91.225 must have ADS-B Out equipment installed.[12]

When operating in Class C Airspace it is required for ATC to separate aircraft operating under VFR rules from aircraft operating under IFR rules. VFR weather minimums in Class C Airspace require visibility of 3 statute miles and distances from clouds of 1,000 feet above, 500 feet below, and 2,000 feet horizontally.

3.3 Terminal Area

The passenger terminal complex at LVIA is located in the southeast quadrant of the Airport adjacent to the Runway 24 and Runway 31 endpoints and the Airport Access Road. The terminal complex is classified as a satellite configuration, which is one of four basic terminal concepts outlined in FAA AC 150/5360-13, *Airport Terminal Planning and Design*. Airside access from the runway system to the terminal complex is via parallel Taxiway A or Taxiway B. The main terminal is accessible from the landside via City Line Road. In front of the terminal complex is the public parking lot, and adjacent to the terminal complex to the east was a maintenance facility that was demolished in December 2016 to build a Multi-modal Transportation Center. **Figure 3.3.1** depicts a site plan of the existing terminal area.

Terminal Building

Source: LVIA, Accessed from: http://www.flylvia.com/stay-connected/facts/

At LVIA, the terminal complex consists of two main facilities: the terminal Main Terminal and the Satellite Concourse. The Main Terminal is three floors, and an approximate total floor area of 97,300 square-feet, excluding the Floor 3 office space. Floors 1 and 2 are the primary public areas that contain the major functional areas, and are accessed by a stacked roadway and curbside passenger pick-up and drop-off locations. Floor 3 is non-public area consisting of the Airport Authority offices. The Main Terminal is connected to the Satellite Concourse via an underground tunnel at the central building vertical circulation core.

The Satellite Concourse is a combination of two building, the Satellite Wiley Concourse and the old Satellite Concourse. The concourse is two floors, and an approximate total floor area of 68,305 square feet (77,088 square-feet including the tunnel). Floor 2 of the western part of the concourse is the primary public area that contains major functional areas including holdrooms, concessions, and restrooms. Floor 1 of the eastern part of the concourse contains the same elements, although is only utilized for overflow. Level 1 of the western part of the concourse is occupied by airline and airport offices, and concessions support space.

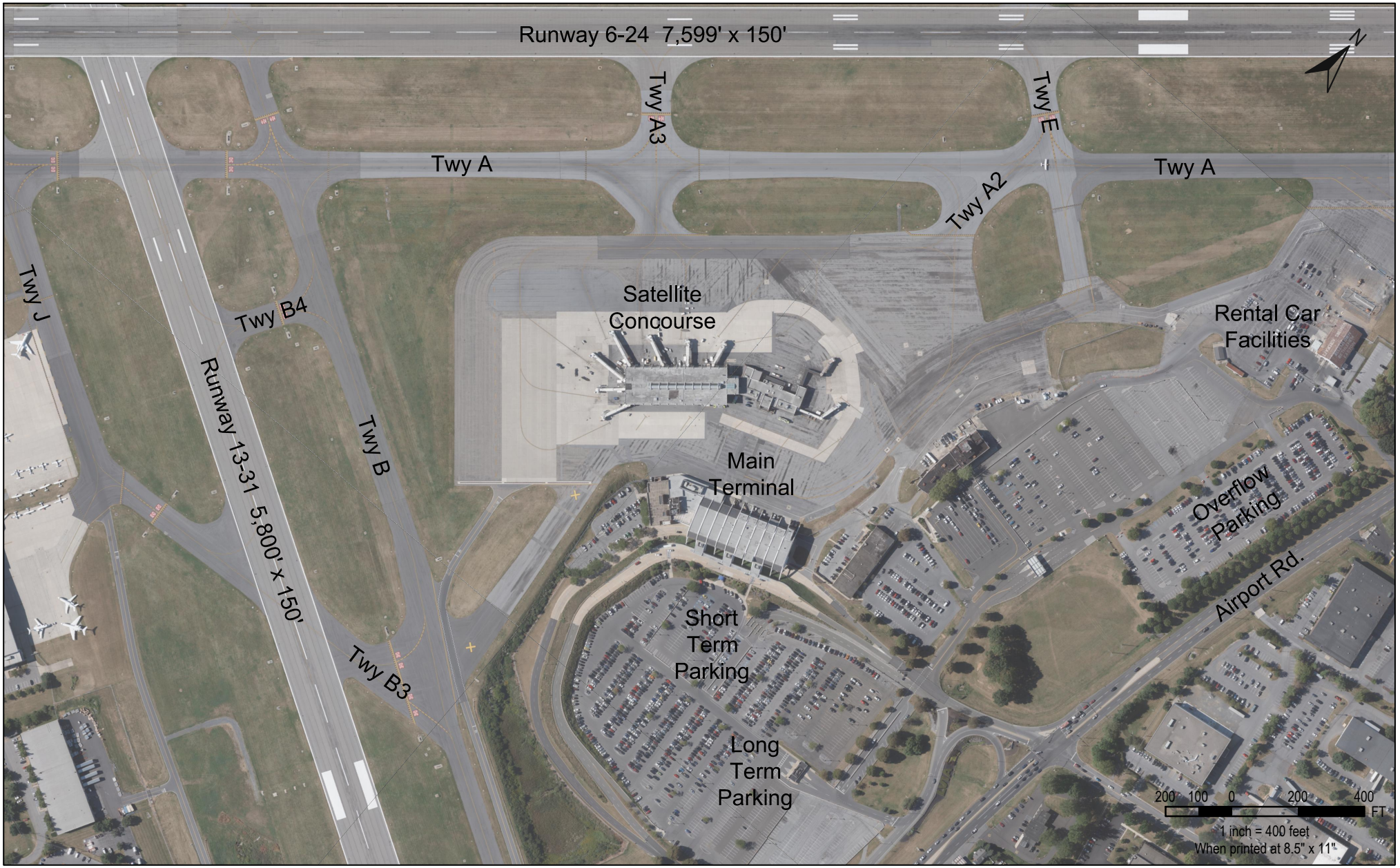
Terminal Apron Area

The Satellite Concourse is approximately 600 feet long with a total of 15 gates. The eastern part of the

[12] *FAA Regulations and Policies, Handbook, Chapter 15 Airspace*, Accessed 2/14/17. Accessible at: https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/phak/media/17_phak_ch15.pdf

concourse has six gates, two of which are served by loading bridges. The western part of the concourse has nine gates, of which seven are served by loading bridges. The eastern concourse is only used as needed for overflow or chartered aircraft. The western part of the concourse is served by Allegiant, American, Delta, and United airlines. Gates 14 and 15 are typically utilized by American. **Table 3.3.1** depicts existing airline allocation, existing aircraft types, and largest aircraft types by gate.

The terminal apron is within a non-movement area whose limits are the apron area taxilane that wraps around the satellite concourse. There are two aircraft ingress/egress points to access aircraft parking gates; Taxiway A2 and A3. Taxiway A3 is the primary access point for most aircraft. There are no designated vehicle service roads (VSR) adjacent to the apron area, therefore GSE such as baggage tugs operate in a "see and avoid" environment throughout the apron area. Aircraft fueling is accomplished by truck, at each gate. **Figure 3.3.2** depicts the terminal apron area and aircraft parking gates.



Existing Terminal Area

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Figure 3.3.1

Jan 18, 2018 – 11:25am
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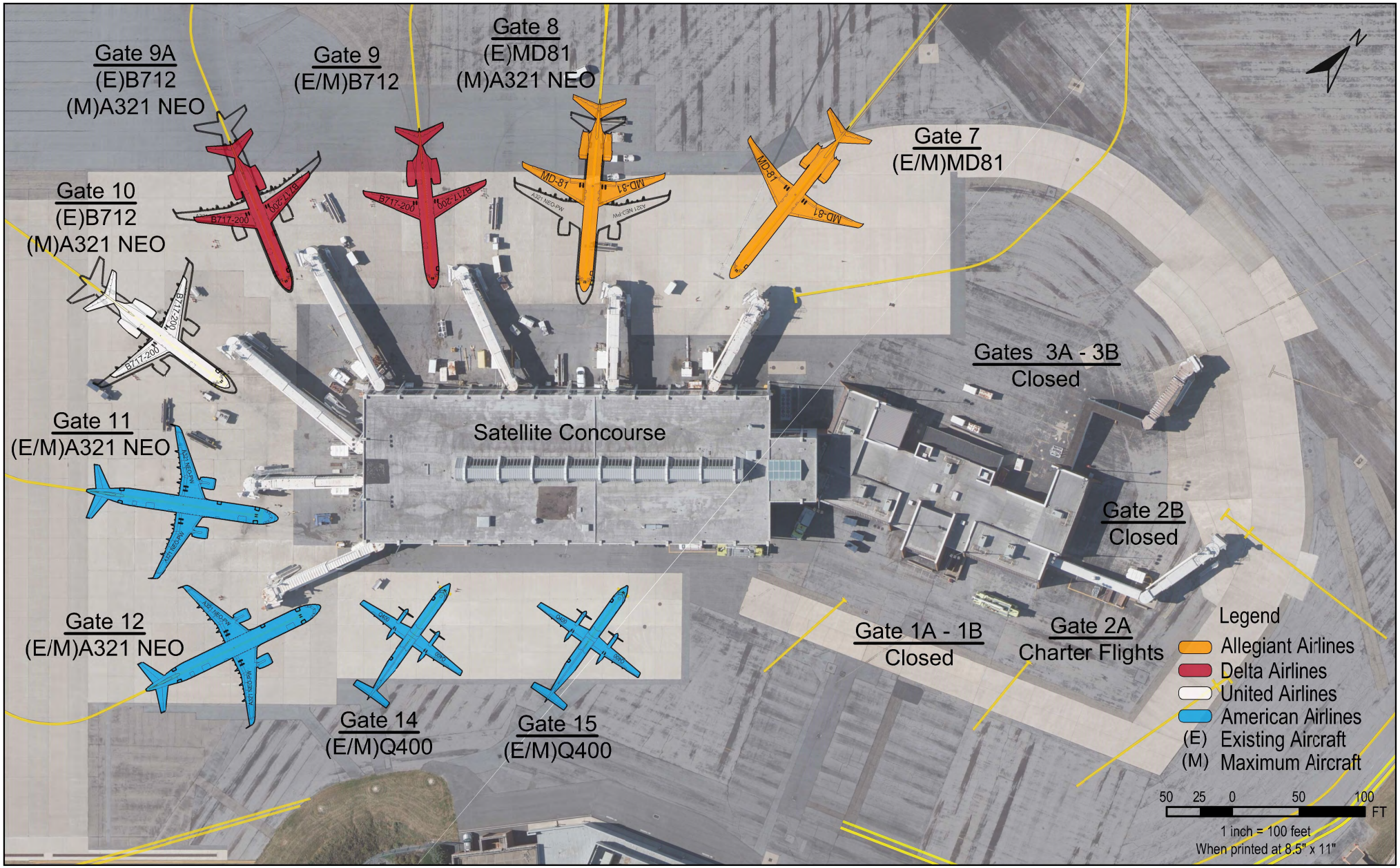

Terminal Apron Area

Lehigh Valley International Airport
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Figure 3.3.2

Table. 3.3.1: Existing Aircraft Parking Gates Data

Gate	Status	Current Airline	Current Aircraft	Maximum Aircraft
1A	Closed	n/a	n/a	n/a
1B	Closed	n/a	n/a	n/a
2A	Closed	Charter	n/a	n/a
2B	Closed	n/a	n/a	n/a
3A	Closed	n/a	n/a	n/a
3B	Closed	n/a	n/a	n/a
7	Active	Allegiant	MD80/A320	A320
8	Active	Allegiant	MD80	ADG-III
9	Active	Delta	B717	B717
9A	Active	Delta	B717	ADG-III
10	Active	United	B717	ADG-III
11	Active	American	ADG-III	ADG-III
12	Active	American	ADG-III	ADG-III
14	Active	American	Q400	Q400
15	Active	American	Q400	Q400

Source: LNAA Aircraft Parking Plan

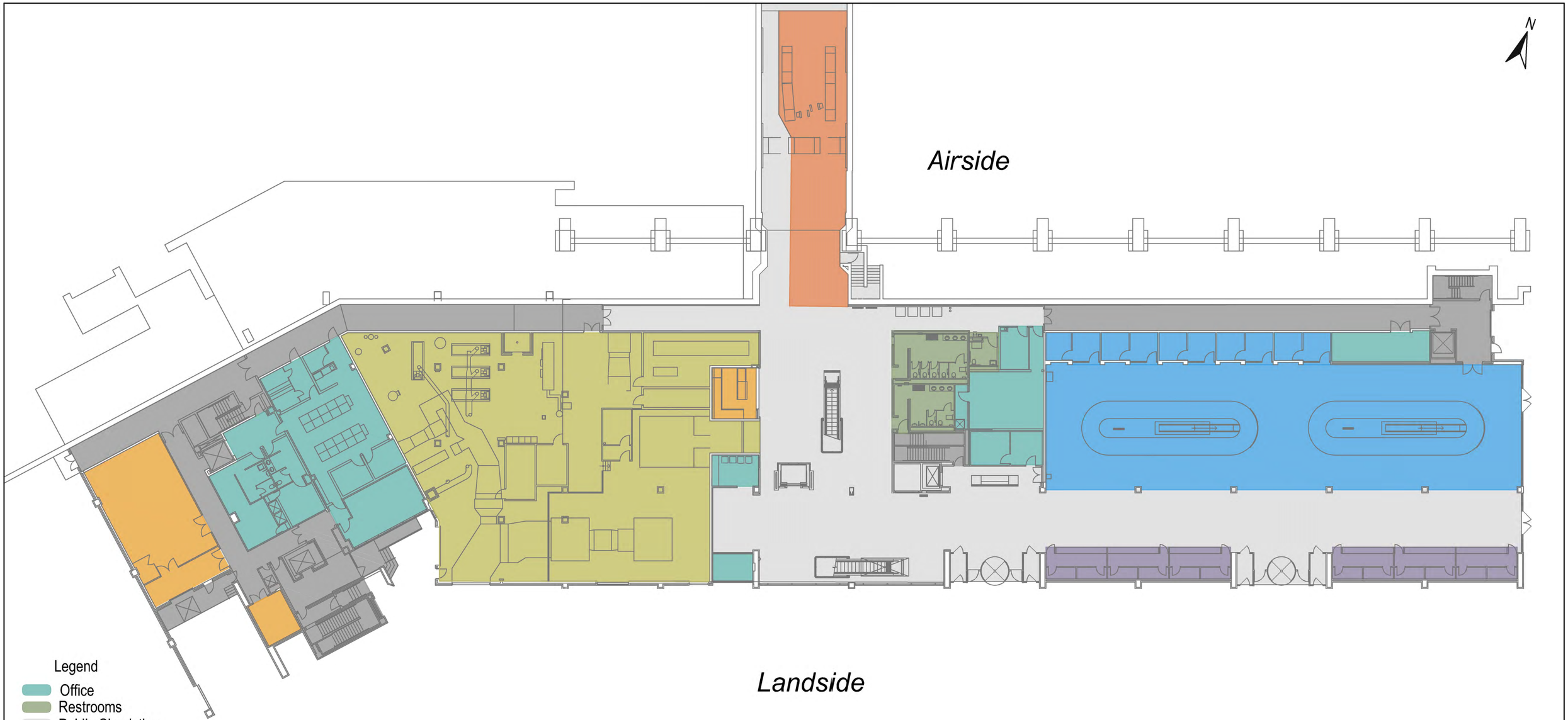
Terminal and Concourse Area

Main Terminal - First Floor

The functional areas provided in the passenger terminal are described below.

The Main Terminal consists of three levels; first floor, second floor, and third floor. The first floor is for passenger processing such as baggage claim and the apron is for airline and Airport employees. Respectively, the second level is the main level for passenger processing, often referred to as the enplaning level. The third level is mostly non-public area, and is often referred to as the mezzanine level. The physical areas provided at LVIA are described below in **Table 3.3.2**.

Figures 3.3.3 and **3.3.4** depict the Main Terminal and Satellite Concourse first floor



Main Terminal
First Floor

Lehigh Valley International Airport
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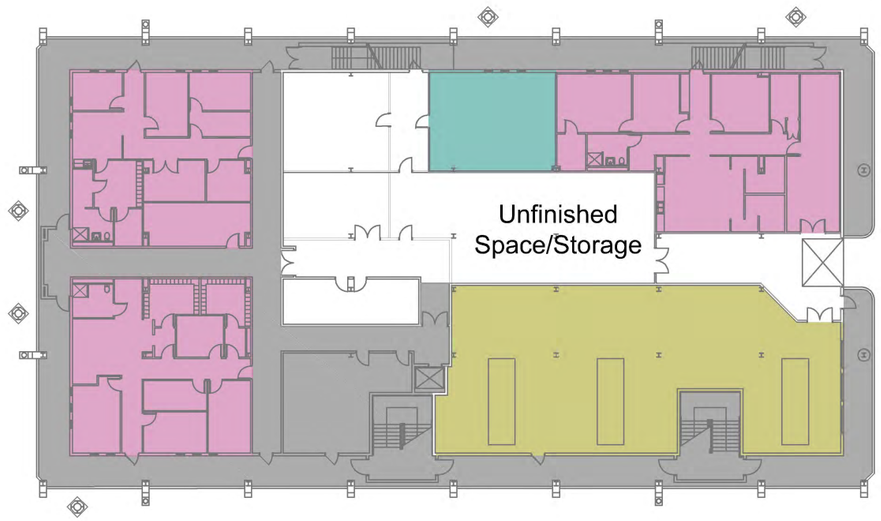
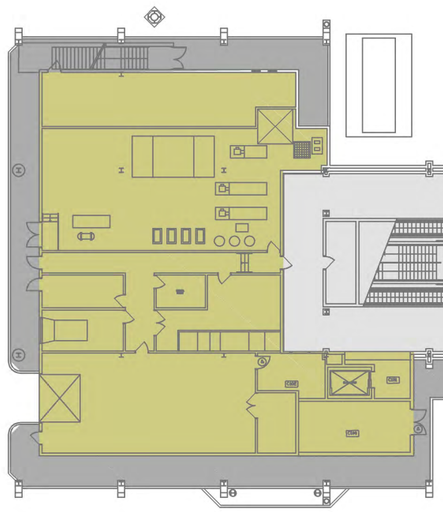
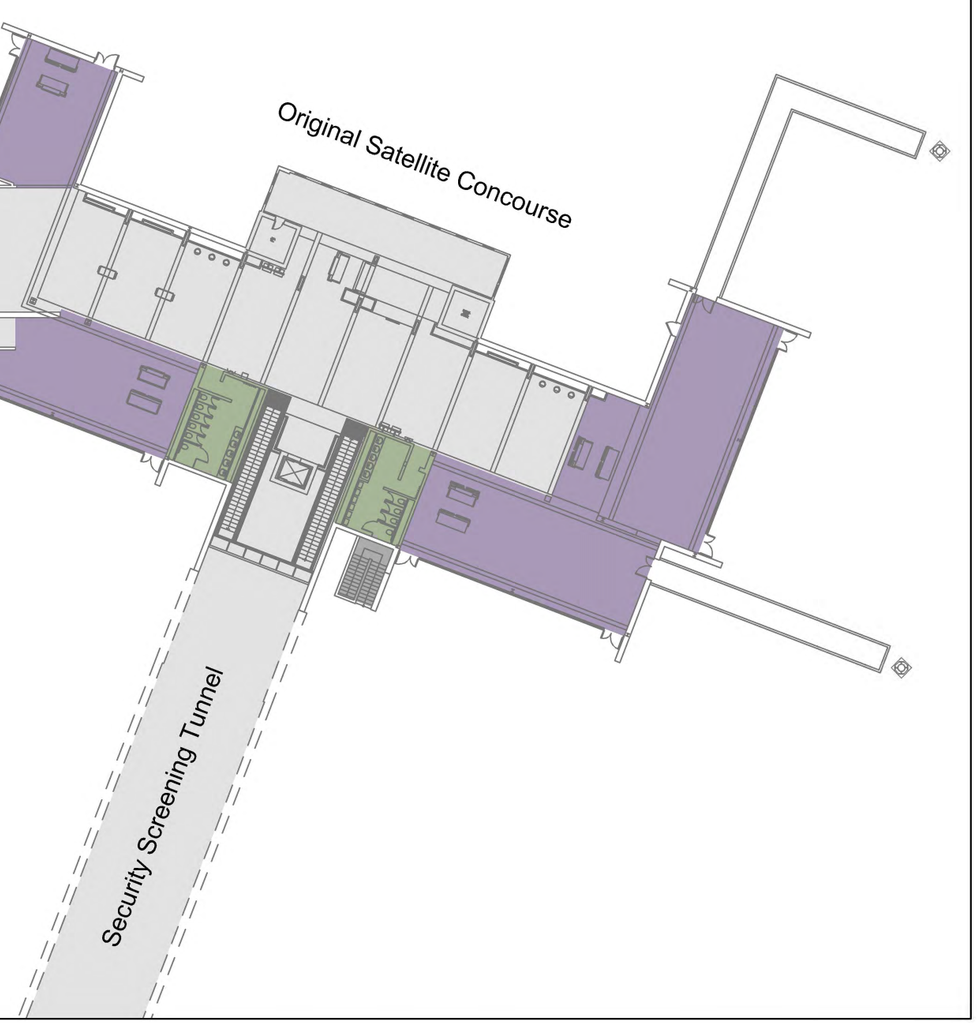
Figure 3.3.3

Satellite Wiley Concourse - 1st Floor







Legend

- Office
- Restrooms
- Public Circulation
- Non-Public Circulation
- Mechanical Room
- Holdroom
- Airline Office

Passenger Tunnel and Satellite Concourse

Lehigh Valley International Airport
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Figure 3.3.4

Table 3.3.2: First Floor Summary

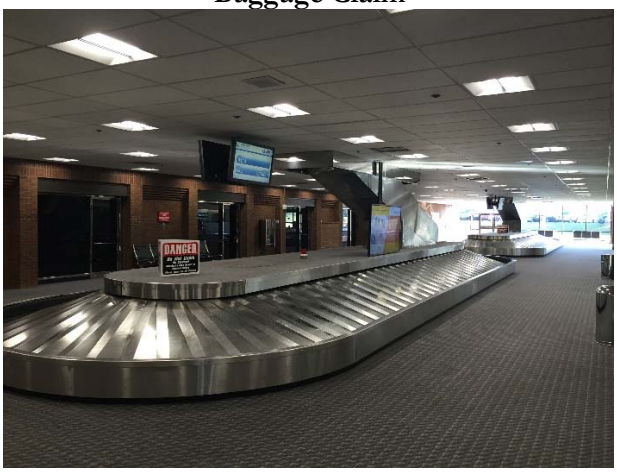
Main Terminal Building	
Functional Element	**Area (SF)**
Baggage Claim	5,880
TSA Passenger Screening	1,750
Rental Car Counter	930
Public Circulation	13,400
Non-Public Circulation	9,610
Restrooms	830
Airport Office	3,950
Concessions (storage)	1,450
Tunnel	8,800
Airline Offices	775
Satellite Wiley Post and Old Departure Concourses	
Holdrooms	5,300
Airline Offices	6,270
Office	4,780
Public circulation	9,045
Non-public circulation	9,075
Restrooms	870
Mechanical Room	13,760

Source: LNAA Main Terminal Building and Satellite Concourse Deplaning Level Plans

Baggage Claim

The baggage claim is located on the east half of the first floor. Arriving passengers access the baggage claim area via the central circulation core. There are two sloped-plate carousels for arriving passengers to retrieve their bags. There is circulation around the carousels and between the baggage claim area and the rental car counters. Once passengers claim their bags, they exit through three exit vestibules near to the rental car counters. Adjacent to the carousels are airline baggage service offices (BSO). Currently, most are occupied by airlines, but some are used for airport storage.

Baggage Claim



Source: C&S Engineers, Inc. 11/6/16

TSA Passenger Security Screening Checkpoint

The Transportation Security Administration (TSA) is responsible for ensuring the security of the nation's transportation systems. TSA provides mandatory passenger and baggage screening services at airports.

The TSA passenger security screening checkpoint is located in the narrow tunnel connector between the Main Terminal and the Satellite Concourse. Departing passengers, after visiting the check-in area on the second floor, must proceed down the escalator or elevator to access the security checkpoint on the first floor from the main circulation core. Passengers who check-in prior to arriving at the Airport, and are parked in the long-term parking lot, access the security checkpoint through vestibules located in the baggage claim area. The security checkpoint has two screening lanes; including one TSA PreCheck lane, opened in December 2016. Arriving passengers circulate past the checkpoint in a narrow back-flow prevention corridor.

Public Circulation

Public circulation is located throughout the first floor, and is the main circulation aisle from the security checkpoint to the baggage claim area and to the exit. Elevators, stairs, and escalators provide vertical access to the second floor. At the first floor of the Satellite Wiley and Old Departure Concourse, public circulation areas connect the vertical circulation from the tunnel to gates, holdrooms, and vertical circulation to the two-level western part of the concourse.

Non-Public Circulation

Non-public circulation areas are only accessible by Airport, airline, or people under escort with security clearance. In the Main Terminal these areas are circulation corridors behind the baggage claim area and throughout the central receiving dock, Airport office, and mechanical rooms. In the satellite concourse, these areas include circulation corridors between Airport and airline offices, and mechanical rooms.

Holdrooms

Holdrooms are where departing passengers enplane and arriving passengers deplane. A seating area for waiting and a gate podium for airline assistance is included at each holdroom. Holdrooms are located on both the first and second floors of the Satellite Concourse. The eastern part of the concourse has holdrooms for Gates 1A-3C, but is not typically served by airlines unless required. There are no concessions and no passenger amenities such as charging stations in these holdrooms. The western part of the concourse has holdrooms for Gates 7-12 and 14-15, where all flights arrive and depart. The concourse is a common-use type, and thus airlines can utilize any available gate. Airlines are typically located at the same gates, however they can utilize other gates depending on availability or maintenance issues.

Restrooms

Restrooms are located in the main path of travel for maximum passenger convenience. In the Main Terminal, restrooms are located adjacent to the central circulation corridor and passenger security screening. In the Satellite Concourse, the restrooms are located in the middle of Satellite Wiley Concourse and adjacent to the vertical circulation core connecting the tunnel and the Old Departure Concourse.

Airport Offices

Much of the Airport's office space is located on the third floor. There is limited office area on the second level in the Main Terminal and Satellite Concourse. On the west end of the Main Terminal there is a conference room utilized by the Airport, and can be rented out to individuals or companies as needed. These areas are not in public areas and are used primarily for meeting rooms and storage.

Airline Offices

Airline offices are located on the first floor of the Satellite Wiley Concourse. These offices include airline operations space such as storage for aircraft parts, GSE, workshop areas, employee break areas, and flight crew weather briefing areas. These areas are leased by individual airlines due to the proprietary nature of their operation.

Rental Car Counters

Rental car counters are where arriving passengers are processed to receive their rental car keys once they've claimed their luggage. The counters are located adjacent to the baggage claim area. The area includes counters where the transactions take place, and a small back room used for storage, break room, etc.

Receiving docks

There is one dock located on each end of the Main Terminal. The central receiving dock for deliveries is located at the far west area of the Main Terminal. This is the area where all deliveries come in and waste goes out of the terminal complex. Adjacent to the receiving dock are multiple storage areas that contain deliveries that do not need to be immediately taken to a concessions location at the terminal building or concourse. Access from the concessions receiving dock to the Main Terminal is via a non-public corridor behind the Airport offices and mechanical rooms.

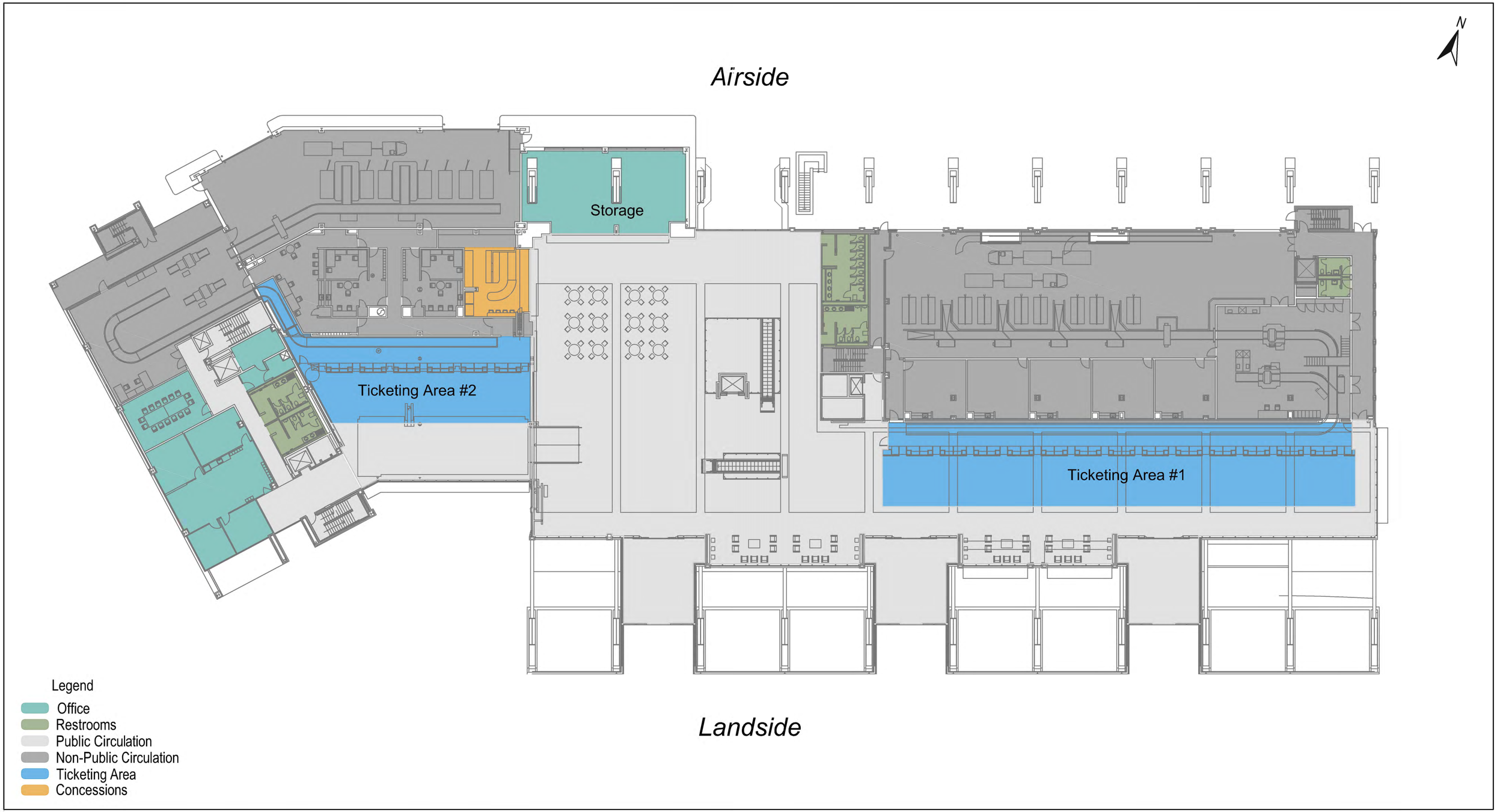
The receiving dock located on the east end of the Main Terminal is for Airport use. This dock is used primarily for maintenance, along with lost airline baggage loading and delivery.

Mechanical rooms

Substantial mechanical rooms are located in the Main Terminal and Satellite Concourse. They are located in a non-public area in both buildings. These areas provide power, data, and heating and cooling for the respective facility they are located in.

Second Floor

Located on the second floor of the Main Terminal are two check-in areas, airline ticket offices, TSA baggage screening, outbound and inbound baggage makeup, concessions, Airport office, restrooms, and public and non-public circulation. The second floor of the Satellite Wiley Concourse includes holdrooms, concessions, restrooms, and public circulation. **Figures 3.3.5** and **3.3.6** depict the second floor of the Main Terminal and Satellite Wiley Concourse. **Table 3.3.3** shows a summary of square footage by area.



Main Terminal Second Floor

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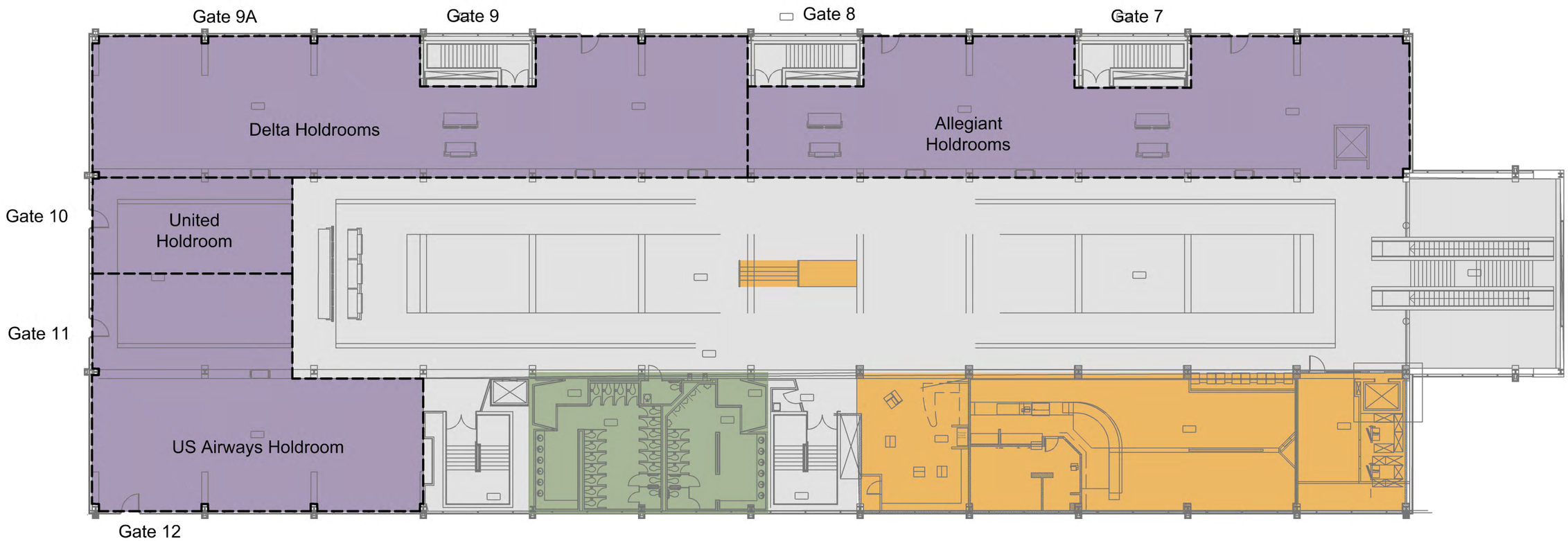
Figure 3.3.5



Legend

- Restrooms
- Public Circulation
- Holdroom
- Concessions

Satellite Wiley Concourse
Second Floor

Lehigh Valley International Airport
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Figure 3.3.6

Table 3.3.3: Second Floor Summary

Main Terminal Building	
Functional Element	**Area (SF)**
Check-in	7,575
Airline Ticket Offices	3,895
TSA Baggage Screening	4,000
Outbound Baggage Makeup	10,039
Inbound Baggage Makeup	Included above
Concessions	2,210
Airport Office	4,230
Restrooms	1,820
Public Circulation	25,260
Non-Public Circulation	1,730
Mechanical Room	3,340
Conference Room	500
Satellite Wiley Post and Old Departure Concourses	
Holdrooms	13,210
Concessions	3,930
Restrooms	1,755
Public circulation	13,170
Mechanical Room	4,060

Source: LNAA Main Terminal Building and Satellite Concourse Enplaning Level Plans

East Check-in Ticket Counters

Source: C&S Engineers, Inc. 11/6/16

Check-in

Departing passengers who need to obtain a boarding pass or check their baggage enter one of two check-in areas. Check-in areas are located on either side of the central circulation core. The main check-in area is located to the east, adjacent to the enplaning curbside vestibules. The other is located to the west. The Airport has a common use platform that airlines use to process their passengers.

The check-in process has changed significantly in the last five years due to passenger processing technology innovation such as smart phone applications, permanent bag tags, etc. Also, airline baggage fees have reduced the number of passengers who check bags. Both have reduced the passenger demand on the check-in area and number of required check-in positions, to be further evaluated in the facility requirements section.

Airline Ticket Offices

Airline Ticket Offices (ATO) traditionally include space to support day-to-day activities and transactions specific to airline operations. Many of the reasons for having these offices, such as a cash safe, are no longer relevant. Most of these areas are used today for storage or break areas for airline employees, with computers and workstations utilized by station managers. Currently, the ATOs are located immediately behind the check-in counters.

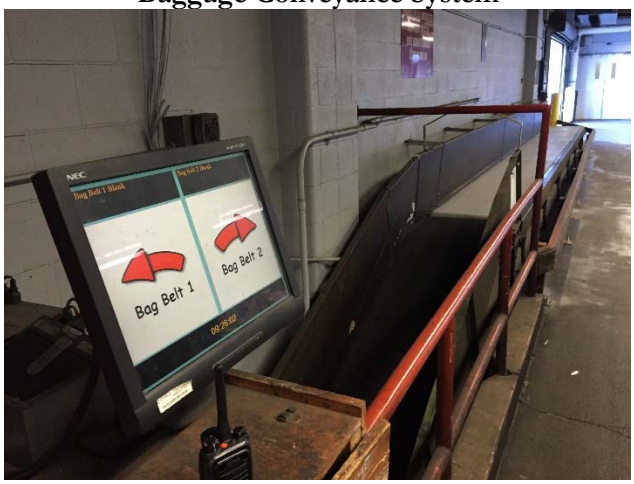
TSA Baggage Screening

There are two TSA baggage screening areas, one serving each of the check-in areas. These systems are known as "mini inline" explosive detection systems (EDS). Bags from the check-in areas go behind the public wall to the screening area. Bags are screened and proceed to secondary screening or the outbound baggage makeup area. The system provides a good level of service for passengers and airlines by automating the screening process. These areas are secured by TSA, not accessible by the public, and require special access for airport or airline employees.

Outbound Baggage Makeup

Outbound baggage makeup area is where airline personnel organize, separate, and load passenger baggage onto carts for departing flights. Once a bag exits the TSA screening area it travels on a belt to the sortation area or baggage makeup. There are two baggage make up areas, one serving each of the check-in/TSA screening areas.

Baggage Conveyance System



Source: C&S Engineers, Inc. 11/6/16

Inbound Baggage Makeup

The inbound baggage system is used by airline personnel to transfer passenger baggage from arriving aircraft to individual sloped-plate baggage claim units. The baggage transfer occurs in the non-public area of the second floor. When the baggage is placed on the inbound baggage units it is transported via moving conveyance system to the public baggage claim area and picked up by waiting passengers. There is one inbound baggage makeup area located adjacent to the eastern outbound baggage makeup.

Holdrooms

As described previously, holdrooms are where departing passengers enplane and arriving passengers deplane. A seating area for waiting and a gate podium for airline assistance is included at each holdroom. Holdrooms are located on both the first and second levels of the satellite concourse. The eastern part of the concourse has holdrooms for Gates 1A-3C, but is not currently served by any airlines. The western part of the concourse has holdrooms for Gates 7-12 and 14-15, where all flights arrive and depart. Holdrooms are leased to individual airlines, but because of the compact nature of the concourse and close proximity to other gates, passengers often use holdrooms of adjacent airlines.

Concessions

Airport terminals typically have four to five basic concession offerings. These include food and beverage, retail, news/gifts, specialty, and duty-free. LVIA airport has four public concessions areas: a café adjacent to the central circulation core in the Main Terminal building; a restaurant, news/gifts shop, and a business center in the satellite concourse.

Public Circulation

Public circulation is located throughout the enplaning level and is the main circulation aisle from the entrance vestibules to central circulation core and north end of the building. Elevators, stairs, and escalators provide vertical access to the first floor. The concourse circulation is a wide aisle connection to the vertical circulation to the holdrooms, concessions, and restrooms. Egress vertical circulation cores are located at various holdrooms.

Non-Public Circulation

Non-public circulation areas are accessible only by Airport, airline, or other people under an escort with security clearance. In the main terminal building, these areas are behind the check-in areas and adjacent to the TSA screening and outbound baggage makeup areas. There are no non-public circulation areas in the concourse at this level.

Restrooms

Restrooms are located in the main path of travel for maximum passenger convenience and adjacent to offices areas for tenant and Airport personnel conveniences. In the Main Terminal building, restrooms are located adjacent to the central circulation corridor and adjacent to office spaces. In the Satellite Concourse, the restrooms are located between holdrooms and concession areas.

Airport Offices

Much of the Airport's office space is located on the third floor. There is some office area on the enplaning level in the Main Terminal. These areas are used primarily for meeting rooms and storage and also leased to TSA, airport police, etc. There is no office area in the concourse.

Third Floor

The mezzanine level is the primary location for the LNAA offices. Other support areas include public circulation, which is egress for the Authority's office space, and restrooms to support the offices. There is also a waiting area and check-in window. A square footage area summary is in **Table 3.3.4.**

Table 3.3.4: Mezzanine Level Area Summary

Main Terminal Building	
Functional Element	**Area (SF)**
Airport Office[1]	8,000
Public Circulation[2]	470
Non-Public Circulation[3]	1,930
Restrooms	620
Conference Rooms	1,300

[1] Includes interior hallways
[2] Includes foyer and vertical transitions only
[3] Includes outside hallway and stairway
Source: LNAA Main Terminal Mezzanine Level Plans

3.4 Access, Circulation, and Parking

This section summarizes the Airport's access, circulation, and parking facilities, and the current levels of activity occurring at those facilities. **Figure 3.4.1** depicts key access and parking facilities referenced throughout.

Data Sources

Previously prepared reports and available traffic data were reviewed, and surveys of Airport traffic were conducted to assess existing levels of activity on Airport roadways and within the Airport's parking facilities. Surveys conducted as part of this master plan are listed below. Detailed data is provided in **Appendix C - Inventory Materials.**

- **Traffic Counts** – The specific traffic data collection locations and the type of data collected at each are shown in **Figure 3.4.2**. Automatic traffic recorders (ATR) were used to collect seven days of hourly counts along Airport Road (ATR 1) and the entrance to the Airport (ATR 16) in October 2016 in order