141 11 AIR PASSENGER TERMINAL (SF)

The air passenger terminal provides facilities for processing authorized passengers and their baggage and for processing incidental freight. Space is provided in the terminal for the following functional areas: administrative space, baggage claim room, check-in counter, minor freight storage, information counter, and waiting lounge with food concessions. (For air cargo terminal, see Code 141 12.) The space to be planned is based on an analysis of the passenger traffic anticipated. A terminal is planned for those air stations where passenger traffic is projected to exceed 30 passengers during a typical peak hour.

Due to the irregular and often unpredictable passenger flow in military air terminals, the facility requirements must be justified in each individual case where a terminal is warranted. Supporting data must include historic passenger flow figures and mode in sufficient detail to permit validation of facility scope.

See P-272 for standard layout and typical components of an air passenger terminal.

141 12 AIR CARGO TERMINAL (SF)

An air cargo terminal is planned for air stations where cargo and freight handling exceeds 10,000 pounds per day. The air cargo terminal is separate from the air passenger terminal (Code 141 11) where only incidental freight is handled. Air cargo terminal functions include receipt of packages, control documentation, palletization, holding for shipment, aircraft loading and unloading, package sorting, and loading on trucks.

Space required for air cargo terminal operations is based on the weight of cargo to be handled as determined by station survey. Terminals are planned using the space allowances in Table 141-12.

TABLE 141-12
Space Allowances - Air Cargo Terminal

Average Daily Load(l) (pounds)	Air Cargo Terminal Type	Gross SF Area
10,000 - 20,000	Small, non-mechanical	7,720
20,000 - 40,000	Small, mechanical	32,500
40,000 - 100,000	Medium, mechanical	44,500
100,000 - 160,000	Large, mechanical	54,500

(1) Average Daily Load includes cargo originating, terminating, and being rehandled through the terminal.

Air cargo terminal facilities must be adjacent to the transient aircraft apron area but siting shall not violate aircraft pavement clearance criteria. Exterior pavement requirements include road access, access to aircraft apron, and non-organizational vehicle parking area (see Category Code 852 10).

141 20 AIRCRAFT FIRE AND RESCUE STATION (SF)

The aircraft fire and rescue station provides fire and emergency rescue protection for pilots and aircraft. When feasible, the aircraft fire and rescue station is combined with the structural fire station (Code 730 10) to form one complete emergency facility, Code 141 25, Combined Structural/ Aircraft Fire/Rescue Station.

The aircraft fire and rescue station provides space for aircraft fire and rescue vehicles, dispatchers tower and alarm room office, dormitories, training room, messing facilities, and maintenance and storage room. See NAVFAC P-272 for stations of standard design, and NAVFAC DM-24 for design criteria. The size of the facility is based on the number of fire and rescue vehicles assigned, which varies with the gross weight of the aircraft supported.

Covered space, either building or shed, is provided for all assigned fire and rescue vehicles and equipment. Generally the building houses the active MB vehicles required to protect the parent station. The shed houses the active foamer and crane, the active vehicles to support the outlying fields, and also the spare vehicles for maintenance and reserve for both parent and outlying fields. See Tables 141-20A and 141-20B for allowance and Figure 141-20 for a sample computation.

TABLE 141-20A
Space Allowance - Aircraft Fire and Rescue
Vehicles in Support of Parent Air Station

Largest A/C at the Parent Station Gross Weight	Area of Structure Sq. Ft.		Facility Class
Pounds	Bldg.	Shed	
up to 90,000	5,502	1,730(l)	A
Over 90,000	6,948	2,160(l)	B

(1) This shed area is adequate for the runway foamer/ water truck and the crane as well as the spares for maintenance and reserve for the parent air station only. Add space for fire and rescue vehicles for outlying fields. See Table 141-20B and sample computation in Figure 141-20.

TABLE 141-20B
Additional Shed Space at Parent Air Station
for Fire and Rescue Vehicles for Outlying Fields

Number of Outlying Fields	Total Shed Space, SF Gross, for Outlying Fields with Aircraft under 10,000#	Total Shed Space, SF Gross, for Outlying Fields with Aircraft 10,000# to 60,000#
1	432	1,296
2	1,296	2,160
3	2,160	2,592
4	2,592	3,456

The space shown for Code 141 20 on the Basic Facilities Requirements List for the parent station is the sum of the building and shed space. See sample computation in Figure 141-20. Pavement is provided adjacent to the station for 25 percent of the vehicles and for one vehicle wash rack. The Fire and Rescue Vehicles Alert Pad is computed separately under Category Code 116 60.

Assume an air station that has one or more cargo aircraft weighing more than 90,000 pounds, and squadrons of carrier aircraft in the weight range of 10,000 to 60,000 pounds. Further, the activities of the carrier aircraft require three outlying fields. The cargo aircraft establish the space allowance for the parent station. From Table 141-20A the structure will have 6,948 square feet of building and 2,160 square feet of shed. From Table 141-20B the three outlying fields require 2,592 square feet. The total building and shed space sum up as follows:

Activity	Building Area Sq. Ft.	Shed Area Sq. Ft.
Parent Station	6,948	2,160
Outlying Fields		2,592
Total	6,948 Sq. Ft.	4,752 Sq. Ft.

The total space to show on the BFRL is 6,948 + 4,752 = 11,700 s.f. gross for the parent air station. No space to house the vehicles is required at any of the outlying fields.

FIGURE 141-20
Sample Computation - Aircraft Fire and Rescue Station

141 25 COMBINED STRUCTURAL/AIRCRAFT FIRE/RESCUE STATION (SF)

A combined structural/aircraft fire/rescue station is planned under certain conditions to serve the function of a structural fire station (Code 730 10) and an aircraft fire and rescue station (Code 141 20). The combined facility is planned for a location that satisfies the response time and distance requirements for both the structural fire and the aircraft fire and rescue stations.

The station must provide adequate support of airfield activities and protection for all buildings and structures. The size of the building is planned to house the aircraft fire and rescue vehicles required plus the structural fire vehicles required. The computations are done as indicated in Codes 141 20, Aircraft Fire and Rescue Station, and 730 10, Fire Station. The sum of the areas required for the structural fire station and the aircraft fire and rescue station is the total building area for the combined station. Combined stations of standard design are shown in NAVFAC P-272.

Protection against structural fires may be provided in part or completely by community resources. The method for development of reciprocal agreements between Navy and a municipality for mutual fire protection may be found in NAVMATINST 11320.10.

141 30 AIRCRAFT LINE OPERATIONS BUILDING (SF)

The aircraft line operations building is a structure used to centralize ground operations of the flight line. The building is utilized in keeping of squadron daily flight books, aircraft status boards, and bulletin boards and as support for line operations personnel by providing shelter, a water cooler, and a chemical toilet. The aircraft line operations building is a standard 12- by 20-foot portable building with a building area of 240 square feet gross.

One line operations building may be planned for each hangar module when the distance between the squadron's parked aircraft and the hangar is greater than 1,000 feet.

NOTE: Criteria for this facility indicates that it is to be portable and therefore carried as collateral equipment, when acquired. Collateral equipment is not Class II real property and cannot be included in the real property inventory. However, this category code is being retained for real property inventory purposes since many of the existing facilities are not portable and accordingly must be reported in the RPI.

141 40 AIRCRAFT OPERATIONS BUILDING (SF)

An aircraft operations building is planned for all Navy air stations, auxiliary air stations, and air facilities. The building houses the administration of flight operational activities with all supporting functions including flight control, communications, and weather services. The operations building adjoins the airfield control tower and the radar

air traffic control center where siting requirements permit. See Table 141-40 for space allowances.

TABLE 141-40
Aircraft Operations Building

Installation	Gross Area Sq. Ft.
Air Station	12,637
Air Facility	9,760

141 41 MARINE AIR TRAFFIC CONTROL UNIT (MATCU) OPERATIONS BUILDING (SF)

The MATCU performs a combined function similar to that accomplished in Category Codes 134 40, Ground Control Approach (GCA) System; 133 25, TACAN Building; and 133 75, Air Surveillance Radar (ASR) Building. Depending on the level of aircraft operations, the MATCU operations building may provide the sole GCA support at an air installation or may supplement and be in addition to permanent ASR, TACAN, and GCA facilities. A MATCU operations building should not be planned without prior coordination with and approval of the Commandant of the Marine Corps (LFF-1).

When authorized, the MATCU operations building shall not exceed 9,130 gross square feet. For a typical layout, see RAVFAC P-272, Part Four.

141 42 AIR INTELLIGENCE SUPPORT CENTER (SF)

This facility is used to store and disseminate classified material for mission planning, pilot training and briefings in support of attack aircraft operations. The design and size of the center will be determined by the type and amount of equipment to be installed and the number of standard attack squadrons assigned to a station. Typical spaces include: administrative, library/chart storage, classroom, special security office, planning rooms, briefing rooms, photo intelligence interpretation room and storage. No specific planning criteria are currently available for this facility.

141 60 PHOTOGRAPHIC BUILDING (SF)

A photographic building is planned to support the photographic mission of an activity. It provides the laboratory complete with equipment and storage that applies to the specific mission.

The size of photographic laboratories will be determined by a study of t-he space required to support the equipment and activity.

Laboratories are established only where authorized by the office of the Chief of Naval Operations. Procedures for obtaining authorization are outlined in OPNAVINST 3150.6. A list of currently authorized photographic laboratories ashore is contained in OPNAVINST 3150.2.

141 65 FLEET RECONNAISSANCE PHOTOGRAPHIC LABORATORY (SF)

A fleet reconnaissance photographic laboratory is planned only where the station supports the mission of photographic reconnaissance squadrons and there is no photographic building (Category Code 141 60) to provide the support. Normally combined support for the station mission and that of the photographic reconnaissance squadrons is provided in a photographic building Class "Special." See OPNAVINST 3150.6. If there is no photographic building (Category Code 141 60) planned for the station and there are two or more photographic reconnaissance squadrons to be supported, a fleet reconnaissance photographic laboratory (Category Code 141 65) may be planned to a gross area of 22,330 SF. See P-272 for an approved building design. The workload, where there is only one squadron to be supported, is to be accommodated in other facilities as determined by the Chief of Naval Operations.

141 70 CONTROL TOWER (SF)

A control tower provides space for equipment and personnel to control aircraft traffic. It is an elevated structure having an unobstructed line-of-sight to the airfield approach areas, runways, taxiways, aircraft parking areas, and all other operational areas over which aircraft movements must be controlled. This category code is used for the control tower in all cases even though the tower may be an independent structure or combined with a RATCC or an aircraft operations building. If at all possible, the control tower should be an integral unit with the RATCC (Category Code 133 721, thus providing a complete, integrated air traffic control facility. A control tower is planned for each install&ion where aircraft are based. It is not planned for outlying fields and auxiliary landing fields unless specifically authorized by competent authority. The minimum installation is the basic tower containing an entrance level, intermediate levels, and the control tower cab. The area of floor space for a control tower of standard design with six floors plus the control room is 2,956 square feet gross. Towers of increased height can be provided by adding incremental levels. See NAVPAC P-272 for definitive design of control towers, operations building with control tower, and RATCC with control tower. See NAVFAC DM-24 for specific control tower design criteria.

141 81 GROUND CONTROL APPROACH CREW FACILITY (SF)

The ground control approach (GCA) crew facility provides a ready room for on duty personnel assigned to the GCA van. The facility consists of two (2) standard design skid-mounted shelters (each 12 feet by 20 feet). The crew facility is authorized whenever the mobile GCA unit is furnished.

NOTE: Criteria for this facility indicates that it is to be portable and therefore carried as collateral equipment, when acquired. Collateral equipment is not Class II real property and cannot be included in the real property inventory. However, this category code is being retained for real property inventory purposes since many of the existing facilities are not portable and accordingly must be reported in the RPI.

141 82 FULL PRESSURE SUIT FACILITY (SF)

Pressure suit maintenance is normally performed in the Parachute and Survival Equipment Shop (category code 211 34). Special justification is required to provide a separate facility for this purpose.

141 87 LIQUID OXYGEN/NITROGEN FACILITY (SF)

A liquid oxygen/nitrogen facility is required at each Navy and Marine Corps air station where 50 or more attack and fighter-type aircraft ate assigned. Smaller numbers of aircraft are provided with these gases by bottled gas from commercial suppliers. The facility provides for storage, vaporization, and transfer of nonindustrial oxygen and nitrogen and for test and repair of cryogenic equipment associated with aviator and aircraft support. Liquid and gaseous forms of both oxygen and nitrogen, as well as hot nitrogen gas for purging equipment, are handled. The facility includes liquid storage tanks, vaporizing units, transfer areas, cart and tank filling and storage areas, repair shops, and office space. Port land cement concrete driveways, loading ramps, and cart parking areas are required. A building with a gross area of 2,704 SF is adequate for all needs. NAVFAC P-272 shows a typical storage, transfer, and vaporizing facility of this size. The facility has a storage capacity of 4,000 gallons each of bulk liquid oxygen and nitrogen and 150 cylinders of each gas. The size of the transfer areas may be reduced if a station survey indicates a lesser requirement for cylinder storage.

For design criteria, see NAVFAC DM-24.

MARINE CORPS CRYOGENICS FACILITY. A Marine Corps cryogenics facility provides for operational support of a Marine Aircraft Group and accommodates in garrison the expeditionary liquid oxygen/nitrogen generating equipment assigned. A Marine Corps cryogenics facility does not supplant the liquid oxygen/nitrogen facility at a Marine Corps air station. Generally, two generators are assigned to each Group. The exceedingly high noise level of the turbine-powered expeditionary liquid oxygen/nitrogen generator necessitates locating the facility in a remote area. The facility consists of a generator area, a cylinder fill area, cylinder and cart storage shelter, and main building. The generator area has a concrete pad, an underground fuel tank, exterior lighting, electric power, water, and an out

building with a gross area of 246 square feet. Five hundred and ten square yards of concrete and 5,000 gallons of fuel storage are provided for a sing1 e generator; NAVFAC P-272 illustrates a layout providing 900 square yards of concrete and 10,000 gallons of fuel storage for two generators. One thousand feet from the nearest generator is a shelter of 1,258 square feet gross area where gas cylinders are filled and converters and liquid oxygen and liquid nitrogen carts and cylinders are stored.

The main building of the Marine Corps cryogenics facility has a gross area of 3,570 square feet and is located no closer than 100 feet from the shelter. The main building contains offices, toilets, classroom, maintenance shop, and repair parts storage. Because of the training mission conducted at this facility, normally only one generator is in production at a time. Hence, the storage shelter and the main building usually may be shared by all Groups utilizing this facility. The size of either the storage shelter or the main building may be modified if a survey indicates a different requirement.

For design criteria, see NAVFAC DM-24, and NAVFAC P-272.

141 88 HARDENED AIRCRAFT SHELTER (SF)

NO criteria is available for this code.