Chapter 400 Passenger Buildings

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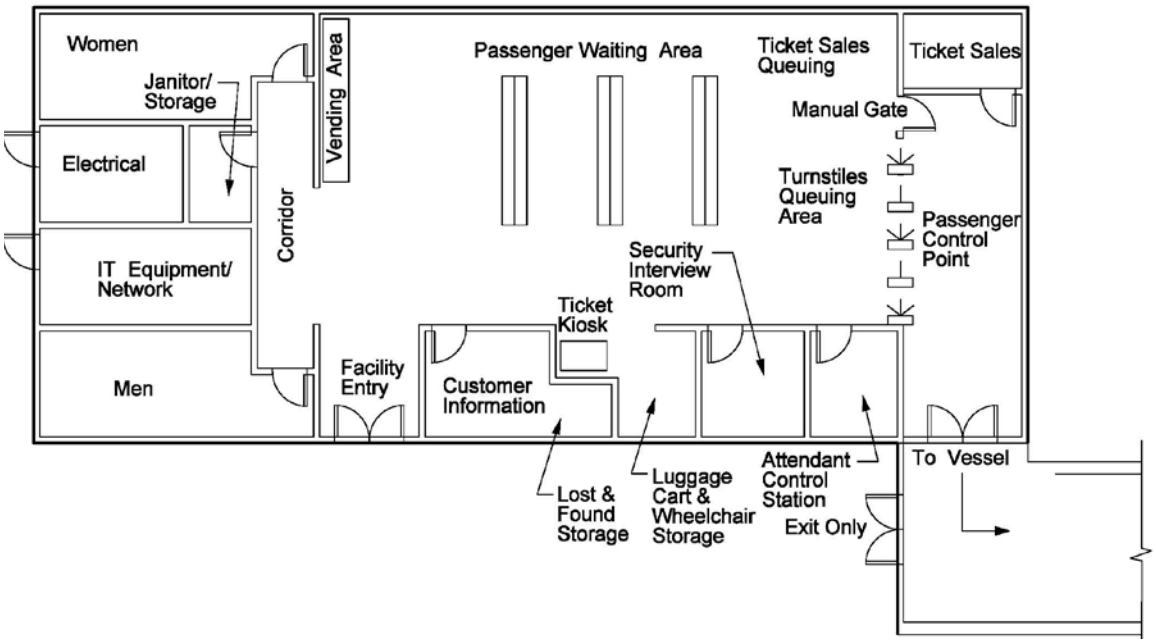
400.01 General

Clinton Ferry Terminal Passenger Building
Exhibit 400-1

This chapter identifies the spaces associated with passenger functions and provides guidance for the design of new and remodeled terminal facilities. Refer to Exhibit 210-3 for more information on design elements that apply to rehabilitation/remodel projects and replacement projects. Note that not all building spaces described in this chapter are required at each terminal. Refer to Appendix S for a list of existing and anticipated future building spaces by terminal.

Exhibit 400-2 gives an example layout for a passenger building. Actual passenger facility layouts will vary based on specific site features and project needs. As required, building spaces/functions described in other chapters may be accommodated in the passenger building. For example, passenger facilities may be combined with terminal supervisor facilities in a single building. Terminal supervisor building spaces are described in Chapter 430. Maintenance functions may also be included. Refer to Chapter 440 for a description of maintenance building spaces.



Example Passenger Building Layout
Exhibit 400-2

For additional information, see the following chapters:

Chapter	Subject
300	Accessibility
310	Security
320	Environmental Considerations
350	Buildings
360	Electrical
410	Circulation and Passenger Waiting
420	Passenger Amenities, Business Case
430	Terminal Supervisor Buildings
440	Maintenance Buildings, Enclosures and Support Areas
450	Architecture
470	Public Art
550	Site Circulation
560	Site Utilities

400.02 References

Unless otherwise noted, any code, standard, or other publication referenced herein refers to the latest edition of said document.

(1) Federal/State Laws and Codes

International Building Code (IBC), International Code Council, Washington D.C.

(2) Design Guidance

Enterprise Services Sizing Criteria

Enterprise Services Standard Plans

Pedestrian Planning and Design (1971), John Fruin, Metropolitan Association of Urban Designers and Environmental Planners, New York, NY.

WSDOT Facilities Office Standard Plans

(3) Supporting Information

Colman Dock Seattle Ferry Terminal Level of Service Determinations Existing Terminal Facilities (1998), prepared by Arai/Jackson for WSF, Seattle, WA.

Mukilteo Multimodal Terminal Master Plan Design Report (2004), Ferries Division, Washington State Department of Transportation, Seattle, WA.

400.03 Design Considerations

(1) Accessibility

Wherever pedestrian facilities are intended to be a part of a transportation facility, 28 CFR Part 35 requires that those pedestrian facilities meet ADA guidelines. Federal regulations require that all new construction, reconstruction, or alteration of existing transportation facilities be designed and constructed to be accessible and useable by those with disabilities and that existing facilities be retrofitted to be accessible. Design pedestrian facilities to accommodate all types of pedestrians, including children, adults, the elderly, and persons with mobility, sensory, or cognitive disabilities. Refer to Chapter 300 for accessibility requirements.

(2) Security

Chapter 310 includes a general discussion of the United States Coast Guard (USCG) three-tiered system of Maritime Security (MARSEC) levels, vessel security requirements, and additional information pertaining to passenger building design. Below are links to relevant sections by topic. Coordinate with the WSF Company Security Officer (CSO) regarding design issues pertaining to security. In addition, coordinate with the USCG and Maritime Security for all terminals, the United States Customs and Border Protection (USCBP) for international terminals, and the Transportation Security Administration (TSA) for TWIC and SSI.

- MARSEC Levels: 310.04
- Passenger Security Screening Area: 310.06
- Access Control/Restricted Areas/TWIC: 310.10
- Signage: 310.13
- Sensitive Security Information (SSI): 310.14

(3) Environmental Considerations

Refer to Chapter 320 for general environmental requirements and design guidance. Refer to the project NEPA/SEPA documentation for project-specific environmental impacts and mitigation. For projects that involve remodeling and renovation of existing buildings, consider the need for assessment of lead paints, asbestos and other hazardous materials.

(4) Buildings

Refer to Chapter 350 for general building design criteria pertaining to new and remodeled passenger buildings. Below are links to relevant sections by topic.

- Building Structures: 350.04
- Building Foundations: 350.05
- Building Utilities: 350.06

(5) Building Architecture

Refer to Chapter 450 for general architectural design criteria pertaining to the passenger building. Below are links to relevant sections by topic.

- Building Code Requirements: 450.04
- Building Permits: 450.05
- WSF Architectural Guidelines: 450.06

(6) Building Displays/Public Art

Refer to Chapter 470 for public art requirements pertaining to passenger buildings. Below are links to relevant section by topic.

- Public Art Requirements: 470.03
- Criteria for Public Art: 470.05

(7) Equipment and Storage Area Locations

When feasible, locate equipment and storage areas in close proximity to their required use. Take under consideration equipment and storage related issues such as access, noise, vibrations, emissions, odor, safety and environmental concerns. Depending on their function, these areas may be located either on land or over-water and may be within a multi-purpose building or standalone enclosure. Storage areas may be combined if they have compatible storage requirements.

400.04 Passenger Building Spaces

Locate the passenger building either on or near the trestle in the vicinity of the slips. Note that there may be environmental permitting challenges associated with placing new buildings on the trestle due to overwater coverage issues. Exhibit 400-3 identifies the building spaces that are typically associated with a passenger building. These spaces are described in more detail in the paragraphs that follow. Information on sizing requirements for these spaces is provided in Appendix S.

WSF passenger buildings are typically one level, but they may be two levels to accommodate site constraints and/or overhead loading. Exhibit 400-3 identifies the preferred level for locating building spaces in two-level passenger buildings.

Building Space	1st Floor[1]	2nd Floor[1]	Comments
Facility Entry		X	Locate near public access point
Customer Information		X	Locate near entry
Passenger Ticket Sales Area & Queuing		X	Separate from kiosk location
EFS Kiosk and Queuing		X	Separate from ticket sales area
Passenger Waiting Area		X	Upstream of control point
Passenger Conveniences		X	Phones, vending, etc.
Passenger Security Screening Area		X	Coordinate with CSO
Lost and Found		X	
Attendant Control Station		X	Locate near the turnstiles
Passenger Control Point		X	Typically at turnstiles
Luggage Cart and Wheelchair Storage		X	
Security Interview Room		X	
Restrooms		X	
Janitor Storage		X	Locate near restrooms
IT Equipment Network Room	X		Secure room
Terminal Electrical Room	X		May be located in TM Bldg[2]
Elevator Machine Room	X		For multi-level buildings
Retail, Concession, and Lease Space	X	X	Optional

[1] Indicates preferred level for multi-level building

[2] TM = Terminal Maintenance

Passenger Building Spaces
Exhibit 400-3

400.05 Circulation, Structure, and Envelope Multipliers

The individual building areas provided in Appendix S do not account for space requirements associated with terminal building circulation corridors, structural columns, and the building envelope (walls). Estimate these space requirements using a 25% multiplier on building spaces associated with the passenger building.

400.06 Facility Entry

Provide passengers with an easily accessible entry into the terminal building. Locate the facility entry for convenient access from the street, parking, pick-up/drop-off areas and other modes of transportation. Design facility entries to comply with ADA accessibility requirements as outlined in Chapter 300 (Accessibility). Refer to Chapter 550 (Site Circulation) for additional considerations.

400.07 Customer Information

Customer information is an essential part of ferry terminal design, especially in terminals with recreational routes. Provide the following areas near the facility entry for customer information.

(1) Customer Information Booth

This space is used for displaying brochures, fliers, public information, travel information, local transit, bus, light rail, and taxi information where applicable. Ferry schedules and information including maps, routes, and destinations may also be displayed. Provide adequate space for floor mounted and wall mounted display racks, a desk, and an attendant. Locate this area upstream from the passenger control point so that it is accessible to the public, preferably near the facility entry.

(2) Certified Folders/Brochures

This space is set aside for contracted vendors for placement and setup of display racks for disseminating informational brochures and maps or other public information. Provide an open area or open enclosure with ample wall space for brochure racks and/or floor standing racks. Locate near the facility entry. Provide accessibility to all information. WSF's Operations Business Development Manager is responsible for coordinating specific terminal requirements with Certified Folder.

Certified Folder Display
Exhibit 400-4

400.08 Ticketing and Queuing

Ticketing and queuing includes all passenger activity related to purchasing ferry tickets and lining up to board the vessel. The following spaces are allocated for ticketing and queuing functions.

(1) Passenger Ticket Sales Area

The passenger ticket sales area is occupied by a qualified employee for the purpose of selling fare media types to the general public. This is a booth or counter area typically located adjacent to the turnstiles. It is used for selling tickets and as an auditing function for the turnstile operations. This area includes the following: one ADA compliant work space; seller drop safe; security view monitor; and counter space to accommodate electronic fare system equipment, cash drawer, and small work area with desk calculator, sailing schedules and information, alerts, and update information.

(2) Electronic Fare System (EFS) Kiosk

The electronic fare system (EFS) kiosk is an automated stand alone device that dispenses pre-paid tickets when payment is made by a credit or debit card. Base the number of EFS kiosk units on a maximum queue length of 6 passengers with a wait time of no more than 3 minutes.

Discounted tickets (senior, disabled, youth, etc.) are not available through the EFS kiosks. Passengers wishing to purchase discounted tickets must purchase them at a ticket sales counter or at the toll booth in order to verify the passenger qualifies for a discounted ticket. Provide an ADA accessible path from the passenger building to the toll plaza to allow for pedestrian use of the toll booths when ticket sale counters are not provided inside the passenger building. Do not provide sidewalks to the toll plaza at terminals where ticket sales are conducted inside the passenger building year round. Refer to Chapter 300 for additional information.

Electronic Fare System Kiosks
Exhibit 400-5

(3) Ticket Sales Queuing

This space is for customers waiting to purchase tickets from a manned sales toll booth. Design ticket sales queuing area to accommodate waiting customers conveniently out of the way of passenger circulation including offloading and boarding passengers. Assume a queue length of 6 passengers. The ticket sales queuing area is not included in the passenger waiting area calculation and needs to be added in separately.

(4) EFS Kiosk Queuing

This space is for customers waiting to purchase tickets from an EFS kiosk. Design ticket queuing area to accommodate waiting customers conveniently out of the way of passenger circulation including offloading and boarding passengers. Assume a queue length of 6 passengers. The kiosk queuing area is included in the passenger waiting area calculation.

400.09 Passenger Waiting Areas

Passenger waiting refers to areas for passengers to sit and stand, both inside and outside the terminal building, when they are not actively buying tickets or retail items or walking through the terminal. Locate passenger waiting areas upstream of the passenger control point and as close as possible to the ferry slips to provide for boarding passengers as quickly as possible. Refer to Chapter 410 for more information including sizing of the passenger waiting areas.

400.10 Passenger Conveniences

Provide snack and newspaper vending as well as automatic teller machines (ATMs) for use by all transit users with the final quantity to be determined by WSF Operations. Locate passenger conveniences in areas that will not interrupt passenger circulation and out of the way of waiting passengers so they can be accessed during peak periods. The preferred location for passenger conveniences is within the passenger waiting area. Assume 50 to 100 square feet of area for conveniences. This is an add-on area, meaning that the square footage provided for passenger conveniences is in addition to the required waiting area calculated in Chapter 410. Note that the area for circulation around the passenger conveniences is already accounted for in the passenger waiting area size calculation.

Activity/Space	Recommended Area
Food and Snack Vending	9 sq ft (per unit)
Arcade Games	9 sq ft (per unit)
Newspaper and Magazine Vending	4 sq ft (per unit)
ATM Machine	16 sq ft (per unit)
Change Machine	6 sq ft (per unit)
Telephone Area	6 sq ft (per unit)

Passenger Convenience Sizing Guidelines
Exhibit 400-6

Passenger Conveniences at Edmonds Ferry Terminal
Exhibit 400-7

Passenger Conveniences at Anacortes Ferry Terminal
Exhibit 400-8

400.11 Passenger Security Screening Area

Security measures aimed at reducing risk and mitigating the consequences of actions that threaten the security of personnel, the facility, and the public have an impact on passenger processing. The Coast Guard has a three-tiered system of Maritime Security (MARSEC). These levels are designed to provide a means to easily communicate pre-planned scalable responses to increased threat levels.

Coordinate with the Company Security Officer (CSO) at the time of design for design recommendations associated with passenger screening requirements that may be required during elevated security threat levels. Screening would take place prior to the passenger control point. Beyond the passenger control point, there is a secure area with restricted access. Emergency egress from the secure area is provided with alarmed release mechanisms. Video surveillance is utilized as an integral part of the overall facility monitoring system. Concessions and general service deliveries are best located outside the secure area. Refer to Chapter 310 for additional information.

400.12 Lost and Found

This space provides secure storage for items left behind by passengers and employees. Locate lost and found near the facility entrance and near a staffed building space. The lost and found may be located in the terminal supervisor building.

400.13 Attendant Control Station

This space provides an attendant a view of the passenger control point and turnstile area for monitoring access and providing assistant to passengers entering the secure area.

400.14 Passenger Control Point

The passenger control point is located just prior to exiting the terminal building for passenger boarding. If the terminal has overhead loading, it is located just prior to the overhead loading. This location is often designated by turnstiles, an electronic door, or a gate. Access beyond the passenger control point is for passengers loading or unloading the ferry only. Allocate the following spaces for passenger control functions. Refer to Chapter 410 for additional information on turnstile requirements.

(1) Standard Turnstiles

The turnstiles are the customer control point and access to the ferries. They are for verification of transactions as well as control over time of boarding. Standard turnstiles are approximately 3 feet wide. Assume 17 passengers per minute are processed through each standard turnstile based on measurements at the Seattle terminal (actual processing rate may vary by terminal). The size and throughput of the facility determines the number of units.

(2) Paddle Turnstiles

Paddle turnstiles are an alternative to standard turnstiles and are used in conjunction with standard turnstiles. These units require a larger footprint than the standard turnstiles and require placement so that persons who have a mobility constraint have plenty of room for access. Paddle gates are approximately 4 feet wide and are used both for ADA access and for accommodating larger items such as luggage. Assume 9 passengers per minute through each paddle gate based on measurements at the Seattle terminal (actual processing rate may vary by terminal). The size and throughput of the facility determines the number of units. Refer to Chapter 300 for additional information pertaining to ADA requirements.

(3) Manual Gates

Include a manual gate at the control point to process groups of pre-paid passengers such as a bus load of school children. The manual gate is opened to allow an entire pre-paid group to pass through at once. Assume a manual gate width of 4 feet.

(4) Turnstile Queuing Area

The turnstile queuing area is for customers waiting to access a turnstile. Locate this area out of the way of passenger circulation including offloading and boarding passengers.

(5) Turnstile Mixing Area

The turnstile mixing area is located immediately downstream of the turnstiles and provides a transitional space between the turnstiles and the vessel loading corridor.

400.15 Luggage Cart and Wheelchair Storage

This space is intended for storing manual and electric wheelchairs, and luggage carts for passenger usage and ADA assistance. Provide sufficient space for the storage of two manual wheelchairs, one motorized wheelchair or scooter, and one four-wheeled luggage cart or hand cart. Locate this area in the vicinity of the passenger control point and passenger waiting area.

400.16 Security Interview Room

The security interview room is used by government security teams to interview passengers and conduct investigations. Security interview rooms are required at select terminals only. Refer to Chapter 310 for additional information and design guidance.

400.17 Restrooms and Water Fountains

Provide at least the minimum number of plumbing fixtures set forth in the *International Building Code* (IBC). For general requirements for plumbing design, refer to Chapter 350.

Circulation and access into and exiting the restrooms will vary with the capacity of the terminal. Smaller capacity restrooms require a door for privacy separation. Larger capacity restrooms may work more efficiently with a dog-leg open access. Larger restrooms require an operational dividing wall to provide functional separated use for the convenience of the public and janitorial staff during cleaning. Equip separation wall opening with a coiling door. Alternatively, larger terminals may contain two separate restrooms for each sex to allow for cleaning without removal of service, or a family restroom may be used. Refer to Chapter 450 for additional restroom design guidelines.

(1) Restrooms at Existing Terminals

Restrooms serving the terminal buildings and vehicle holding areas at existing WSF terminals are summarized in Exhibit 400-9. Restroom locations are shown in Appendix R.

Terminal	Restrooms within Terminal Building	Restrooms Adjacent to Vehicle Holding Area
Anacortes	Yes	Yes
Bainbridge Island	Yes	Yes
Bremerton	Yes	No
Clinton	Yes	No
Edmonds	Yes	Yes
Fauntleroy	Yes	No
Friday Harbor	Yes	Yes
Coupeville	Yes	No
Kingston	No	Yes
Lopez	No	No
Mukilteo	Yes	No
Orcas	No	Yes
Point Defiance	No	No
Port Townsend	Yes	No
Seattle	Yes	Yes
Shaw	No	Yes
Southworth	Yes	No
Tahlequah	No	No
Vashon	Yes	No

Location of Passenger Restrooms by Terminal
Exhibit 400-9

(2) Types of Restrooms

(a) Public Restrooms

Provide restrooms for passengers near the passenger waiting area. Locate restrooms upstream of the passenger control point in the non-secure area. Restrooms may also be located within the vehicle holding area to accommodate passengers driving onto the ferry.

Restrooms which are accessible to the general public can present maintenance and liability issues. Avoid locating restrooms where they are easily accessible to people who are not using the ferry terminal facilities.

(b) ADA Restrooms

Refer to Chapter 300 for requirements.

(3) Water Fountains

Where water fountains are provided, a minimum of one standard water fountain and one ADA water fountain (mounted at accessible heights) are required.

400.18 Janitor Storage

Include an area near the restrooms for storing toiletries, cleaning products, cleaning equipment (floor buffers, mop buckets, and case materials), recycle and waste bags and liners. Include shelving in the storage room.

400.19 IT Equipment Network Room

The IT equipment network room is the central hub for terminal and revenue video monitoring, network ethernet, intercom dispersion and amplification, telephone interfacing, and terminal security and access equipment. Provide a location for network, phone, EFS and security equipment. Provide space for a minimum of two full size floor standing equipment racks with adequate room on either side of each rack for servicing equipment and enough room to provide an air conditioning unit sized to keep equipment at an ambient room temperature not to exceed 68 degrees Fahrenheit. Larger terminals such as Seattle, Bainbridge, Kingston, etc may require additional rack space. Consult WSF IT personnel for additional information.

The IT equipment network room also includes any needs for security equipment storage. Consider proving space to store portable security equipment that could be required for higher MARSEC level screening. Refer to Chapter 560 for additional design guidelines.

The IT equipment network room is designated as a critical restricted area (refer to Section 310.10).

Clinton Ferry Terminal IT Equipment Network Room
Exhibit 400-10

400.20 Terminal Electrical Room

This restricted access room is used to house large high voltage main breaker controls and disconnects for the terminal operating components. Provide enough space to house several large electrical enclosures, metering and alarm systems. Refer to Chapter 360 for design guidelines.

Clinton Ferry Terminal Electrical Room
Exhibit 400-11

400.21 Elevator Machine Room

Provide a space to house hydraulic, mechanical, and electrical components for operation of an elevator system, where applicable. Utilize steel and concrete construction designed for containment.

400.22 Retail, Concessions, and Lease Space

Consider providing retail, concession, and lease space within the terminal building. Justification for providing these spaces includes a predesign study and a return on investment (ROI) business case analysis (refer to Chapter 420). Retail, concession, and lease space are add-on areas, meaning that the square footage provided for these spaces is in addition to the required passenger waiting area size calculated in Chapter 410. Consult with WSDOT Legal Services and Contracts Director for negotiations with prospective and existing tenants.

(1) Concessions

Consider providing passengers with a coffee cart in the passenger waiting area. A typical coffee cart requires 36 square feet.

(2) Retail and Lease Space

WSF categorizes retail by two types: retail without seating and retail with seating. Exhibit 400-12 shown below lists two successful retailers operating at WSF terminals and the approximate space provided for them.

Type of Retail	Name	Terminal	Space Provided
Retail w/o Seating	Cheesecake Café	Anacortes	650 sq ft
Retail with Seating	Café Appassionato	Seattle	850 sq ft

Example Retail Facilities at WSF Terminals
Exhibit 400-12

Use the following as guidance for sizing retail spaces:

- Provide a minimum area of 600 sq ft (actual areas to be negotiated with retail providers when possible).
- For retail requiring seating, provide space for ten passengers seated at tables (200 square feet based on 20 square feet per person).
- Provide utility stub-outs required by type of retail.
- Provide storage space in the proximity of the retailer.

Cheesecake Café at Anacortes Ferry Terminal
Exhibit 400-13

Café Appassionato at Seattle Ferry Terminal
Exhibit 400-14