2. PROJECT DESCRIPTION

The project description is intended, among other things, to serve as a general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and the supporting public services facilities. (State CEQA Guidelines Section 15124(c)). The proposed project's technical and engineering characteristics are detailed below in Section 2.4, Project Characteristics. The objectives, purpose, and economic characteristics of the proposed project are detailed in Section 2.3, Project Objectives, below.

The environmental and engineering characteristics of the proposed project specific to each environmental resource analyzed within this Draft EIR are further detailed in the individual subsections (i.e., Sections 4.1 to 4.4) of Chapter 4 *Environmental Impact Analysis*. Supporting public services facilities associated with the proposed project are discussed in Appendix A.1: Notice of Preparation/Initial Study.

2.1 Project Overview

The Los Angeles World Airports (LAWA) proposes improvements to existing Terminals 2 and 3 (T2 and T3) at Los Angeles International Airport (LAX). The proposed project is referred to as the LAX Terminals 2 and 3 Modernization Project (LAX T2/T3 Modernization Project).

T2 was originally constructed in 1961 but was demolished and completely reconstructed in place in 1988.[1] T3 was constructed in 1961 as part of the original development of the Central Terminal Area (CTA). The original T3 1961 'satellite' (the oval building at the end of the existing concourse) was modified around 1970 to accommodate wide-bodied aircraft, and the other portions of T3 were completed in several stages between 1980 and 1987 (which included a new passenger connector and baggage system linked to the existing satellite).[2] There has been no substantial exterior modernization or addition of building space at T2 or T3 since the late 1980s and the terminal spaces are not on par with the other terminals in the CTA. In addition, the building systems (including heating, ventilation, and air conditioning [HVAC] systems, plumbing, electrical, and passenger boarding bridges [PBBs] and their support systems) associated with T2 and T3 have not be significantly upgraded, are inefficient, and are at or beyond their useful lives.

The main purpose of the proposed project is to modernize existing T2 and T3 in order to improve passenger level of service and amenities within the terminals; help meet federal security requirements (e.g., security screening); improve passenger and baggage processing and inspections; improve building systems; improve the aircraft apron areas (e.g., aircraft parking positions, passenger boarding bridge locations, aircraft fueling system hydrant locations, ground support equipment parking locations) at T2 and T3; modernize the interior and exterior of the terminals to benefit the overall appearance of the CTA; and improve efficiency by building facilities that can be shared between T2 and T3 (such as passenger and baggage processing).

As described further in Section 2.4 below, the proposed project includes reconfiguring existing passenger gate positions within the existing terminal linear frontage; upgrading the T2 concourse, including construction of additional floor area; the demolition and reconstruction of the T3 concourse building to provide additional concourse area, including a new operation control center; the demolition of the southern appendages of the T3 satellite; the demolition and reconstruction of the passenger and baggage processing facilities (ticketing buildings – T2.5 and T3.5) associated with T2 and T3, including new facilities for passenger and baggage screening, ticketing, and baggage claim; and a secure connector (i.e., an

1 Historic Resources Group, LAX Terminals 2 and 3 Modernization Project Historic Resources Technical Report, June 2016, included within Appendix A of this Draft EIR.

2 Historic Resources Group, LAX Terminals 2 and 3 Modernization Project Historic Resources Technical Report, June 2016, included within Appendix A of this Draft EIR.

enclosed/controlled passenger corridor) between T2 and T3. In total, approximately 832,000 square feet of new building space would be added to the two terminals, for a total square footage of approximately 1,620,010 square feet. The proposed project also includes apron improvements, specifically replacement/resurfacing of apron areas and restriping of aircraft parking positions, and the relocation of aircraft fuel hydrant pits.

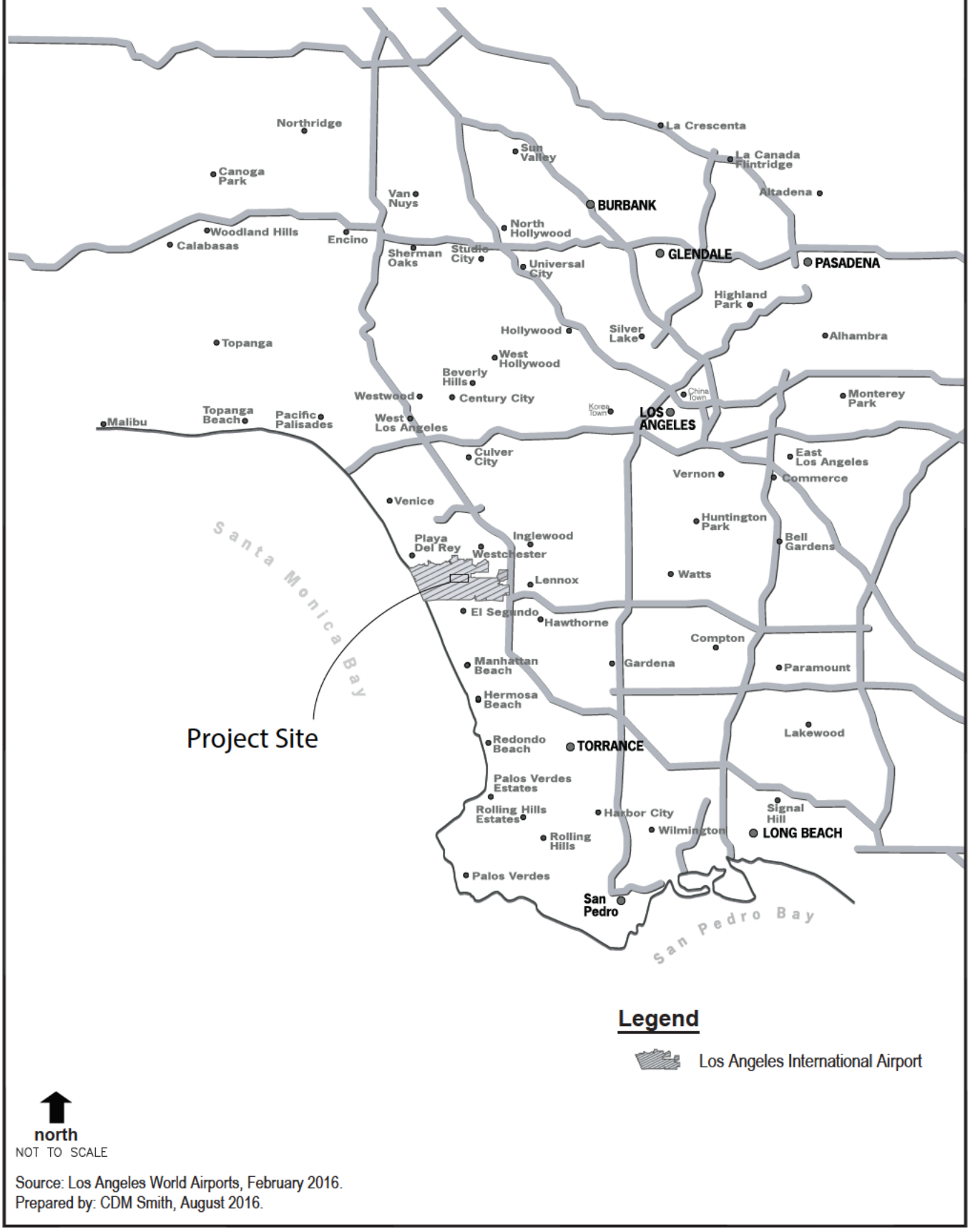
The proposed project would be completed in stages and take approximately 76 months (six years and four months) to construct and is estimated to begin fourth quarter 2017.

The operation of the proposed project would provide improved safety and security, passenger experience, convenience, quality of service, and building efficiency through renovations of aging terminal facilities. The improvements would allow for the reconfiguring of the passenger gate positions and aircraft-parking layout around T2 and T3 to match aircraft fleet requirements, which could result in there being additional passenger gate positions (increasing the total gates at T2 and T3 from 24 to 27 passenger gate positions); however, the proposed project would not increase the linear frontage that is currently available to accommodate aircraft parking (see Section 2.6 below for additional discussion) and thus would not cause or facilitate an increase in passenger capacity.

2.2 Project Location

The project site is located at LAX, within the City of Los Angeles and Los Angeles County (see **Figure 2-1**). LAX is the primary airport for the greater Los Angeles area, encompassing approximately 3,800 acres, and is situated at the western edge of the City of Los Angeles. In the LAX vicinity, the communities of Westchester and Playa del Rey are located to the north, the City of El Segundo is to the south, the City of Inglewood and the unincorporated Los Angeles County community of Lennox are to the east, the unincorporated Los Angeles County community of Del Aire and the City of Hawthorne are located to the southeast, and Dockweiler State Beach and the Pacific Ocean are to the west. Regional access to LAX is provided by Interstate 105 (I-105), which runs east-west and is located adjacent to LAX on the south, and the San Diego Freeway (Interstate 405 or I-405), which runs north-south and is located east of LAX. The main arterial streets serving LAX include Sepulveda Boulevard, Century Boulevard, Imperial Highway and Lincoln Boulevard.

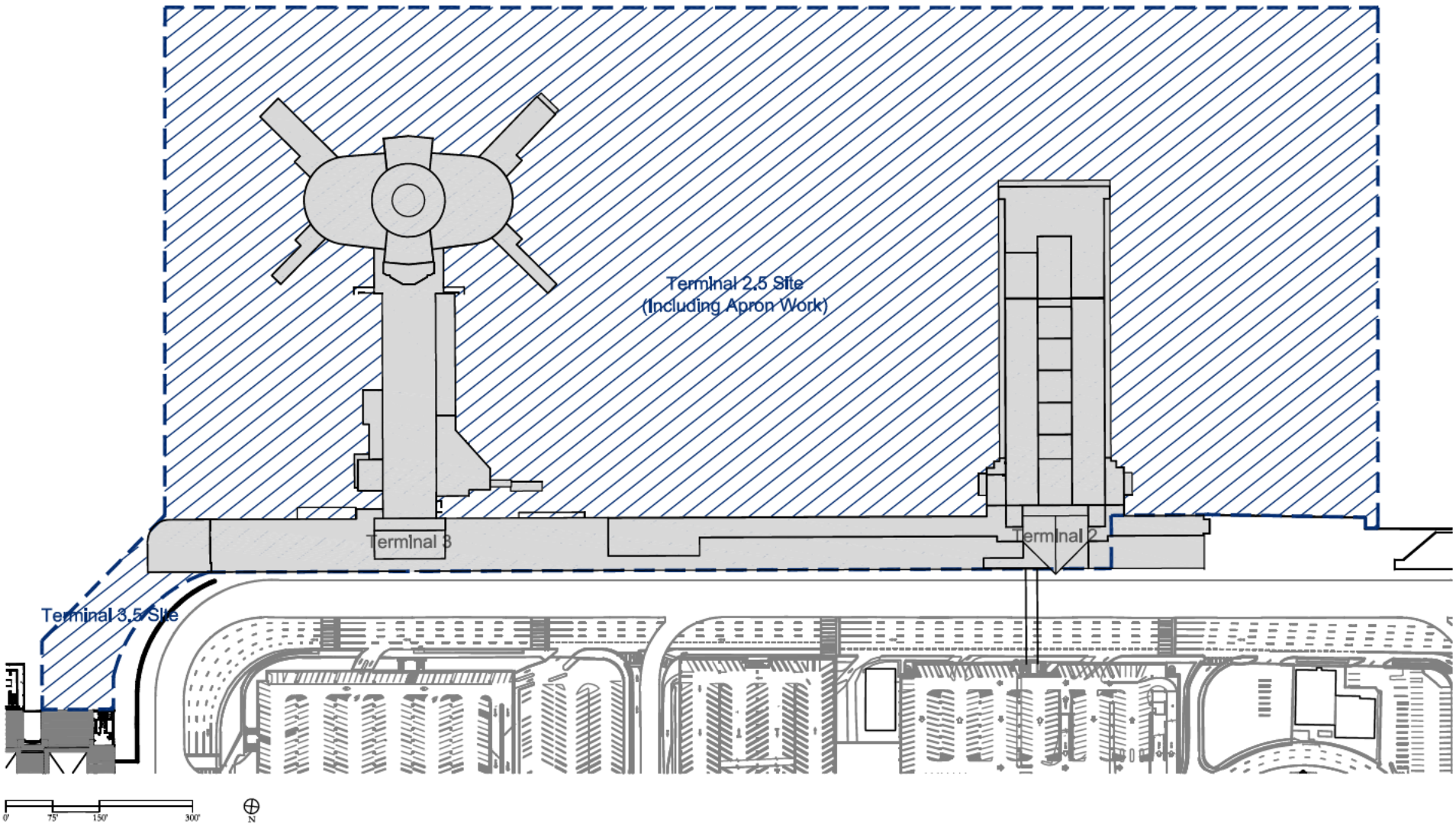
The project site is located within the CTA of LAX. The CTA is arranged similar to a “campus” in that there is an internal collection of buildings (i.e., terminals and parking structures) and roadways (both upper and lower) that are in a U-shaped area. Within the CTA, there are nine passenger terminals with the upper-level associated with departures and the lower level for arrivals. As shown in **Figure 2-2**, the approximately 41-acre project site is in the northern portion of the CTA, north of World Way and approximately 2,200 feet west of Sepulveda Boulevard, 8,000 feet east of Pershing Drive, 2,600 feet south of Westchester Parkway, and 5,000 feet north of Imperial Highway. The project site consists of existing T2 and T3 including the concourse buildings, and accompanying ticketing building. The project site also includes a paved open area to the southwest of T3, where a new ticketing building (i.e., Terminal 3.5, as described below) is proposed to be constructed. The northern (airside) area associated with the project site is bound by a common airside access system comprised of Taxilane D and a vehicle service road to the north. Because the proposed project includes airside apron improvements, as shown in **Figure 2-3**, the project site includes the apron area associated with T2 and T3.



Source: Los Angeles World Airports, February 2016.
Prepared by: CDM Smith, August 2016.

LAX Terminals 2 and 3 Modernization Project	Regional Location Map	Figure 2-1

LAX Terminals 2 and 3 Modernization Project	Project Location Map	Figure 2-2



Source: Los Angeles World Airports, October 2016.
Prepared by: CDM Smith, October 2016.

LAX Terminals 2 and 3 Modernization Project	Project Site	Figure 2-3

2.3 Project Objectives

The underlying purposes of improvements to the facilities at T2 and T3 are to provide improved security, passenger experience, operations, convenience, and quality of service. The specific objectives of the proposed project are to:

- Meet Transportation Security Administration (TSA) and U.S. Customs and Border Protection (CBP) requirements for security and customs screening and provide flexible space for next generation passenger and baggage security screening functions to improve safety and security;
- Modernize and revitalize existing T2 and T3 in order to improve passenger level of service and amenities within the terminals and improve building systems, as has been previously done for other terminals within the CTA;
- Coordinate improvements to the aircraft apron areas (e.g., aircraft parking positions, passenger boarding bridge locations, aircraft fueling system hydrant locations, ground support equipment parking locations) at T2 and T3 to be compatible with proposed changes to the T2 and T3 buildings and anticipated airline fleets and uses;
- Enhance the interior and exterior of the terminals to benefit the overall appearance of the CTA;
- Provide a secure connector between T2 and T3 to allow passengers to connect from one terminal to the other without having to exit to the non-secure side of the terminal, and only go through security once; and
- Provide for improvements within each terminal (T2 and T3) that are common to the functions and operations of both terminals and therefore can be shared between terminals, which, in turn, would improve operational efficiency and flexibility, as well as enhance the quality of customer service by reducing redundancies in passenger and baggage processing by providing facilities that support multiple terminals, when feasible.

2.4 Project Characteristics

The proposed project is the modernization and revitalization of existing T2 and T3 at LAX. Specific improvements are described below. A majority of the proposed project elements would upgrade existing aging infrastructure and building systems, as well as update security functions, which would enhance and optimize passenger experience. In short, the improvements proposed at T2 and T3 would improve safety and security, operational efficiencies, quality of service, and customer experience for passengers at LAX.

A benefit of the modernization would discontinue the current service model of having one terminal building with passenger and baggage processing that supports one associated concourse with aircraft gates (i.e., the passenger processing facilities currently within the T2 terminal are specific to the T2 concourse and associated T2 gates, and the same is true relative to the relationship between the existing T3 terminal, T3 concourse, and T3 gates), and instead, provide improvements and functions that can be shared between terminals, which, in turn, would improve operational efficiency and flexibility, as well as enhance the quality of customer service.

Refer to **Table 2-1** for square footage estimates of floor area associated with each level of the proposed project elements and **Figure 2-4** for a diagram of the existing and proposed site plans associated with the proposed project. Proposed plans for each level of the LAX T2/T3 Modernization Project facilities are provided in **Figures 2-5** through **2-10**. **Figure 2-11** provides a building section view of the proposed project facilities. Refer to Section 1.5 in Chapter 1, *Introduction and Executive Summary*, for definitions of airport terminology used below.

Terminal 2 Concourse

The improvements at the existing T2 concourse would include:

- Extension of the existing upper floor/"club level," creating additional area for airline clubs/lounges, new vertical circulation (elevators, escalators, and stairs), and area to improve the connection of the sterile corridor[3] at the concourse level to the Federal Inspection Station (FIS) facility at the arrivals level.
- Interior renovation/reconfiguration of space to provide improved level of service and amenities – including interior renovation/reconfiguration to provide improved quality of service and amenities such as upgrades to building systems (i.e., mechanical, plumbing, and information technology [IT]), improvements at the FIS facility, reconfigured/remodeled office and support space, and the replacement of/modifications to the baggage handling system (BHS) to coordinate with the new passenger check-in positions.
- Installation of new PBBs.
- Reconfiguration of the existing 10 gate positions within the existing terminal linear frontage at T2.

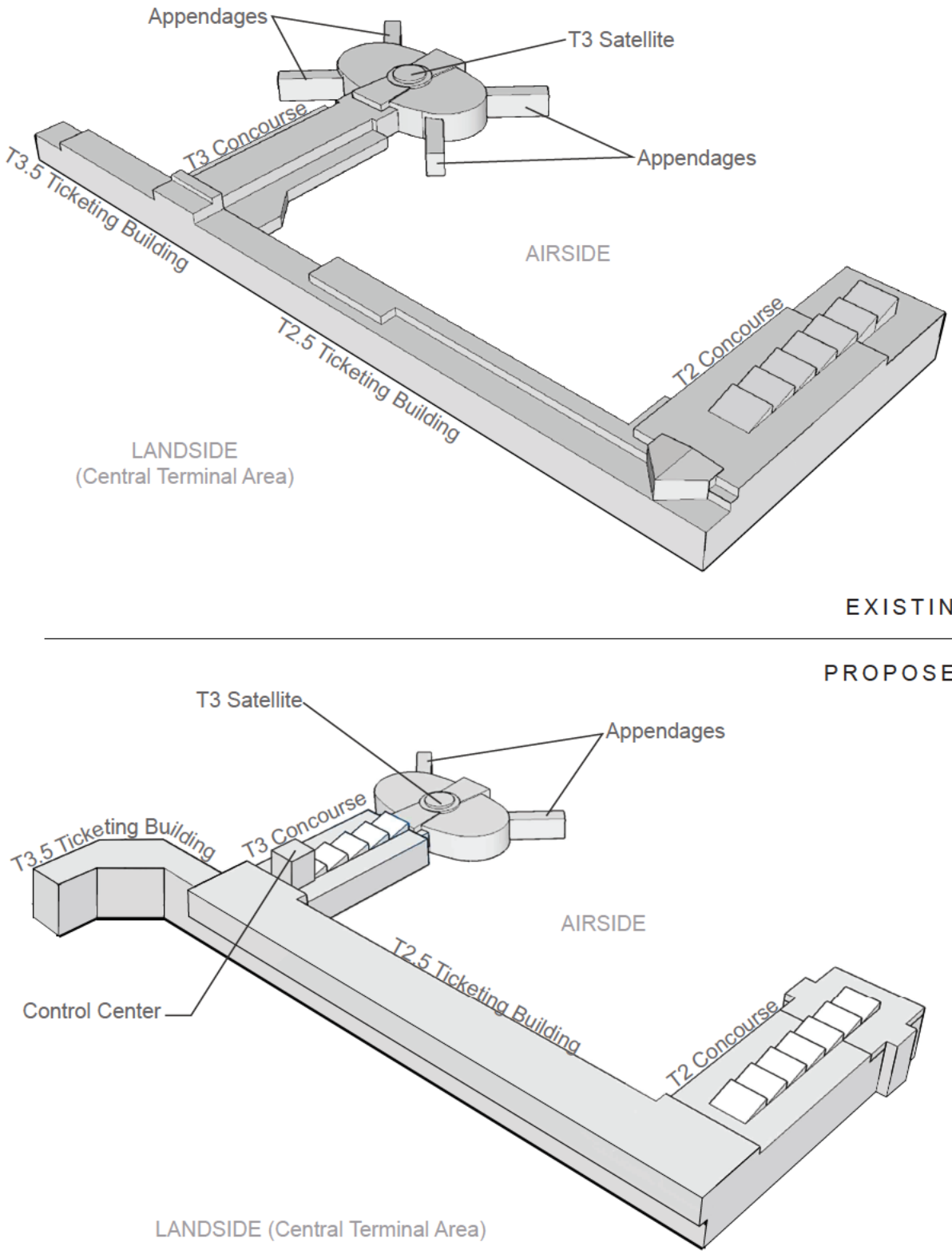
The additional building floor area to be constructed in conjunction with the improvements to the T2 concourse building would occur primarily at the north end of the concourse, as shown in **Figures 2-4**, **2-7**, and **2-8**. The maximum height of the modernized T2 concourse would be approximately 70 feet from the grade of the lower level roadway. The airport would continue to operate within the existing limitations, and it is anticipated that passengers would not change their modes of transportation or their arrival and departure distribution patterns (refer to Section 2.6 below for additional details regarding continued operation at the project site).

[3] The sterile corridors lead from the arrivals gate to the FIS area and may be secured with access control solutions that include automatic alarms, closed-circuit television (CCTV) cameras and staffed personnel, and directional signage. U.S. CBP maintains sterility to prevent mixing of cleared and uncleared passengers, as well as the potential for contraband exchange.

Table 2-1
Total Building Area

Facility		Existing Area (square feet - sf)	Existing Area Renovation (sf)	Existing Area Demolition (sf)	Existing Area Rebuild (sf)	New Construction (sf)	Total Area (sf)
T2.5 Ticketing Building	Mechanical Space	0	0	0	0	40,000	40,000
	Office Level	2,725	0	-2,725	2,725	142,275	145,000
	SSCP/Office	40,123	0	-40,123	40,123	104,877	145,000
	Ticketing Level	89,210	0	-89,210	89,210	25,790	115,000
	Arrivals Level	91,107	0	-91,107	91,107	133,893	225,000
	Total	223,165	0	-223,165	223,165	446,835	670,000
Terminal 2 Concourse Building	Mechanical Space	0	0	0	0	5,000	5,000
	Lounge Level	36,727	14,300	0	0	19,803	56,530
	Concourse Level	86,048	60,200	0	0	17,952	104,000
	Ramp Level	84,130	42,200	0	0	13,850	97,980
	FIS Level	87,796	42,400	0	0	13,204	101,000
	Total	294,701	159,100	0	0	69,809	364,510
Terminal 3 Concourse Building	Control Center	0	0	0	0	2,200	2,200
	Mechanical Space	0	0	0	0	15,000	15,000
	Lounge Level	15,164	0	0	0	47,336	62,500
	Concourse Level	96,744	58,394	-38,350	38,350	28,256	125,000
	Ramp Level	95,435	46,537	-48,898	48,898	29,565	125,000
	Tunnel Level	23,800	23,800	0	0	0	23,800
	Total	231,143	128,731	-87,248	87,248	122,357	353,500
Terminal 3.5 Ticketing Building	Mechanical Space	0	0	0	0	12,000	12,000
	Office Level	0	0	0	0	45,000	45,000
	SSCP/Office Level	0	0	0	0	45,000	45,000
	Ticketing Level	16,779	0	-16,779	16,779	53,221	70,000
	Arrivals Level	22,230	0	-22,230	22,230	37,770	60,000
	Total	39,009	0	-39,009	39,009	192,991	232,000
Grand Total		**788,018**	**287,831**	**-349,422**	**349,422**	**831,992**	**1,620,010**

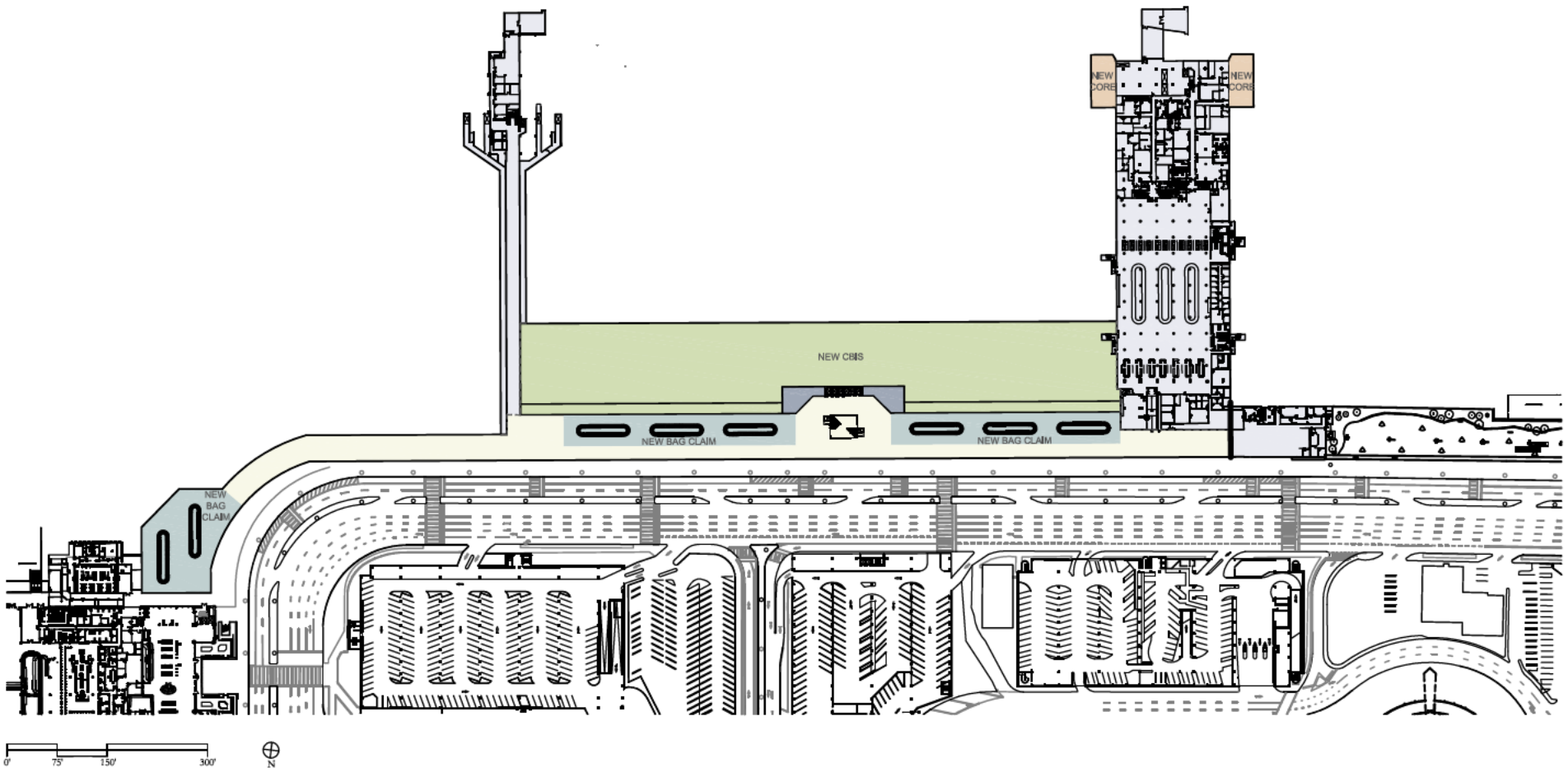
Source: LAWA, 2016



T#: Terminal #
Note: For discussion purposes only. Actual development and placement details may vary.

Source: Los Angeles World Airports, May 2016.
Prepared by: CDM Smith, August 2016.

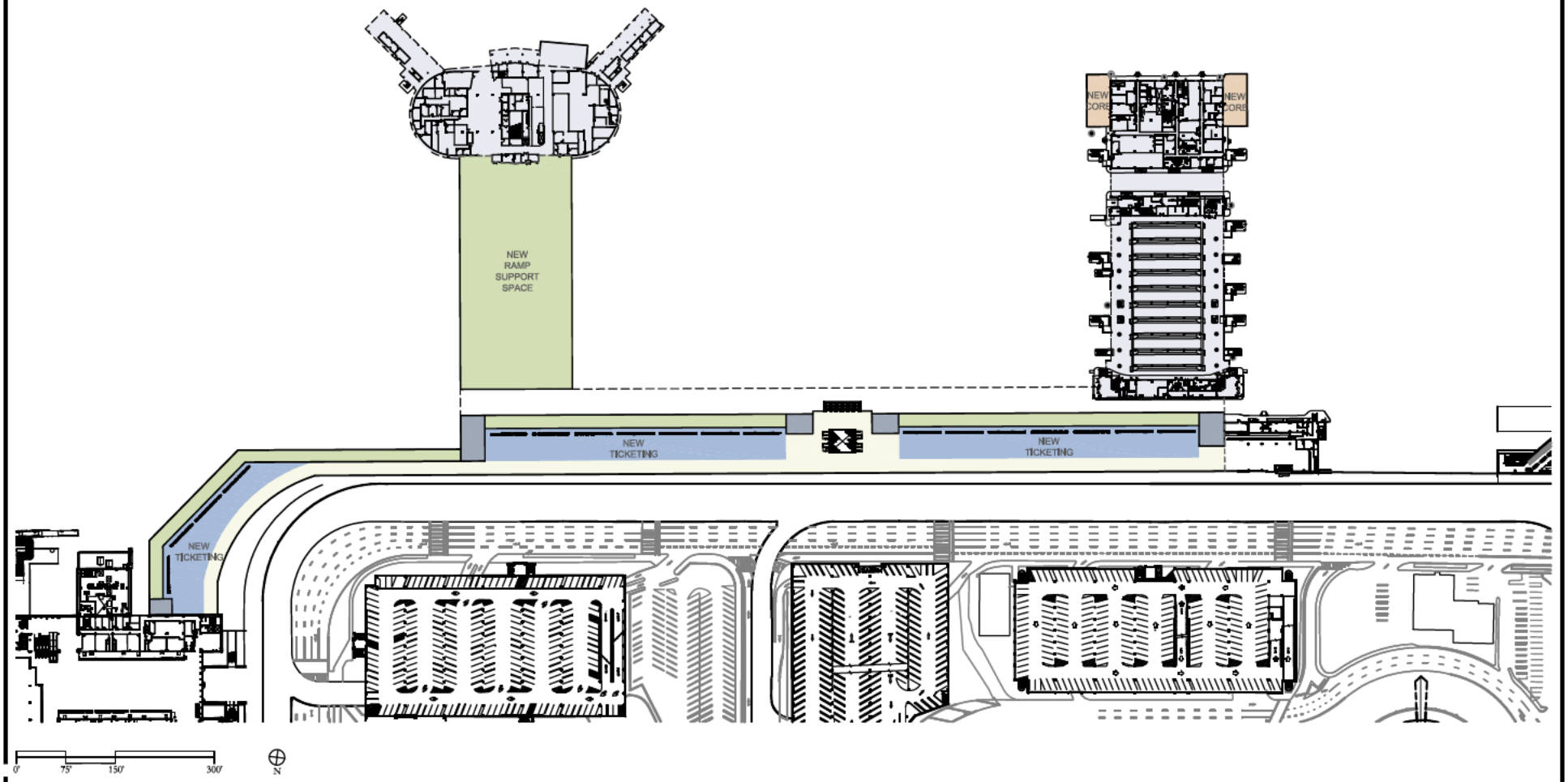
LAX Terminals 2 and 3 Modernization Project	Existing and Proposed Site Plans	Figure 2-4



Source: Los Angeles World Airports, October 2016.
Prepared by: CDM Smith, October 2016.

Note: For discussion purposes only. Actual development and placement details may vary.

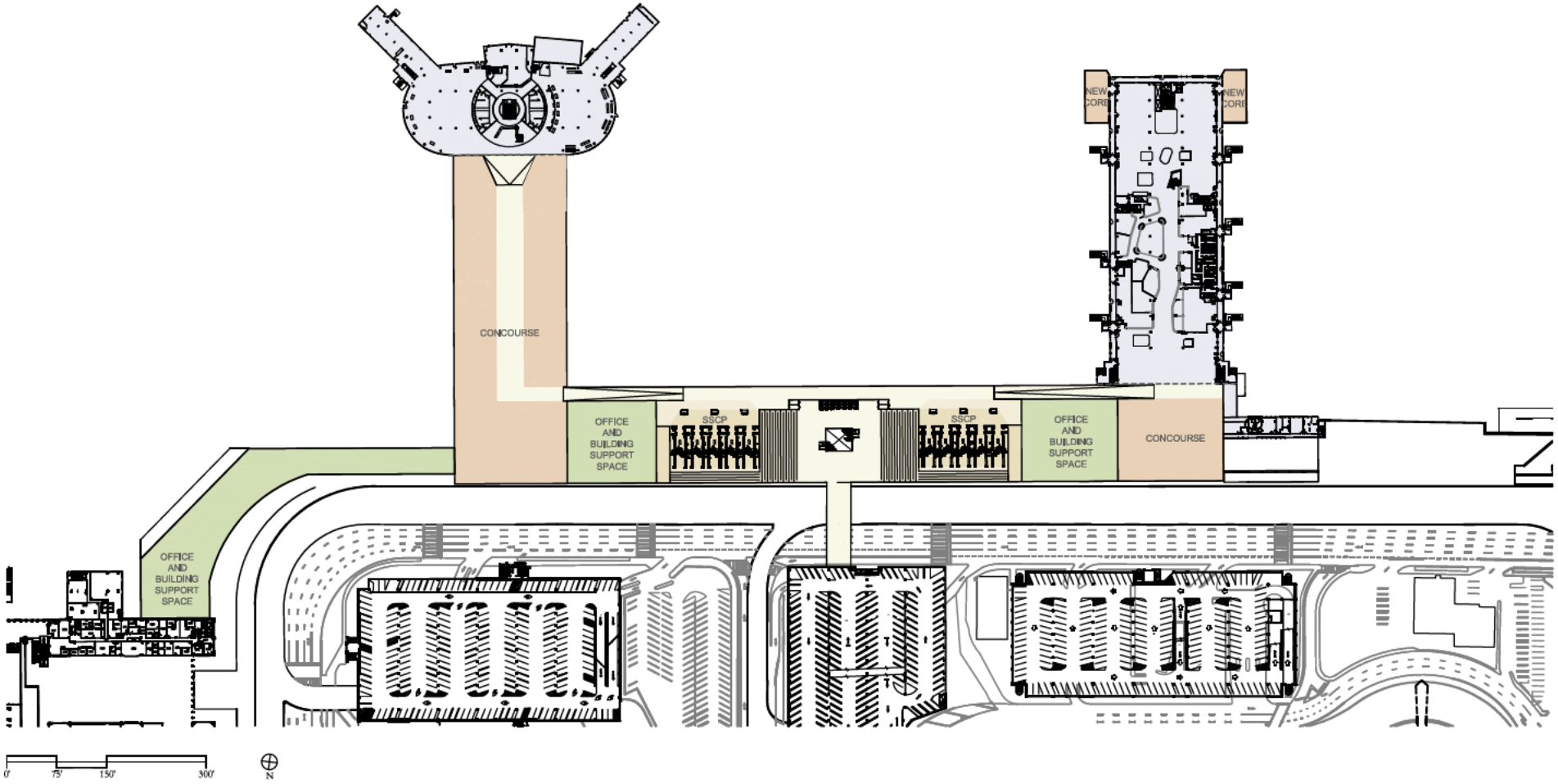
LAX Terminals 2 and 3 Modernization Project	Arrivals Level Plan	Figure 2-5



Source: Los Angeles World Airports, October 2016.
Prepared by: CDM Smith, October 2016.

Note: For discussion purposes only. Actual development and placement details may vary.

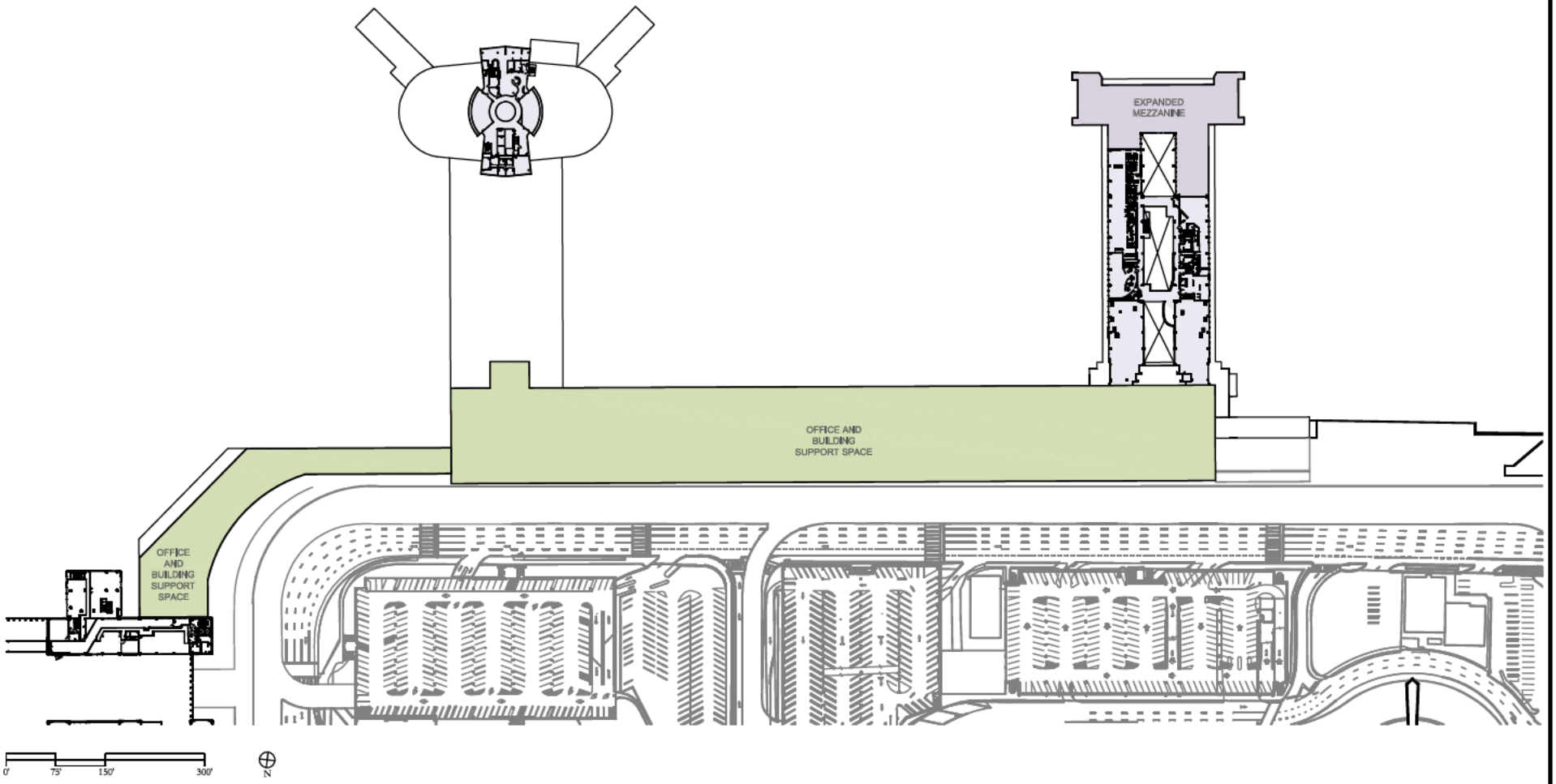
LAX Terminals 2 and 3 Modernization Project	Departures Level Plan	Figure 2-6



Source: Los Angeles World Airports, October 2016.
Prepared by: CDM Smith, October 2016.

Note: For discussion purposes only. Actual development and placement details may vary.

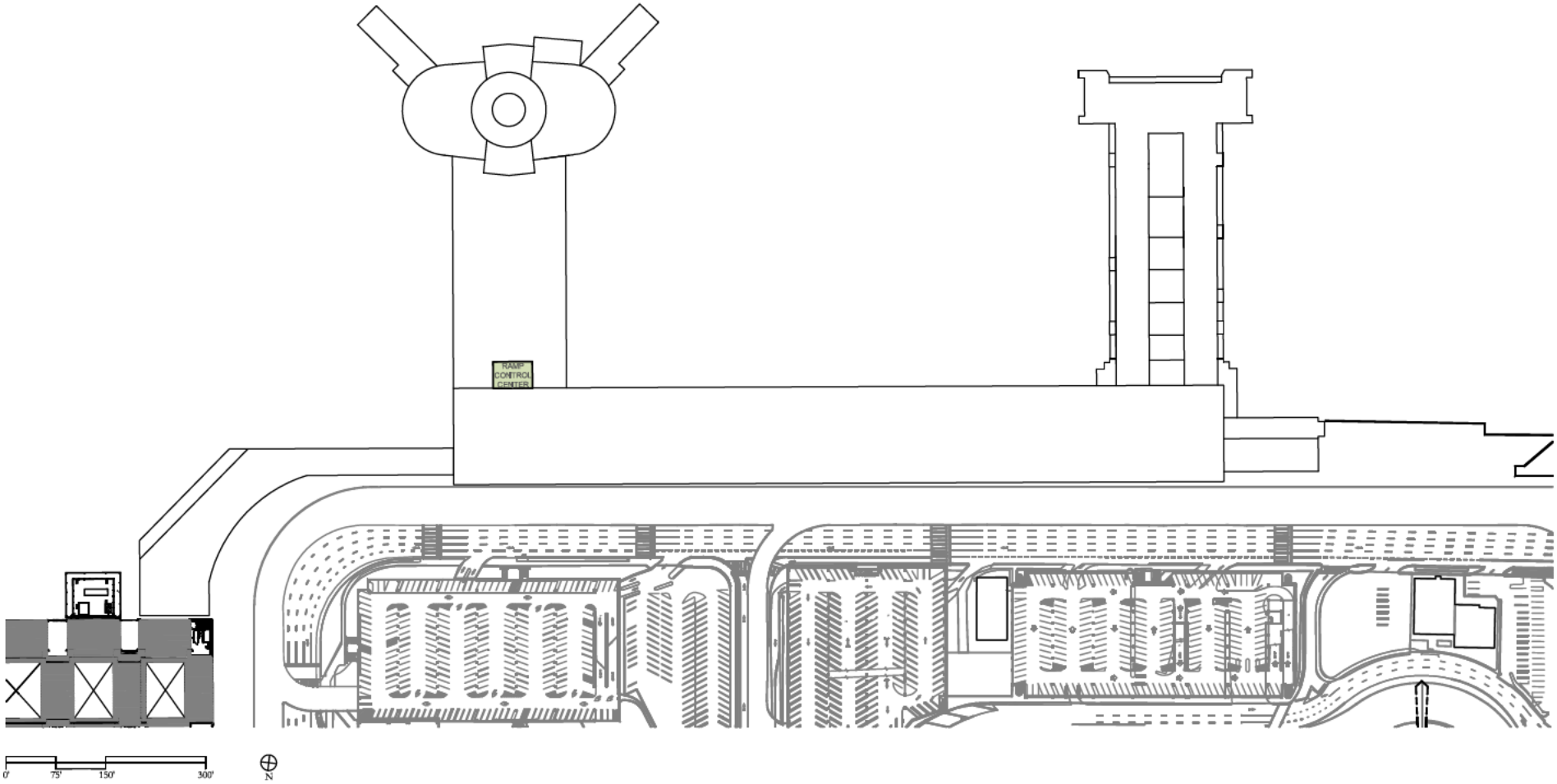
LAX Terminals 2 and 3 Modernization Project	Concourse Level Plan	Figure 2-7



Source: Los Angeles World Airports, October 2016.
Prepared by: CDM Smith, October 2016.

Note: For discussion purposes only. Actual development and placement details may vary.

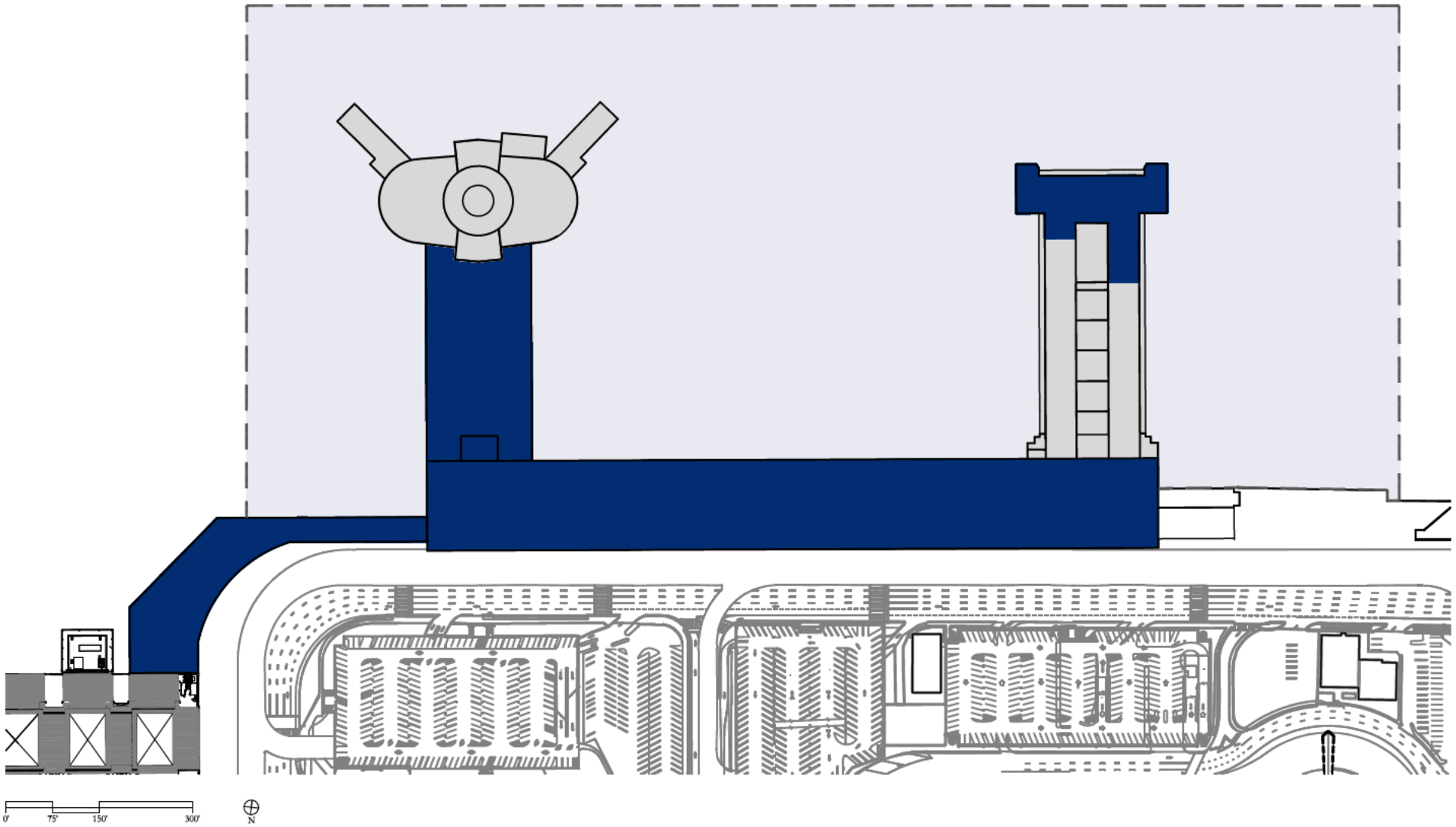
LAX Terminals 2 and 3 Modernization Project	Mezzanine Level Plan	Figure 2-8



Source: Los Angeles World Airports, October 2016.
Prepared by: CDM Smith, October 2016.

Note: For discussion purposes only. Actual development and placement details may vary.

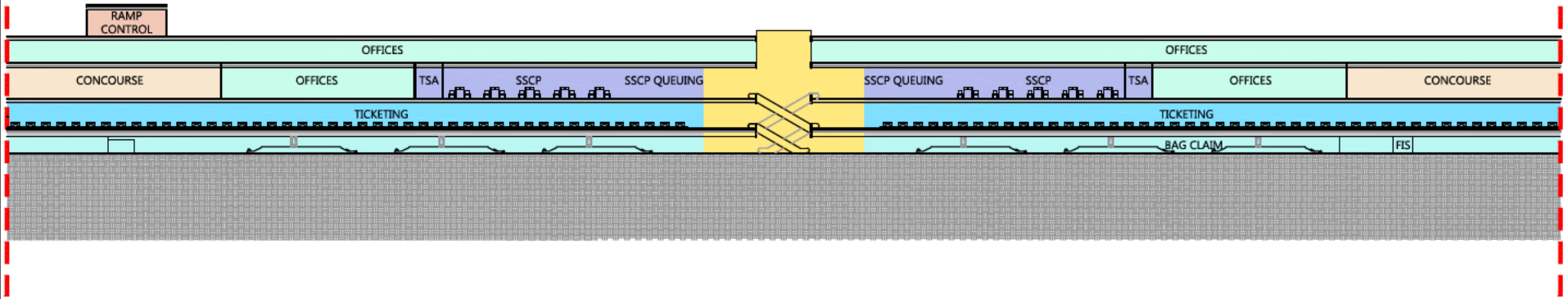
LAX Terminals 2 and 3 Modernization Project	Control Center Plan	Figure 2-9



Source: Los Angeles World Airports, October 2016.
Prepared by: CDM Smith, October 2016.

Note: For discussion purposes only. Actual development and placement details may vary.

LAX Terminals 2 and 3 Modernization Project	Roof Plan	Figure 2-10



Terminal 3 (left)
Terminal 2 (right)

Source: Los Angeles World Airports, October 2016.
Prepared by: CDM Smith, December 2016.

Note: For discussion purposes only. Actual development and placement details may vary.

LAX Terminals 2 and 3 Modernization Project	Building Section View	Figure 2-11

Terminal 3 Concourse and Satellite

Modernization of the T3 concourse would include:

- Demolition of the southern appendages of the T3 satellite;
- Demolition and reconstruction of the apron and concourse levels of the concourse building;
- The proposed concourse would include:
  - New foundations and structure (e.g., seismic upgrades);
  - New building systems including mechanical, electrical, plumbing, fire life safety, and IT;
  - New exterior enclosures and interior space finish work;
  - New functional spaces that include new baggage handling systems and support space at the apron level;
  - New holdroom, concessions, passenger amenity spaces at the concourse level;
  - New airline lounge space;
  - Airline and tenant support offices/storage and areas for building systems (electrical, mechanical, IT, etc.) located throughout the building;
  - Installation of new PBBs;
  - Reconfiguration of the existing 13 gate positions within the existing terminal linear frontage at T3; and,
  - Control center.

As shown in **Figure 2-4**, the T3 concourse would be rebuilt in approximately the same location as it currently exists, but the new structure would be approximately 45 feet wider on each side than the existing structure to allow for modernized holdrooms, concessions, support space, etc. for improved levels of customer service. The widening of the concourse would not modify the aircraft parking limit line (i.e., a line established by the Federal Aviation Administration [FAA] beyond which no part of a parked aircraft may protrude). Refer to Section 2.6 below for additional information regarding the relationship between no increase in the linear frontage that is currently available to accommodate aircraft parking and how this limits the ability of the facility to cause or facilitate an increase in passenger capacity.

The new control center would be similar to what exists at T5, which includes staff that coordinate aircraft arrivals at, and push-back from, the individual gates on the T2 and T3 concourses and coordinate aircraft movements on the alleyways adjacent to the concourses. The proposed control center would be located at the south end of the T3 concourse (refer to the proposed site plan on **Figure 2-4**). The control center would work in conjunction with the FAA's airport traffic control tower (ATCT) in managing the movement of aircraft on the airfield. Mechanical equipment would be located on the roof in mechanical penthouses to serve the spaces below. Where demolition occurs at the T3 satellite appendages, the exterior walls would be in-filled and minor interior improvements would be made to accommodate the new configuration. The proposed project would retain the existing underground tunnel associated with the T3 concourse, including the ceramic mosaic tile mural. The maximum height of the modernized T3 would be approximately 70 feet from the grade of the lower level roadway, with the maximum height of the ramp control tower at the south end of the T3 concourse building at 110 feet from grade.

T2.5 Ticketing Building

The existing ticketing buildings at T2 and T3 would be completely demolished and rebuilt. The ticketing buildings being rebuilt are referred to as the T2.5 and T3.5 ticketing buildings. In the existing configuration, one ticketing building supports one concourse. Currently the secure concourses of T2 and T3 are not connected. This prevents the movement of secure passengers between concourses. In order to connect from one secure concourse to another, passengers must leave the terminals, go out to the curb, and go back through security again. This creates additional operational demand for Security Screening Checkpoint

(SSCP) function when a terminal has to rescreen passengers who have already gone through security (are already secure) at another terminal. With the implementation of the proposed project, as explained in more detail below, the new T2.5 ticketing building would support multiple concourses. The additional passenger and baggage processing space in the new T2.5 ticketing building would improve passenger quality of service and provide additional space to help meet federal security requirements such as baggage and passenger screening. The T2.5 ticketing building would also provide a secure connector between T2 and T3 to allow passengers to connect from one terminal to the other without having to exit to the non-secure side of the terminal, in addition to the non-secure connector between the ticketing buildings as noted below. These features would allow one ticketing building to support multiple concourses, provide flexibility in passenger and baggage processing, and improve the quality of customer service.

The new T2.5 ticketing building would include:

- New foundations and structure;
- New building systems including mechanical, electrical, plumbing, fire life safety, and IT;
- New exterior enclosures and interior space finish work;
- The improvements would include:
  - Baggage claim and Checked Baggage Inspection Systems (CBIS);
  - Baggage storage;
  - Associated office space;
  - Non-secure connector between the ticketing buildings;
  - Ticketing/passenger check-in (which would process all passengers on flights located in T2 and T3) and office space to support the check-in process;
  - SSCP;
  - TSA support space;
  - Associated queue areas;
  - Secure connector pathway on the north side of the T2.5 ticketing building to accommodate secure passenger traffic between the T2 and T3 concourses; and,
  - Other improvements would include lounge space, building systems support spaces, mechanical rooms or space, vertical circulation, restrooms, support, and miscellaneous storage space.

The new T2.5 ticketing building would consist of four levels, with the additional building floor area necessary to accommodate the improvements described above (see **Table 2-1** and **Figure 2-4**). The relocation of the SSCP from the T2 and T3 concourses to the T2.5 ticketing building, would allow for more effective use of space in the concourses including opportunities for improved holdroom/concessions. The height of the T2.5 ticketing building would be approximately 100 feet from grade (see **Figure 2-11**).

T3.5 Ticketing Building

The site where the new T3.5 ticketing building would be located currently holds the existing two-level T3 ticketing building, which would be demolished as part of the proposed project, as well as a paved open area to the southwest of T3.

The reconstructed T3.5 ticketing building would include additional passenger and baggage processing space, improving passenger quality of service, and would provide additional space to help meet federal security requirements. The proposed T3.5 ticketing building would be designed to accommodate a connection to a proposed future planned LAX Terminal 3 Connector between T3 and the Tom Bradley International Terminal (TBIT); however, the proposed project is not reliant upon, and can be implemented with or without, that potential connection.

The proposed T3.5 ticketing building would include:

- New foundations and structure;
- New building systems including mechanical, electrical, plumbing, fire life safety, and IT; and new exterior enclosures and interior space finish work;
- The improvements would include:
  - Baggage related functions (including bag storage);
  - Associated office space;
  - Ticketing/passenger check-in, and office space to support the check-in process;
  - Non-secure connector between the T2.5 and T3.5 ticketing buildings;
  - Other improvements would include office space, lounge space, vertical circulation, restrooms, support and miscellaneous storage space, and building systems support spaces; and,
  - Secure connection to the T2.5 ticketing building and a proposed future LAX T3 Connector[4] that would connect to TBIT at the concourse level.

The T3.5 ticketing building would consist of four levels, with the additional building floor area necessary to accommodate the improvements described above (see **Table 2-1** and **Figure 2-4**). The height of the T3.5 ticketing building would be approximately 100 feet from grade (see **Figure 2-11**).

2.5 Construction Schedule and Activities

The primary consideration in planning for the construction activities is to maintain safe and uninterrupted operation of the airport, including runway operations and passenger access to terminals. The proposed project would take approximately 76 months (six years, four months) to construct. Construction could commence in approximately the fourth quarter 2017 and is projected to end in late-2023. Work would occur during three shifts per day: Shift 1 from 7:00 am to 3:00 pm, Shift 2 from 3:00 pm to 11:00 pm, and Shift 3 from 11:00 pm to 7:00 am. At peak construction, a cumulative total of approximately 550 daily construction personnel would be on-site over the course of the three work shifts. The majority of the construction activities would occur during daytime hours behind construction barriers. Shift 3 (the overnight shift) would be used for those work activities that cannot be accomplished on the day and night shifts due to coordination and interference issues (e.g., airport operations, safety, delivery of materials and equipment). It is estimated that, at peak construction, the day and night shifts (Shifts 1 and 2) would have approximately 180 employees per shift, with the balance (190 employees) on the overnight shift (Shift 3). An overnight shift would not be required for the entire construction period. As further detailed in Section 4.1, *Air Quality and Human Health Risk*, it is assumed for a peak day that all three shifts would occur. For annual air quality analysis assumptions, an average of 2.2 shifts were assumed to capture the less frequent need for a night shift. Conflicts with terminal activities during construction would be avoided through monitoring of flight schedules and close coordination with terminal operations on a daily basis. Project construction would result in phased gate closures, shuttle transportation for employees and passengers,[5] and restriping on the ramp for new aircraft.

The proposed improvements would be constructed on portions of LAX that are currently paved or contain pre-existing buildings. The total area of ground surface to be disturbed (including the apron area) would

[4] The future LAX T3 Connector was previously approved under the Bradley West Final EIR (September 2009).

[5] To provide a secure connection for connecting passengers and airport employees between T2 and T3 and TBIT during construction for modernization of the T2.5 and T3.5 ticketing buildings, shuttle buses would run between bus gates to be constructed at T2 and T3 during the initial phase of the proposed project and the existing bus gates at TBIT.

be approximately 1,490,000 square feet (sf), extending down to a maximum depth of approximately 16 feet. The proposed project would require the excavation of approximately 134,400 cubic yards (cy) of cut/fill soil.

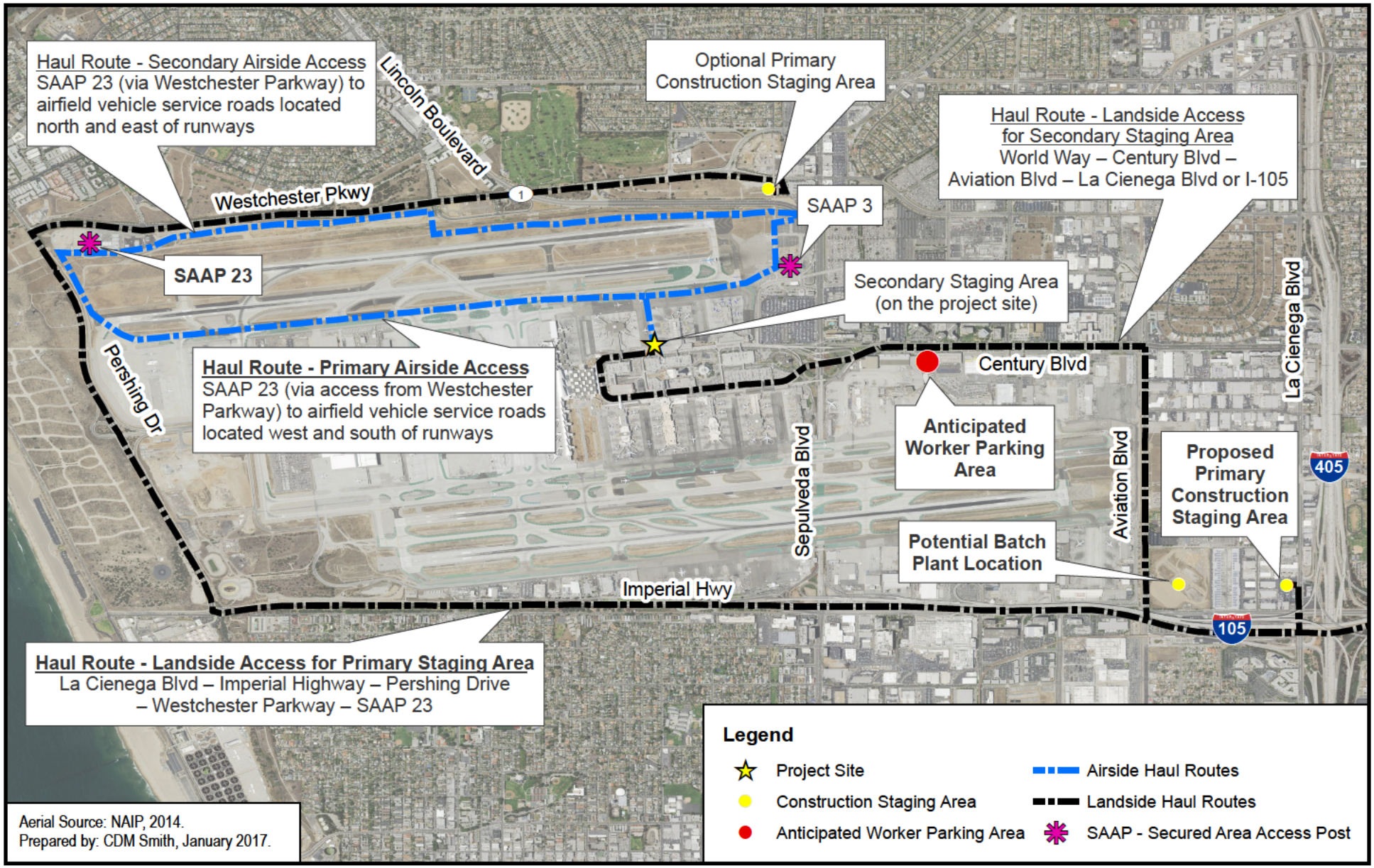
The proposed project would require construction access from both the landside and airside. No permanent lane or road closures either on-airport or off-airport would be required for construction. However, temporary lane closures in the CTA may be required periodically to facilitate some construction activities. To minimize impacts to the CTA roadway system and Airport operations during construction, any lane closures required during construction would occur during the night shift whenever possible. It is unlikely that lane closures would be required for any extended period. There is the possibility that a short-term lane closure on the upper level roadway within the CTA may be needed at some point in the construction program for the temporary installation of a crane to transfer/place structural steel to areas within the project site. Such a lane closure, if any, would be unlikely to exceed one week, and would require advance coordination with, and approval by LAWA in accordance with LAWA's Construction and Logistics Management (CALM) procedures. Access to the passenger terminals would be maintained throughout any lane closures, but drop-off and pick-up areas may temporarily shift.

T2 and T3 would remain operational at all times during construction. In addition, conflicts between terminal and airfield activities would be avoided by cordoning off construction areas from the airfield.

Anticipated construction staging and construction worker parking areas and haul routes that would be used for the proposed project are shown on **Figure 2-12**. The proposed primary construction staging area, including construction offices, would be located on an existing industrial parcel on La Cienega Boulevard, just north of Imperial Highway. The proposed primary construction staging area is completely developed, including a large warehouse structure (approximately 30,000 square feet of floor area) and associated parking area. An optional primary construction staging area is within the northern area of the airport, on a portion of an existing LAWA-owned construction staging area along the south side of Westchester Parkway, east of the southern terminus of La Tijera Boulevard. The subject construction staging area is highly disturbed. The site was previously developed for residential and commercial uses, which were later demolished. The vacated areas have been periodically used for construction staging and materials storage for other LAX development projects. Access to the optional primary construction staging area would be to/from Sepulveda Westway.

Given that many construction projects are occurring at LAX (refer to Table 3-1 in Chapter 3, *Overview of Project Setting*), multiple potential staging areas were assumed in the analysis in order to capture potential impacts of primary construction staging in two different areas within the study area. The decision of which of the two areas would be used for the proposed project's construction staging cannot reasonably be determined at this time and would be coordinated with LAWA's CALM Team during the bid and award process, taking into consideration the availability of the areas at the time.

Portions of the project site that are not actively under construction at the time may also be used as a construction staging area (referred to as a 'secondary staging area' on **Figure 2-12**). The exact locations of such secondary construction staging within the project site would vary depending on the particular construction activity underway at the time, taking into consideration the need to keep other portions of the site in operation at that time. For example, improvements proposed for apron areas may be sequenced on a gate-by-gate basis to minimize the number of gates taken out of operation at any given time during the overall construction program, and, as such, secondary construction staging for such improvements would occur within the construction footprint of the particular gate area being improved and would shift to a new location as a different gate apron area goes into construction.



LAX Terminals 2 and 3 Modernization Project	**Construction Staging Areas and Haul Routes**	Figure **2-12**

It is possible that concrete to be used for project construction may be produced through the use of an on-airport concrete batch plant,[6] if an on-airport batch plant is available at the time of construction of the proposed project and at the discretion of the contractor. Should LAWA determine that such concrete production can occur at an on-airport concrete batch plant, the location of the batch plant would likely be at the LAWA-owned parcel on the northeast corner of Aviation Boulevard and Imperial Highway, as shown on **Figure 2-12**. Operation of a concrete batch plant has occurred on this parcel on other past and present construction projects at LAX.

Construction staging would be coordinated by LAWA's CALM Team. The CALM Team helps monitor and coordinate the construction logistics of development projects at LAX in the interest of avoiding conflicts between ongoing airport operations and construction activities. Construction staging activities, such as short-term storage and/or assembly of construction materials that would soon be installed, short-term storage of recently generated construction wastes that are awaiting pick-up and disposal, and the like, on the project site (referred to as a 'secondary staging area' on **Figure 2-12**) would also be subject to coordination with, and approval by, LAWA Airfield Operations.

The on-airport airside (i.e., non-public areas within the Airfield Operations Area) entry point for construction materials being transported to and from the project site would be at Secured Area Access Post (SAAP) No. 23, located southeast of the intersection of Westchester Parkway and Pershing Drive. The primary airside haul route within the Airfield Operations Area (AOA) between the project site and SAAP No. 23 would be along the vehicle service road (VSR) that is south of and parallel to Taxiway D, connecting to the VSR that is east of and parallel to Pershing Drive. A secondary airside haul route within the AOA would include the Taxiway D VSR that connects to the north-south VSR at the east end of the north airfield complex and then to the east-west VSR on the north side of Runway 6L-24R, subject to coordination with, and approval by LAWA Airfield Operations. Secondary airside access to the AOA would be available at times through SAAP No. 3, which is currently being relocated to a site southeast of the north runway complex, near the intersection of Alverstone Avenue and Davidson Drive. While the vast majority of access to and from the project site would likely be via the AOA through SAAP 23, there may be occasions when access to and from the project site would occur via World Way, Century Boulevard, and Aviation Boulevard. As shown on **Figure 2-12**, the haul route on public roads to and from the airside access point to the project site (i.e., SAAP No. 23), would extend from the driveway at SAAP No. 23, west on Westchester Parkway, south on Pershing Drive, east on Imperial Highway, then either: (1) north on La Cienega Boulevard and into the proposed primary construction staging area for deliveries going directly between the project site and the proposed primary construction staging area; or, (2) continued east onto I-105 with connections to I-405 for deliveries directly to and from the project site that do not involve the construction staging area. As required by the City of Los Angeles, Department of Building and Safety, LAWA would submit a Haul Route Form and Haul Route Map, as shown on **Figure 2-12**, covering the export of soil or demolition debris off-site. In addition, pursuant to standard City of Los Angeles, Department of Transportation (LADOT) practices, a Work Traffic Control Plan, showing the location of construction areas and identifying construction traffic as evaluated in the EIR, would be submitted to LADOT.

In situations where construction staging (such as short-term storage and/or assembly of construction materials that would soon be installed, short-term storage of recently generated construction wastes that are awaiting pick-up and disposal) occurs directly on the project site and is accessed from the landside (i.e., public areas outside the AOA), such access would be through the CTA. Trucks leaving the landside portion of the project construction site would travel through the CTA to head east on Century Boulevard, then south on Aviation Boulevard, and then either: (1) east on Imperial Highway and north on La Cienega Boulevard leading into the proposed primary construction staging area for deliveries going between the

[6] A concrete batch plant is a facility where the constituents of concrete (i.e., cement, sand, rock, and water) are mixed together and transferred to concrete haul trucks for immediate use/placement at a nearby construction site(s).

proposed primary construction staging area and the secondary staging area; or (2) continued south onto I-105 with connections to I-405 for deliveries directly to and from the secondary staging area.

For the purposes of the construction traffic impact analysis, construction contractor parking is assumed to occur at Lot P1 located southeast of the intersection of Century Boulevard and Avion Drive (6075 West Century Boulevard), with workers being shuttled to and from the CTA/project site via Century Boulevard and World Way. Construction employees would be shuttled to and from the project site for their shifts. This parking lot is located in the general vicinity of the project site with direct access to and from the site provided via Century Boulevard and World Way. Construction employees would be shuttled to their respective construction site by way of shuttle bus. The number of shuttle buses required to transport the construction employees was estimated based on an assumed ratio of 30 passengers per bus. Understanding that the availability of Lot P1 for project-related construction employee parking can change between now and when project construction occurs, as Lot P1 can also be used for airport public parking or airport employee parking, or the project contractor may choose to utilize other parking lots in the nearby area, it is recognized that there are additional parking lots in the immediate area that offer project site access characteristics generally similar to those of Lot P1. Such additional parking lots, along with Lot P1, are identified and described in more detail within Section 4.4, *Construction Surface Transportation*.

LAWA Design and Construction Practices

The proposed project would be designed and constructed in accordance with the Los Angeles Green Building Code (LAGBC), which is based on the California Green Building Code (Cal Green), and would achieve, at a minimum, LAGBC Tier-1 conformance through environmentally-sensitive features including, but not limited to, the types described below. In addition, U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) Silver level of sustainability measures would be implemented under the proposed project: these measures include the incorporation of energy saving measures such as installation of high efficiency fixtures and lighting and incorporation of energy saving design elements such as natural daylighting and naturally ventilated and unconditioned spaces.

The proposed project would be required to use recycled building materials in the new/modernized facilities, and to recycle a minimum of 75 percent of construction and demolition debris. Recycling programs would also be employed during operations. Recyclable materials would be collected in the terminals, and tenants operating in the terminals, including concessionaires and restaurant management companies, would be required to have their own recycling and waste reduction programs. Heating and cooling of the modernized terminals would be provided by LAWA's Central Utility Plant, which incorporates a number of efficiencies that conserve energy and reduce pollutant emissions. The Central Utility Plant at LAX is a state-of-the-art facility that provides heating and cooling to the CTA. The Central Utility Plant is located in the center of the CTA, south of the proposed project site (see project number 1 on **Figure 3-1** in Chapter 3, *Overview of Project Setting*. Further discussion of the Central Utility Plant at LAX is provided in Section 6.5 of Chapter 6, *Other Environmental Considerations*, of this Draft EIR. The modernized terminals would include efficient lighting fixtures and controls with occupancy sensors to reduce energy consumption during off-peak hours, and the terminals' heating, ventilation, and air conditioning controls would be designed to reset temperatures to maximum efficiency without sacrificing occupant comfort. Where possible, coated glass that minimizes heat gain would be used on exterior walls, and building materials and furnishings would be made of recycled content, and would consist of low volatile organic compound (VOC)-emitting paints, adhesives, carpets, and sealants, where feasible. To conserve potable water, bathrooms in the modernized terminals would be designed with low- and ultra-low-flow systems and recycled water would be used for construction-related dust control and construction equipment washing when feasible.

The relationship of these features and practices to potential project impacts are identified in Chapters 4 and 6 of the Draft EIR.

2.6 Operation

Improvements to the facilities at T2 and T3, and their respective ticketing buildings, are intended to provide improved security, passenger experience, convenience, operations, and quality of service through renovations of aging terminal facilities and apron area. After implementation of the proposed project, T2 and T3 would meet TSA and CBP requirements for security and customs screening and provide flexible space for next generation passenger and baggage security screening functions to improve safety and security, as well as provide a secure connector between T2 and T3 to allow passengers to connect from one terminal to the other without having to exit to the non-secure side of the terminal, and only go through security once.

As detailed in Section 4.2, *Greenhouse Gas Emissions*, and Chapter 6, *Other Environmental Considerations* (Section 6.5), the modernization of T2 and T3 would replace aging and inefficient infrastructure with energy efficient buildings. In addition, the modernization would discontinue the current service model of having one terminal building with passenger and baggage processing that supports only one associated concourse with aircraft gates (i.e., the passenger processing facilities currently within each terminal are specific to that terminal's concourse and T2 gates); instead, the proposed project would provide improvements and functions that can be shared between terminals, which, in turn, would improve operational efficiency and flexibility, as well as enhance the quality of customer service.

The reconfiguration of existing passenger gate positions to match current aircraft fleet requirements would result in additional gate positions (increasing the total gates at T2 and T3 from 24 to 27 passenger gate positions). Improvements to the aircraft apron areas also include reconfiguration of passenger boarding bridge locations, aircraft fueling system hydrant locations, and ground support equipment parking locations at T2 and T3 to be compatible with proposed changes to the T2/T3 buildings and anticipated airline fleets and uses.

The proposed project would not result in any changes to existing T2 and T3 access or curbs. Curbs would continue to be used for passenger drop-off/pick-up and curbside baggage drop-off, although the exterior door locations (entrance/exit) would be shifted to accommodate the new design. In addition, implementation of the proposed project would not result in a change in the overall air traffic operations at LAX. Initial route and runway assignments would continue to be dictated by the origin or destination airport of the aircraft and such assignments are at the discretion of FAA air traffic control, as is the case today. Air traffic operations at LAX largely reflect the agglomeration of over 70 carriers currently operating at LAX, each of which has its own business model and schedules its flights and operations at LAX in light of overall international and/or domestic operations, market competition, and business objectives, as further described below.

Demand for air travel and aviation activity is determined by many factors as discussed by the Federal Aviation Administration (FAA) in its guidance for developing aviation forecasts: socioeconomic data, demographics, disposable income, geographic attributes, and external factors such fuel costs and airline industry-related factors (airline mergers, airline hubbing practices and airfares).[7] Airline business models are established based upon the targeted air travel demand and markets they serve. These business models and airline operations must react and adjust swiftly to changes in the marketplace of air travel. Flight schedules and aircraft types serving the LAX change frequently in response to local market trends and changes in demand and supply throughout airline networks. Airlines rely on a variety of aircraft throughout their system and assign them to specific markets based on a business plan. As discussed in the Airport Cooperative Research Board Report (ACRP) 98, "an integral component of network and demand strategies is the selection of aircraft type(s). The largest fleets—typically operated by full-service carriers—

[7] Federal Aviation Administration, Advisory Circular 150/5070-6B Airport Master Plans, Chapter 7 Aviation Forecasts, pp. 37-38.

consist of hundreds of aircraft spanning a wide range of aircraft sizes and types to best fit the mission of providing service across various markets and customer profiles."[8] It is therefore important to note that the LAWA does not control the factors that affect demand for air travel discussed in this paragraph, or decisions made by airlines to operate specific aircraft types at LAX.

As indicated above, the proposed project includes improvements to the T2 and T3 passenger terminal apron areas (i.e., replacement/resurfacing, restriping, and relocation of fuel pits) as well as the reconfiguration of existing passenger gate positions.[9] The physical boundaries of the T2 and T3 passenger terminal aprons within which aircraft can park for the enplanement and deplanement of passengers are constrained by the existing adjacent Taxilanes D, D8, D9 and D10. The proposed project would not change the extent or location of the parking limit lines associated with the passenger terminal apron areas at T2 and T3 depicted on **Figure 2-13**. Parking limit lines are the lines beyond which no part of a parked aircraft may protrude considering the object free areas (OFA) of the surrounding airfield components.[10] Airlines operating at T2 and T3 operate within the existing constraints of the terminal apron areas and parking limit lines depicted on **Figure 2-13**. These airlines configure aircraft parking positions to best match their aircraft fleet and provide the greatest flexibility throughout the day to meet their demand. Therefore, the proposed project improvements are confined within the boundaries of existing passenger terminal apron areas and parking limit lines associated with T2 and T3.

As with the parking limit lines, the available maximum linear frontage (or the distance in linear feet that provides for safe parking and operations of aircraft around each terminal including wingtip-to-wingtip clearances) is fixed. Linear frontage is not a function of the volume of the terminal or concourse. It is a function of the apron area available to accommodate aircraft parking positions (i.e., park aircraft side-by-side) and operations. Under the proposed project conditions, the available linear frontage at T2 and T3 would remain unchanged regardless of any proposed improvements to the concourse or satellite buildings. In addition, under the proposed project, T3 concourse would be widened by approximately 90 feet, which would reduce the available aircraft parking depth on each side of the concourse, and may result in a reduction in the size of aircraft that can be accommodated at the eastern and western gates of T3. The available linear frontage at T3 would remain unchanged compared to the existing conditions.

Because airlines operate different aircraft types and sizes, as discussed in the ACRP Report 25, airport planners and designers use metrics to normalize aircraft sizes (i.e., provide a common basis of comparison between different aircraft sizes) based on wingspan dimensions to relate to the available linear frontage. The narrowbody equivalent gate (NBEG) metric is used to normalize demand to a representative narrowbody aircraft gate (a Boeing 737-900 or an Airbus 320). At LAX, the available linear frontage is estimated to be 1,800 linear feet at T2 and 2,000 linear feet at T3. Assuming an industry standard practice for 20-foot wingtip-to-wingtip clearance and a wingspan of 118 feet for a Boeing 737-900, the available linear frontage at T2 and T3 can be converted to a total of 27 NBEG positions.

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8 Transportation Research Board (TRB) of the National Academies, Airport Cooperative Research Board (ACRP) Report 98, Understanding Airline and Passenger Choice in Multi-Airport Regions, 2013, p17.

9 Los Angeles World Airports, Notice of Preparation and Initial Study for the Los Angeles International Airport (LAX) Terminals 2 and 3 Modernization Project, August 2016, p. 1. (Appendix A of this Draft EIR)

10 Federal Aviation Administration, Advisory Circular 150/5300-13A, Airport Design, Paragraph 504.d., p. 167.

Prepared by: Ricondo & Associates, Inc., November 2016.

LAX Terminals 2 and 3 Modernization Project	**Existing Terminal 2 and Terminal 3 Parking Limit Lines**	Figure **2-13**

Figure 2-14 provides an illustration of a potential parking position layout which includes a total of 27 NBEG positions within the existing parking limit lines at T2 and T3. Therefore, airlines operating at T2 and T3 currently, or in the future, have an available linear frontage capable of accommodating up to 27 NBEG positions.

Within a constrained apron area, various aircraft parking position configurations can be identified based on the aircraft fleet expected to operate at the terminal, and may result in gate "dependencies" (i.e., the ability to accommodate certain aircraft at one gate is dependent upon the size of the aircraft at the adjacent gate) similar to those in effect today at LAX among the 23 total passenger gate positions available at T2 and T3. Gate dependencies can result in a gate being closed if a large aircraft is occupying an adjacent gate; or the reduction in aircraft size that can be accommodated if a large aircraft is occupying an adjacent gate.[11] Because of gate dependencies not all aircraft parking positions can be simultaneously used to maximum capacity. Gate dependencies exist at T2 and T3 due to the existing apron and airfield constraints. Airlines operating at T2 and T3 have the ability to re-gauge (i.e., change the size or "gauge" of the aircraft parking positions) or rearrange the aircraft parking configurations around each terminal within the constraint of the existing passenger terminal apron areas and parking limit lines. As discussed in the project description, improvements to T2 and T3 would include the reconfiguration of existing gate positions, which could result in there being additional passenger gate positions. However, within the constrained apron area and linear frontage at T2 and T3 discussed above, the potential additional passenger gate positions would result in additional gate dependencies and would be configured based on aircraft size either similar to or smaller than under existing conditions.

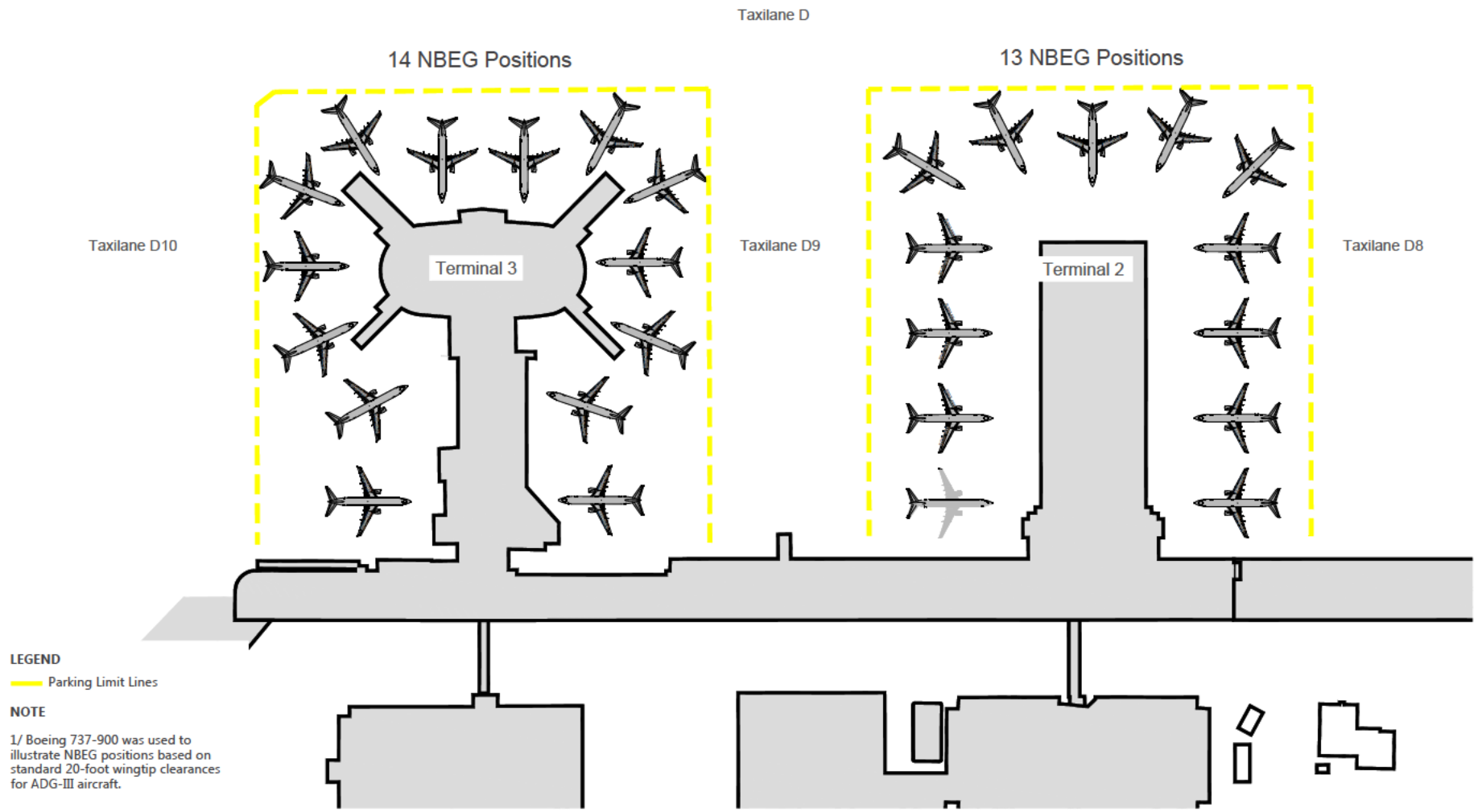
In summary, the proposed project improvements would take place within the constraints of the existing terminal passenger apron areas and parking limit lines associated with T2 and T3. T2 and T3 could accommodate up to 27 NBEG positions under existing conditions, which is the same number of passenger gate positions proposed under the project at T2 and T3, which as discussed above, would entail gate dependencies. The analysis of the proposed project and the existing airfield constraints indicates that any improvements to the concourse or satellite buildings would not change the available linear frontage available to park aircraft around T2 and T3. Therefore, the proposed project improvements would not create additional aircraft parking capacity that could not be achieved through the re-gauging of aircraft parking positions at T2 and T3 under existing conditions. Increases or decreases in operations and passenger volumes would occur with or without the proposed project, and thus would not be the result of, nor facilitated by, the proposed project improvements.

In addition, the proposed improvements to, and additional floor area proposed for, T2 and T3 would also not increase operations or passenger volumes beyond what would occur without the project. While the proposed project would improve passenger experience, convenience, and quality of service at T2 and T3, future projected aircraft operations and passenger growth are capable of being handled at T2 and T3 even without those improvements.

2.7 Intended Use of this EIR

Implementation of the proposed project would require approvals from and consultation with federal, state, and regional/local agencies. The EIR will be used by the following agencies in connection with permits and approvals necessary for the construction and operation of the proposed project. Federal, state, and regional/local agency actions required for the construction and operation of the proposed project may include, but are not limited to, those described below. This EIR may also be used in connection with other

[11] For instance, at T2, Gates 21 and 23 can either accommodate two Airbus 340-600 simultaneously, or two Airbus 321 (Gates 21 and 23) and a Boeing 757-200 (Gate 21B) simultaneously. During the time where the large Airbus 340-600 aircraft are not using Gates 21 and 23, higher operational efficiency can be reached by parking three aircraft within the available linear frontage.



Prepared by: Ricondo & Associates, Inc., November 2016.

Note: For discussion purposes only. Actual development and placement details may vary.

LAX Terminals 2 and 3 Modernization Project	**Illustration of Potential NBEG Positions within Existing Parking Limit Lines at Terminal 2 and Terminal 3**	Figure **2-14**

federal, state, or regional/local approvals, permits, or actions that may be deemed necessary for the proposed project, but which are not specifically identified below.

This Draft EIR will be used primarily to (1) inform decision-makers and the public about the potentially significant environmental effects of the proposed project and the ways to avoid or reduce the significant environmental effects to the extent feasible; (2) demonstrate to the public that the environment is being protected to the maximum extent feasible; and (3) ensure that the planning and decision-making processes reflect an understanding of the environmental effects of the proposed project.

In addition to use of this EIR by LAWA and the City of Los Angeles City Council and Planning Commission, the proposed project requires various federal, state, and local agency approvals. The California Environmental Quality Act (CEQA) requires that all state and local agencies consider the environmental consequences of projects over which they have discretionary authority. These agencies may use this EIR in their respective decision-making and approval processes, and federal agencies may use information in this EIR when conducting NEPA reviews. A list of federal, state, and local permits and approvals that may be needed to implement the proposed project includes, but is not necessarily limited to, the following:

2.7.1 Federal Actions

- U.S. Department of Transportation FAA - approval of Form 7460-1 (Notice of Proposed Construction or Alteration) in consideration of Part 77 requirements, and unconditional approval of the Airport Layout Plan (ALP) for the Airport depicting the proposed improvements pursuant to 49 U.S.C. 40103(b), 44718, and 47107(a)(16)); 14 Code of Federal Regulations (CFR) Part 77, Objects Affecting Navigable Airspace; and 14 CFR Part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports.

2.7.2 Regional Actions

- South Coast Air Quality Management District (SCAQMD) - review of any permits required under the Clean Air Act for stationary sources.

2.7.3 Local Actions

- LAWA Board of Airport Commissioners - Project approval;
- City Council of the City of Los Angeles - LAX Plan Compliance approval;
- Preparation of a project-specific Storm Water Management Plan or Standard Urban Storm Water Mitigation Plan for approval by the City of Los Angeles Bureau of Sanitation, Watershed Protection Division;
- City of Los Angeles Fire Department approval;
- City of Los Angeles Department of Cultural Affairs - Permit application clearance;
- City of Los Angeles Department of Transportation - Approval of Work Traffic Control Plan;
- City of Los Angeles Department of Building and Safety – Grading, foundation, and building permits and Haul Route Plan approval; and
- City of Los Angeles Department of Public Works – Permits for infrastructure improvements, as needed.

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