III. Terminal Plan Development

This section presents the analysis and refinement of the basic concept that ultimately resulted in the west terminal complex depicted on the OMP December 2002 ALP submittal. The following sections are presented:

- Basic Facility Requirements
- Initial Terminal Concepts
- Refined Terminal Concepts
- Selected Terminal Concept

In addition to west terminal development, the OMP assumes that the World Gateway Program (WGP) as previously proposed by the City will be implemented with the exception of the redevelopment of Terminal 2. Development of Terminal 4, Terminal 6, and the extension of Concourse K remain in the OMP plan. **Exhibit III-1** depicts the terminal facilities as proposed under the WGP. WGP proposed and the approved ALP included the redevelopment of Terminal 2 to enable the accommodation of wide-body aircraft gates at the Terminal. Terminal 2 redevelopment is no longer considered part of the terminal development concept under the OMP; however, development of FIS facilities in the Terminal 2 complex is not precluded by the OMP terminal concept.

It is important to recognize that the ultimate configuration of terminal facilities developed at the Airport will likely be influenced by the passenger characteristics of carriers anticipated to be using the facilities at the time it is designed. For the purposes of this analysis, it is assumed that the West Terminal facilities will serve both international and domestic activity and will likely have significant connecting activity, similar to that experienced between the domestic and international markets at the Airport today. However, the facility concepts recognize the potential for changes in passenger characteristics by allowing for the flexibility to accommodate changes in the future.

3.1 Basic Facility Requirements

Basic facility requirements for the west terminal complex were developed to provide a basis for defining terminal facility concepts. Facility requirements used in defining the terminal concepts for the west terminal complex included both quantitative and qualitative items. Specifically, the following criteria served as the basis for the development of the west terminal concepts:

- Roadway access from the west;
- Some form of passenger connection from the western terminal to the existing core area;
- Approximately 55 gates, or an estimated 8,250 feet of apron frontage based on B-757 gate size (i.e., 150 feet), which is slightly higher than the current average gate size;[1]
- The ability to accommodate a mix of aircraft including NLA (Airplane Design Group VI), jumbo, widebody, narrowbody, and Regional Jet (RJ) aircraft;

[1] The current 189 gates at the Airport provide an estimated 26,000 feet of apron frontage, resulting in 138 feet per gate.

- The ability to accommodate international arrivals, both in terms of facility needs (e.g., FIS) and aircraft types; and
- The ability to be developed incrementally.

The gate count defined for the western terminal facilities was based on two utilization factors. First, one operation-per-gate in the peak hour is assumed to be a reasonable utilization rate. Second, approximately 200,000 annual enplanements-per-gate is assumed to be a reasonable passenger-based capacity estimate for O'Hare. Current peak hour gate utilization is approximately one operation per hour per gate (1.05 based on the August 2001 schedule)[2], and annual gate utilization is 189,000 enplanements-per-gate (based on year 2000 annual enplanements and gates)[3]. Under these assumptions, an estimated 250 to 265 gates are needed airport-wide (assuming 2018 activity of approximately 52,994,000 enplanements). It is estimated that the WGP will result in a net increase of 22 to 25 gates, depending on size. As such, the west terminal would need to provide an estimated 55 gates over those programmed in the WGP and the existing 189 gates.

While the focus of terminal development was on the west side of the Airport consistent with the City's original proposal, concepts for redevelopment of portions of the existing terminal core area as well as opportunities for reconfiguration of the east terminal area also were explored. These concepts were primarily reviewed to assess potential alternatives to west terminal development and/or opportunities beyond west terminal development.

The following sections present the various terminal facility concepts identified and detail the concept ultimately selected.

3.2 Initial Terminal Concepts

The initial development of terminal concepts covered a wide range of potential configurations for development of new facilities and reconfiguration of existing facilities. Generally, these initial concepts are categorized into three broad categories: West Terminal Area Concepts, Existing Terminal Core Area Concepts, and East Terminal Area Concepts. The intent of these concepts is to identify the potential range of options that might be available in each area to meet the potential gate needs of the Airport both in the timeframe envisioned in the OMP, and beyond.

The following sections discuss several concepts for the West, Core, and East Terminal Areas. The exhibits were intentionally developed in sketch form in order to allow the development of a broader range of concepts and in acknowledgement of their preliminary conceptual nature. Subsequent sections of the document provide additional refinements to concepts considered for further development.

3.2.1 West Terminal Area Concepts

The West Terminal concepts, depicted in **Exhibits III-2** to **III-11,** illustrate the development of the available area west of existing Runway 14R-32L and the Terminal Core Area. Terminal concepts in this area focused on maximizing gate development in the long-term, while providing the opportunity for an interim phase concourse development. In all cases, the ultimate phase development includes western access and terminal facilities, and the interim phase concourse development allows for

[2] The August 2001 schedule reflected 198 commercial passenger operations in the peak hour with approximately 189 gates throughout the terminal complex.
[3] In 2000, 35,700,949 annual enplanements were accommodated at O'Hare on approximately 189 gates.

continued operation of Runway 14L-32R and assumes passengers are processed in the Terminal Core Area.

The West Terminal Area is currently bounded by York Road and the Canadian National Railroad on the west, Runway 14L-32R on the east, and parallel taxiways serving the extensions to existing Runways 9R-27L and 9L-27R on the south and north, respectively. Some of the concepts consider the potential relocation of existing Runway 9L-27R northward, as discussed in Section II of this document. In addition to these physical facilities, the Runway 4L Runway Protection Zone (RPZ) also limits development in this area.

- *Initial Concept 1,* depicted in Exhibit III-2, illustrates a linear terminal concept layout, adhering to the development constraints of the Runway 4L RPZ. In total, approximately 16,300 linear feet of apron frontage are provided. The pier structure of this concept provides a flow-through configuration with aircraft access from the north and south. Terminal facilities would be developed to the west with underground connections through automated people mover (APM) or moving walkway systems.
- *Initial Concept 2,* depicted in Exhibit III-3, illustrates an angular terminal concept layout, similar to Initial Concept 1, which provides approximately 14,750 linear feet of apron frontage.
- *Initial Concept 3,* depicted in Exhibit III-4, illustrates a linear terminal concept layout that incorporates elements of Concourse C and Terminal 2. In total, approximately 18,100 linear feet of apron frontage are provided.
- *Initial Concept 4,* depicted in Exhibit III-5, illustrates a terminal concept layout with a centrally located parking garage and single-loaded concourses running in an east-west direction. A total of approximately 10,050 linear feet of apron frontage is provided.
- *Initial Concept 5,* depicted in Exhibit III-6, illustrates a concept similar to Initial Concept 3 in that it incorporates portions of Concourse C and Terminal 2, but includes a remote semi-circular concourse layout. In total, this concept has approximately 16,750 linear feet of apron frontage.
- *Initial Concept 6,* depicted in Exhibit III-7, illustrates a concept similar to Initial Concept 5, with a slightly different satellite concourse configured to maximize parking without penetrating the Runway 4L RPZ. In total, approximately 14,850 linear feet of apron frontage is provided.

Initial Concepts 8 through 11 illustrate alternative dimensional constraints for the West Terminal development area as the result of the relocation of existing Runway 9L-27R to the north as considered in Section II. This airfield concept considered relocation of existing Runway 9L-27R north 407 feet, providing the ability to develop dual parallel taxiways south of the runway, north of the Terminal Core Area, which is currently supported by a single-lane taxiway. In this set of alternatives, the area available for West Terminal development increases, allowing for greater apron frontage in Initial Concepts 10 and 11. *Initial Concept 7,* depicted in Exhibit III-8, illustrates a linear terminal concept layout within the constraints of airfield Option 5. A total of approximately 16,370 linear feet of apron frontage is provided.

- *Initial Concept 8,* depicted in Exhibit III-9, illustrates a linear terminal concept layout within the constraints of airfield Option 5, with the remote concourse configured as a triangular-shaped satellite. A total of approximately 15,760 linear feet of apron frontage is provided.

- *Initial Concept 9,* depicted in Exhibit III-10, illustrates a linear terminal concept layout similar to Initial Concept 8 except with the relocation of Runway 9L-27R. As shown, additional frontage can be developed under this airfield scenario as a result of the relocation of Runway 9L-27R north of the terminal. In total, approximately 17,200 linear feet of apron frontage are provided.
- *Initial Concept 10,* depicted in Exhibit III-11, illustrates a linear terminal concept layout similar to Initial Concept 7, except with the relocation of Runway 9L-27R. A total of approximately 22,430 linear feet of apron frontage is provided under this scenario, assuming development is allowed within the existing Runway 4L RPZ. This concept depicts the extent of development possible on this site, assuming that either Runway 4L-22R is closed or is changed to a uni-directional runway (i.e., only Runway 22R arrivals or Runway 4L departures are allowed).

3.2.2 Existing Terminal Core Area Concepts

The alternative concepts for the existing Terminal Core Area, identified in Initial Concepts 12 through 20, examined the potential redevelopment of Terminal 2 and Terminal 3 passenger facilities to illustrate potential development options and capacities within the given site area.

3.2.2.1 Terminal 2

Concepts for Terminal 2 focused on expanding the passenger terminal facility and the potential for linking that facility to the new west terminal/concourse development. In addition to providing greater terminal and landside processing capabilities, Concourse C also is shown as expanded to the south. **Exhibits III-12** to **III-15** illustrate the conceptual sketches for Terminal 2.

- *Initial Concept 11,* depicted in Exhibit III-12, illustrates a concept for Concourse C and Terminal 2 reconfiguration and expansion that utilizes an APM to connect the facilities to the west terminal complex. Concourse C is extended by approximately 1,200 linear feet and Terminal 2 gate capabilities are enhanced to accommodate widebody aircraft.
- *Initial Concept 12,* depicted in Exhibit III-13, presents a concept that considers redevelopment of Terminal 2 to serve gate facilities in the west terminal complex while existing Concourses E and F are replaced with frontal gates and terminal extensions of Terminals 1 and 3.
- *Initial Concept 13,* depicted in Exhibit III-14, illustrates a concept similar to Initial Concept 11, but differs in the configuration of Terminal 2.
- *Initial Concept 14,* depicted in Exhibit III-15, illustrates a concept similar to Initial Concept 11, but differs in the configuration of Terminal 2. The addition of a terminal landside processing facility north of the existing parking garage, including FIS facilities connected by a secure underground tunnel, increases passenger processing capabilities and provides the ability to support future West Terminal concourses from the east terminal complex.

3.2.2.2 Terminal 3

Concepts for Terminal 3 focused on maximizing the existing terminal landside capacity to increase passenger departure/arrival processing capability and potentially accommodate passenger processing for some activity in Terminals 5 and 6. Most of the concepts in this section are related to the East Terminal Area concepts in Section 3.2.3 that consider redevelopment of Terminals 5 and 6 as

satellite concourse facilities. **Exhibits III-16** to **III-20** illustrate various Initial Concepts for Terminal 3.

- *Initial Concept 1,* depicted in Exhibit III-16, illustrates a reconfiguration of Terminals 3 and 5 with the realignment of I-190. The extension of Terminal 3 involves the relocation of the existing Heating and Refrigeration (H&R) facility to accommodate the terminal expansion and associated concourse and apron. Terminal 5 reconfiguration assumes the removal of landside components and the double-loading of the terminal facility to provide additional gate count. The satellite Terminal 5 concourse would be served by a secure APM connection to Terminal 3.
- *Initial Concept 2*, depicted in Exhibit III-17, illustrates a concept similar to Initial Concept 1, except that the Terminal 3 reconfiguration attempts to minimize impacts to the H&R facility. Minimal additional gates are gained at Terminal 3; however, the expansion provides terminal facilities to support the conversion of Terminal 5 to a satellite concourse.
- *Initial Concept 3*, depicted in Exhibit III-18, illustrates a concept for serving the converted Terminal 5 from a new terminal facility developed in an area occupied by the current parking structure.
- *Initial Concept 4*, depicted in Exhibit III-19, illustrates a concept for development of a new terminal facility adjacent to Terminal 3, with its own curbfront and access, connected to the Terminal 5 satellite by a secure APM. This new facility would require the redevelopment of the parking structure and the Airport hotel (O'Hare Hilton). Exhibit III-20 presents a cross-section of this concept.

3.2.3 East Terminal Area Concepts

The East Terminal concepts are illustrated in **Exhibits III-21** to **III-29**. These concepts include the potential conversion of Terminals 5 and 6 to concourses, the elimination of the landside component of the terminals, and the consolidation of all passenger processing in Terminal 3. In addition, a future development area north of I-190, adjacent to the existing commercial vehicle area, also was examined for potential terminal development.

Various constraints and alternatives for taxiway, taxilane, and apron design criteria were used in the development of these concepts. Concepts considering the realignment of I-190 for greater site flexibility were considered, along with concepts that maintained the road in its current location. Exhibits III-21 to III-23 present initial concepts for reconfiguration of Terminal 5, and Exhibits III-24 through III-29 present refinements to these concepts.

- *Initial Concept 1,* depicted in Exhibit III-21, illustrates a layout of Terminal 5 reconfigured to function as remote concourses supported by Terminal 3. Interstate I-190 is realigned to allow development of a second satellite concourse in this area. In total, approximately 13,220 linear feet of apron frontage is provided, accommodating both Airplane Design Group (ADG) V and VI aircraft.
- *Initial Concept 2,* depicted in Exhibit III-22, presents a concept similar to Initial Concept 1 in which Terminal 5 generally maintains its existing two-wing configuration. Realignment of the northwest wing of Terminal 5 is proposed under this concept to provide the ability to realign the taxiway bride. In total, approximately 13,490 linear feet of apron frontage is provided.

- *Initial Concept 3,* depicted in Exhibit III-23, reconfigures the northeastern satellite to mirror the Terminal 5 facility. In total, approximately 14,360 linear feet of apron frontage are provided.
- *Initial Concept 4*, depicted in Exhibit III-24, adds a small landside component to the concept presented in Exhibit II-20**.** Development of a landside component would provide some ability for originating and terminating passengers to access the facility directly, without going to the Terminal Core Area. However, the proximity of this facility to relocated I-190 would limit the ability to provide efficient ground access. In total, approximately 9,920 linear feet of apron frontage are provided.
- *Initial Concept 5,* depicted in Exhibit III-25, illustrates a reconfiguration of Terminal 5 to a concourse with I-190 realigned. The landside components of Terminals 5 and 6 would be maintained under this concept. A separate airside concourse, located north of the existing I-190 location near the Runway 32R end, would be included in this concept. Access to this airside concourse would be either through an underground connection to Terminal 5, or an APM to the existing Terminal Core Area. In total, approximately 7,620 linear feet of apron frontage are provided in this East Terminal Area concept.
- *Initial Concept 6,* depicted in Exhibit III-26**,** illustrates development of three satellite concourses oriented in the north/south direction in the existing East Terminal Area, which would be connected to the existing Core Terminal Area through an APM system. In total, approximately 8,110 linear feet of apron frontage is provided.
- *Initial Concept 7,* depicted in Exhibit III-27, is similar to Initial Concept 6 with the exception that the reconfigured layout provides only two satellite concourses and associated push-back areas to facilitate aircraft movements into and out of the gates. This concept provides approximately 6,480 linear feet of apron frontage.
- *Initial Concept 8,* depicted in Exhibit III-28, illustrates a reconfiguration of the north wing of Terminal 5 facilitated by the realignment of I-190. The landside components of Terminals 5 and 6 would be maintained under this concept. This concept provides approximately 7,450 linear feet of apron frontage.
- *Initial Concept 9,* depicted in Exhibit III-29, illustrates a concept similar to Initial Concept 8 with the exception that I-190 is not realigned and connection to the new gates developed near the Runway 32R end is through an underground (or over-roadway) tunnel/bridge. In total, this concept provides approximately 8,140 linear feet of apron frontage.

3.2.4 Conclusions – Initial Terminal Concept Development

A review of the various Initial Terminal Concepts was performed to identify major concepts for further refinement. Generally, the following conclusions were made:

- Terminal Development in the West Terminal Area provides the greatest opportunity for long-term facility growth and the most effective means of meeting the future facility requirements. Concepts in the West Terminal Area provide significantly more gates than those identified in the Core and East Terminal Areas.
- While additional terminal facilities (beyond those currently planned) can be developed in the East Terminal Area, significant gains in gate count would require the realignment of I-190 and reconfiguration of Terminal 5 as a concourse served from another landside facility (i.e., Terminal 3 or new).

- Reconfiguration of the East Terminal Area (specifically the double-loading of Terminal 5) would actually reduce terminal passenger processing capabilities and curbfront length unless accompanied by new terminal development or existing terminal expansion.
- Development of terminal facilities in the West Terminal Area is the only concept that would increase roadway access capacity by providing a second entrance to the Airport.
- Of the concepts in the East Terminal Area, the development of concourse facilities near the end of Runway 32R after this runway's closure requires the fewest relocations of other facilities.
- Given the location and the balance of runway facilities to the north and south, West Terminal concepts with pier concourses aligned in a north/south direction provide better access to the preferred airfield system.
- If relocation of existing Runway 9L-27R occurs in the future, pier concourse concepts oriented in the north-south directions appear to have the best ability to grow to take advantage of this additional space.

Based on these observations, additional refinements to north/south oriented pier concepts in the West Terminal Area and concourse development near the end of Runway 32R in the East Terminal Area were pursued. While not considered for inclusion at this time, the other, more extensive concepts for the East Terminal Area and Core Terminal Area provide an indication of potential post-OMP terminal development options available to the Airport.

3.3 Refined Terminal Concepts

Refined concepts for west terminal development (north/south pier) and east concourse development (near the Runway 32R end) are presented in the following sections.

3.3.1 West Terminal Area Refined Concepts

Exhibits III-30 to **III-32** provide refined west terminal concepts that provide north/south pier configurations. In coordination with access and airfield planning efforts, physical limits were established for terminal facility development and are held constant throughout the refinements. The following constraints were defined:

- Dual ADG VI taxiways and a single ADG VI taxilane are provided parallel to the runways north and south of the terminal area. Taxiways are provided to permit ATCT control of aircraft to and from these runway ends, while taxilanes are provided to facilitate movement of aircraft in the terminal area.
- The west face of the terminal building is established 1,750 feet east of the easternmost rail line along the east side of York Road to provide adequate space for the development of the access road system.
- A parking structure is set back 300 feet west of the face of the terminal facility to meet security requirements and facilitate roadway development options.

Variations on the north/south pier concept were developed within the constraints noted above. Generally these variations remained fairly consistent in the basic configuration (north/south piers) with their differences primarily associated with separation between piers and how to orient the easternmost concourse since it is limited by site constraints. Exhibits III-30 through III-32 present these concepts.

- *Refined Concept 1*, depicted in Exhibit III-30, illustrates a linear pier and angular east concourse for the West Terminal Layout. As shown, ADG VI aircraft under this concept are accommodated at the terminal gates and the west side of the center concourse, ADG V aircraft are accommodated on the east side of the center concourse and the west side of the east concourse, and ADG IV aircraft are accommodated in all other areas. Appropriately sized dual taxilanes are provided between the piers to serve the various gate areas. In total, 15,700 linear feet of apron frontage is provided.
- *Refined Concept 2*, depicted in Exhibit III-31, is similar to Refined Concept 1 with the exception of the east concourse T-shaped layout. Under this concept, ADG VI aircraft are accommodated on the Terminal gates only, ADG V aircraft are accommodated on both sides of the middle concourse, and ADG IV aircraft are accommodated on the eastern concourse. Appropriately sized dual taxilanes are provided between the piers to serve the various gate areas. In total, 15,700 linear feet of apron frontage is provided.
- *Refined Concept 3*, depicted in Exhibit III-32, provides four linear pier concourses. Under this concept, ADG VI aircraft are accommodated on the Terminal gates and west side of the first pier, ADG V aircraft are accommodated on the east side of the first pier and the west side of the second pier, and ADG IV aircraft are accommodated in the other areas. Appropriately sized dual taxilanes are provided between the piers to serve the various gate areas. In total, 19,300 linear feet of apron frontage is provided.

A review of the three concepts provided the following results:

- Each of the concepts can meet the requirement for approximately 60 additional gates in 2018.
- Refined Concept 3, presented in Exhibit III-32, provides the greatest frontage of the three concepts and, as a result, the greatest ability to accommodate traffic in the west terminal area.
- All of the concepts, due to their north-south orientation, provide good access to the airfield. Refined Concept 3 provides slightly better airfield access by maintaining a linear configuration on all concourses.
- While each of the concepts provides dual taxiway capabilities between concourses, the potential exists for taxilane blockage due to gate egress. This can be especially true for ADG V and future ADG VI, aircraft that can take longer to perform the push-back movement. Given the number of gates fronting each taxilane, these blockages could be numerous.
- Each concept can accommodate a mix of aircraft types, including Regional Jets.

While each of these concepts meets the basic terminal facility requirements, Refined Concept 3 was selected for inclusion in the plan primarily because it provides the greatest gate frontage and the best airfield access. Final refinement of this concept to address deficiencies noted in all of the concepts and investigate the potential implementation of the facility is presented in the subsequent sections.

3.3.2 East Terminal Area Refined Concepts

Exhibits III-33 and **III-34** provide refined concepts for development in the area near the end of existing Runway 32R. Unlike the prior concepts that investigated widebody and jumbo aircraft gate development in this area, the concepts presented in this section consider development of a Regional Jet (RJ) facility on this site to assess the range of gates that could potentially be developed.

- *Refined Concept 1*, depicted in Exhibit III-33, illustrates development of a two pier RJ facility in this area, connected to existing Terminal 5 by a bridge structure over I-190. As proposed, this option allows for the existing commercial vehicle staging area northeast of the site to remain operational. A total of 20 RJ aircraft could be accommodated on this site.
- *Refined Concept 2*, depicted in Exhibit III-34**,** illustrates the development of a third pier on the facility presented in Refined Concept 1. Under this concept, relocation of the commercial vehicle staging area would be necessary. A total of 29 RJ aircraft could be accommodated on the expanded facility.

As discussed in the prior section, development of the western terminal facility can accommodate the additional terminal requirements at the Airport for the entire analysis period. As such, development of additional facilities in the Terminal Core or East Terminal Area other than those currently planned is not anticipated during the analysis period. However, recognizing that there are limited parcels in these areas that could be developed for gates with minimal effort, designating the area near the Runway 32R end for future aviation development is proposed. Any such development on this site could not be considered until after closure of Runway 14L-32R as ultimately planned.

3.4 Selected Terminal Concept

As discussed in the prior section, the need to address potential impacts associated with push-back maneuvers in the west terminal was identified. In order to address this issue, further refinement of the selected concept occurred. This refinement also addressed the potential need to develop facilities for RJ aircraft as an initial phase of development.

Additionally, during the course of the terminal planning effort, other ongoing analyses identified infrastructure needs to support the development plan. Specifically, the need to provide water detention facilities to accommodate runoff from the expanded airfield and apron facilities was determined. Based on the existing drainage system at the Airport and analyses by CTE Engineers performed for the City, the most desirable location for this facility is in the area proposed for the fourth (east) concourse for the west terminal.

Exhibits III-35 presents the concept selected for inclusion in the development plan. **Exhibit III-36** presents the selected concept as ultimately presented on the draft Airport Layout Plan submitted to the FAA in December 2002. As presented, the concept includes several refinements not presented in the prior version. Specifically, the following changes have been incorporated:

- As presented, the project includes the west terminal facility and a single satellite concourse. This level of facility development provides 8,830 linear feet of apron frontage, which is sufficient to support the estimated 2018 facility requirements for new gates.
- Push-back areas sufficient to accommodate ADG VI aircraft are provided between the west terminal and the concourse satellite. These areas allow push-back movements by aircraft from the gates without impacting taxilane movements. As a result of this increased separation, only three satellites could be provided without impacting taxiway facilities planned to be retained.
- A detention basin occupies the site of the easternmost satellite concourse. At present, development of detention facilities on this site is proposed to accommodate run-off from the increased airfield and terminal pavements.

- Piers extending off the east side of the satellite concourse have been incorporated to demonstrate the flexibility to accommodate RJ aircraft. It is anticipated that the initial phase of development could entail this RJ component only. The placement of this facility would allow concourse development prior to the closure of Runway 14R-32L.

To confirm the ability of the proposed facility to accommodate the anticipated demand, estimates of facility requirements were developed for the west terminal facility. For the purposes of this analysis, these estimate were defined on a gross level for the entire facility, then distributed to the various components based on the distribution of space in the existing terminal facilities. While ultimately the space requirements for the west terminal and concourses will be dependent on the characteristics of activity at the facility, the tenants of the facility are unknown at this time. Flexibility within the site can accommodate potential changes in passenger characteristics.

Based on the ratio of Terminal 1 curbfront to apron frontage,[4] curbfront requirements for the west terminal were estimated at 680 feet. For the purposes of this analysis, it is assumed that the west terminal facilities will serve both international and domestic activity, and will likely have significant connecting activity similar to that experienced between the domestic and international markets at the Airport today. While Terminal 1 does not have international arrival activity, it does have significant connecting activity between domestic arrivals and international departures. Alternatively, if predicated on overall airport ratios, the curbfront requirement would be 1,070 linear feet.[5] If, at the time of development, anticipated tenants and their passenger characteristics are expected to be more consistent with overall Airport characteristics, the proposed concept is capable of providing this level of curbfront.

Total space for the west terminal was estimated based on the functional layout of the concept, which was confirmed through FAA planning factors. Concourse space was based on providing a width of 70 feet for an RJ concourse, 100 feet for a double-loaded concourse, and 80 feet for a single-loaded concourse. Terminal space was based on providing a depth from face of terminal to concourse of 220 feet and terminal length equal to the estimated curbfront. Additionally, an FIS of approximately 300,000 square feet (approximately 30 percent greater than the Terminal 5 FIS facility) is also provided. Based on these factors, and a traditional two level terminal development, the estimated west terminal space is 1,535,000 square feet.

FAA criteria contained in AC 150/5060-13, *Planning and Design Guidelines for Airport Terminal Facilities*, were used to confirm the reasonableness of the terminal space estimate. These criteria suggest that gross terminal area should provide between 0.08 to 0.12 square feet per annual enplanement. It is estimated that the west terminal would accommodate 23 percent of the total enplanements at the Airport in 2018 based on the ratio of frontage in the west terminal to the overall Airport[6]. Considering total annual enplanements of 52,994,000in 2018, the west terminal complex would provide approximately 0.125 square feet per annual enplanement. While this ratio is somewhat high, it is not unexpected given that the terminal includes an FIS facility. Excluding the

[4] Terminal 1 curb frontage is 779 linear feet, while apron frontage (including frontage for aircraft on Concourse E/F that use Terminal 1 facilities) is 10,147 linear feet. The West Terminal Complex provides a total of 8,828 linear feet of apron frontage.

[5] Overall curb frontage in Terminals 1, 2, 3 and 5 totals 2,970 linear feet while apron frontage totals 24,535 feet.

[6] At completion of the WGP and OMP, total frontage at the Airport will be approximately 38,700 linear feet, 8,828 linear feet of which are provided by the West Terminal Complex.

FIS facility, the west terminal complex would provide approximately 0.10 square feet per annual enplanement.

The analysis confirms that the selected concept provides sufficient space to accommodate the anticipated demand based on FAA criteria for assessing gross terminal requirements. Ultimately, however, west terminal complex development plans will be defined through coordination with anticipated tenants and rigorous planning analysis.

EXHIBITS

SECTION III

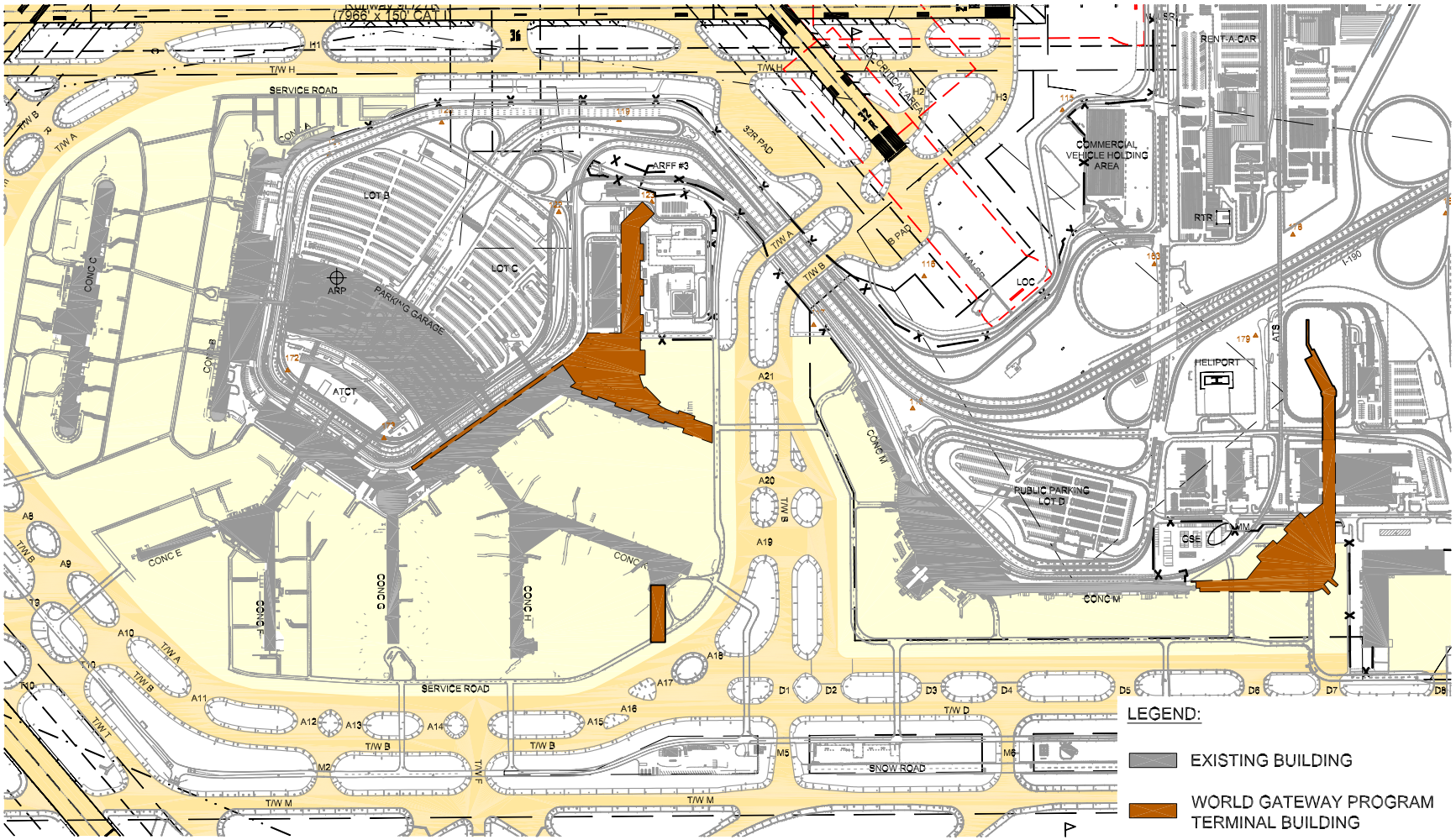

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Exhibit III-1

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Existing Terminal Facilities
World Gateway Program

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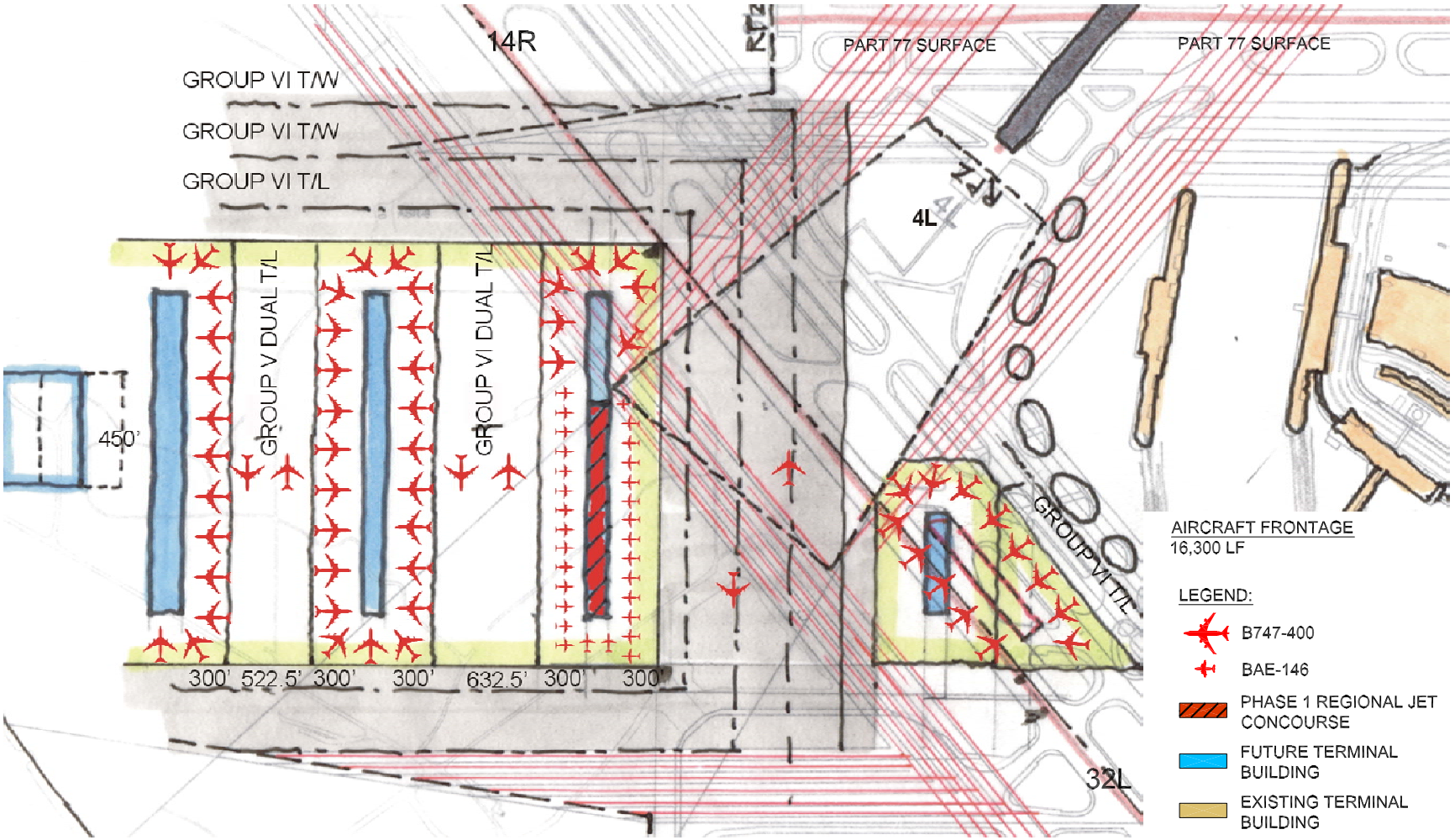

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Exhibit III-2

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West Terminal Initial Concept 1

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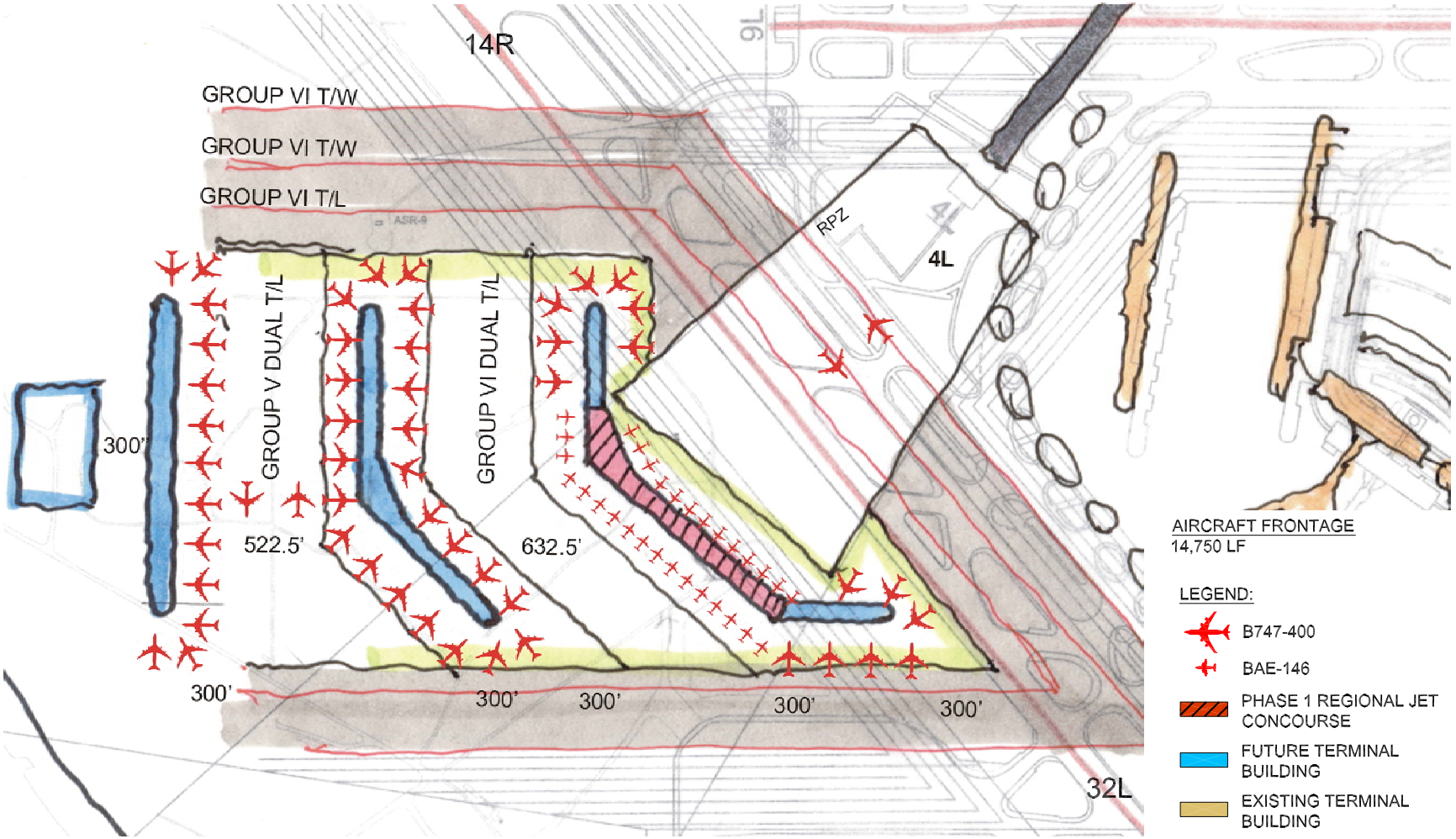

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Exhibit III-3

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West Terminal Initial Concept 2

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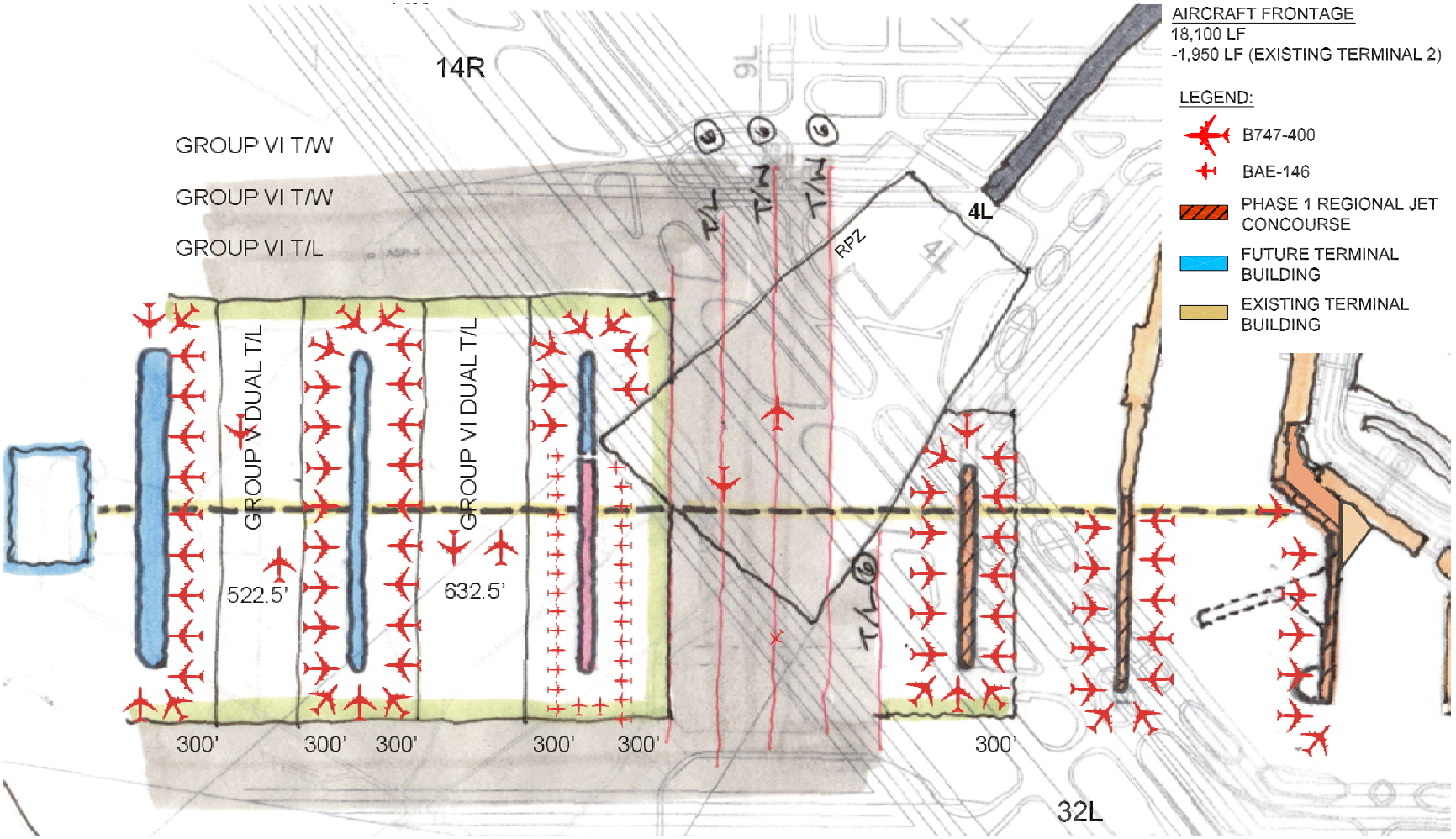

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Exhibit III-4

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West Terminal Initial Concept 3

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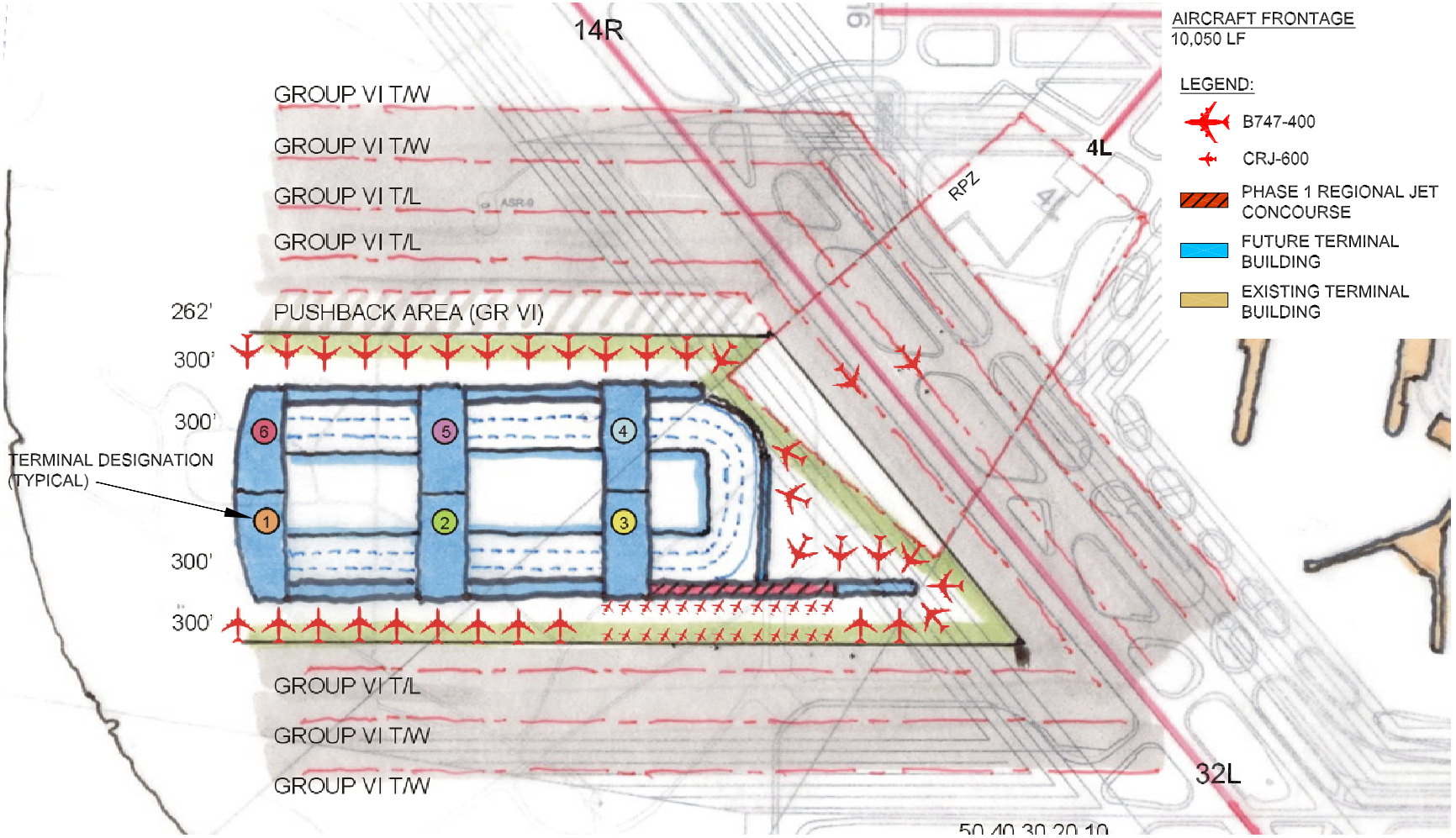

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Exhibit III-5

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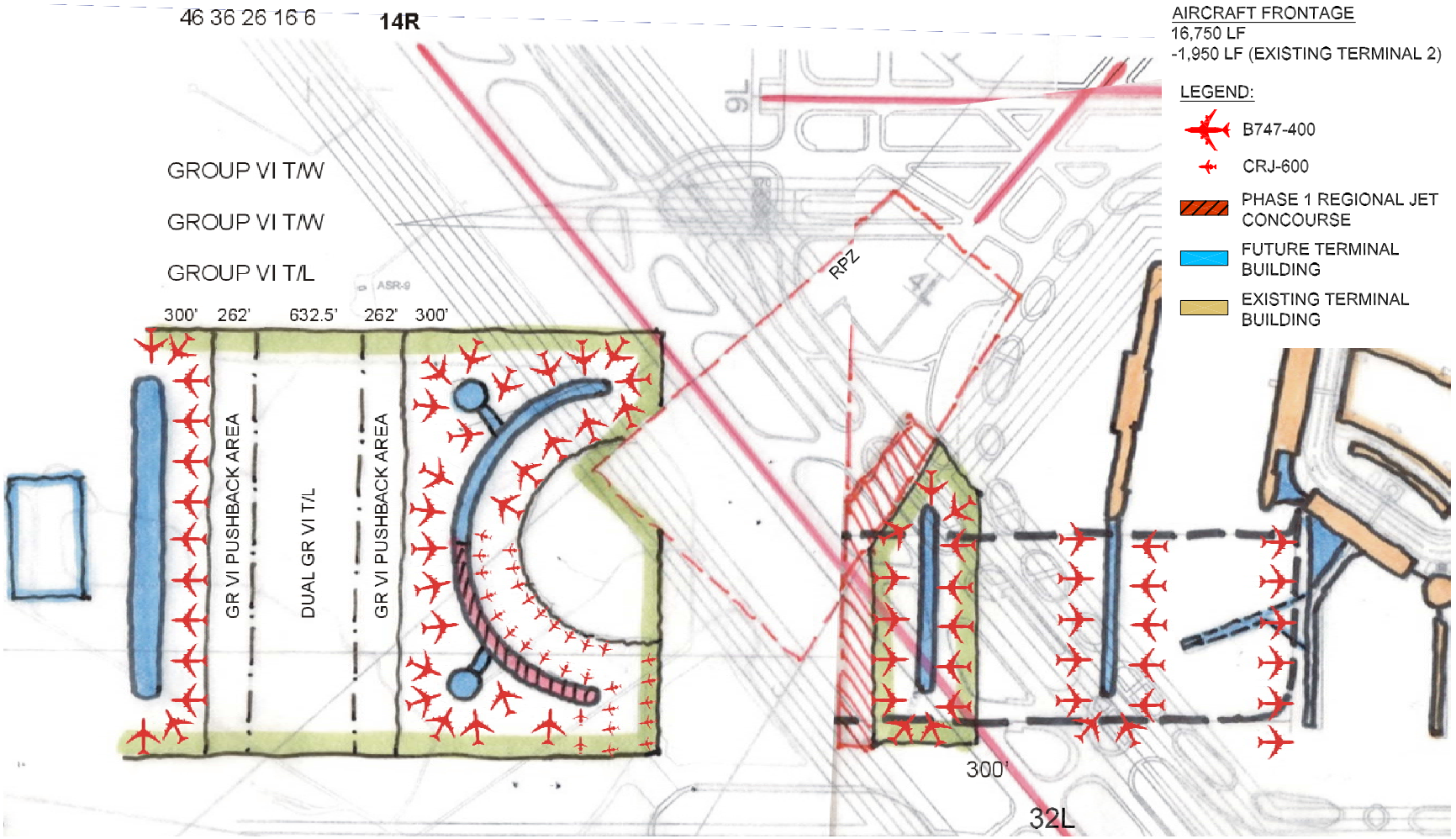
north

West Terminal
Initial Concept 4

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-05.dwg_Layout: 8.5x11_Feb 27, 2003, 1:24pm



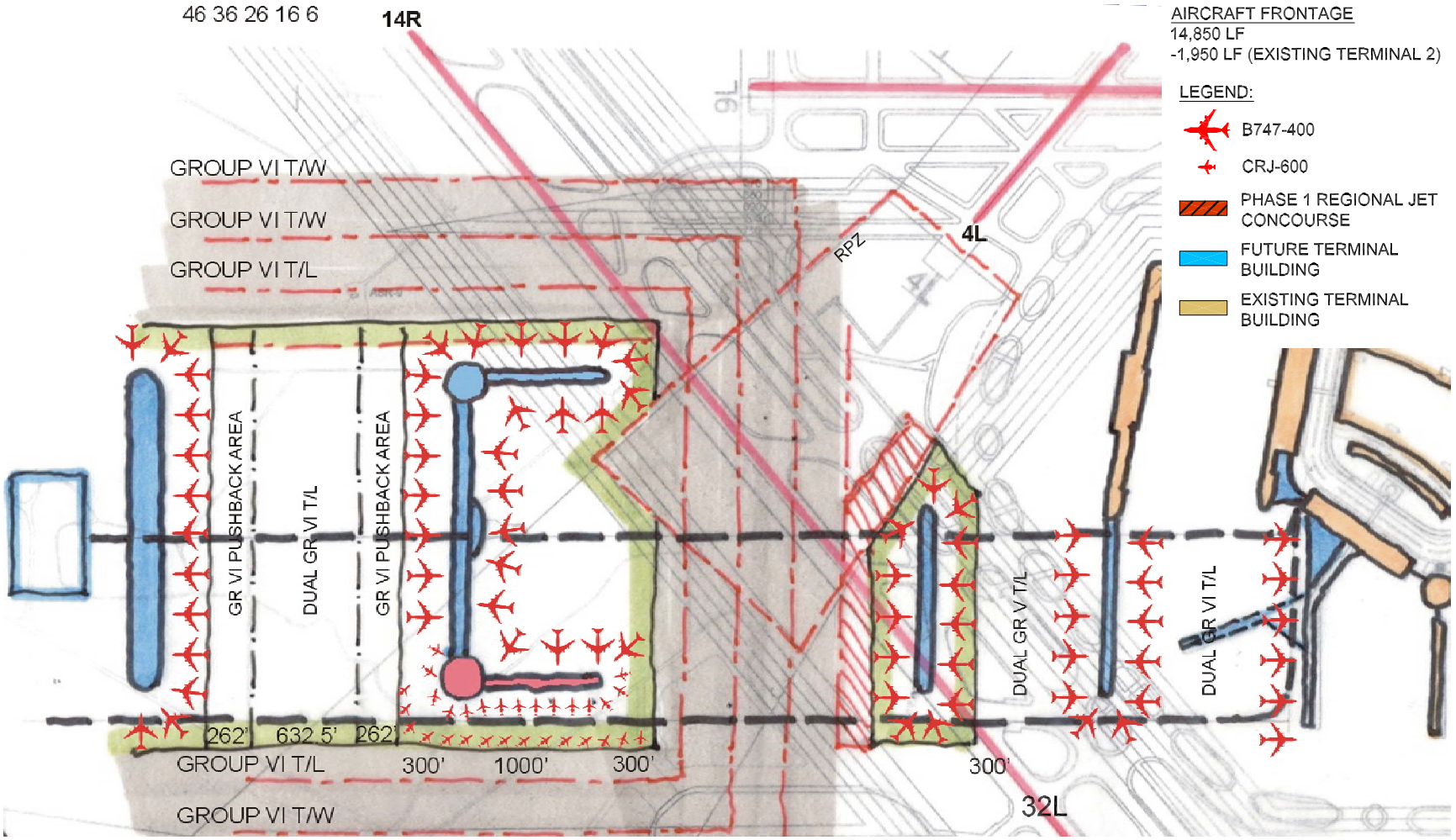
Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

Exhibit III-6

0 1200
north

West Terminal Initial Concept 5

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-06.dwg_Layout: 8.5x11_Feb 27, 2003, 1:25pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

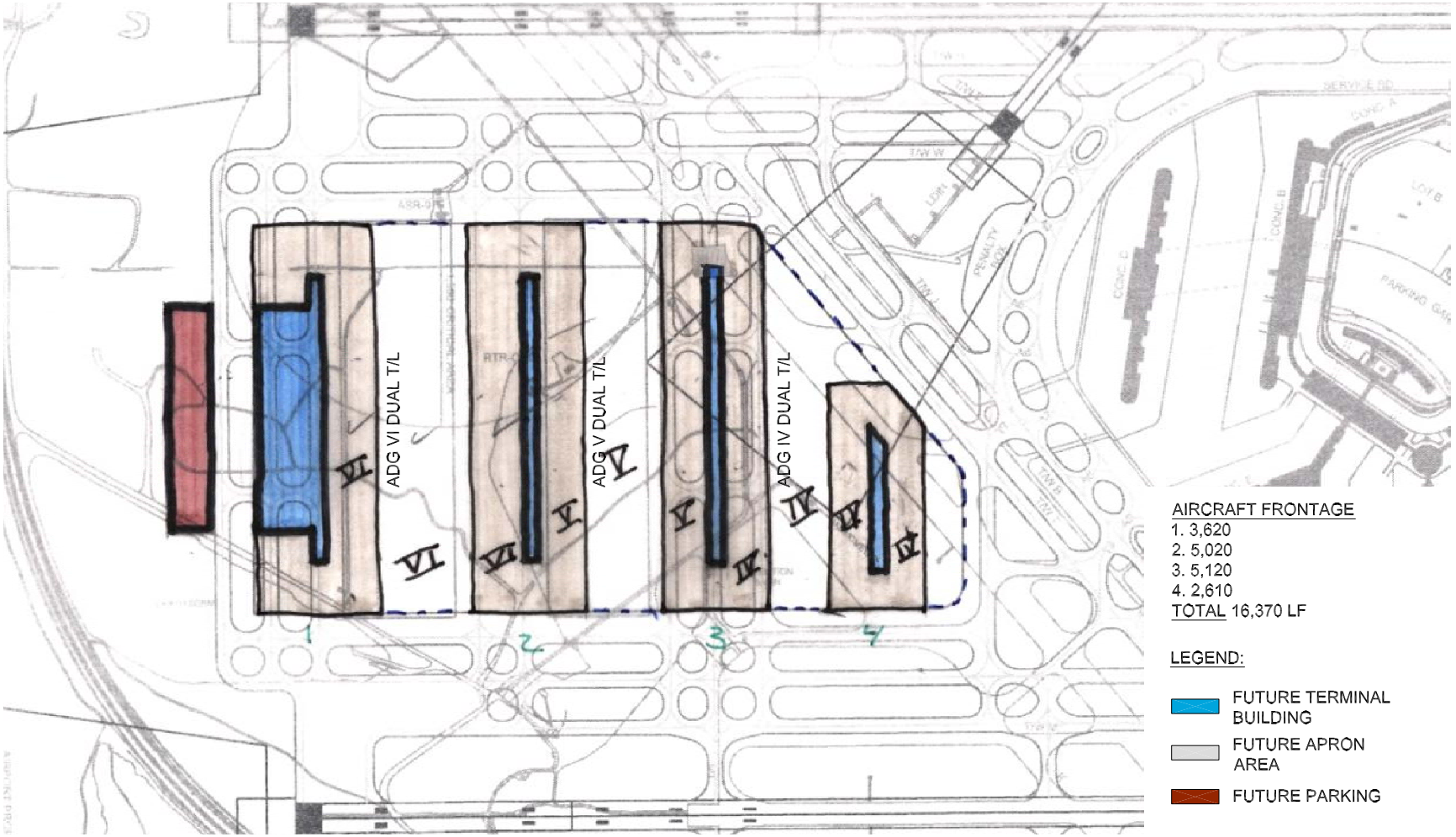
Exhibit III-7

0 1200

north

West Terminal Initial Concept 6

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-07.dwg_Layout: 8.5x11_Feb 27, 2003, 1:26pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

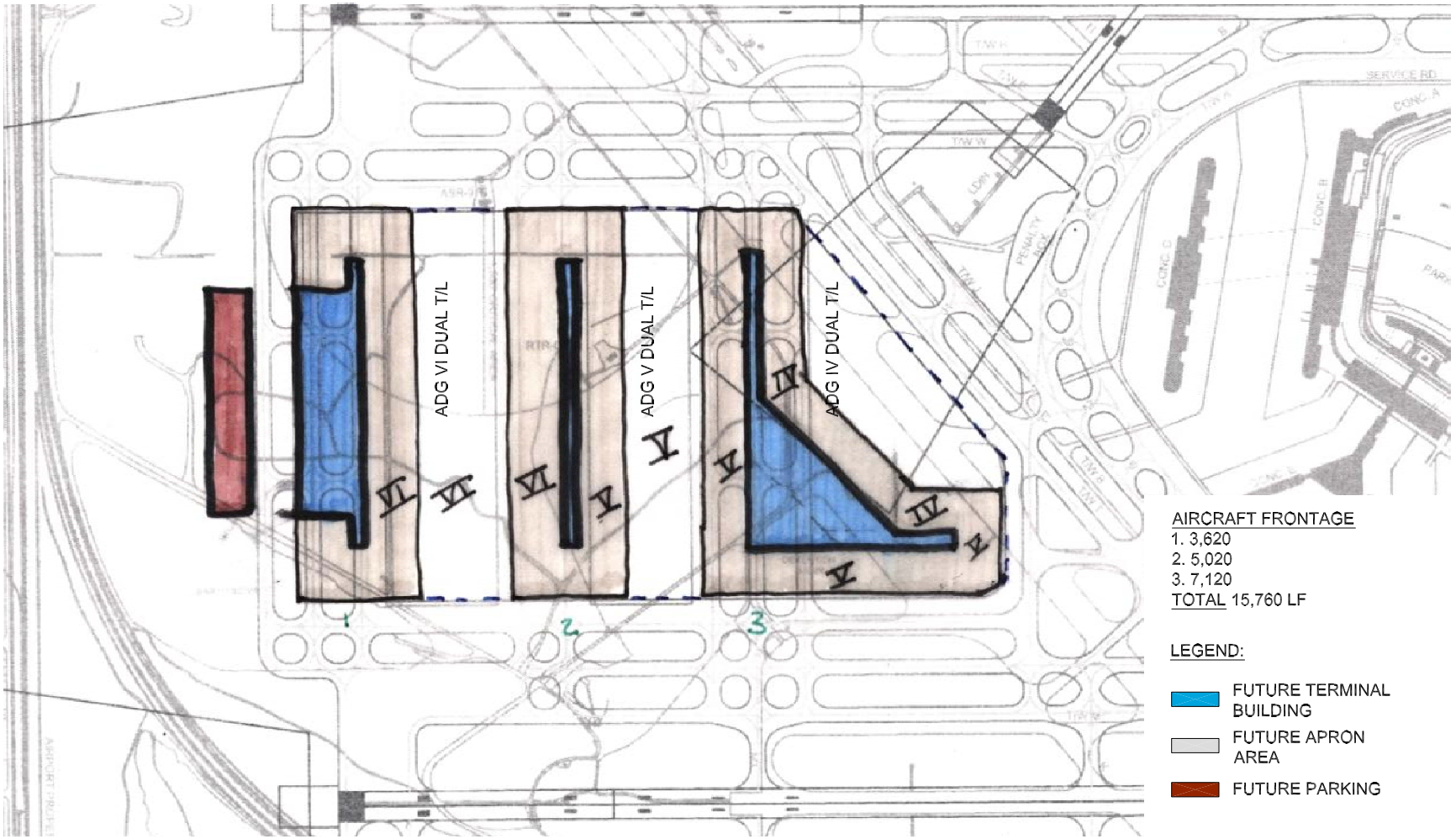
Exhibit III-8

0 N.T.S.

north

West Terminal Initial Concept 7

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-08.dwg_Layout: 8.5x11_Feb 27, 2003, 1:27pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

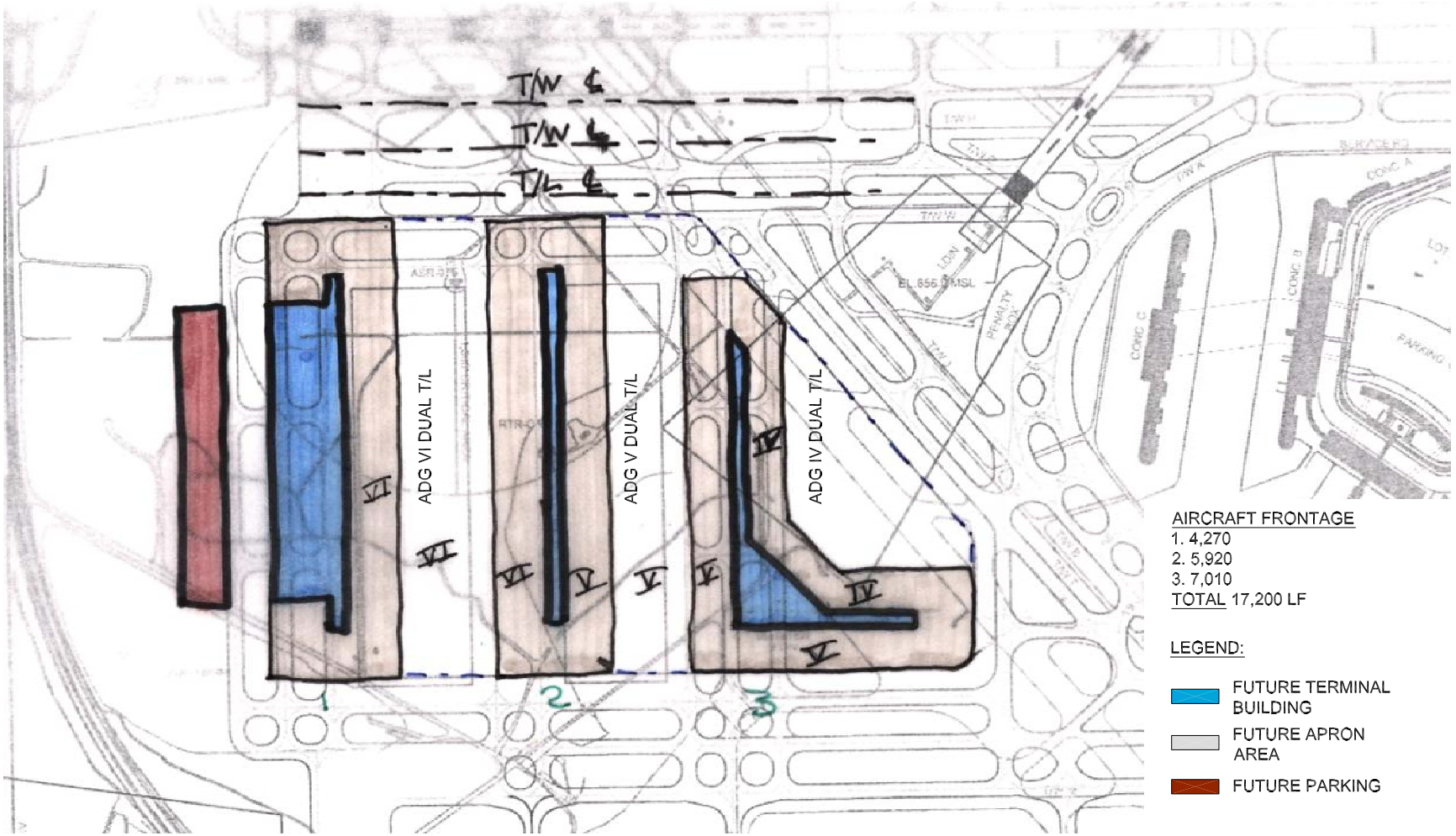
Exhibit III-9

0 N.T.S.

north

West Terminal Initial Concept 8

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-09.dwg_Layout: 8.5x11_Feb 27, 2003, 1:29pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

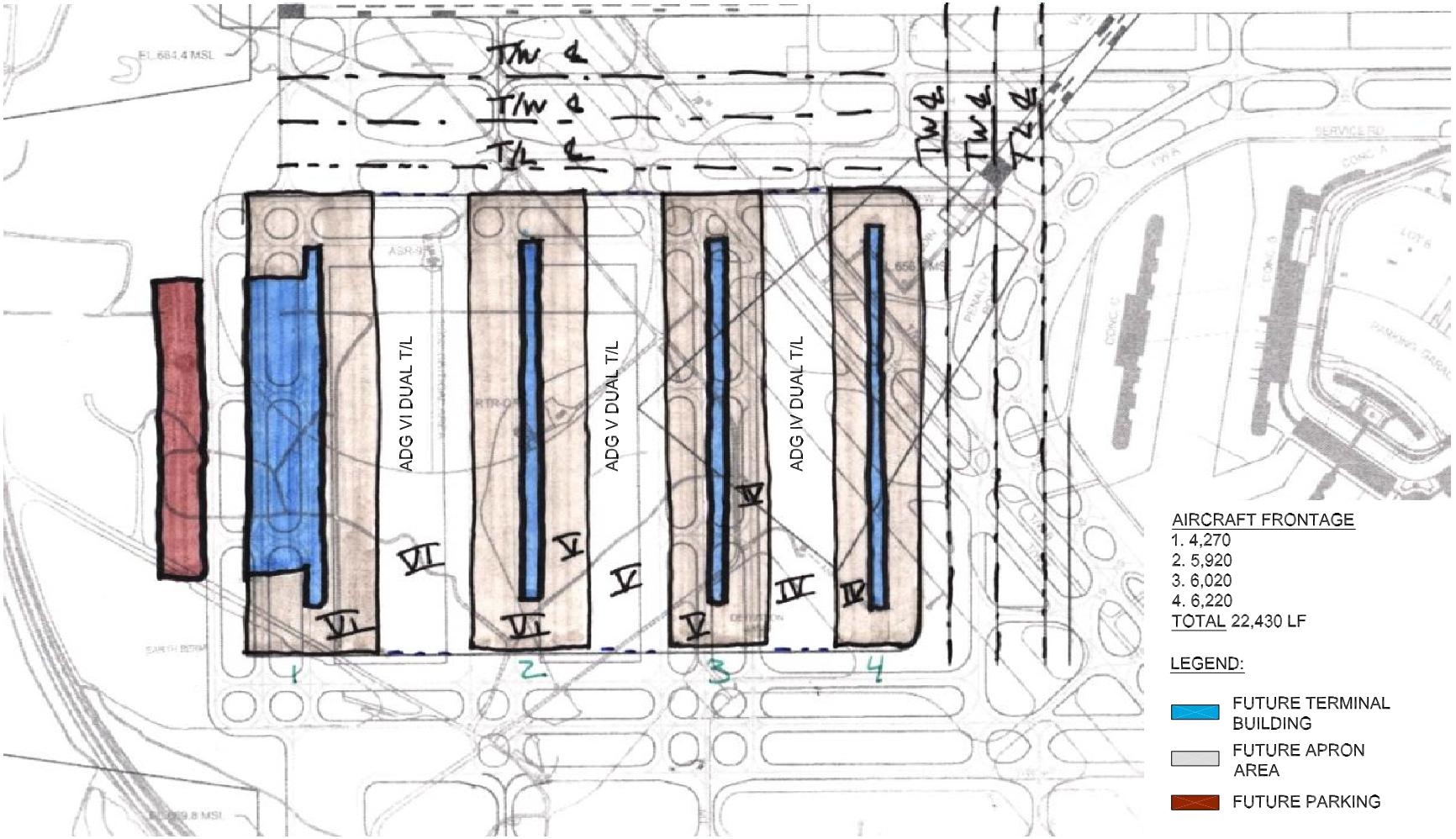
Exhibit III-10

0 N.T.S.

north

West Terminal
Initial Concept 9 - Relocated 9L/27R

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-10.dwg_Layout: 8.5x11_Feb 27, 2003, 1:30pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

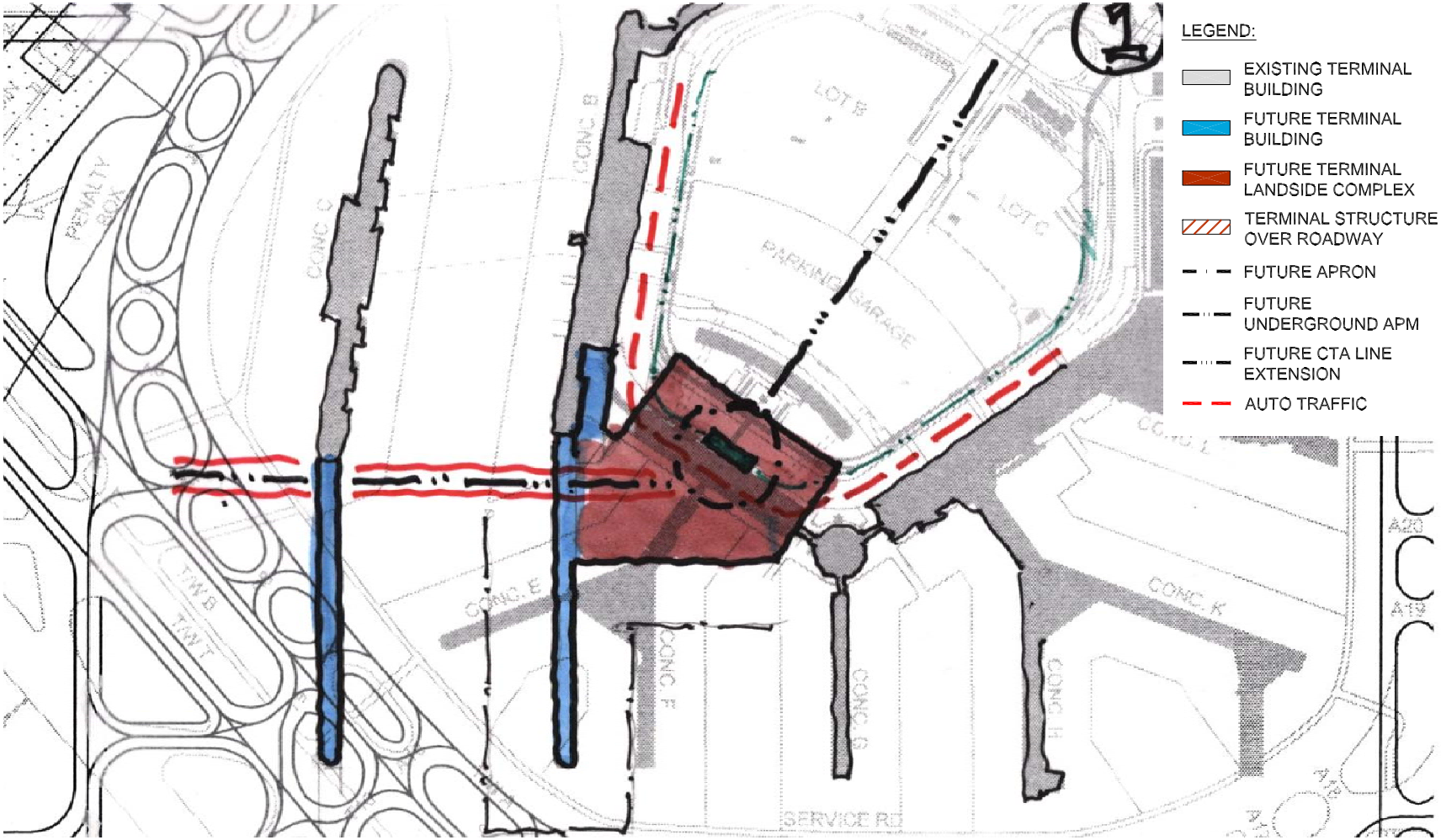
Exhibit III-11

0 N.T.S.

north

West Terminal
Initial Concept 10 - Relocated 9L/27R

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-11.dwg_Layout: 8.5x11_Feb 27, 2003, 1:31pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

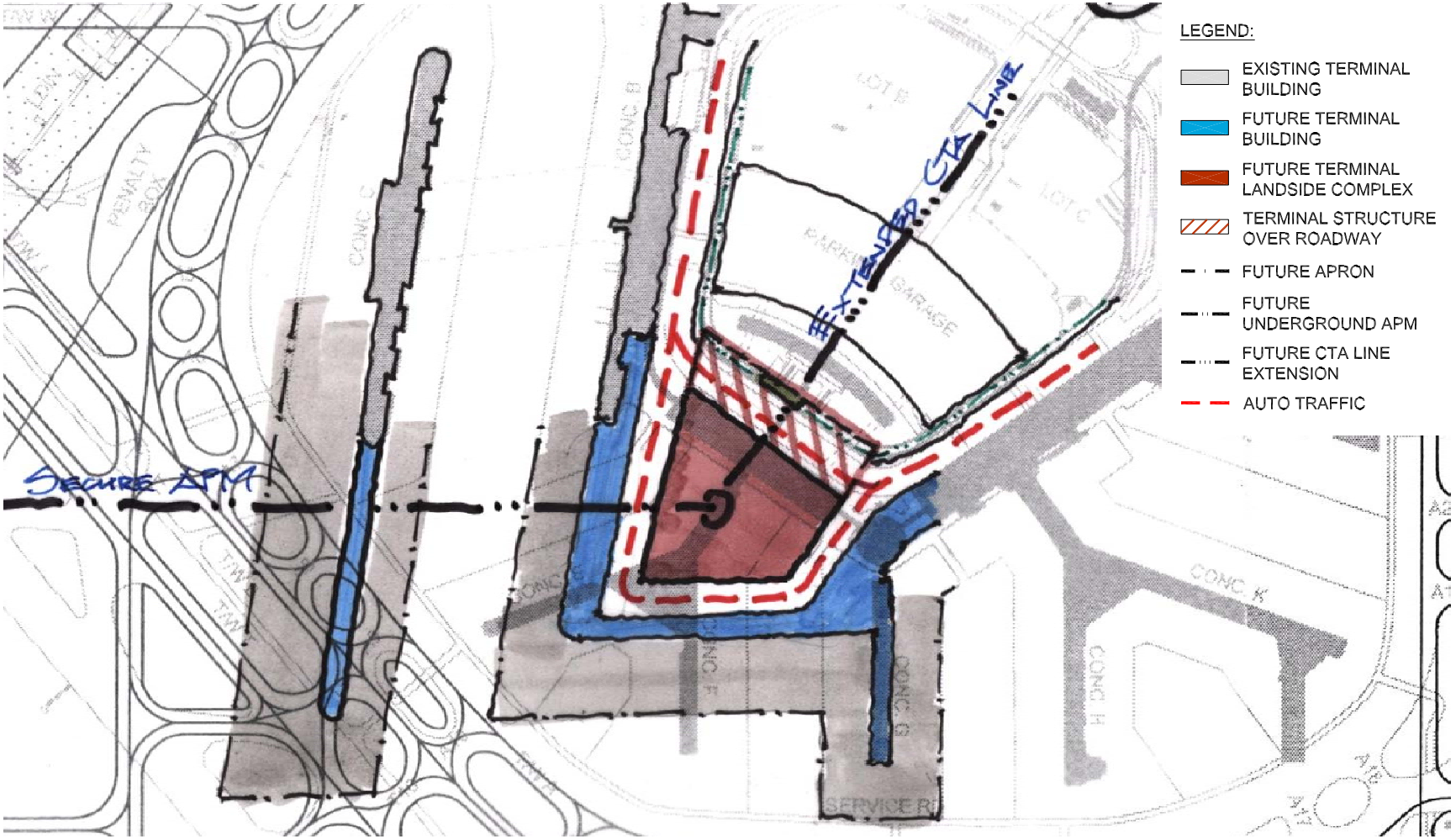
Exhibit III-12

0 N.T.S.

north

Terminal 2
Initial Concept 1

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-12.dwg_Layout: 8.5x11_Feb 27, 2003, 1:32pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

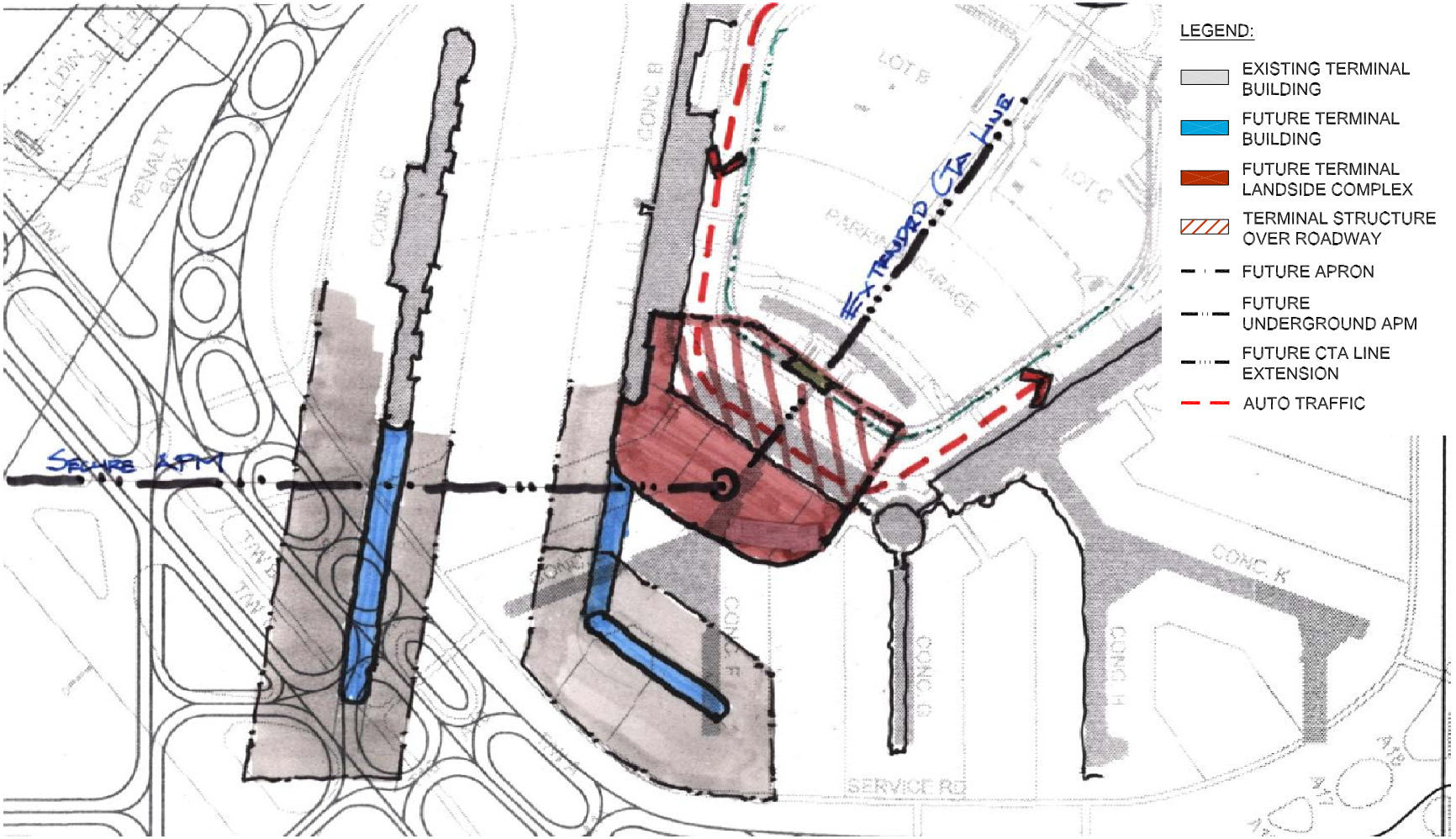
Exhibit III-13

0 N.T.S.

north

Terminal 2
Initial Concept 2

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-13.dwg_Layout: 8.5x11_Feb 27, 2003, 1:33pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

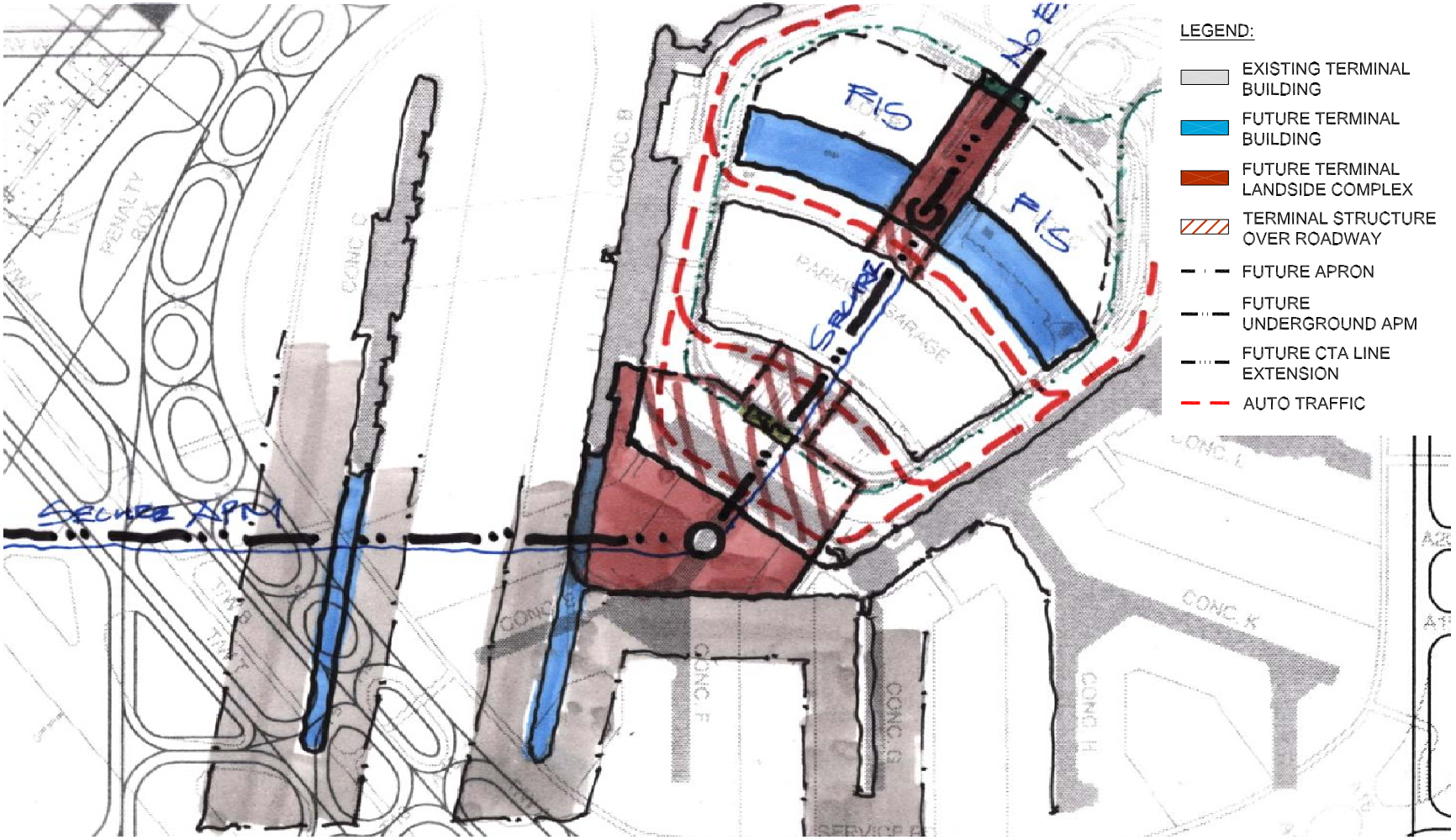
Exhibit III-14

0 N.T.S.

north

Terminal 2
Initial Concept 3

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-14.dwg_Layout: 8.5x11_Feb 27, 2003, 1:35pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

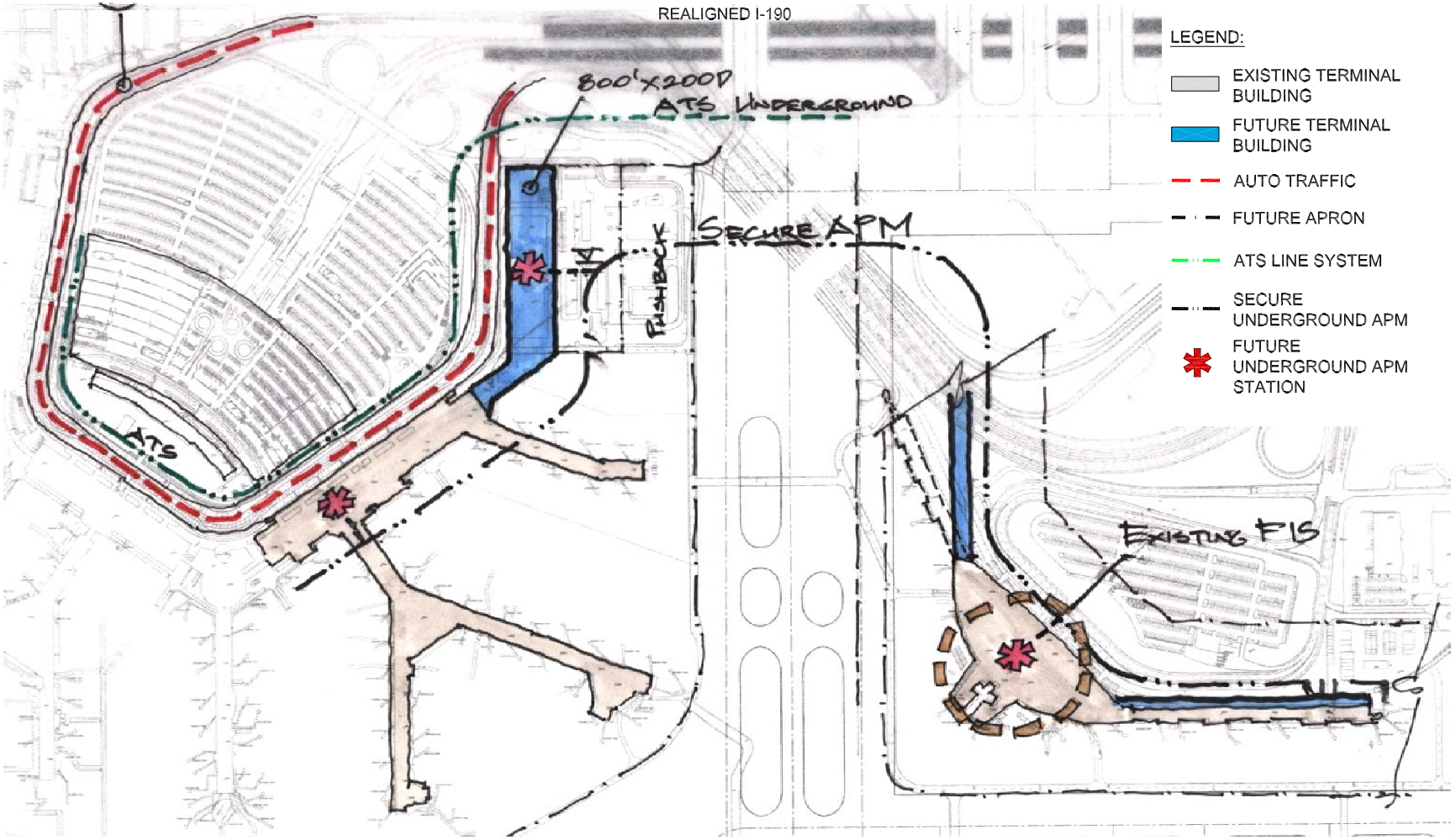
Exhibit III-15

0 N.T.S.

north

Terminal 2
Initial Concept 4

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-15.dwg_Layout: 8.5x11_Feb 27, 2003, 1:36pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

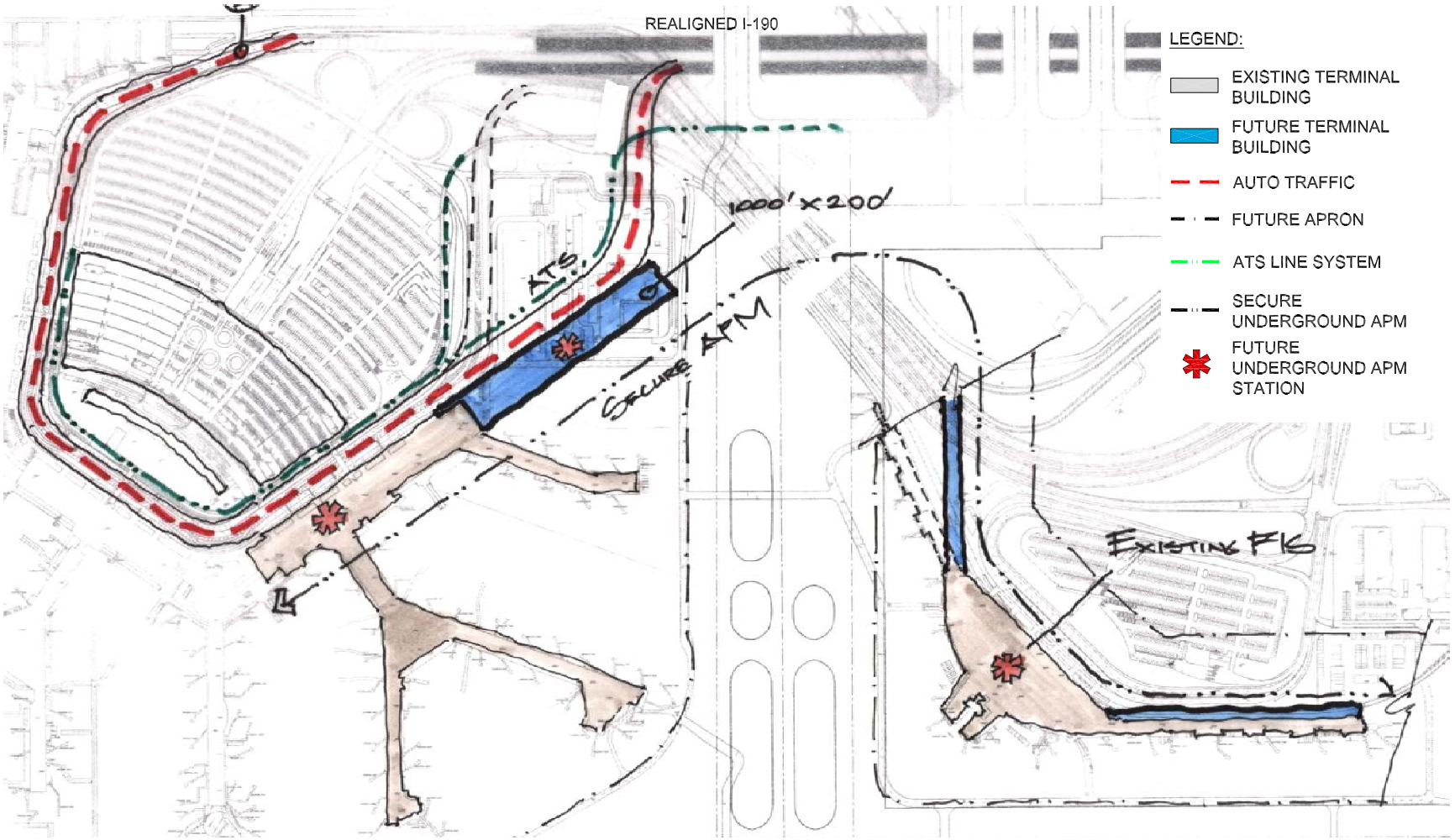
Exhibit III-16

0 N.T.S.

north

Terminal 3
Initial Concept 1

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-16.dwg_Layout: 8.5x11_Feb 27, 2003, 1:37pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

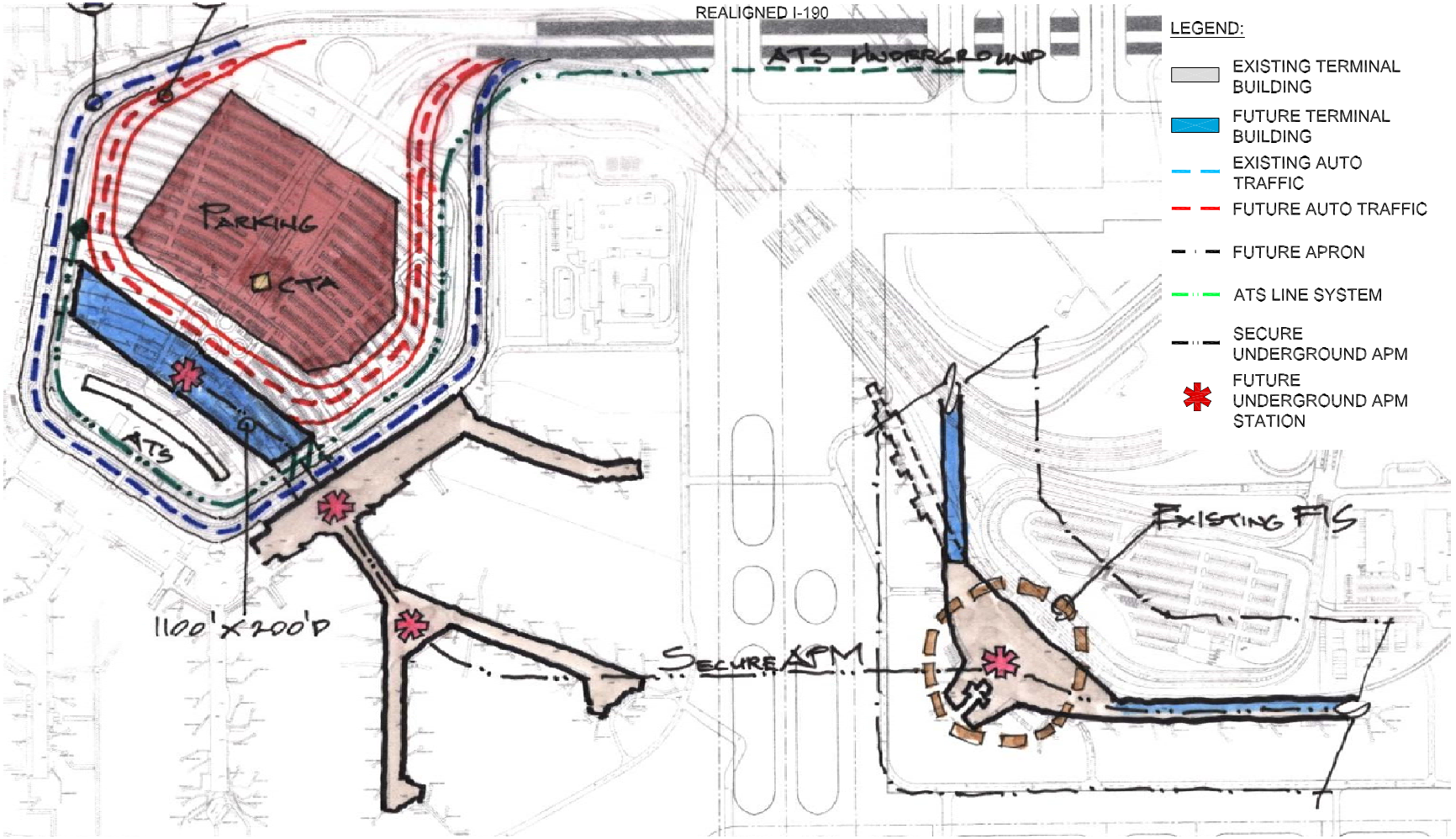
Exhibit III-17

0 N.T.S.

north

Terminal 3
Initial Concept 2

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-17.dwg_Layout: 8.5x11_Feb 27, 2003, 1:38pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

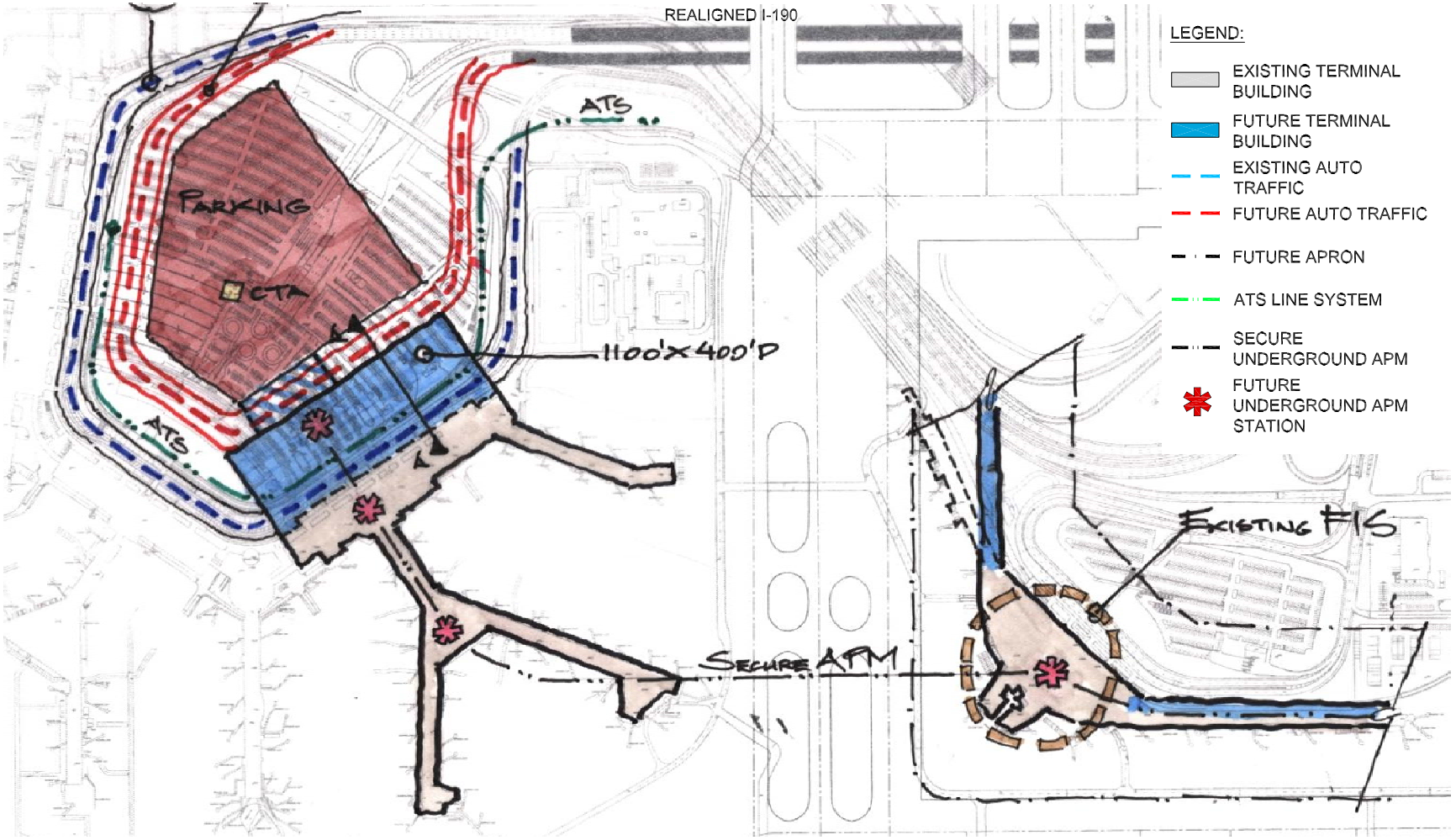
Exhibit III-18

0 N.T.S.

north

Terminal 3
Initial Concept 3

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-18.dwg_Layout: 8.5x11_Feb 27, 2003, 1:39pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

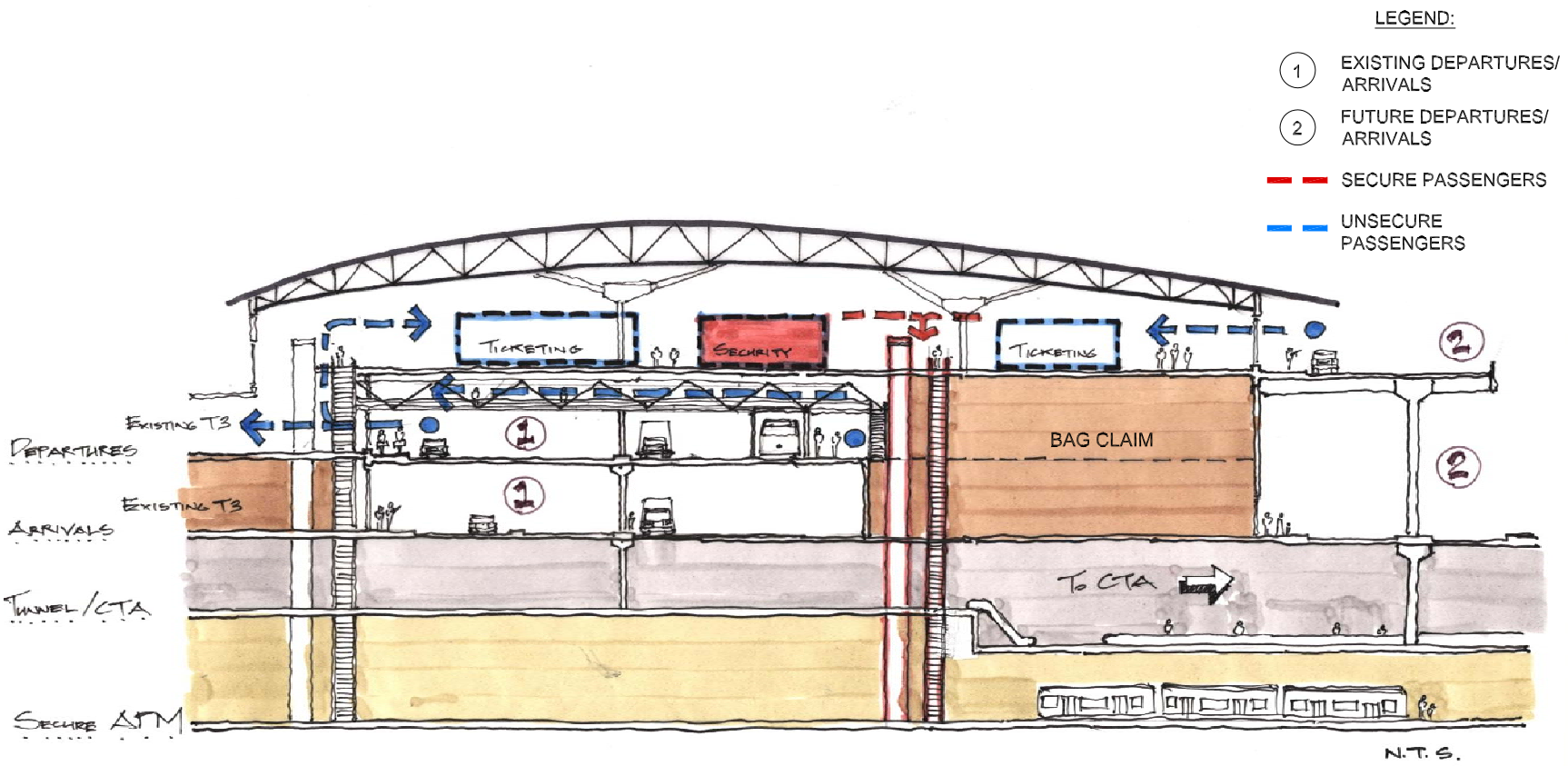
Exhibit III-19

0 N.T.S.

north

Terminal 3
Initial Concept 4

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-19.dwg_Layout: 8.5x11_Feb 27, 2003, 1:41pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

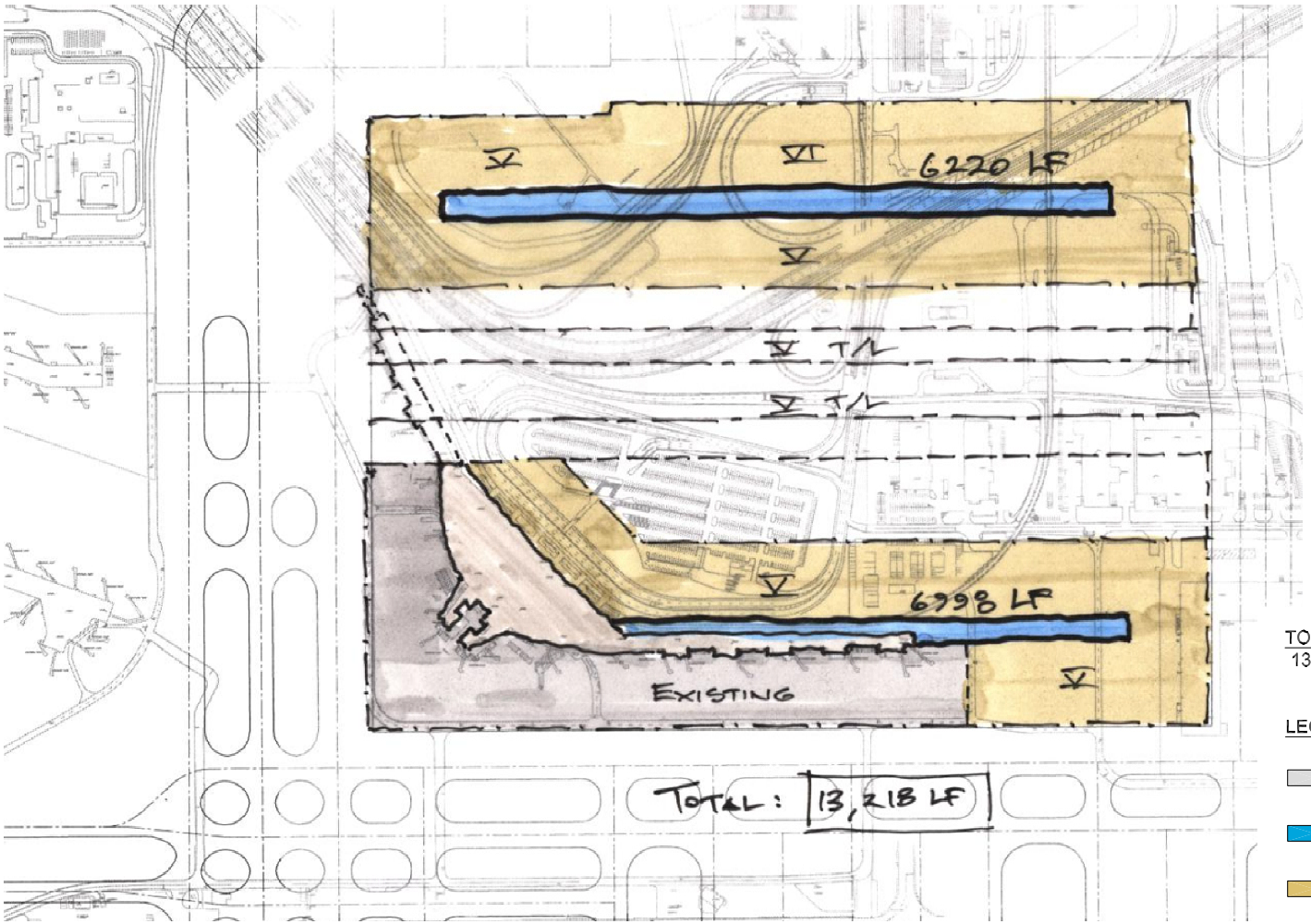
Exhibit III-20

0 N.T.S.

north

Terminal 3
Initial Concept 4 - Cross Section

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-20.dwg_Layout: 8.5x11_Feb 27, 2003, 1:42pm



TOTAL AIRCRAFT FRONTAGE
13,220 LF

LEGEND:

- EXISTING TERMINAL BUILDING
- FUTURE TERMINAL BUILDING
- FUTURE APRON

Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

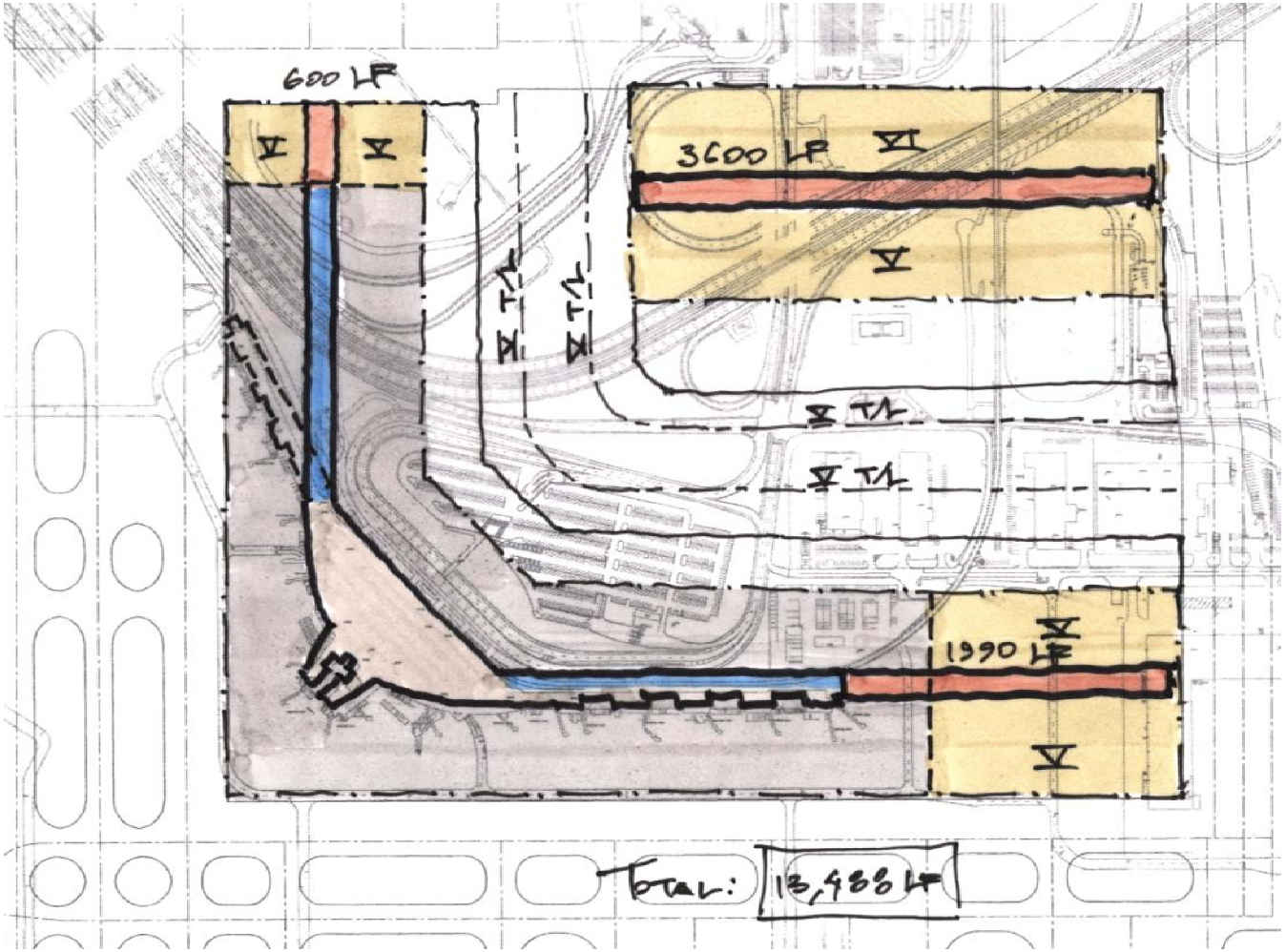
Exhibit III-21

0 N.T.S.

north

East Terminal
Initial Concept 1 - Realigned I-190

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-21.dwg Layout: 8.5x11_Feb 27, 2003, 2:03pm



TOTAL AIRCRAFT FRONTAGE
13,490 LF

LEGEND:

- EXISTING TERMINAL BUILDING
- FUTURE TERMINAL BUILDING - PHASE I
- FUTURE TERMINAL BUILDING - PHASE II
- FUTURE APRON

Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

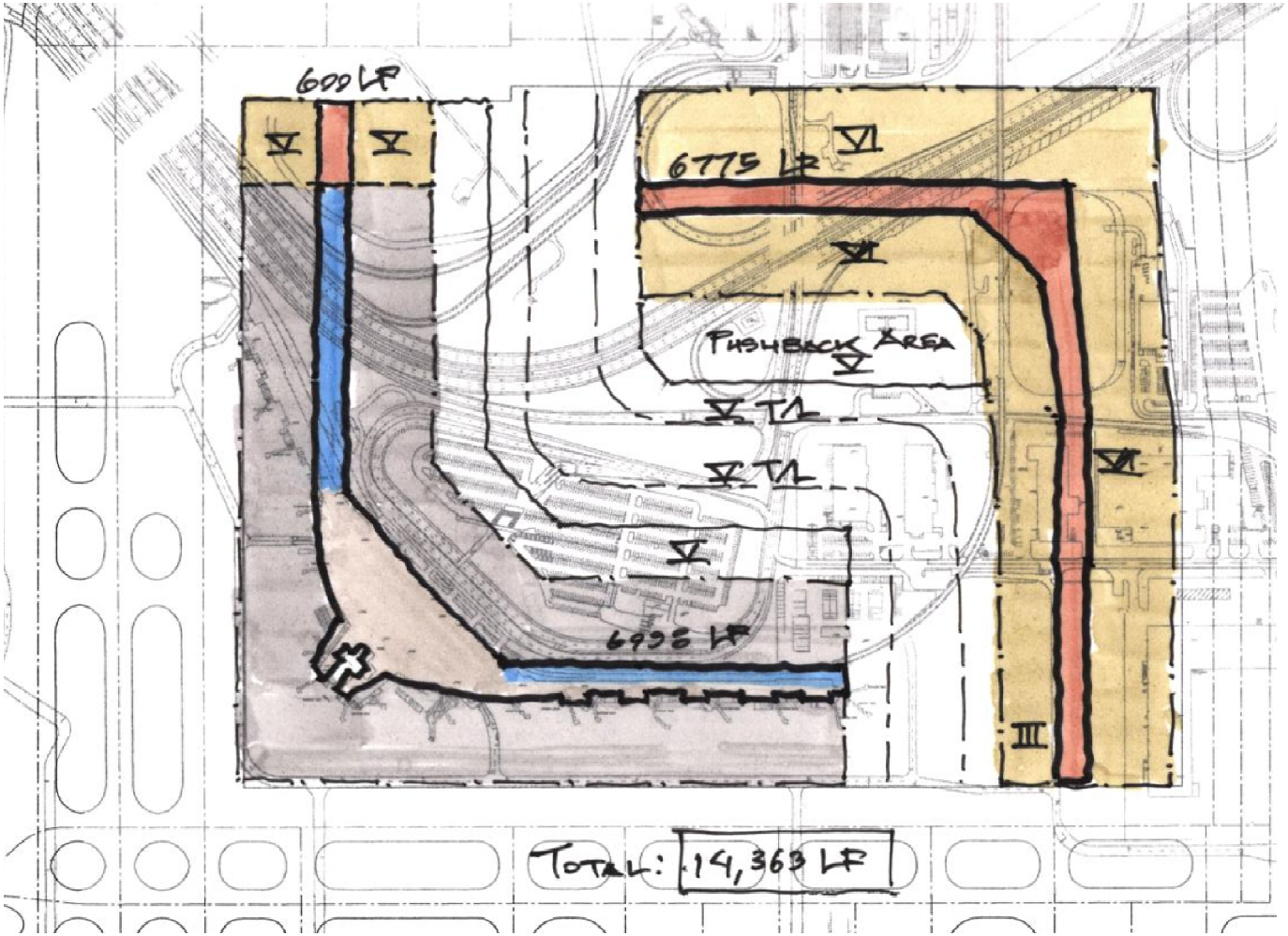
Exhibit III-22

0 N.T.S.

north

East Terminal
Initial Concept 2 - Realigned I-190

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-22.dwg_Layout: 8.5x11_Feb 27, 2003, 2:11pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

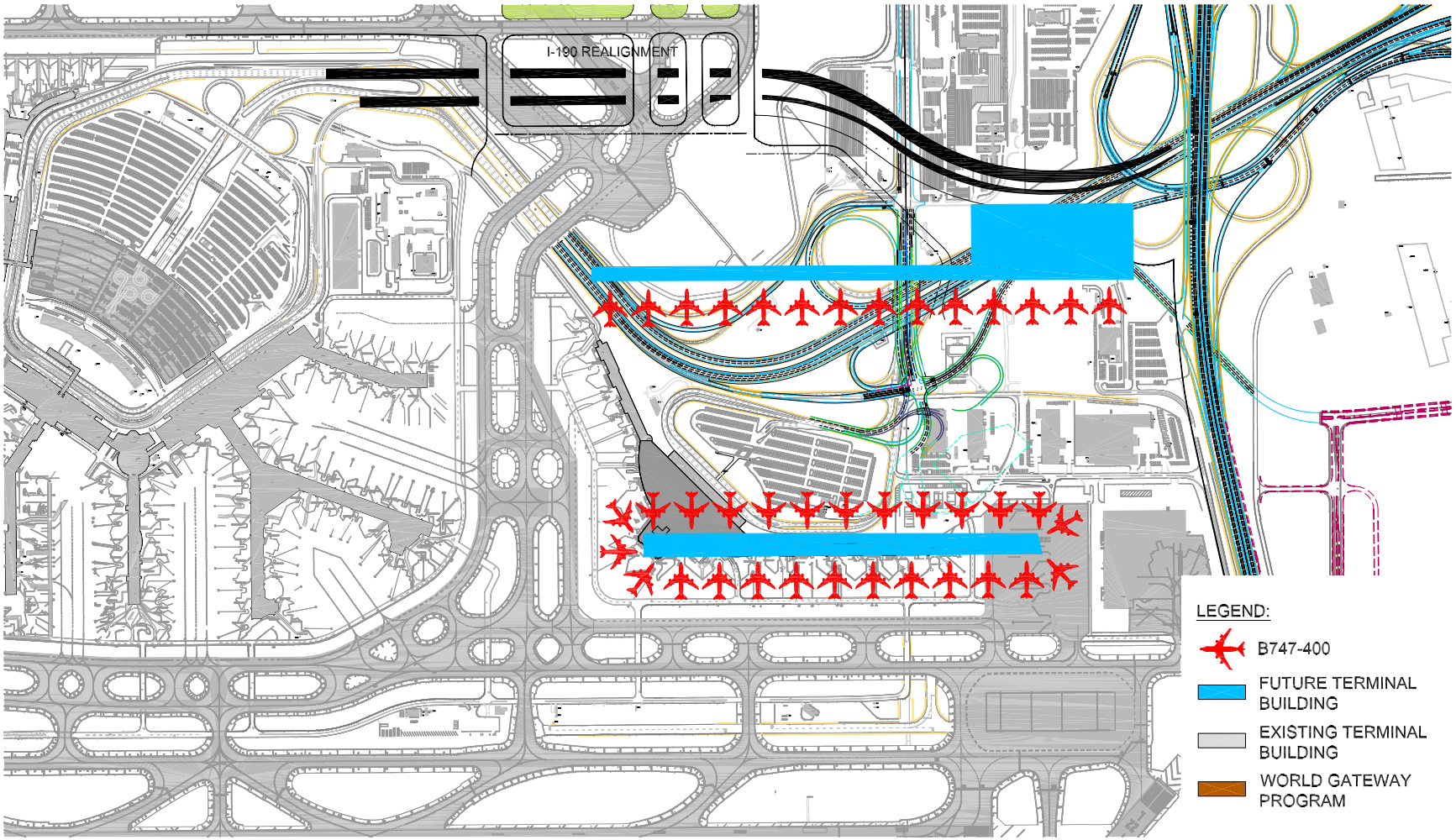
Exhibit III-23

0 N.T.S.

north

East Terminal
Initial Concept 3 - Realigned I-190

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-23.dwg_Layout: 8.5x11_Feb 27, 2003, 2:45pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

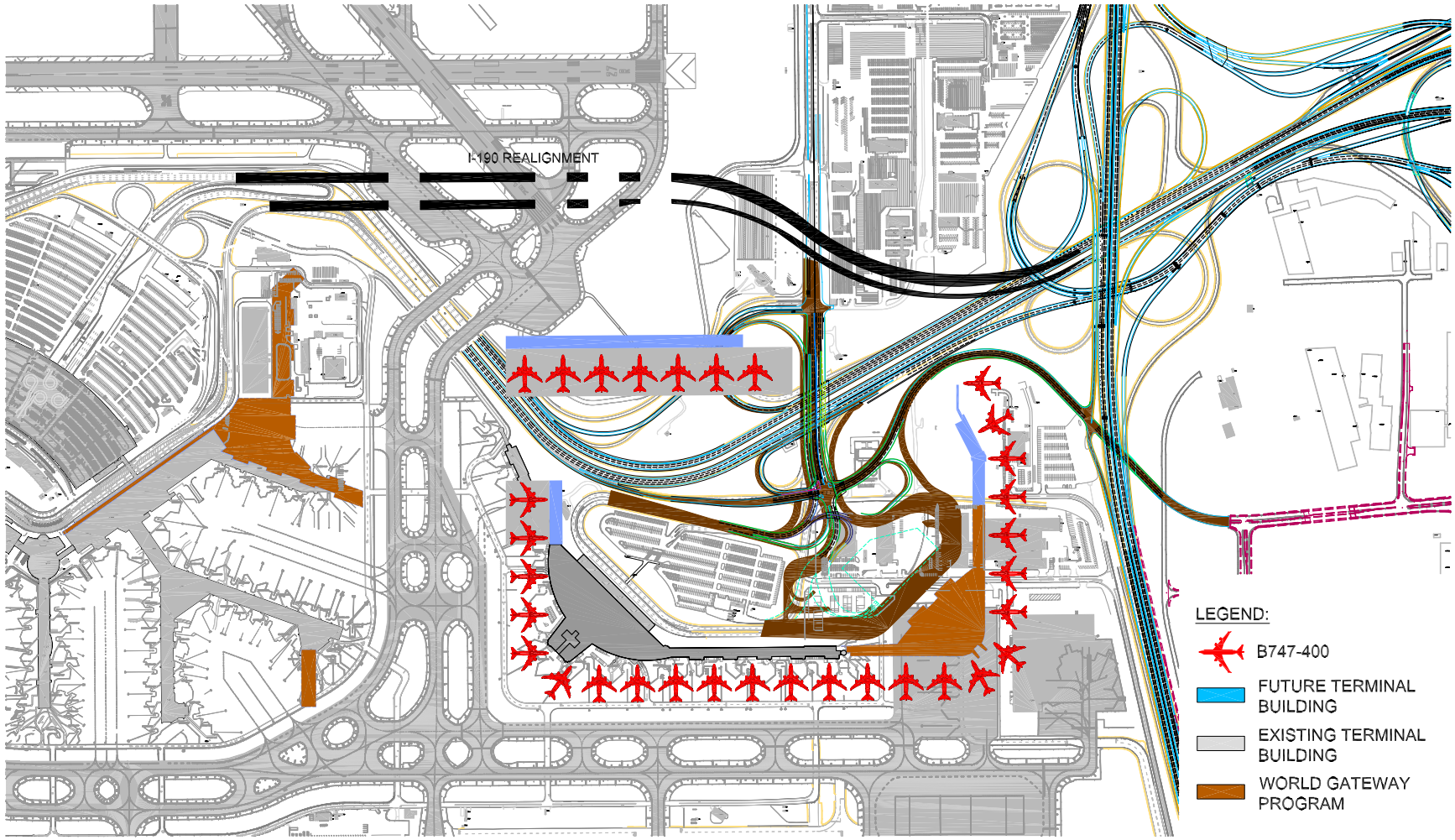
Exhibit III-24

0 1000

north

East Terminal
Initial Concept 4 - Realigned I-190

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-24.dwg Layout: 8.5X11_Feb 27, 2003, 2:03pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

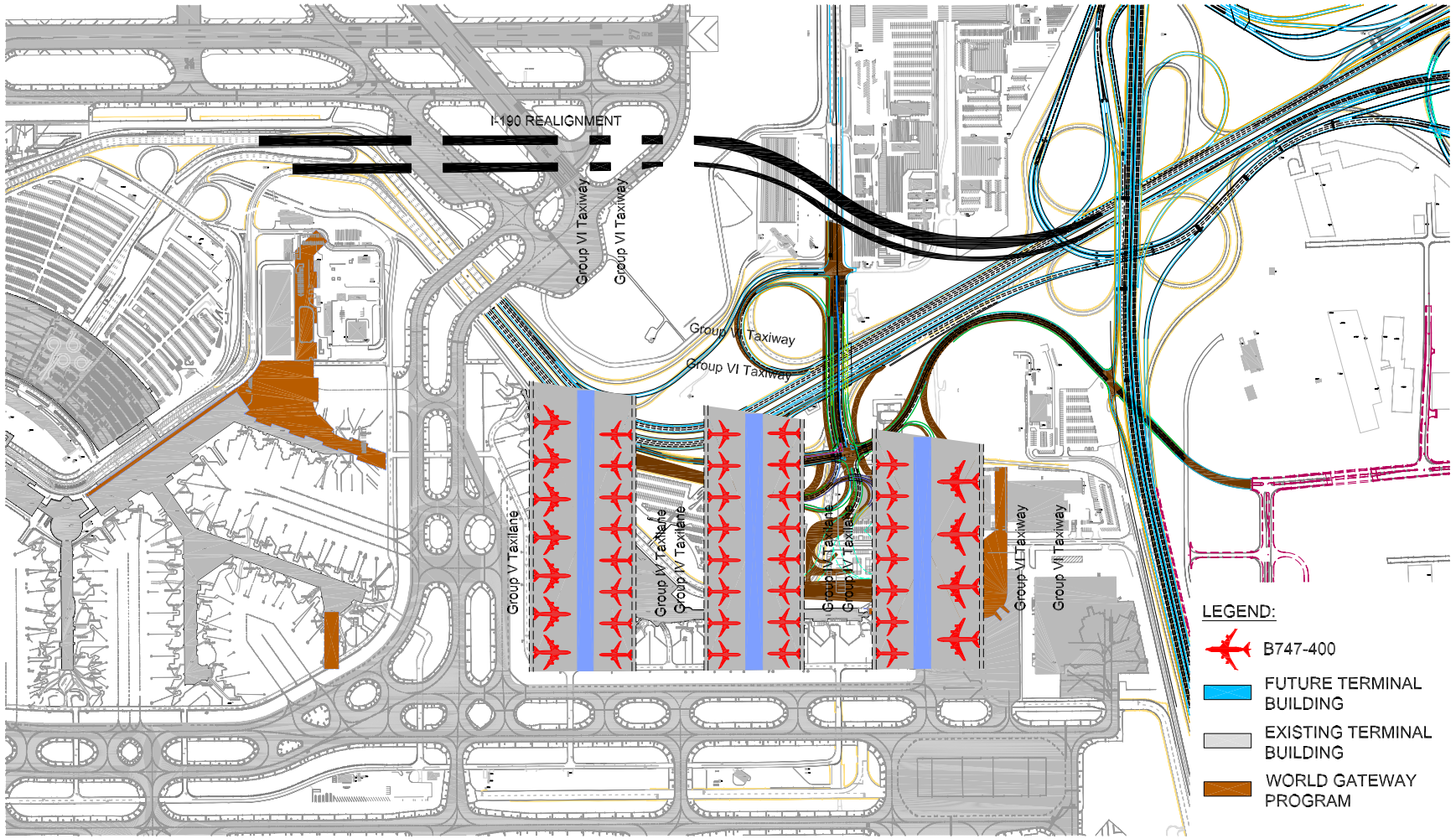
Exhibit III-25

0 1000

north

East Terminal
Initial Concept 5 - Realigned I-190

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-25.dwg_Layout: 8.5x11_Feb 27, 2003, 2:19pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

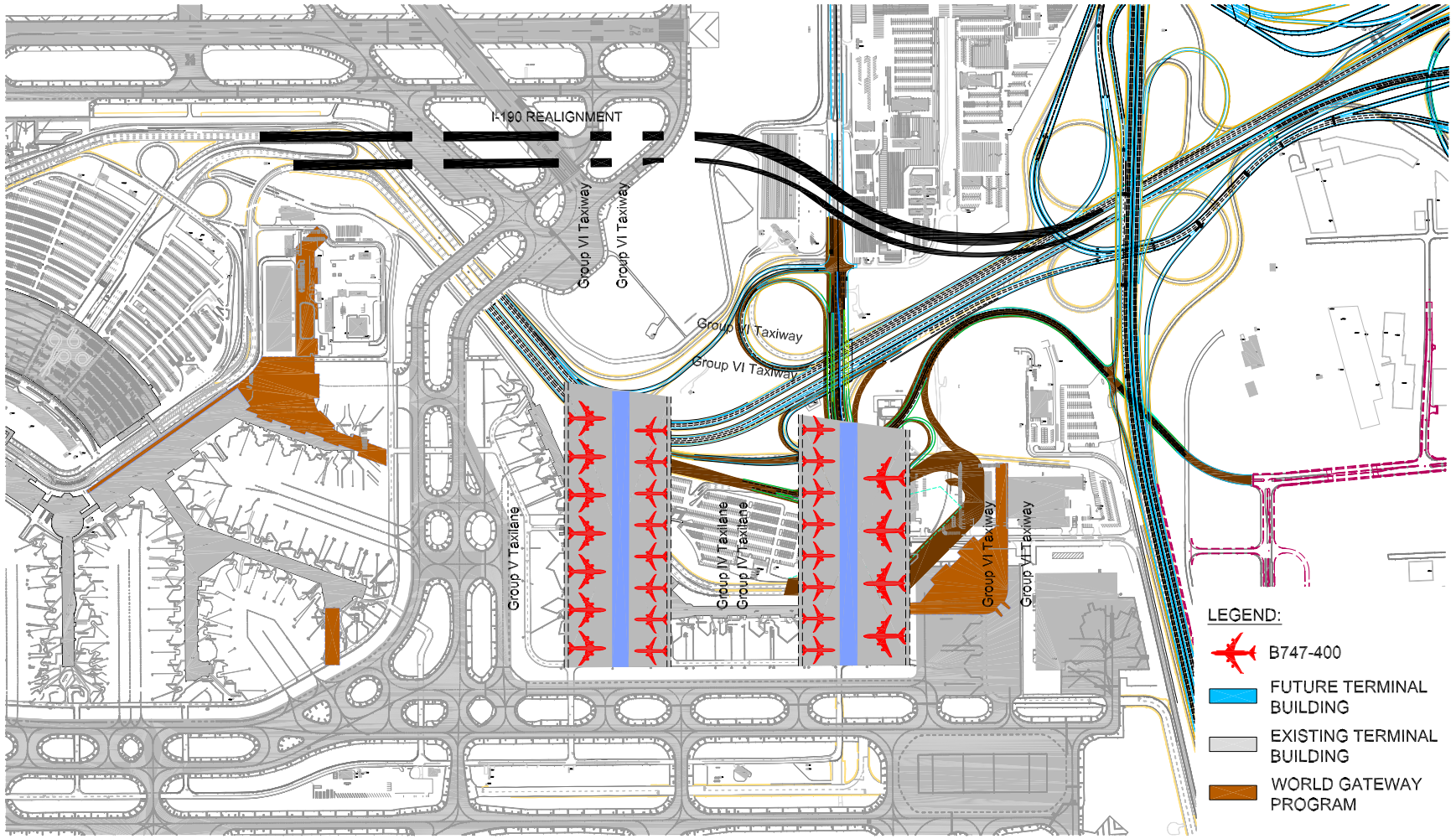
Exhibit III-26

0 1000

north

East Terminal
Initial Concept 6 - Realigned I-190

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-26.dwg Layout: 8.5x11_Feb 27, 2003, 2:27pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

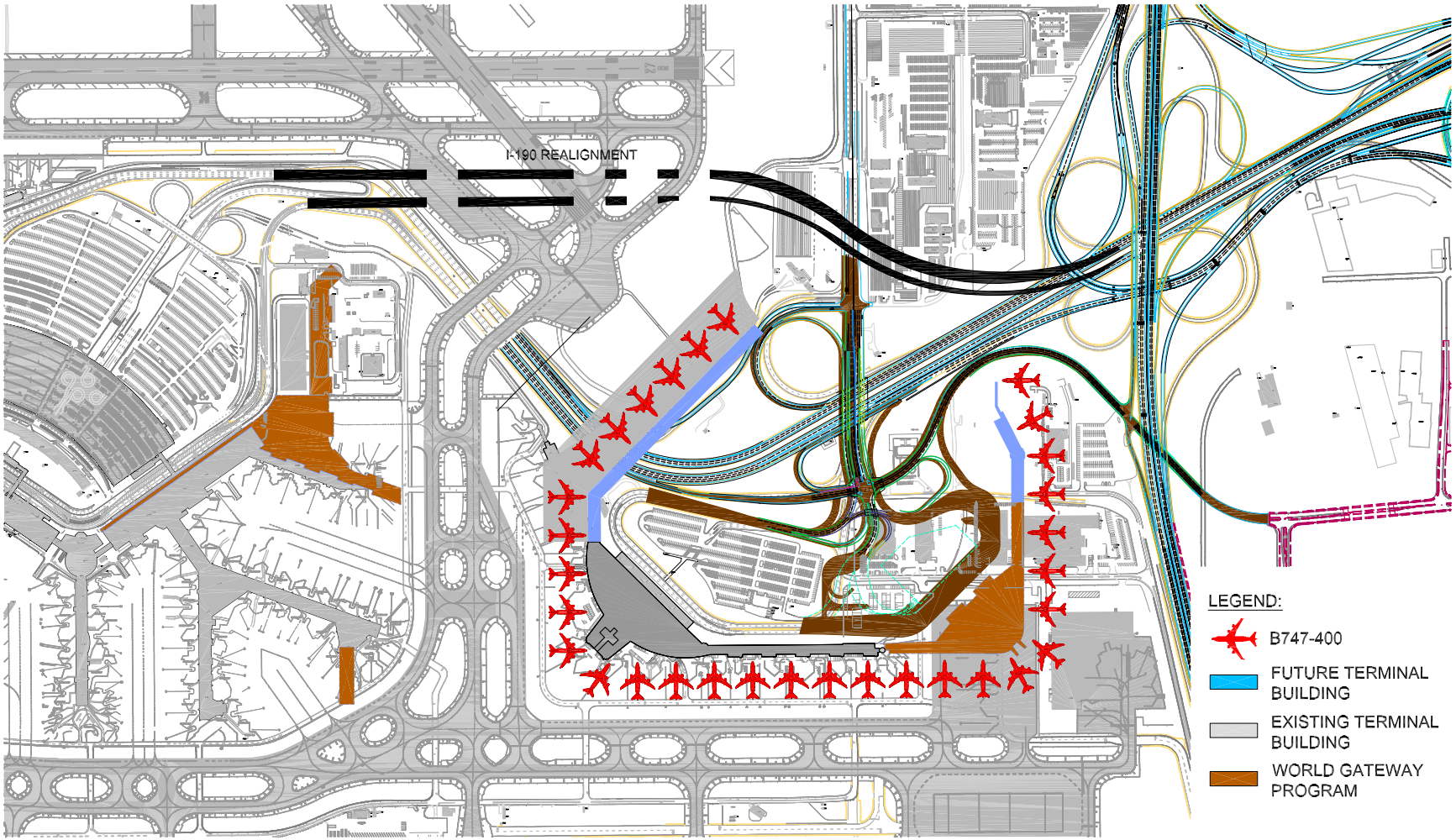
Exhibit III-27

0 1000

north

East Terminal
Initial Concept 7 - Realigned I-190

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-27.dwg_Layout: 8.5x11_Feb 27, 2003, 2:28pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

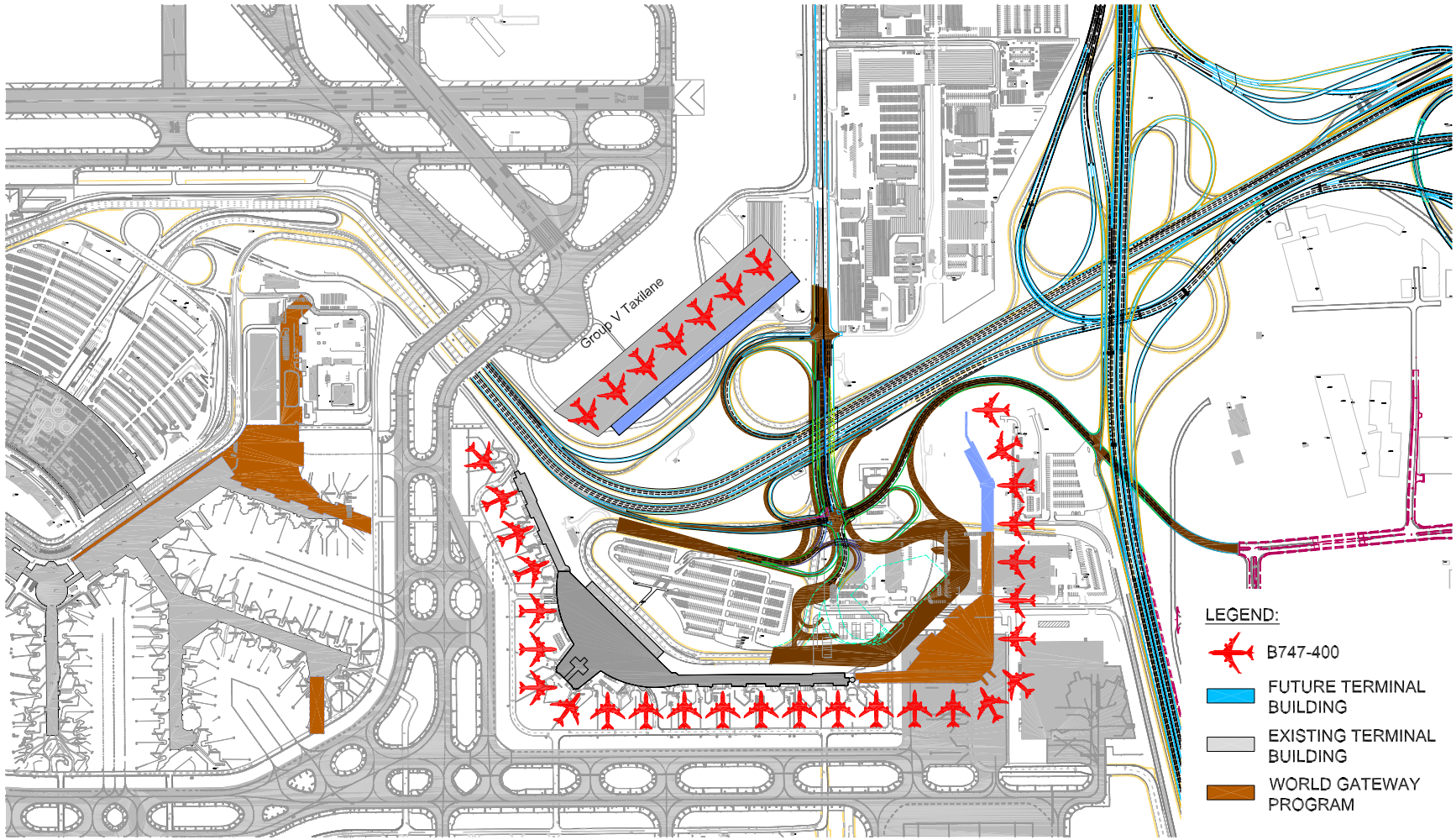
Exhibit III-28

0 1000

north

East Terminal
Initial Concept 8 - Realigned I-190

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-28.dwg_Layout: 8.5x11_Feb 27, 2003, 2:32pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

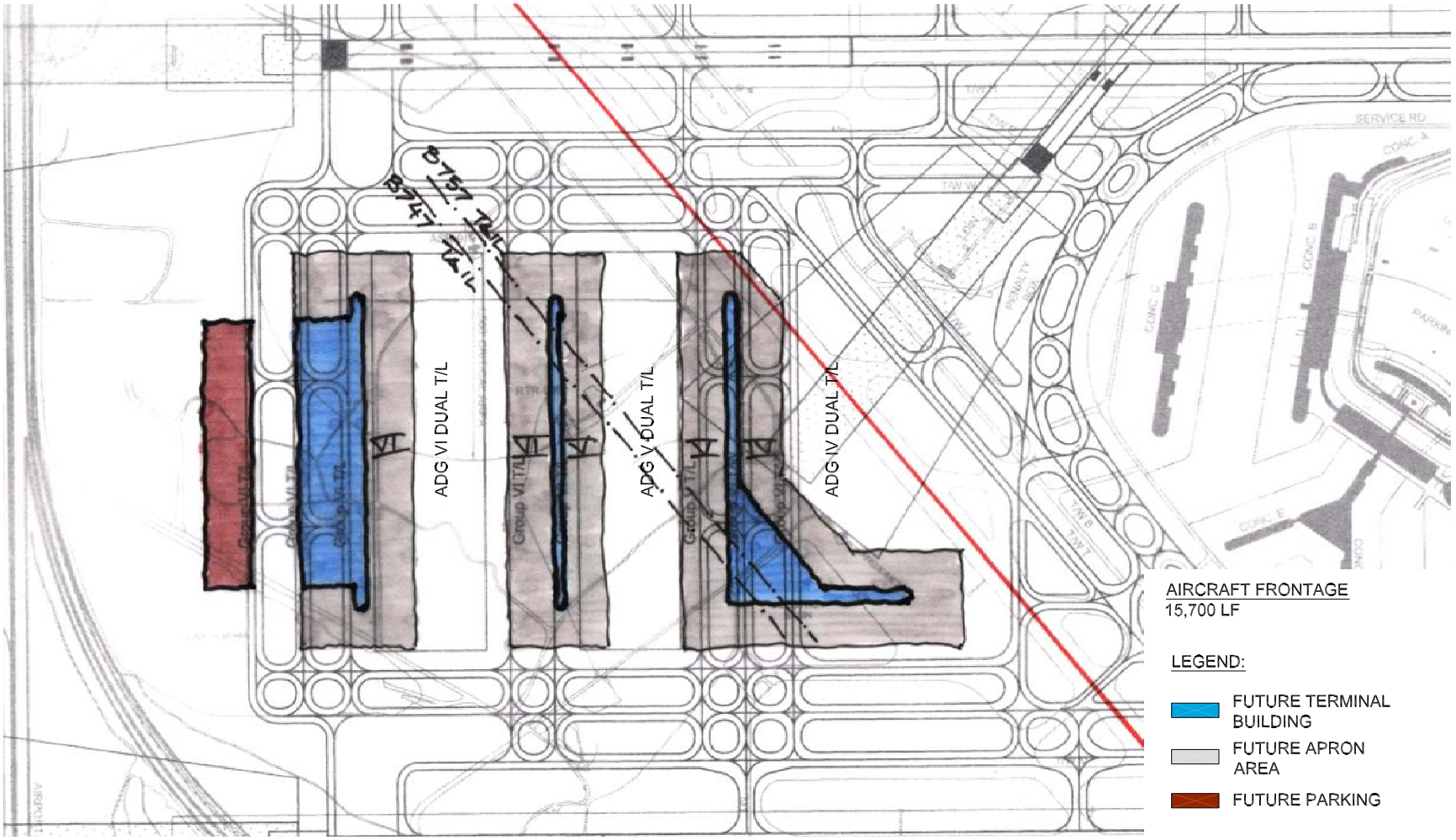
Exhibit III-29

0 1000

north

East Terminal
Initial Concept 9 - Existing I-190 Alignment

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-29.dwg_Layout: 8.5x11_Feb 27, 2003, 2:35pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

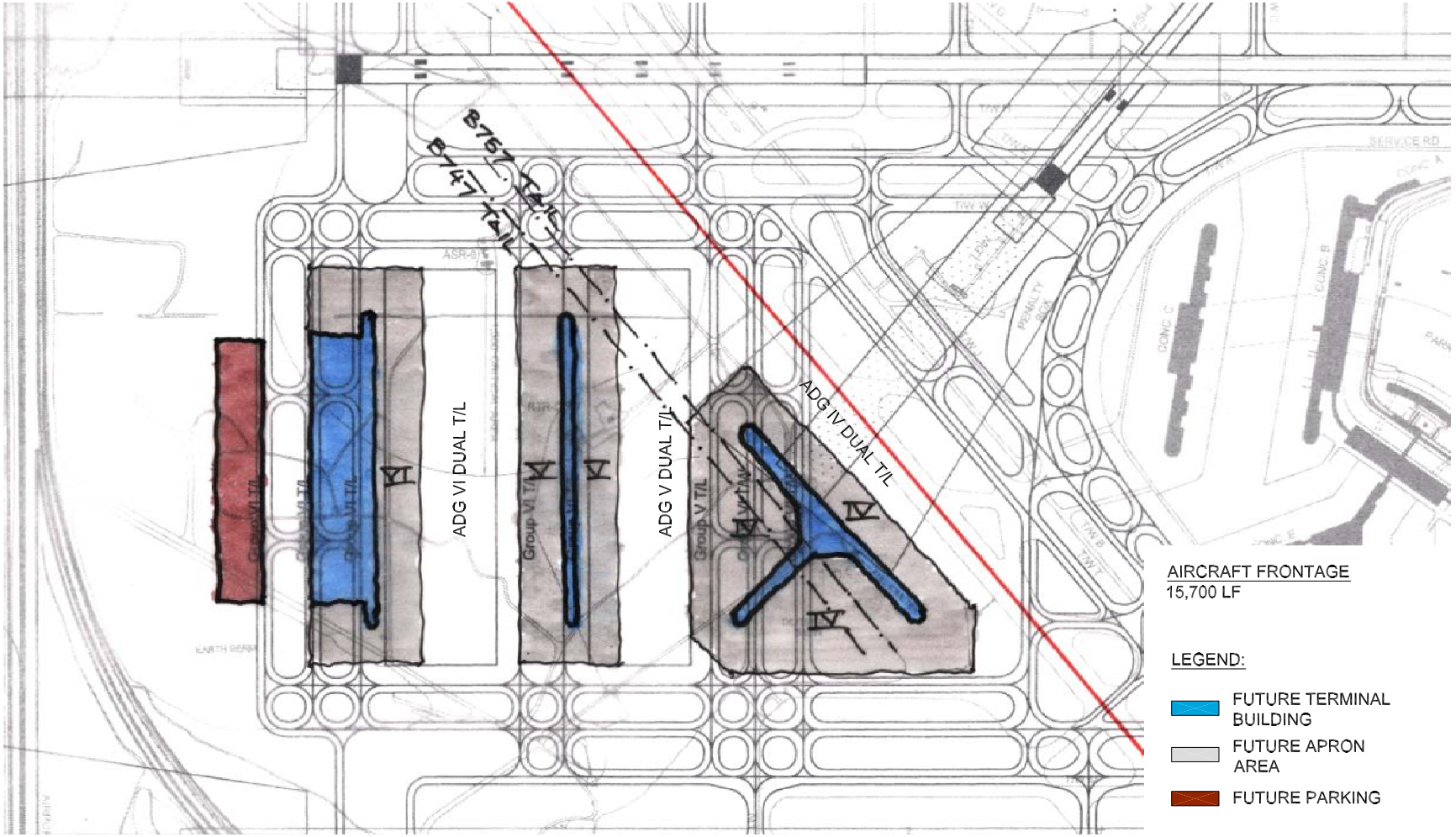
Exhibit III-30

0 N.T.S.

north

West Terminal
Refined Concept 1

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-30.dwg_Layout: 8.5x11_Feb 27, 2003, 2:38pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

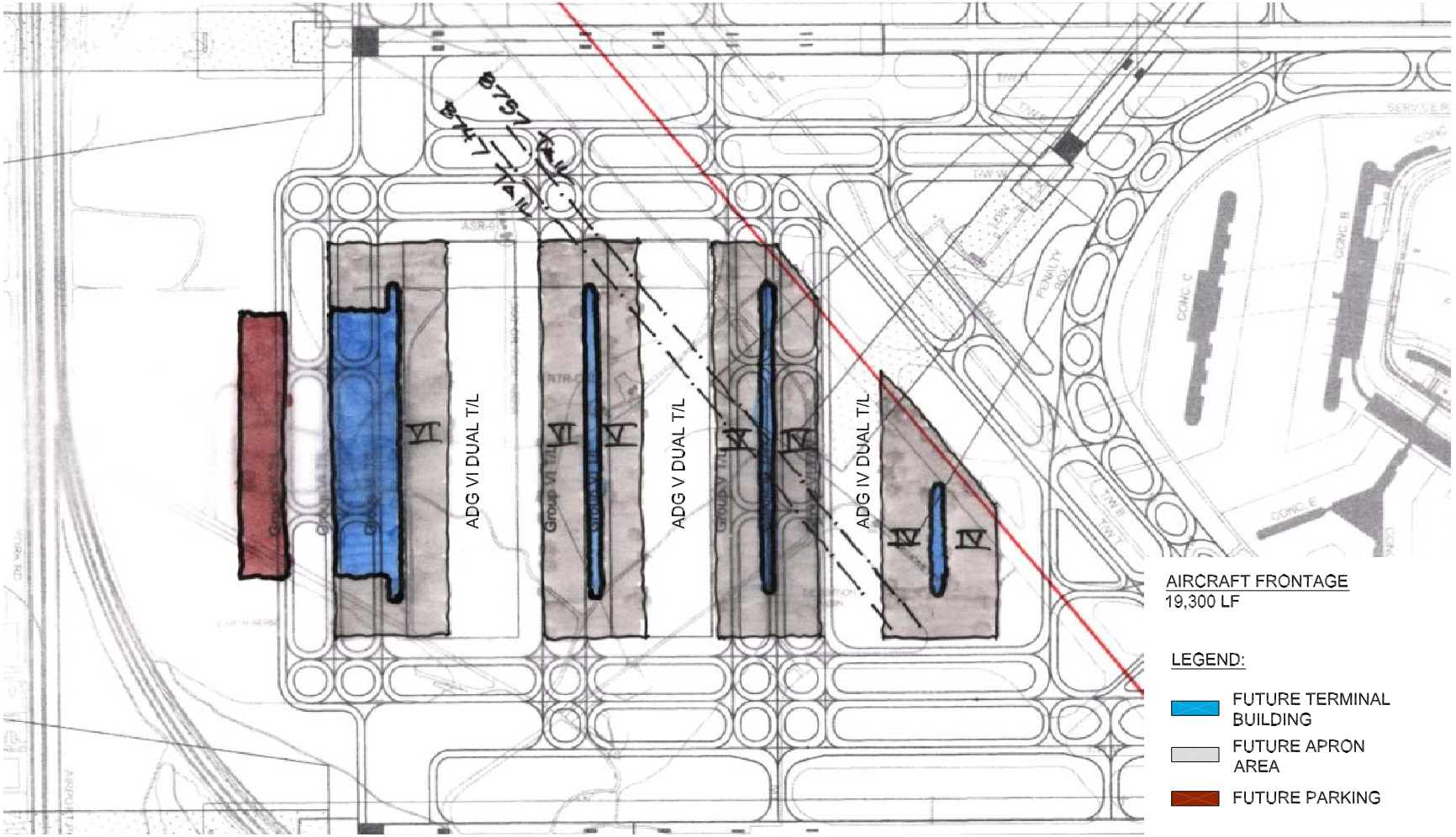
Exhibit III-31

0 N.T.S.

north

West Terminal Refined Concept 2

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-31.dwg_Layout: 8.5x11_Feb 27, 2003, 2:39pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

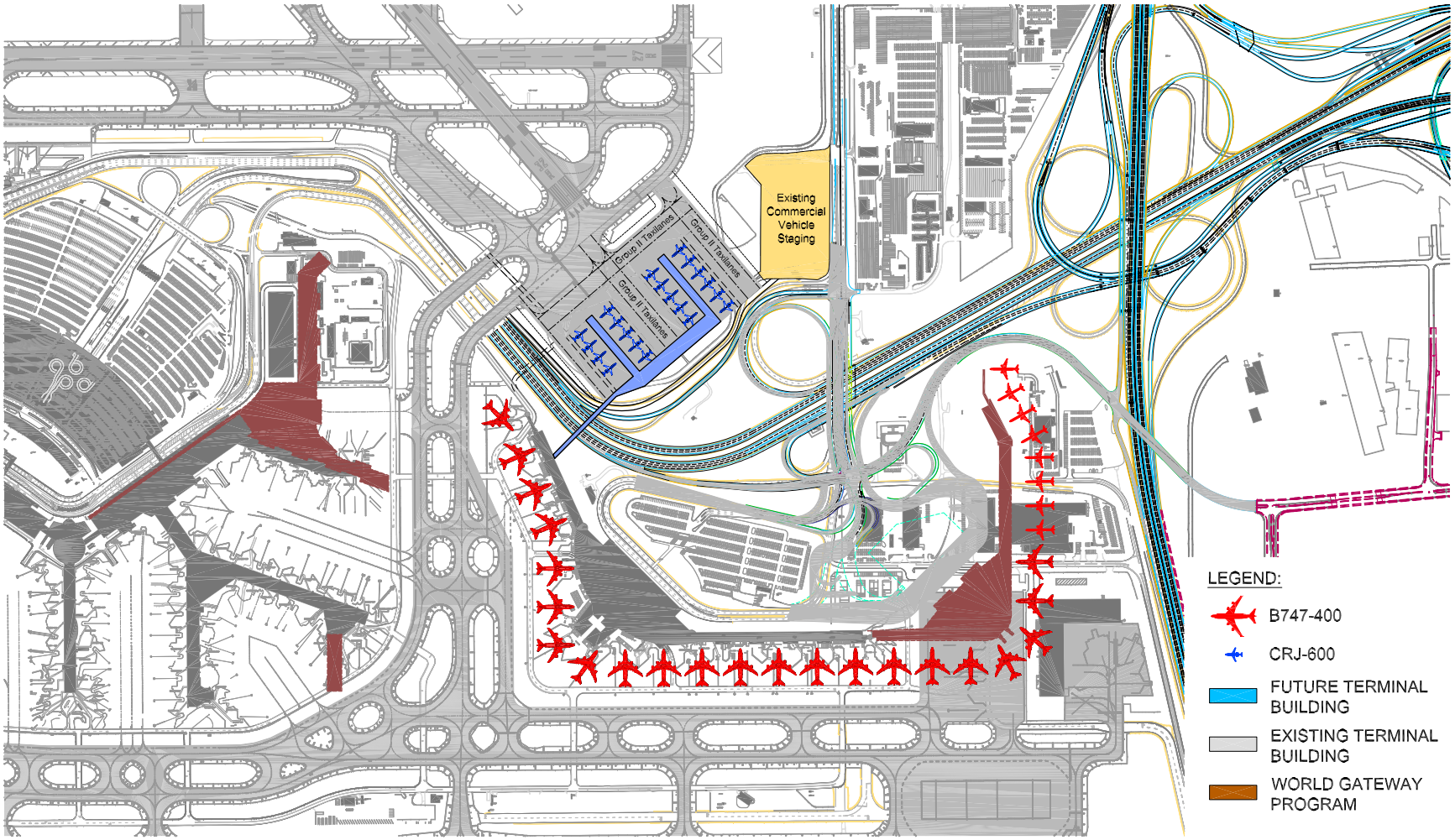
Exhibit III-32

0 N.T.S.

north

West Terminal Refined Concept 3

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-32.dwg_Layout: 8.5x11_Feb 27, 2003, 2:41pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

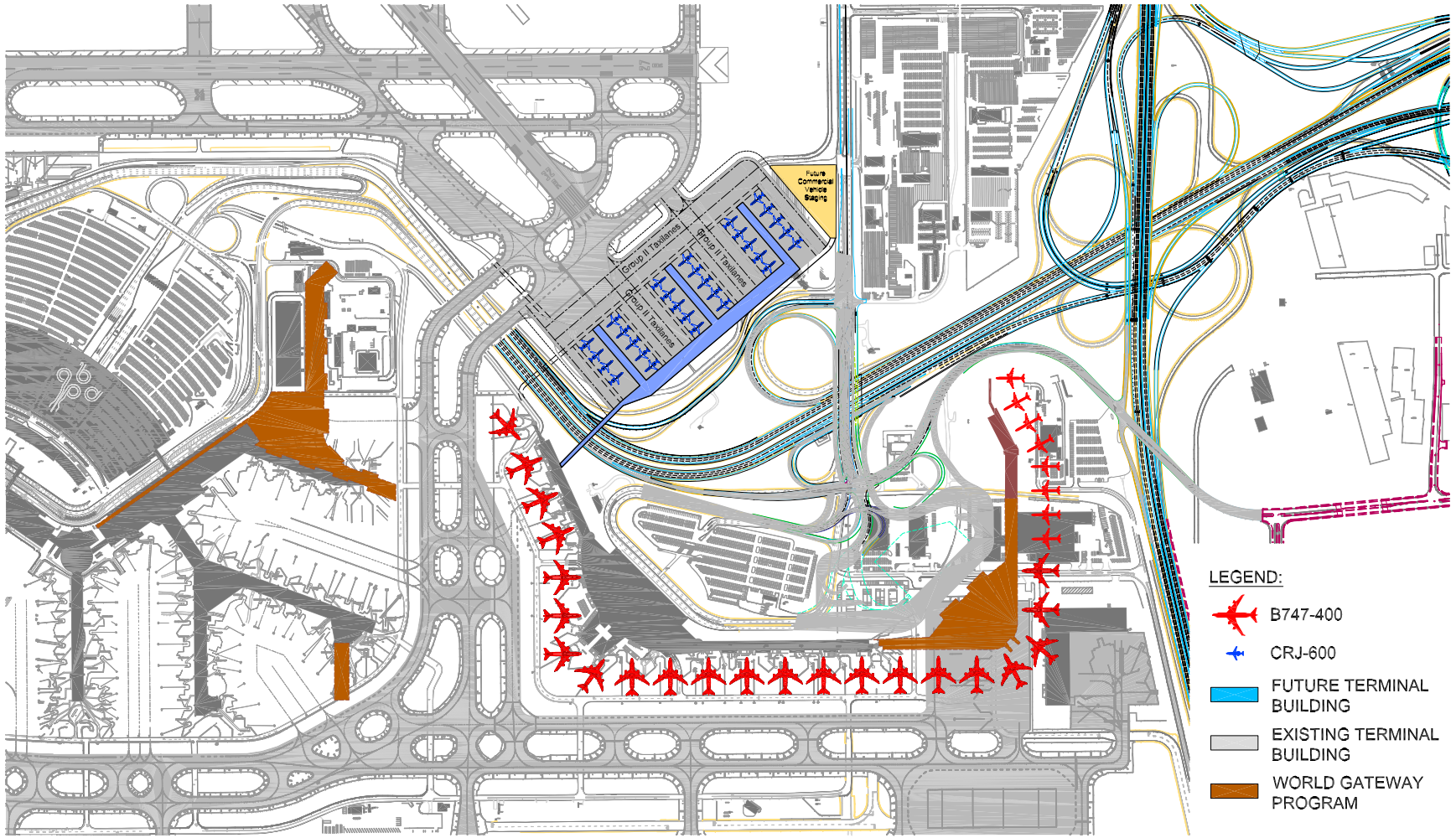
Exhibit III-33

0 1000

north

East Terminal
Refined Concept 1 - Existing I-190 Alignment

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-33.dwg_Layout: 8.5x11_Feb 27, 2003, 2:43pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

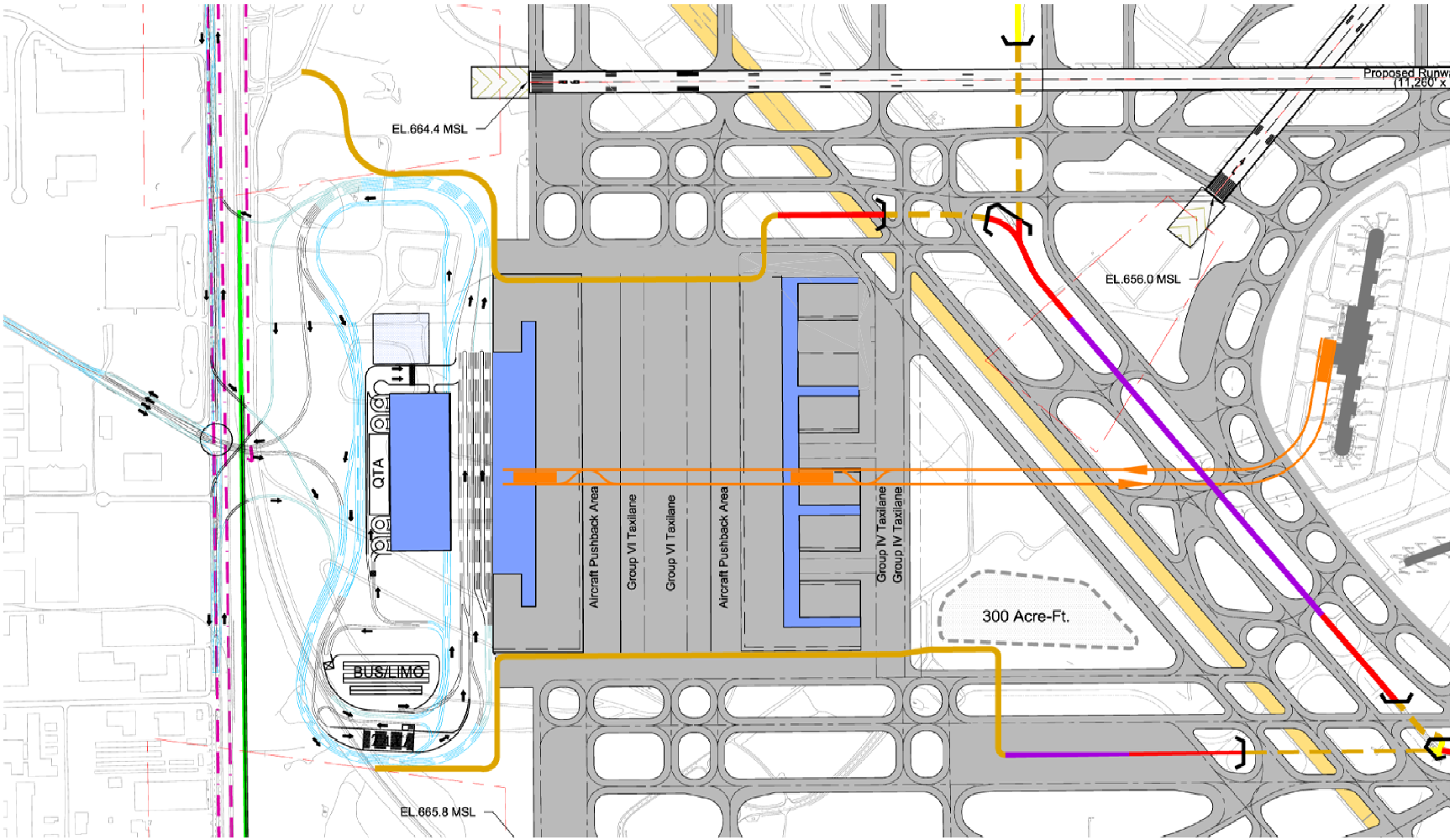
Exhibit III-34

0 1000

north

East Terminal
Refined Concept 1A - Existing I-190 Alignment

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-34.dwg_Layout: 8.5x11_Feb 27, 2003, 2:46pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

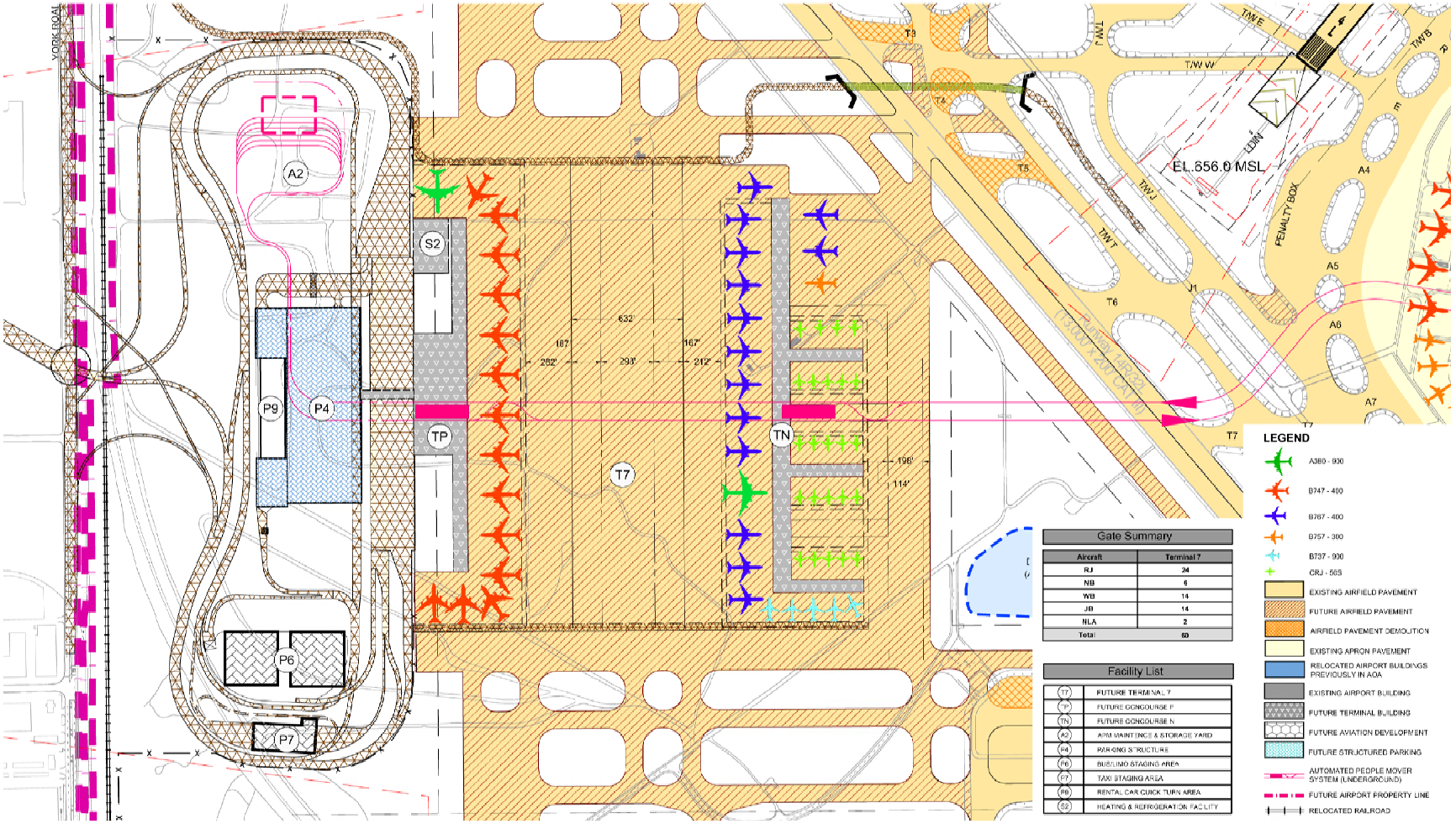
Exhibit III-35

0 N.T.S.

north

West Terminal Complex
Selected Concept

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-35.dwg Layout: 8.5x11_Feb 27, 2003, 2:32pm



Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

Exhibit III-36

0 N.T.S.

north

West Terminal Complex (ALP Submittal)

Drawing: Z:\Chicago\ORD\OMP\Facilities\Documentation\Concept Refinement\Terminal\Current\Exhibit III-36.dwg Layout: 8.5x11_Feb 27, 2003, 2:30pm