NPS Form 10-900
(Oct. 1990)

OMB No. 10024-0018

VLK - 6/27/95
NRHP - 9/12/97

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Washington National Airport Terminal and South Hangar Line

other names/site number VDHR File No. 00-45

2. Location

street & number Thomas Avenue N/A ☐ not for publication

city or town Arlington N/A ☐ vicinity

state Virginia code VA county Arlington code 013 zip code N/A

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. I recommend that this property be considered significant ☒ nationally ☐ statewide ☐ locally. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title Date

State of Federal agency and bureau

In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

[signature] 6/26/95

Signature of certifying official/Title Date

Virginia Department of Historic Resources

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is: Signature of the Keeper Date of Action

☐ entered in the National Register.
☐ See continuation sheet.

☐ determined eligible for the National Register
☐ See continuation sheet.

☐ determined not eligible for the National Register.

☐ removed from the National Register.

☐ other, (explain:) _____

Washington National Airport Terminal and South Hangar Line
Name of Property

Arlington, VA
County and State

5. Classification

Ownership of Property
(Check as many boxes as apply)

- ___ private
- ___ public-local
- ___ public-State
- X public-Federal

Category of Property
(Check only one box)

- X building(s)
- ___ district
- ___ site
- ___ structure
- ___ object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
2	1	buildings
0	0	sites
0	0	structures
0	0	objects
2	1	Total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously listed in the National Register

N/A

6. Function or Use

Historic Functions
(Enter categories from instructions)

TRANSPORTATION/air-related

Current Functions
(Enter categories from instructions)

TRANSPORTATION/air-related

7. Description

Architectural Classification
(Enter categories from instructions)

MODERN MOVEMENT

Moderne

Materials
(Enter categories from instructions)

foundation concrete

walls concrete

roof metal

other glass & steel (hangar doors, windows)

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

Name of Property: Washington National Airport Terminal and South Hangar Line

County and State: Arlington, VA

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [x] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [x] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

- [ ] A owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)

Architecture

Transportation

Period of Significance

1941-56

Significant Dates

1941

Significant Person
(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

Cheney, Howard Lovewell (Terminal and Hangar)

Public Buildings Administration

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography (see continuation sheet)
Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

- [ ] preliminary determination of individual listing (36 CFR 67) has been requested
- [ ] previously listed in the National Register
- [ ] previously determined eligible by the National Register
- [ ] designated a National Historic Landmark
- [ ] recorded by Historic American Buildings Survey # _____
- [ ] recorded by Historic American Engineering Record # _____

Primary location of additional data:

- [ ] State Historic Preservation Office
- [ ] Other State agency
- [x] Federal agency
- [ ] Local government
- [ ] University
- [ ] Other

Name of repository:

Metropolitan Washington Airports Authority

Washington National Airport Terminal and South Hangar Line
Name of Property

Arlington, VA
County and State

10. Geographical Data

Acreage of Property 18.1

UTM References
(Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing
1	18	322600	4301800
2	18	322960	4302325
3	18	322960	4301400
4	18	322115	4301400

See continuation sheet

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Carol Hooper, Elizabeth Lampl, Judith Robinson - Architectural Historians

organization Robinson & Associates, Inc. date 4/11/94

street & number 1710 Connecticut Avenue, NW telephone 202-234-2333

city or town Washington state DC zip code 20009

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items
(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of SHPO or FPO.)

name Metropolitan Washington Airports Authority

street & number Washington National Airport telephone

city or town Washington state DC zip code 20001

DESCRIPTION

INTRODUCTION

This nomination documents the primary structure (the Washington National Airport Terminal) and one early secondary structure (the South Hangar Line) of a large airport complex. These buildings, although constructed at slightly different times (the Terminal was completed in 1941 and the last hangar to be constructed was completed in 1948), were designed by the same federal agency and served related purposes. These buildings were part of a planned grouping of buildings set in a purposely designed, landscaped setting.

The Terminal and the South Hangar Line are located in the central and southern sections of the complex (see sketch map). Although originally adjacent to one another, the original hangar building (Hangar No. 1) which was the closest of the hangars to the Terminal, was demolished in 1990 to permit construction of the Taxi Parking Structure. Today, therefore, the two buildings are separated from one another by this non-contributing building of recent date.

Due to the loss of much of the original landscaping, the demolition of certain early buildings, and the construction of many newer buildings, the entire National Airport site does not qualify for listing on the National Register. Only the Main Terminal and South Hangar Line are being nominated in this form as a "building." However, other individual structures or sites, in addition to the two buildings being nominated here, have been determined eligible for the National Register, according to the Virginia Division of Historic Resources. These resources, include: the Jet Engine Test Cell, the Abingdon Research Station (a transportation laboratory which pre-dates the Terminal), and the Abingdon Archeological Site. In addition to these buildings and those included in this nomination the National Airport complex today includes: another grouping of hangars (a portion of the North Hangar line), a Metrorail station, new parking garages, and various other service buildings. These structures do not qualify for listing on the National Register.

The description section of this nomination is organized in the following fashion:

I. Description of the Airport and its Setting
II. Description of the 1941 Terminal
III. Description of the South Hangar Line
IV. Description of the Non-Contributing Taxi Parking Structure

I. DESCRIPTION OF THE AIRPORT AND ITS SETTING

Washington National Airport is an 850-acre parcel along the Potomac River in Arlington County, Virginia. The airport site is bordered on the west by the George Washington Memorial Parkway, on the south and east by the Potomac River, and on the north by Roaches Run and a waterfowl sanctuary. The airport site was created primarily on filled land: the former Gravelly Point inlet of the Potomac. The site boundaries have remained essentially the same since the airport opened in 1941; the airport has expanded over the years primarily via more facilities, rather than by the purchase or filling in of substantially more land.

Today, the Terminal is located on low-lying ground roughly in the center of this site, a position selected for its relative shelter from winds and to provide a clear line of vision to the airfield. The site of the Terminal affords exceptional views from the airside to the skyline of Washington and the expanse of runways. This asset was central to the early twentieth-century notion of the spectator airport and is central to the Terminal's architectural significance today. The Terminal was also positioned to fit the tight curve of the traffic rotary, which provides a driver's first impression from the approaching car heading in a counter-clockwise direction around the one-way traffic circle.

The airport's setting is more chaotic today than it was in 1941. It is the centerpiece of a congested metropolitan transportation node containing cars, limousines, buses, taxis, structures for taxis and cars, and Metrorail. Originally, the Terminal was the focal point of an "air park," a travel/recreation destination landscaped with extensive greenery and trees for both the passenger and the spectator of the 1940s. Upon inspection, one can see important remnants of the original, 1940 site plan, including: the counterclockwise, bilevel road system with a central rotary and original flagpole; the airfield layout with its pattern of intersecting runways; terraced, arc-shaped parking lots, with views to the airfield west of the Terminal; hangars of the South Hangar Line (six out of the seven remain); and, the Terminal itself. All were set comfortably within the broad green parklike expanse of the site. Many additions to the site between the 1940s and present have already been removed to pave the way for new construction. Such structures include a 1941 hangar (Hangar 1) and World War II-era military structures (a terminal and a hangar).

Washington National Airport is presently undergoing extensive alterations as part of the Capital Development Program. The New North Terminal and Related Facilities Project, which broke ground in November 1993, includes the construction of a new, 35-gate terminal (the new "North Terminal"), a new Air Traffic Control Tower (ATCT), a new "Connector" (linking the 1941 Terminal and the new North Terminal), and the rehabilitation of the 1941 Terminal. As part of the project, certain additions to the building which do not contribute to its historical significance will be demolished.

The Terminal's setting is also currently being altered as part of the Program. A new landscape plan for the immediate Terminal area will be introduced to re-create the spirit of the original setting. The new traffic circle will be smaller in dimension than the original circle and will have new light standards.

II. DESCRIPTION OF THE 1941 TERMINAL

EXTERIOR

The Terminal is an arc-shaped, hierarchically composed, four-story[1] building designed to reflect breakthroughs in transportation technology. The building's length is reduced in stepped intervals from the lower to upper stories. Originally, a centrally located, diamond-shaped control tower provided a focal point at the top of the hierarchical composition. Today, the control tower atop the Terminal is of 1985 vintage and slated for demolition. In addition, a miradoor with theodolite domes (technically, a viewing tower but used in this case as a weather station; see Fourth Floor description) plays a pivotal role in capping the scheme. The building is executed in structural steel and cast-in-place concrete. The latter was an inexpensive and typical wartime material. The concrete surfaces were cast using 8'0" x 1'0" plywood forms, leaving a horizontal banding pattern which links the building to the Streamlined Moderne style or design.

The long, additive structure that stands today is more than twice its original length and expanded in width as well, due to projections from the original airside wall. Its original core, constructed in 1941, was a taut composition, 540 feet in length and 90 feet in width; it consisted of a central columnar block (of vertical orientation) flanked by two, short, one-story wings (of horizontal character). An extensive building campaign between 1948 and 1972 (see last section) led to the following additions: a) the 1948-50 South Extension, b) the 1955 South Finger, c) the 1956 South Baggage Room, d) the 1966 airside holdrooms, e) the 1968 American Terminal, f) the 1970 Northwest/TWA Terminal, and g) the 1972-85 holdrooms at the north end of the building. Besides the building additions, exposed mechanical work also has been added to the exterior of the building. The resulting unsightly rooftops and large areas of screening on the upper floors will be removed during the subsequent rehabilitation of the Terminal.

The primary focus of this nomination is on the 1941 portion of the building, which holds the greatest historical significance. Specifically, the Terminal represents a successful functional solution to the challenges of early air travel and, from an architectural perspective, is a blend of three distinct stylistic influences: the Art Deco/Streamlined Moderne, the Colonial Revival, and the Stripped Classical (also known as "Government Modern"). The stepped massing, banded fenestration, horizontal orientation, sidewalk canopies, innovative materials, and stylized ornament speak of the Art Deco/Moderne movement, with combined early and late Deco

influences. The building's portico-and-wing composition draws upon the regional Colonial heritage of eighteenth-century Virginia. Finally, the execution of the portico as a "stripped" expression of Classicism promotes the ideals of World War II-era government architecture.

Landside (West) Facade

The west front of the building, the more decidedly formal of the two primary facades (west and east), exhibits both an elegance of form and an unmistakable sense of purpose. Curving sidewalk canopies projecting from the face of the building sweep north and south, following the axis of the building wings. These "shelter slabs" were designed to protect the passengers at the edge of the traffic circle from inclement weather. A third canopy reaches directly to the north, and was planned as an "alternate" covered walk; it was likely constructed in 1947 when the baggage room was extended. A commanding central portico announces the building's original purpose as a government-funded commercial operation. The portico is stripped in its execution, defined by eight, square, capless concrete piers set in antis. On the piers' interior faces, strips of florescent lights shine back into the carved portico niche. Inside the portico are polychromatic, exposed-aggregate concrete mosaics (both floor and soffit) designed by noted Washington architectural sculptor John J. Earley. The mosaics, cobalt blue with gold in the soffit, and black and white at the floor, employ Greek fret and other geometric motifs.

In addition to the portico, other features of the facade exhibit the overwhelming presence of the government in planning, designing, and building the Terminal. Flanking the portico, at the second-story level, are concrete emblems of the federal government: the Presidential Seal (to the north) and the Civil Aeronautics Administration logo (to the south). In addition, "Washington National Airport" is incised in the concrete entablature above the portico on the west facade.

In general, this facade is characterized by areas of smooth concrete broken by evenly spaced, punched and, in some cases, banded window openings. The west wall is solid and impermeable in construction, and is more classical than that of the east (see below). Most of the original windows on the facade consist of casements above operable hoppers. At the southern end of the second-floor wing, the steel windows are banded. Wider, third-story windows are configured in a four-part division -- three vertical lights above and a single hopper below. At the mirador level, a central glazed double door is flanked by large banded windows.

Two polygonal glass entrance vestibules originally led from the front of the building on the traffic circle into the Waiting Room. These areas featured aluminum and glass doors, with reeded handles and white bronze push bars. The northern vestibule was removed in 1979, when United expanded its ticketing office. The date of the removal of the southern vestibule is unknown. Today, in place of the entrance vestibules, single sets of sliding

metal and glass doors are located in line with the portico columns. The outline of the original polygonal entrances can be seen in ghost lines within the concrete sidewalk and above in the canopy soffits.

The major alterations to the landside wall consist of numerous additions made to both the north and south ends of the building; the alteration of the original, sharp-angled baggage room to the north of the portico into a curved, aluminum-sash ticketing lobby; and the removal of the glass entrance vestibules. More minor changes on this face include the sealing of some windows and the installation, in other openings, of window tinting. Some of the blocked windows will be restored under current plans.

Airside (East) Facade

In 1941, the airside facade responded readily to its aviation mission by presenting an almost complete facade of glass, an opportunity for passengers and spectators to view the marvel of air travel. Today, as originally, it is the Waiting Room steel-sash window -- 200 feet long by 30 feet high -- that essentially defines this facade. The curtain wall is constructed of steel sash with aluminum stops and mullion facings. As on the landside, vertical columns are employed to define the central section of the facade; in this case, the columns are placed on an exterior ledge at the first-floor level, just beyond the curtain wall. These columns are massive, round, two-story, steel structures sheathed in concrete. Both the curtain wall and the outside observation decks, which still appear at multiple levels along the airside face, allowed waiting passengers and visitors the opportunity to view uninterrupted panoramas of the airfield.[2] The curtain wall still provides such panoramas. Large, nautical-like, exterior light fixtures along the east wall of the building at the observation deck level are still in place.

At the present time, however, other portions of the east wall of the Terminal have been heavily altered by multiple projecting holdroom additions on the ground through second floors, and by a cocktail lounge addition at the building's north end. The holdrooms and the cocktail lounge are slated for demolition during the planned Terminal rehabilitation. What will appear, therefore, within the next five years, is an airside facade largely restored to its original appearance.

The base of the east facade was constructed of cast-in-place concrete walls interspersed regularly with wide openings, some of which featured doors and others of which featured a door/window arrangement. Unlike the basically fixed curtain wall, these openings were functional in nature, designed to suit the needs of offices, loading vestibules, and baggage rooms. Today, the ground floor of the airside wall is comprised of 1960s-era holdrooms which project from the face of the original building and have caused the removal of these original hollow-metal frame/steel-sash window units of 1941. Current plans call for these holdrooms to be demolished

and the original 1941 openings to be refitted with aluminum "storefront" units to match the appearance of those from 1941.

Stretching out from the center of the building, at the first- and second-floor levels, are additional long expanses of glass, although today these are substantially concealed or altered. Originally, long expanses of windows were found along the North and South Passenger Concourses of the first floor and along the office corridor and Dining Room wall on the second floor. Today, the north wing's glass walls are missing due to airside holdroom additions; however, plans call for the banded window walls of the first and second floors at the north end to be reconstructed.

The third-story windows on the airside are located within the central block of the building and are of original, banded construction. Finally, as on the landside elevation, lettering in the concrete plays a design role on the east facade. "Washington National Airport" is inscribed above the curtain wall as a greeting to arriving passengers. In addition, "Elevation 16" is inscribed in the concrete directly over the ground-floor opening to the Baggage Makeup Room.

North and South Faces

With the many additions to the ends of the Terminal, the original north and south elevations of the building are today totally obscured. To the north, holdrooms added in the 1970s and 1980s and lower-level service additions have obscured the sharp lines and smooth curves which were originally integral to the Terminal's stepped massing and Streamlined Moderne character. To the south, four major additions have lengthened the Terminal substantially and erased the original southern end wall of the building, with its corner windows and observation decks.

Originally, the north and south wings of the building were of unequal, but complementary, lengths and shapes. The south wing was slightly shorter and terminated in a square edge. The north wing curved along a shorter arc but longer radius than the south, and featured a circular terminus at the second-floor level. This circular, glazed end provided a spectacular panorama of the airfield and monumental Washington to diners within the formal Dining Room. On both north and south ends of the building, the observation decks turned the corners and became stairs, allowing for the convenient descent of spectators back down to their parked cars. The second-floor northern observation deck is now concealed by a cocktail lounge addition. This addition will be demolished and the observation deck will be restored under current plans. (Due to security restrictions, however, public access can not be permitted.)

INTERIOR

The interior of the Terminal was based on the concept of "channelized control," a program whereby types of uses were segregated to permit the most efficient operation of the airport. The ground floor was, and still is, the service floor, with a trucking concourse defining the space. A narrow office corridor runs along the airside, while large mechanical and service rooms occupy the landside. The first floor features the grand Waiting Room, symmetrical passenger concourses on the airside (the North Concourse is the subject of planned rehabilitation/alteration), a coffee shop and kitchen at the north end on the landside, and a patron service corridor along the landside to the south. The second floor features the balcony/mezzanine with offices to its west, a public restaurant at the north end, a cocktail lounge off of the restaurant, and an office corridor at the south end. The third floor is smaller in scale than the first two, and features the offices of the Federal Aviation Administration. Above the third floor is a small fourth floor "base building," containing the technical and radar rooms of the Federal Aviation Administration. Finally, on the building's roof are the mirador (or, weather station), and the air traffic control tower cab.

Below are descriptions of the 1941 Terminal's spaces as inventoried in October 1993. The spaces are indicated first by their historic name, and second, by their current name or usage (shown in parenthesis). Other interior spaces from later additions to the building are considered secondary in their contribution to the building's architectural significance, and therefore are briefly described at the end of this section. See "description of additions" to follow.

The Ground Floor

Passenger Loading Vestibules/Restrooms (Various Uses, Including Holdrooms)

Located originally along the airside wall, the four original ground-floor loading vestibules now function as interior antechambers to airside holdrooms of the 1960s. To get to the loading vestibules, one descends from one of four sets of stairs from the first-floor passenger concourses (two stairs each in the North and South Passenger Concourses). Originally, loading vestibule exterior doors led out to the airfield. Each vestibule contained restrooms and a set of twin, metal telephone booths.

Today, all but one of these vestibules is in good condition. The loading vestibule walls and the stairwells leading down to them were originally clad in large, rectangular, peacock-blue-green terra-cotta tiles. The floors were covered in terrazzo verde (a dark, green-black color floor). Today, the wall finish remains intact under various layers of applied coatings and the terrazzo floors are intact as well. The dark terrazzo of the stairs leading down

to the vestibule, however, have been replaced with a newer, white terrazzo. Other alterations to these areas include the addition of wheelchair ramps at some of the stairwell handrails and the removal of original restroom partitions due to accommodations for the handicapped. The holdrooms will be demolished and the entire airside ground floor including the loading vestibules will be restored under current plans.

Trucking Concourse (Service, Storage, and Airline Employee Lounges)

The ground-floor Trucking Concourse runs the length of the original terminal in a north/south direction near the airside wall and functions as a service corridor, as it did originally. To the east of the concourse are offices (originally, for airline crews) and to the west are large mechanical rooms, a former Post Office mailroom and lobby, and the Baggage Makeup Room. The concourse was built as the service spine of the building -- used for the transport of baggage and mail -- and still functions as such today.

The Trucking Concourse is in good condition and retains its original character. Utilitarian in appearance, its walls are still sheathed in gold-colored, enameled "clay wall units." Concrete curbing protects the walls from various airport baggage and mail carts. Minor alterations include the addition of lockers along the walls, and the transformation of the space at its southern end into a public space. This conversion has been accommodated by the carpeting of the walls and the introduction of new floor and ceiling finishes.

Baggage Makeup Room

The Baggage Makeup Room is located underneath the main Waiting Room, in roughly the center of the ground floor. This area is a large open space divided by structural columns. It is currently used for storage. One of the original spiral baggage chutes still stands in this space and is being preserved.

Post Office (Concessions Storage, Elevator Lobby, Corridor)

Also located to the west of the Trucking Concourse, underneath the South Passenger Concourse, was a working Post Office. Today, the spaces are reconfigured into a variety of uses, including storage rooms, an elevator lobby, and an employees lounge. The original Post Office featured a public lobby (the only public space on the ground floor) and a work room. The lobby featured exposed aggregate concrete walls, a starred aluminum cornice, and Greek-fret terrazzo flooring. Fragments of these finish materials remain in an elevator lobby and concession storage room. In 1941, windows along the inside wall of the ground-floor south trucking concourse faced into the Post Office work room, allowing spectators a view of the busy mailroom. Today, these interior windows no longer exist, and the trucking concourse wall is carpeted.

The Presidential Suite (Airport Operations Office)

The Presidential Suite now functions as the Airport Operations office and is located on the ground floor at the southern end of the building. Foreign dignitaries and other notables were received in this two-room suite (a foyer and reception room) to meet with the President. Decorative elements in this important suite included laminated plastic double doors with aluminum reeding, a stylized floral design inlaid in the terrazzo flooring, and the "textured laminated plastic" wall sheathing. Novel in the 1940s, the wall sheathing was a thin lamination of wood embedded in the plastic and visible through a transparent, wear-resistant surface.

The First Floor

The Waiting Room

The Waiting Room is a vast space of monumental character and understated design elegance. It features the major materials (concrete panels, terrazzo floors, aluminum detailing, and etched glass) and design motifs (stars, sheaves of wheat, the eagle, etc.) that characterize the Terminal as a 1940s work of architecture. It is streamlined in execution, defined by a slightly curved ticket counter along its west wall, with a balcony above, and an entirely glazed east wall. A major focal point is the grand stair, with its aluminum newel posts, at the north of the room. This stair led up to the decorative, glazed entry wall of the formal Dining Room in 1941. At the north and south ends of the Waiting Room are niches which have served various food-related functions over time.

The room has historically served as a ticketing and gathering area. Although underutilized today due to the creation of several unit terminals on the airport grounds, it still retains its original function. The landside ticket counter still sits in its original location, although the casework is of newer vintage. The giant curtain wall provides unparalleled views to the activity of the airfield. Below the curtain wall is the original aluminum radiator system, which doubled in function as a makeshift seating area in the 1940s. Operable hopper windows near the radiators once permitted air circulation. The ceiling, originally a smooth surface of acoustical plaster with large domed lighting coffers, now features an acoustical-tile finish with fewer light fixtures. The flooring, originally a dark black-green color with inlaid brass and bronze motifs, is today covered in a second layer of white terrazzo.

In the center of the Waiting Room, a seating area is contained within an aluminum railing. The original seating area was narrower in width, and stepped down from the floor height of the ticket counter area to a lower level.

Today, the entire seating area has been raised to the level of the main floor. Changes undertaken in the 1970s to the Waiting Room floor resulted in the removal of the original decorative terrazzo work in this area.

The original Soda Fountain space at the south end of the Waiting Room functions today as a deli. New finishes -- glazed tile walls, tile floors, and acoustical ceiling -- cover those of the original Soda Fountain space, which included exposed aggregate concrete walls, terrazzo floor, and plaster ceiling. The most unusual aspect of the soda fountain was a sepia photomural of the first flight at Kitty Hawk located on the south and east walls of the room behind the fountain. Fiber optic investigation reveals that this mural likely has been destroyed. Originally, the newsstand at the north end of the Waiting Room functioned as an open niche with an aluminum dessert station within. The original terrazzo floor and precast wall surfaces in these two areas are concealed underneath the newer finishes.

Passenger Concourses (First Floor Concourses)

The Passenger Concourses, located to either side of the Waiting Room, contain the peacock-blue-green terra-cotta tiles that make these and the Loading Vestibule spaces unique. They also feature terrazzo verde floors, slender pipe columns, and white acoustical tile ceilings. These Concourses originally were entered via louvered glass doors separating the Waiting Room from the Concourses. In 1941, a few couches positioned in these wings allowed spectators and passengers to view the airfield before descending the stairs to catch a flight. Originally, the concourses were narrow corridors with tiled western walls and steel-sash windows along their eastern length. The South Passenger Concourse today retains this original configuration. The North Passenger Concourse, expanded in the 1970s to accommodate holdrooms and a baggage claim area, will have its east window wall restored under current rehabilitation plans.

South Corridor

The South Corridor, located at the south end of the Waiting Room directly west of the South Passenger Concourse, is a public amenities corridor finished in gray/buff exposed aggregate concrete panels, acoustical tile ceiling, and terrazzo verde flooring. It originally featured dressing rooms, toilets, and a barbershop. It also held offices and a press room. Beyond the initial corridor area, the space widens, an alteration which took place in 1948-50 to create a new lobby for the South Extension.

Telephone Alcove (Telephone Alcove)

The Telephone Alcove is located in the area just southwest of the Waiting Room, near one of the major entrances to the Terminal. It still functions in its original capacity, although original finishes -- except the terrazzo floor -- have been removed. In 1941, a central operator connected callers, who would then take their calls in the booths which lined the east and west walls. The original wall covering, "laminated resinous material," no longer exists.

Coffee Shop (Vie de France)

The Vie de France coffee shop, located at the northern end of the Waiting Room, contains recent finishes. It is located at the site of the original Coffee Shop. In 1975 and 1990, the coffee shop underwent renovations. Some or all of the original, 1941 black terrazzo floor still exists underneath multiple carpet and tile layers. The 1941 Coffee Shop was innovative for its cloverleaf stainless-steel and Formica self-supporting countertop, designed by the airport's interior designer, Ethel Pilson Warren.

Baggage Room (United Ticketing)

The United Airlines ticketing area, at the north end of the Waiting Room directly adjacent to the northern entrance, includes a portion of the original building plus several additions. It is finished in contemporary materials -- aluminum ceiling panels, gypsum wall board, carpet. Part of this area originally functioned as the only baggage room for the airport. An elevator, removed in 1965, carried the baggage up to the first floor from the baggage sorting room below. Two sets of paired metal doors led out from the baggage room to the sidewalk.

Restrooms

In general, the restrooms in the Terminal have been largely stripped of their original finishes due to improvements in handicapped accessibility. Some historic wall and floor tiles remain (primarily on the ground floor), but the marble toilet partitions used originally have been removed in most places. Most first-floor restrooms contain contemporary tile finishes.

Second Floor

The Mezzanine (Balcony)

The Mezzanine is a glass-railed balcony structure supported by concrete-clad piers along the Waiting Room's west wall. Decorative metal doors lead to offices behind the Mezzanine. The Mezzanine today contains some of its original building material: the aluminum coffered-dome light fixtures in the ceiling, the exposed aggregate concrete wall panels, and the aluminum balcony railing. It has lost, however, its decorative etched-glass panels in the balcony rail, which showcased the Civil Aeronautics Administration logo and the American eagle in 1941. Red-leather and stainless-steel chairs were originally located close to the balcony railing so that bystanders could observe both the activity of the Waiting Room and the marvel of flight on the airfield.

Airport Dining Room

Only recently sealed off, the second-floor restaurant space has been a public restaurant for most of its 50-year life. It is a long, narrow room with a circular terminus and a kitchen area along the west wall. Today, the Dining Room features contemporary finishes (heavy, orange tile floors, glazed brick walls, and acoustical tile ceilings) that conceal most of the historic fabric. In addition, the original glass entry screen to the Dining Room (its south wall) was dismantled at an unknown date and replaced, until recently, with a 1970s wooden lattice screen. The drywall partition which is currently in use is temporary.

In 1941, Dining Room was a popular destination for Washingtonians in search of fine dining. The Dining Room was originally approached via the grand stairway at the north end of the Waiting Room. An aluminum chandelier with three long fluorescent tubes hung at the stair landing. At the second landing was a glass screen wall, containing metal and glass doors with a stylized aluminum lintel featuring wings and bundled wheat, which led to the Dining Room proper. The entire eastern wall of the room was windowed (above a concrete block base), and contained glass doors which led out to an open-air dining terrace. This curved east wall of the Dining Room will be reconstructed under current plans.

The original room was a masterpiece of coordinated design; from the wallpaper to the flooring, to the cutlery and china. The terrazzo floor was designed of columbine-blue marble with inlaid star motifs. (A portion of this original floor has been exposed and cleaned.) The walls were sheathed in cloth-backed rift-sawn oak veneer. Doors, the cornice, and decorative trim were fashioned in aluminum. A decorative plaster disc and light fixture accented the ceiling (a remnant of which remains today underneath the acoustical-tile dropped ceiling). Decorative bulb lighting followed the perimeter of the room. The original Dining Room interior decoration was

the work of Ethel Pilson Warren. And, although more lavish than most other spaces in the Terminal, it was consistent with her design philosophy -- that furniture should serve only to complement architecture.

Corridor and Offices (South Corridor)

The second-floor corridor remains much as it was in 1941: straightforward rooms lining a double-loaded corridor. Today, the configuration of the office interiors has changed to accommodate office suites. The concourse also features an elevator, which no longer retains its original cab. The spaces originally held the stewardess lounge, the airline telephone equipment room, the airline supply room, and the telephone switchboard office. The most decorative feature of the original South Corridor was the Admiral's Club, designed by Ethel Pilson Warren. Unfortunately, none of this suite remains.

Third Floor (FAA Offices and Radar Rooms)

The third floor consists of Federal Aviation Administration offices, TRACON (regional radar), and airport-employee break and training rooms. The heavy metal central stairway leading from the stairwell just west of the Mezzanine to the third floor is not original. The FAA offices are greatly changed from their original appearance and likely do not contain significant interior architectural fabric. None of the other rooms has significant architectural detail. To either side of the main block are symmetrical, semi-circular spaces accessed from the east side of the second floor.

Fourth Floor (Mirador and Base Building) and Air Traffic Control Tower

The irregularly shaped fourth floor incorporates the base of the 1985 control tower, the mirador, and a passageway between the two spaces. Originally, the mirador and a smaller tower base were distinct, unjoined structures. Later, between 1949 and 1985, a linking element between the base of a second, 1949 tower and the mirador was constructed. Current plans call for this connection to be demolished, along with the entire 1985 tower and base building. The east wall of the mirador will also be restored.

The mirador, the area along the west portion of the roof incorporating the two theodolite domes, holds the meteorological station. The weather station is a significant feature of the Terminal both from an architectural and historical sense. The weather station has consistently operated from this site since the opening of the airport. Original interior finishes in the station include the glazed ceramic wall tiles.

The base building of the ATCT (1985) now houses FAA-related offices and equipment rooms. It does not hold any interior architectural significance.

The Air Traffic Control Tower also dates to 1985. Neither the subfloor, nor the cab itself contains significant historical interior building fabric.

The current Control tower and base building were constructed to FAA standards in 1985, at that time replacing a 1949 replacement for the original control tower. Today's control tower sits on the site of the 1941 cab, but is otherwise quite different from the original. It is a different shape than the original; it has a trapezoidal glazed cab, whereas the original cab had double-angled glass, the upper portion of which was shorter than the lower portion. The new tower's elevation is also higher than the original cab -- 104.75 feet at the top of the 1985 parapet as compared to 91.45 feet at the top of the original cab. In addition, the circular base of the new tower projects slightly over the eastern edge of the building, whereas the original tower's base was flush with the east plane of the third-floor wall. The current tower rests upon a substantial base building (a new fourth floor on the east side of the building), whereas the original tower cab rested upon a smaller two-room base, the eastern part of which served as a podium to the cab. The base for the original tower cab was an electric equipment room with a machine room to its west. In sum, today's tower is larger, taller, and of different profile and materials than the original control tower base and cab.

DESCRIPTION OF ADDITIONS

Described below are major additions to the Terminal. They are noted in roughly chronological order; the exception being that multiple additions to a single location are grouped together. Certain of the additions contribute to the architectural and historical significance of the Terminal as a whole. Other additions do not manifest the high design standards of the airport's early years.

The major additions to the 1941 Terminal are clustered on the ends of the Terminal and along the airside wall. They include the 1948-50 South Extension, the 1955 South Finger, the 1956 South Baggage Room, the 1966 airside holdrooms, the 1968 American Terminal, the 1970 Northwest/TWA Terminal, and the 1972-85 holdrooms at the northern end of the building. In addition, bridges have been constructed with each of these major terminal additions in order to provide direct access to the sidewalk over Thomas Avenue. From north to south (not including the original entrance vestibules), the bridges date to 1984, 1948 (in the location of the former observation deck steps), 1956, 1968, and 1970. The earlier bridges no longer retain original materials, such as aluminum frames and doors. As described below, the primary results of these large-scale construction projects in

combination with more minor additions include the fact that the building has been significantly lengthened and important views of the building's east and west facades no longer retain their clean streamlined appearance.

1948-50 South Extension

To the immediate south of the original 540-foot-long Terminal a linear concourse was added. This 1948 extension to the south end of the building employed the same basic architectural vocabulary as the original Terminal. For this reason it contributes to the building's architectural significance. Called the "South Extension" when it was added to the southern end of the Terminal between 1948 and 1950, the large addition was designed by the Public Buildings Administration to match the original Terminal. The South Extension expanded the gate, airline office, and service capacity of the Airport. The project also included the renovation of the first floor of the south end of the original Terminal. The fenestration of the addition is steel-sash, ribbon windows; it has a flat roof form.

The interior of the South Extension is also closely allied with the 1941 Terminal. Terrazzo flooring and metal trim provide the simple experiential link between the original building and its first addition and makes the transition between the two areas fairly seamless. The floor plan is still extant and is a simple, slightly curved but linear space. It features a double-loaded corridor with stores or offices/clubs to either side. The first floor of the South Extension served as a bank and post office lobby and concessions area when it was first constructed. In the extension, the concourse was identified by the word "CONCOURSE" designed in individually cut, cast-aluminum letters welded to a continuous, lit ceiling cove. The primary modifications to the 1948 addition have been concessions-related renovations. In 1986, new neon signage and glass-block accents were added to the main concessions area. The renovation retained the original undulating wall planes of storefronts and the corridor ceiling cove, but dramatically changed the character of the once-modest space. The second-floor office corridor remains in good condition. It consists of a linoleum-floored space with plaster walls. The office numbering signs may be original. Office spaces are plaster and unadorned. Today the bank has moved up to the second floor.

1955 South Finger

The 1955 South Finger was originally a one-story, concrete block, enclosed covered walkway without holdrooms. It projected from the 1948-50 South Extension outwards in a southeasterly direction. It featured regularly spaced rectangular, single-pane windows along its northeast and southwest faces. The South Finger ground-floor base of today includes remnants of 1955 walls (now interior), 1966 and 1967 construction on the northeast and in the

corner near the 1948-50 South Extension (USAir's baggage claim), and American Airline's 1968 construction on the southwest.

1956 Baggage Room

Located on the south end of the Terminal, the 1956 Baggage room was added to the south of, and partially on top of, the 1948 addition. Like the 1948 addition, it too used the same architectural vocabulary as the original 1941 Terminal and as such it contributes to the building's historical significance.

The Baggage Room is an open, unadorned space featuring baggage carousels, independently stationed ticket counters, and rental-car-agency stations. It has plaster walls and a terrazzo floor and base, both of which are its original materials.

The 50' x 70' Baggage Room was constructed of relatively inexpensive materials (concrete masonry units with a plastered finish), but was in keeping with the character of the original Terminal. Like the 1948 extension, the Baggage Room has steel-sash, ribbon windows and a flat roof form. It was built to alleviate the long waiting lines at National's only baggage room, located north of the Waiting Room. The new baggage room was designed to service nine gates, and to bring baggage up to the street level through escalators.

1968 American Airlines Jet Passenger Facility

The 1968 American Airlines Jet Passenger Facility was constructed as an interim "unit" terminal. While its lobby was new construction, its concourse was designed as a second-floor addition to the existing 1955 South Finger (see above). Its exterior wall surfaces are concrete panels over structural steel. One exception to this use of material is the base of the concourse (or, original South Finger), which is concrete block. The terminal's lobby roof is a steel truss-supported V-shaped form, with clerestory windows. The concourse roofline varies in elevation, but retains its flat form. The American Airlines Jet Passenger Faciilty as an entity lacks visual coherence on the exterior.

1970 Northwest/TWA Terminal

The 1970 Northwest/TWA Terminal was also constructed as an interim terminal. It is executed in two different materials: concrete panels for the terminal and concourse portions of the facility, and a dark gray-colored reinforced concrete for the "satellite" or circular holdroom element at the Terminal's end.[3] The lobby roof of this terminal is a near-flat, steel-truss supported structure. The roof over the concourse is flat and that over the

satellite, slightly arced. The overall terminal image is that of a long unfenestrated concourse (with some relief) and a generously glazed satellite. It is closely allied in spirit to the 1968 terminal in use of materials, having been designed by the same architect. The view from the satellite to the South Hangar Line is quite striking, and the pier/satellite configuration of this Terminal is one of National's most notable features.

ARCHITECTURAL INTEGRITY

The Terminal retains sufficient aspects of its original location, setting, design, workmanship, materials, feeling, and association to meet National Register standards for integrity. The building still conveys a powerful statement of government purpose and regional architectural heritage. On the exterior of the building, the structure's hierarchical composition, a keystone of the design, is largely intact today, as is the curved form and sweeping portico of the west facade and the large glass curtain wall of the east facade. The integrity of the interior is also strong, with much of the original building material, floor plan, and decorative features extant.

There have been alterations to the building over time. Most significantly, to the south, four major additions to the original southern end wall of the Main Terminal have lengthened the Terminal substantially. The additions closest to the original terminal perpetuate its Streamlined Moderne character, while the more southerly additions retain the curved plane of the west facade but are more contemporary in character. Past changes to the land (west) side of the building include the removal of the polygonal, glass entrance vestibules and the alteration of the original baggage room to the north of the portico into a curved, aluminum-sash ticketing lobby. In the future, the 1985 control tower pinnacle also will be removed.[4] In the interior, as might be expected, functional changes throughout the years have resulted in proportionate changes to circulation and space use, sometimes encroaching upon and/or altering original character. These changes have not affected many primary interior spaces such as the main Waiting Room and mezzanine, which continue to convey the impression of a grand era of aviation.

Overall, changes to the original Terminal building do not significantly impair the building's integrity. In addition, several of the alterations that currently adversely affect the building's integrity, including multiple holdroom additions on the ground, first, and second floors, and the rooftop additions related to the 1985 tower, are slated for removal within the next five years. During this same period, the rounded glass northern end of the 1941 Terminal, now obscured, will be restored and the 1941 interior will be cleaned and repaired. These changes are part of the New Terminal and Related Facilities Project, which will also result in the construction of a new North Terminal and the construction of a "Connector," to join the new North Terminal to the 1941 Terminal.

III. DESCRIPTION OF THE SOUTH HANGAR LINE

EXTERIOR DESCRIPTION

The South Hangar Line originally consisted of seven hangars: two arched hangars positioned to the north (Hangar No. 1) and south (Hangar No. 7) of a group of five flat-roofed hangars. As discussed previously, Hangar 1, the first of the seven airport hangars to be constructed, was demolished in 1990 to permit construction of the Taxi Parking Structure.

Today, the South Hangar Line consists of a series of six hangars that are connected by mechanical shops and together form one large rectangular structure. With the loss of Hangar No. 1, the assemblage of hangars is asymmetrical; the single, arched form of Hangar No. 7 contrasts with the other flat-roofed structures. Constructed of structural concrete, the South Hangar Line's expanses of steel-sash windows and concrete lend an industrial feel to the building.

Landside (Northwest Facade)

On the long, horizontal, landside facade of the building, strips of ribbon windows alternating with areas of concrete or stucco dominate the design. A projecting 30-foot-wide, two-story shop/office section which stretches the length of the facade, steps out from the body of the building and provides a unifying element to the facade.

The lower shop section of the building is embellished chiefly by the strip windows and the entrances to the hangars. Entrances are centered on each hangar and they provide some of the few purely decorative elements to this face of the building. Entrances project from the wall surface and consist of three glass doors recessed into, and framed by, wide concrete piers and a slightly curved projecting concrete canopy. The original glass doors (many of which are extant) feature aluminum fluted handles. The interior sides of the concrete piers are also fluted. Taken together, these elements lend a Streamlined-Deco feel to the entrances. Access is also provided by multiple metal overhead doors and typical pedestrian doors located between the entrances.

The fenestration on this two-story section of the building consists of two strips of multipaned steel sash. The lower, wider strip of windows, consisting of five rectangular panes aligned in rows, is interrupted by the overhead doors and the main entrances. Slightly above it, and separated from it by an area of concrete, the second line of windows is slightly narrower than the lower strip. It runs continuously along the facade of the South Hangar Line.

The taller portion of the facade, the hangars themselves, also are embellished mainly by metal frame windows. Here, in Hangars No. 2-6, a wide strip of fixed steel sash is separated from the lower section of the building by a wide area of stucco. The strip of windows runs the length of each hangar and is interrupted by areas of smooth concrete.

At Hangar No. 7, the arched hangar, the two lower strips of windows continue as a line of punched window openings. The third, higher, line of windows ends at Hangar No. 7, where the glazed, arched window wall (five rows of translucent ribbed glass metal sash awning windows) occurs at the same height as the line of windows. An exposed arched steel beam is the uppermost element of the facade.

The facade of the South Hangar Line is slightly hierarchial, as the central hangar, Hangar No. 4, is taller and wider than the other hangars arranged symmetrically around it. Floodlights set into the canopy soffit originally illuminated the entryways.

Airside (Southeast Facade)

The airside of the building is dominated by the large metal and steel-sash hangar doors that occupy most of the facade. Between the hangars, shop areas are expressed on the facade as smaller areas of concrete pierced by a single window at the second-floor level and a single door at the first-floor level.

The hangar doors consist of eight (ten in Hangar No. 4) sections, 22 feet wide by 30 feet high, which slide to either side when the door is open. The sections are attached with steel cable set in tracks recessed into the fixed glass area above the panels, mounted on the leaf in front of it, and set into the concrete floor. Each section runs in back of the one outside it, with the result that each hangar door, when closed, forms a wide, gradually receding bay. The middle of each panel is occupied by rows of grouped, square, fixed-light, wire glass windows. The original glass, much of which remains, was blue, presumably to reduce heat.

Above the movable panels are fixed windows, which also are recessed towards the center of the hangar. This area contains additional rows of square fixed-light windows with solid metal plates above them: three rows in Hangar No. 4 and two rows in the other hangars. In the center of the hangar doors, hinged 10-foot-high (15-foot in Hangar No. 4) sections above the doors provide additional entrance space to accommodate the aircraft tail assemblies for taller planes. A pilot door in one of the inside sections provides pedestrian access to the hangars. Recessed spotlights are set into the soffits above the doors. When fully open, the sliding leaves of the doors are stored in recessed pockets in the walls of the adjacent shop spaces (it is for this reason that their elevations are largely unfenestrated).

Like the landside facade, the airside facade is hierarchial, in that Hangar No. 4, located in the center of the Hangar Nos. 2-6 grouping, is both taller and wider than the hangars on either side.

South Facade

This facade of the South Hangar Line consists of the two-story shop structure in the foreground and the side elevation of Hangar No. 7 in the background. The two-story shop section has 24 punched openings at the first floor level and 8 larger openings at the second floor. Fenestration is multipaned metal fixtures. Long strips of skylights can be seen in the side elevation of Hangar No. 7.

North Facade

This facade of the building is now attached to the Taxi Parking Structure. Above the parking structure, the top portion of the side elevation of Hangar No. 2 is visible, including a line of strip windows nearly identical to those used on the top strip of windows on the landside facade.

INTERIOR DESCRIPTION

The interior of the South Hangar Line is composed of three types of spaces: the six hangars, the three-story shop sections sandwiched between the hangars, and the two-story shop areas that run the length of the landside of the building. The spaces have been significantly altered over time.

Hangars

The hangars themselves are vast open spaces (283 feet by 213 feet) unbroken by vertical supports. Most, however, have been modified somewhat by the construction of one- and two-story flat-roofed structures against the side and back walls.

One of the primary features of the hangars' interiors are the structural members. The steel arches in Hangar No. 7 and the long-span steel Warren trusses in Hangars No. 2-6 are exposed on the interior and are connected with a variety of crossbeams, intermediate ribs (in Hangar 7), and wind bracing. The roof frame system consists of arched steel box beams in Hangar No. 7 and of long-span steel trusses in Hangars No. 2-6. Crossbeams support the fixed upper portions of the hangar doors and the movable hinged tail gate sections, which open inward on curved metal tracks. A crane originally ran on tracks located within the truss system and could be used to lift freight to the second- and third-floor levels in the intermediate shops. Space heaters were also

mounted on the trusses near the hangar doors; most of these have been removed, and the others are no longer operational. Catwalks also seem to have been originally located within the roof structure. Openings on the north, west, and south walls of the hangars vary, reflecting the variety of uses in the different hangars.

Intermediate Shop Areas

The structure of the intermediate shops located between the hangars consists of a cage of reinforced concrete beams and piers, with steel trusses supporting the roof at the third-floor level. On the first floor, large concrete piers span the 52-foot width of the shops. The upper floors of the shop are supported by smaller piers, and concrete trusses on the second level provide additional support for the steel trussed spanning the hangars. The walls between the concrete frame are infilled with hollow terra-cotta tiles, brick and, more recently, concrete block. The shop sections are utilitarian spaces which feature exposed pipes and machinery.

Landside Shop/Office Areas

The landside shop sections are entered through vestibules which contain most of the few decorative elements and materials used in the hangars. Inside, the intact vestibules employ green and black terrazzo flooring, tile wall units (in this case of a beige color), and stylized aluminum ventilation grilles similar to those used in the Terminal. Immediately inside the vestibule is a metal staircase with elements of Art Deco styling, consisting of a series of metal rods running parallel to the banister.

The landside shop area is also formed of concrete piers and concrete-framed roofs with partition walls of brick or hollow tile. The wall separating the shop section from the hangars proper is constructed of poured concrete. This shop section is divided into a number of different shop and office areas. A long, narrow corridor runs along the east wall of the second floor with offices located to the west. Steel-sash windows pierce the east wall of the corridor and provide a view of the hangar floor below. At either end of the corridor are doors which lead into the second floor corridors of the other hangar buildings. Here too, in general, the shop sections are utilitarian spaces with exposed overhead pipes, florescent lighting, and no decorative elements.

INTEGRITY

The South Hangar Line retains sufficient aspects of its original location, setting, design, workmanship, materials, feeling, and association to meet National Register standards for integrity.

Although altered, the South Hangar Line's character-defining features -- including its long, low appearance, its streamlined Deco details, and its important technical innovations including its hangar doors -- are intact. The most significant alteration to the Hangar Line has been the demolition of Hangar 1 and the construction of the Taxi Parking Structure on its site. This has changed what was once a symmetrical composition into an asymmetrical design. (It also introduced a noncontributing element into a site which was once a cohesive grouping of 1940s-era buildings.) Despite this, Hangars No. 2-6 retain sufficient integrity to qualify for the National Register.

IV. DESCRIPTION OF THE TAXI PARKING STRUCTURE

The Taxi Parking Structure is located between the Terminal and the South Hangar Line. Completed in 1992, the Taxi Parking Structure was designed to provide a waiting area for taxi cabs. Taxis waiting to pick up passengers at the Terminal park in rows and a system of stoplights on the wall of the parking structure controls traffic flow to the Terminal. A concrete structure with two levels for parking, the Taxi Parking Structure has an identifiable parking structure character. The front (west) facade of the structure is characterized by three bands of concrete: the two lower bands are located at the first and second parking level, the third and uppermost band is ornamental. In the open-air area between the bands the concrete piers which support the structure are visible. Because of its late date and its lack of an architectural or historical link to the Terminal and South Hangar Line it is considered to be a noncontributing structure to the property included in this nomination.

SIGNIFICANCE

The Washington National Airport Terminal and the South Hangar Line are significant both as milestones in American aviation technology and as symbols of the broad pattern of New Deal government initiatives. Although born of a wartime need, National was the first federally constructed commercial airport in the country designed for civilian flight. For many years, the Main Terminal served as the Civil Aeronautics Authority's model airport: the footprint, massing, floor plan, and diamond-shaped control tower design of the Terminal building, as well as the runway configuration, runway lengths, and advanced lighting and instrument landing systems were innovations that influenced airport design throughout the country. The Terminal building itself is a significant example of an important building type -- the commercial airport -- and of the engineering and design involved in its construction; its functional clarity and provisions for spectatorship were particularly influential in later terminal designs. The South Hangar Line, built in stages between 1941 and 1948, represents an important technological advance in the construction of airplane hangars. With the completion of Hangars No. 2-6 of the South Hangar Line in the 1940s, Washington National had the largest grouping of hangars of any commercial airport in the country.[5] The Terminal and the South Hangar Line are in good condition and alterations to the buildings do not affect their integrity.

NATIONAL REGISTER CRITERIA

The Terminal and South Hangar Line at Washington National Airport meet National Register Criteria A and C.

Satisfying Criterion A, and as described more fully below, the Terminal and South Hangar Line are representative of the broad pattern of New Deal government initiatives and American aviation technology. Washington National Airport represents a national symbol -- the first federally constructed commercial airport in the country. National became the Civil Aeronautics Authority's model airport, a standard against which to judge other airports across the country. The landfill project undertaken to create National's site from a former river inlet and the paving of the roads and runways were the largest federal projects of their kind and represented engineering breakthroughs. Other technological innovations, such as an airplane service tunnel which led from the Main Terminal to airplane loading platforms, and highly advanced lighting and instrument landing systems, made National the subject of admiration during its day.

Satisfying Criterion C, the Terminal and South Hangar Line are significant, early indicators of an important type of building complex -- the commercial airport -- and of the engineering and design involved in its construction. The Terminal building's footprint, massing, and floor plan relay important information on the development of the interwar municipal airport and its evolution into a transportation nexus. National's site plan and runway

configuration, long runway lengths (by 1941 standards), and diamond-shaped control tower design also were held up as ideals. Its architecture is also a striking example of architectural resolution; its form -- a combination of streamlined horizontal massing overlayed with a dominant vertical portico -- mirrors the architectural polemic of the pre-World War II era, the debate on American architecture's future as Modernist or Neoclassical. Similarly, the South Hangar Line represents an important technological advance in an evolving building type -- airport hangars. The South Hangar Line was particularly noted for its use of long-span steel construction, structural concrete, combination sliding leaf and canopy hangar doors, and streamlined architectural style to convey the "modern mode of air transportation."

The historical significance section of this nomination is organized in the following fashion:

I. Early Planning at the Airport Site
II. Planning and Design of the Terminal
III. The Context of Air Terminal Design in the 1940s: National's Role as a Pioneer Airport
IV. Planning and Design of the South Hangar Line

I. EARLY PLANNING AND DESIGN AT THE AIRPORT SITE

The Selection of the Gravelly Point Site

"[T]he nerve center of the nation, Washington will never be the great metropolis it should be . . . until an aerodrome is established here."[6] Although by 1927 Washington's first airport, Washington-Hoover, operated only a few miles from the site of what would become the new terminal, the limitations of that facility were already recognized. In July 1927, a joint airport committee voted to approve a site for a new municipal airport for Washington. The site was Gravelly Point, a shallow-water area on the west bank of the Potomac River across from Haines Point. The site would require extensive dredging and fill to accommodate the new construction. Despite the 1927 committee vote, the decision to build a new municipal airport at Gravelly Point would be the subject of debate for the next eleven years. It was President Roosevelt who ultimately terminated the debate by deciding on the Gravelly Point site. By creating the Civil Aeronautics Administration (CAA) in 1938, Roosevelt was able to authorize federal sponsorship of a government-owned airport.

Gravelly Point ranked high in the CAA's preliminary rating of potential airport sites for the following reasons: 1) it was accessible to the recently created Mount Vernon Memorial Highway; 2) it was convenient to the Federal Triangle Buildings being erected across the Potomac and to the Post Office at Pennsylvania Avenue and 12th Street, N.W.; 3) the Potomac River was dredged annually, thus providing materials for landfill; 4) there was the capacity for future landfill and expansion opportunities in the event of growth in both the commercial and

military aviation sectors; 5) it would have clear approaches for all runways; 6) it and the majority of land surrounding it were owned or controlled by the federal government; and 7) the finished field would be above flood level. The site's proximity to Bolling Field would cause traffic problems, but these were considered surmountable. Finally, Gravelly Point was considered "an excellent possibility for development as a model airport from the standpoint of beautification, sea and land plane base, and adequate area."[7]

The Federal Government's Role in the Building of Washington National Airport

A total of ten federal agencies, the State of Virginia, and the Commissioners of the District of Columbia participated in the funding and construction of Washington National Airport. The "participating agencies" included the Civil Aeronautics Authority (changed to Administration in 1940) (CAA); the Works Progress Administration (WPA); the Corps of Engineers, U.S. Army; the Public Works Administration (PWA); and the Public Buildings Branch (changed to Administration in 1940) (PBA) of the Procurement Division, U.S. Treasury (responsible for designing all the original buildings at National). The "non-participating" agencies included: the National Park Service, the Department of the Interior; the Bureau of Public Roads, the Department of Agriculture; the National Capital Park and Planning Commission; the Commission of Fine Arts; the Commissioners of the District of Columbia (predecessors of the Mayor of the District of Columbia); the Department of Justice; and the State of Virginia.

In order to provide for a working relationship between all the various bodies of government, a Commission was established, called the Interdepartmental Engineering Commission (IEC). Composed of one representative from each of the main participating agencies, it was the Engineering Commission's responsibility to approve all siting and building plans, choose engineering and construction methods, and supervise all construction. The Engineering Commission was headed by Colonel Sumpter E. Smith of the CAA. Howard Lovewell Cheney, a Chicago architect and military engineer, assisted the PBA as consulting architect. H. H. Houk, of the CAA, was chief engineer, and Henry N. Boucher, of the PBA's Landscape Unit, was the chief landscape architect. A Technical Advisory Committee was established to review and comment upon building plans.

Howard Lovewell Cheney

Howard Lovewell Cheney was to be a leading force in the design of both the Terminal and the South Hangar Line. Born in 1889, Cheney was a Chicago native. He attended the University of Illinois and received a Bachelor of Science Degree in architecture in 1912. He began his architectural career with Chicago architects S. S. Bennan and W. C. Zimmerman. Three years later he struck out on his own, starting a practice which he maintained until 1932 (with two one-year interruptions). His practice included residential, ecclesiastical, commercial and industrial commissions and he served as consulting architect to a number of companies during

this period, including the *Chicago Tribune*. His work for the *Tribune* included acting as an advisor on the International Tribune Tower competition.

From 1932 to 1934 Cheney was a member of the Chicago World's Fair Staff, in charge of "special buildings." Thereafter, he began a 12-year career in public service, serving between 1934 and 1942 as consulting architect to the United States Treasury Department and the PBA. In this capacity, he designed many post offices and federal buildings throughout the country.

During the war years, Cheney served as an Army Air Force Liaison Officer and Airport Engineer. In this capacity, he coordinated the construction of international air base installations and more than 150 air field installations in the United States. After the war Cheney returned to private practice in Chicago. In addition to National Airport, Cheney's major works include: Fourth Church of Christ Scientist, Washington D.C., 1929; First Church of Christ Scientist, St. Petersburg, Florida, 1926; 16th Church of Christ Scientist, Chicago, Illinois, 1924; Terminal Building, South Reynolds Municipal Airport, Winston-Salem, North Carolina, 1942; Student's Union Building, University of Illinois at Urbana, 1941; Federal Office Building, New Orleans, Louisiana, 1940; United States Post Office and Court House, Peoria, Illinois, 1938; United States Post Office and Federal Building, Gary, Illinois, 1937; Post Office, Miami Beach, Florida, 1937; six United States Post Offices, Chicago, Illinois, 1935-39.

Between 1929 and 1939, Cheney was President of the Chicago Chapter of the AIA and was made a fellow of the AIA in 1947. He was a member of the Society of American Military Engineers and a Mason. He belonged to the University Club in Chicago and the Cosmos Club in Washington.

II. PLANNING, AND DESIGN OF THE TERMINAL

The Stylistic Evolution of the Terminal Design

A study of the preliminary designs for the original Terminal at Washington National Airport reveals that early efforts by designers to convince their bureaucratic client of the opportunity for a strikingly modern "aerodrome" failed. The members of the IEC were mindful of their role as New Deal arbiters of taste, and sensitive to the traditions of the ancestral Virginia ground upon which the Terminal would be located. IEC members favored modernity of function and piety of form. They repeatedly urged the PBA to use Colonial references in the design. This process ultimately resulted in the gradual distillation of the International School spirit of the PBA's early designs. Upon its completion, architect Howard Lovewell Cheney would still call the building "modern in type," refusing to acknowledge any Colonial connection.

Beginning in 1939, the PBA staff architects, with Howard Cheney as consulting architect, submitted plans to the IEC for review and comment. As the preliminary designs were developed, PBA staff architects would change, and outside private architectural consultants would be hired.

PBA and Consultant Preliminary Designs

The earliest schemes developed by the PBA staff under Cheney's guidance were free of traditional references.[8] The earliest dated drawings, International Style schemes of April 1939, are the work of Charles M. Goodman, a PBA staff architect who had just completed the Federal Building for the New York World's Fair.[9] Goodman favored a grand, civic structure for National, one that would represent a nation at the forefront of the new aviation era.[10] He felt strongly that the Terminal should be a building of great scale and monumental approach experience. To his disappointment, his government client would not support this vision, and to salvage his personal and professional relationships, he resigned from the project early on.[11]

Despite his early departure, the Terminal still benefited enormously from Goodman's ideas. In fact, the foundation of National as it appears today can be traced to Goodman's original scheme: a long, low building; a hierarchical composition; a vertically ordered central section on the west facade; a two-story, glazed waiting room on the east facade; four sets of stairs descending to ground-floor loading vestibules; observation decks on the airside; what appears to be a canopy at the south end of the west facade; and a diamond-shaped control tower.

Goodman's departure from the PBA presented an opportunity for a young designer named Harbin S. Chandler, Jr., who took over as principal designer on the Terminal project. He would go on to become the architect for the reconstruction of the White House under the Truman Administration, and the Chief Building Planning Staff Architect for the construction of the CIA Headquarters in McLean, Virginia.[12] It appears that the final series of drawings executed between May and October 1939 were Chandler's,[13] and that he, alongside Cheney and Goodman, should be credited with the design of National. Chandler's schemes, like Goodman's, are modern concepts, but are more expressionistic than Goodman's rigorous International Style interpretations. Chandler's schemes show the introduction of new forms, most prominent of which are: 1) the lighthouse-like control tower, 2) a glazed weather bureau and mirador;[14] and 3) a wide, low scalloped roof arising from the Waiting Room. In these initial schemes, the control tower figures prominently at the southern end of the building. The ground-floor rhythm of bays and the Waiting Room steel-sash window of these schemes resemble the east facade of the Terminal as it was constructed.

Despite the modernist direction of many of these PBA schemes, in May 1939, the Executive Session of the IEC voted to approve a "Colonial Type Design." But a month later, in June 1939, the IEC was still reviewing modern designs, this time by the consulting firm of Fellheimer and Wagner, with assistance from airport

consultant L. L. Odell. Fellheimer and Wagner were considered transportation experts and were well-known for their train terminal work (the Cincinnati station, for example). Despite the Colonial mandate, some of Fellheimer and Wagner's drawings from this period portray a terminal of "space age" character. Fellheimer and Wagner were among the first designers to recognize the efficiency of projecting concourses, as such concourses permitted the double loading of planes.

The Final, Approved Scheme

In August 1939, the PBA (apparently, Chandler, as his name appears on several of the drawings) submitted additional drawings. Two versions show modernist schemes for the landside facade. Another scheme, however, shows a Stripped Classical portico. In this version, a recognizable portico appears, although it, like Goodman's columnar facade, shows more connection to the Government Modern school than what was finally constructed. Four months later, a drawing dated November 22, 1939, depicts the west facade of National much as it appears today, with a central control tower and a Stripped Classical portico which manages to recall both contemporary government buildings and Mount Vernon.[15]

Since only minor changes occurred after this drawing, Chandler's design ultimately succeeded in integrating just enough of a Colonial strain to win the approval of the IEC and the President of the United States.

President Roosevelt's Role in the Design of the Terminal

A Civil Aeronautics Authority press release of December 10, 1939, proudly announced that the architectural plans were "enthusiastically approved by President Roosevelt." In addition to endorsing the airport's final plans, President Roosevelt had generated the idea for the government-backed airport, created the Civil Aeronautics Administration, and selected the airport site. Aside from these specific initiatives, however, the President's role in shaping the design of National's Terminal is unknown.

Roosevelt had heartily endorsed the idea of building the world's most modern "aerodrome" in Washington. The president was known to be a fan of the Stripped Classical architectural style used for most New Deal government buildings. He also loved the American Colonial School, having a special fascination for Mt. Vernon, where he often received visiting heads of state.[16] There is no evidence in the historical record, however, that Roosevelt himself ever directly influenced the early design schemes of the Terminal.[17] According to PBA architect Charles M. Goodman, Roosevelt had no direct role in reviewing any of his early design schemes. It is likely, however, that the image of Mt. Vernon, with its central core defined by a portico and symmetrical wings, and Roosevelt's high regard for that building, were prominent in the minds of the IEC reviewers, who were known to have urged "Colonial" designs.

Construction and Subsequent History of the Terminal

After the cornerstone of the building was laid by President Roosevelt in September 1940, construction of the building proceeded rapidly.

National Airport's builder was John McShain, one of Washington's most prolific builders of the mid-twentieth-century. The son of an Irish carpenter, he worked as a foreman for the construction company owned by his father and uncle before obtaining his license as a journeyman carpenter and broadening his education at the Drexel Institute of Technology; there he studied mechanical engineering, steel work, and masonry, among other fields. Out on his own, his first construction project was the Philadelphia Board of Education Building, constructed in 1930. By 1936, his business had become more active, and he established a reputation of being able to figure a job tighter than most other builders of the time. His greatest era of building in Washington began in the 1930s and lasted for several decades. During World War II, McShain had $150 million worth of construction projects underway simultaneously. In addition to National Airport, a partial list of Washington-area buildings constructed by McShain includes: the Jefferson Memorial, the Pentagon, the Gen... Accounting Office, the State Department, Building 10 (Clinical Center) at the National Institutes of Hea..., the Bethesda Naval Hospital Tower, the Bureau of Engraving, and the Kennedy Center. In addition, McShain constructed the Roosevelt Library in Hyde Park, New York, and renovated the White House for President Truman.

Despite the complications of the site, McShain was successful in getting the Terminal completed largely on time and the Terminal opened for operation on June 16, 1941. Within six months, and despite Roosevelt's hopes for "civilian" aviation, military uses came to dominate airport operations. With the onset of World War II, civilian airplanes were appropriated by the military and civilian flights fell by more than 50 percent. Although a separate military terminal (designed by Charles Goodman) had been built, the 1941 Terminal was dominated by military and international flights during the War years. These and subsequent years saw the arrival of many important political figures, as the airport served as the "home airport" for the planes of Presidents Roosevelt, Truman, and Eisenhower.

Within five years of its opening, newspaper accounts described National as the third busiest postwar airport after Chicago and New York.[18] While constructing the Terminal, the CAA had envisioned some expansion but also contemplated construction of a ring of smaller airports in surrounding communities to alleviate National's passenger load. By 1948, however, with the increasingly crowded conditions, the CAA opted to extend its original Terminal, hoping to unburden the overcrowded lobby and to tempt airlines to move their headquarters to Washington. The CAA used the same architectural approach and PBA design expertise to construct the South Extension, begun in 1948 and completed in 1950.

By 1953, airport planners searched out new design possibilities for terminals, and the National/La Guardia model (with its centralized airline counters, waiting space, and baggage-handling facilities) was no longer seen as the ideal. While the centralized system still had CAA backing, the "unit" system, which allowed each airline its own waiting room, ticketing area, offices, and baggage handling within a single airport terminal, was rapidly gaining the professional advantage.[19] This concept would later evolve into the "unit terminal," first employed in 1963. During the 1950s, National's backers were content to add onto their existing terminal with multiple holdrooms and service areas, rather than create new "units."

By the late 1960s/early 1970s, National's planners decided to construct two interim terminals as a way to accommodate growth without completely starting from scratch with a new terminal. The interim terminals, the 1968 American Airlines terminal and the 1970 Northwest/TWA Terminal, were designed by Joseph C. Giuliani, and Giuliani & Associates respectively.

III. THE CONTEXT OF AIR TERMINAL DESIGN IN THE 1940s: NATIONAL'S ROLE AS A PIONEER AIR TERMINAL

Aviation Technology

Technical/engineering innovations implemented at National Airport Terminal were significant, and included the future capability to convert the first-floor passenger concourses into passenger loading areas when airplanes became larger and one of the first -- if not the first -- provision for baggage handling on a floor separate from patron services.[20]

The north-south runway was one of only ten in the country to be equipped for instrument landing. The instrument landing system installed at National was developed by the National Bureau of Standards and the CAA. It consisted of four radio signals by which a pilot could land without actually seeing the ground. The lighting system on the airfield was also more advanced than that at other airports. Planes could land 95 percent of the time. The field was larger than that at La Guardia (National was 729 acres; La Guardia was 558 acres), the measure by which most American airfields were judged. In addition, the gliding angle of landing planes was as shallow as 40 to 1, providing twice the safety factor as compared with other airports. Other innovations included a service tunnel which led from the Terminal building to the parked aircraft, and the specially designed CAA control tower. The service tunnel provided a conduit for air-conditioning tubes, telephone lines, gas and oil servicing lines, and electric power lines which led directly to each aircraft pad, thus keeping the apron free of gear. The control tower, diamond-shaped to avoid day and night reflection, was also fabricated from green heat-absorbent glass which blocked out the actinic, or sunburn-causing rays of the sun.[21] And, finally, the air-traffic control office featured "one of the newest and most interesting nerve centers of air-traffic control in the

country,"[22] an automatic "progress board," which indicated the position of all planes arriving and departing from National.

Other ground-breaking airport design ideas, although not part of National's 1941 construction, were first suggested by architects Fellheimer and Wagner during their ca. 1939-40 stint as consultants at National. Three of their ingenious ideas have become standard features of airport design today: 1) the concept that passengers should wait as close as possible to the point of departure (i.e., the development of the holdroom, based on the architects' experience as railroad terminal designers); 2) the aircraft loading bridge, which could transport passengers from the minal to their awaiting airplanes; and 3) the airfield shuttle bus, to carry people to connecting flights quickly.

Function

By the late 1920s, with the increasing complexity of airport functions, architects and planners had settled on programmatic requirements for terminals. These requirements included: provision for a restaurant facing the airfield; offices for airport personnel; telephone, telegraph and cable facilities; restrooms; barber shops; and newsstands.[23] National's terminal design met most of these requirements. In particular, it offered an extensive concessions and amenities program, which consisted of newspaper counters, a florist, a tie shop, a barber shop, a post office, lounges, a press room, the prestigious Admirals Club, and four restaurants including a white-tablecloth formal Dining Room, the more casual Coffee Shop, a soda fountain, and an employee cafeteria. In addition, patrons were served by an information desk, telephone services, and facilities for passengers to sleep between flights. These services were aimed not only at accommodating the needs of passengers (and those meeting air travelers), but also at attracting new passengers to the airport. Their existence advertised the airport, and the benefits of air travel.

Ten years later, in the late 1930s, the most consistent topic in architectural journals was how to efficiently accommodate multiple airport functions into a single building. National's terminal was "designed to handle sight-seers by the thousands, in addition to airline passengers, mail, baggage and express, without conflict or mixing of traffic streams."[24] The separation of traffic flows for different types of airport uses, called "channelized control," helped National to achieve a clarity in circulation that surpassed that of other terminals.

Magazines and newspapers of the day describe the well-conceived experience of passengers and spectators at National. Articles emphasized the separate entrance approaches for departing passengers and visitors using the observation decks. For passengers, once through the entrance and in the waiting room, traffic flowed smoothly to the landside ticket counter, straight ahead to the expanse of window, and to the far right and left passenger

concourses. From the passenger concourses, travelers waited for their planes beside designated stairways leading to the lower level passenger loading vestibules.

The arriving passenger's experience was equally streamlined. Passengers walked from the apron, to the loading vestibules, up the stairs to the baggage room (or "check room") located on the first floor. Incoming baggage from planes was transferred up from the ground-level receiving room to the first-floor baggage room by elevators. The baggage room, just north of the ticket counter, was conveniently located adjacent to the traffic circle, so that passengers on their way out to cabs, buses, or parked autos picked up their luggage directly en route.

The paths of airport and airline staffs also were "channelized." The departing and arriving airline crew went directly between the airplane and airline offices, located on the airside of the ground floor. Mail carriers, post-office employees, and baggage personnel entered the Terminal from the trucking concourse on the ground floor. They distributed mail from the mail work room at the south end of the building's ground floor, or handled baggage from the baggage chutes located within the ground-floor baggage makeup room. Employees ate at an employee cafeteria at the north end of the ground floor, while passengers ate at the Coffee Shop or Dining Room on the first and second floors. Airport personnel -- managers, weather-station and radio-room workers -- spent their days in private offices located on the second and third floors. The President was whisked into the airport unseen via a special entrance to his Presidential Suite, a ground-floor reception area at the south end of the Terminal where he greeted distinguished airport visitors.

Spectatorship

Based on the success of European airports, the accommodation of spectators was considered an essential ingredient of the thriving airport of the 1930s and 1940s. The PBA architects who designed National visited Le Bourget in Paris, Templehof in Berlin, and Schipol in Amsterdam to study these airports as models for National. These European airports were not only crowd pleasers, but self-supporting financial enterprises, charging fees to those who came to observe the planes. While several American airports had outdoor bleachers and swimming pools for sightseers, only the European airports and La Guardia had made the spectator experience an integral component of a terminal's design, by featuring outdoor dining terraces and observation decks. The latter two ideas were borrowed for the design of National.

On the interior of the Terminal, spectators were accommodated by a balcony, or mezzanine, which permitted views into the waiting room and onto the flying field. Le Bourget had an open corridor on the second floor (which formed a shallow balcony), but the corridor functioned as a passageway for office workers, rather than the public. The use of a mezzanine for terminals was suggested early on in the United States by Fellheimer and

Wagner in their unexecuted design for a circular waiting room for National. This feature of their design was retained throughout the terminal design process and architectural critics called it "an excellent scheme," which allowed "visitors to look down into the main room of the Terminal without interfering with its activities."[25]

Architectural Treatment

Despite an airport terminal's obvious potential as a symbol of modern technology, speed, and the future of aviation, even the most "futuristic" terminal designs of the 1920s were patterned after comfortable architectural images (such as the U.S. Capitol) and fashionable American building forms (such as the slender skyscraper). Stylistically, airports of the 1920s and 1930s were most often Art Deco. However, airport terminals constructed around the country during these years did, in some cases, defer to regional heritage, and Mission, Mediterranean, and Colonial Revival styles were not unknown. Whatever the stylistic veneer, however, the terminals of these decades all shared a common form: a tripartite composition with a tall, central vertical element (which functioned as a base for the control tower cab) and lower, horizontal wings extending to either side.

San Francisco's 1937 "landplane terminal," one of National's immediate precursors, was characteristic of this form. National's designers may have looked to the San Francisco terminal for a number of its key features, including: 1) a location adjacent to water to provide for a seaplane harbor; 2) a shaded portico; 3) a spacious interior waiting room complete with grand staircase and chandelier; and 4) acknowledgement of a regional architectural style. National's architects would not duplicate, however, the static, train-station-like character of the San Francisco terminal, or its more formal, ballroom-like waiting room, opting instead for the newer look of speed and sleekness conveyed by the Streamlined Moderne.

As built, National represents a stylistic resolution of the modern, streamlined ideal and the more traditional, tripartite composition seen in most of the airport terminals of its day. At National, modern effects such as curved walls and ribbon windows are balanced against strong regional influences, such as the Colonial manse and the Stripped Classical government office building. This adaptation of equally compelling forces results in a building considered by most critics of the day to be a good resolution between interior circulation and architectural expression.[26] In addition, despite the vertical portico, the overall horizontality and linear quality of the Terminal was cited as the key ingredient of "real beauty"[27] and is still what defines the building today.

Amidst the praise, some criticism also could be heard during the 1940s. Certain critics labeled the building's elegance "wasted space" and found National's embrace of Modernism to be half-hearted and ultimately insufficient.[28] In addition, as the boom in commercial air travel continued, National's small capacity was quickly put to the test and critics were on hand to point out its faults. In 1943, Francis Meisch, a plant engineer with Northwest Airlines, declared that the typical administration building as "created by the CAA and influenced by

structures at La Guardia Field and Washington National Airport" had admirable features, but were hardly the "ultimate" terminal solution since they did not permit "inexpensive alteration and expansion . . ."[29] In fact, a number of planned features of the building's design were included to facilitate its growth. The Terminal's design could accommodate two-level "loading ramps" which were anticipated to be necessary when future passengers would load larger planes from the first-story passenger concourses (as well as continuing to load smaller planes from the ground-floor loading vestibules). In addition, both the north and south passenger concourses were envisioned as expanding in length -- 500 feet and a quarter of a mile, respectively.[30]

Building Construction and Materials

Being of wartime and federal construction, the Terminal building was designed with inexpensive materials worked to their best advantage. The exterior walls, of architectural concrete, were cast in one-board forms and finished with a thin wash for a smooth, even finish. This process resulted in the desired horizontal effect dictated by the Streamlined Moderne, and created an affinity with more expensive stone. At this time, architectural concrete was considered an inexpensive but innovative material affording creative expression. The selection of a formwork process and decisions regarding the color and pouring of the concrete at National were made with very careful deliberation of the structural and aesthetic qualities of the material. All the concrete work on the building occurred at the airport site. The aggregate was obtained as a residue from the dredging operation undertaken to ready the Gravelly Point inlet for construction. The finished building was left unpainted to show off the careful concrete execution.[31] Other major exterior materials include composition, asphalt felt and quarry tile used on the roof and deck surfaces, and window sash made of steel. The air-conditioning system employed a combination chilled-water summer, hot-water winter fitting.

On the interior, reinforced concrete piers provided support and hollow tiles served as interior wall partitions. Floor construction was concrete slab. Here too, cost was a consideration, and the architects employed a hierarchy of wall- and floor-covering materials. The more costly materials were showcased in the public areas, while durable, but less expensive, materials were used in service areas. Rough-textured exposed-aggregate concrete panels, terrazzo, and smooth, shiny architectural terra cotta used in the Passenger Concourses, the Waiting Room, and the Mezzanine indicated a public function.[32] Clay wall units used on the ground floor, indicated service functions. Interior materials that represented early or experimental uses include "heat-absorbent" glass, acoustical plaster (plaster with asbestos), "laminated resinous material" (made by Formica), and cloth-backed, rift-sawn oak veneer.

Ornament, Color, Signage, Lighting, and Furnishings

The Terminal's coherent design was furthered by specific programs for ornament, color, signage, lighting, and furnishings. In keeping with the overall style of the building, ornament on the exterior was minimal. Clearly, the larger design elements -- the building's streamlined form, its portico, and the observation decks for spectators -- were more important than small-scale exterior detail. The CAA logo, the Presidential Seal, and the mosaic work in the portico provided important references to government sponsorship and heavenly travel. On the interior, ornament played a more significant role in conveying the building's themes of progress, aviation, and patriotism. The following ornamental motifs were essential elements of the Terminal: bundled rods (called "fasces," a symbol of government leadership); loose stalks of grain (American fruitfulness); the eagle and sword (flight and patriotism); stylized wings or stars paired with wheat (the CAA logo/flight and American fruitfulness); the compass (navigation and the potential of air travel); and variations of the star, star and disk combination, and lightning bolts (sky travel). Other items, such as various Art Deco/Moderne moldings, the designs used on HVAC grilles, and stylized clocks -- although not allegorical -- also played a significant ornamental role.

In terms of color palette, on the exterior, the gray-buff color of the unpainted architectural concrete dominated. The original trim color is unknown. The interior of the Terminal featured muted colors as well; however, these colors were highlighted with accent colors. A sophisticated set of neutrals (including black, gray-buff, and white) were used in floors and ceilings, while bright contrasting accent colors (including peacock-blue-green, columbine blue, red, and bright green) were used in wall tiles, floor tiles, upholstery, and signage, respectively. The combination of neutrals and accents, resulted in a color scheme for the interior of the Terminal which was consciously modern.

Signage on both the exterior and interior of the building was designed to be integral to the architecture and furthered the building's overall decorative and stylistic program. The lettering, with an Art Deco simplicity, was similar to the modern "futura" typeface. The original lettering was characterized by the lack of a serif, a heaviness in the upper half of its letters, the use of all capitals, individually cut letters, and generic terminology ("BAGGAGE ROOM," or "DINING ROOM"). Types of signage included glass letters set in aluminum and backlit with fluorescent lights, individually cut aluminum letters, a directory, and construction-credit panels.

Lighting was a major design feature of the Terminal and was carefully tied to the architectural program. Exterior lighting consisted of built-in strip lighting on the inner face of the portico piers, flush circular lighting on the soffits of the sidewalk canopies and apron overhangs, and small lights on the observation deck. In the public areas of the interior, large and small domed coffers, and fluorescent lighting were all used. The glass walls of the Waiting Room and the concourses provided ample daylight. One of the most elaborate lighting fixtures was the cast-aluminum, fluorescent-lit eagle chandelier at the stair landing in the Waiting Room. Other major decorative

features were the decorative plaster shell fixture and the cove lighting that defined the perimeter of the circular terminus of the second-floor Dining Room. In the first-floor Coffee Shop, fluorescent lighting was set as X-shaped extensions from the tops of the room's large concrete columns. Finally, in the evening, the views towards the Waiting Room from the airfield were theatrical, as light emanated from within resulted in a glowing lantern effect.

Furnishings also played a strong role in the airport, again highlighting the interior spaces, as opposed to the exterior of the terminal, as the more candid expression of modernism and the modern air-travel experience. Furnishings in the privately operated public-service areas were carefully selected by noted interior designer Ethel Pilson Warren.[33] Warren worked for American Airlines and for Air Terminal Services, Inc., the company charged with the management of National's concessions program. She created all the furnishings, decor, and china/cutlery for the Dining Room and was responsible for American Airlines' two clubrooms at National, one completed in 1941 in the original Terminal, and, another 1950 project in the South Extension.

Warren had a strong local reputation and was a vocal advocate of modernism in interior design. Her task at National, as she saw it, "presented itself not as a problem of mere decoration but of interior design, a styling of the appointments, furniture, fixtures and the interior treatments to conform with the basic character of the building and the frank use of materials for their aesthetic appeal."[34] In addition, Warren insisted on American products, ideas, and motifs.[35] She had a close working relationship with Cheney, whom she describes as a perfectionist in his attention to detail, and a modernist in his design sensibilities. Cheney was responsible for the gray-and-red-leather and stainless-steel couches and chairs used in the Waiting Room and the Mezzanine.

III. PLANNING AND DESIGN OF THE SOUTH HANGAR LINE

The South Hangar Line, constructed in stages between 1941 and 1948, represents an important technological advance in an evolving building type -- airport hangars. The South Hangar Line was particularly noted for its use of long-span steel construction, structural concrete, and its unique combination sliding leaf and canopy hangar doors. The hangars also are significant for their streamlined architectural style, which was used to convey the "modern mode of air transportation." With the completion of Hangars No. 2-6 of the South Hangar Line in the mid-1940s, Washington National had the largest grouping of hangars of any airport in the country.

Development of the South Hangar Line

For most of its history, the South Hangar Line consisted of seven hangars: two arched hangars positioned to the north (Hangar No. 1) and south (Hangar No. 7) of a group of five flat-roofed hangars. The first of the seven airport hangars to be constructed was Hangar No. 1 (demolished in 1990). Designs for Hangar No. 1 were

approved on October 20, 1939 by the Commission of Fine Arts, and the hangar opened together with the Terminal, in June 1941. This hangar, now demolished, was designed by Howard L. Cheney, one of the principal designers of Washington National Terminal.

Although Hangar No. 1 was the only hangar completed at the time of the new airport's opening, plans for a row of five additional hangars to be appended to Hangar No. 1 were well underway before the Terminal was completed. By November 1939, the minutes of the Interdepartmental Engineering Commission show that a series of six hangars was already being contemplated. The minutes indicate that at that time Eastern Air Lines and Pennsylvania-Central had requested two hangars, and American had requested one hangar.[36] The airlines offered $10,000 as rental for each hangar.[37] The sixth hangar was planned for the use of the CAA and private flyers. Approximately six month later, in July 1940, the Director of the Bureau of the Budget wrote to President Roosevelt requesting a $2,750,000 appropriation for the construction of the five new hangars and to cover other costs not included in the original appropriation for the airport (including layout of the aprons, a tie-in with the runways, a service underpass connecting the hangars, and installation of utilities).[38] President Roosevelt gave his stamp of approval and forwarded the letter to the Speaker of the House of Representatives with a note requesting Congress to consider such a supplementary appropriation for the Department of Commerce for the fiscal year 1941.

According to a July 1940 newspaper article that reported Roosevelt's request, a law passed in June 1940 gave the CAA the power to lease hangar space. The article also reported that the hangars were to be leased for 10-year periods and were to pay for themselves within 30 years.

The funds requested for the new hangars were approved, and by the time of the opening of National in 1941, the expansion program for five additional hangars was already underway. According to a November 1941 article, the new hangars, "larger than anything ever seen around Washington before, are now under construction."

The new hangars, which came to be identified as Hangars 2-6, were located to the south of Hangar No. 1. They were designed by a team of Public Building Administration architects led by Howard Lovewell Cheney (see page 26), the supervising architect for the Terminal building.

Cheney placed the new hangars in a line extending to the south of Hangar No. 1 which was located 500 feet to the south of the Terminal. Although Cheney was criticized for locating the hangars at such a distance from the Terminal, according to Cheney this spot offered the least hazard and did not detract from the architectural scale of the Terminal itself. The design of the new hangars was intended to be compatible with the design of the Terminal and to symbolize, in their streamlined forms, modern air transportation.

Cheney's designs for the hangars incorporated a number of features -- both large and small -- that tied the hangars to the Terminal and to the streamlined style. His design emphasized a low spreading form and large areas of metal-framed glass; these were obvious ties to the Terminal building. Smaller details, however, also were important. The rounded corners of the landside hangar entrances and the reeded handles of the doors lent an immediate impression of streamlined design to the composition. In addition, the vestibules of the hangars utilized a number of the decorative materials relied upon in the Terminal. These included stylized aluminum ventilation grilles similar to those used in the Terminal, green and black terrazzo flooring, and tile wall units (in this case, of a beige color).

A model of the airport grounds, likely completed in 1939 or early 1940, shows that at that time a series of six arched-roof hangars were contemplated for the South Hangar Line. By around October 1940, the strip of six hangars had evolved so that only the first and last hangars were arched and the center four hangars were identical flat-roofed structures. By the time the final drawings for Hangars No. 2-6 were completed, in March 1941, the scheme had evolved so that the central flat-roofed hangar (Hanger No. 4) was larger than the other flat-roofed hangars and, in addition, a seventh hanger, the future Hangar No. 7, was contemplated at the southern end of the Hangar Line.

Airplane Hangars of the 1940s

The earliest airplane hangars, dating to the 1920s, were most often large, gabled-roof, steel-frame sheds -- often with walls of corrugated metal. Inside, they were cavernous undifferentiated spaces. As air travel increased, there evolved two distinct types of hangars: storage hangars and servicing hangars. The former type was particularly important for commercial aviation in the days when airplanes were small, and less likely to be made out of durable and waterproof materials. These structures were usually located a distance from the terminal (or administration building as it was then called.) Service hangars were usually smaller than storage hangars and they were most often located closer to the passenger terminal to permit faster repairs. They typically included machine shops, spare parts storage areas, and small work spaces, as well an area large enough to accommodate the airplane being serviced. Shops and storage areas usually occupied separate lower areas of the building. Both types of hangars shared the common problems of how to provide heat and light in such a large area. Oftentimes portable heating systems were used to avoid the necessity to heat the entire space. Light was introduced through the use of extensive areas of glass, and through the use of reflective surfaces.

Hangar architecture, from the 1920s to the 1940s, like air travel itself, was in the process of rapid evolution. At the time of the construction of the South Hangar Line, there were three generally accepted requirements for hangars: 1) that they be a minimum height, 2) that they have the maximum clear span, and 3) that they have easily operated doors.[39]

Limiting the height of hangars was important in order to control heating, lighting, and construction costs and to reduce the obstruction of views from the control tower to the airfield. Responding to these concerns, there was significant experimentation with various roof shapes for hangars, including some that mimicked the shape of airplanes.

The problem of how to create a large enough clear span to accommodate ever-expanding airplane wing spans was particularly problematic. In the 1930s, as new types of aircraft -- including the Lockheed 247, the Douglas DC-2, and the DC-3 -- replaced earlier smaller planes, larger hangar space became necessary. This trend towards larger space was to continue over time.

As to hangar doors, the issue was how to design the massive doors so that they operated easily and efficiently. There were two basic types of hangar doors: sliding doors and canopy doors. The earliest types of hangar doors were manual sliding doors, most often of wood construction. These doors usually consisted of a number of leaves, hung from the top on rollers which ran on an overhead track. In later versions of the doors, metal replaced wood construction, a track was added to the bottom as well as the top, and the doors were power-driven. Canopy doors, on the other hand, pivot open from the top and slide back into the building. They are counterweighted so as to remain stable, and, although consuming less storage space at the sides of the hangar than sliding doors, they lower the building's ceiling heights.

Design and Construction of Hangars No. 2-7

The South Hangar Line responded quite specifically to the evolving standards for hangar design. As to roof structure, the South Hangar Line used fairly traditional, though basically low, roof structures that helped to contain heating costs.

In terms of size, when they were constructed, the South Hangars could accommodate six or seven DC-3 planes, which were the industry standard at the time. Clear openings were 229 feet in Hangar No. 4 and 176 feet in the other hangars. As to height, the clear height of 45 feet was considered "enough to take care of planes for years to come."[40] Despite such optimism, however, the trend of ever-larger planes continued unabated, and, by the mid-1940s, the South Hangar Line could accommodate only three or four DC-4s, which had become the industry standard.

One of the chief innovations of the South Hangar Line was its experimentation with a new hangar door design. Discussion of the type of hangar door to use was ongoing at least beginning in December 1939. According to a memo dated December 14, 1939, two variations of sliding doors (accordion and multiple section) were then being contemplated because the arched design for Hangar No. 1 could not accommodate the weight or the clearance

necessary for overhead doors. Accordion doors were rejected due to operating difficulties and the heat loss they permitted due to the greater number of panel joints. Although multiple section doors were finally selected, they too were questioned on the grounds that they were difficult to operate manually in the event of an emergency, and on the grounds that it would be difficult to find a reliable power-operating mechanism for the 11,000-pound doors.

The doors that were selected were described as being of the "inter-connected" type, and development of the doors was credited to E. W. Goodwin of the Public Buildings Administration. The doors were recognized at the time for their size and their innovative design. A Civil Aeronautic Administration press release issued prior to the opening of Hangar 1, conveys a sense of the wonder at these qualities: "Press a button and 44 tons of glass-and-steel doors sweep together and close the new hangar at Washington National Airport, world's most modern commercial flying field."

The doors were powered by two 10-horsepower electric motors and could be controlled by one of three switches. One of the switches was operated by a man riding a step on the leading door. The doors operated so that all doors moved at once; however, each section moved at a proportionate speed so that they all reached their positions simultaneously. Each side of the doors could be opened independently, and in an emergency manual operation of the doors was possible by disconnecting the cables. The tracks in which the cables were installed were steam-heated to prevent ice and snow from disabling the operating mechanism.

Other notable technical innovations of the hangars were their unit heaters with blowers used to maintain the hangar's standard 60 degree temperature and the "deluge" sprinkler system. This fire-prevention system included large water nozzles every 10 feet and a pneumatically-controlled switch every 40 feet which opened when there was a three-degree rise in temperature within 20 seconds. The system was capable of pouring 5,000 gallons of water a minute.

Hangars No. 2-6 were completed in the spring of 1942. With their completion, Washington National Airport had five acres of airplane storage space; this was reportedly the largest grouping of hangars of any commercial airport in the United States.[41] Not only could each hangar accommodate six to seven DC-3-sized planes but the central hangar, Hangar No. 4, was large enough to house what was the largest plane in the world at the time -- the Army's new Douglas bomber, the B-19, which was 43 feet high and had a wing span of 212 feet.

Hangar No. 7

By the time of the completion of Hangars No. 2-6, hangar space was again at a premium at Washington National. Both the number of flights and the numbers of passengers had increased dramatically. A CAA report

dating to July 1946 states that between July 1941 and June 1946 the number of flights at Washington National had increased from 6,330 to 16,816 per month and the number of the passengers per month, reflecting the larger aircraft size, had increased from 50,915 to 120,574. One of a number of studies undertaken to solve these spatial problems determined that five additional hangars would help relieve congestion on the airport apron. The study showed that four of the five new hangars could be located to the north of the terminal. The fifth one would be attached to the end of the South Hangar Line, at the south end of Hangar No. 6, a location already set out for an additional hangar.

The Civil Aeronautics Administration (CAA) commissioned the Public Buildings Administration to complete the drawings for the five new hangars. Drawings for Hangar No. 7 were made by the PBA in September 1946. Construction was completed in 1948. The total cost of construction for the four northern and one southern hangars was 4.5 million dollars. Although Hangar No. 7 is contemporary with the northern hangars, its design was quite different from the asymmetrically gabled-roofed structures. Instead, as planned, the design was nearly identical to Hangar No. 1 which provided the element necessary to complete the planned symmetrical composition. Hangar No. 7 utilized the same form, plan, and the same hangar doors as Hangar No. 1 (despite the fact that new cantilevered canopy doors were selected for the northern hangar line). With the completion of Hangar No. 7, the planned symmetry and balance for the hangar grouping was achieved.

NOTES

1. The Terminal is actually seven stories tall, from ground floor to control tower cab roof.

2. The observation decks have been closed for many years due to security measures.

3. At least one architectural periodical refers to this sort of satellite area as a "flight station."

4. Despite the aims of the CAA to create the perfect glass cab, the original 1941 control tower was replaced in 1949 due to reflection problems caused by the double angle of the glass. The 1949 tower lasted until the 1980s, when it failed to meet upgraded FAA standards. It was replaced by a temporary tower in 1982, and by the current tower and base building in 1985. The existing tower must be removed since it obstructs views to the airfield from the new tower, currently under construction as part of the New Terminal. The Main Terminal, therefore, will be without a control tower.

5. Herbert Goskins, "Presenting the Nation's Newest and Finest Airport," *The Transmitter*, August 1941.

6. "Capital is Ideal City for Air Port, Aviators Assert," unidentified newspaper article, January 23, 1927.

7. Civil Aeronautics Authority, "Washington National Airport," vol. 1, Preliminary Studies, August 22, 1938.

8. This history of the development of the Terminal design is based on an analysis of drawings and a review of IEC minutes covering several months in 1939.

9. Mr. Goodman was the PBA's principal designer of the New York World's Fair Federal Building. The 1939 building featured two massive towers linked by a lower element defined by a stripped portico. This design illustrates Goodman's attachment to grand, Stripped Classical government architecture and his affinity for severe porticos. While most architectural historians have identified Mt. Vernon as the key influence on National's portico, the World's Fair Federal Building may suggest that National's portico had more to do with contemporary ideas of modernity in government architecture than with backward-looking references to regional colonialism.

10. Mr. Goodman was interviewed by Elizabeth Jo Lampl of Robinson & Associates, Inc., Daniel J. Feil of the Metropolitan Washington Airports Authority, and Sharon Cavileer of the Washington Flyer, on November 18, 1991; the interview was conducted in his home in Virginia.

11. Goodman went on to become the principal architect for the Supply and Service Division of the Air Transport Command at National. In this capacity, he designed the 1944 Passenger Terminal and Operations Unit (demolished) at the Washington National Airport Army Air Base, the name of that portion of the airport devoted to military use during World War II. The Army Terminal was considered a breakthrough in terminal design, and was the first public building to contain Knoll furniture. Goodman's modernist tendencies were also evident in his nationally recognized contribution to volume prefabricated housing. One such project was his housing design for Alcoa in Southwest Washington, which used aluminum for both structural and decorative purposes.

12. During the course of this project, Chandler's wife, Mrs. Irma Chandler, was interviewed by phone. She described her husband's work in Washington. In addition, Charles Atherton, Secretary of the Commission of Fine Arts, and Anthony Zaia, a retired Washington architect, were interviewed about their memories of working with Mr. Chandler.

13. This is based upon his signature on one drawing, and similarities in drafting and handwriting styles of following drawings.

14. According to Webster's Ninth New Collegiate Dictionary, a mirador is a "turret, window, or balcony designed to command an extensive outlook." Judging by the 1940 drawings for the Terminal, it appears that the term "mirador" became the standard term for the weather bureau station, even after the lookout portion was no longer raised in height.

15. The November drawing appears to have been prepared for the IEC meeting of the same date. Minutes of the meeting show that although the Committee directed a "restudy" of the east side of the Terminal (with direction that it be treated along "Colonial Lines"). No comments were made on the west facade.

16. William Rhoads, "Franklin D. Roosevelt and Washington Architecture," Records of the Columbia Historical Society of Washington, D.C., 52: 139-143.

17. Many books and articles note that Roosevelt directly influenced the design of the Terminal to make it appear more like Mount Vernon. The connection to Mount Vernon and Federal government architecture can be found in the Civil Aeronautics Administration's opening brochure for National Airport, issued in 1941. In the brochure is a sketch comparing the Terminal to Mount Vernon and federal government buildings. Below the drawing is a discussion of these design influences. The sketch was drawn by a WPA-employed artist Charles Gardner for the brochure. Gardner's name appears in the corner of the Terminal sketch. According to Gardner's son, Charles Gardner, an engineer interviewed during the course of this project, his father received no direct information or graphics from the President. Somehow, over time, the sketch had been falsely attributed to Roosevelt (the "sketchpad drawing," headed "Stolen from the desk of Franklin D. Roosevelt," in Frederick Gutheim's Worthy of the Nation, is one example).

18. "Washington, One of Nation's Busiest Airports, Plans for Postwar Aviation Era," unidentified newspaper article in the files of the Historical Society of Washington, D.C., ca. 1946.

19. "Airport Terminal Buildings," Progressive Architecture (May 1953), 87.

20. Charles H. Goodman described the provision for ground-floor baggage handling as a first in the industry.

21. Unfortunately, within the first few years, an unforeseen problem developed. An airplane would appear to be diving toward the ground, when, in fact, the plane was actually ascending. The meeting of the two angles of the glass caused this distortion. The control tower was therefore rebuilt in 1949 (and later, in 1982-85).

22. Department of Commerce, Civil Aeronautics Administration, Interdepartmental Engineering Commission, Washington National Airport, Washington National Airport, 1941.

23. Archer, "Practical Airports," 78.

24. "New Airport to Have One of World's Finest Transportation Terminals," Sunday Star, April 21, 1940.

25. "U.S. Airports," Architectural Forum, 73-84.

26. Talbot F. Hamlin, "Airports as Architecture," Pencil Points (October 1940), 641-642.

27. Ibid.

28. Joseph Hudnut, "Washington National Airport," The Architectural Forum (September 1941), 171.

29. Francis R. Meisch, "Architecture and Air Transportation," Pencil Points (November 1943), 43.

30. "Washington Airport." The Federal Architect (April-June 1941), 17.

31. A postcard of the airport which dates to ca. 1950 clearly shows the grey concrete.

32. Actually, the 1940 PBA drawings call for architectural terra-cotta tiles throughout the Waiting Room as well as in the Passenger Concourses. The use of concrete panels in the Waiting Room may signify a necessary reduction in the original project budget.

33. Ms. Warren was interviewed in 1992 by Elizabeth Jo Lampl of Robinson & Associates, Inc., Daniel J. Feil of the Metropolitan Washington Airports Authority, and Sharon Cavileer of the Washington Flyer.

34. "At the Washington National Airport," Interior Design and Decoration, 17 (November 1941): 36-40.

35. Ibid.

36. This contradicts the March 1941 plans for the hangars. According to these, Eastern was assigned Hangar No. 2, Penn Central was assigned Hangars No. 3 and 4, and American was assigned Hangars No. 5 and 6.

37. Information comes from the Minutes of the Interdepartmental Engineering Commission, Washington National Airport, from November 22, 1939. The terms of the $10,000 rental are not clear in the Minutes.

38. Department of Commerce, Communication from the President of the United States, July 1940.

39. Architectural Forum, August 1940.

40. Civil Aeronautics Administration Press Release, June 7, 1941. National Archives Record Group 237.

41. Herbert Goskins, "Presenting the Nation's Newest and Finest Airport," The Transmitter, August 1941.

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Yarbrough, Charles J. "Project Will let More Planes Unload at Same Time Here." The Star, November 22, 1954.

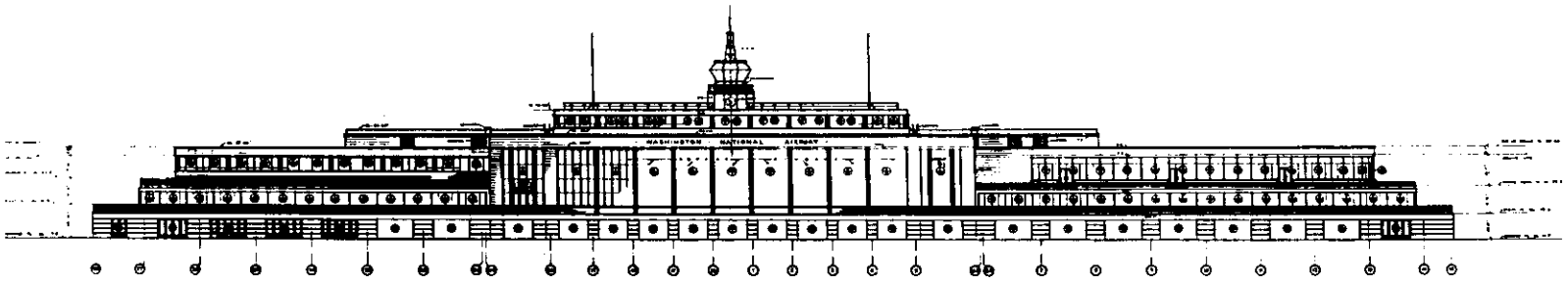
GEOGRAPHICAL DATA

Verbal Boundary Description

The boundaries of the property are shown on the attached plat at 1"= 200' titled "Boundary Description: Washington National Airport and South Hangar Line."

Boundary Justification

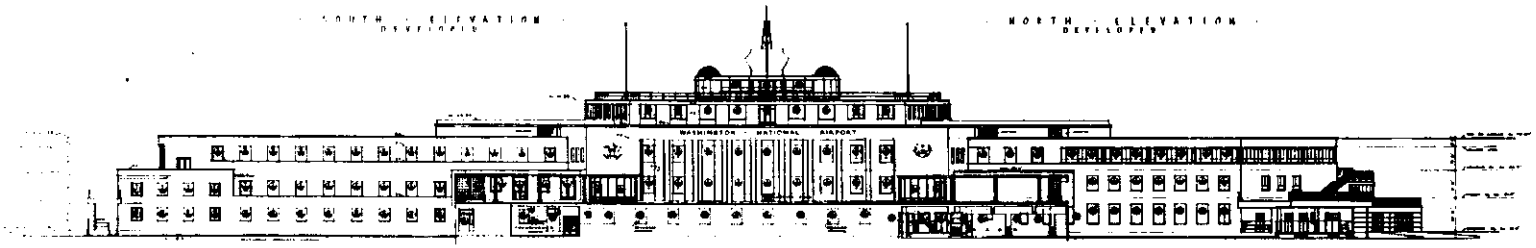
The boundaries include the Terminal (the primary building), the traffic circle fronting the Terminal, and the South Hangar Line (the secondary building). Areas outside of the boundaries either do not retain historic integrity and/or do not contribute to this property's historic significance.



EAST ELEVATION
DEVELOPED

SOUTH ELEVATION
DEVELOPED

NORTH ELEVATION
DEVELOPED

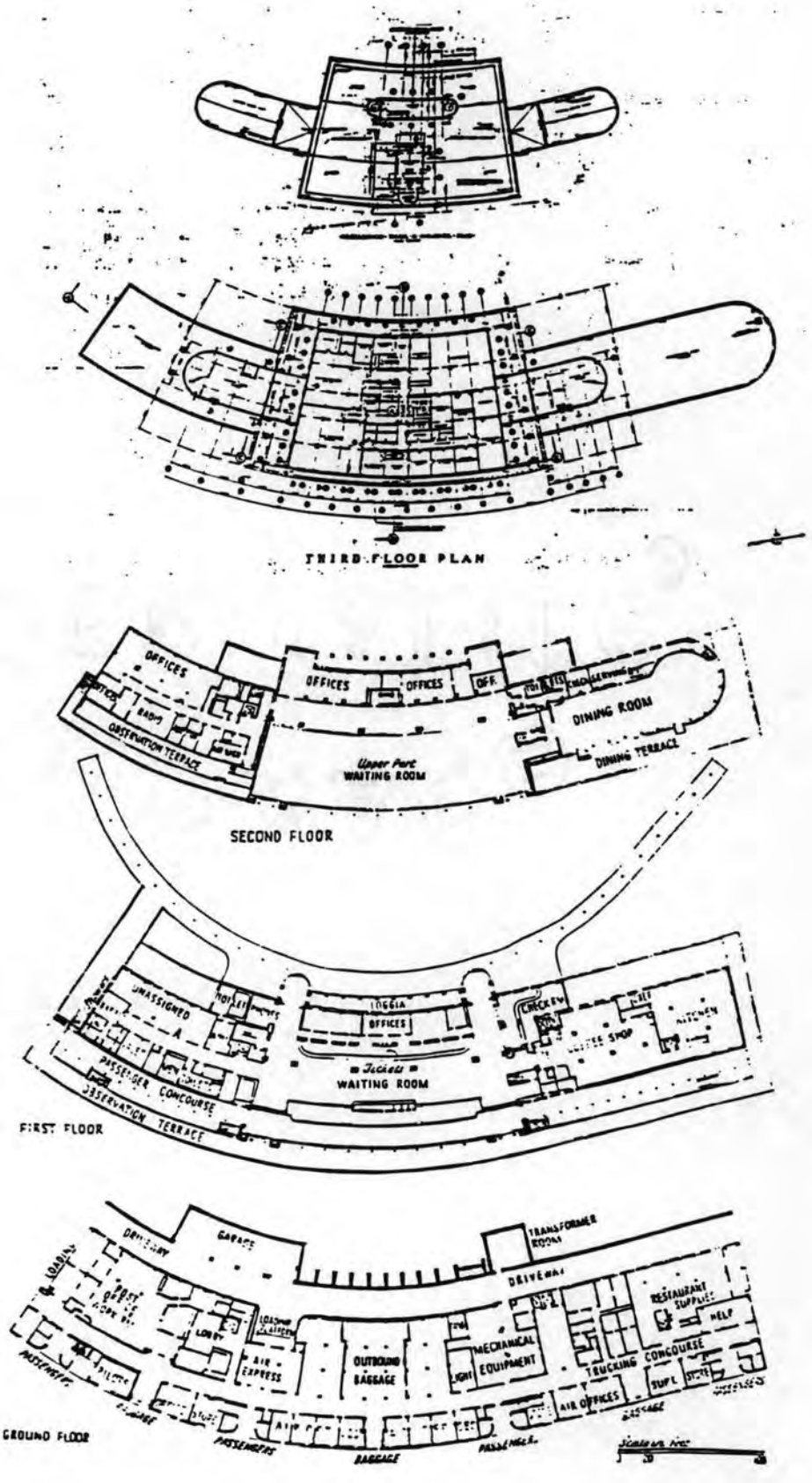


WEST ELEVATION
DEVELOPED

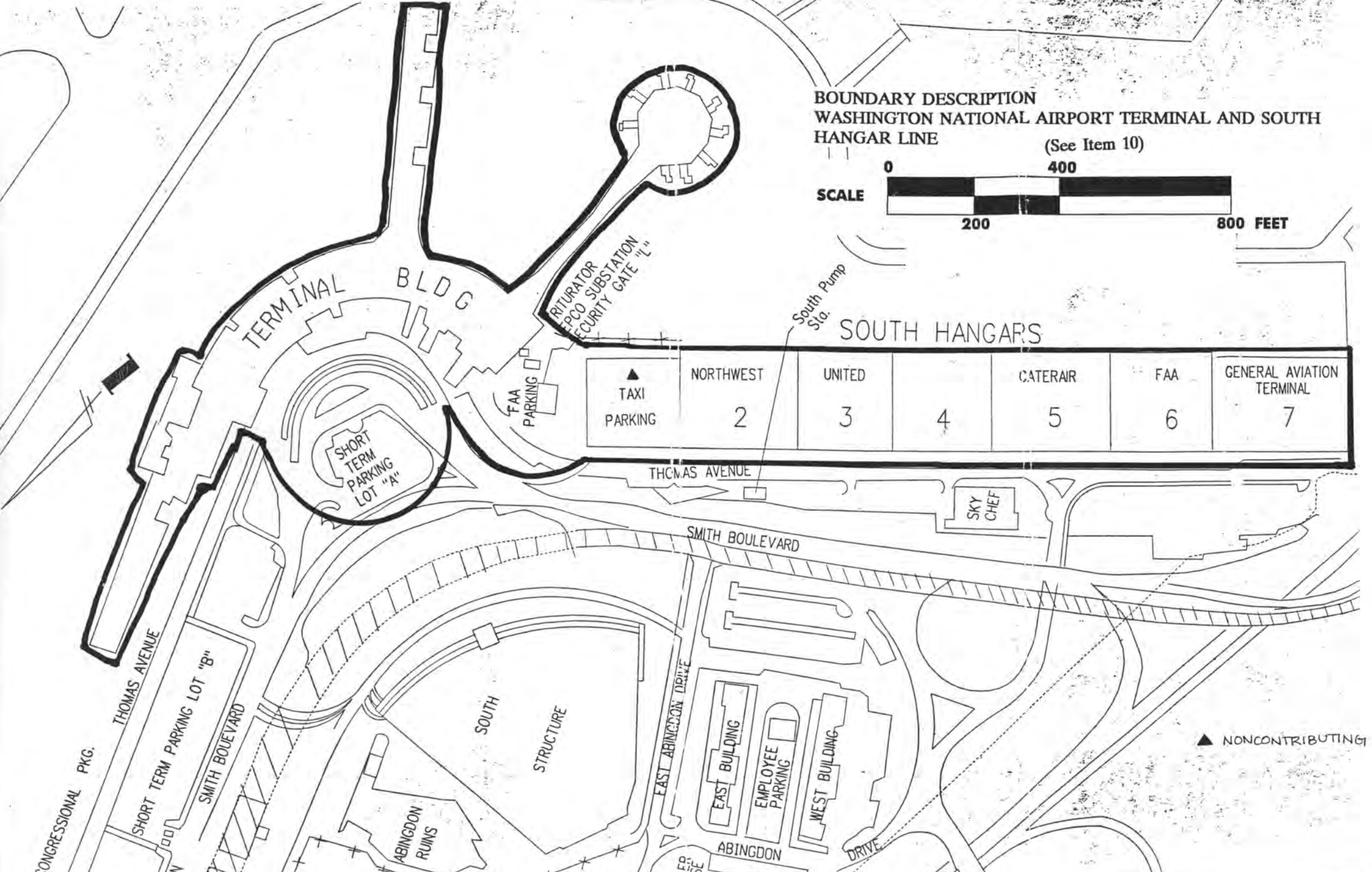
ELEVATIONS

TERMINAL BUILDING
WASHINGTON NATIONAL AIRPORT
GRAVELLY POINT, VIRGINIA

Drawing No. 1-100



Floor Plans of the Terminal, Public Buildings Administration, 1940


BOUNDARY DESCRIPTION
WASHINGTON NATIONAL AIRPORT TERMINAL AND SOUTH HANGAR LINE
(See Item 10)
SCALE
0
400
200
800 FEET
TERMINAL BLDG
SOUTH HANGARS
TAXI PARKING
NORTHWEST 2
UNITED 3
4
CATERAIR 5
FAA 6
GENERAL AVIATION TERMINAL 7
South Pump Sta.
FAA PARKING
SHORT TERM PARKING LOT "A"
THOMAS AVENUE
SKY CHEF
SMITH BOULEVARD
SHORT TERM PARKING LOT "B"
SMITH BOUEVARD
SOUTH STRUCTURE
EAST ABINGDON DRIVE
EAST BUILDING
EMPLOYEE PARKING
WEST BUILDING
ABINGDON RUINS
ABINGDON DRIVE
NONCONTRIBUTING

WASHINGTON NATIONAL AIRPORT TERMINAL
AND SOUTH HANGAR LINE
ARLINGTON COUNTY, VA

UTM REFERENCES:
A: 18/322600/4302325
B: 18/322960/4302325
C: 18/322960/4301400
D: 18/322115/4301400

ALEXANDRIA QUADRANGLE
VIRGINIA–DISTRICT OF COLUMBIA–MARYLAND
7.5 MINUTE SERIES (TOPOGRAPHIC–BATHYMETRIC)