and marine applications  
Variable length: 127 mm (1/2")  
Hole spacing: 50 mm (2")  
Length: 162.8 mm (72")

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 (41)	2.29 (91)	351.09.513	
steel	polished nickel	27 (1 1/8)	1.02 (41)	2.29 (91)	351.09.512	
steel	polished chrome	27 (1 1/8)	1.02 (41)	2.29 (91)	351.09.522	
steel	polished nickel	31.8 (1 1/4)	1.02 (41)	2.29 (91)	351.09.523	
steel	polished chrome	31.8 (1 1/4)	1.02 (41)	2.29 (91)	351.09.524	
stainless steel	stainless steel	31.8 (1 1/4)	1.02 (41)	2.29 (91)	351.09.525	
steel	polished brass	35.1 (1 3/8)	1.02 (41)	2.29 (91)	351.09.526	
steel	polished nickel	35.1 (1 3/8)	1.02 (41)	2.29 (91)	351.09.527	
stainless steel	stainless steel	35.1 (1 3/8)	1.02 (41)	2.29 (91)	351.09.528	
steel	polished brass	50.8 (2)	1.02 (41)	2.29 (91)	351.09.529	
steel	polished nickel	50.8 (2)	1.02 (41)	2.29 (91)	351.09.530	
stainless steel	stainless steel	50.8 (2)	1.02 (41)	2.29 (91)	351.09.531	

Packing: 5 pcs. (includes screws)



View Full-Size

#### PRINTER CABINET SPEC DATA

SEA AR SC-2  
ZONE 1 PRINTER CABINETS  
08.05.13

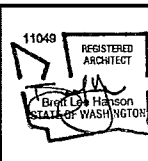
#### GENERAL NOTES AND SPECIFICATION DATA

- (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
  - EPICO 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  
KOD  
DRAWN BY:  
TCU  
SCALES  
AS NOTED  
DATE:  
AUGUST 16, 2016  
CHECKED BY:  
KOD  
CHECKED/APPROVED BY:

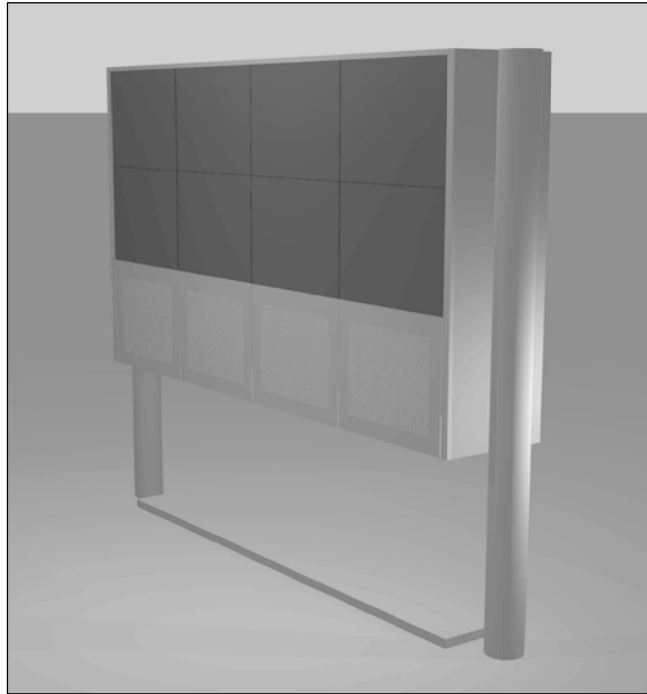
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NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D



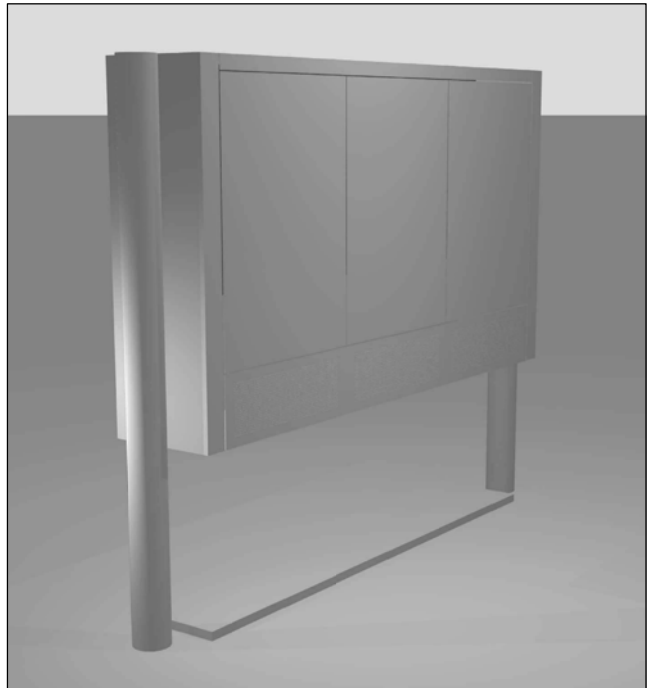
PROJECT MANAGER  
PATRY BERGSTEDT  
PROJECT ENGINEER  
DESIGN ENGINEER  
DRAFTER  
SCALE  
DATE:  
AUGUST 16, 2016  
CHECKED/APPROVED BY:

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

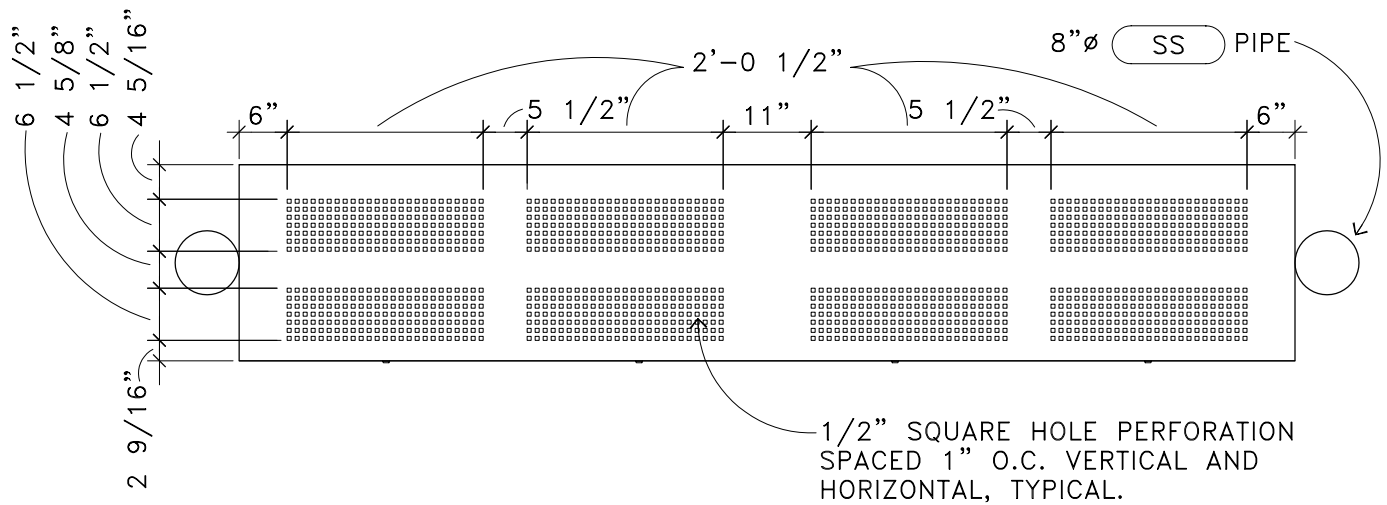


Front View



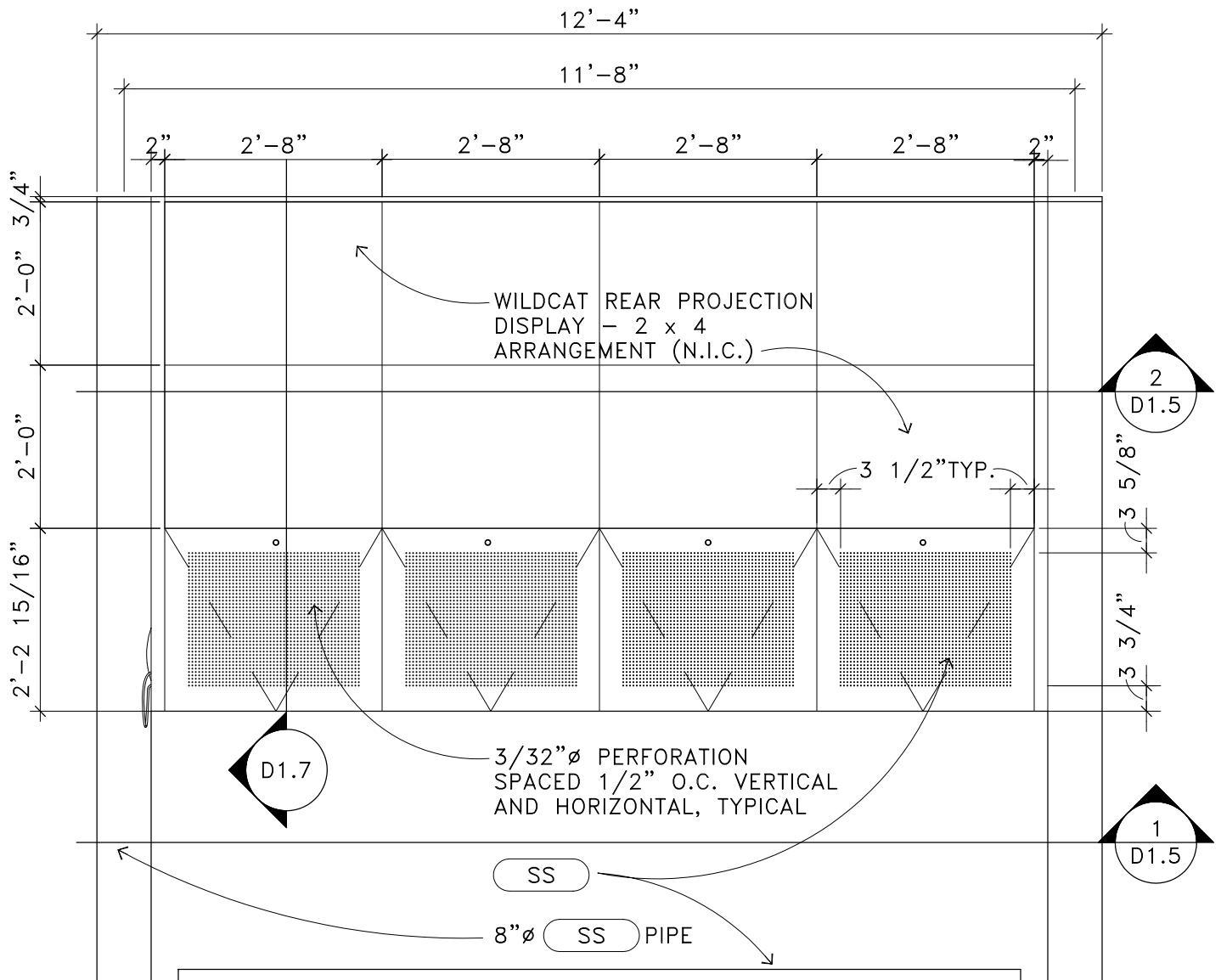
Rear View

RENDERED ILLUSTRATIONS



PLAN VIEW

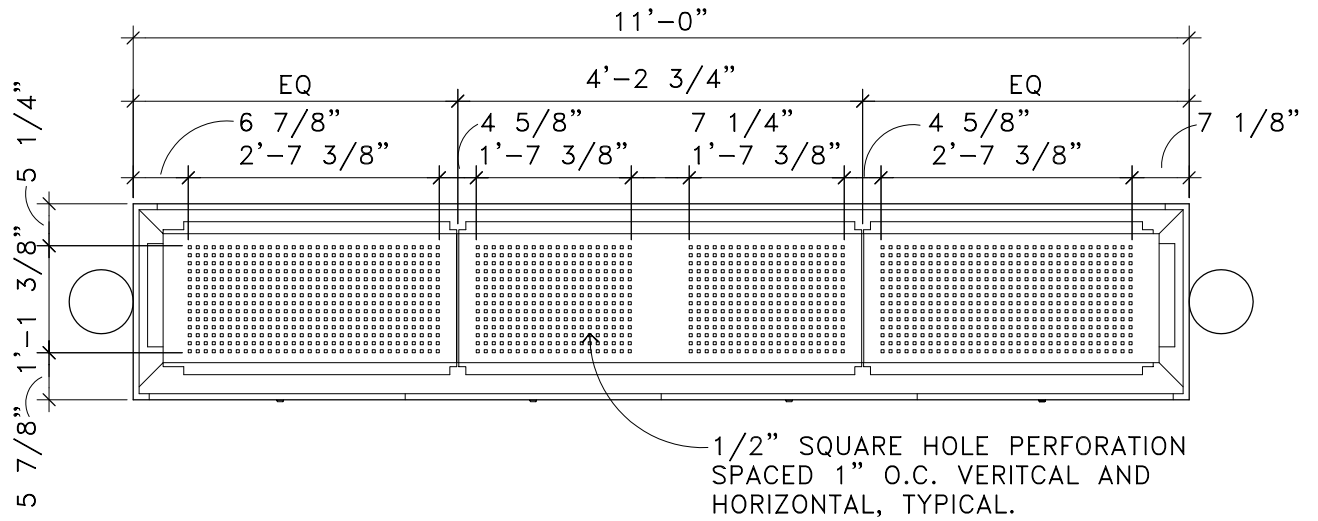




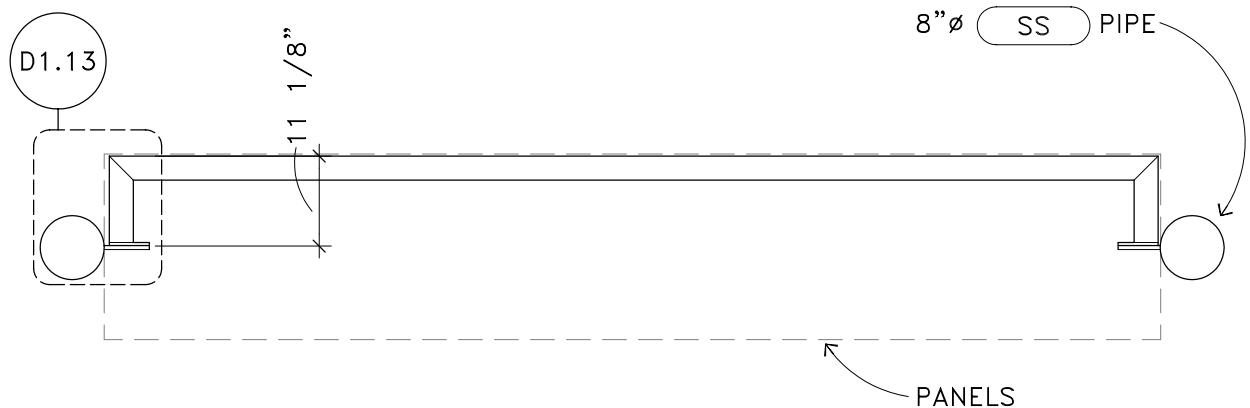
ADA FLOOR STOP BEYOND  
 -PROVIDE SS TOP AND SIDE PLATES  
 SIDE FACES  
 -PROVIDE CONCEALED FRICTION  
 CLEATS ATTACHED TO SLAB  
 -PROVIDE INTERMEDIATE  
 BRACES @ 16" O.C. TO  
 PREVENT OILCANNING

FRONT ELEVATION



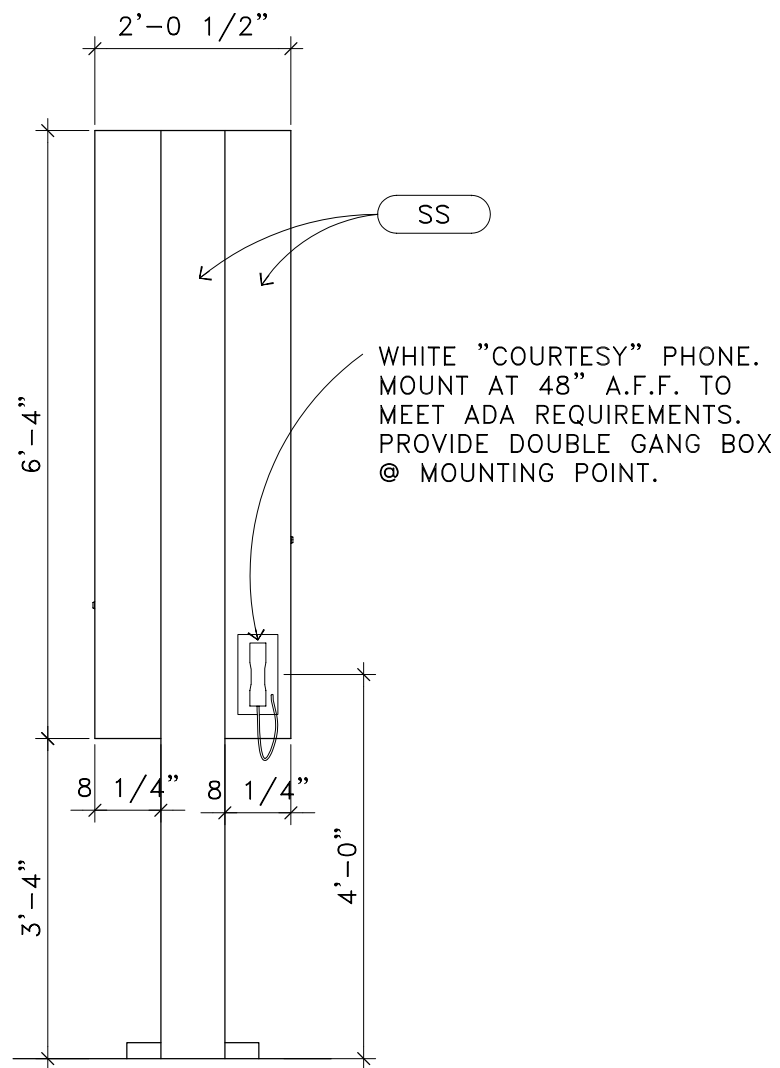


BOTTOM ELEVATION

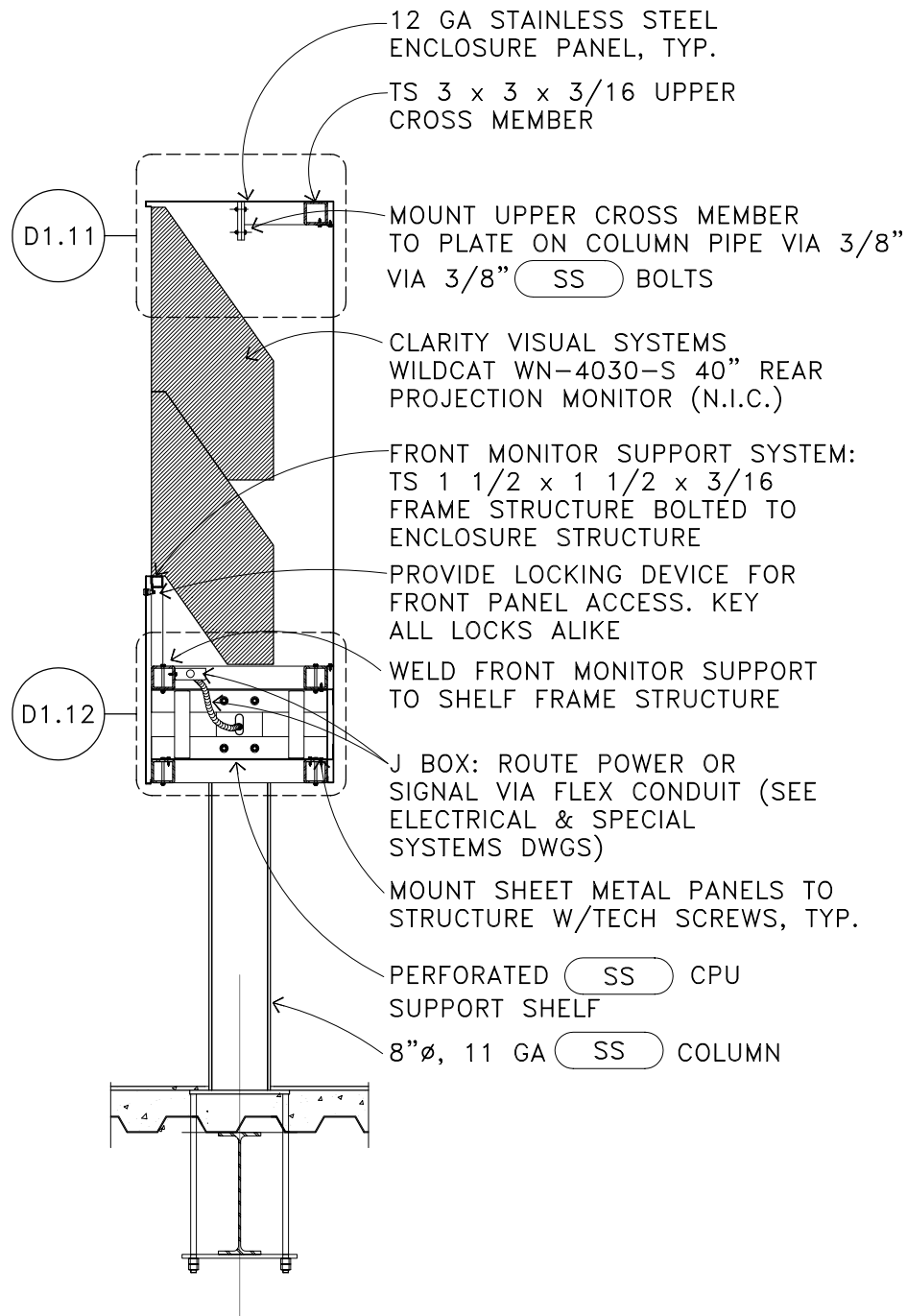


SECTIONAL PLAN

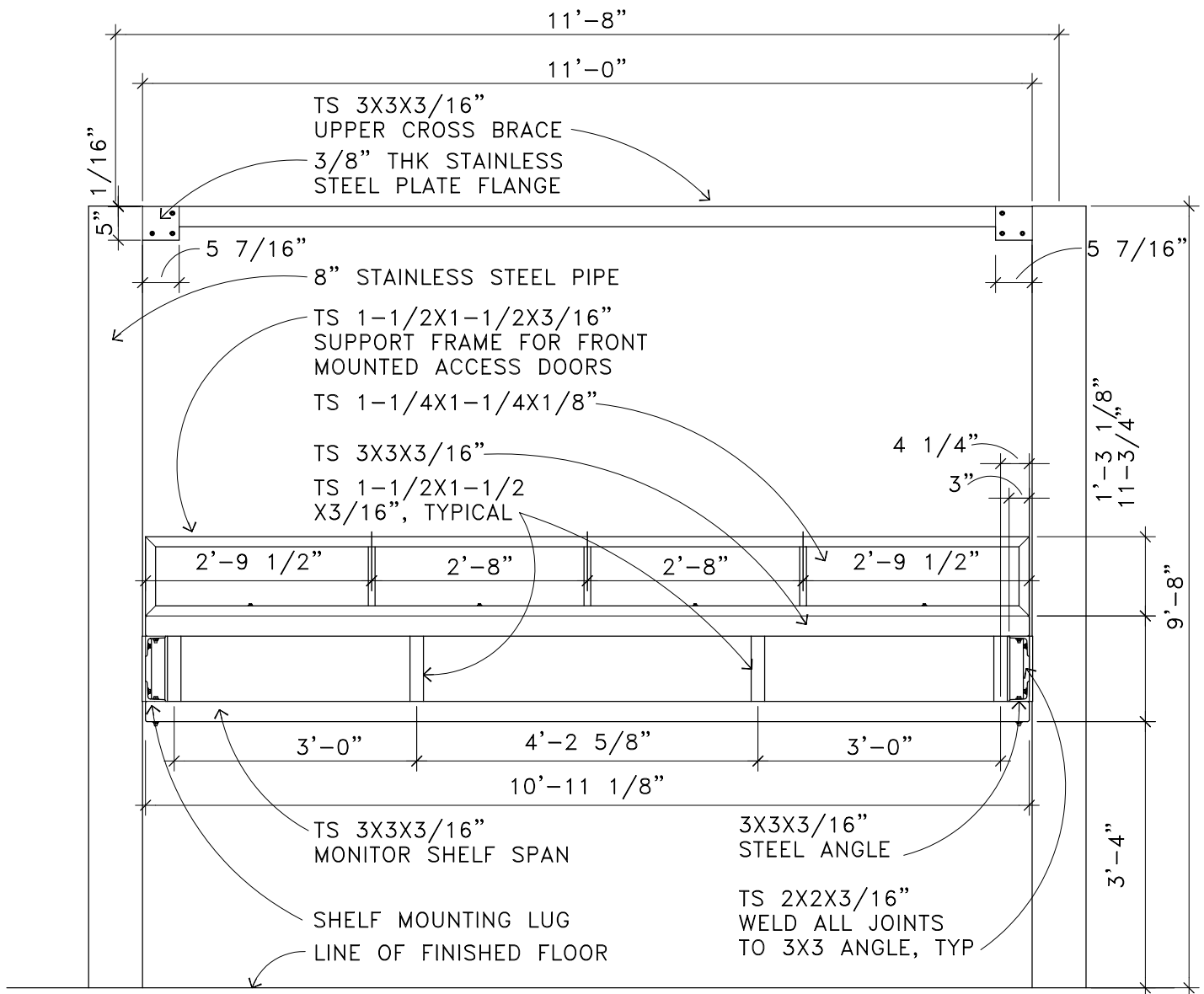
PLAN VIEWS



SIDE ELEVATION



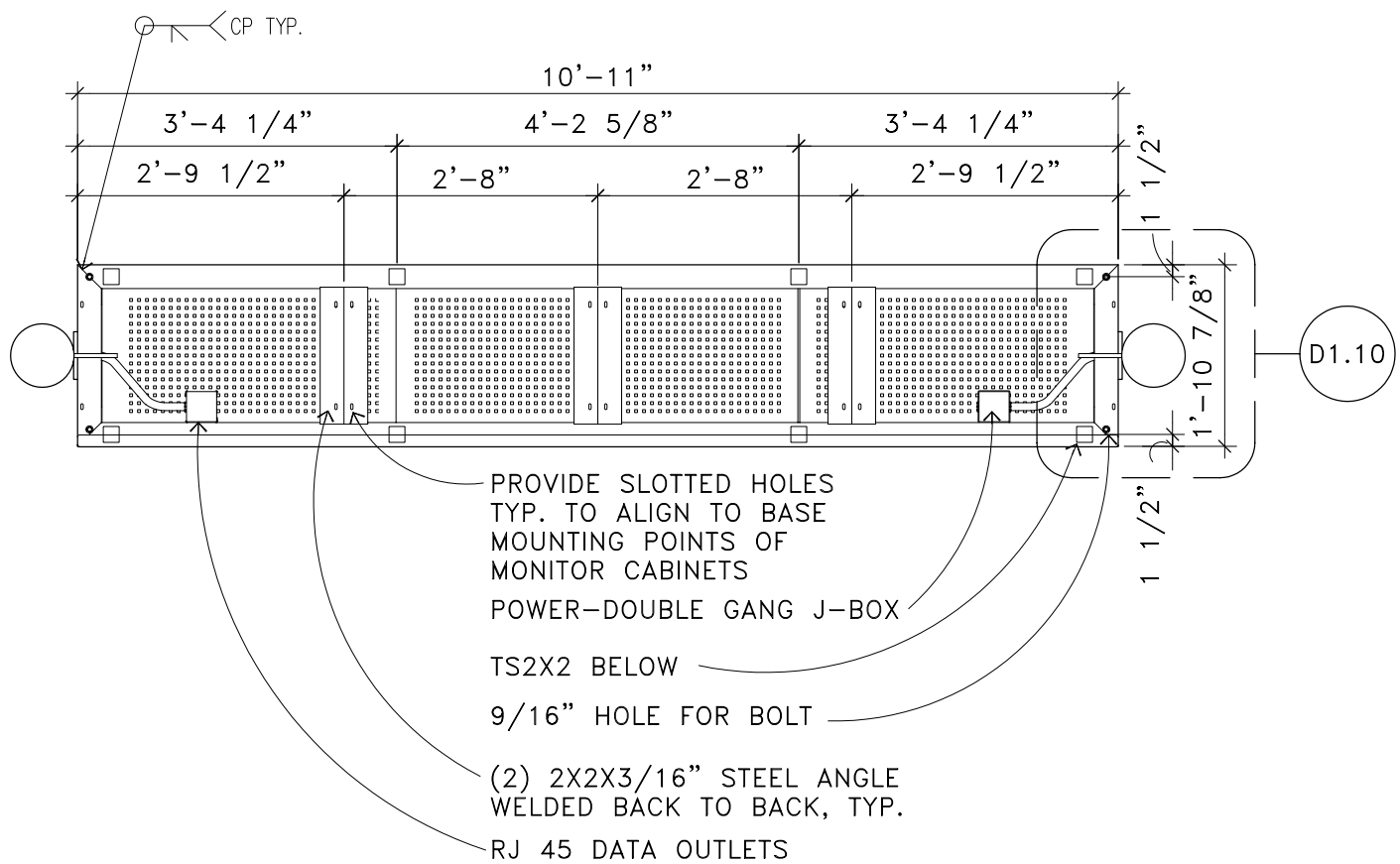
## SECTION



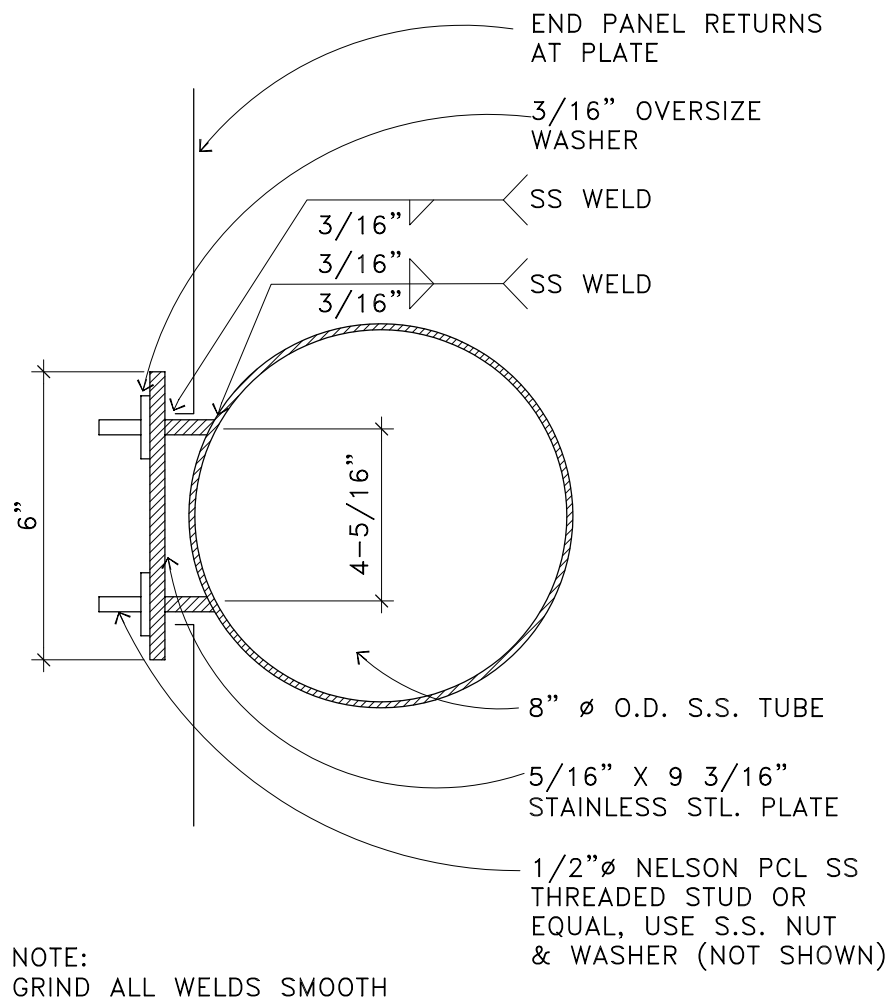
NOTE: WELD ALL JOINTS, TYPICAL.

## STRUCTURAL FRAME

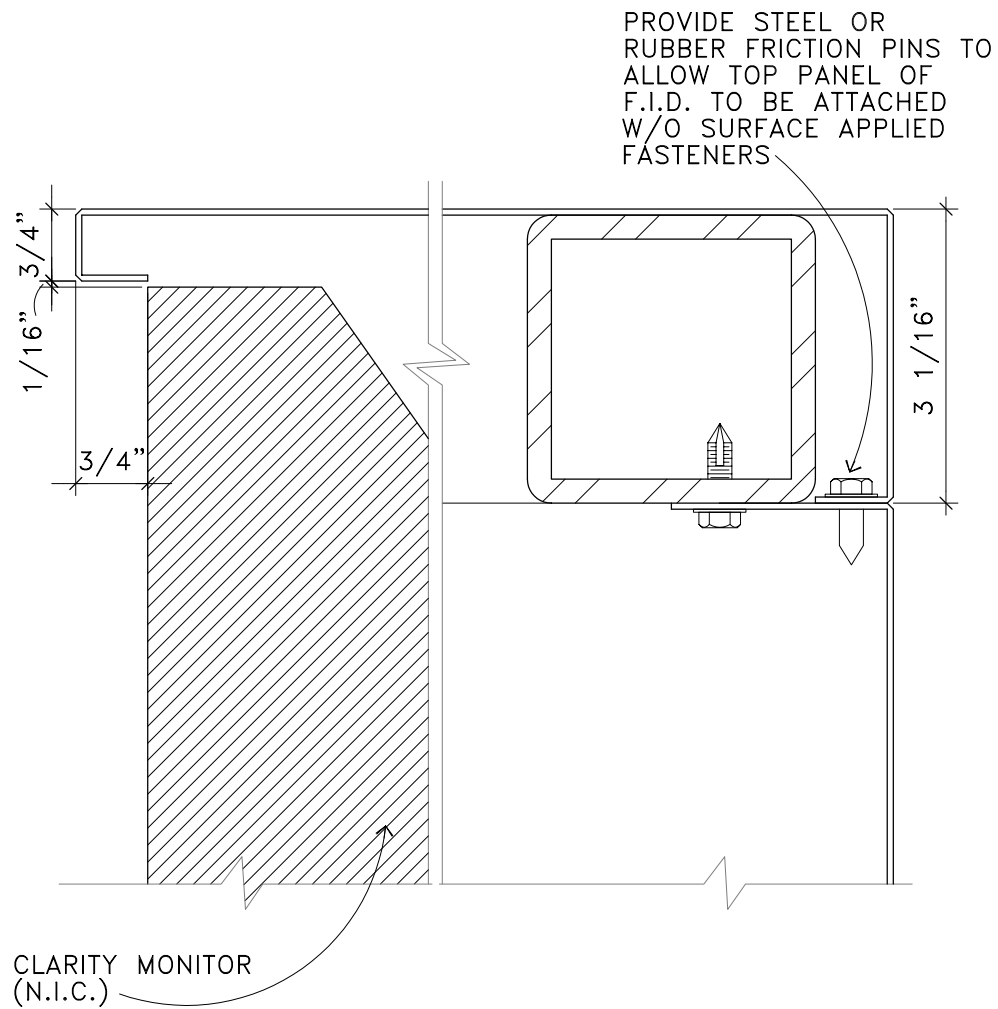




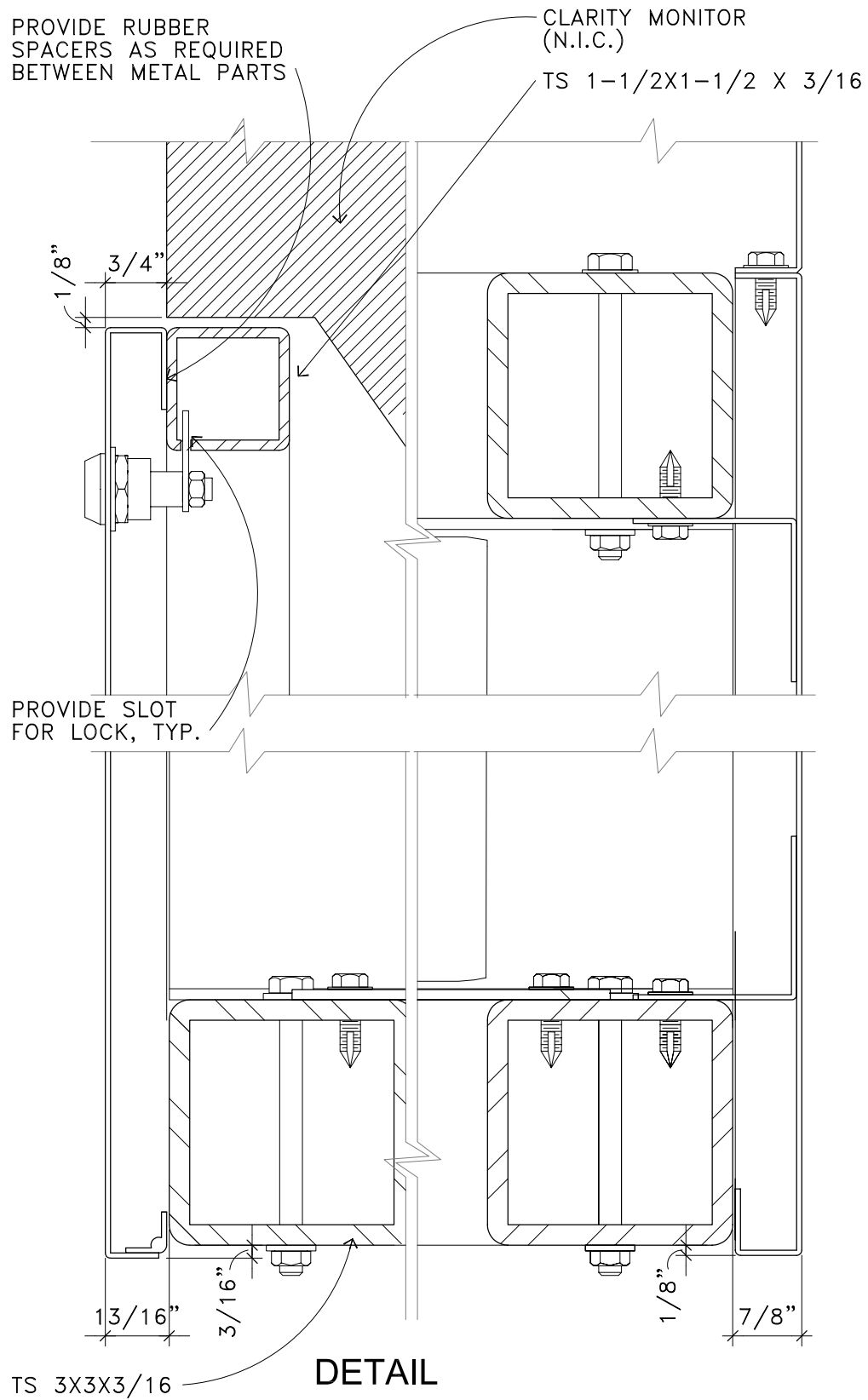
PLAN VIEW

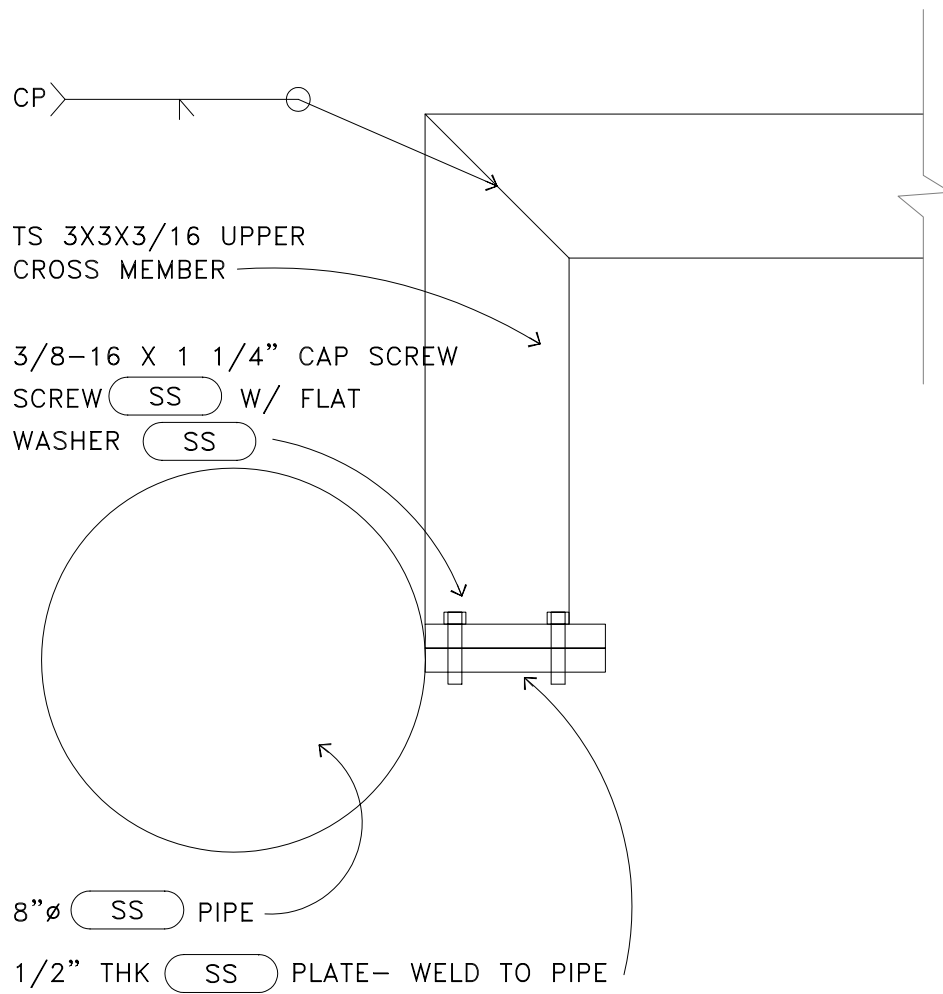


DETAIL

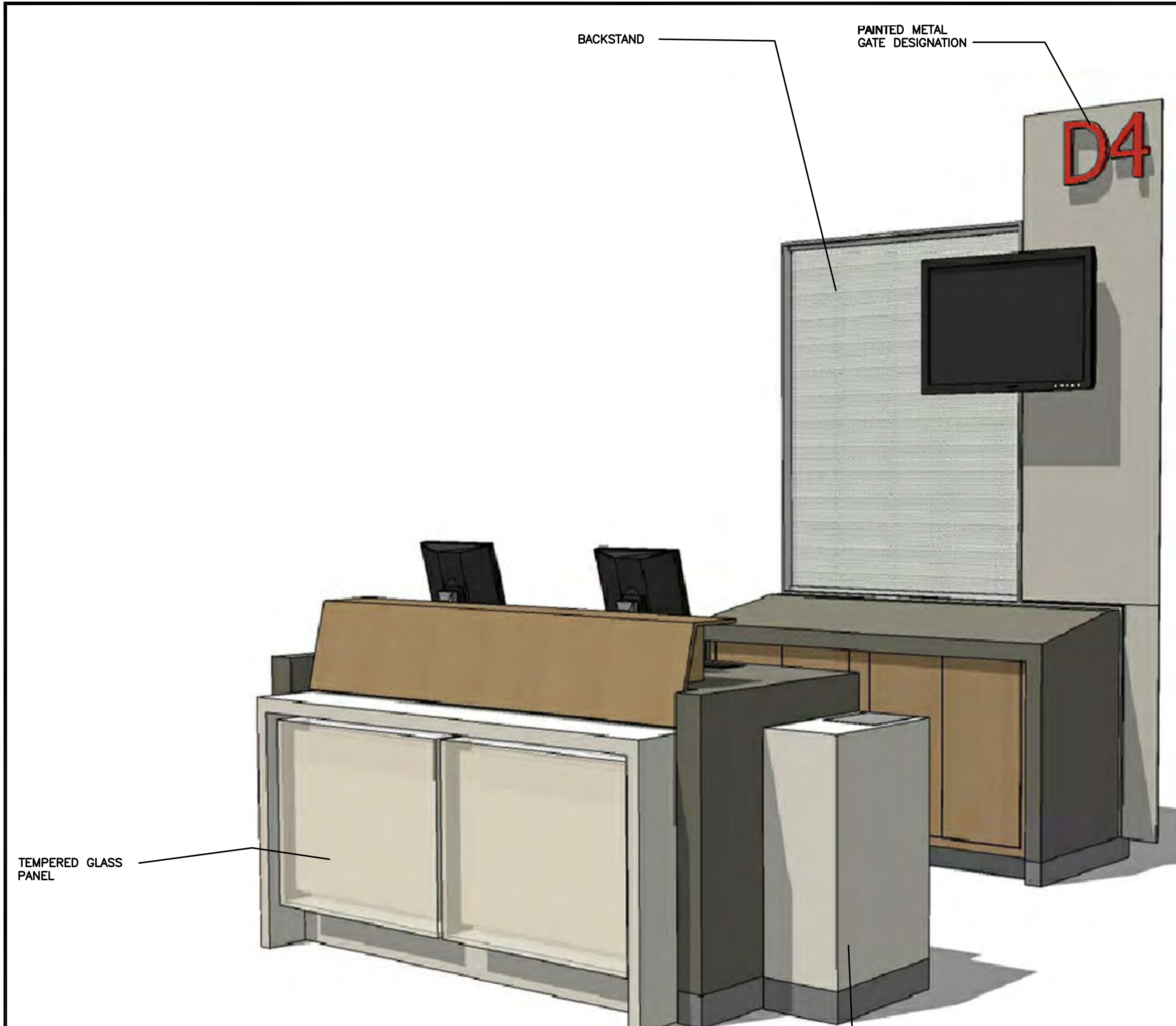


DETAIL





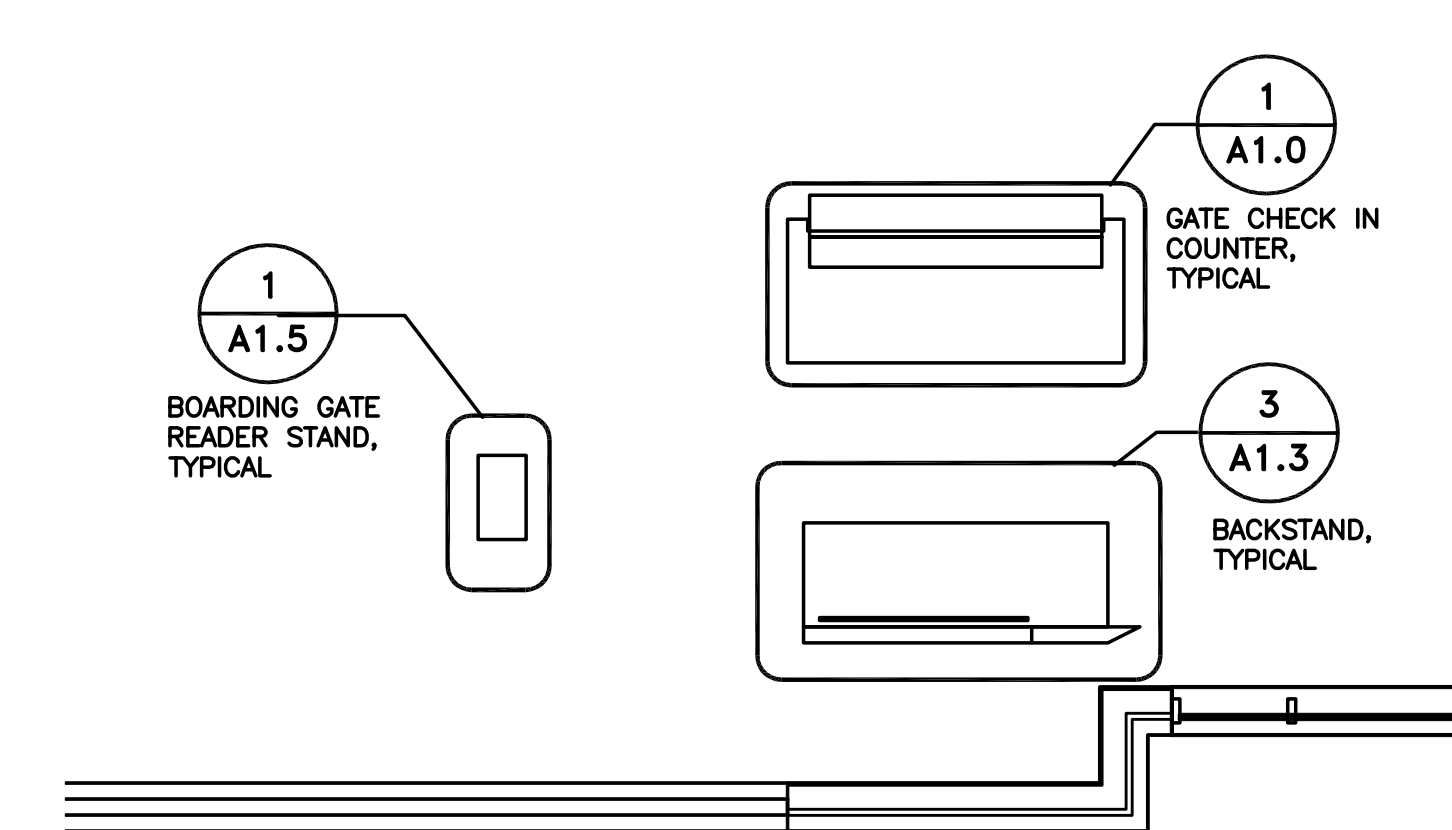
DETAIL



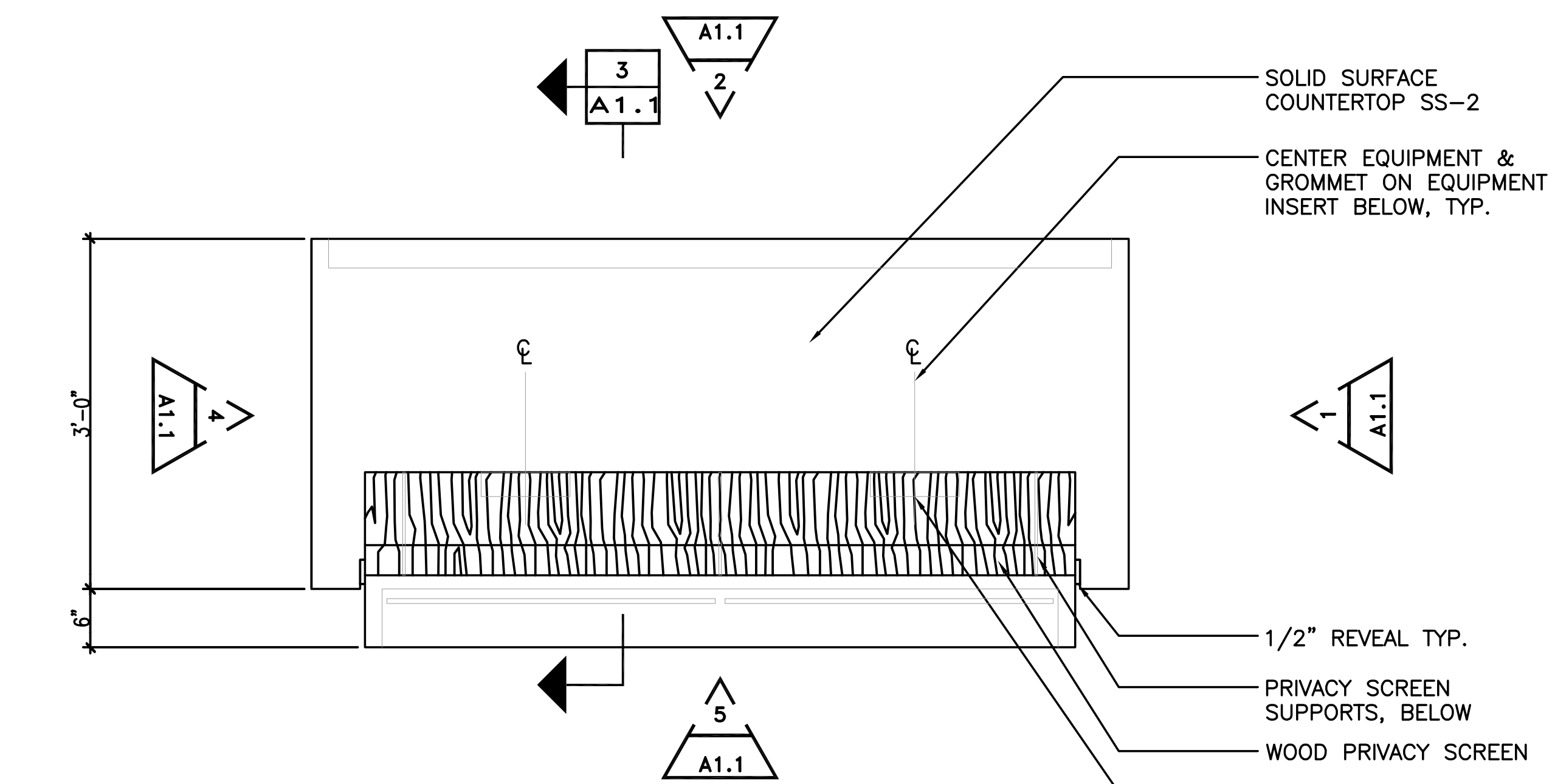
**3D RENDERING**  
GATE CHECK-IN COUNTER BACKSTAND &  
BOARDING GATE READER STAND

TEMPERED GLASS  
PANEL

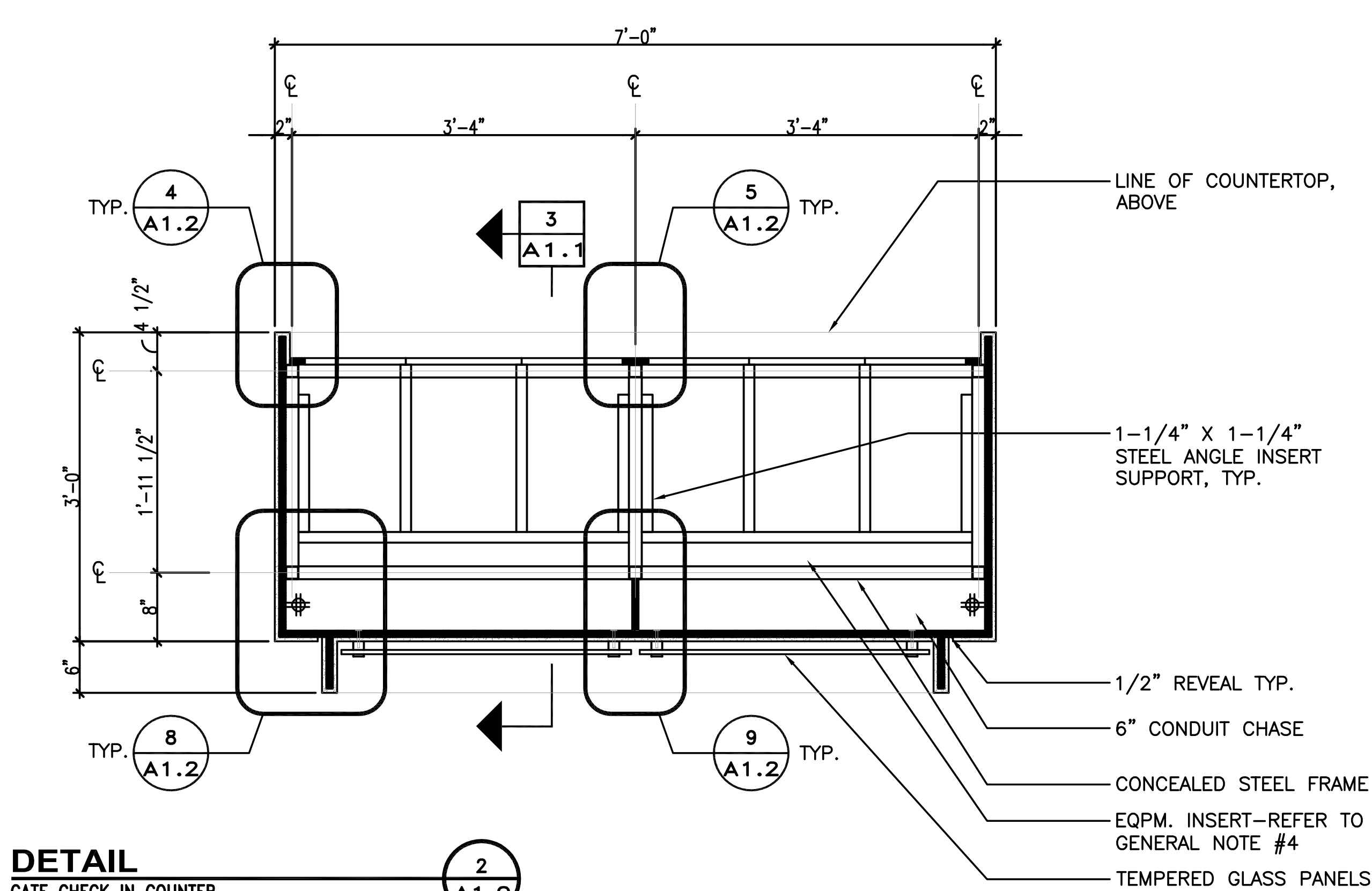
BOARDING GATE  
READER



**ENLARGED PLAN**  
GATE CHECK - IN  
SCALE: 1/4" = 1'-0"



**ENLARGED PLAN**  
GATE CHECK - IN COUNTER  
SCALE: 1" = 1'-0"



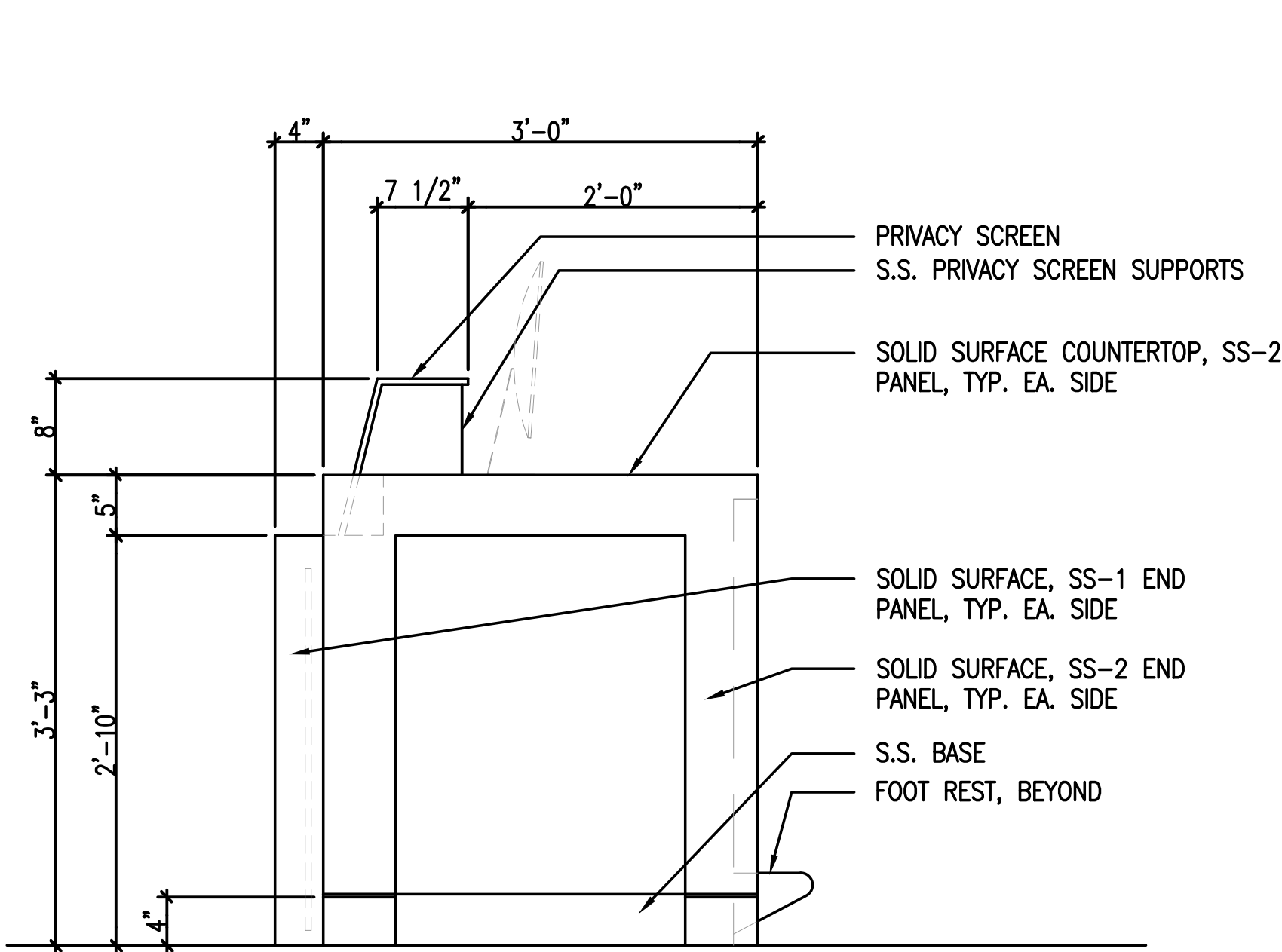
**DETAIL**  
GATE CHECK IN COUNTER  
SCALE: 1" = 1'-0"

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D



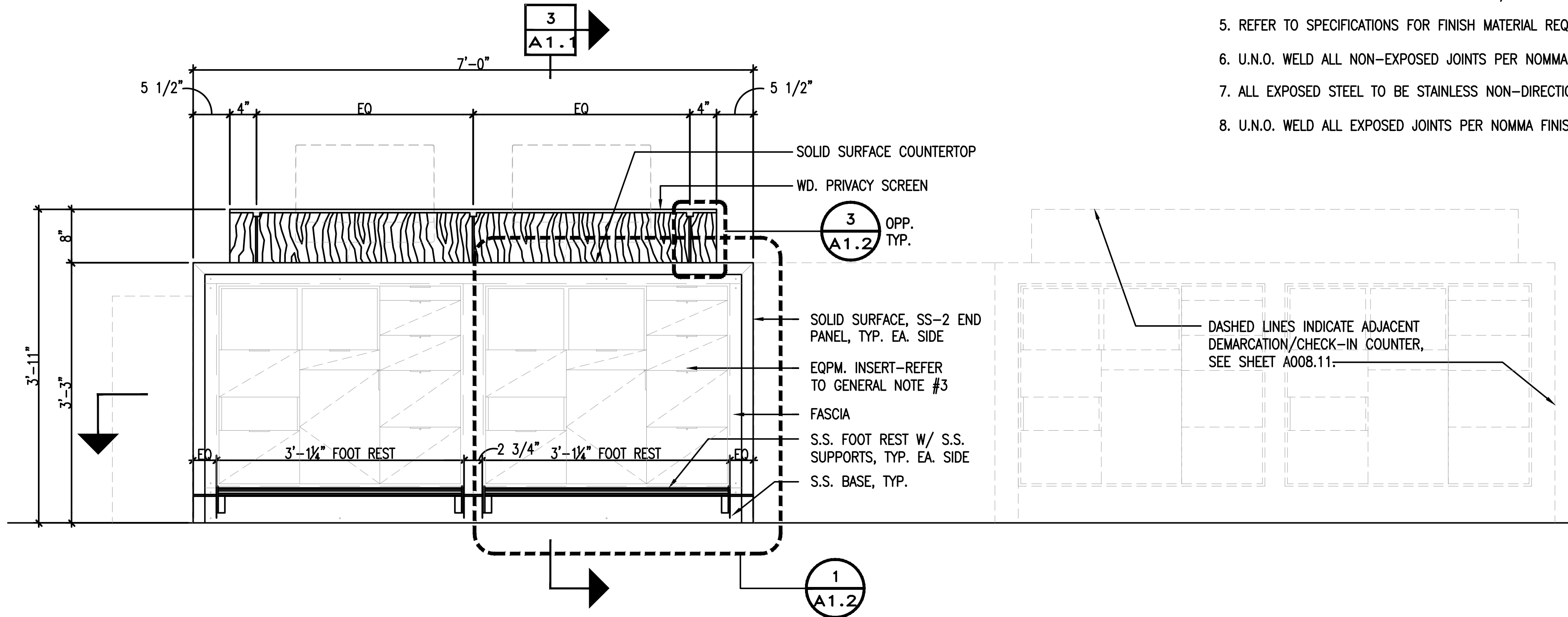
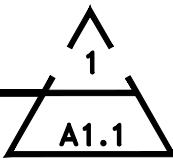
GENERAL NOTES

- CONTRACTORS:
- G.C. TO CONFIRM AND COORDINATE ALL EQUIPMENT SIZES, CLEARANCES AND ACCESS REQUIREMENTS PRIOR TO FABRICATION.
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  - U.N.O. WELD ALL EXPOSED JOINTS PER NOMMA FINISH #1 STANDARD.



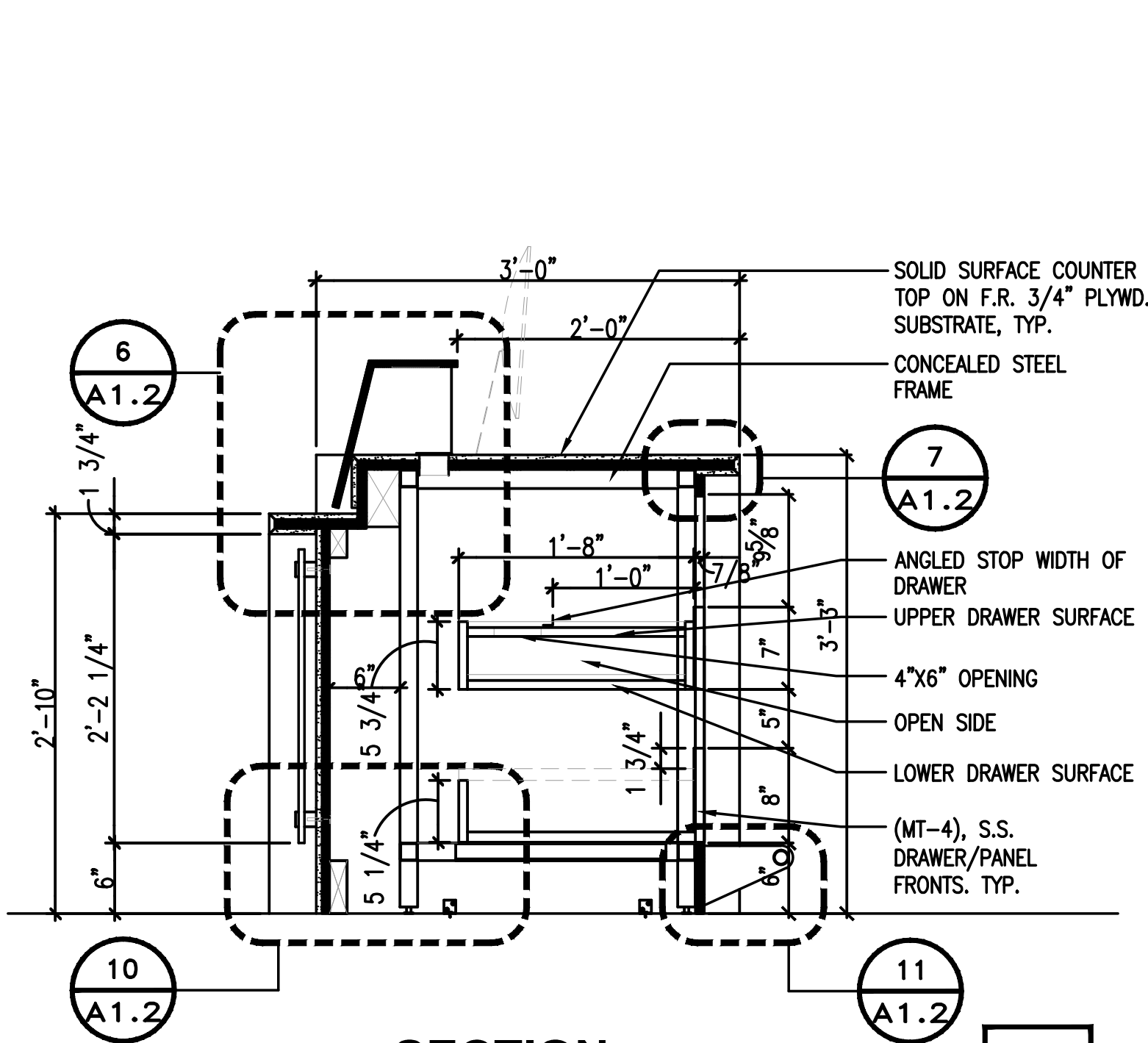
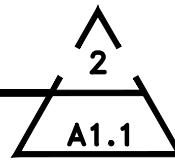
SIDE ELEVATION

SCALE: 1"=1'-0"



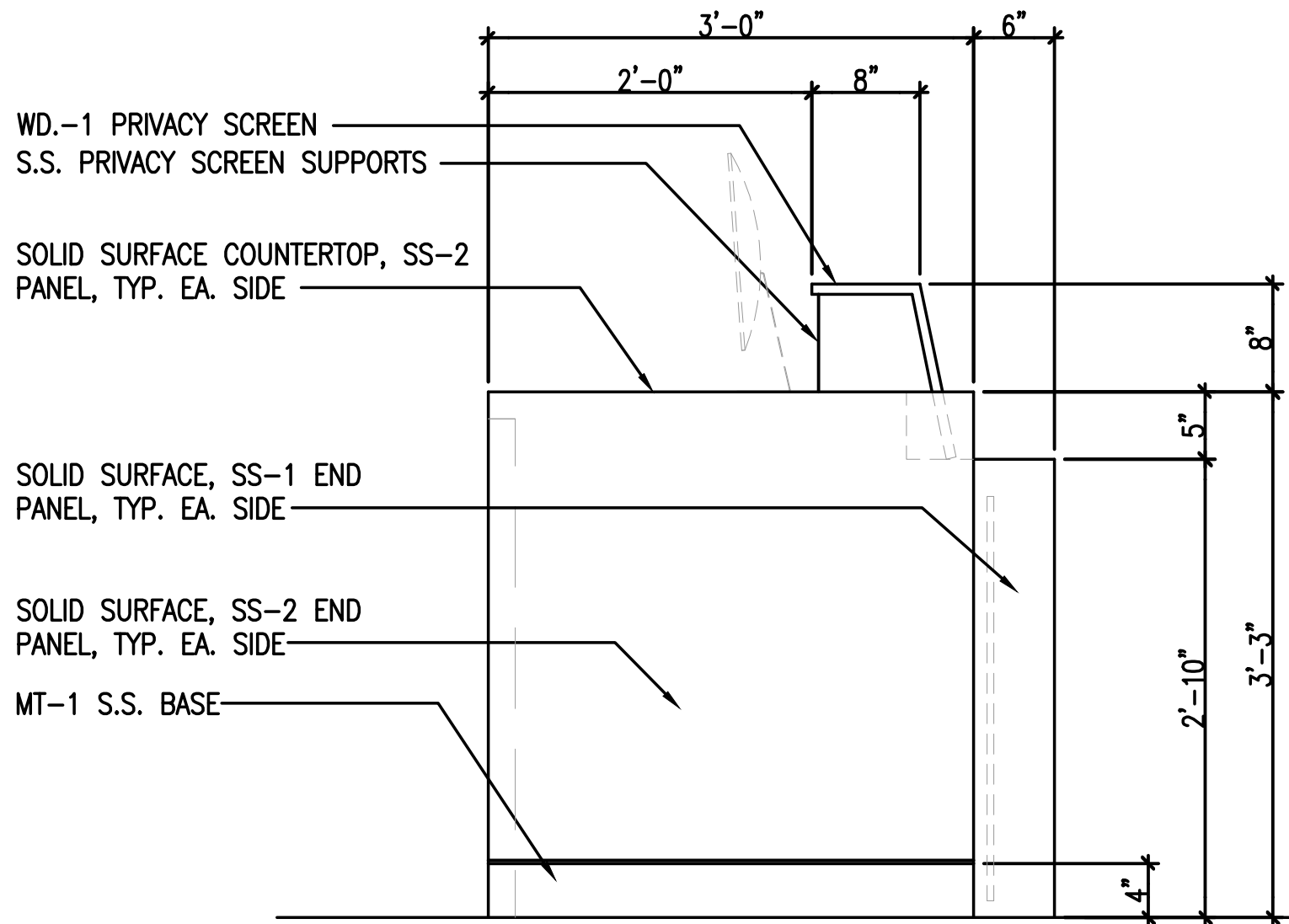
INTERIOR ELEVATION

SCALE: 1"=1'-0"



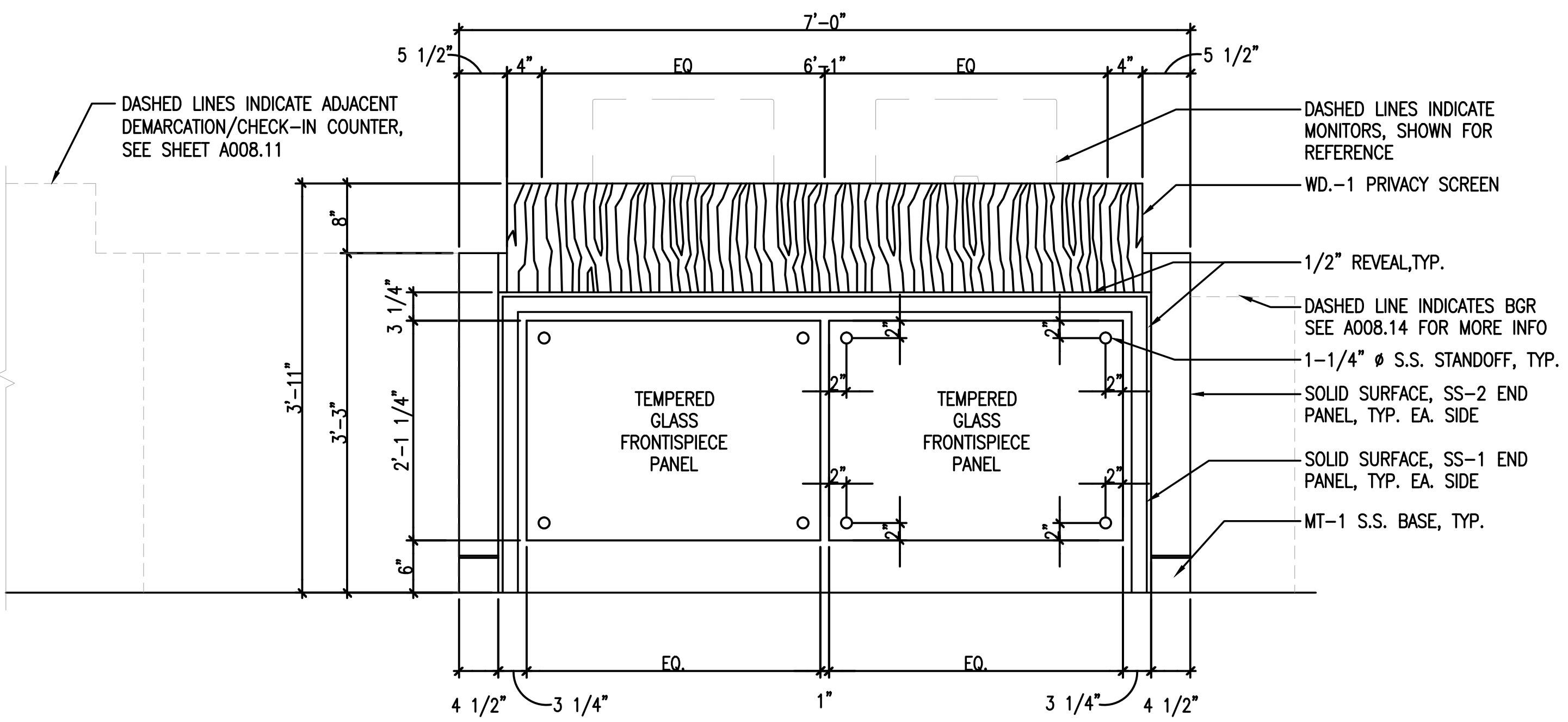
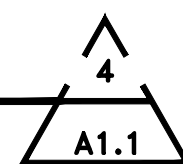
SECTION

SCALE: 1"=1'-0"



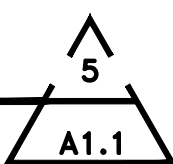
SIDE ELEVATION

SCALE: 1"=1'-0"



FRONT ELEVATION

SCALE: 1"=1'-0"



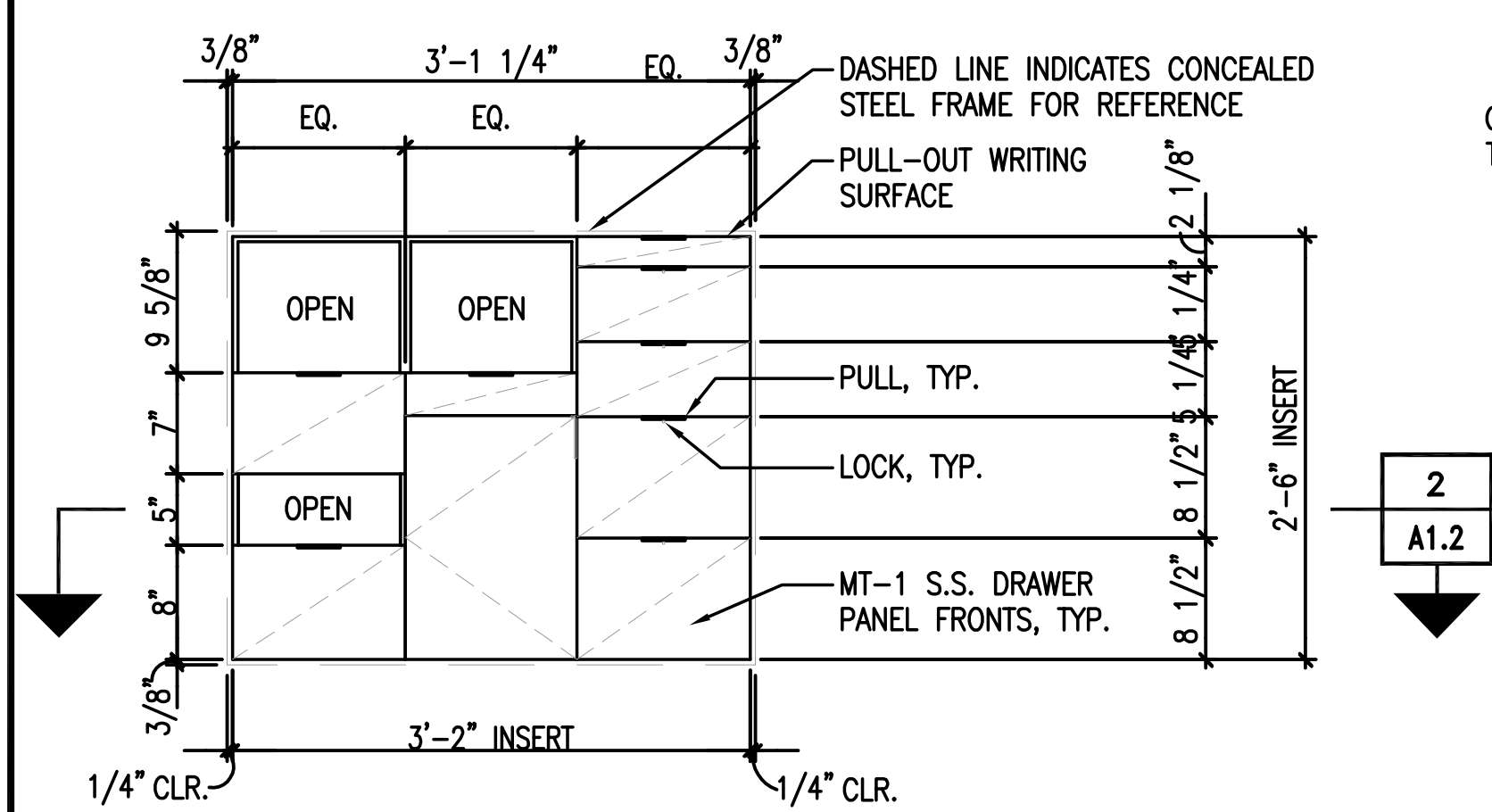
PROJECT ENGINEER:  
BRETT HANSON  
DESIGNER:  
TCU  
SCALE:  
AS SHOWN  
DATE:  
CHECKED BY:  
CHECKED/APPROVED BY:

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

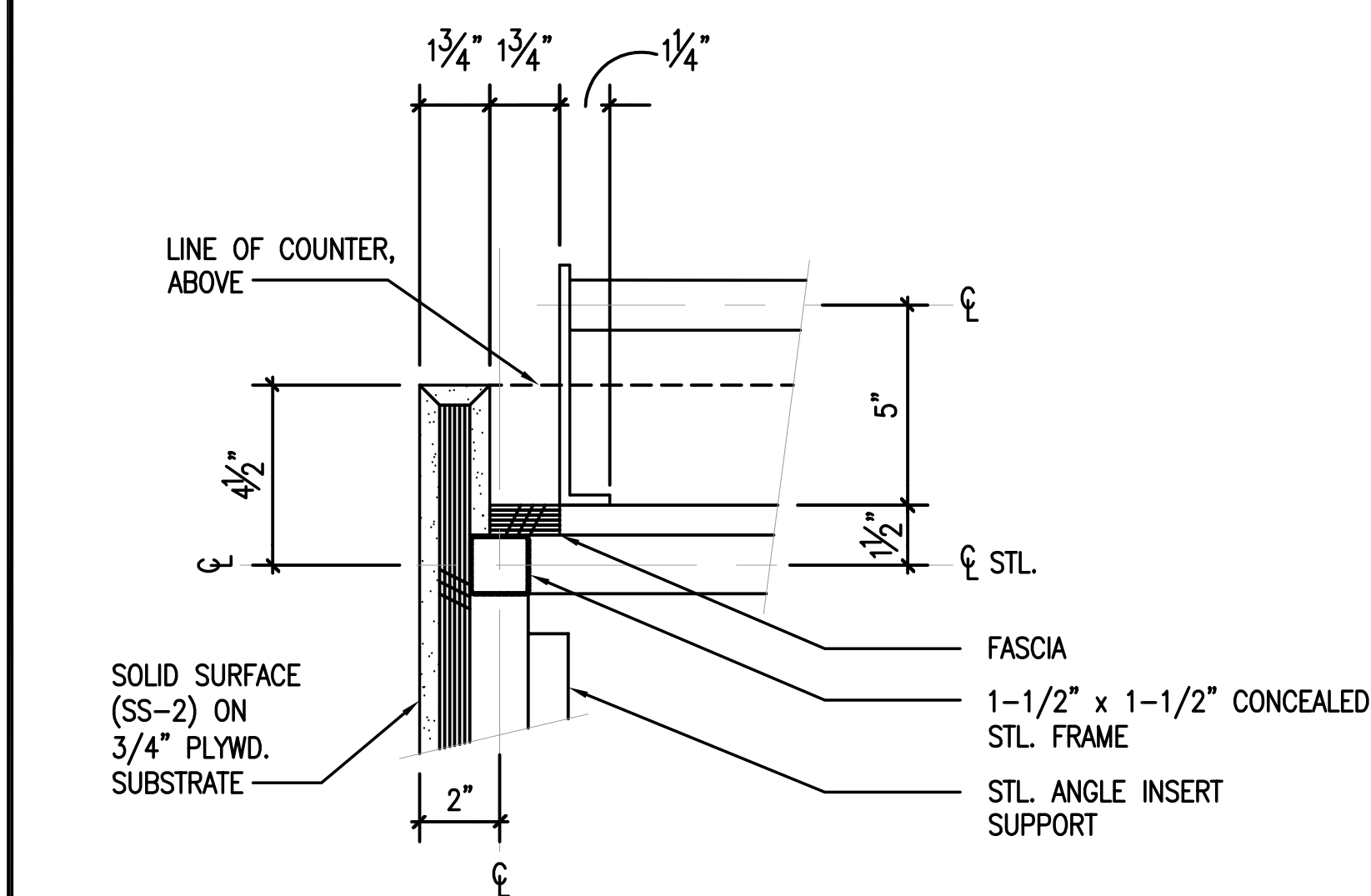
PROJECT MANAGER:  
PATRY BERGSTEDT  
PROJECT ENGINEER:  
DESIGN ENGINEER:  
DRAFTER:  
SCALE:  
DATE:  
CHECKED/APPROVED BY:

Port of Seattle  
SEA-TAC INTERNATIONAL AIRPORT  
PROJECT:  
STANDARD HOLDROOM CASEWORK  
SHEET TITLE: CASEWORK DETAILS  
GATE CHECK IN COUNTER

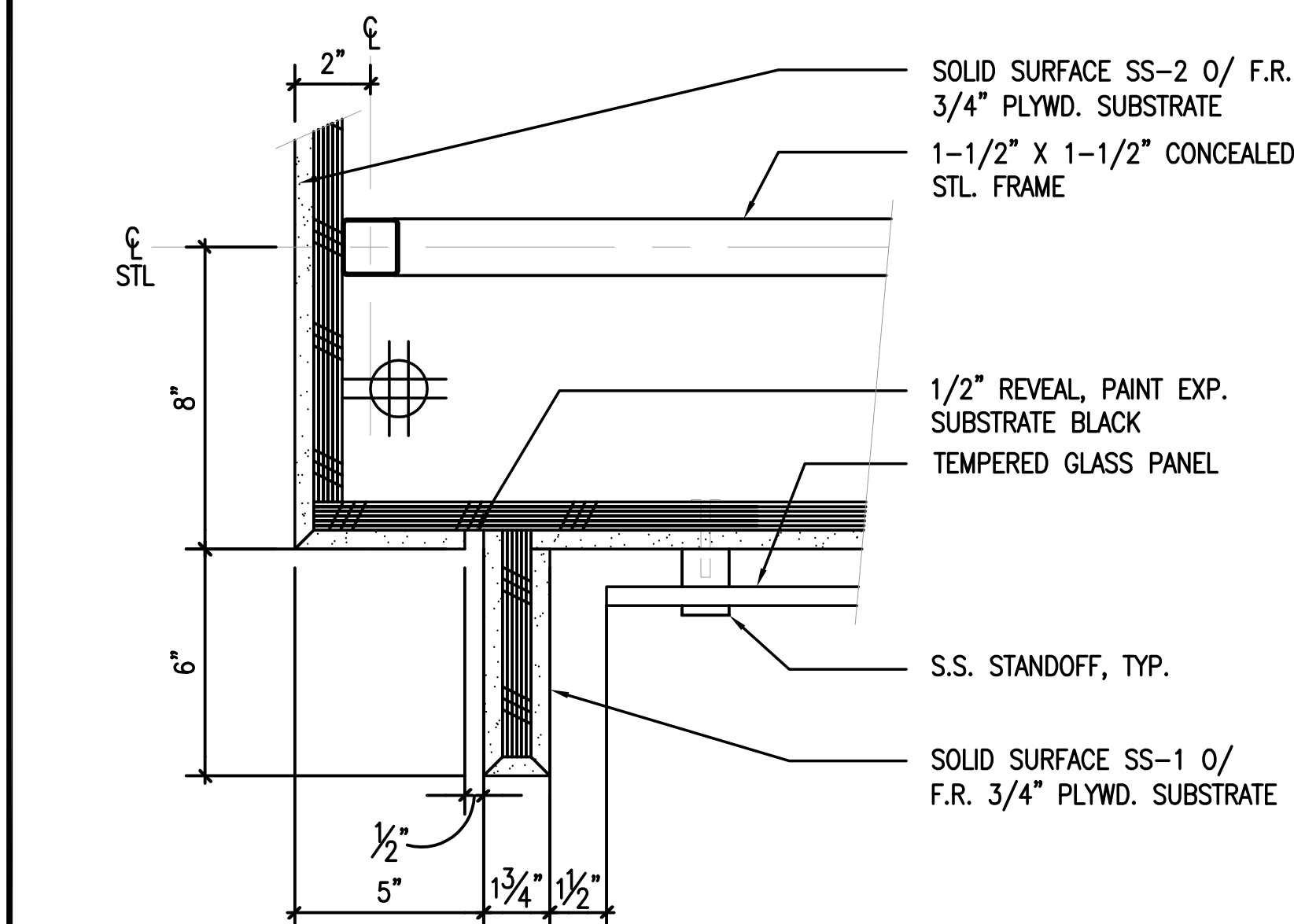
WORK PROJECT NO.  
CONSULTANT'S NO.  
PORT OF SEATTLE NO.  
A1.1



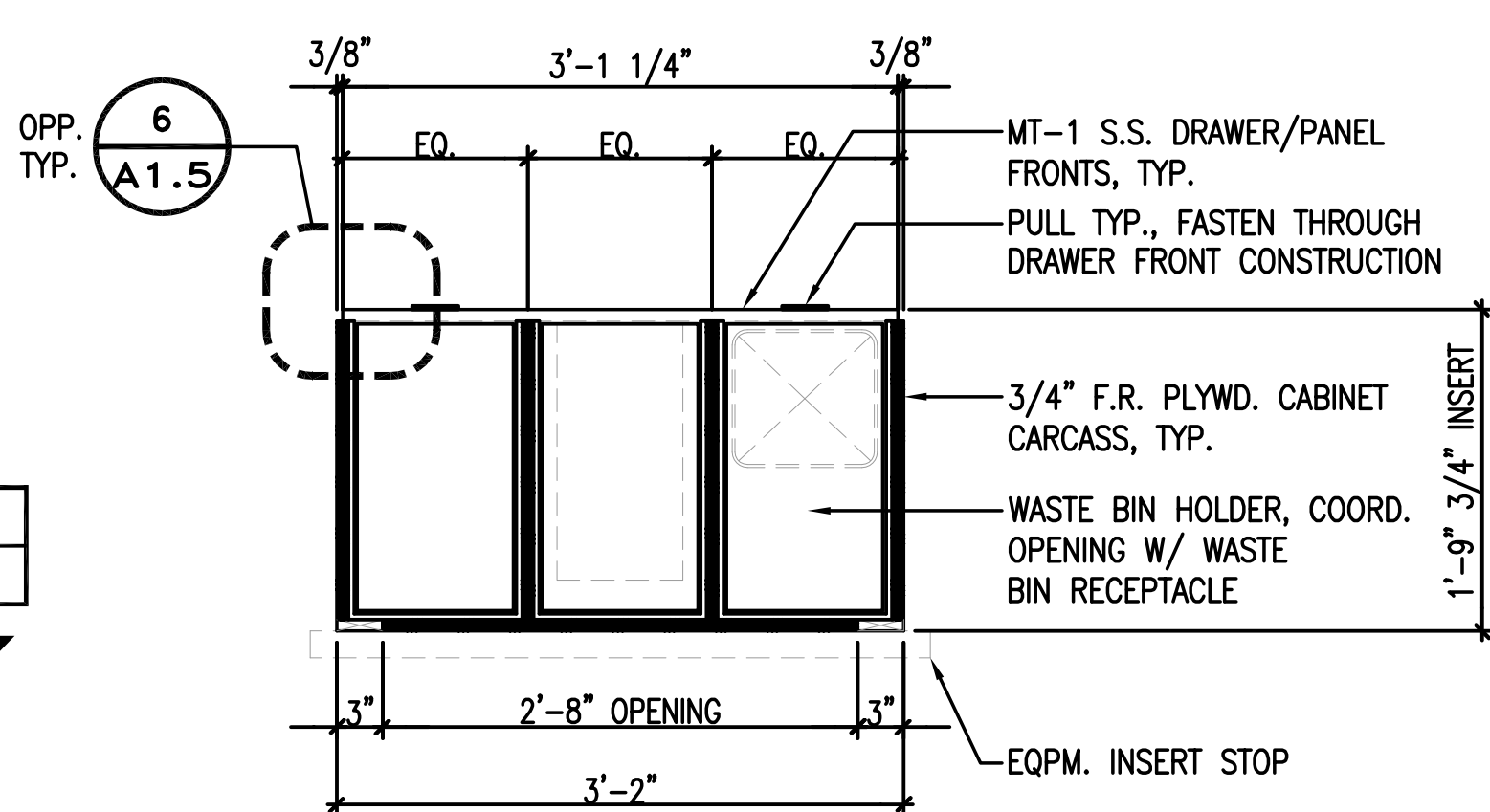
**DETAIL**  
CHECK-IN PODIUM INSERT TYPE 1  
SCALE: 1" = 1'-0"



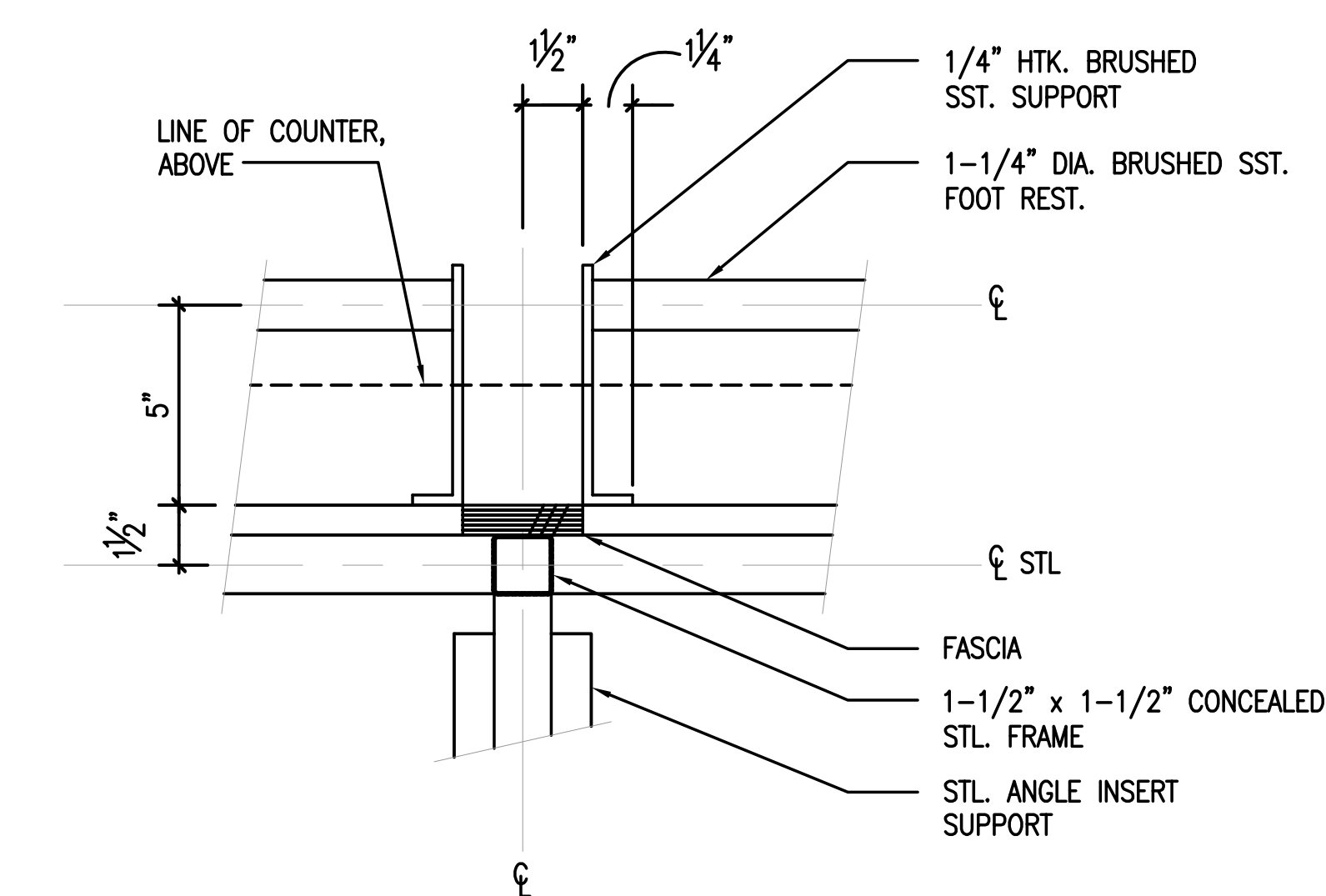
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GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"



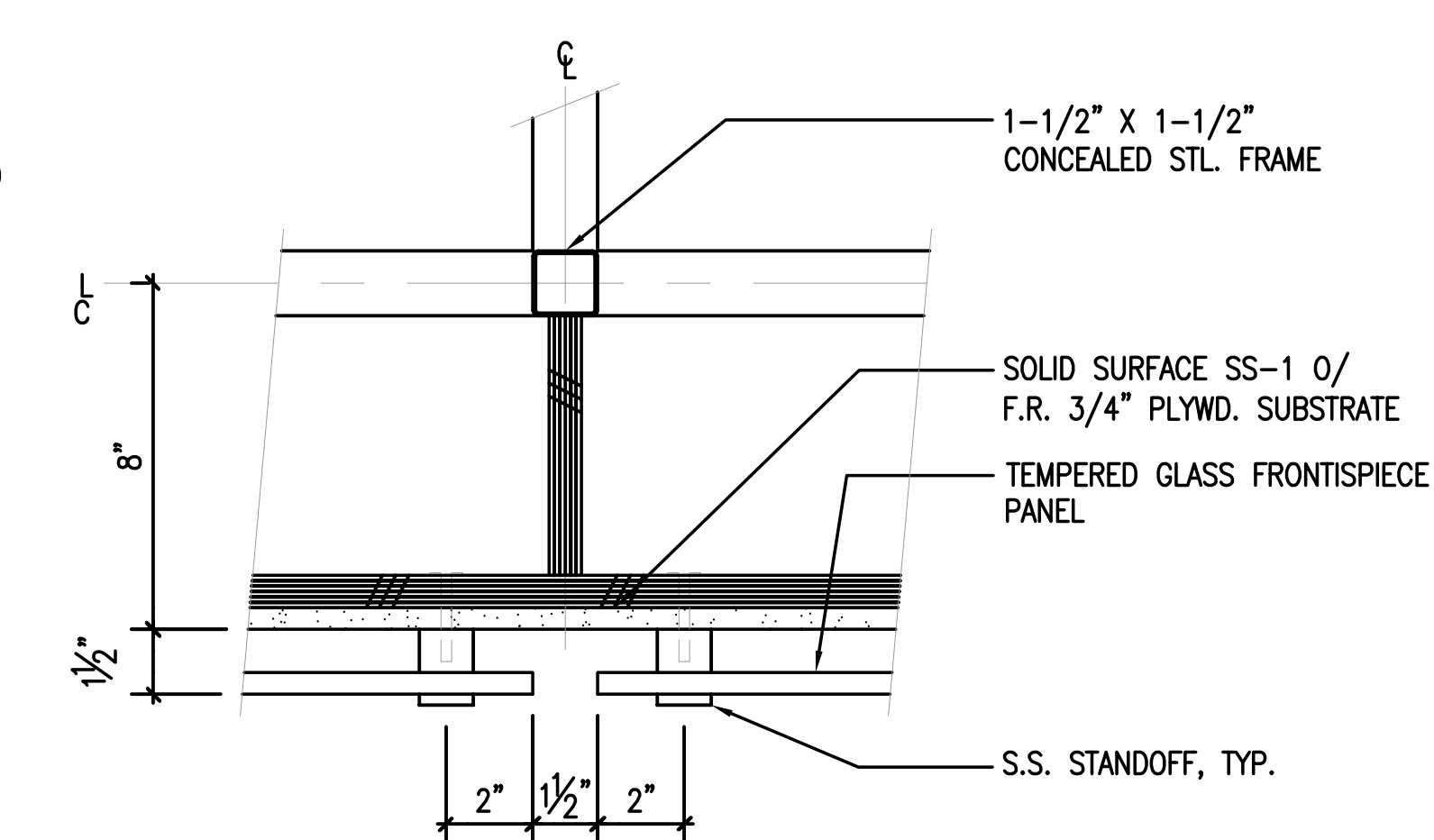
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GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"



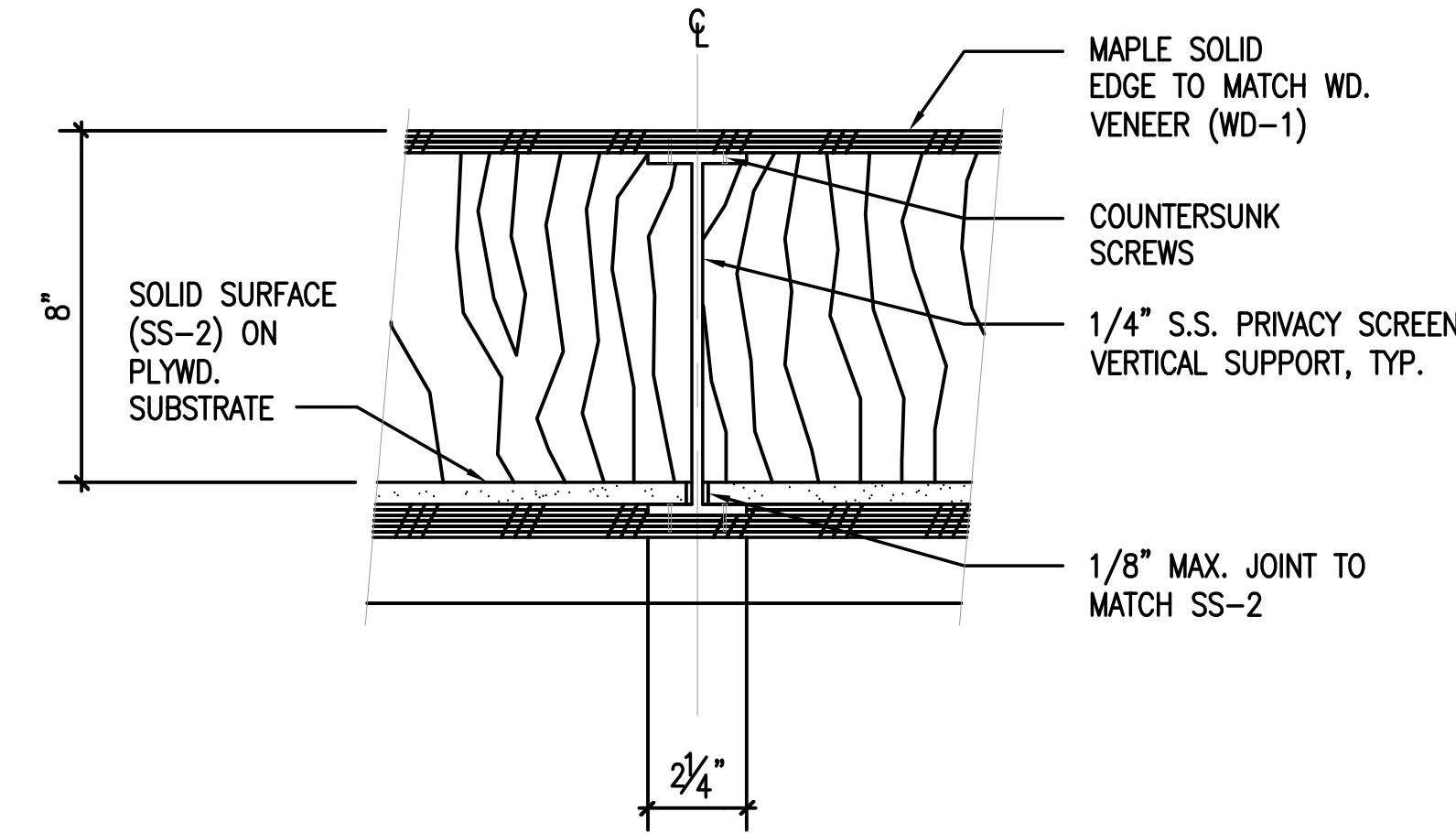
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1" = 1'-0"



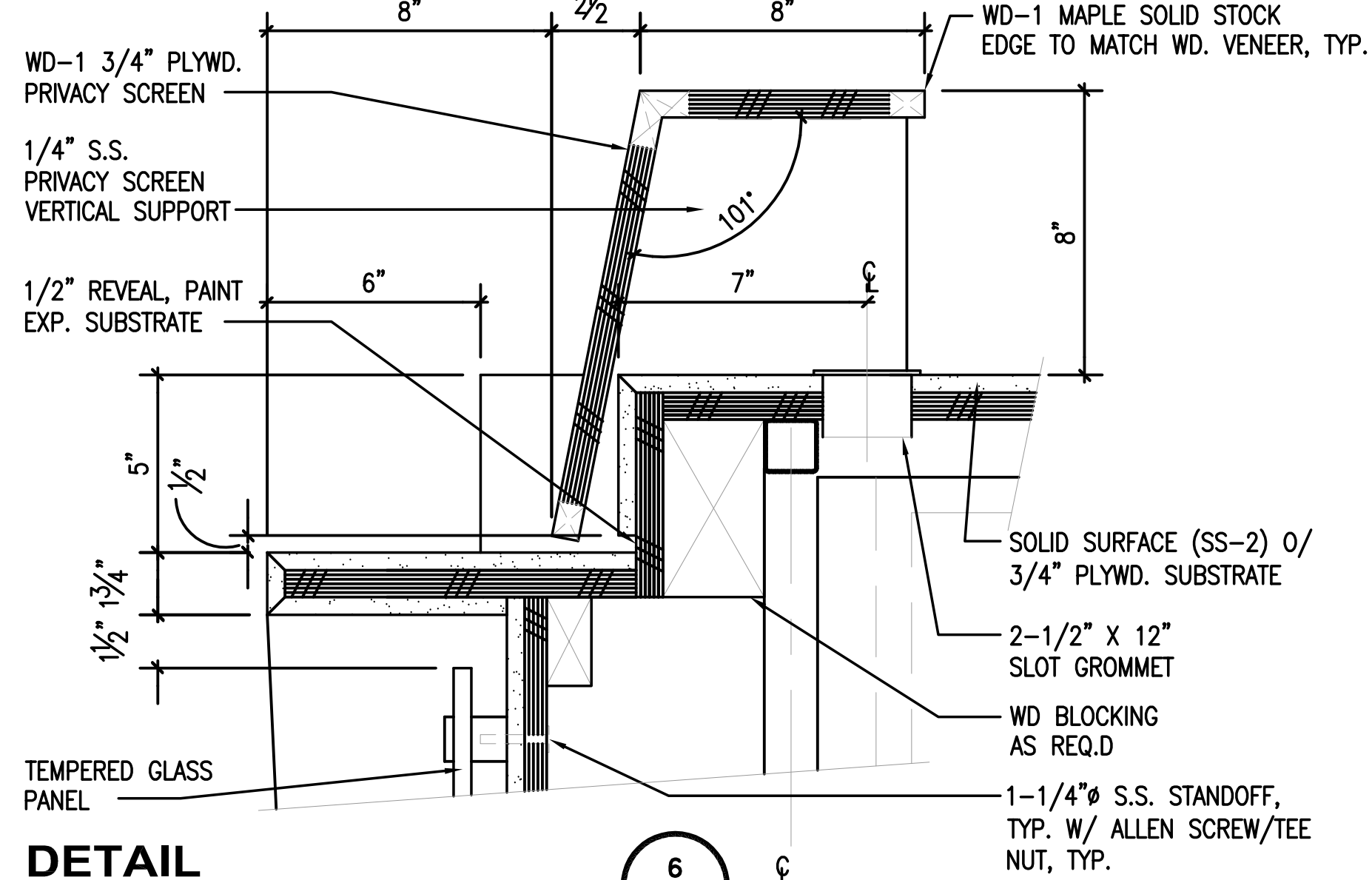
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GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"



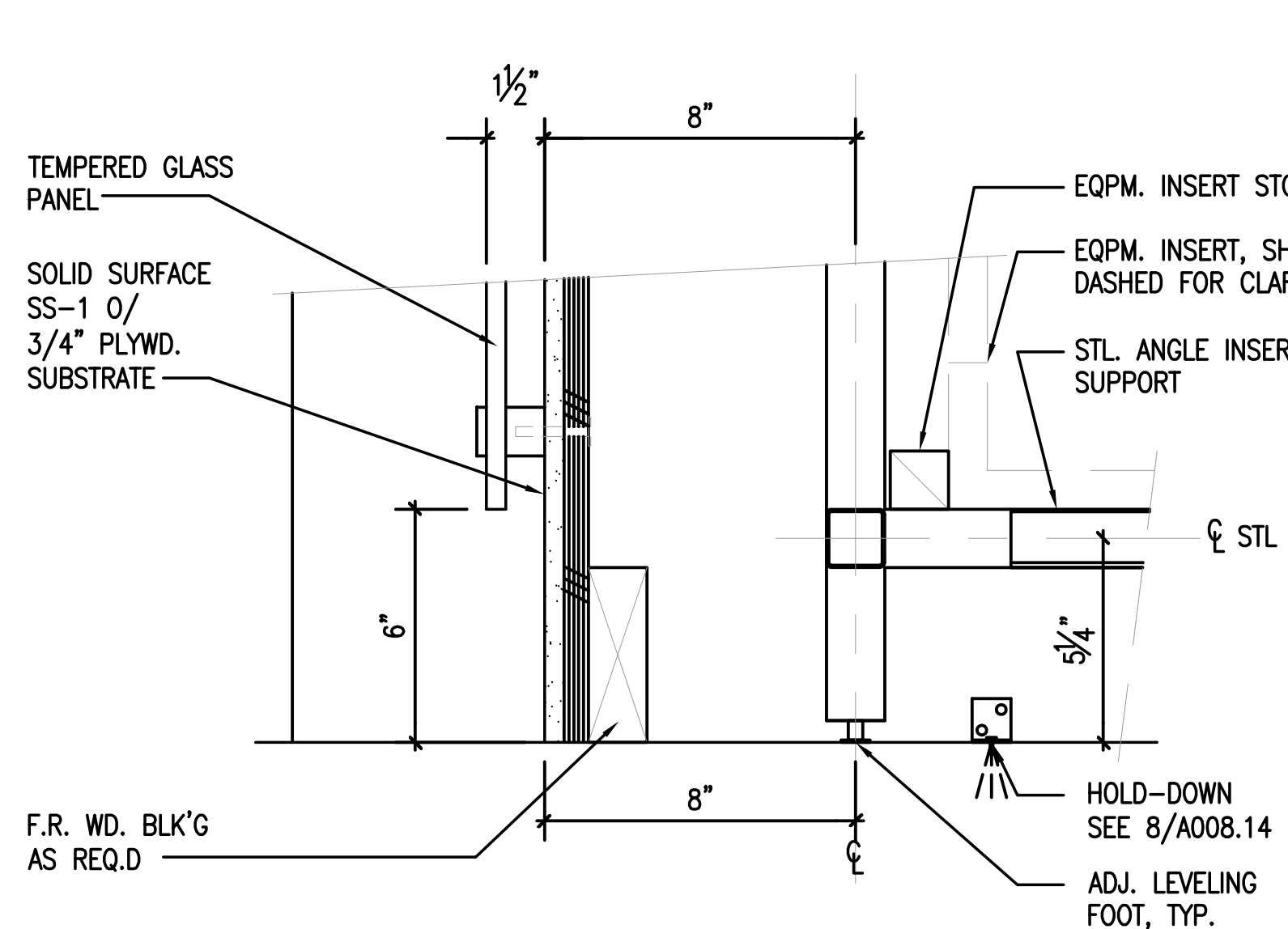
**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"



**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"

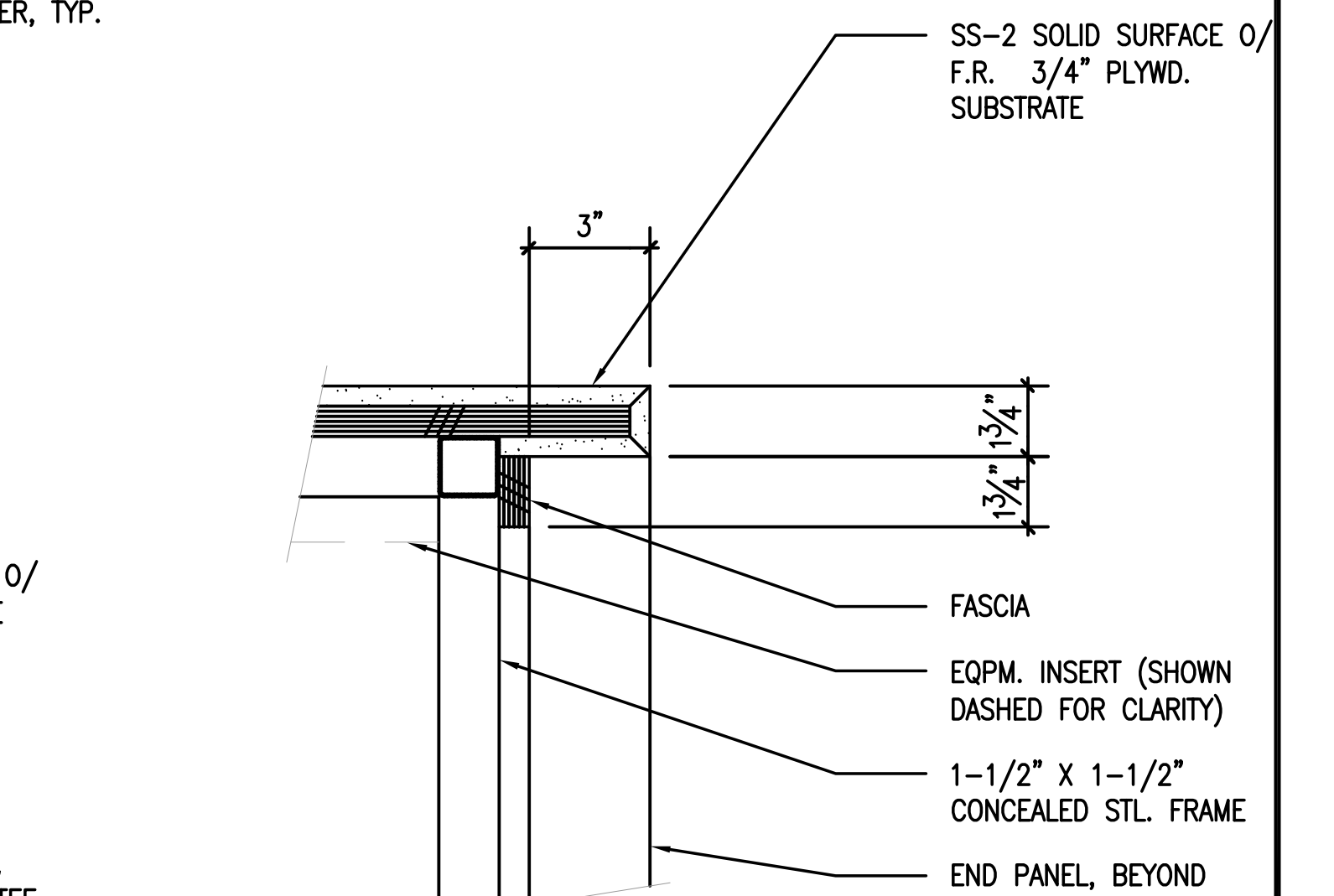


**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"

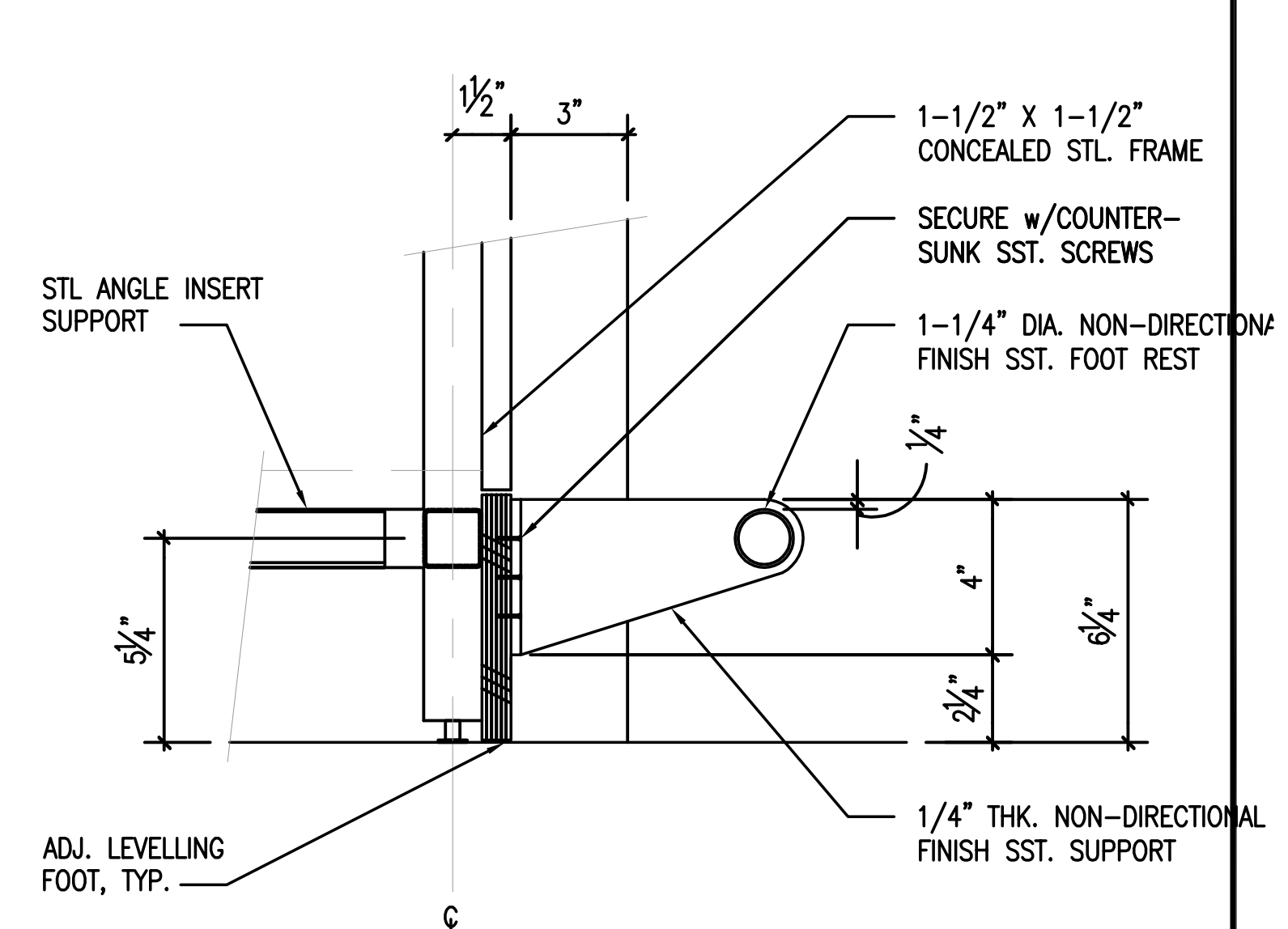


**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"

- GENERAL NOTES**
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  - U.N.O. WELD ALL EXPOSED JOINTS PER NOMMA FINISH #1 STANDARD.



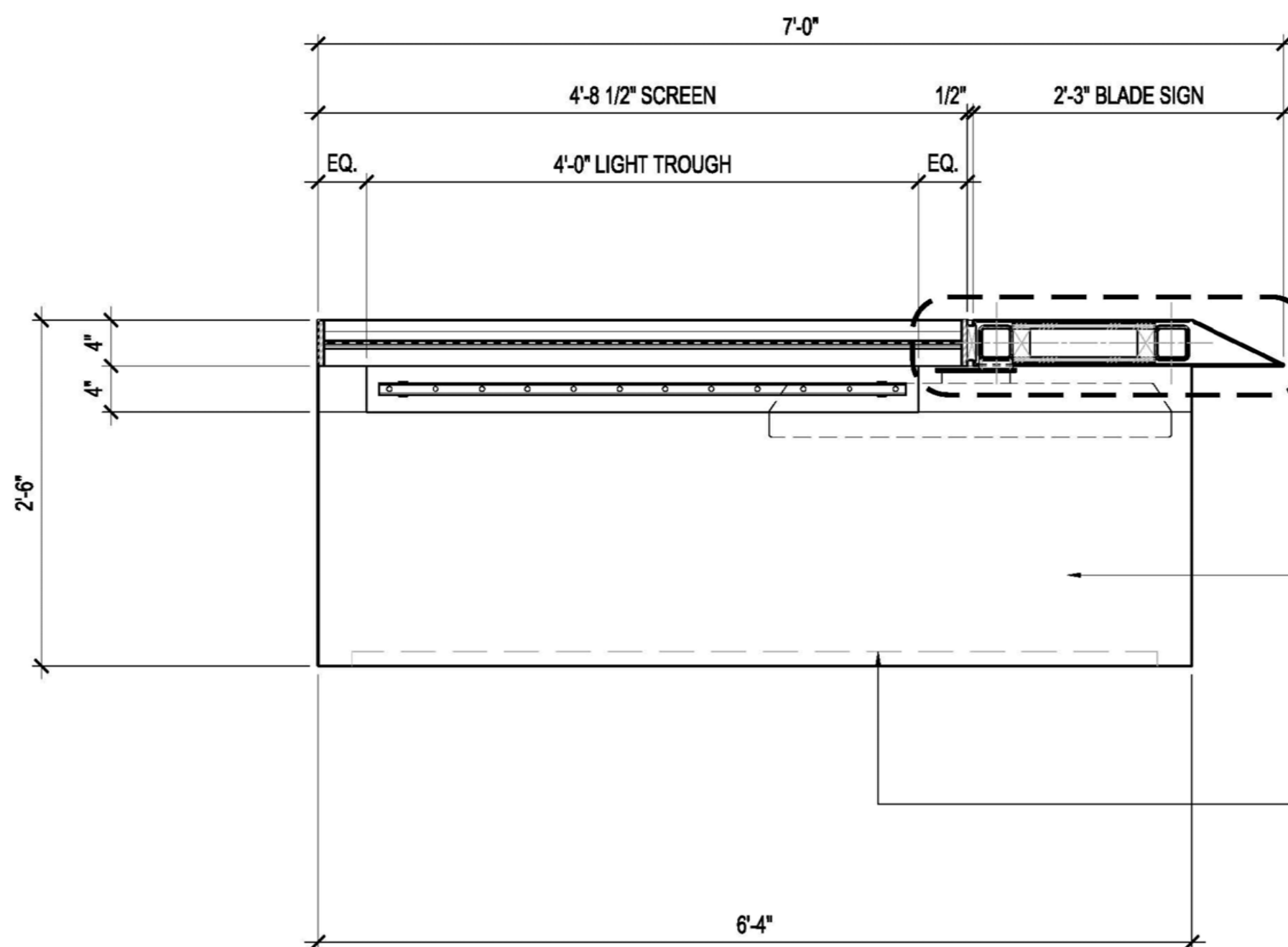
**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"



**DETAIL**  
GATE CHECK-IN COUNTER  
SCALE: 3" = 1'-0"

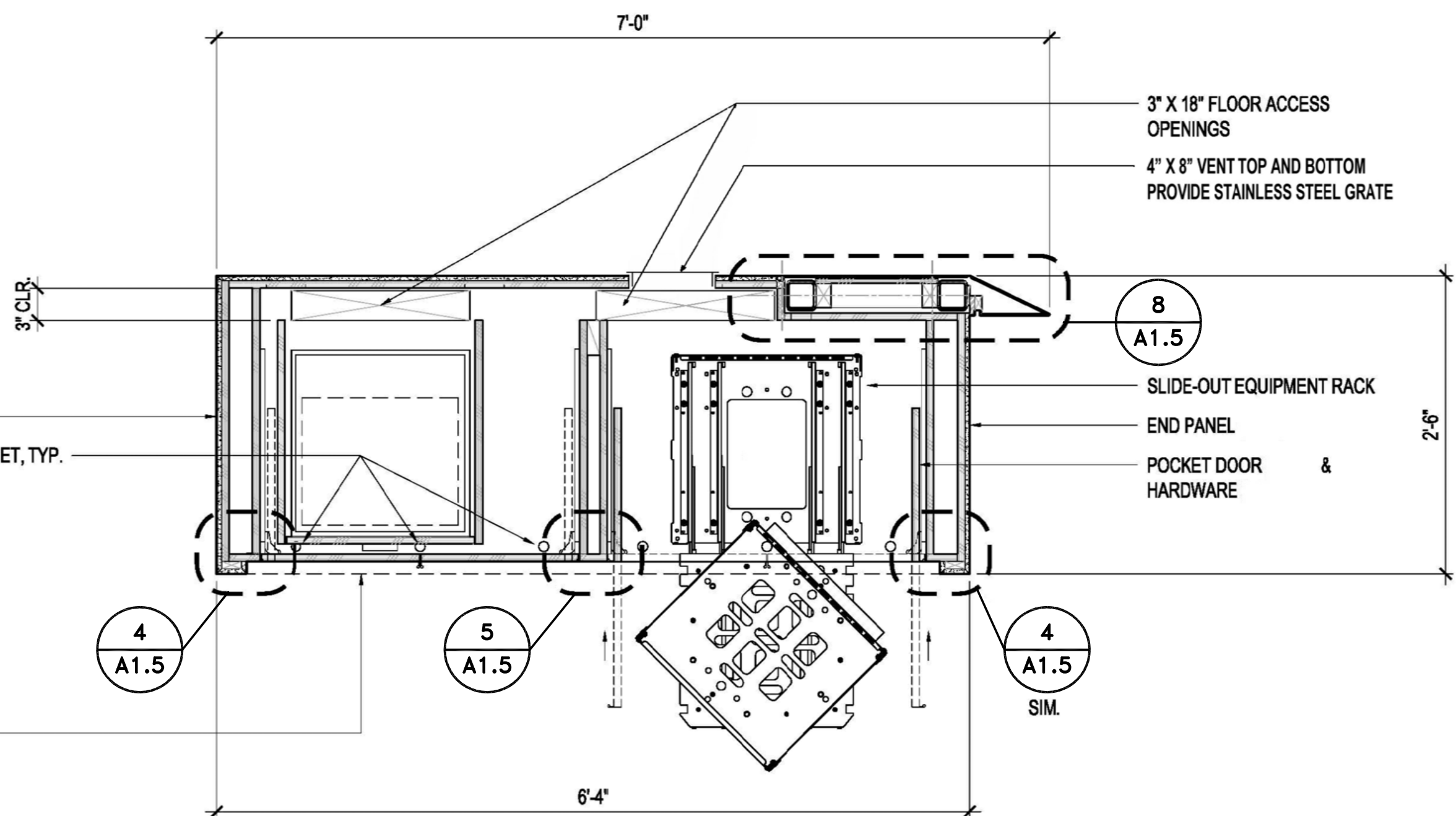
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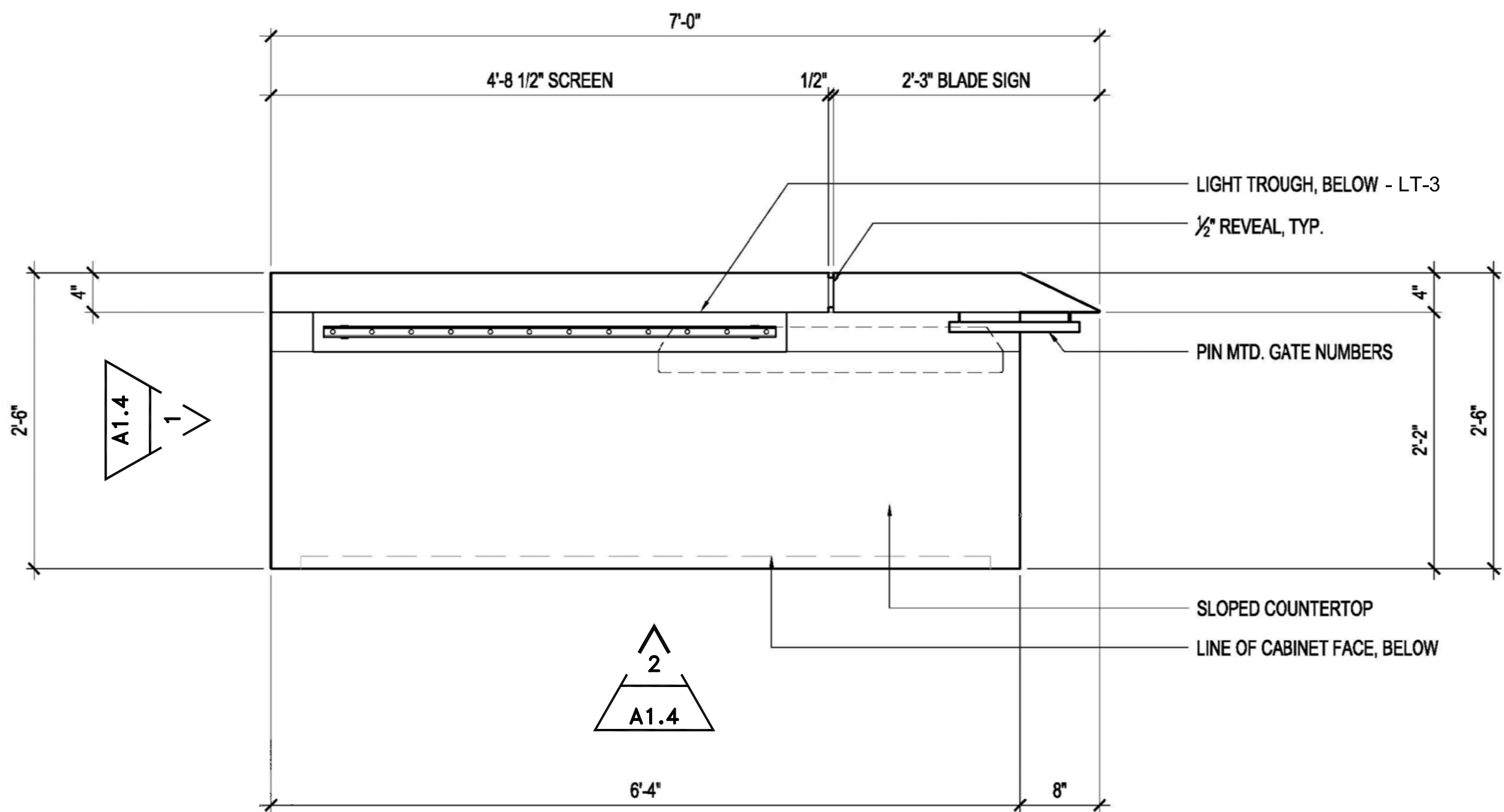
**DETAIL**  
BACKSTAND - RIGHT PYLON  
SCALE: 1" = 1'-0"  
LEFT PYLON OPPOSITE SIMILAR

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

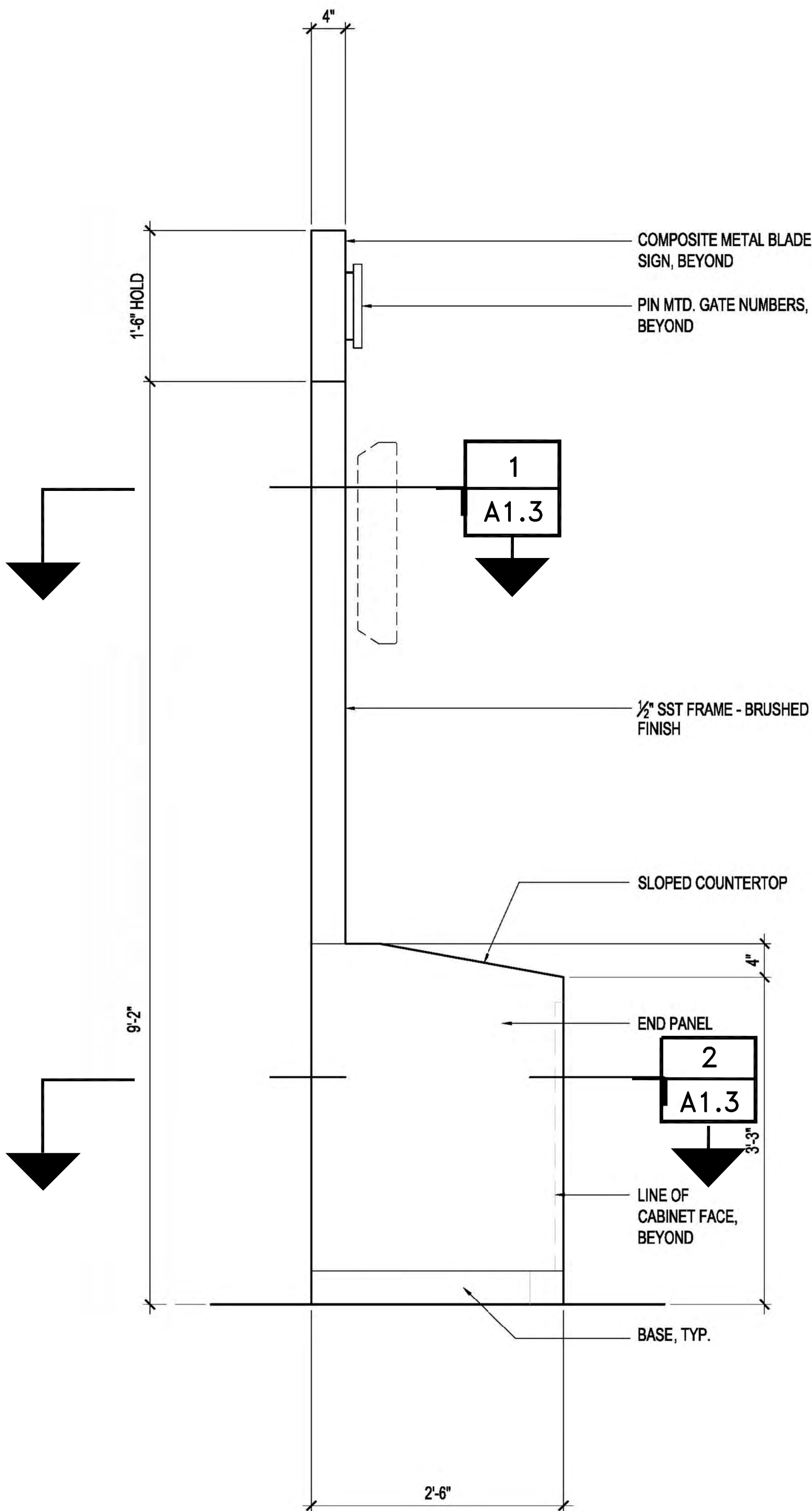
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A1.3

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D



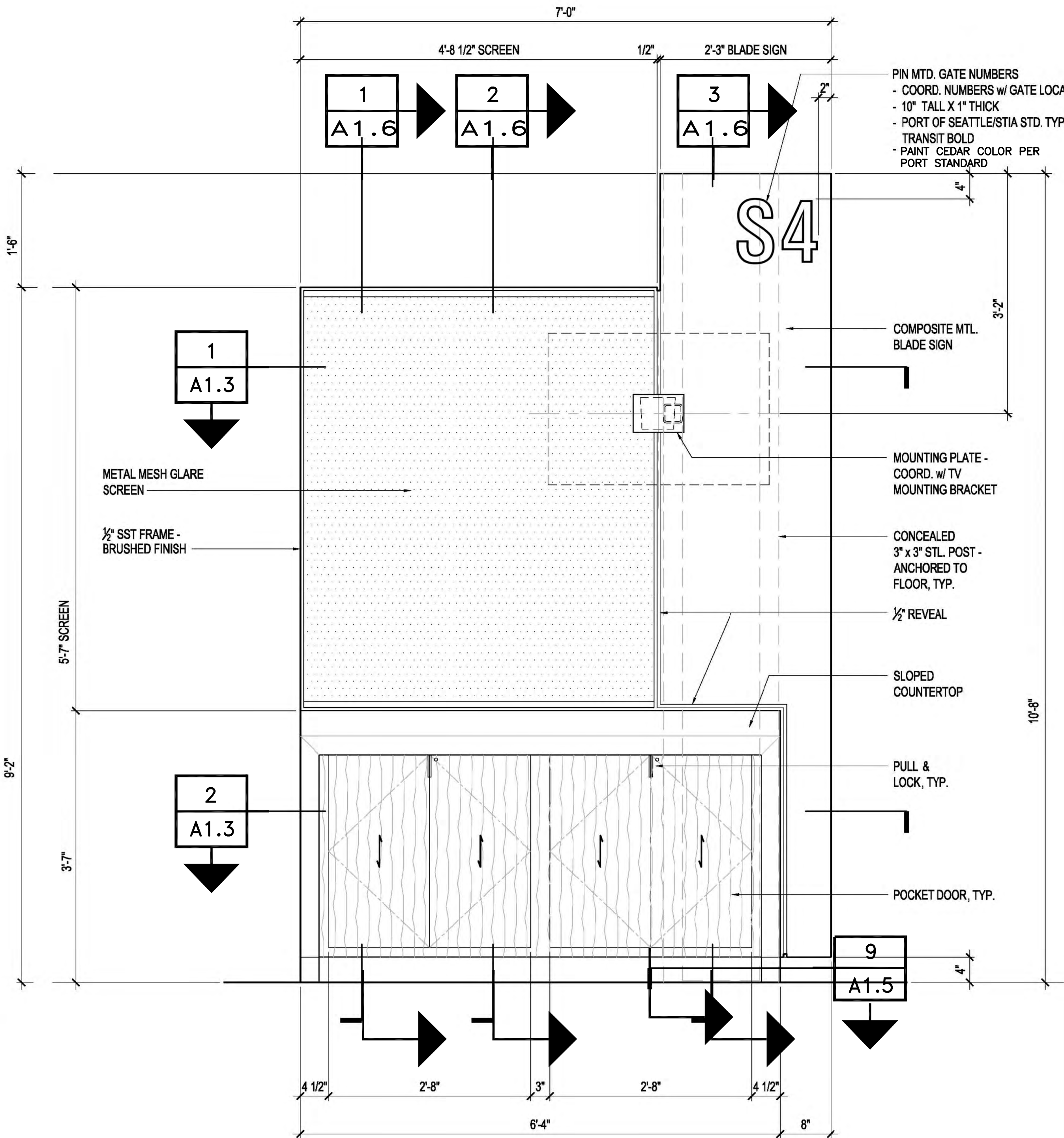
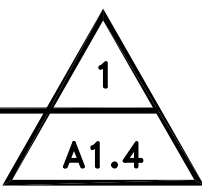
GENERAL NOTES

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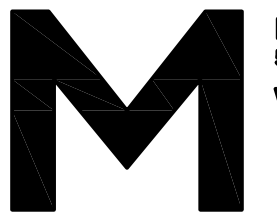
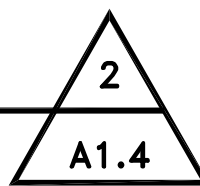
ELEVATION

BACKSTAND  
SCALE: 1" = 1'-0"



ELEVATION

BACKSTAND  
SCALE: 1" = 1'-0"



Portland  
503.224.9990  
www.mckenzie.com

Vancouver  
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Seattle  
206.748.9993

Architecture Interiors  
Planning Engineering

MCKENZIE

PROJECT ENG./ARCH:  
BRETT HANSON

DESIGNER:

DRAWN BY:  
TCU

SCALE:  
AS SHOWN

DATE:

CHECKED BY:

CHECKED/APPROVED BY:

REVISIONS									
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.

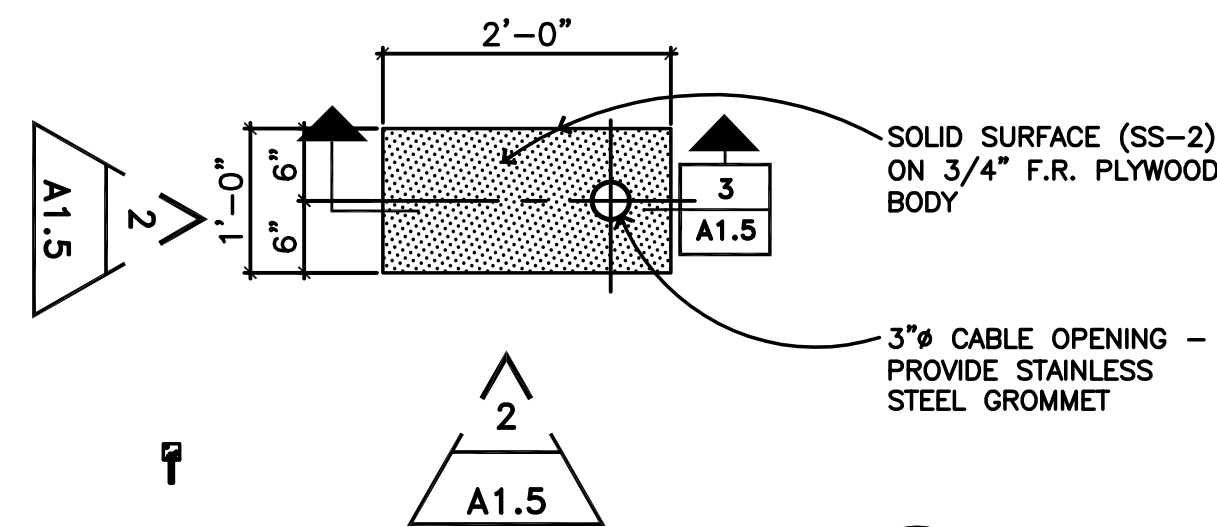
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PORT OF SEATTLE NO.  
A1.4

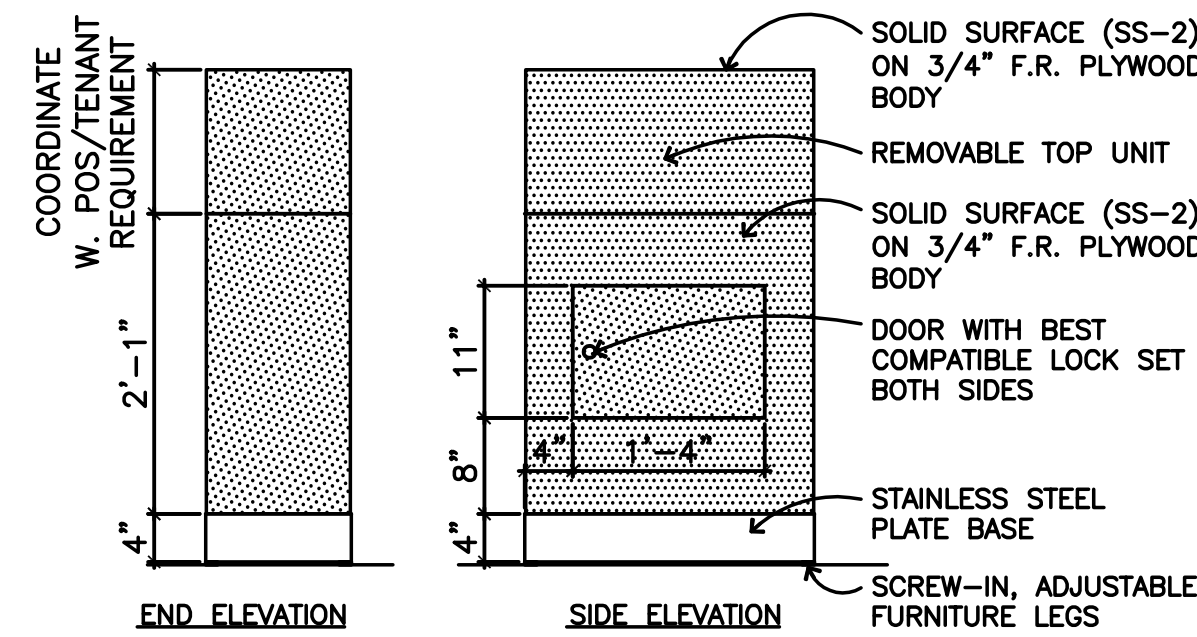


GENERAL NOTES

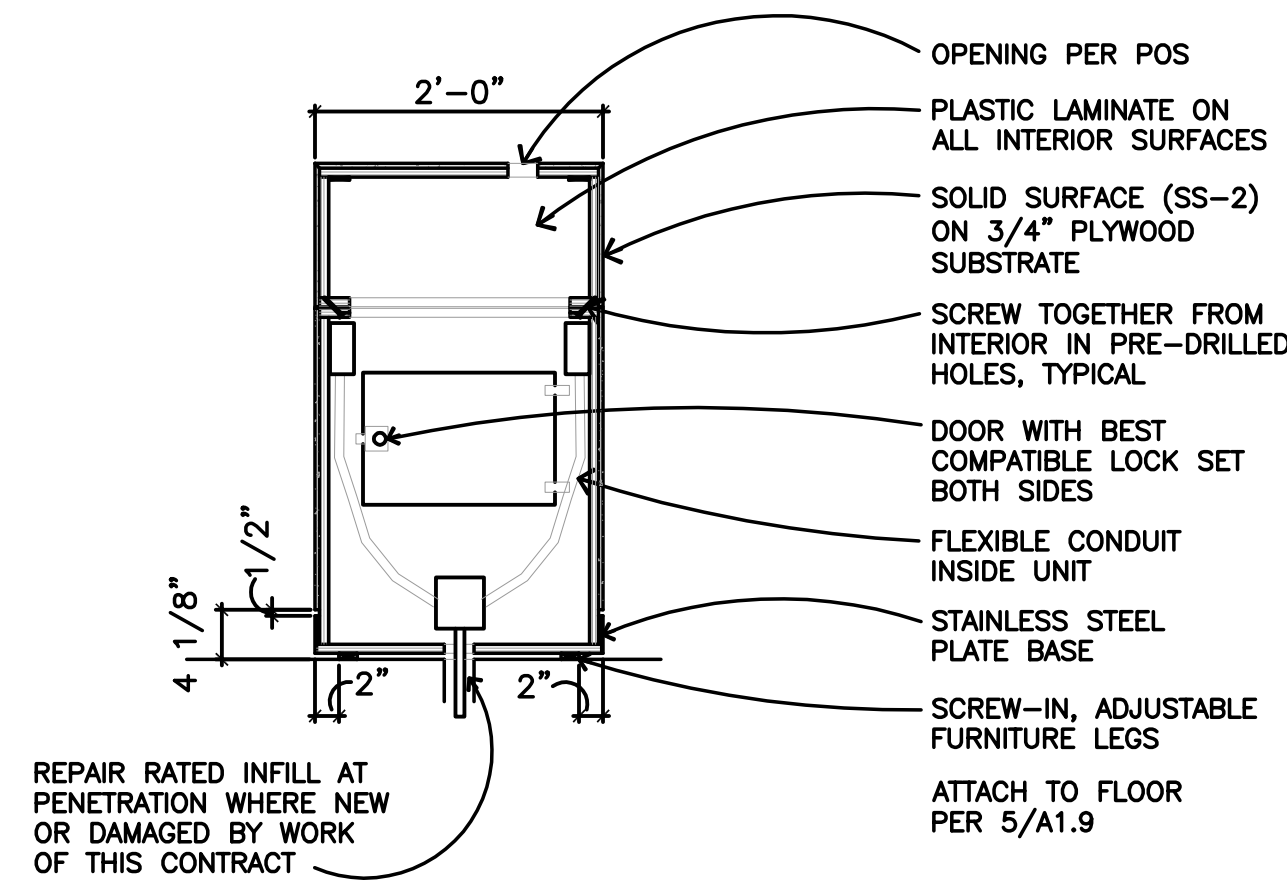
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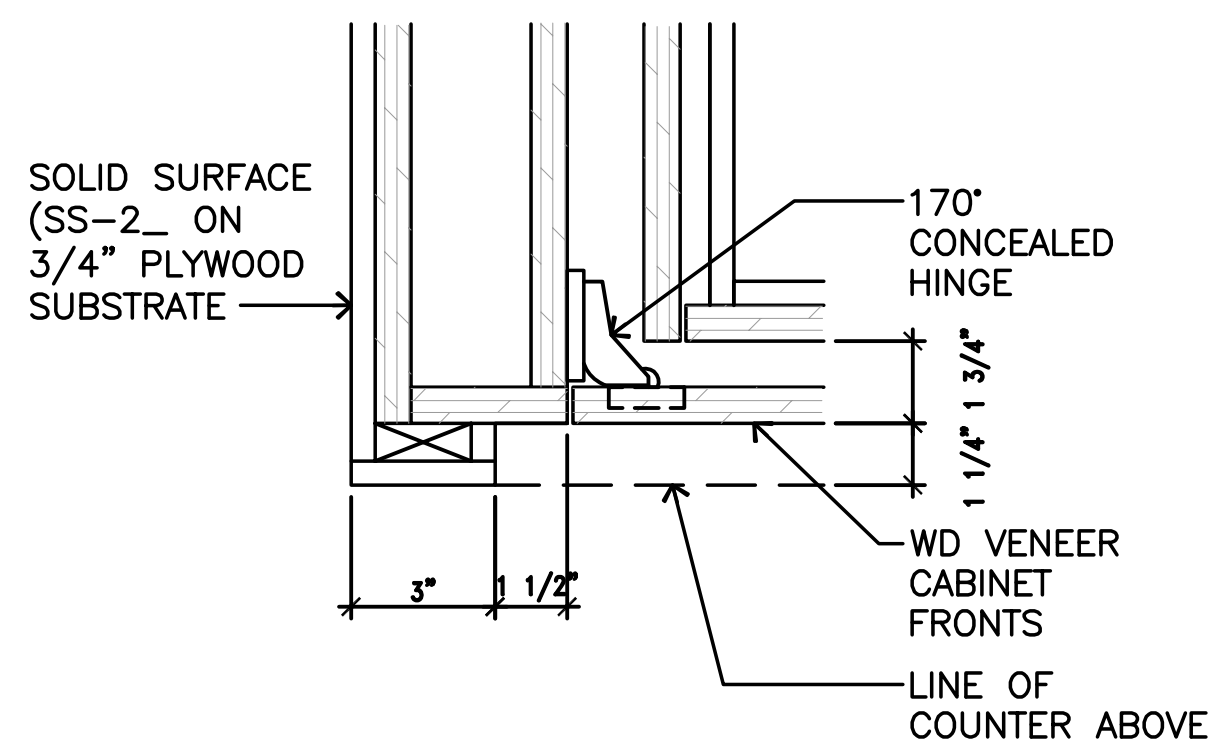
**DETAIL**  
BOARDING GATE READER STAND  
SCALE: 3/4" = 1'-0"



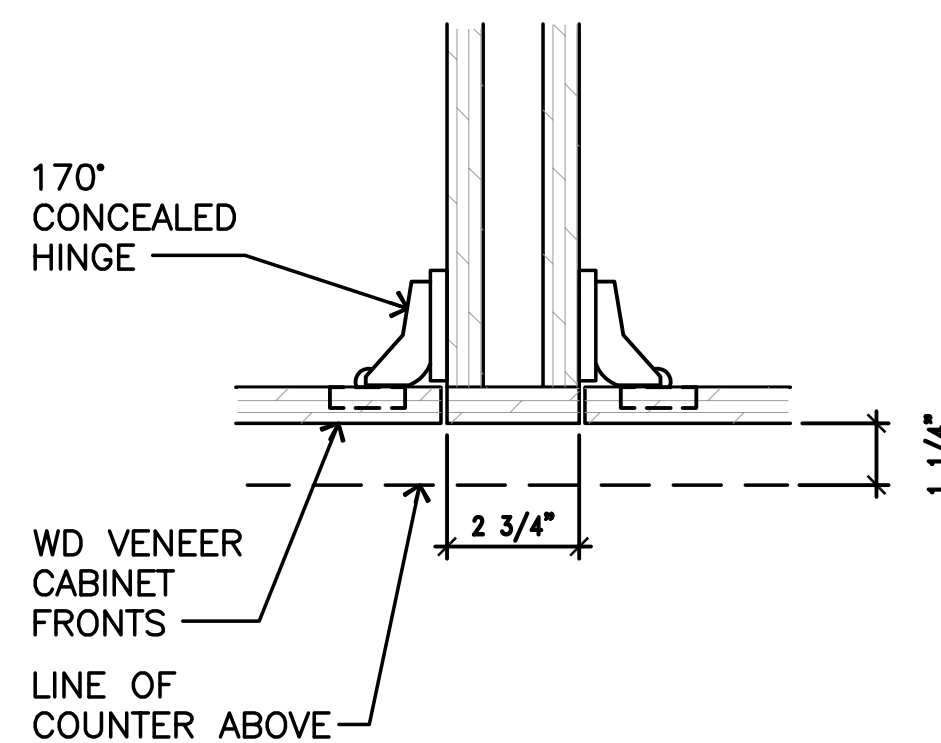
**ELEVATION**  
BOARDING GATE READER STAND  
SCALE: 3/4" = 1'-0"



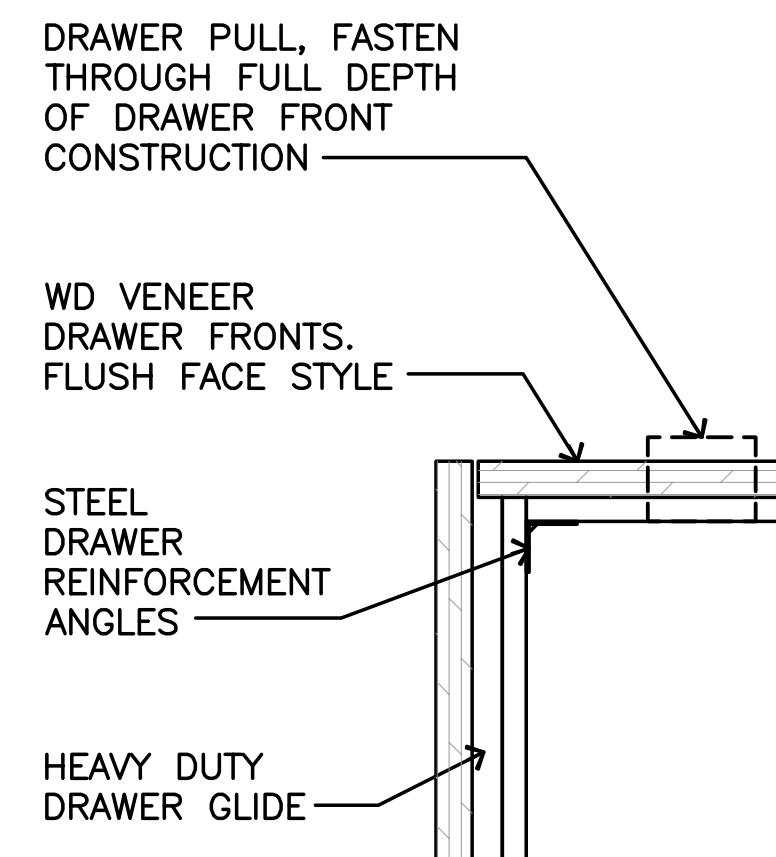
**DETAIL**  
BOARDING GATE READER STAND  
SCALE: 3/4" = 1'-0"



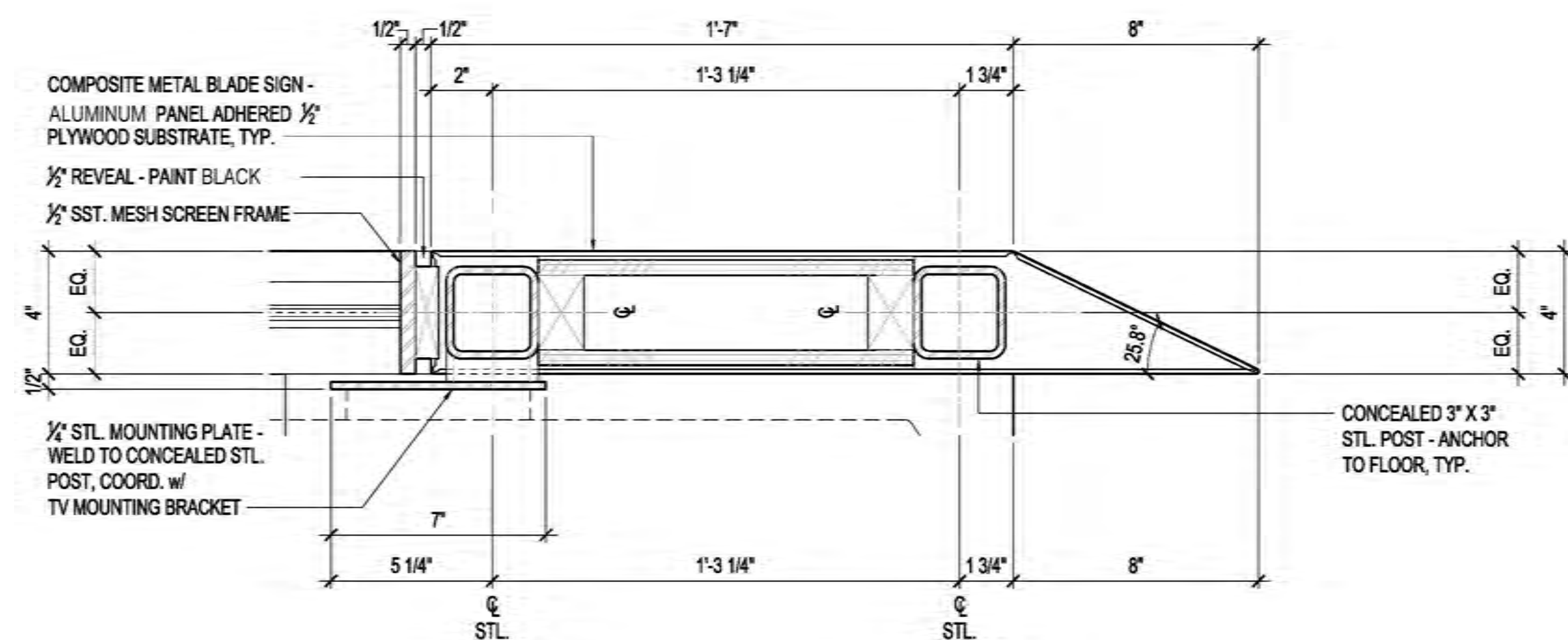
**DETAIL**  
BACKSTAND  
SCALE: 3" = 1'-0"



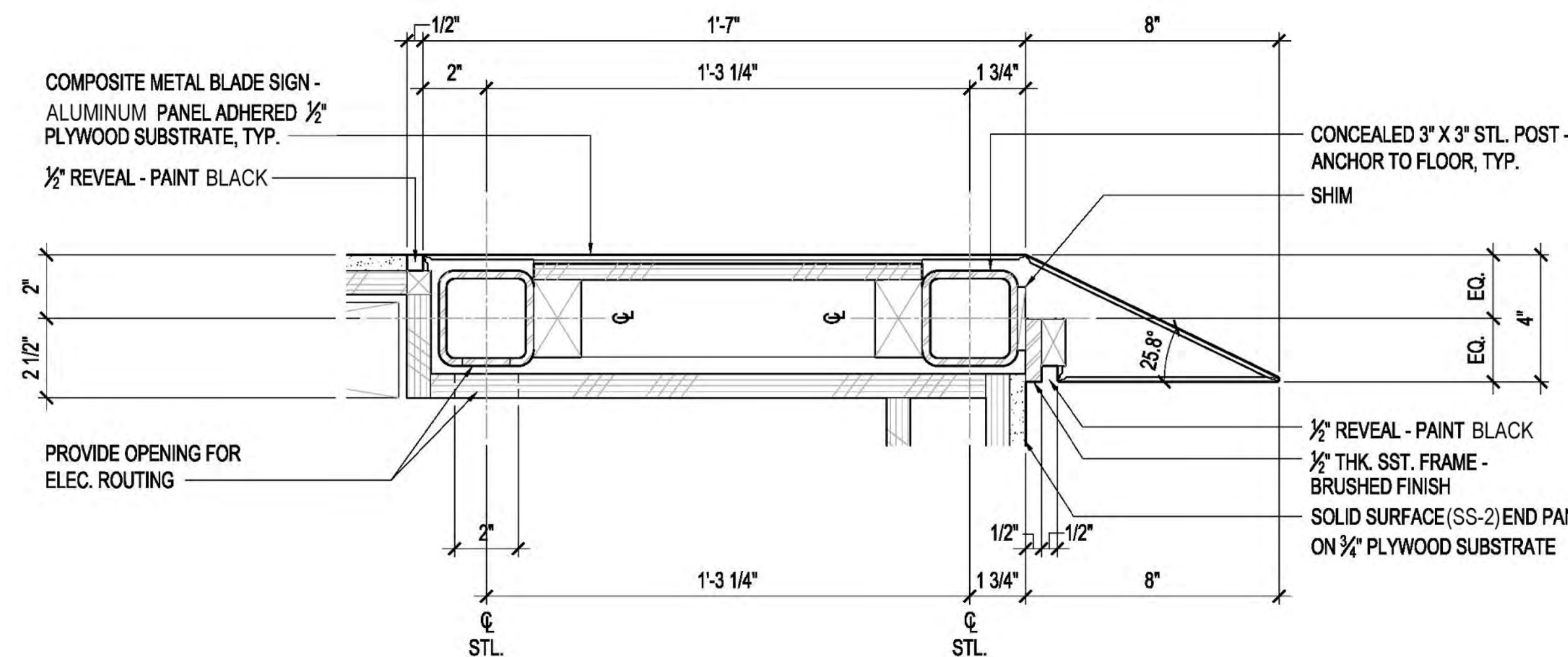
**DETAIL**  
BACKSTAND  
SCALE: 3" = 1'-0"



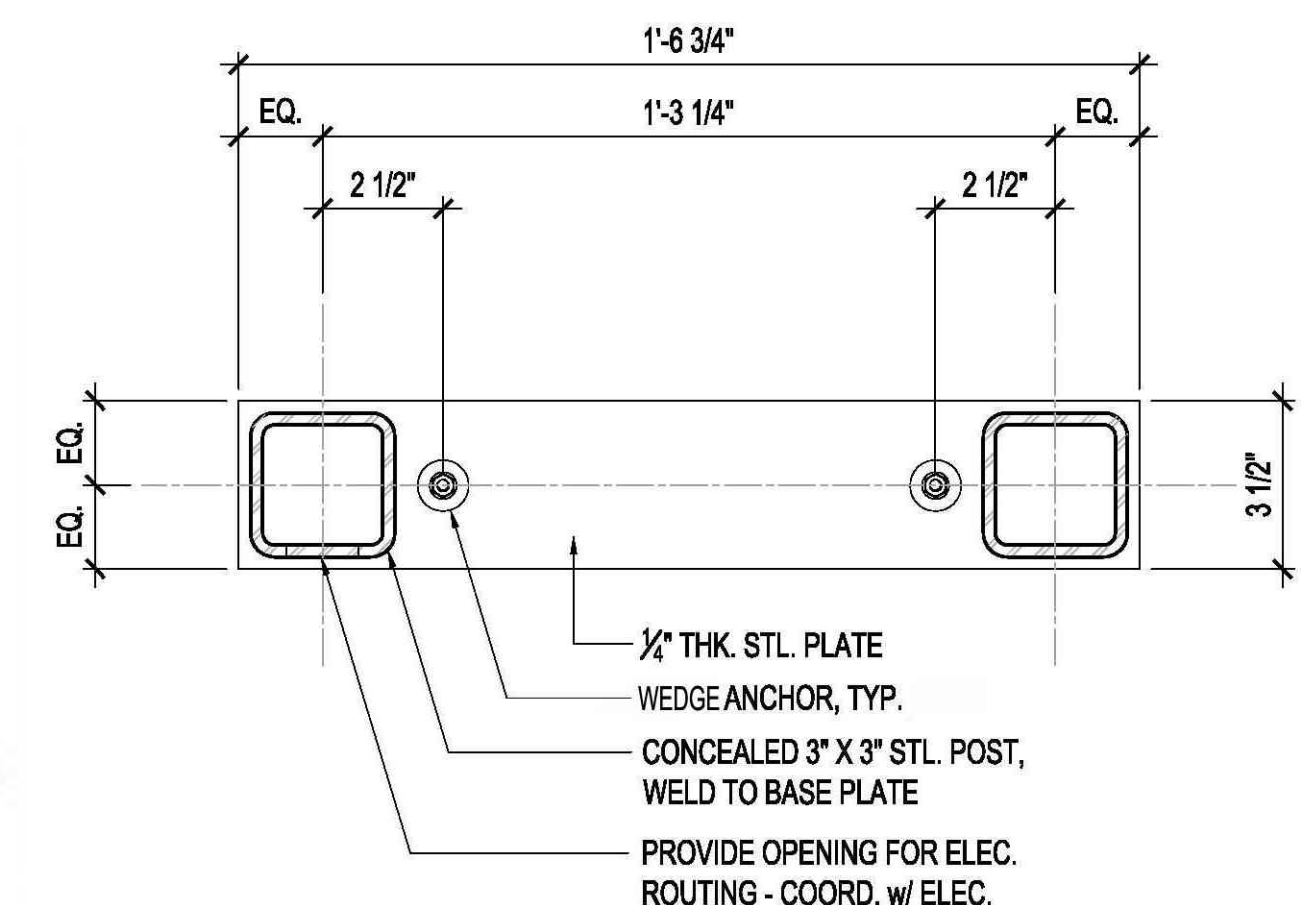
**DETAIL**  
DRAWER  
SCALE: 3" = 1'-0"



**DETAIL**  
BACKSTAND  
SCALE: 3" = 1'-0"



**DETAIL**  
BACKSTAND  
SCALE: 3" = 1'-0"



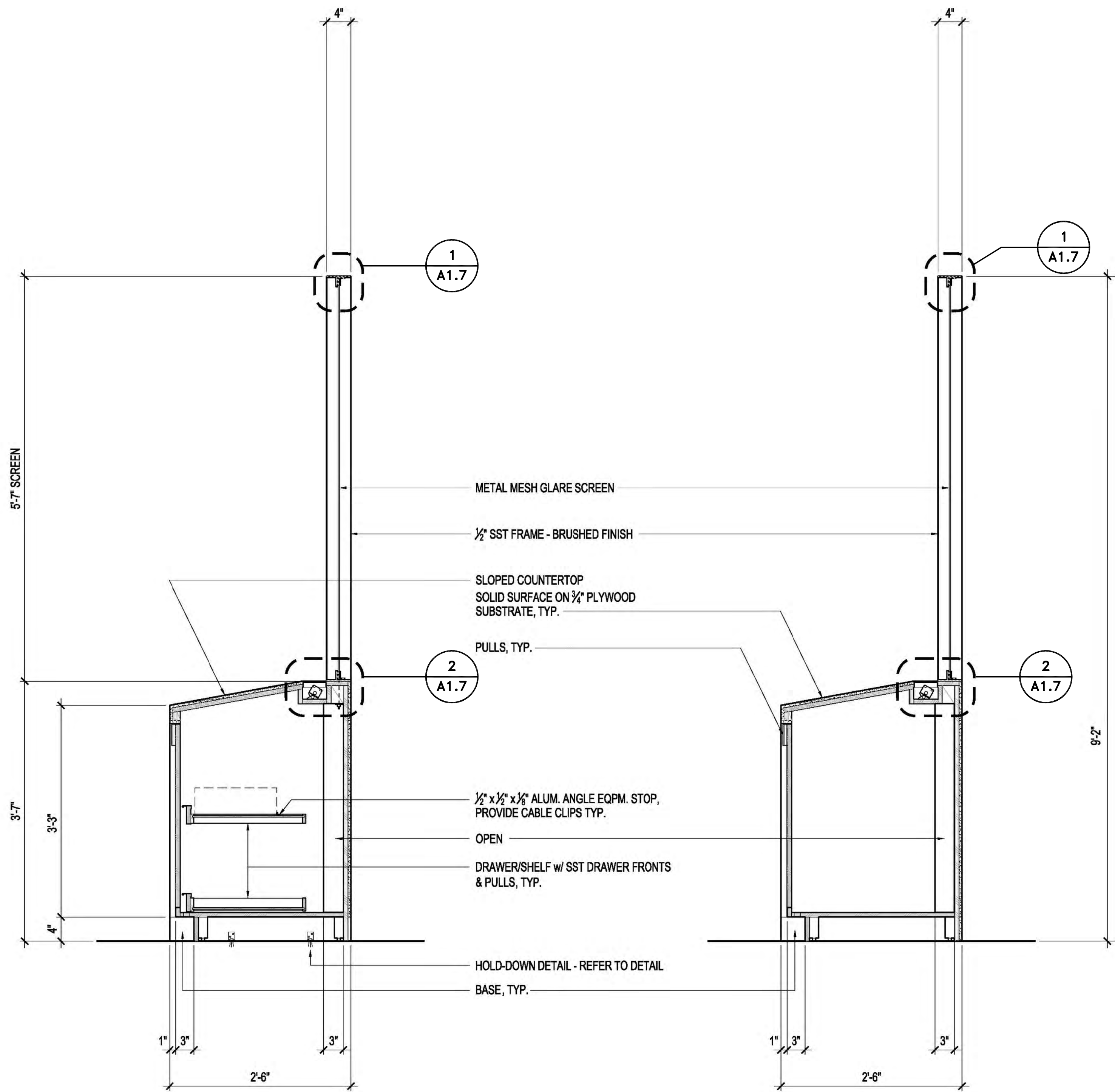
**DETAIL**  
BACKSTAND  
SCALE: 3" = 1'-0"

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D



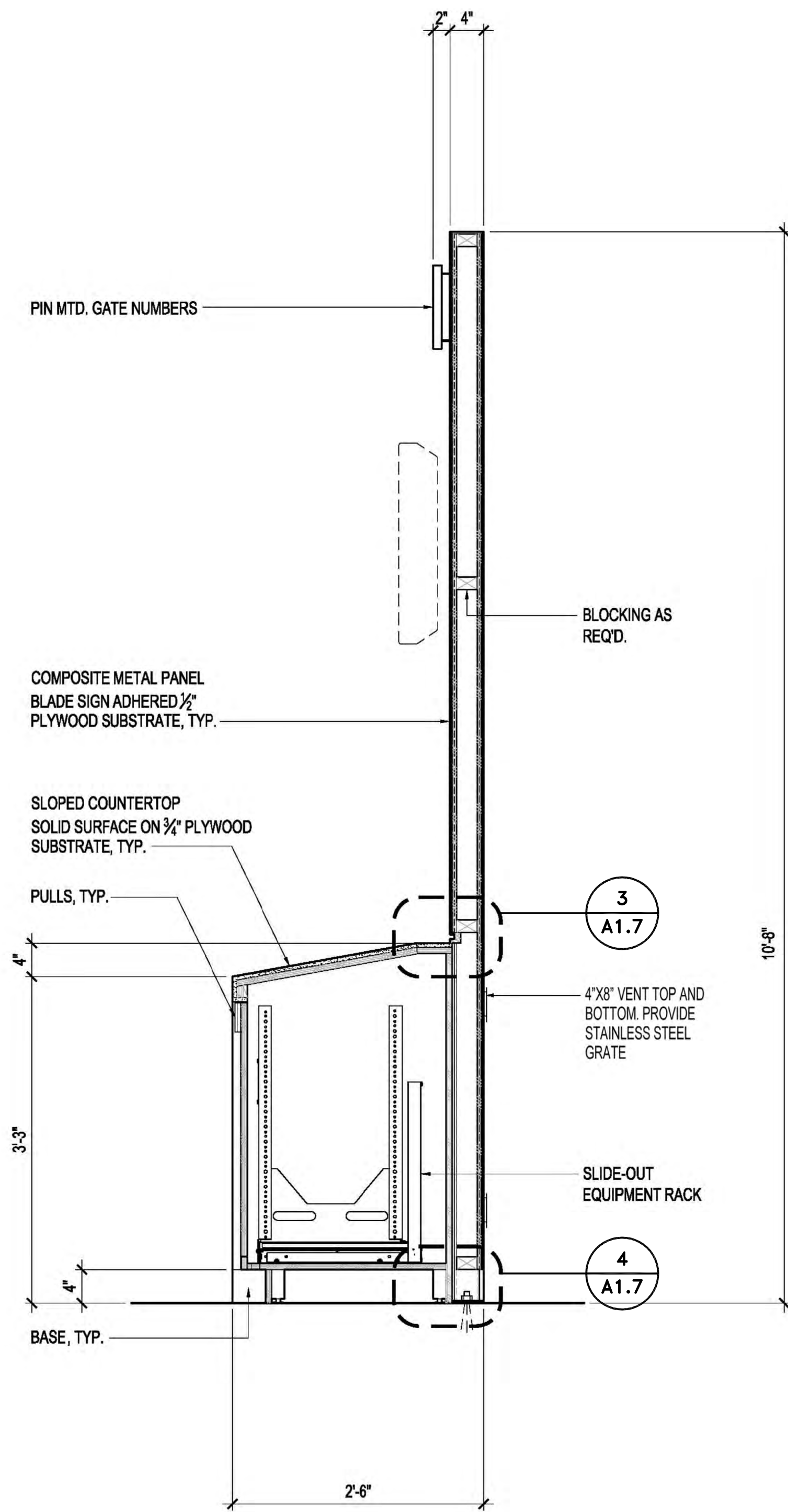
GENERAL NOTES

- CONTRACTORS:
- G.C. TO CONFIRM AND COORDINATE ALL EQUIPMENT SIZES, CLEARANCES AND ACCESS REQUIREMENTS PRIOR TO FABRICATION.
  - 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.



SECTION 1  
BACKSTAND  
SCALE: 1" = 1'-0"

SECTION 2  
BACKSTAND  
SCALE: 1" = 1'-0"



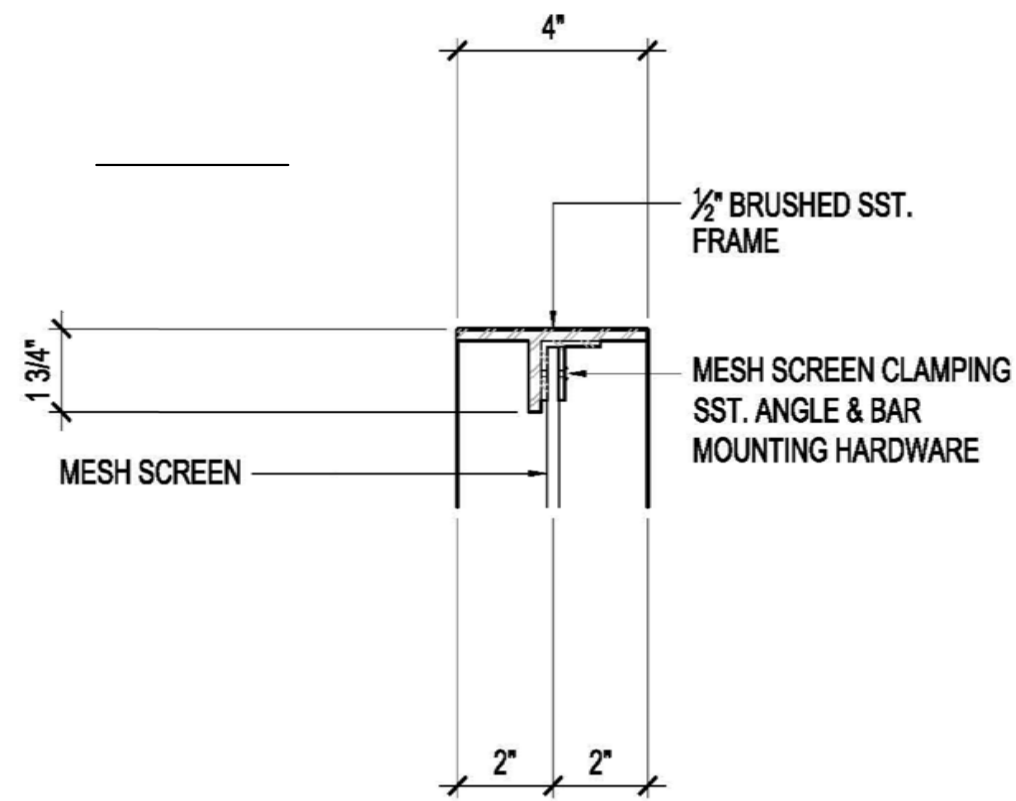
SECTION 3  
BACKSTAND  
SCALE: 1" = 1'-0"

R E V I S I O N S									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

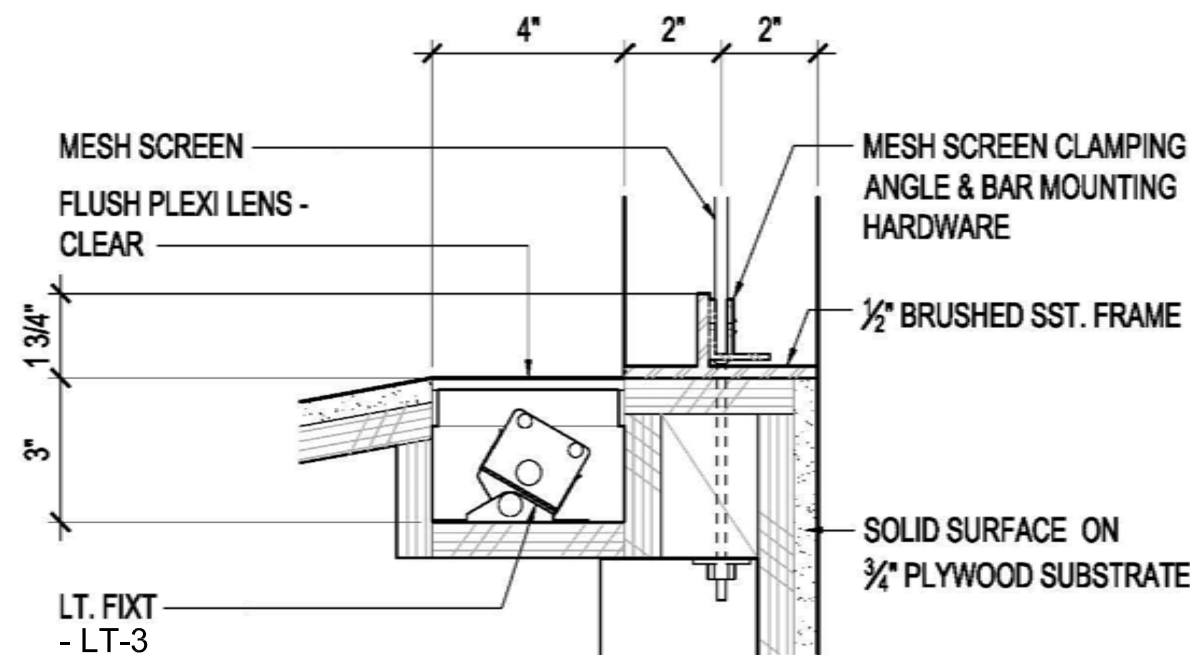


GENERAL NOTES

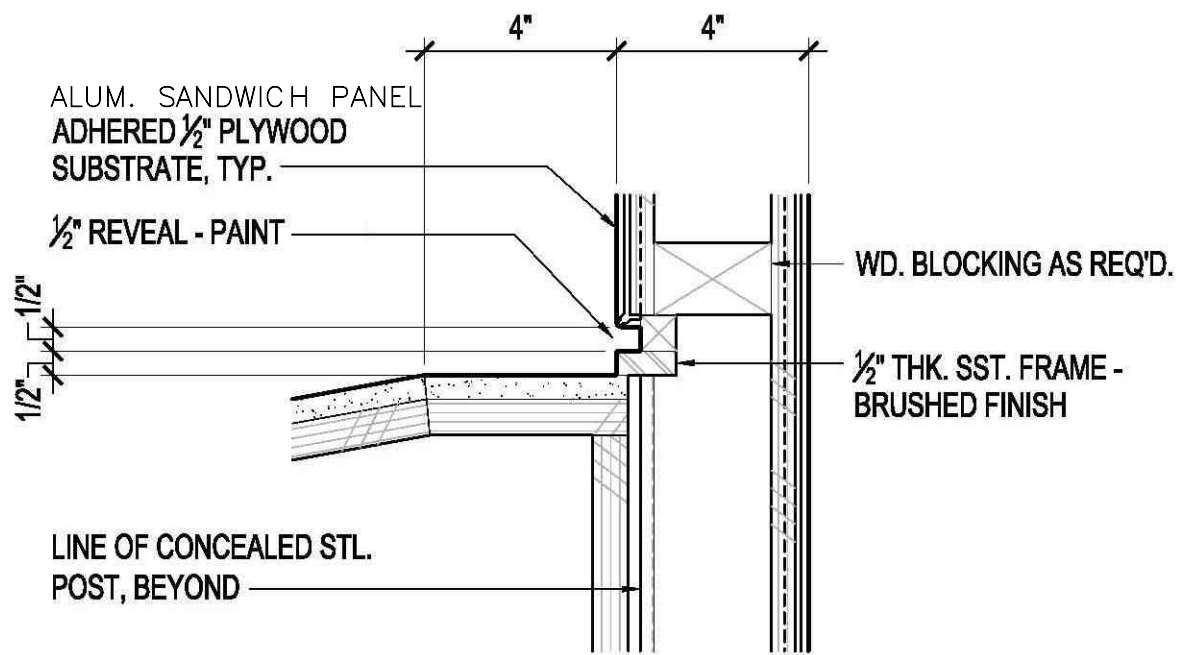
- CONTRACTORS:
1. G.C. TO CONFIRM AND COORDINATE ALL EQUIPMENT SIZES, CLEARANCES AND ACCESS REQUIREMENTS PRIOR TO FABRICATION.
  2. REFER TO FLOOR PLAN FOR GATE CHECK-IN COUNTER/BGR STAND ORIENTATION.
  3. ALL CASEWORK SHALL BE CONSTRUCTED OF FIRE RESISTANT TREATED PLYWOOD WITH ALL SURFACES COVERED WITH PLASTIC LAMINATE OR SOLID SURFACE MATERIAL MEETING CLASS B OR HIGHER WHEN TESTED IN ACCORDANCE WITH ASTM E84.
  4. BOLT CASEWORK TO FLOOR PER DETAIL 5/A1.7
  5. REFER TO SPECIFICATIONS FOR FINISH MATERIAL REQUIREMENTS.
  6. U.N.O. WELD ALL NON-EXPOSED JOINTS PER NOMMA FINISH #2 STANDARD.
  7. ALL EXPOSED STEEL TO BE STAINLESS NON-DIRECTIONAL FINISH.
  8. U.N.O. WELD ALL EXPOSED JOINTS PER NOMMA FINISH #1 STANDARD.



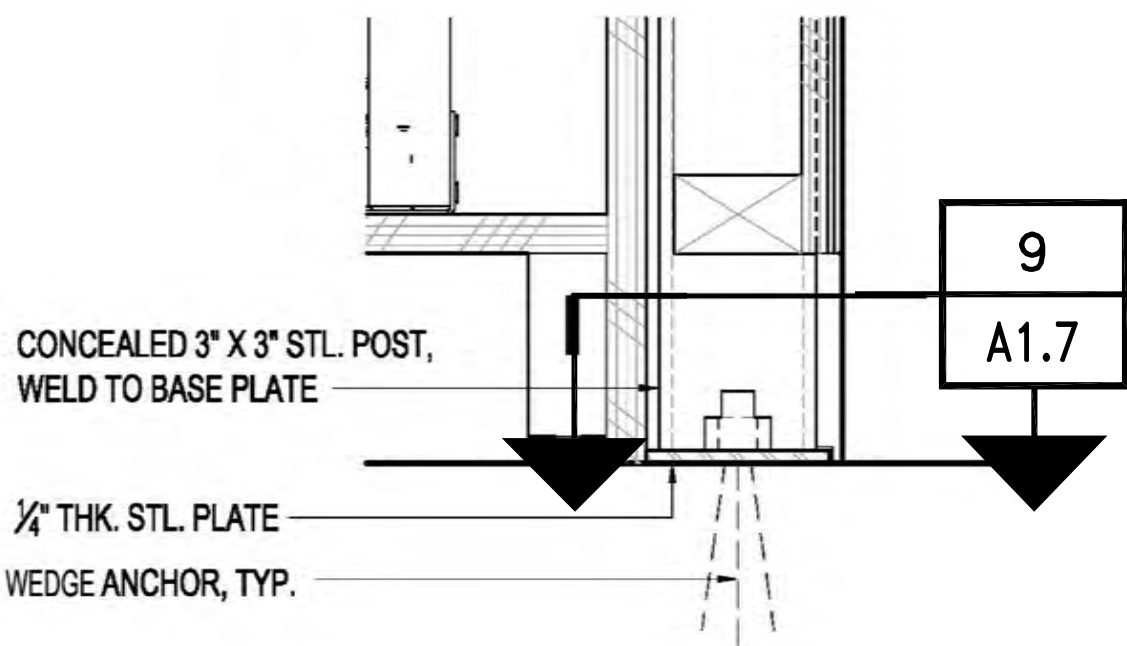
DETAIL 1  
BACKSTAND  
SCALE: 3" = 1'-0"



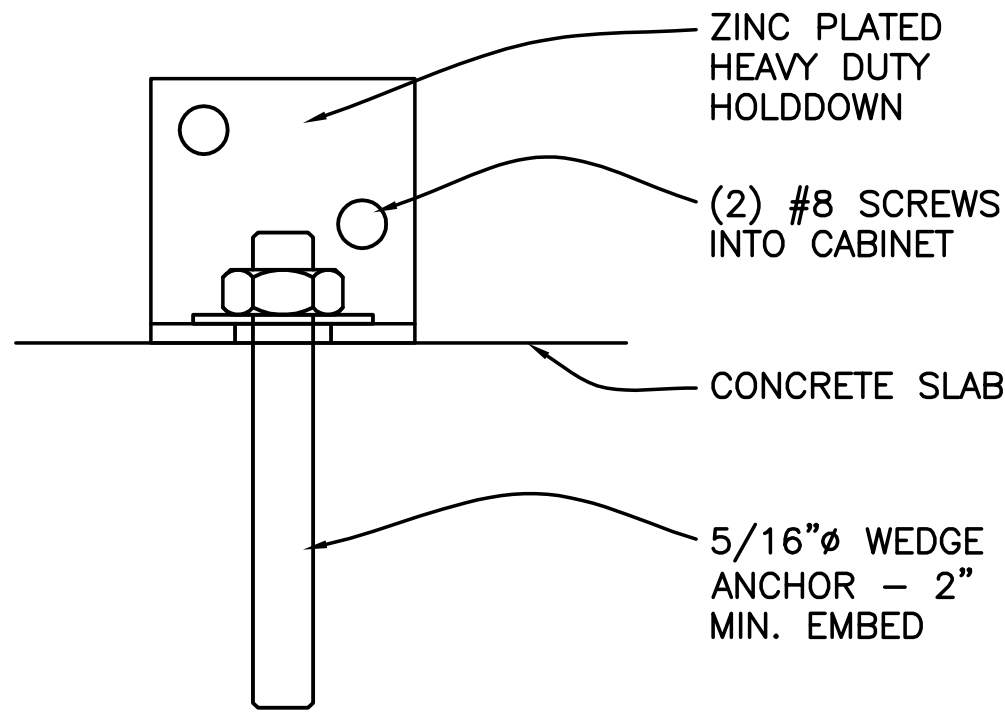
DETAIL 2  
BACKSTAND  
SCALE: 3" = 1'-0"



DETAIL 3  
BACKSTAND  
SCALE: 3" = 1'-0"



DETAIL 4  
BACKSTAND  
SCALE: 3" = 1'-0"



DETAIL 5  
CASEWORK HOLD DOWN  
SCALE: FULL

R E V I S I O N S									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D



Front View



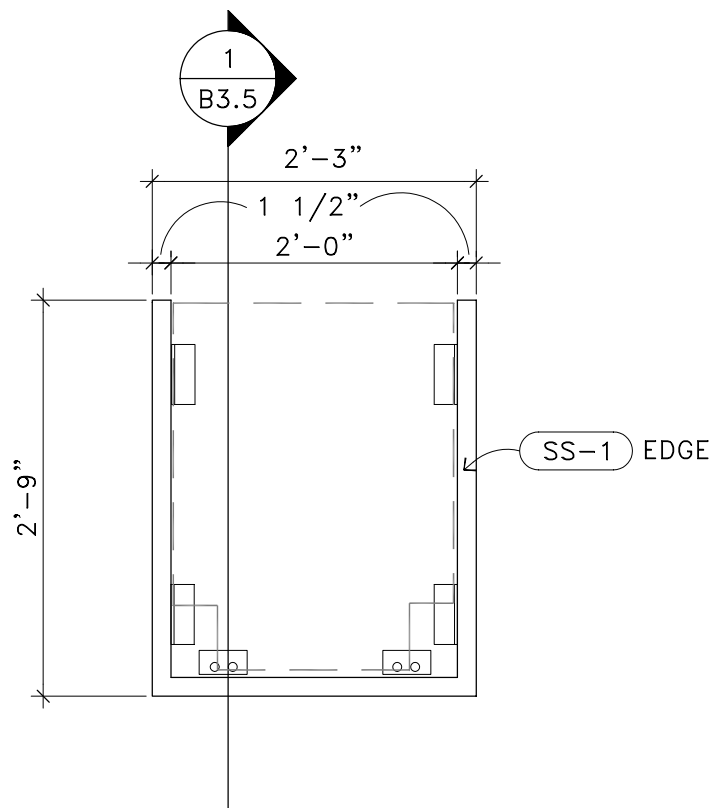
Rear View

RENDERED ILLUSTRATIONS

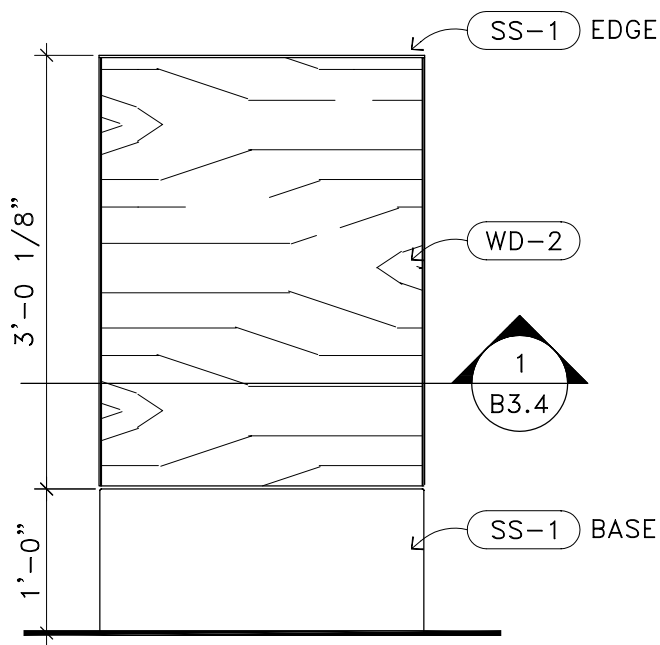
WD-2 MAPLE WOOD VENEER WITH POLANE 'T' SYSTEM "NATURAL", TEXTURED MATTE FINISH, STAINED TO MATCH 'CEDAR' COLOR – SEE B2.2

SS-1 STAINLESS STEEL, NON-DIRECTIONAL, 18 GA., 100 GRIT.

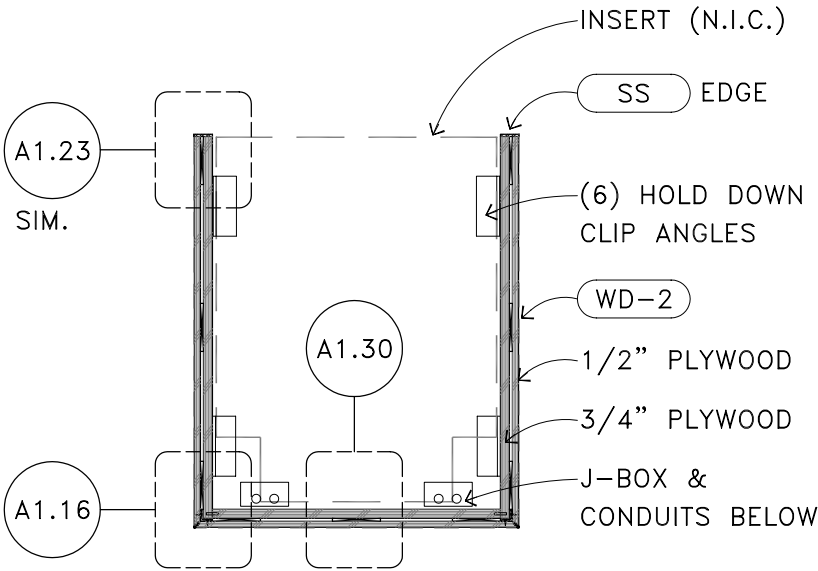
- NOTES:
1. PROVIDE 1/8" RADIUS AT ALL STAINLESS STEEL CORNERS.
  2. EASE ALL STAINLESS STEEL EDGES.
  3. MECHANICALLY ATTACH ALL STAINLESS STEEL EDGES. NO VISUALLY EXPOSED SCREW HEADS OR ATTACHMENT ALLOWED.
  4. PLYWOOD TO BE 7 VENEER, PREMIUM GRADE.
  5. ALL CONCEALED OR VISUALLY NON-EXPOSED SURFACES SHALL HAVE MELAMINE (LOW PRESSURE LAMINATE) FINISHED SURFACE.
  6. ALL ACCESS OPENING EDGES TO BE FACED W/ PLASTIC LAMINATE TO MATCH PANEL FACE.



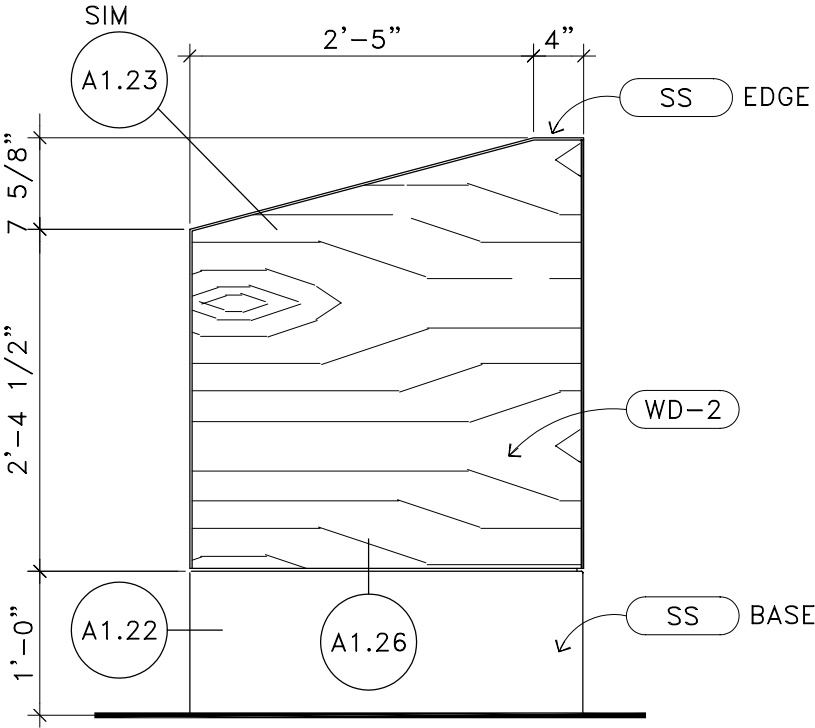
PLAN VIEW



ELEVATION

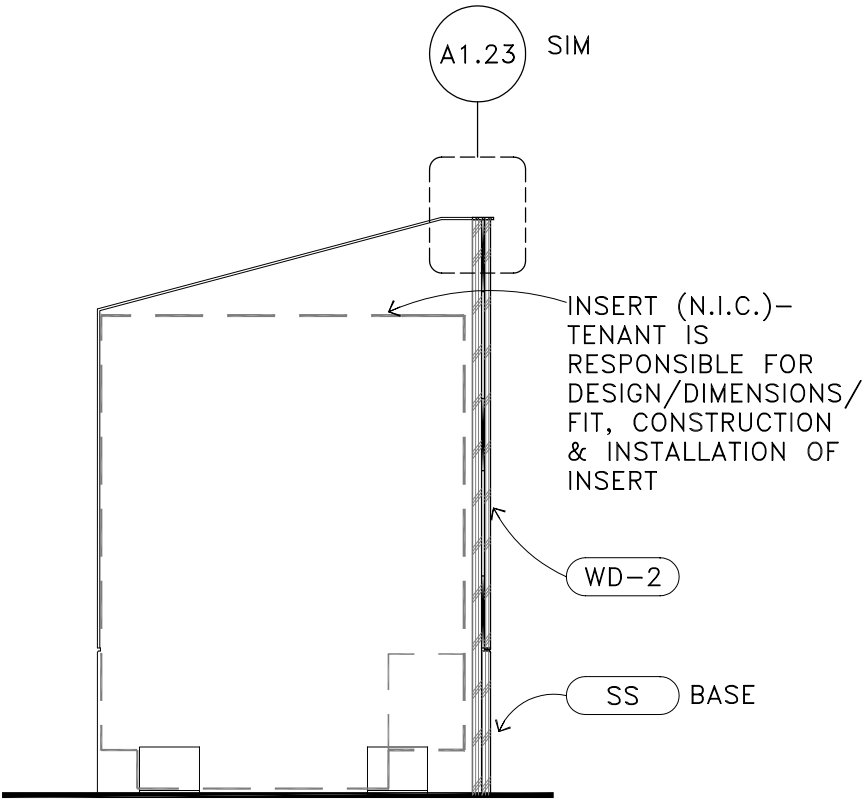


PLAN VIEW SECTION

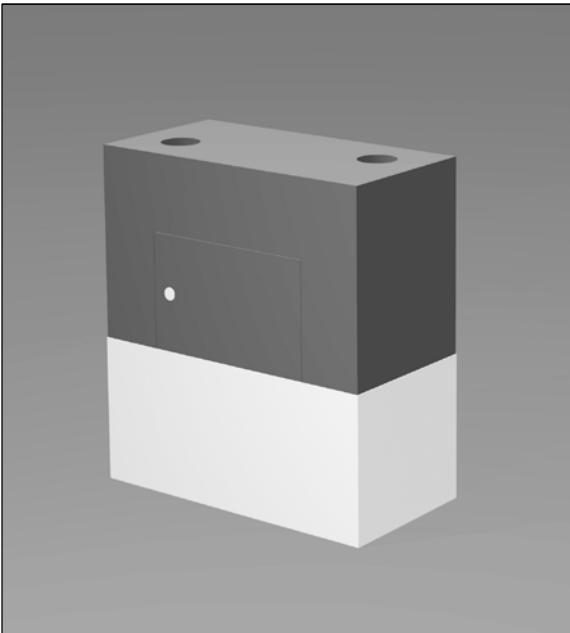


SIDE ELEVATION

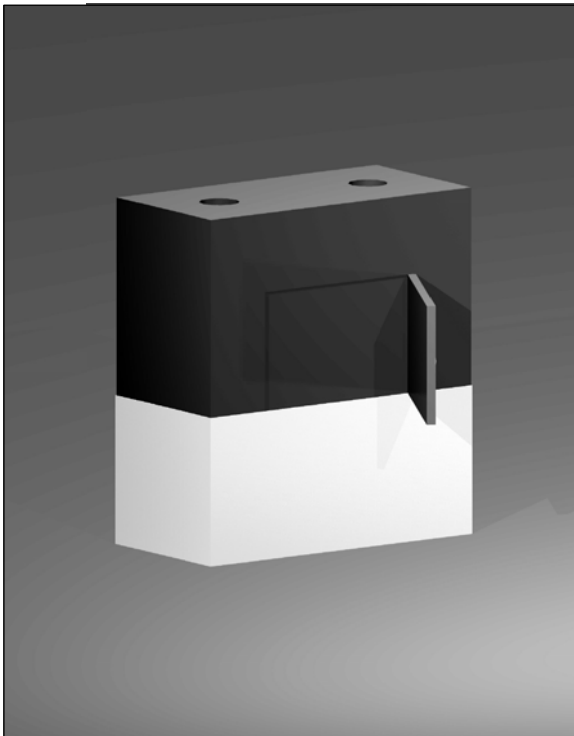




FULL SHELL SECTION



Front View

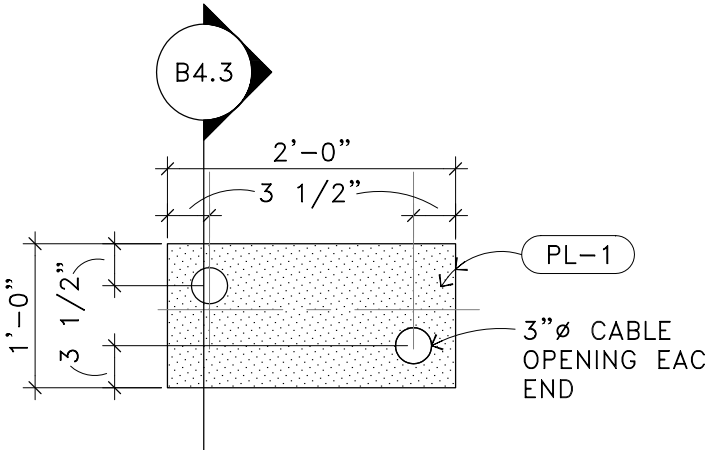


Front View (Door Open)

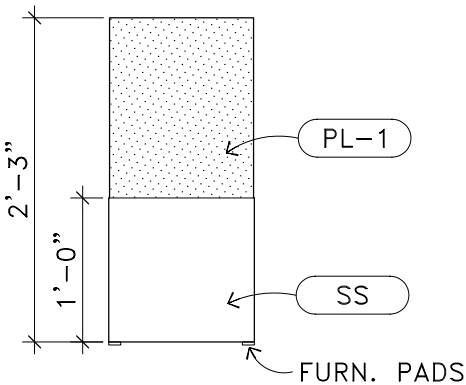
RENDERED ILLUSTRATIONS

- PL-1 ARPA # 565 'CARBON GREY', MATTE FINISH
- SS STAINLESS STEEL, NON-DIRECTIONAL, 18GA., 100 GRIT
- LOCK OLYMPUS #100DR

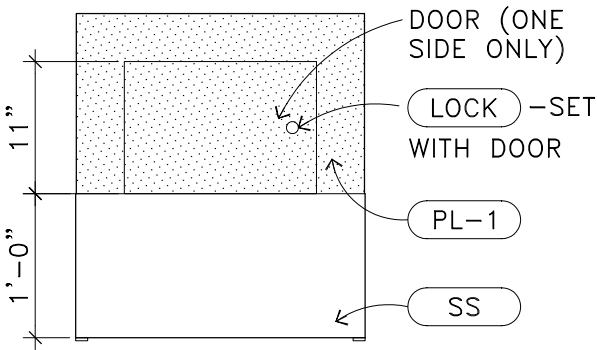
FURN.  
PADS: NAIL-ON FURNITURE GLIDES



Plan View

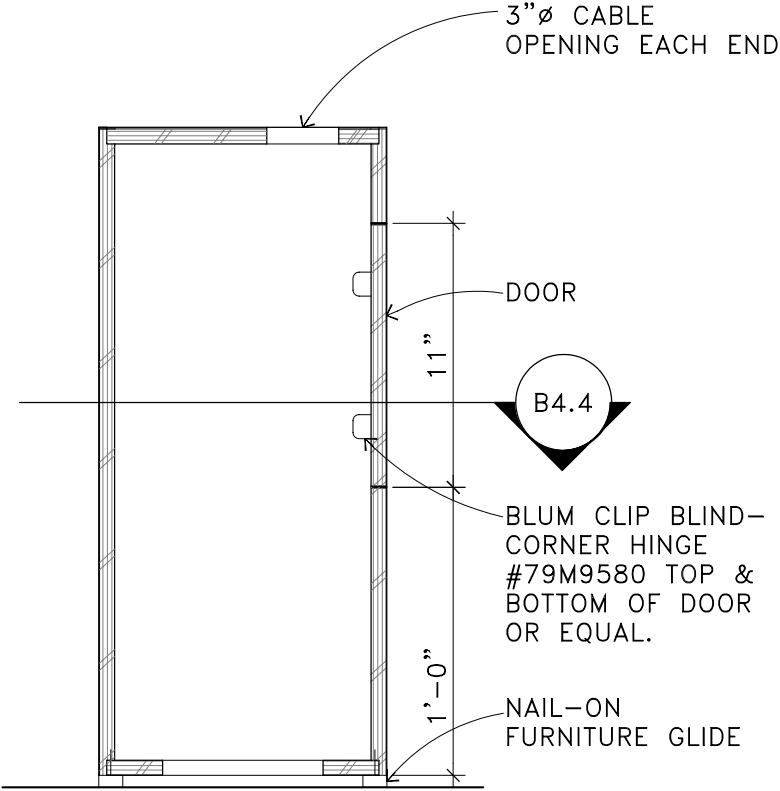


End Elevation

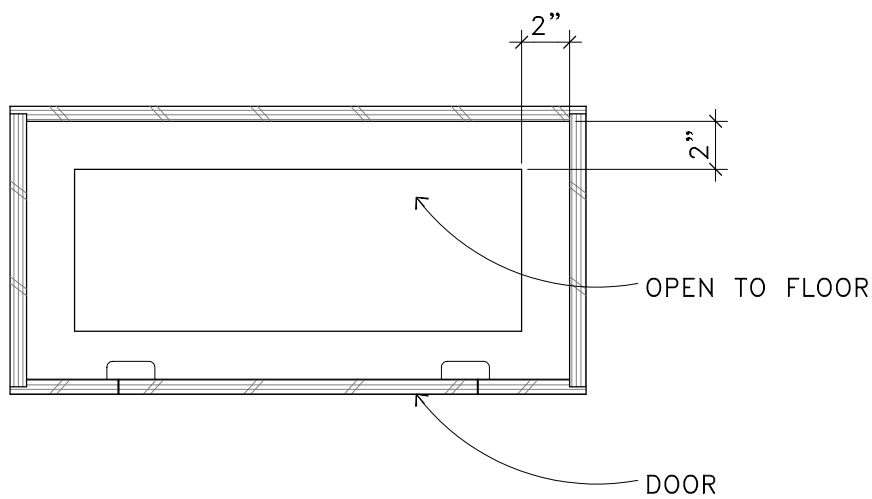


Side Elevation

PLAN AND ELEVATION VIEWS



FULL UNIT SECTION



HORIZONTAL SECTION