

Basis of Design

This section applies to service areas and loading docks for new construction and major renovations.

Programming

- Minimum requirements: Defined custodial area, service area and loading docks localized separation, collection, storage for recycling as well as centralized pick-up areas for recycling by floor or department. Provide for window washing and exterior façade maintenance and repair.
- All buildings shall be designed for ease of access to all equipment for maintenance and replacement of components.
- Maximum requirements: For larger buildings or buildings with highly technical programs provide a highly refined custodial area, service area and loading dock. Provide for the following typical services:
 - 1) Custodial
 - 2) Mail delivery and pick-up
 - 3) Waste collection and storage
 - 4) Recycling storage and pick-up
 - 5) Physical Plant maintenance
 - 6) Off-campus deliveries and pick-up with parking (UPS, Federal Express, etc.)
 - 7) Local delivery and service with parking (food, beverages, etc.)
 - 8) Equipment maintenance from off-campus vendors with parking
 - 9) Bottled gas delivery, pick-up and storage
 - 10) Large truck delivery of major equipment and/or apparatus
 - 11) Special program related services and deliveries
 - 12) Atypical waste and/or recyclable materials storage and pick-up. (sharps, biological wastes, chemical wastes, hazardous wastes, etc.)
 - 13) Building shall be designed to incorporate methods used on campus for window cleaning and exterior façade maintenances and repair. Coordinate with Custodial Services and Campus Engineering.

Design Criteria

Service Area and Loading Dock

- Separate pedestrian and vehicular traffic to eliminate conflicts and provide a safe environment for both uses. Provide for several major vehicles using the space simultaneously.
- For wet laboratory areas in Science buildings, coordinate with client and EH&S for hazardous material storage and waste collection/bulking requirements.
- Waste containers and compactors shall be easily accessible from building interior from at-grade or by ramps. Locate containers so waste can be emptied with a downward motion, not an upward motion.
- University waste containers vary in size. Coordinate with Transportation Services and client.

- Provide a reinforced concrete slab for waste containers and compactors. Design 40-yard waste container slabs for 60,000 pound loading.
- Coordinate compactor requirements with Transportation Services. Compactors are only used at food service docks and at the Health Science Center docks. Provide 60' 0" in front of compactor for loading.
- Locate away from outdoor air intakes to protect from contamination. Corrective air filtration systems (e.g. charcoal filters) are unacceptable.
- Maneuvering space for vehicles shall be on-site and not in public areas. Parking area at the loading dock shall be level to insure the safety of the users.
- Provide all-weather access with minimum clearance of 15' 0". Lifting of waste containers require minimum 16' 6" clearance.
- Maximum dock height shall be 4' 0". Provide heavy-duty spring loaded dock leveler(s) or scissors lift(s) that will accommodate truck bed heights from 2' 0" to 4' 0". Provide continuous bumper strip.
- If a forklift is required for the program, provide a 40' 0" long x 5' 0" wide ramp for dock access.
- Minimum stall width shall be 10' 0". Provide minimum two stalls—one for 24" step van and one for city or long-haul vehicles.
- Provide for waste that requires special handling: e.g. acceptable "landfill" waste, recyclable, chemical, radiation, biological, sharps, etc.
- For larger projects provide a recycling sorting room adjacent to the loading dock. Provide a 150 s.f. space in a secure area to protect from arson and vandals.
- For buildings 25,000 g.s.f. and over provide a specifically designated service elevator.
- Provide catch basins and/or trench drains and slope slab to drains to assure a water-free working area. Locate in accessible areas for maintenance.
- Provide cold water hose bibb at all service areas and loading docks. At buildings with large containers and/or compactors, provide hot and cold water with a hose reel and sufficient hose length to reach the entire area.
- Provide fire sprinklers.
- Provide weather-resistant, industrial-quality light fixtures that will illuminate the area to a level that provides safety and security.
- Provide GFIC, weather-resistant, 120 volt, 20 amp duplex outlets at the loading dock. Provide minimum of two and more as the program and size dictates. Compactors generally require 440 volt service; coordinate with manufacturer.
- Service area walls shall be concrete or fully grouted CMU to resist abuse. Protect finished walls with curbs, bollards, railings and/or dock bumpers. Protect the wall behind the waste containers from damage caused by less-than-careful opening of lids.
- Provide heavy-duty floor covering in adjacent building areas.
- Recess or enclose all protruding elements where birds could roost. Seal flush all cracks, crevices and separations between materials to prevent birds roosting.
- Screen area from view in a manner that will not compromise the function of the area. Do not locate landscaping that requires regular maintenance in the service area.

Mailing Services

- Mail, campus generated and from off campus, is delivered by Mailing Services to University owned buildings on and off campus. The type of facilities required depend on the size of the building population and how many departments are housed within a building.

- Minimum requirements: Provide a Mail Cabinet in a public area, i.e. reception area. Coordinate size with Mailing Services. Minimum size is Type A cabinet. (See SD-A-46) Cabinet shall be keyed to Mailing Services key only. Do not key to building system.
- For buildings with a large population or with several departments provide a Mail Room located on the ground floor. Minimum size shall be 10'-0" by 10'-0". Locate within 50'-0" from a loading dock or for buildings without a loading dock, 50'-0" from the nearest entry accessible by a Mailing Services vehicle. Provide adequate lighting, ventilation and heat. Provide cooling if provided in building. The Mail Room shall be keyed to allow Fire and Police personnel access in event of emergencies.
- Do not locate the Mail Cabinet or Mail Room where access requires the use of stairs. Stairs are not used by Mailing Services personnel to prevent injuries caused by carrying, pushing or pulling deliveries up and down stairs.
- If Mail Service is affected by construction projects, service shall be maintained to those areas unaffected by construction. Mail service may be delivered to an adjacent building if arranged with Mailing Services.

Custodial Area

Four types of custodial areas are required

Bulk Space

- Provide in major buildings and renovations (25,000 s.f. or larger).
- Provide 200 s.f. room near loading dock for storage of case paper products and drum chemicals.
- Provide a pair of out-swinging doors, 60 inches wide, minimum.
- Provide center floor drain and mechanical exhaust with 12 air changes per hour.
- Provide 16-inch deep adjustable shelving with heavy duty brackets to the ceiling, full length at the longest wall.

Primary Working Custodial Closet

- Provide 120 s.f. (10' x 12') room at one per 25,000 to 30,000 s.f. of floor area assigned to each custodian.
- Provide an out-swinging door, 42 inches wide, minimum.
- Provide center floor drain, floor-mounted custodial sink with splash shield located adjacent to door and mechanical exhaust with 12 air changes per hour.
- Provide mop hanger/drying rack adjacent to sink by Bobrick or approved substitution.
- Provide 16-inch deep adjustable shelving with heavy duty brackets to the ceiling, full length at the longest wall.
- Do not locate within restrooms.
- Do not locate pipe chases or utility panels within closet.

Supplemental Working Closets

- Provide 70 to 80 s.f.(10' x 7' or 8') per floor without a Primary Working Closet. In major buildings and renovations alternate with Primary Working Closets depending on the number of floors and the area requirements for Primary spaces. If Bulk Storage space is not provided Supplemental Working Closets are required.
- Provide an out-swinging door, 42 inches wide.
- Provide center floor drain, floor mounted custodial sink with splash shield located adjacent to door and mechanical exhaust with 12 air changes per hour.

- Provide mop hanger/drying rack adjacent to sink by Bobrick or approved substitution.
- Provide 16-inch deep adjustable shelving with heavy duty brackets to the ceiling, full length at the longest wall.
- Do not locate within restrooms.
- Do not locate pipe chases or utility panels within closet.

Custodial Dispatch Office

- Provide for specific projects. Coordinate with Project Manager and Custodial Services.

Miscellaneous Building Utility Services

- Provide electrical outlets per Electrical-Wiring Devices at corridors every 50 feet. Provide circuits separate from offices, labs or other building uses.
- Provide electrical outlets per Electrical-Wiring Devices at one side of entrances and at stair landings.
- Provide weatherproof electrical outlets and hose bibs at building parapets at 75 ft. o.c. for maintenance and window washing. Provide separate circuits for outlets.
- Provide depressed transitional walk-off areas at building entrances to collect water and dirt to reduce floor covering wear and maintenance.
- All storage rooms for recycling bins and chemical cleaning products shall have non-recirculating exhaust systems to minimize contamination of adjacent rooms.
- Provide localized drains plumbed for appropriate disposal of liquid waste in spaces where water and chemical concentrate mixing occurs.

Design Evaluation

The following information is required to evaluate the design:

- Programming Phase: Design intent addressing the level of service required.
- Schematic Design Phase: Description of specific services provided and location. Outline specifications.
- Design Development Phase: Service area and loading dock layout with equipment. Draft specifications.
- Construction Document Phase: Completed design. Final specifications.

Construction Submittals

- Provide standard industry submittal requirements.

Related Sections

- Facilities Services Design Guide - Finishes
- Facilities Services Design Guide - Electrical – Lighting

Products, Materials and Equipment

- Provide standard industry products, materials and equipment.

Installation, Fabrication and Construction

- Comply with standard industry practices.

END OF DESIGN GUIDE SECTION