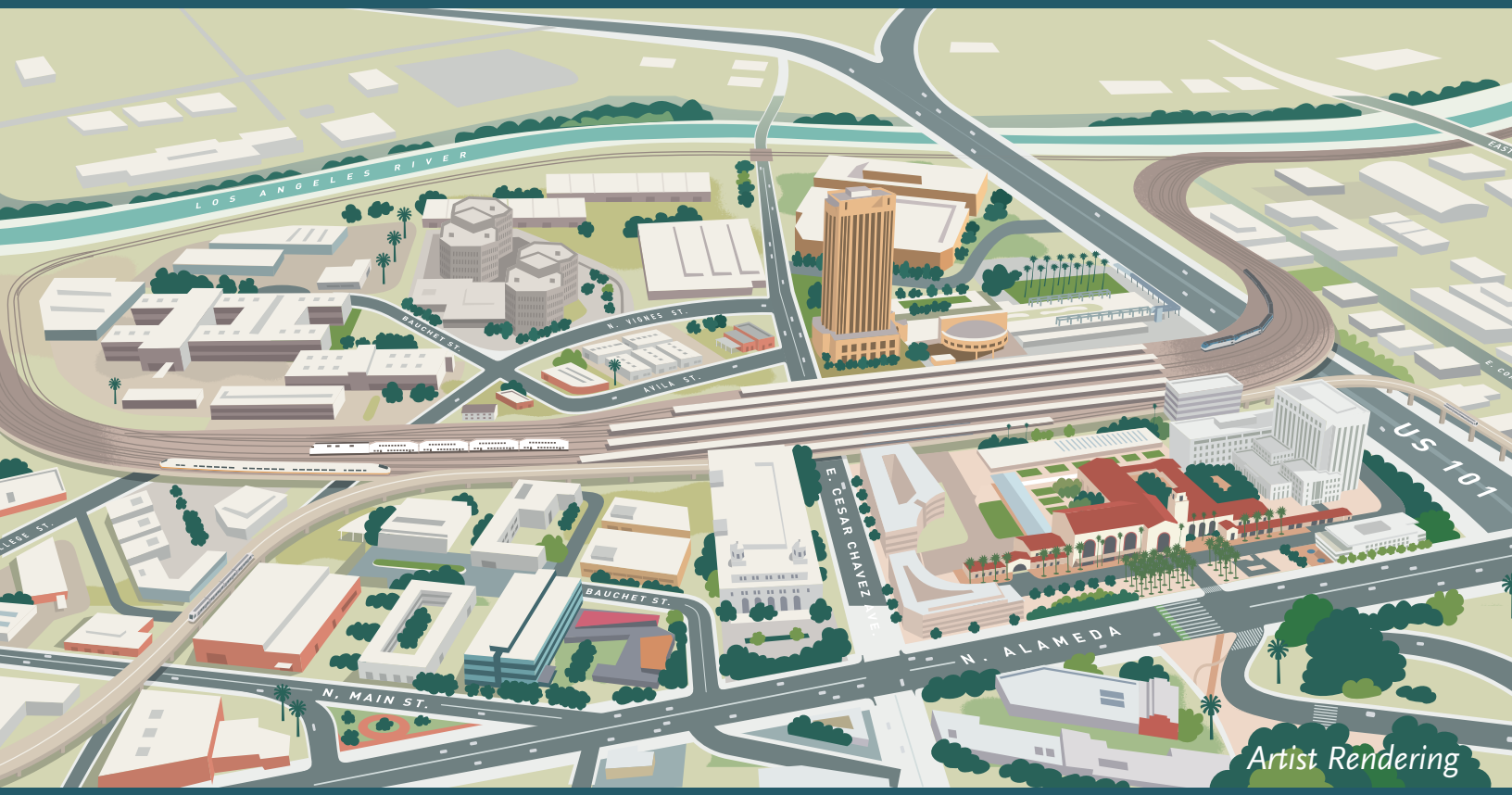
Link Union Station

Draft NEPA Alternatives Evaluation Memorandum and Engineering Plans

June 2024



The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 23, 2019, and executed by the Federal Railroad Administration and the State of California.

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CALIFORNIA High-Speed Rail Authority

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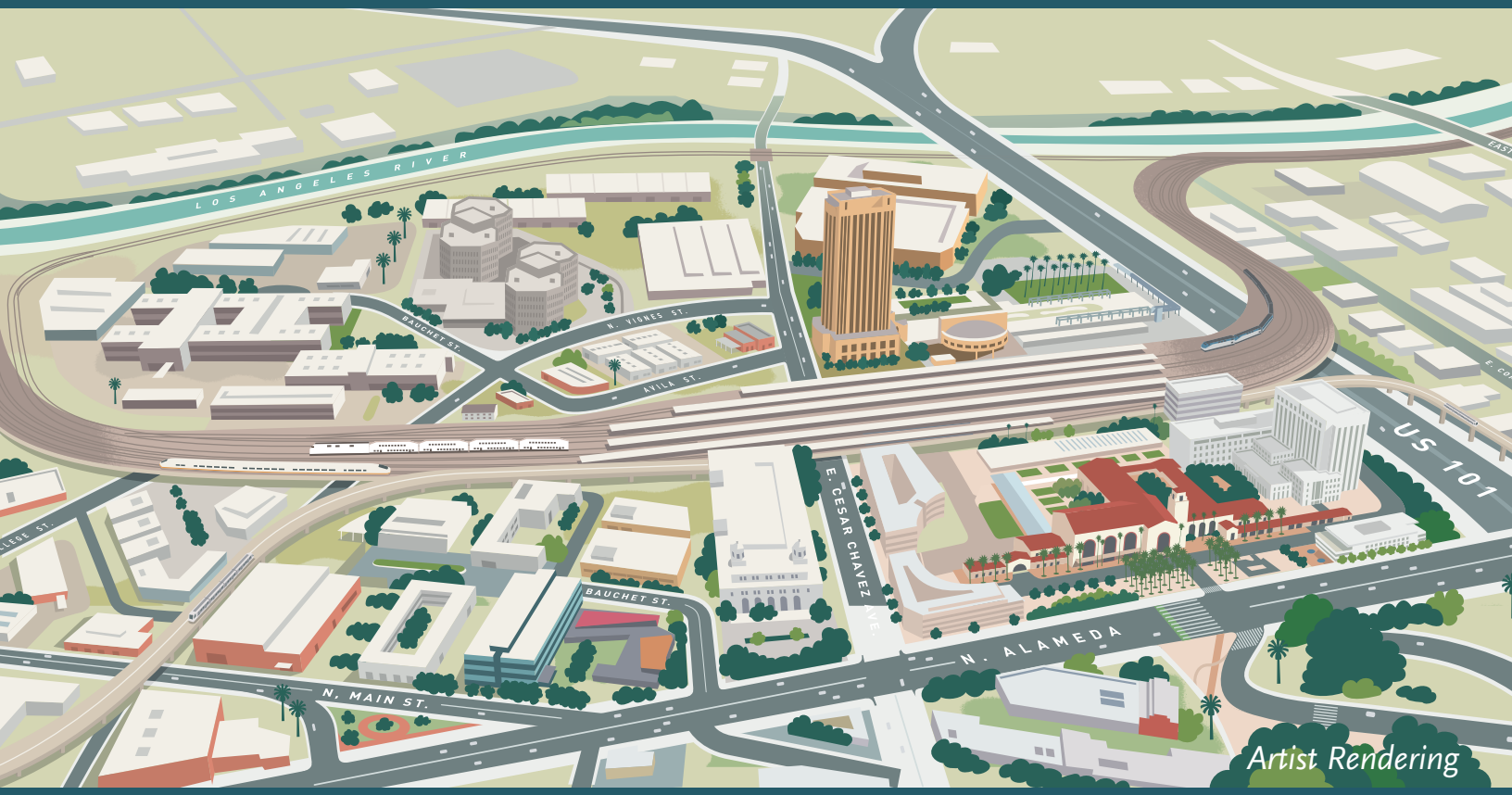

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TABLES

FIGURES

ATTACHMENTS

ACRONYMS

ADA	Americans with Disabilities Act
CHSRA	California High-Speed Rail Authority
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
EIR	environmental impact report
EIS	environmental impact statement
FRA	Federal Railroad Administration
HSR	high-speed rail
LAUS	Los Angeles Union Station
Link US	Link Union Station
Metro	Los Angeles County Metropolitan Transportation Authority
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
Project	Link Union Station Project
ROW	right-of-way
SCRIP	Southern California Regional Interconnector Project
US-101	United States Highway 101
VCE	vertical circulation element

ES.0 Executive Summary

ES.1 Purpose of Memorandum

The National Environmental Policy Act (NEPA) requires that an environmental impact statement (EIS) "rigorously explore and objectively evaluate all reasonable alternatives" and "devote substantial treatment to each alternative considered in detail so that reviewers may evaluate their comparative merits" (40 Code of Federal Regulations Section 1502.14).[1]

This memorandum summarizes the Link US alternatives development and analysis process and results. This memorandum also provides the planning context and background information for development of the track alignments and concourse-related improvements, describes the range of track alignment alternatives and concourse concepts considered, and provides a full evaluation of the screening process to determine how the track alignment alternatives and concourse concepts perform against the applicable criteria. Based on the results of the screening process, this memorandum also identifies the track alignment alternative and concourse concept recommended for full evaluation as the Build Alternative in the Link Union Station (Link US) Project (Project) EIS.

ES.2 Planning Context and Background

Since 2002, various iterations of the major Project components have been developed, evaluated, and refined. Table ES-1 provides a summary of the environmental planning timeline for development of track alignment alternatives and concourse concepts considered as part of the alternatives analysis process.

Table ES-1. Summary of Environmental Planning Timeline

Month/Year	Environmental Planning Summary
March 2002	Caltrans and FRA (in cooperation with Amtrak) initiate the Run-Through Tracks Project[a] (Caltrans and FRA 2002) to define and screen a range of potential run-through track alignments south of LAUS. The results of the environmental process for the Run-Through Tracks Project revealed the optimal configuration for run-through tracks south of LAUS is an "s-shaped band" configuration from LAUS to the main line tracks along the Los Angeles River.

[1] The Council on Environmental Quality (CEQ) issued new regulations, effective April 20, 2022, updating the NEPA implementing procedures at 40 CFR Parts 1500–1508. However, because this environmental document was initiated prior to the effective date, it is not subject to the new regulations and CHSRA is relying on the regulations as they existed on the date of the initial Notice of Intent, May 31, 2016. Therefore, all citations to CEQ regulations in this environmental document refer to the 1978 regulations and the 1986 amendment, 51 *Federal Register* 15618 (Apr. 25, 1986).

Table ES-1. Summary of Environmental Planning Timeline

Month/Year	Environmental Planning Summary
December 2005/ January 2006	FRA issued a Final EIS and Caltrans certified the Final EIR for the Run-Through Tracks Project. Alternative A-1 was identified as the preferred alternative in the Run-Through Tracks Project Final EIS/EIR. FRA did not issue a Record of Decision after the Final EIS was completed. The planned HSR system was not part of the Run-Through Tracks Project.
April 2014	Metro initiated the planning and design of the Southern California Regional Interconnector Project (SCRIP) to include new lead tracks and a reconstructed throat, a new passenger concourse below an elevated rail yard, and up to 10 new run-through tracks south of LAUS. The SCRIP did not accommodate the planned HSR system.
October 2015	Metro released *Transforming Los Angeles Union Station, A Summary Report* (Metro 2015a), which included a development strategy for LAUS and surrounding areas. The LAUS Master Plan identified a need to meet forecasted passenger demand and accommodate over 200,000 passenger trips through LAUS each weekday by 2040 by increasing rail yard capacity, enhancing operational flexibility south of LAUS, and providing new passenger accommodations. The LAUS Master Plan also acknowledged the introduction of the planned HSR system at LAUS (Metro 2015b).
January 2016	Metro rebranded the SCRIP as the Link US Project and initiated the process to define the purpose and need, and consider a reasonable range of track alignment alternatives and concourse concepts to evaluate in the CEQA and NEPA process. Upon rebranding the SCRIP to Link US, an alternatives analysis process was initiated that led to some of the current track alignment alternatives and concourse concepts considered in this memorandum.
May/June 2016	Metro and CHSRA entered into an agreement to complete the necessary Project-level environmental analysis and preliminary engineering to accommodate the planned HSR system as part of the Link US Project. FRA and Metro issued a Notice of Intent/Notice of Preparation to prepare a joint EIS/EIR for the Link US Project. The 2016 Notice of Intent identified the main Project components as the elevated throat and rail yard, a new passenger concourse, and up to 10 run-through tracks south of LAUS, all of which would accommodate the planned HSR system.
March 2017	Metro Board of Directors directed staff to develop an above-grade passenger concourse concept.
September/ October 2017	Metro, CHSRA, Metrolink, and other Link US stakeholders agreed to the following: • Regional/intercity rail trains and HSR trains could operate on common rail infrastructure (shared lead tracks) north of LAUS. • HSR platforms at LAUS could be shortened from 1,420 feet to 870 feet.
April 2018	Funding in the amount of $950 million was made available from state and local sources to construct run-through track infrastructure south of LAUS that would facilitate connections for regional/intercity trains and future HSR trains from LAUS to the main line tracks along the west bank of the Los Angeles River.

Table ES-1. Summary of Environmental Planning Timeline

Month/Year	Environmental Planning Summary
October 2018	Metro elected to prepare a standalone EIR for the Link US Project pursuant to CEQA.
January 2019	Metro released the Link US Project Draft EIR for public comment. The Draft EIR included a full and equal level of evaluation of two track alignment alternatives and two passenger concourse concepts: • Both track alignment alternatives included up to 10 run-through tracks, with a loop track south of LAUS, the major difference being the shared[2] or dedicated[3] lead track alignment for HSR trains north of LAUS. • Both concourse concepts included concourse-related improvements below the rail yard. An above-grade component to the passenger concourse was also considered in conjunction with one of the alternatives considered in the Draft EIR.
June 2019	Metro certified the Link US Project Final EIR with refinements to one of the two track alignments, removing the loop track, and one of the two passenger concourse concepts, modifying the width of the passageway below the rail yard and removing the above-grade component. These refinements are summarized below. ***Removal of Loop Track*** – Based on input from funding partners, rail operators, and community stakeholders, and after receiving a substantial number of comments in opposition to effects resulting from the track alignment south of LAUS with a loop track, Metro refined the run-through track alignment south of LAUS to remove the loop track. With removal of the loop track, the run-through track alignment south of LAUS shifted approximately 125 to 150 feet north, thereby resulting in refinements to the infrastructure and civil improvements south of US-101. Removal of the loop track resulted in the following modifications: • Run-through track structures would be located north of Commercial Street, resulting in fewer property acquisitions south of Commercial Street and east of Center Street. • Commercial Street would not be realigned, and Vignes Street would remain open to vehicular traffic. • The Center Street and Commercial Street intersection would not be lowered and would remain in its current configuration. • Structures over Commercial Street would be avoided. • Run-through track structures east of Center Street would avoid conflicts with the Division 20 Portal Widening and Turnback Tracks Project. ***Removal of Above-Grade Concourse Component*** – Metro received a total of 634 public comments during the Link US Project Draft EIR 45-day public comment period, of which over 75 percent of the public comments opposed the above-grade concourse and indicated the preference for the new modified expanded passageway or at-grade passenger concourse below the rail yard. In response, refinements to the concourse were made to increase the width of the expanded passageway while

[2] An alignment north of Los Angeles Union Station (LAUS) with six total lead tracks; two of which could be shared with future high-speed rail (HSR) trains

[3] An alignment north of LAUS with seven total lead tracks; five lead tracks for regional/ intercity rail trains, and two lead tracks that would encroach outside of the existing right-of-way (ROW) for future HSR trains

Table ES-1. Summary of Environmental Planning Timeline

Month/Year	Environmental Planning Summary
	removing the above-grade portion. Specifically, the expanded passageway was refined from a width of approximately 120 feet to 140 feet to include additional space for waiting areas, restrooms, retail areas, and other passenger amenities so that the above-grade component could be removed.
July 2019	FRA and the State of California entered into a NEPA Assignment Memorandum of Understanding. The NEPA Assignment Memorandum of Understanding outlines the roles and responsibilities of CHSRA to serve as the federal lead agency with NEPA review and approval responsibilities for the HSR program and other projects, including the Link US Project.
October 2019	CHSRA and Metro began preparation of a standalone Link US Project EIS. Based on the purpose and need and the evolution of refinements to major Project components associated with track alignment alternatives and concourse concepts considered, CHSRA and Metro began preparation of a NEPA Alternatives Evaluation Memorandum to outline the process used to screen a reasonable range of track alignment alternatives and concourse concepts for detailed evaluation in the Link US Project EIS.
September 2020	CHSRA issued a Revised NOI to initiate additional scoping and solicit additional public and agency input for the Malabar Yard railroad improvements in the City of Vernon. The Malabar Yard railroad improvements were identified to offset the permanent loss of freight storage tracks at the BNSF West Bank Yard and avoid or reduce the potential for adverse effects on freight rail operations.
March 2022	CHSRA issued a Final Record of Decision for the Burbank to Los Angeles Project Section of the planned HSR system. CHSRA's Selected Alternative for the Burbank to Los Angeles Project Section was the HSR Build Alternative, which included shared lead tracks north of LAUS.
December 2022	Metro elected to consider a track configuration at the BNSF West Bank Yard that would allow for Amtrak trains and BNSF trains to enter/exit the west bank area on separate and dedicated tracks. Dedicated BNSF and Amtrak lead tracks at the BNSF West Bank Yard was not a configuration studied by Metro until December 2022.

Notes:
[a] The Run-Through Tracks Project and SCRIP are predecessors to the Link US Project.
CHSRA=California High-Speed Rail Authority; Caltrans=California Department of Transportation; CEQA=California Environmental Quality Act; EIR=environmental impact report; EIS=environmental impact statement; FRA=Federal Railroad Administration; HSR=high-speed rail; LAUS=Los Angeles Union Station; Link US=Link Union Station; Metro=Los Angeles County Metropolitan Transportation Authority; NEPA=National Environmental Policy Act; SCRIP=Southern California Regional Interconnector Project; US-101=United States Highway 101

ES.3 Public and Agency Outreach and Feedback

Public and agency outreach began in 2015 prior to the Federal Railroad Administration's (FRA) issuance of the 2016 Notice of Intent and will continue throughout preparation of the Link US Project EIS, as well as during the subsequent design and construction phases.

During the California Environmental Quality Act (CEQA) process, public and agency feedback was provided to the Los Angeles County Metropolitan Transportation Authority (Metro), specifically on the track alignments and concourse concepts considered in this memorandum. Feedback received during this process included numerous reoccurring comments on the same or similar general topics. These key issue areas included comments related to:

- Passenger Transfer Times
- Passenger Circulation and Accessibility Enhancements
- Above-Grade Passenger Concourse Design
- Soil Contamination and Hazardous Waste/Materials
- Preservation of Historic Resources at LAUS
- Track Elevation Slope Safety and Runaway Trains
- Little Tokyo Community Concerns
- Public Art and Cultural Enhancement Programs
- Adjacent Parallel Tunnels

As discussed in Table ES-1, public and agency feedback received during the environmental impact report (EIR) process resulted in refinements to one track alignment and one passenger concourse concept. Public and agency feedback continued after Metro's certification of the Final EIR, as CHSRA and Metro prepared the standalone NEPA EIS and during the second scoping process for the Revised NOI. Public and agency outreach will continue throughout the environmental process, as well as during the subsequent design and construction phases.

ES.4 Alternatives Analysis Process

To facilitate the alternatives analysis process, the Purpose and Need was used to guide and develop criteria to screen track alignment alternatives and concourse concepts. This section summarizes the criteria and the results of screening 14 track alignment alternatives and 6 concourse concepts. Based on the screening process, this section also identifies the track alignment alternative and concourse concept that was recommended for detailed evaluation as a Build Alternative in this EIS. The alternatives considered in this memorandum evolved over the past 7 years of Project planning/development, and have been developed as a result of substantial public, agency, and stakeholder feedback received during the initial Link US Project joint EIS/EIR process (not completed), the standalone EIR process (completed June 2019), CHSRA's environmental processes for the Burbank to Los Angeles and Los Angeles to Anaheim Project Sections of the planned HSR system (Burbank to Los Angeles EIR/EIS completed March 2022), and the Link US Project standalone EIS process.

Track Alignment Alternative Screening Criteria

1. **Accommodate 10 Run-Through Tracks from LAUS to West Bank of Los Angeles River:** Track alignment alternatives that do not accommodate six run-through tracks for

regional/intercity trains and four run-through tracks for future HSR trains from LAUS to the west bank of the Los Angeles River were rejected from further consideration because they would constrain and limit flexibility to achieve the increases in train movements and associated passenger volumes forecasted by existing (SCRRA, Amtrak, Los Angeles San Diego San Luis Obispo [LOSSAN]) and future (CHSRA) operators at LAUS.

2. **Avoid Shared Lead Tracks for Freight Trains and Intercity Trains at BNSF West Bank Yard:** Track alignment alternatives that require BNSF freight trains to share the same tracks as Amtrak trains at the BNSF West Bank Yard were rejected from further consideration due to the potential impacts on intermodal freight operations as well as Amtrak on time performance to and from LAUS.
3. **Avoid Lowering the Existing Red and Purple Line Subway:** Track alignment alternatives that require lowering of the existing Red and Purple Line subway were rejected from further consideration due to the transit service disruptions during construction that could extend over years thereby affecting a high volume of passengers. In addition, lowering of the Red and Purple Line subway would result in substantially higher construction costs that could exceed allocated public funds.
4. **Avoid Lowering the US-101 and the El Monte Busway:** Track alignment alternatives that require lowering of US-101 and the El Monte Busway were rejected from further consideration due to design criteria requirements, substantially higher construction costs, and the multiple years of traffic and transit service disruptions during construction.
5. **Avoid Stacking Platforms for Regional/Intercity Rail Trains and High-Speed Rail Trains:** Track alignment alternatives that require stacking platforms for regional/intercity rail trains and HSR trains were rejected from further consideration due to design criteria requirements (vertical grade and curvature requirements).
6. **Avoid Adding an Eighth Platform for Regional/Intercity Rail Trains or High-Speed Rail Trains:** Track alignment alternatives that require an eighth platform were rejected from further consideration due to right-of-way (ROW) impacts and the multiple years of transit service disruptions during construction that would affect a high volume of passengers.

Concourse Concepts Screening Criteria

1. **Add Passenger Capacity:** Passenger concourse concepts that would not add passenger capacity, in the form of additional physical space, were rejected from further consideration because they would not support increased frequency of service and ridership or provide an easily navigable environment for passengers.
2. **Provide Egress Routes and Safe Evacuation**: Passenger concourse concepts that would not meet National Fire Protection Association (NFPA) 130 performance requirements (NFPA Standard for Fixed Guideway Transit and Passenger Rail Systems 2020 edition) were rejected from further consideration because they do not provide

adequate egress routes for safe evacuation of passengers from platforms within 15 minutes.

3. **Enhance Passenger Safety and Accessibility:** Passenger concourse concepts that would not include new vertical circulation elements (VCE) throughout LAUS were rejected from further consideration because they do not enhance safety and Americans with Disabilities Act (ADA) accessibility for passengers.
4. **Optimize Concourse Space and Back-of-House Operations:** Passenger concourse concepts that would not optimize the organization of space for concourse operations were rejected from further consideration because they would not provide for the separation of public passenger spaces from back-of-house operational/maintenance spaces, improve baggage handling operations by optimizing pick-up and drop-off operations, or provide an enhanced passenger experience with new amenities.
5. **Maintain or Improve Passenger Transfer Times:** Passenger concourse concepts that would not maintain or improve current passenger transfer times between transportation connections were rejected from further consideration because transfer times would be longer than in the existing condition.
6. **Align with Community Preference:** Passenger concourse concepts that include an above-grade component were rejected from further consideration because they do not align with the overwhelming community feedback on the configuration of the passenger circulation space.

Track Alignment Alternatives and Concourse Concepts Considered

Any track alignment alternative or passenger concourse concept that did not meet all screening criteria noted above was rejected from further consideration. As summarized in Table ES-2 and Table ES-3, 14 track alignment alternatives were screened, of which 13 were rejected; and 6 concourse concepts were screened, of which 5 were rejected. The 14 track alignment alternatives and 6 passenger concourse concepts are depicted in Attachments A and B, respectively.

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Table ES-2. Track Alignment Alternatives Screening Summary

Track Alignment Alternative	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
1. 4 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks - The track alignment includes six lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; five platforms for regional/intercity rail trains, one platform for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; four regional/intercity rail run-through tracks (with a single loop track); and accommodation for two future HSR run-through tracks from LAUS to First Street.	**No**	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration – includes 6 total run-through tracks and shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.
2. 4 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks - The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two	**No**	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration – includes 8 total run-through tracks and shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.

Table ES-2. Track Alignment Alternatives Screening Summary

Track Alignment Alternative	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; four regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street.							
3. 5 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks - The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; five platforms for regional/intercity rail trains, one platform for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; five regional/intercity rail run-through tracks (with a single loop track); and accommodation for two future HSR run-through tracks from LAUS to First Street.	**No**	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration – includes 7 total run-through tracks and shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.
4. 5 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks - The track alignment	**No**	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration – includes 9 total run-through tracks and

Table ES-2. Track Alignment Alternatives Screening Summary

Track Alignment Alternative	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; four platforms for regional/intercity rail trains; two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; five regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street.							shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.
5. 6 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks (with dedicated lead tracks north of LAUS) - The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; five platforms for regional/intercity rail trains, one platform for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track;	**No**	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration – includes 8 total run-through tracks and shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.

Table ES-2. Track Alignment Alternatives Screening Summary

Track Alignment Alternative	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for two future HSR run-through tracks from LAUS to First Street.							
6. 6 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks (with shared lead tracks north of LAUS) - The track alignment includes six lead tracks north of LAUS (two shared tracks for regional/intercity rail trains and future HSR trains); removal of the Garden Tracks, four platforms for regional/intercity rail trains, one platform for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment where Commercial Street currently exists, extending to Center Street; lowering the intersection of Center Street and Commercial Street; realignment of Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks and (with a single loop track); and accommodation for two future HSR run-through tracks from LAUS to First Street.	**No**	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration – includes 8 total run-through tracks and shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.

Table ES-2. Track Alignment Alternatives Screening Summary

Track Alignment Alternative	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
7. 6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with dedicated lead tracks north of LAUS) - The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street.	Yes	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration – includes shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.
8. 6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with double loop tracks) - The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering	Yes	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration – includes shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.

Table ES-2. Track Alignment Alternatives Screening Summary

Track Alignment Alternative	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with two loop tracks); and accommodation for four future HSR run-through tracks from LAUS to First Street.							
9. 6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with shared lead tracks north of LAUS) - The track alignment includes six lead tracks north of LAUS (two shared tracks for regional/intercity rail trains and future HSR trains); removal of the Garden Tracks; four platforms for regional/intercity rail trains; two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment where Commercial Street currently exists extending to Center Street; lowering the intersection of Center Street and Commercial Street; realignment of Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street.	Yes	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration – includes shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.

Table ES-2. Track Alignment Alternatives Screening Summary

Track Alignment Alternative	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
10. 6 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks (with HSR double decked) - The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; four platforms for regional/intercity rail trains, one platform for future HSR trains above the existing platform for the Gold Line LRT; two separate bridges over the El Monte Busway and US-101; two separate overhead viaducts over and south of Commercial Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for two future HSR run-through tracks from LAUS to First Street.	**No**	**No**	Yes	Yes	**No**	Yes	Rejected from further consideration – includes 8 total run-through tracks, shared lead tracks for BNSF freight trains and Amtrak trains at the West Bank Yard, and double deck platforms.
11. 6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with permanent realignment of Gold Line due to addition of eighth platform) - The track alignment includes six lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north and south of LAUS; modification to the existing Gold Line viaduct over US-101; five platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; two separate bridges over the El Monte Busway and US-101; two separate overhead viaducts over and south	Yes	**No**	Yes	Yes	Yes	**No**	Rejected from further consideration – includes shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard and an eighth platform at LAUS.

Table ES-2. Track Alignment Alternatives Screening Summary

Track Alignment Alternative	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
of Commercial Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street.							
12. 6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with shared lead tracks north of LAUS, no loop track, and shared lead tracks for BNSF freight trains and Amtrak trains) - The track alignment includes six lead tracks north of LAUS (two shared tracks for regional/intercity rail trains and future HSR trains); removal of the Garden Tracks; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment north of Commercial Street extending to Center Street; a common bridge over Center Street; a common embankment east of Center Street and common bridge over the Amtrak lead track; a common embankment on the west bank of the Los Angeles River extending to the 1st Street Bridge; permanent removal of 5,565 feet of BNSF storage tracks at the north end of the West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (no loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street. No	Yes	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration - includes shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.

Table ES-2. Track Alignment Alternatives Screening Summary

Track Alignment Alternative	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
lowering of Center Street or realignment of Commercial Street is required. BNSF storage tracks would not be reconstructed resulting in a permanent loss of storage track capacity at the BNSF West Bank Yard.							
13. 6 Regional/Intercity Rail Run-Through Tracks +4 HSR Run-Through Tracks (with dedicated lead tracks north of LAUS, loop track, and shared lead tracks for BNSF freight trains and Amtrak trains) - The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment where Commercial Street currently exists extending to Center Street; lowering the intersection of Center Street and Commercial Street; realignment of Commercial Street; separate bridges over Center Street for regional/intercity trains and future HSR trains; an embankment for regional/intercity rail trains and separate viaduct for future HSR trains east of Center Street; a common bridge over the Amtrak lead track; a common embankment on the west bank of the Los Angeles River extending to the 1st Street Bridge; permanent removal of 5,565 feet of BNSF storage tracks at the north end of the West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street. Similar to Alternative 12, BNSF storage tracks would not be	Yes	**No**	Yes	Yes	Yes	Yes	Rejected from further consideration - includes shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard.

Table ES-2. Track Alignment Alternatives Screening Summary

Track Alignment Alternative	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
reconstructed resulting in a permanent loss of storage track capacity at the BNSF West Bank Yard.							
14. 6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with shared lead tracks north of LAUS, no loop track, and dedicated lead tracks for BNSF freight trains and Amtrak trains) - The track alignment includes six lead tracks north of LAUS (two shared tracks for regional/intercity rail trains and future HSR trains); removal of the Garden Tracks; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment north of Commercial Street extending to Center Street; a common bridge over Center Street; common embankments and/or bridges east of Center Street; a common bridge over the Amtrak lead track; a common embankment on the west bank of the Los Angeles River extending to the 1st Street Bridge; permanent removal of 5,500 feet of BNSF storage tracks at the north end of the West Bank Yard; dedicated lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (no loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street. No lowering of Center Street or realignment of Commercial Street is required. Similar to Alternatives 12 and 13, BNSF storage tracks would not be reconstructed resulting in a permanent loss of storage track capacity at the BNSF West Bank Yard.	Yes	Yes	Yes	Yes	Yes	Yes	Recommended to be carried forward for detailed evaluation in EIS.

Notes:
Embankments and/or bridges with associated civil/railroad infrastructure south of LAUS could be constructed in a phased manner.
EIS=environmental impact statement; HSR=high-speed rail; LAUS=Los Angeles Union Station

Table ES-3. Passenger Concourse Concepts Screening Summary

Passenger Concourse Concept	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
Concourse Concept 1 (Maintain Passageway Concourse) - This concept would preserve the existing pedestrian passageway by maintaining the existing passageway, its utilities, and structure. Passenger loading platforms would be accessible via stairs and ramps, similar to existing conditions. Ramps servicing the platforms would be reconstructed to accommodate the vertical rise of the new top of rail and would be nearly 300 feet in length. The existing entrance and exit portals along the pedestrian passageway walls would be relocated to support the widened platforms, and the pedestrian passageway ceiling would also need to be reconstructed.	**No**	**No**	**No**	**No**	**No**	Yes	Rejected from further consideration – no added capacity, does not meet egress and safe evacuation requirements, no enhanced ADA accessibility, no improvements to baggage handling or separation of public and back-of-house spaces, and does not maintain or improve passenger transfer times.
Concourse Concept 2 (Widened Passageway Concourse) - This concept would widen the existing pedestrian passageway to a width of approximately 90 feet. The floor elevation would remain unchanged from the existing passageway. The widened passageway would be limited to passenger circulation and would not allow for station amenities, such as restrooms, waiting areas, information kiosks, retail space, or enhanced baggage handling services. The concept would require demolition of the existing north and south ramps and stairs and would eliminate the historic pedestrian passageway walls to allow access to a wider passageway area.	Yes	**No**	**No**	**No**	**No**	Yes	Rejected from further consideration – does not meet egress and safe evacuation requirements, no enhanced ADA accessibility, no improvements to baggage handling or separation of public and back-of-house spaces, and does not maintain or improve passenger transfer times.
Concourse Concept 3 (At-Grade Concourse) - This concept would result in a new passenger concourse below the tracks with a minimum head clearance of 10 feet, 6 inches. This concept would require the	Yes	Yes	Yes	Yes	Yes	Yes	Rejected from further consideration – Although this concourse concept meets all screening criteria, Metro elected to remove this concept from further

Table ES-3. Passenger Concourse Concepts Screening Summary

Passenger Concourse Concept	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
temporary relocation of the Gold Line with a temporary platform while Platform 1 is raised, widened, and lengthened. For this concept, a structural system of girders would support the Gold Line platform and rail to create a wider, more open concourse space below. The installation of girders would require the Gold Line Platform 1 and Tracks 1 and 2 to be replaced in their entirety. In addition, the depth of proposed concrete girders requires the Gold Line Platform 1 be elevated to achieve a more desirable concourse height. The addition of East and West Plazas would provide opportunities for new open spaces and terraces. It would include additional space for transit amenities such as waiting areas, restrooms, retail areas, and other ancillary support functions.							consideration due to cost and potential for increased environmental impacts related to emissions and traffic during construction, archaeological resources, contaminated soils, and contaminated groundwater as disclosed in the Final EIR for the Link US Project. A summary of the increased environmental impacts, as disclosed in Metro's Final EIR are as follows: • The emissions during construction of an at-grade concourse would expose sensitive land uses to an increased cancer risk of more than 10 in 1 million for total diesel particulate matter (PM_{10}). • The at-grade concourse would require additional truck trips and construction traffic resulting in more significant delays at nearby intersections • The at-grade concourse would require substantially more excavation activities and would result in a greater potential for encountering archeological resources, contaminated soils, and contaminated groundwater during construction.
Concourse Concept 4 (Above-Grade Concourse) - This concept would include an elevated component	Yes	Yes	Yes	Yes	**No**	**No**	Rejected from further consideration – includes an above-grade component

Table ES-3. Passenger Concourse Concepts Screening Summary

Passenger Concourse Concept	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
roughly 90 feet above the grade of the existing passageway. The above-grade concourse would span over the platforms and offer transit amenities such as waiting areas, lounges, and retail space while also meeting the egress capacity needs for the projected ridership growth. The concept would allow for high ceilings and maximize panoramic views of Downtown Los Angeles. The existing pedestrian passageway would be demolished.							that does not maintain or improve passenger transfer times or align with community preferences
Concourse Concept 5 (Above-Grade Concourse with New Expanded Passageway) - This concept would include an elevated structure roughly 90 feet above the grade of the existing passageway. The elevated portion would span over the platforms and offer transit amenities such as waiting areas, lounges, and retail space while also meeting the egress capacity needs for the projected ridership growth. The concept would allow for high ceilings and maximize panoramic views of Downtown Los Angeles. Additionally, it also includes a 120-foot-wide expanded passageway below the rail yard that would be four times the width of the existing pedestrian passageway.	Yes	Yes	Yes	Yes	**No**	**No**	Rejected from further consideration – includes an above-grade component that does not maintain or improve passenger transfer times or align with community preferences
Concourse Concept 6 (Expanded Passageway) - This concept would include widening of the existing 28-foot-wide pedestrian passageway to a 140-foot-wide passageway below the rail yard to provide safe and accessible circulation through LAUS with modern passenger accommodations. New VCEs (stairs, escalators, and elevators) would provide connectivity from the expanded passageway that is at grade and below the rail yard to the passenger platforms above. The addition of East and West Plazas would provide	Yes	Yes	Yes	Yes	Yes	Yes	Recommended to be carried forward for detailed evaluation in EIS.

Table ES-3. Passenger Concourse Concepts Screening Summary

Passenger Concourse Concept	Meets Screening Criteria						Screening Outcome
	1	2	3	4	5	6	
opportunities for new open spaces and terraces. It would include additional space for transit amenities such as waiting areas, restrooms, retail areas, and other ancillary support functions.							

Notes:
ADA=Americans with Disabilities Act; EIS=environmental impact statement

Recommended Track Alignment Alternatives and Concourse Concepts for Detailed Evaluation

As summarized in Table ES-2 and Table ES-3, at the conclusion of the screening process, one track alignment alternative and one concourse concept was recommended for detailed evaluation as the Build Alternative in the Draft EIS. Table ES-4 identifies the major components of the track alignment alternative and concourse concept recommended for detailed evaluation in the Draft EIS.

Table ES-4. Track Alignment Alternative and Concourse Concept Recommended for Detailed Evaluation in Draft EIS

Screening Name	Description Summary
Track Alignment Alternative 14	• Shared lead tracks north of LAUS • Common bridges and embankments with associated civil/railroad infrastructure that would accommodate six run-through tracks for regional/intercity rail trains and 4 run-through tracks for future high speed rail trains from LAUS to the west bank of the Los Angeles River • Dedicated lead tracks for BNSF freight trains and Amtrak trains at BNSF West Bank Yard
Concourse Concept 6 (Expanded Passageway)	• 140-foot-wide expanded passageway • New VCEs (stairs, escalators, and elevators) • East and West Plazas

Notes:
HSR=high-speed rail; VCE=vertical circulation element

Based on the screening process, one build alternative is proposed for further evaluation in the Draft EIS, in addition to the No Action Alternative. The major Project components are grouped together as one build alternative for ease of evaluation in the Draft EIS. The alternatives proposed to be considered are summarized below:

- **No Action Alternative** – The No Action Alternative is the baseline against which the effect of implementing the Build Alternative is evaluated to determine the extent of environmental and community effects. For the No Action Alternative, the baseline year is 2016 and the horizon year is 2040. The No Action Alternative represents the future conditions that would occur if the proposed infrastructure improvements and the operational capacity enhancements at LAUS were not implemented, and reflects the foreseeable effects of growth planned for the area in conjunction with other existing, planned, and reasonably foreseeable projects and infrastructure improvements
- **Build Alternative** – The Build Alternative would include a shared lead track alignment north of LAUS, a 140-foot-wide expanded passageway below the rail yard, and common

bridges and embankments with associated civil/railroad infrastructure that would accommodate six run-through tracks for regional/intercity rail trains and four run-through tracks for future HSR trains from LAUS to the west bank of the Los Angeles River. The Build Alternative also includes dedicated lead tracks for BNSF freight trains and Amtrak trains at BNSF West Bank Yard.

1.0 Introduction

NEPA requires that an EIS "rigorously explore and objectively evaluate all reasonable alternatives" and "devote substantial treatment to each alternative considered in detail so that reviewers may evaluate their comparative merits" (40 Code of Federal Regulations Section 1502.14).[4]

The purpose of this memorandum is to describe the alternatives analysis process undertaken for the Link US Project to determine a reasonable range of alternatives that meet the purpose and need for detailed evaluation in the Link US Project EIS. The alternatives considered in this memorandum evolved over the past 7 years of Project planning/development, and have been developed as a result of substantial public, agency, and stakeholder feedback received during the initial Link US Project joint EIS/EIR process (not completed), the standalone EIR process (completed June 2019), CHSRA's environmental processes for the Burbank to Los Angeles and Los Angeles to Anaheim Project Sections of the planned HSR system (Burbank to Los Angeles EIR/EIS completed March 2022), and the Link US Project standalone EIS process.

This memorandum provides the planning context and background information for development of the track alignments and concourse-related improvements, describes the range of track alignment alternatives and concourse concepts considered, and provides a full evaluation to determine how the track alignment alternatives and concourse concepts perform against the applicable criteria. Based on the results of the screening process, this memorandum also identifies the track alignment alternative and concourse concept recommended for full evaluation in the Link US Project EIS.

1.1 Lead Agency Roles

Metro is the regional transportation planning agency responsible for administering public transportation in the Los Angeles metropolitan area. Metro is proposing the infrastructure improvements associated with the Link US Project to address existing capacity constraints at LAUS. For the purposes of NEPA, Metro is serving as the local project sponsor and joint lead agency.

CHSRA is responsible for the planning, design, construction, and operation of the planned HSR system. A July 2019 Memorandum of Understanding between FRA and the State of California, pursuant to 23 United States Code Section 327, assigned CHSRA FRA's responsibilities under NEPA and other federal environmental laws for projects on the HSR system and other passenger

[4] The Council on Environmental Quality (CEQ) issued new regulations, effective April 20, 2022, updating the NEPA implementing procedures at 40 CFR Parts 1500–1508. However, because this environmental document was initiated prior to the effective date, it is not subject to the new regulations and CHSRA is relying on the regulations as they existed on the date of the initial Notice of Intent, May 31, 2016. Therefore, all citations to CEQ regulations in this environmental document refer to the 1978 regulations and the 1986 amendment, 51 *Federal Register* 15618 (Apr. 25, 1986)..

rail projects that directly connect to the HSR system, including the Link US Project. For the purposes of NEPA, CHSRA is serving as the federal lead agency.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the proposed action is to increase the regional and intercity rail service capacity of LAUS and to improve schedule reliability at LAUS through the implementation of a run through tracks configuration and elimination of the current stub end tracks configuration while preserving current levels of freight rail operations, accommodating the planned HSR system in Southern California, increasing the passenger/pedestrian capacity and enhancing the safety of LAUS through the implementation of a new passenger concourse, meeting the multimodal transportation demands at LAUS.

Run-Through Tracks

Tracks that allow trains to run-through LAUS as opposed to terminating at LAUS.

Ten run-through tracks extend south of LAUS Platforms 2 through 6 and merge into a minimum of four tracks crossing US-101 on the viaduct and continue south.

1.2.2 Need

The need for the proposed action is generated by the forecasted increase in regional population and employment; implementation of federal, state, and regional transportation plans that provide for increased operational frequency for regional and intercity trains; and introduction of the planned HSR system in Southern California. Localized operational, safety, and accessibility upgrades in and around LAUS will be required to meet existing demand and future growth.

2.0 Planning Context and Background

Since 2002, various iterations of the major Project components associated with the Link US Project have been developed, evaluated, and refined. The planning context is described below to provide background for the development of the major components associated with track alignment alternatives and concourse concepts considered. Previous iterations of the Link US Project include the Run-Through Tracks Project and Southern California Regional Interconnector Project (SCRIP).

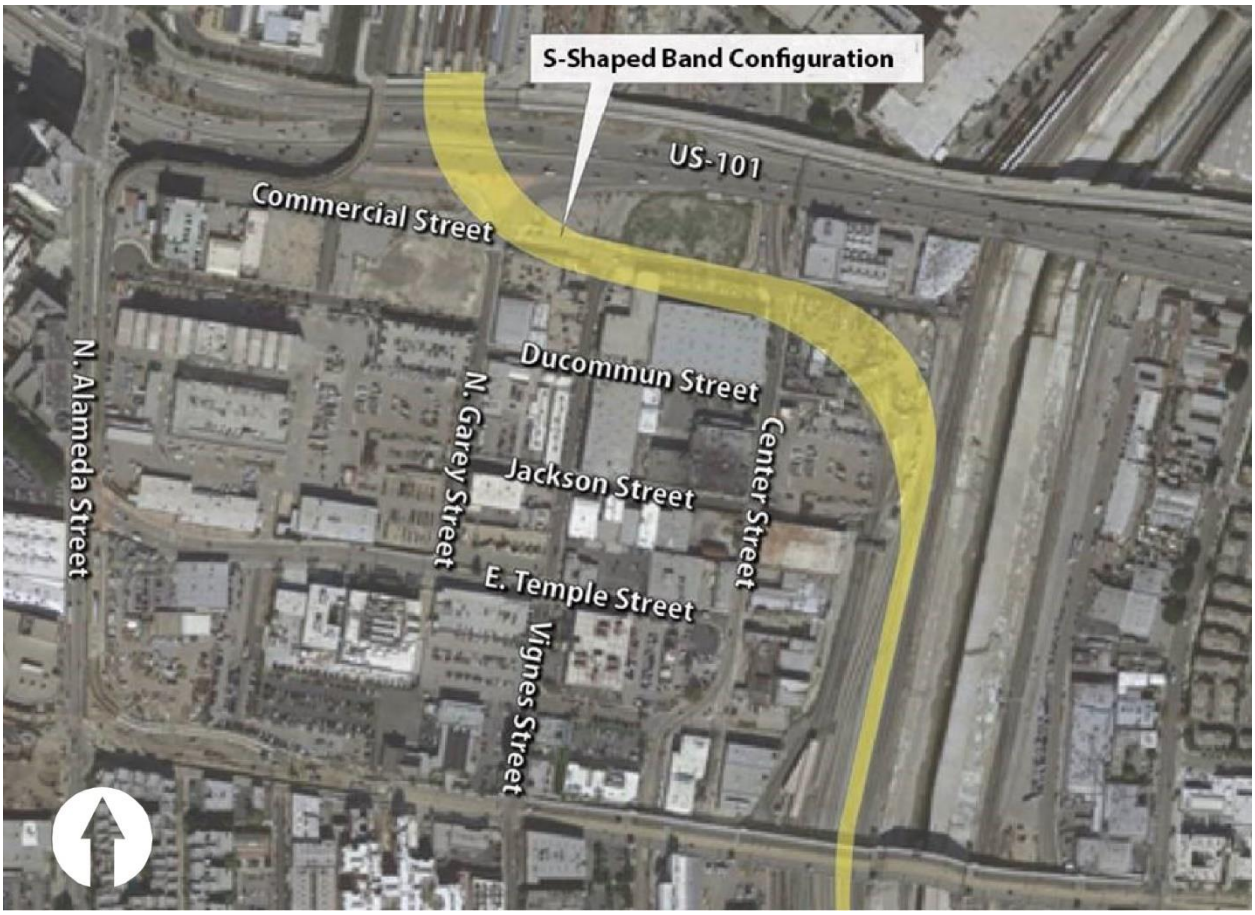
2.1 Run-Through Tracks Project

In 2002, California Department of Transportation (Caltrans) and FRA (in cooperation with Amtrak) initiated conceptual engineering and preparation of an EIS/EIR for a capacity improvement project known as the Run-Through Tracks Project. The results of the 2002 Run-Through Tracks Project Alternatives Analysis Report revealed the preferable configuration for run-through tracks south of LAUS is an alignment parallel to US-101 along Commercial Street toward the main line tracks in an s-shaped band configuration (Figure 2-1). This s-shaped band was selected as the optimal configuration largely because of the curvature required to maintain safe rail operations, the projected cost-benefit analysis, and avoided and/or reduced environmental effects associated with air quality, community services, cultural resources, geology/seismicity, noise, and traffic.

Main Line Tracks

Tracks along the Los Angeles River providing trains access to LAUS are considered artery lines within the system and connect multiple towns. As part of the Project, run-through tracks south of LAUS are proposed to connect to the main line tracks along the west bank of the Los Angeles River.

Figure 2-1. S-Shaped Band Configuration of Run-Through Tracks Project



Source: Caltrans and FRA 2002Applicable findings from the Run-Through Tracks Project provided the basis for evaluation of run-through track alignments along Commercial Street (compared with track alignments on parallel streets south of Commercial Street) for the following reasons:

- ROW impacts would primarily affect industrial properties, not residential properties.
- Noise and vibration impacts are anticipated to be minimized due to the distance and quantity of sensitive receptors adjacent to the track alignments.
- Visual and historic resources impacts would be reduced because a structure that would cross above the historic 1st Street Bridge is not required.

In 2005, FRA issued a Final EIS, and Caltrans certified the Final EIR for the Run-Through Tracks Project (Caltrans and FRA 2005). FRA did not issue a Record of Decision after the Final EIS was completed. The run-through tracks associated with the preferred alternative in the Run-Through Tracks Project Final EIS/EIR was located north of Commercial Street within the s-shaped band configuration shown on Figure 2-1. The planned HSR system was not part of the Run-Through Tracks Project.

2.2 Southern California Regional Interconnector Project

Following completion of the environmental review process for the Run-Through Tracks Project, numerous changes in area planning required a change in how planned improvements to the LAUS infrastructure would be implemented. These changes included:

- **Change in ownership of LAUS** – In 2011, Metro purchased LAUS from Catellus Operating Limited Partnership. In 2012, Metro began a master planning effort for the LAUS campus and surrounding areas (i.e., LAUS Master Plan). The LAUS Master Plan includes 38 acres of land at LAUS with 5.9 million square feet of entitlements that would allow for Metro to build on the property and draw lease revenues from both transit operators and businesses (Metro 2015b). The LAUS Master Plan identified the SCRIP as one of five related projects and included other development strategies for the area within and surrounding the LAUS campus.
- **LAUS capacity needs** – Service operators identified a need to increase the capacity of the rail yard by up to 300 percent while further enhancing operational flexibility with a northern loop track south of LAUS.
- **LAUS forecast passenger demand** – Metro determined the existing 28-foot-wide pedestrian passageway connecting the east and west ends of LAUS would be unable to meet forecast passenger demand on existing and planned modes of transportation that were projected at the time to result in over 200,000 passenger trips through LAUS each weekday by 2040 (Metro 2015b) and began evaluating concepts for a new passenger concourse.

As a result of these area-wide planning changes, Metro initiated work on the SCRIP concurrent with the development of the LAUS Master Plan to identify new run-through track alternatives in conjunction with a new at-grade passenger concourse at LAUS (below the rail yard), an elevated rail yard, and a northern loop track.

Under the SCRIP, Metro initiated the planning and design of a new passenger concourse below an elevated rail yard, with up to 10 new run-through tracks south of LAUS to meet current building code standards while implementing long-term rail, transit, and mobility improvements at LAUS. Initially in 2005, LAUS was identified as a potential station location in the Tier 1 documents associated with the planned HSR system (CHSRA and FRA 2005). The planned HSR system was not considered as part of the SCRIP because Metro and CHSRA had yet to enter into an agreement to accommodate the planned HSR system through the Project limits.

2.3 Link Union Station Project

In 2016, Metro rebranded the SCRIP as the Link US Project. Through the alternatives analysis process conducted for the Burbank to Los Angeles and Los Angeles to Anaheim Project Sections of the planned HSR system, LAUS became the preferred station location for the planned HSR system in Downtown Los Angeles (CHSRA 2021). For this reason, Metro and CHSRA also

entered into an agreement to complete the necessary Project-level environmental analysis and preliminary engineering to accommodate the planned HSR system as part of the Link US Project.

The run-through tracks, from LAUS over US-101 to the main line tracks, have been considered since 2002 as part of the Run-Through Tracks Project and remain the fundamental component to improving operational efficiency, capacity, flexibility, reliability, and connectivity for trains using LAUS. However, the Link US Project would address new considerations that were not applicable in the Run-Through Tracks Project EIS/EIR. These new considerations include the accommodation of the planned HSR system, changes in area conditions since consideration of the SCRIP, commitments from funding partners, certification of the Link US Project Final EIR, and certification of the Final EIR and issuance of a Final EIS and Record of Decision for CHSRA's Burbank to Los Angeles Project Section of the planned HSR system. New considerations that led to evolutions of the major components associated with the Project include the following:

- Coordination between Metro and stakeholders to consider options for an above-grade passenger concourse or expansion of the existing pedestrian passageway at LAUS
- Coordination between Metro and funding partners (California State Transportation Agency, Southern California Regional Rail Authority, CHSRA) to implement common rail infrastructure through the Project limits that would be designed to facilitate run-through service for multiple rail service providers (Metrolink, Los Angeles–San Diego–San Luis Obispo, Amtrak, CHSRA) from LAUS to the main line tracks on the west bank of the Los Angeles River
- Other planned, and reasonably foreseeable Metro and public projects that pose design/compatibility constraints and/or multimodal opportunities, including, but not limited to:
  - Metro LAUS Forecourt and Esplanade Improvements Project
  - Metro West Santa Ana Branch Line Project
  - Metro *Connect US Action Plan* (Metro 2015c) and Eastside Access Improvements
  - Metro Emergency Security Operations Center Project
  - Metro Division 20 Portal Widening and Turnback Facility Project
  - Metro Los Angeles River Path Project
  - Metro Alameda Street Mobility Project

Common Rail Infrastructure

Tracks, platforms, bridges, embankments, and associated civil/railroad infrastructure that would accommodate both regional/intercity rail trains and future high-speed rail trains.

As part of the Project, the following common rail infrastructure is environmentally evaluated in this EIS/SEIR:

- North of LAUS - Shared lead tracks (compatible tracks), and the new Vignes Street Bridge and new Cesar Chavez Avenue Bridge are considered common rail infrastructure.
- At LAUS, Platforms 2 and 3 and concourse related improvements to support future HSR operations are considered common rail infrastructure.
- South of LAUS, bridges and embankments extending to First Street constructed wide enough to support regional/intercitytracks and future HSR tracks and catenaries are considered common rail infrastructure.

  - CHSRA Burbank to Los Angeles and Los Angeles to Anaheim Project Sections of the planned HSR system
- Property ownership and valuation changes
- Land use changes within the Project study area
- New and/or updated Southern California Regional Rail Authority, American Railway Engineering and Maintenance-of-Way Association, Metro, CHSRA, California Public Utilities Commission, FRA, and the City of Los Angeles building and safety standards, regulations, and discretionary action requirements

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3.0 Public and Agency Outreach and Feedback

A public outreach plan was prepared to identify the target audiences, key messaging, outreach tools, and methods to collect feedback. Metro, as the local Project sponsor and joint lead agency, began the public engagement process in 2015 with the FRA during preparation of the Link US Project joint EIS/EIR. This process was intended to gather stakeholder feedback for incorporation into the alternatives analysis process and the environmental document. Public and agency feedback was obtained through a variety of formal and informal methods.

During the CEQA process, public and agency feedback was provided to Metro, specifically on the track alignments and concourse concepts considered in this memorandum. Feedback received during this process included numerous reoccurring comments on the same or similar general topics. These key issue areas included comments related to:

- Passenger Transfer Times
- Passenger Circulation and Accessibility Enhancements
- Above-Grade Passenger Concourse Design
- Soil Contamination and Hazardous Waste/Materials
- Preservation of Historic Resources at Los Angeles Union Station (LAUS)
- Track Elevation Slope Safety and Runaway Trains
- Little Tokyo Community Concerns
- Public Art and Cultural Enhancement Programs
- Adjacent Parallel Tunnels

As discussed in Table ES-1, public and agency feedback received during the EIR process resulted in refinements to one track alignment, and one passenger concourse concept. Public and agency feedback continued after Metro's certification of the Final EIR, as CHSRA and Metro prepared the standalone NEPA EIS and during the second scoping process for the Revised NOI. Public and agency outreach will continue throughout the environmental process, as well as during the subsequent design and construction phases.

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4.0 Range of Track Alignments and Concourse Concepts Considered

4.1 Track Alignment Alternatives

Throughout Project development, Metro considered a reasonable range of track alignment alternatives with variations to the proposed infrastructure throughout the Project limits. Table 4-1 and Attachment A describes the key characteristics of the 14 track alignment alternatives considered during the screening process. As demonstrated in Table 4-1, there are some similarities between the range of alternatives considered related to the following:

1. Lead tracks north of LAUS – Of the 14 track alignment alternatives considered, 10 include a dedicated lead track alignment north of LAUS (Alternatives 1 through 9 and 13), and 4 include a shared lead track alignment north of LAUS (Alternatives 10, 11, 12, and 14).
2. Run-through tracks south of LAUS – Of the 14 track alignment alternatives considered, 13 include shared lead tracks for BNSF freight trains and Amtrak intercity trains at the BNSF West Bank Yard (Alternatives 1 through 13), and 3 include permanent removal of BNSF storage tracks at the BNSF West Bank Yard (Alternatives 12, 13, and 14). Of the 14 track alignment alternatives considered, 12 alternatives include a loop track alignment.

Lead Tracks

Provides entrance and exit for trains into and out of the Los Angeles Union Station rail yard

Dedicated Lead Track Alignment North of LAUS

An alignment north of Los Angeles Union Station with seven total lead tracks; five lead tracks for regional/ intercity rail trains and two lead tracks that would encroach outside of the existing right-of-way for future high-speed rail trains

Shared Lead Track Alignment North of LAUS

An alignment north of Los Angeles Union Station with six total lead tracks; two of which could be shared with future high-speed rail trains

Loop Track

A run-through track that would provide a circular route or “loop” around Los Angeles Union Station to provide even greater operational flexibility with enhanced schedule reliability and capacity at Los Angeles Union Station

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Table 4-1. Track Alignment Alternatives Considered

Track Alignment Alternative	Description	Total Number of Run-Through Tracks
1	4 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; five platforms for regional/intercity rail trains, one platform for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; four regional/intercity rail run-through tracks (with a single loop track); and accommodation for two future HSR run-through tracks from LAUS to First Street.	6
2	4 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; four regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street.	8
3	5 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; five platforms for regional/intercity rail trains, one platform for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard;	7

Table 4-1. Track Alignment Alternatives Considered

Track Alignment Alternative	Description	Total Number of Run-Through Tracks
	shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; five regional/intercity rail run-through tracks (with a single loop track); and accommodation for two future HSR run-through tracks from LAUS to First Street.	
4	5 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; four platforms for regional/intercity rail trains; two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; five regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street.	9
5	6 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks (with dedicated lead tracks north of LAUS) The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; five platforms for regional/intercity rail trains, one platform for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for two future HSR run-through tracks from LAUS to First Street.	8
6	6 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks (with shared lead tracks north of LAUS)	8

Table 4-1. Track Alignment Alternatives Considered

Track Alignment Alternative	Description	Total Number of Run-Through Tracks
	The track alignment includes six lead tracks north of LAUS (two shared tracks for regional/intercity rail trains and future HSR trains); removal of the Garden Tracks, four platforms for regional/intercity rail trains, one platform for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment where Commercial Street currently exists, extending to Center Street; lowering the intersection of Center Street and Commercial Street; realignment of Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks and (with a single loop track); and accommodation for two future HSR run-through tracks from LAUS to First Street.	
7	6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with dedicated lead tracks north of LAUS) The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street.	10
8	6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with double loop tracks) The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north of LAUS; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment south of Commercial Street extending to Center Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail	10

Table 4-1. Track Alignment Alternatives Considered

Track Alignment Alternative	Description	Total Number of Run-Through Tracks
	run-through tracks (with two loop tracks); and accommodation for four future HSR run-through tracks from LAUS to First Street.	
9	6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with shared lead tracks north of LAUS) The track alignment includes six lead tracks north of LAUS (two shared tracks for regional/intercity rail trains and future HSR trains); removal of the Garden Tracks; four platforms for regional/intercity rail trains; two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment where Commercial Street currently exists extending to Center Street; lowering the intersection of Center Street and Commercial Street; realignment of Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street.	10
10	6 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks (with HSR double decked) The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; four platforms for regional/intercity rail trains, one platform for future HSR trains above the existing platform for the Gold Line LRT; two separate bridges over the El Monte Busway and US-101; two separate overhead viaducts over and south of Commercial Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for two future HSR run-through tracks from LAUS to First Street.	8
11	6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with permanent realignment of Gold Line due to addition of eighth platform) The track alignment includes six lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; permanent realignment of the Gold Line north and south of LAUS; modification to the existing Gold Line viaduct over US-101; five platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; two separate bridges over the	10

Table 4-1. Track Alignment Alternatives Considered

Track Alignment Alternative	Description	Total Number of Run-Through Tracks
	El Monte Busway and US-101; two separate overhead viaducts over and south of Commercial Street; lowering the intersection of Center Street and Commercial Street; two separate bridges over Center Street and the Amtrak lead track; two separate rail embankments on the west bank of the Los Angeles River with lowering and reconstruction of storage tracks at the BNSF West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street.	
12	6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with shared lead tracks north of LAUS, no loop track, and shared lead tracks for BNSF freight trains and Amtrak trains) The track alignment includes six lead tracks north of LAUS (two shared tracks for regional/intercity rail trains and future HSR trains); removal of the Garden Tracks; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment north of Commercial Street extending to Center Street; a common bridge over Center Street; a common embankment east of Center Street and common bridge over the Amtrak lead track; a common embankment on the west bank of the Los Angeles River extending to the 1st Street Bridge; permanent removal of 5,565 feet of BNSF storage tracks at the north end of the West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (no loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street. No lowering of Center Street or realignment of Commercial Street is required. BNSF storage tracks would not be reconstructed resulting in a permanent loss of storage track capacity at the BNSF West Bank Yard.	10
13	6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with dedicated lead tracks north of LAUS, loop track, and shared lead tracks for BNSF freight trains and Amtrak trains) The track alignment includes seven lead tracks north of LAUS (two dedicated tracks for future HSR trains outside existing railroad ROW); removal of the Garden Tracks; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment where Commercial Street currently exists extending to Center Street; lowering the intersection of Center Street and Commercial Street; realignment of Commercial Street; separate bridges over Center Street for regional/intercity trains and future HSR trains; an embankment for regional/intercity rail trains and separate viaduct for future HSR trains east of Center Street; a common bridge over the Amtrak lead track; a common embankment on the west bank of the Los Angeles River extending to the 1st Street Bridge; permanent removal of 5,565 feet of BNSF storage tracks at the north end of the West Bank Yard; shared lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail	10

Table 4-1. Track Alignment Alternatives Considered

Track Alignment Alternative	Description	Total Number of Run-Through Tracks
	run-through tracks (with a single loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street. Similar to Alternative 12, BNSF storage tracks would not be reconstructed resulting in a permanent loss of storage track capacity at the BNSF West Bank Yard.	
14	6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks (with shared lead tracks north of LAUS, no loop track, and dedicated lead tracks for BNSF freight trains and Amtrak trains) The track alignment includes six lead tracks north of LAUS (two shared tracks for regional/intercity rail trains and future HSR trains); removal of the Garden Tracks; four platforms for regional/intercity rail trains, two platforms for future HSR trains, and one platform for the Gold Line LRT; a common bridge over the El Monte Busway and US-101; a common embankment north of Commercial Street extending to Center Street; a common bridge over Center Street; common embankments and/or bridges east of Center Street; a common bridge over the Amtrak lead track; a common embankment on the west bank of the Los Angeles River extending to the 1st Street Bridge; permanent removal of 5,500 feet of BNSF storage tracks at the north end of the West Bank Yard; dedicated lead tracks for BNSF and Amtrak trains at the BNSF West Bank Yard; six regional/intercity rail run-through tracks (no loop track); and accommodation for four future HSR run-through tracks from LAUS to First Street. No lowering of Center Street or realignment of Commercial Street is required. Similar to Alternatives 12 and 13, BNSF storage tracks would not be reconstructed resulting in a permanent loss of storage track capacity at the BNSF West Bank Yard.	10

4.2 Passenger Concourse Concepts

The six passenger concourse concepts presented in Table 4-2 and depicted in Attachment B were considered during the screening process.

Table 4-2. Passenger Concourse Concepts Considered

Concourse Concepts	Description
Concourse Concept 1 (Maintain Passageway Concourse)	This concept would preserve the existing pedestrian passageway by maintaining the existing passageway, its utilities, and structure. Passenger loading platforms would be accessible via stairs and ramps, similar to existing conditions. Ramps servicing the platforms would be reconstructed to accommodate the vertical rise of the new top of rail and would be nearly 300 feet in length. The existing entrance and exit portals along the pedestrian passageway walls would be relocated to support the widened platforms, and the pedestrian passageway ceiling would also need to be reconstructed.
Concourse Concept 2 (Widened Passageway Concourse)	This concept would widen the existing pedestrian passageway to a width of approximately 90 feet. The floor elevation would remain unchanged from the existing passageway. The widened passageway would be limited to passenger circulation and would not allow for station amenities, such as restrooms, waiting areas, information kiosks, retail space, or enhanced baggage handling services. The concept would require demolition of the existing north and south ramps and stairs and would eliminate the historic pedestrian passageway walls to allow access to a wider passageway area.
Concourse Concept 3 (At-Grade Concourse)	This concept would result in a new passenger concourse below the tracks with a minimum head clearance of 10 feet, 6 inches. This concept would require the temporary relocation of the Gold Line with a temporary platform while Platform 1 is raised, widened, and lengthened. For this concept, a structural system of girders would support the Gold Line platform and rail to create a wider, more open concourse space below. The installation of girders would require the Gold Line Platform 1 and Tracks 1 and 2 to be replaced in their entirety. In addition, the depth of proposed concrete girders requires the Gold Line Platform 1 be elevated to achieve a more desirable concourse height. The addition of East and West Plazas would provide opportunities for new open spaces and terraces. It would include additional space for transit amenities such as waiting areas, restrooms, retail areas, and other ancillary support functions.
Concourse Concept 4 (Above-Grade Concourse)	This concept would include an elevated component roughly 90 feet above the grade of the existing passageway. The above-grade concourse would span over the platforms and offer transit amenities such as waiting areas, lounges, and retail space while also meeting the egress capacity needs for the projected ridership growth. The concept would allow for high ceilings and maximize panoramic views of Downtown Los Angeles. The existing pedestrian passageway would be demolished. The addition of East and West Plazas would provide opportunities for new open spaces and terraces. It would include additional space for transit amenities such as waiting areas, restrooms, retail areas, and other ancillary support functions.

Table 4-2. Passenger Concourse Concepts Considered

Concourse Concepts	Description
Concourse Concept 5 (Above-Grade Concourse with New Expanded Passageway)	This concept would include an elevated structure roughly 90 feet above the grade of the existing passageway. The elevated portion would span over the platforms and offer transit amenities such as waiting areas, lounges, and retail space while also meeting the egress capacity needs for the projected ridership growth. The concept would allow for high ceilings and maximize panoramic views of Downtown Los Angeles. Additionally, it also includes a 120-foot-wide expanded passageway below the rail yard that would be four times the width of the existing pedestrian passageway. The addition of East and West Plazas would provide opportunities for new open spaces and terraces. It would include additional space for transit amenities such as waiting areas, restrooms, retail areas, and other ancillary support functions.
Concourse Concept 6 (Expanded Passageway)	This concept would include widening of the existing 28-foot-wide pedestrian passageway to a 140-foot-wide passageway below the rail yard to provide safe and accessible circulation through LAUS with modern passenger accommodations. New VCEs (stairs, escalators, and elevators) would provide connectivity from the expanded passageway that is at grade and below the rail yard to the passenger platforms above. The addition of East and West Plazas would provide opportunities for new open spaces and terraces. It would include additional space for transit amenities such as waiting areas, restrooms, retail areas, and other ancillary support functions.

Notes:
LAUS=Los Angeles Union Station; VCE=vertical circulation element

5.0 Track Alignment Alternatives

5.1 Screening Criteria

As part of this alternative analysis, six screening criteria were considered and applied to the range of 14 track alignment alternatives. Any track alignment alternative that did not meet all the six screening criteria was rejected from further consideration. The application of each screening criterion and how each alignment alternative was evaluated in light of that criterion is described below.

5.1.1 Criterion 1 – Accommodate 10 Run-Through Tracks over US-101

Track alignment alternatives that do not accommodate six run-through tracks for regional/intercity trains and four run-through tracks for future HSR trains (10 run-through tracks total) from LAUS to the west bank of the Los Angeles River were rejected from further consideration.

Track alignment alternatives that do not accommodate 10 run-through tracks south of LAUS would constrain and limit flexibility to achieve the increases in train movements and associated passenger volumes forecasted by existing (SCRRA, Amtrak, Los Angeles San Diego San Luis Obispo [LOSSAN]) and future (CHSRA) operators at LAUS. Although actual operational scenarios and service levels at LAUS are dependent on future service plans, negotiations between the service operators, and available operating funding, track alignment alternatives must provide the largest possible operating envelope for run-through tracks on the structures and embankments south of LAUS to provide rail operators maximum flexibility to implement the vision of multiple statewide and regional planning documents, including the California Transportation Plan 2050 (Caltrans 2021), 2020 RTP/SCS: Connect SoCal (SCAG 2020), and the 2018 California State Rail Plan: Connecting California (Caltrans 2018), that provide for increased operational frequency for regional and intercity trains and introduction of the planned HSR system in Southern California by 2040.

5.1.2 Criterion 2 – Avoid Shared Lead Tracks for Freight Trains and Intercity Trains at BNSF West Bank Yard

Track alignment alternatives that require BNSF freight trains to share the same tracks as Amtrak trains at the BNSF West Bank Yard were rejected from further consideration as it would require daily coordination of train movements not required under the existing condition. The coordination required between BNSF and Amtrak would impact scheduling and could result in potential impacts on intermodal freight operations as well as Amtrak on time performance to and from LAUS.

5.1.3 Criterion 3 – Avoid Lowering the Existing Red and Purple Line Subway

Track alignment alternatives that require lowering of the existing Red and Purple Line subway were rejected from further consideration. Due to the high volume of passengers on the Red and Purple Line subway, any modifications to the existing Red and Purple Line subway requiring transit service disruption over several years could severely hinder the ability of LAUS to continue operating at an acceptable level of service. Additionally, lowering the existing Red and Purple Line subway is not required to fulfill the Project purpose and need, and would result in substantially higher construction costs that could exceed allocated public funds.

5.1.4 Criterion 4 – Avoid Lowering the United States Highway 101 and the El Monte Busway

Track alignment alternatives that require lowering of US-101 and the El Monte Busway were rejected from further consideration. The run-through tracks must be able to vertically clear US-101 and the El Monte Busway. Lowering US-101 was determined impractical by Caltrans and Metro due to design criteria requirements and substantially higher construction costs of proposed modifications to US-101 and the El Monte Busway infrastructure. To accommodate Caltrans and Metrolink vertical clearance requirements for railroad bridges over roadways, run-through tracks must be designed to extend above these facilities at least 16' 6". Furthermore, all vertical grade requirements must be met since regional/intercity rail trains and HSR trains are planned to run alongside one another, and both are designed to a maximum 2.8 percent compensated for grade. This also must maintain the ability for run-through tracks to connect with main line tracks on the the west bank of the Los Angeles River. In addition, lowering US-101 and the El Monte Busway would result in multiple years of traffic and transit service disruptions during construction.

5.1.5 Criterion 5 – Avoid Stacking Platforms for Regional/Intercity Rail Trains and High-Speed Rail Trains

Track alignment alternatives that involve vertically stacking platforms for regional/intercity rail trains and HSR trains were rejected from further consideration. Specifically, stacking scenarios would create vertical grades along the run-through track alignment that would exceed allowable design criteria (the maximum vertical grade permissible of 2.8 percent compensated) in order to connect to the other tracks.

5.1.6 Criterion 6 – Avoid Adding an Eighth Platform for Regional/Intercity Rail Trains or High-Speed Rail Trains

Track alignment alternatives requiring expansion of the LAUS rail yard to add an eighth platform adjacent to the existing seven active platforms were rejected from further consideration. A new eighth platform would result in additional ROW impacts, and multiple years of transit service disruptions during construction that would affect a high volume of passengers. Expansion of the

existing LAUS rail yard with an eighth platform for regional/intercity or HSR service was rejected from further consideration because the Gold Line would have to be realigned north and south of LAUS thereby resulting in additional acquisitions on nearby properties, such as the United States Post Office Los Angeles Terminal Annex property and the Mozaic Apartments property.

5.2 Track Alignment Alternatives Screening Results

Each of the 14 track alignment alternatives was screened based on the six criteria discussed in Section 5.1. Of the alternatives considered, 13 track alignment alternatives did not meet all screening criteria and were therefore rejected from further consideration. Table 5-1 through Table 5-5 provides details of the screening criteria results for each track alignment alternative considered. Where appropriate, track alignment alternatives that have the same screening criteria conclusions, were grouped into one table to avoid redundant analysis.

5.2.1 Track Alignment Alternatives 1 through 6

As identified in Table 5-1, Track Alignment Alternatives 1 through 6 (all with dedicated lead tracks north of LAUS, less than 10 run-through tracks south of LAUS and shared lead tracks for BNSF freight trains and Amtrak trains at the BNSF West Bank Yard) meet four out of the six screening criteria. Track Alignment Alternatives 1 through 6 were rejected from further consideration because these track alignment alternatives do not meet Criteria 1 or 2.

Table 5-1. Track Alignment Alternatives 1 - 6 Screening Criteria Analysis

Screening Criteria	Meets Screening Criteria?
Criterion 1 – Accommodate 10 Run-Through Tracks over US-101	**No**. Track Alignment Alternatives 1 through 6 would not accommodate 10 run-through tracks for regional/intercity rail trains and future HSR trains.
Criterion 2 – Avoid Shared Lead Tracks for Freight Trains and Intercity Trains at BNSF West Bank Yard	**No**. Track Alignment Alternatives 1 through 6 would require BNSF freight trains and Amtrak intercity trains to share the same lead track to access their facilities in the vicinity of the BNSF West Bank Yard, respectively.
Criteria 3– Avoid Lowering the Existing Red and Purple Line Subway	**Yes**. Track Alignment Alternatives 1 through 6 would not require the lowering of the existing Red and Purple Line Subway.
Criteria 4 – Avoid Lowering the US-101 and the El Monte Busway	**Yes.** Track Alignment Alternatives 1 through 6 would not require the lowering of US-101 and the El Monte Busway.

Table 5-1. Track Alignment Alternatives 1 - 6 Screening Criteria Analysis	
Screening Criteria	**Meets Screening Criteria?**
Criteria 5 – Avoid Stacking Platforms for Regional/Intercity Rail Trains HSR Trains	**Yes.** Track Alignment Alternatives 1 through 6 would not include vertically stacked platforms for regional/intercity rail trains and HSR trains.
Criteria 6 – Avoid Adding an Eighth Platform for Regional/Intercity Rail Trains or HSR Trains	**Yes.** Track Alignment Alternatives 1 through 6 would not include an eighth platform at the LAUS rail yard to accommodate regional/intercity rail or HSR trains.

Notes:
HSR=high-speed rail; LAUS=Los Angeles Union Station; Link US=Link Union Station; US-101=United States Highway 101

5.2.2 Track Alignment Alternative 7 through 9, 12, and 13

As identified in Table 5-2, Track Alignment Alternatives 7 through 9, 12, and 13 meet five out of the six screening criteria. Track Alignment Alternatives 7 through 9, 12, and 13 were rejected from further consideration because they do not meet Criteria 2.

Table 5-2. Track Alignment Alternatives 7 through 9, 12, and 13 Screening Criteria Analysis	
Screening Criteria	**Meets Screening Criteria?**
Criterion 1 – Accommodate 10 Run-Through Tracks over US-101	**Yes**. Track Alignment Alternatives 7 through 9, 12, and 13 would accommodate 10 run-through tracks for regional/intercity rail trains and future HSR trains.
Criterion 2 – Avoid Shared Lead Tracks for Freight Trains and Intercity Trains at BNSF West Bank Yard	**No**. Track Alignment Alternatives 7 through 9, 12, and 13 would require BNSF freight trains and Amtrak intercity trains to share the same lead track to access their facilities in the vicinity of the BNSF West Bank Yard, respectively.
Criteria 3 – Avoid Lowering the Existing Red and Purple Line Subway	**Yes**. Track Alignment Alternatives 7 through 9, 12, and 13 would not require the lowering of the existing Red and Purple Line Subway.
Criteria 4 – Avoid Lowering the US-101 and the El Monte Busway	**Yes.** Track Alignment Alternatives 7 through 9, 12, and 13 would not require the lowering of US-101 and the El Monte Busway.

Table 5-2. Track Alignment Alternatives 7 through 9, 12, and 13 Screening Criteria Analysis	
Screening Criteria	**Meets Screening Criteria?**
Criteria 5 – Avoid Stacking Platforms for Regional/Intercity Rail Trains and HSR Trains	**Yes.** Track Alignment Alternatives 7 through 9, 12, and 13 would not include vertically stacked platforms for regional/intercity rail trains and HSR trains.
Criteria 6 – Avoid Adding an Eighth Platform for Regional/Intercity Rail Trains or HSR Trains	**Yes.** Track Alignment Alternatives 7 through 9, 12, and 13 would not include an eighth platform at the LAUS rail yard to accommodate regional/intercity rail trains or HSR trains.

Notes:
HSR=high-speed rail; LAUS=Los Angeles Union Station; Link US=Link Union Station; US-101=United States Highway 101

5.2.3 Track Alignment Alternative 10

As identified in Table 5-3, Track Alignment Alternative 10 (6 Regional/Intercity Rail Run-Through Tracks + 2 HSR Run-Through Tracks with HSR double decked)) meets three out of the six screening criteria. Track Alignment Alternative 10 was rejected from further consideration because it does not meet Criteria 1, 2, or 4.

Table 5-3. Track Alignment Alternative 10 Screening Criteria Analysis	
Screening Criteria	**Meets Screening Criteria?**
Criterion 1 – Accommodate 10 Run-Through Tracks over US-101	**No**. Track Alignment Alternative 10 would not accommodate 10 run-through tracks for both regional/intercity rail trains and future HSR trains.
Criterion 2 – Avoid Shared Lead Tracks for Freight Trains and Intercity Trains at BNSF West Bank Yard	**No**. Track Alignment Alternative 10 would require BNSF freight trains and Amtrak intercity trains to share the same lead track to access their facilities in the vicinity of the BNSF West Bank Yard, respectively.
Criteria 3 – Avoid Lowering the Existing Red and Purple Line Subway	**Yes**. Track Alignment Alternative 10 would not require the lowering of the existing Red and Purple Line Subway.
Criteria 4 – Avoid Lowering the US-101 and the El Monte Busway	**Yes.** Track Alignment Alternative 10 would not require the lowering of US-101 and the El Monte Busway.

Table 5-3. Track Alignment Alternative 10 Screening Criteria Analysis	
Screening Criteria	**Meets Screening Criteria?**
Criteria 5 – Avoid Stacking Platforms for Regional/Intercity Rail Trains and HSR Trains	**No.** Track Alignment Alternative 10 would include vertically stacking platforms for regional/intercity rail trains and HSR trains. The stacking design creates vertical grades along the run-through track alignment that would exceed allowable design criteria (maximum 2.8 percent compensated) to connect to the other tracks.
Criteria 6 – Avoid Adding an Eighth Platform for Regional/Intercity Rail Trains or HSR Trains	**Yes.** Track Alignment Alternative 10 would not include an eighth platform at the LAUS rail yard to accommodate regional/intercity rail trains or HSR trains.

Notes:
HSR=high-speed rail; LAUS=Los Angeles Union Station; Link US=Link Union Station; US-101=United States Highway 101

5.2.4 Track Alignment Alternative 11

As identified in Table 5-4, Track Alignment Alternative 11 (6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks with permanent realignment of Gold Line due to addition of eighth platform)meets four out of the six screening criteria. Track Alignment Alternative 11 was rejected from further consideration because it does not meet Criteria 2 and Criteria 6.

Table 5-4. Track Alignment Alternative 11 Screening Criteria Analysis	
Screening Criteria	**Meets Screening Criteria?**
Criterion 1 – Accommodate 10 Run-Through Tracks over US-101	**Yes**. Track Alignment Alternative 11 would accommodate 10 run-through tracks for regional/intercity rail trains and future HSR trains.
Criterion 2 – Avoid Shared Lead Tracks for Freight Trains and Intercity Trains at BNSF West Bank Yard	**No**. Track Alignment Alternative 11 would require BNSF freight trains and Amtrak intercity trains to share the same lead track to access their facilities in the vicinity of the BNSF West Bank Yard, respectively.
Criteria 3 – Avoid Lowering the Existing Red and Purple Line Subway	**Yes**. Track Alignment Alternative 11 would not require the lowering of the existing Red and Purple Line Subway.
Criteria 4 – Avoid Lowering the US-101 and the El Monte Busway	**Yes.** Track Alignment Alternative 11 would not require the lowering of US-101 and the El Monte Busway.

Table 5-4. Track Alignment Alternative 11 Screening Criteria Analysis

Screening Criteria	Meets Screening Criteria?
Criteria 5 – Avoid Stacking Platforms for Regional/Intercity Rail Trains and HSR Trains	**Yes.** Track Alignment Alternative 11 would not include vertically stacked platforms for regional/intercity rail trains and HSR trains.
Criteria 6 – Avoid Adding an Eighth Platform for Regional/Intercity Rail Trains or HSR Trains	**No**. Track Alignment Alternative 11 would include the addition of an eighth platform at the LAUS rail yard to accommodate regional/intercity rail trains or HSR trains. Because of the addition of an eighth platform, Track Alignment 11 would also require relocation of the Gold Line Platform 1 at LAUS, as well as realignment of the existing Gold Line Viaduct north and south of LAUS.

Notes:
HSR=high-speed rail; LAUS=Los Angeles Union Station; Link US=Link Union Station; US-101=United States Highway 101

5.2.5 Track Alignment Alternative 14

As identified in Table 5-5, Track Alignment Alternative 14 (6 Regional/Intercity Rail Run-Through Tracks + 4 HSR Run-Through Tracks with shared lead tracks north of LAUS, no loop track, and dedicated lead tracks for BNSF freight trains and Amtrak trains) meets all six screening criteria. Therefore, Track Alignment Alternative 14 is recommended to be carried forward for detailed evaluation in the Link US Project EIS.

Table 5-5. Track Alignment Alternative 14 Screening Criteria Analysis

Screening Criteria	Meets Screening Criteria?
Criterion 1 – Accommodate 10 Run-Through Tracks over US-101	**Yes**. Track Alignment Alternative 14 would accommodate 10 run-through tracks for regional/intercity rail trains and future HSR trains.
Criterion 2 – Avoid Shared Lead Tracks for Freight Trains and Intercity Trains at BNSF West Bank Yard	**Yes**. Track Alignment Alternative 14 would allow for BNSF freight trains and Amtrak intercity trains to operate on dedicated lead tracks to access their facilities in the vicinity of the BNSF West Bank Yard, respectively.
Criterion 3 – Avoid Lowering the Existing Red and Purple Line Subway	**Yes**. Track Alignment Alternative 14 would not require the lowering of the existing Red and Purple Line Subway.
Criterion 4 – Avoid Lowering the US-101 and the El Monte Busway	**Yes.** Track Alignment Alternative 14 would not require the lowering of US-101 and the El Monte Busway.

Table 5-5. Track Alignment Alternative 14 Screening Criteria Analysis

Screening Criteria	Meets Screening Criteria?
Criteria 5 – Avoid Stacking Platforms for Regional/Intercity Rail Trains and HSR Trains	**Yes.** Track Alignment Alternative 14 would not include vertically stacked platforms for regional/intercity rail trains and HSR trains.
Criteria 6 – Avoid Adding an Eighth Platform for Regional/Intercity Rail Trains or HSR Trains	**Yes.** Track Alignment Alternative 14 would not include an eighth platform at the LAUS rail yard to accommodate regional/intercity rail trains or HSR trains.

Notes:
HSR=high-speed rail; LAUS=Los Angeles Union Station; US-101=United States Highway 101

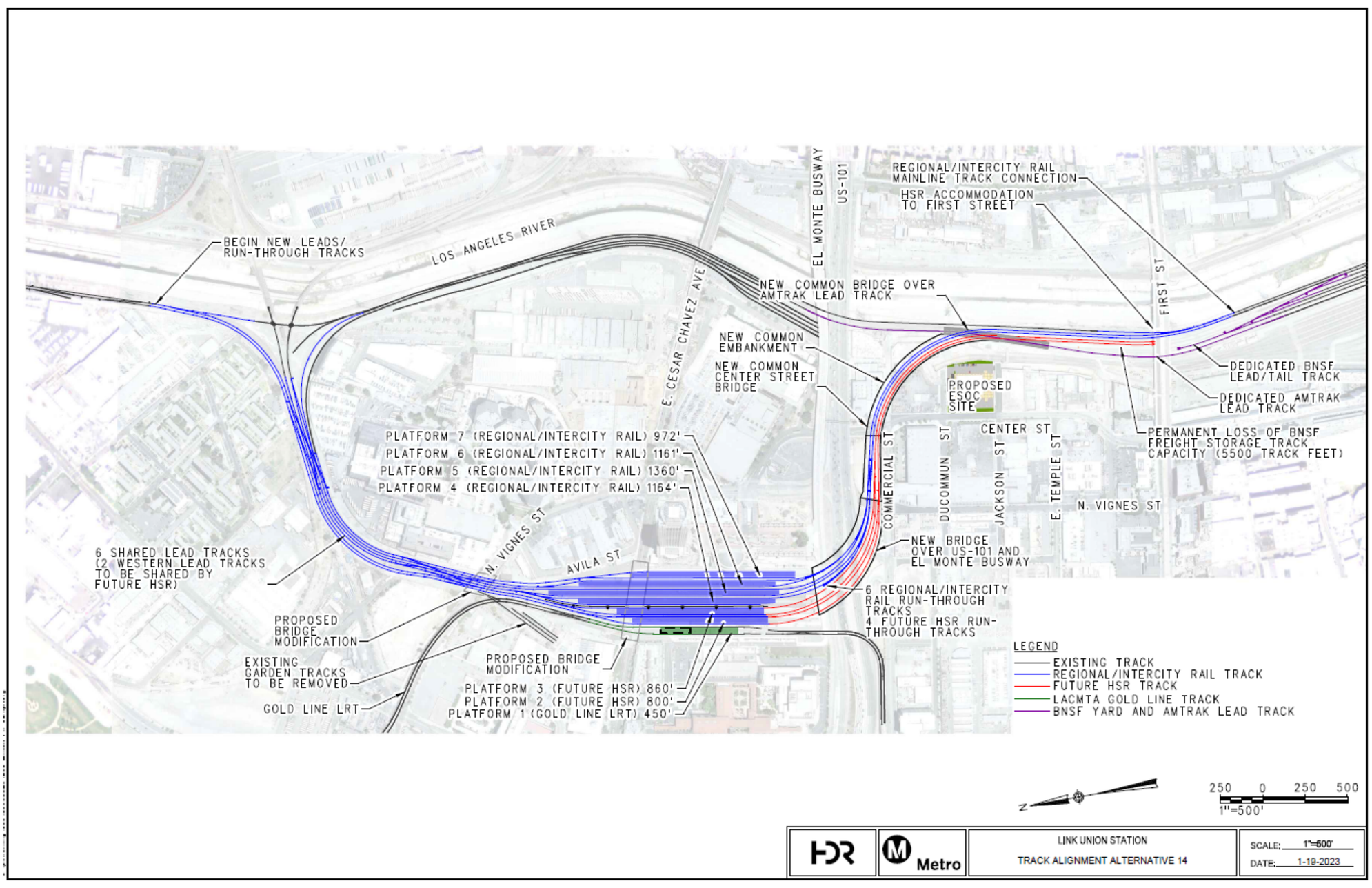
5.3 Recommendation Process

The results from the screening process identified Track Alignment Alternative 14 as the alternative recommended for detailed evaluation in the Link US Project EIS:

- **Track Alignment Alternative 14** – Track Alignment Alternative 14 would include shared lead tracks north of LAUS, an elevated throat and rail yard at LAUS, common bridges and embankments with associated civil/railroad infrastructure that would accommodate 10 run-through tracks (six run-through tracks for regional/intercity rail trains and four run-through tracks for future HSR trains) from LAUS to the west bank of the Los Angeles River, with dedicated lead tracks for BNSF trains and Amtrak trains at the BNSF West Bank Yard. This track alignment alternative would also result in permanent loss of storage track capacity at the BNSF West Bank Yard (vicinity of 1st Street Bridge). This track alignment alternative is recommended for detailed evaluation in the Link US Project EIS because it meets the six screening criteria.

Track Alignment Alternative 14 is depicted on Figure 5-1.

Figure 5-1. Track Alignment Alternative 14



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6.0 Concourse Concepts

6.1 Screening Criteria

The screening process for concourse-related improvements was performed simultaneously with the evaluation of track alignment alternatives (discussed in Section 5.0). While the track alignment and concourse-related improvements would ultimately need to be compatible with one another, with exception of the vertical ceiling height below the rail yard, track alignment characteristics would not be substantially influenced by the location or configuration of the new passenger concourse. For this reason, the track alignment alternatives and concourse concepts were evaluated separately. The passenger concourse is a component that adapts to the configuration of the run-through track alignment alternatives.

As part of this alternative analysis, six screening criteria were considered and applied to the range of six concourse concepts. The six screening criteria that were used for the concourse concepts align with fundamental requirements essential to operation of a concourse and community preferences based on the substantial public feedback received on the Project to date. Any concourse concept that did not meet each of the six screening criteria was rejected from further consideration. The application of each screening criterion and how each passenger concourse concept was evaluated in light of that criterion is described below.

6.1.1 Criterion 1 – Add Passenger Capacity

This screening criterion examines the ability of the concourse concept to add passenger capacity in the form of additional physical space to support increased frequency of service and ridership while providing a more intuitive environment for passengers to navigate between Metro's bus and rail systems. Over 200,000 passenger trips are planned to occur through LAUS each weekday by 2040, which is almost double the number of passengers that currently pass through LAUS. Overall capacity and configuration of passenger space above or below the rail yard (which varies amongst each concept) is based on the ability to meet applicable NFPA 130 performance requirements for egress and safe evacuation (NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems), and as part of this evaluation, concourse concepts adding as much as 200 percent capacity were considered. Concourse concepts that would not increase passenger capacity by providing a larger space with a more open and intuitive environment were rejected from further consideration.

6.1.2 Criterion 2 – Provide Egress Routes and Safe Evacuation

This screening criterion examines the ability of the concourse concept to provide for safe evacuation from the passenger platforms along egress paths that meets NFPA 130 performance requirements. The NFPA 130 performance requirements establishe minimum design requirements for a station environment to evacuate its occupants under a presumed occupancy load. For LAUS, the presumed occupancy load is based on the forecasted passenger volumes (that are static across all concepts considered), associated with the substantial increase in train

movements projected to occur through LAUS. The concourse design should include multiple egress routes/points from the platforms to a point of safety. For each concourse concept, an evaluation was performed to determine if, and how many, additional exits would be required to evacuate passengers from the platforms within 15 minutes (performance requirement), using the existing passenger volumes through LAUS in 2018 as the baseline. The forecasted passenger volumes were incorporated into the evaluation to determine overall passenger capacity limitations (occupancy) to meet applicable code requirements. Concourse concepts that would not meet NFPA 130 performance requirements for egress and safe evacuation of passengers were rejected from further consideration.

6.1.3 Criterion 3 – Enhance Passenger Safety and Accessibility

This screening criterion considers the ability of the concourse to enhance safety and ADA accessibility throughout LAUS by including high-capacity, ADA-compliant VCEs for passengers to easily navigate between various levels of LAUS, including the concourse and platform levels. Additionally, the ability to enhance passenger services like Red Cap and passenger shuttles were also considered. Concourse concepts that would not enhance safety and ADA accessibility throughout LAUS were rejected from further consideration.

6.1.4 Criterion 4 – Optimize Concourse Space and Back-of-House Operations

This screening criterion examines the ability of the concourse concept to provide for separation of public and back-of-house operational/maintenance spaces, by considering back of house functions, anticipated passenger movements (i.e., rapid transfer versus casual shopper), and complementary functions, such as baggage handling and ticketing. Improving the efficiency of the baggage handling system can be achieved by clustering baggage drop-off and ticketing locations throughout the concourse space. Adjacency to elevators, vehicle routes, and baggage drop off and waiting areas are also considered. This screening criterion also examines the ability of the concourse concept to provide an enhanced passenger experience at LAUS with functionally modern civic space dedicated to passenger comfort, transit-serving retail, waiting areas, food, offices, baggage services, and back-of-house functions. Concourse concepts that would not provide for the separation of public passenger spaces from back-of-house operational/maintenance spaces or that woud not enhance the passenger experience at LAUS were rejected from further consideration.

6.1.5 Criterion 5 – Maintain or Improve Passenger Transfer Times

This screening criterion examines the ability of the concourse concept to maintain or improve passenger transfer times throughout LAUS in alignment with the feedback received from the public and stakeholders. Specifically, the purpose of the passenger transfer time analysis is to compare estimated transfer times for the existing condition to the estimated transfer times for the future condition assuming the forecasted passenger volumes and crowding/capacity limitations required by NFPA 130 performance requirements for concepts below and above the rail yard.

Using data collected from actual time trials captured during the AM and PM peak and off-peak conditions, and applying the projected ridership increase and associated passenger load/congestion forecasted at LAUS to the existing condition, the estimated passenger transfer times were determined for each concourse concept.

In the existing condition, passenger transfer times for the peak and off-peak period conditions range from 3 minutes and 39 seconds to 4 minutes and 42 seconds (from the south end of Platform 4 to the west end of the Red and Purple Line platform below the East Plaza using stairways). These measurements are based on passenger experience in 2018 and would be similar to 2023 conditions. Any concept that would exceed the current timeframes for cross-campus circulation were rejected from further consideration.

6.1.6 Criterion 6 – Align with Community Preference

Metro received a total of 634 public comments during the Link US Project Draft EIR 45-day public comment period, of which over 75 percent of the public comments opposed the above-grade concourse and indicated the preference for the new modified expanded passageway or at-grade passenger concourse. This screening criterion examines the ability of the concourse concept to address community preferences originally identified as part of the CEQA process. Concourse concepts that would not align with the preferences expressed by the community were rejected from further consideration.

6.2 Passenger Concourse Concepts Screening Results

Each of the six passenger concourse concepts (described in Table 4-2) was screened based on the six criteria discussed in Section 6.1. Of the concourse concepts considered, four concepts did not meet all screening criteria and were therefore rejected from further consideration. Table 6-1 through Table 6-6 provides details of the screening process conducted for each of the concourse concepts considered. One concept (Concourse Concept 3) does meet all screening criteria; however, this concept was removed from further consideration due to cost and potential for increased environmental impacts related to emissions and traffic during construction, archaeological resources, contaminated soils, and contaminated groundwater, as disclosed in the Final EIR for the Link US Project.

6.2.1 Concourse Concept 1

As identified in Table 6-1, Concourse Concept 1 (Maintain Passageway Concourse) meets one of the six screening criteria. However, Concourse Concept 1 was rejected from further consideration because it does not meet Criteria 1 through 5.

Table 6-1. Concourse Concept 1 Screening Criteria Analysis

Screening Criteria	Meets Screening Criteria?
Criterion 1 – Add Passenger Capacity	**No.** Concourse Concept 1 would not expand the passenger capacity of the concourse to accommodate increased frequency of service and ridership at LAUS. This concourse concept would result in a crowded and congested environment that would be challenging to navigate, affecting the ability for transfers to occur optimally.
Criterion 2 – Provide Egress Routes and Safe Evacuation	**No.** Concourse Concept 1 would not provide adequate egress paths that meet NFPA 130 performance requirements for egress and safe evacuation because the existing ramps would be retained that do not conform to NFPA 130 performance requirements for ramp length and availability of egress options to serve existing and projected passenger volumes. Ramps would need to be nearly 400 feet in length with a nearly 200-foot-long opening in the platform. A specific issue identified with this concourse concept is that NFPA 130 requires an exit within 325 feet of any passenger and egress within 82 feet of a platform end. The existing pedestrian passageway and rail yard do not conform to these requirements.
Criterion 3 – Enhance Passenger Safety and Accessibility	**No.** Concourse Concept 1 would not enhance ADA accessibility throughout LAUS because it would not include modernized VCEs to aid ADA compliance. Additionally, the lengthened ramps needed for this concourse concept would extend up to 300 feet in length, thereby increasing the vertical climb and descent for the passenger.
Criterion 4 – Optimize Concourse Space and Back-of-House Operations	**No.** Concourse Concept 1 would not allow for the separation of public from back-of-house spaces or provide a functionally modern passenger experience at LAUS because no change would occur to the existing program organization and operations at LAUS; although there would be an increase in projected ridership that could strain the operations beyond their current capacity. Additionally, Concourse Concept 1 would not improve the efficiency of baggage handling operations because baggage tug routes on the southern end of the platforms would be unusable after run-through tracks are in place, and baggage tugs would be unable to cross the rail yard where the run-through track structure is proposed. No alternative baggage handling concepts have been identified that would maintain the baggage tug routes for this concourse concept.
Criterion 5 – Maintain or Improve Passenger Transfer Times	**No.** Concourse Concept 1 would not maintain passenger travel times throughout LAUS. Although the main path for pedestrian travel would be maintained below the rail yard, the increased passenger loads are assumed to increase crowding thus resulting in potentially longer passenger transfer times as the existing condition.
Criterion 6 – Align with Community Preference	**Yes.** Concourse Concept 1 would align with community preferences as the main path for pedestrian travel would be maintained below the rail yard.

Notes:
ADA=Americans with Disabilities Act; LAUS=Los Angeles Union Station; NFPA=National Fire Protection Association; VCE=vertical circulation element

6.2.2 Concourse Concept 2

As identified in Table 6-2, Concourse Concept 2 (Widened Passageway Concourse) meets two of the six screening criteria. However, Concourse Concept 2 was rejected from further consideration because it does not meet Criteria 2 through 5.

Table 6-2. Concourse Concept 2 Screening Criteria Analysis

Screening Criteria	Meets Screening Criteria?
Criterion 1 – Add Passenger Capacity	**Yes.** Concourse Concept 2 would add passenger capacity below the rail yard because the passageway would be widened to a width of approximately 90 feet, but would not allow for increased passenger capacity on the platforms because of the insufficiency of VCEs to accommodate future station conditions (see Criteria 2 and 3 analysis below). Concourse Concept 2 would improve transit interconnectivity to various transit avenues (such as the El Monte Busway, Patsaouras Transit Plaza, Amtrak Bus Bays, and Metro rail lines).
Criterion 2 – Provide Egress Routes and Safe Evacuation	**No.** Concourse Concept 2 would not provide adequate egress paths that meet NFPA 130 performance requirements for egress and safe evacuation because the concourse concept does not include additional egress routes needed to accommodate projected passenger volumes.
Criterion 3 – Enhance Passenger Safety and Accessibility	**No.** Concourse Concept 2 would include high capacity VCEs, but site restrictions (i.e., Red Line tunnel) prevent placement of VCEs at optimal locations resulting in a series of complicated circulation zones that do not facilitate free flowing passenger circulation because they do not connect immediately to an open central passenger concourse.
Criterion 4 – Optimize Concourse Space and Back-of-House Operations	**No.** Concourse Concept 2 would not allow for the separation of public from back-of-house spaces or provide a functionally modern passenger experience at LAUS because no change would occur to the existing program organization and operations at LAUS; although there would be an increase in projected ridership that could strain the operations beyond their current capacity. Additionally, Concourse Concept 2 would not improve the efficiency of baggage handling operations because the implementation of baggage handling ramps would displace VCEs on the northern side of the platforms.
Criterion 5 – Maintain or Improve Passenger Transfer Times	**No.** Concourse Concept 2 would not maintain passenger travel times throughout LAUS. Although the main path for pedestrian travel would be maintained below the rail yard and the passageway would be widened, the number of exits from the platform isn't increased to handle the increased passenger volumes or the assumed increased crowding thereby resulting in potentially similar or longer passenger transfer times as the existing condition.
Criterion 6 – Align with Community Preference	**Yes.** Concourse Concept 2 would align with community preferences as the main path for pedestrian travel would be maintained below the rail yard.

Notes:
LAUS=Los Angeles Union Station; Metro=Los Angeles County Metropolitan Transportation Authority; NFPA=National Fire Protection Association; VCE=vertical circulation element

6.2.3 Concourse Concept 3

As identified in Table 6-3, Concourse Concept 3 (At-Grade Concourse) meets all six of the screening criteria; however, based on the full environmental evaluation of environmental impacts performed by Metro in the Link US Final EIR, Meto elected to remove this concept rom further consideration in the Link US Project EIS.

Table 6-3. Concourse Concept 3 Screening Criteria Analysis

Screening Criteria	Meets Screening Criteria?
Criterion 1 – Add Passenger Capacity	**Yes.** Concourse Concept 3 would add passenger capacity below the rail yard because the passageway would be widened to a width of approximately 300 feet. Concourse Concept 3 would to accommodate increased frequency of service and ridership at LAUS while also improving transit interconnectivity to various transit avenues (such as the El Monte Busway, Patsaouras Transit Plaza, Amtrak Bus Bays, and Metro rail lines).
Criterion 2 – Provide Egress Routes and Safe Evacuation	**Yes.** Concourse Concept 3 would provide adequate egress paths that meet NFPA 130 performance requirements for egress and safe evacuation by introducing dedicated egress corridors where emergency stairs are positioned at both the center and ends of the platforms so the passenger can select the closest and safest exit relative to their position on a given platform.
Criterion 3 – Enhance Passenger Safety and Accessibility	**Yes.** Concourse Concept 3 would enhance ADA accessibility throughout LAUS because it would include modernized VCEs that connect directly from the platforms to the concourse to aid ADA compliance. Concourse Concept 3 also provides an open space below the rail yard with wider sight lines that aid with passenger orientation.
Criterion 4 – Optimize Concourse Space and Back-of-House Operations	**Yes.** Concourse Concept 3 would allow for separation of public spaces from back-of-house spaces by placing all support spaces outside of the area accessible to the public, grouped into northern and southern back-of-house areas. Concourse Concept 3 would improve baggage handling operations by providing more efficient and direct routes between the platforms, passenger ticketing, and baggage drop-off/pick-up areas. Baggage services would be relocated to a centralized location at the concourse level with new carousels for pick up; this would shorten the distance between the baggage drop off/pick up points and the arrival/departure point on the platform. Concourse Concept 3 also provides a functionally modern passenger experience at LAUS that includes retail and office/commercial activities integrated without impacting passenger flows.
Criterion 5 – Maintain or Improve Passenger Transfer Times	**Yes**. Concourse Concept 3 would improve passenger travel times. Specifically, a 12-second or 6 percent decrease in transfer time compared with the existing condition is expected during off-peak conditions, and a 36-second or 13 percent decrease in transfer time compared with the existing condition is expected during peak conditions. This transfer time data includes assumptions for crowding associated with the forecasted passenger volumes and is taken from between the south end of Platform 4 and the east and west ends of the Red/Purple Line Platform using stairways. Transfer time data is consistent with the data that was presented to the Metro Board of Directors in December 2018.
Criterion 6 – Align with Community Preference	**Yes.** Concourse Concept 3 would align with community preferences as the main path for pedestrian travel would be maintained below the rail yard.

Notes:
ADA=Americans with Disabilities Act; LAUS=Los Angeles Union Station; Metro=Los Angeles County Metropolitan Transportation Authority; NFPA=National Fire Protection Association; VCE=vertical circulation element

6.2.4 Concourse Concept 4

As identified in Table 6-4, Concourse Concept 4 (Above-Grade Concourse) meets four out of the six screening criteria. However, Concourse Concept 4 was rejected from further consideration because it does not meet Criteria 5 and Criteria 6.

Table 6-4. Concourse Concept 4 Screening Criteria Analysis

Screening Criteria	Meets Screening Criteria?
Criterion 1 – Add Passenger Capacity	**Yes.** Concourse Concept 4 would add passenger capacity with adequate space to accommodate increased frequency of service and ridership at LAUS; although passengers would experience a more circuitous and complex route to various transit avenues (such as the El Monte Busway, Patsaouras Transit Plaza, Amtrak Bus Bays, and Metro rail lines).
Criterion 2 – Provide Egress Routes and Safe Evacuation	**Yes.** Concourse Concept 4 would provide adequate egress paths that meet NFPA 130 performance requirements for egress and safe evacuation by introducing dedicated egress corridors to be used during evacuation events only and offering multiple options for passenger egress.
Criterion 3 – Enhance Passenger Safety and Accessibility	**Yes.** Concourse Concept 4 would enhance ADA accessibility throughout LAUS because it would include modernized VCEs that connect directly from the platforms to the concourse above the rail yard to aid ADA compliance.
Criterion 4 – Optimize Concourse Space and Back-of-House Operations	**Yes.** Concourse Concept 4 would allow for separation of public spaces from back-of-house spaces with a layout designed to allow passenger movements through the plazas and directly to the above-grade portion of the concourse away from back-of-house operations placed at-grade under the platforms. Concourse Concept 4 also provides a functionally modern passenger experience at LAUS that includes retail and office/commercial activities integrated without impacting passenger flows. Concourse Concept 4 would improve baggage handling operations by providing more efficient and direct routes between the platforms and passenger ticketing/baggage drop-off locations in the East and West Plazas. Baggage handling operations would be located in the West Plaza adjacent to the platforms. Baggage would be transferred via tug tunnels connecting to a new back-of-house passageway under the platforms, which provides a more efficient and direct route to the baggage handling facility rather than what would be offered with the existing conditions. Amtrak Red Cap service would also use the tug tunnels and thus be away from pedestrian traffic. Additionally, baggage carts would not have to cross tracks as they currently do in the existing station.
Criterion 5 – Maintain or Improve Passenger Transfer Times	**No**. Concourse Concept 4 would not improve passenger transfer times. Specifically, a 1-minute and 21-second or 37 percent increase in transfer time compared with the existing condition is expected during off-peak conditions, and a 40-second or 14 percent increase in transfer time compared with the existing condition is expected during peak conditions. This transfer time data includes assumptions for crowding associated with the forecasted passenger volumes and is taken from between the south end of Platform 4 and the east and west ends of the Red/Purple Line Platform using stairways (Metro 2018).

Table 6-4. Concourse Concept 4 Screening Criteria Analysis	
Screening Criteria	**Meets Screening Criteria?**
Criterion 6 – Align with Community Preference	**No.** Concourse Concept 4 would not align with community preferences as the main path for pedestrian travel would be above the rail yard.

Notes:
ADA=Americans with Disabilities Act; LAUS=Los Angeles Union Station; Metro=Los Angeles County Metropolitan Transportation Authority; NFPA=National Fire Protection Association; VCE=vertical circulation element

6.2.5 Concourse Concept 5

As identified in Table 6-5, Concourse Concept 5 (Above-Grade Concourse with New Expanded Passageway) meets four of the six screening criteria. However, Concourse Concept 5 was rejected from further consideration because it does not meet Criteria 5 and Criteria 6.

Table 6-5. Concourse Concept 5 Screening Criteria Analysis	
Screening Criteria	**Meets Screening Criteria?**
Criterion 1 – Add Passenger Capacity	**Yes.** Concourse Concept 5 would add passenger capacity with adequate space to accommodate increased frequency of service and ridership at LAUS. The open design of this concept offers a more intuitive way finding environment with increased sight lines that make the other transit modes visible which optimizes transfers. Passenger movements would occur above or below the rail yard. Located below the rail yard, the 120-foot-wide expanded passageway would offer expedient point to point connections. This concept improves transit interconnectivity by enhancing access and passenger movements to various transit avenues (such as the El Monte Busway, Patsaouras Transit Plaza, Amtrak Bus Bays, and Metro rail lines).
Criterion 2 – Provide Egress Routes and Safe Evacuation	**Yes.** Concourse Concept 5 would provide multiple egress routes, including the elevated portion, the expanded passageway, and dedicated egress corridors that would be used during an evacuation event only. The combined egress paths from the elevated portion of the concourse, the expanded passageway, and the emergency stairs are used and positioned to meet NFPA 130 performance requirements.
Criterion 3 – Enhance Passenger Safety and Accessibility	**Yes.** Concourse Concept 5 would enhance ADA accessibility throughout LAUS because it would include modernized VCEs that connect directly from the platforms to the elevated portion of the concourse above the rail yard and to the expanded passageway below the rail yard to aid in ADA compliance.
Criterion 4 – Optimize Concourse Space and Back-of-House Operations	**Yes.** Concourse Concept 5 would allow for separation of public spaces from back-of-house spaces and would provide a functionally modern passenger experience at LAUS with a layout designed to allow passenger movements through the plazas and directly to the elevated portion of the concourse away from back-of-house operations, which would be located at-grade under the platforms away from the expanded passageway. Concourse Concept 5 would improve baggage handling operations by providing more efficient and direct routes between the platforms, passenger ticketing, and baggage drop-off/pick-up areas. Baggage pick up would occur in the new expanded passageway. A new baggage handling operations facility would be located

Table 6-5. Concourse Concept 5 Screening Criteria Analysis	
Screening Criteria	**Meets Screening Criteria?**
	adjacent to and north of the new expanded passageway, and baggage would be transferred via ramped tug tunnels leading to the Amtrak platform.
Criterion 5 – Maintain or Improve Passenger Transfer Times	**No**. Concourse Concept 5 would improve passenger travel times for passengers using the 120-foot-wide expanded passageway, but not for passengers using the above-grade component – these times would be similar to the Above Grade Concourse passenger transfer times described above for Concourse Concept 4. For passengers using the 120-foot-wide expanded passageway, a 27-second or 12 percent decrease in transfer time compared with the existing condition is expected during off-peak conditions, and a 47-second or 17 percent decrease in transfer time compared with the existing condition is expected during peak conditions.
Criterion 6 – Align with Community Preference	**No.** Concourse Concept 5 would not align with community preferences because it includes an above-grade component.

Notes:
ADA=Americans with Disabilities Act; LAUS=Los Angeles Union Station; Metro=Los Angeles County Metropolitan Transportation Authority; NFPA=National Fire Protection Association; VCE=vertical circulation element

6.2.6 Concourse Concept 6

As identified in Table 6-6, Concourse Concept 6 (Expanded Passageway) meets all six screening criteria. Therefore, Concourse Concept 6 is recommended to be carried forward for evaluation.

Table 6-6. Concourse Concept 6 Screening Criteria Analysis	
Screening Criteria	**Meets Screening Criteria?**
Criterion 1 – Add Passenger Capacity	**Yes.** Concourse Concept 6 would add passenger capacity with a passageway four times the size of the existing passageway to accommodate increased frequency of service and ridership at LAUS. Located below the rail yard, the 140-foot-wide expanded passageway would offer expedient point to point connections where users are moving in rapid and large volumes in route to their final destinations. This concept includes passenger waiting areas below the rail yard and improves transit interconnectivity by enhancing access and passenger movements to various transit avenues (such as the El Monte Busway, Patsaouras Transit Plaza, Amtrak Bus Bays, and Metro rail lines).
Criterion 2 – Provide Egress Routes and Safe Evacuation	**Yes.** Concourse Concept 6 would provide adequate egress paths that meet NFPA 130 performance requirements for egress and safe evacuation by introducing dedicated egress corridors to be used during evacuation events only and offering multiple options for passenger egress.
Criterion 3 – Enhance Passenger Safety and Accessibility	**Yes.** Concourse Concept 6 would enhance ADA accessibility throughout LAUS because it would include modernized VCEs that connect directly from the platforms to the expanded passageway below the rail yard to aid in ADA compliance.

Table 6-6. Concourse Concept 6 Screening Criteria Analysis

Screening Criteria	Meets Screening Criteria?
Criterion 4 – Optimize Concourse Space and Back-of-House Operations	**Yes.** Concourse Concept 6 would allow for separation of public spaces from back-of-house spaces and provide a functionally modern passenger experience at LAUS. Concourse Concept 6 would improve baggage handling operations by providing more efficient and direct routes between the platforms, passenger ticketing, and baggage drop-off/pick-up areas. Passenger ticketing/baggage drop off locations would occur in the East and West Plazas, and baggage pick up would occur in the new expanded passageway. A new baggage handling operations facility would be located adjacent to and north of the new expanded passageway. Baggage would be transferred via ramped tug tunnels leading to the Amtrak platform.
Criterion 5 – Maintain or Improve Passenger Transfer Times	**Yes**. Passengers using the 140-foot-wide expanded passageway as part of Concourse Concept 6 would have similar passenger transfer times to what is described above for the 120-foot-wide expanded passageway as part of Concourse Concept 5. For passengers using the expanded passageway below the rail yard, even with a 140-foot-wide opening, a 27-second or 12 percent decrease in transfer time compared with the existing condition is expected during off-peak conditions, and a 47-second or 17 percent decrease in transfer time compared with the existing condition is expected during peak conditions.
Criterion 6 – Align with Community Preference	**Yes.** Concourse Concept 6 would align with community preferences as the main path for pedestrian travel would be maintained below the rail yard.

Notes:
ADA=Americans with Disabilities Act; LAUS=Los Angeles Union Station; Metro=Los Angeles County Metropolitan Transportation Authority; NFPA=National Fire Protection Association; VCE=vertical circulation element

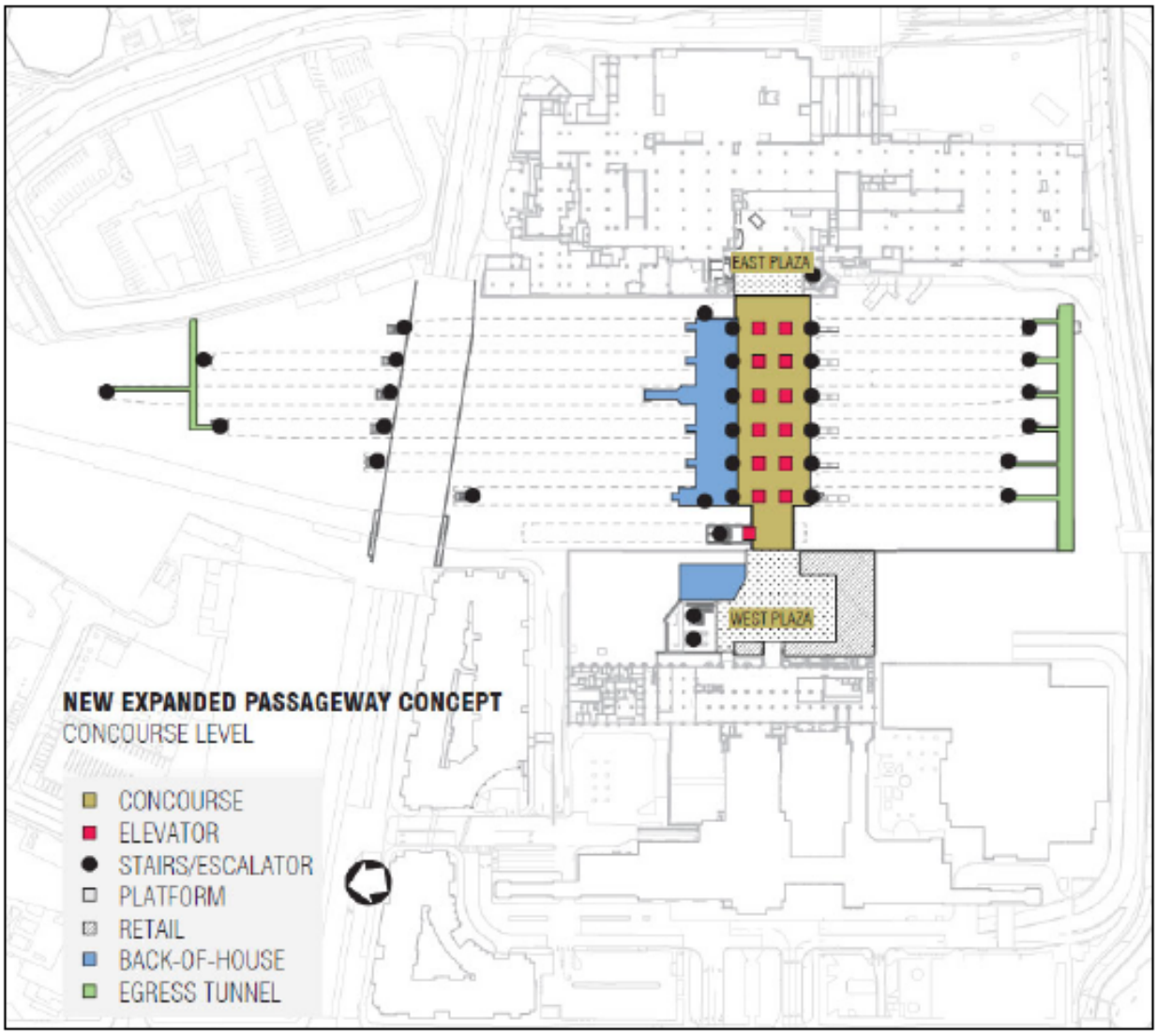
6.3 Recommendation Process

Based on the results from the screening process, Concourse Concept 6 (Expanded Passageway) is recommended for detailed evaluation in the Link US Project EIS:

- **Concourse Concept 6 (Expanded Passageway)** – The existing 28-foot-wide pedestrian passageway would be replaced with a 140-foot-wide expanded passageway below the rail yard. The expanded passageway would also add passenger capacity, meet applicable NFPA 130 performance requirements for egress and safe evacuation, enhance passenger safety and ADA accessibility with new VCEs (stairs, escalators, and elevators), optimize concourse space and back-of-house operations, and improve passenger transfer times in alignment with community preferences. This concept is recommended for detailed evaluation in the Link US Project EIS because it meets the six screening criteria.

Concourse Concept 6 (Expanded Passageway) is depicted on Figure 6-1.

Figure 6-1. Concourse Concept 6 (Expanded Passageway)



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7.0 Summary and Findings

The identification, consideration, and analysis of alternatives are key to the NEPA process and goal of objective decision making. Council on Environmental Quality regulations (40 Code of Federal Regulations Section 1500-1508) address the basic decision-making framework established in NEPA, including:

- Assessment of the social, economic, and environmental impacts of a proposed action or project
- Analysis of a range of reasonable alternatives to the proposed project based on the defined purpose and need for the project
- Interagency participation, coordination, and consultation
- Public involvement including opportunities to participate and comment
- Documentation and disclosure

A full range of track alignment alternatives and passenger concourse concepts were considered throughout the alternatives analysis process. As a result of the screening process, one track alignment alternative and one concourse concept is recommended for detailed evaluation in the Link US EIS in addition to the No Action Alternative. As shown below, the track alignment and concourse concept are grouped together as part of the proposed Build Alternative for ease of evaluation.

7.1 No Action Alternative

NEPA (40 Code of Federal Regulations [CFR] 1502.14(d))[5] requires federal agencies to include an analysis of "the alternative of no action." For NEPA purposes, the No Action Alternative is the baseline against which the effect of implementing the Project is evaluated to determine the extent of environmental and community effects. For the No Action Alternative, the baseline year is 2016 and the horizon year is 2040.

The No Action Alternative represents the future conditions that would occur if the proposed infrastructure improvements and the operational capacity enhancements at LAUS were not implemented, and reflects the foreseeable effects of growth planned for the area in conjunction with other existing, planned, and reasonably foreseeable projects and infrastructure improvements.

[5] The Council on Environmental Quality (CEQ) issued new regulations, effective April 20, 2022, updating the NEPA implementing procedures at 40 CFR Parts 1500–1508. However, because this environmental document was initiated prior to the effective date, it is not subject to the new regulations and CHSRA is relying on the regulations as they existed on the date of the initial Notice of Intent, May 31, 2016. Therefore, all citations to CEQ regulations in this environmental document refer to the 1978 regulations and the 1986 amendment, 51 *Federal Register* 15618 (Apr. 25, 1986).

7.2 Build Alternative

The Build Alternative would include a shared track alignment with six lead tracks north of LAUS, a 140-foot-wide expanded passageway at LAUS, and 10 run-through tracks south of LAUS (six for regional/intercity trains and four for HSR trains), with dedicated lead tracks for BNSF freight trains and Amtrak intercity trains at the BNSF West Bank Yard. The infrastructure elements associated with the Build Alternative are summarized below, north to south:

- North of LAUS
  - Shared track alignment (two compatible lead tracks for future HSR service)
  - Reconstructed throat (one new lead track) from Control Point Chavez to Cesar Chavez Avenue
  - Vignes Street Bridge and Cesar Chavez Avenue Bridge replacements
  - Safety improvements at Main Street to facilitate future implementation of a quiet zone by the City of Los Angeles
- LAUS Rail Yard
  - Elevated rail yard with seven new platforms (Platforms 2 and 3 to meet CHSRA level boarding requirements)
  - 140-foot-wide expanded passageway with East and West Plazas
  - New VCEs (stairs, escalators, and elevators) between the elevated platforms and the expanded passageway below the rail yard
- South of LAUS
  - Common bridges and embankments with associated civil/railroad infrastructure that would accommodate six run-through tracks for regional/intercity rail trains and four run-through tracks for future high speed rail trains from LAUS to the west bank of the Los Angeles River
  - Dedicated lead tracks for BNSF freight trains and Amtrak trains at BNSF West Bank Yard
  - Permanent loss of approximately 5,500 track feet of storage track capacity at BNSF West Bank Yard

8.0 References

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——— 2018. Draft Link US Concourse Study. Link Union Station Project. Prepared by HDR Engineering, Inc.

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Attachment A:
Track Alignment Alternatives Considered

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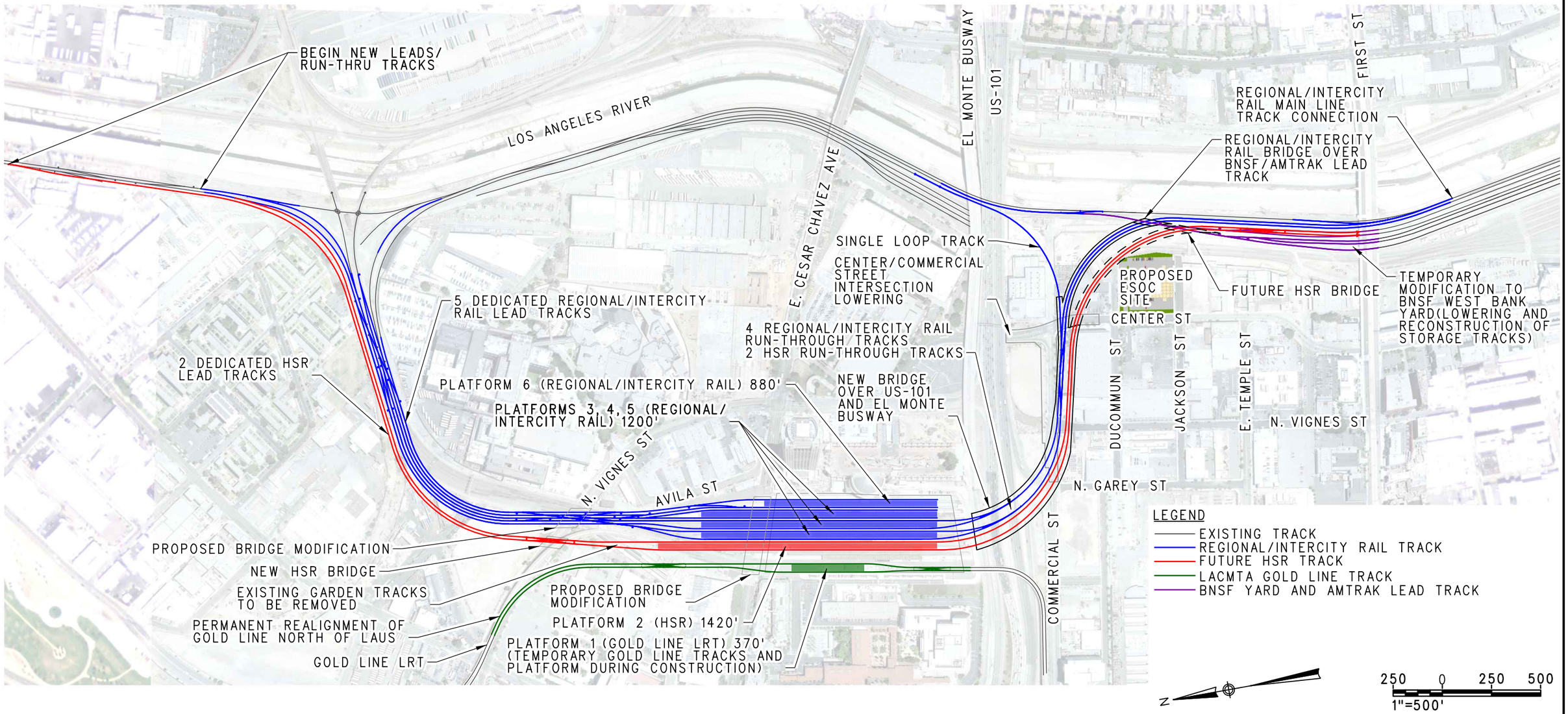

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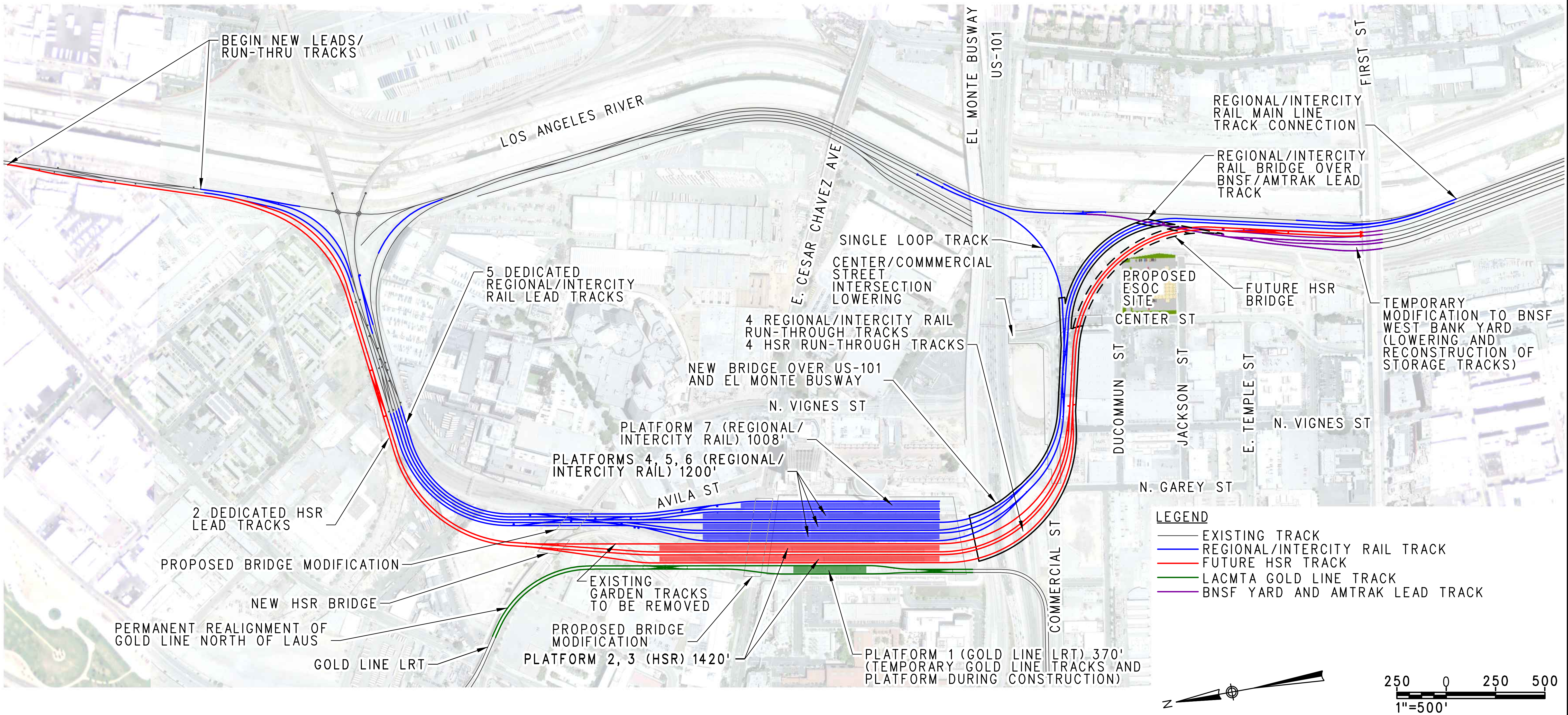

HDR | Metro

LINK UNION STATION

TRACK ALIGNMENT ALTERNATIVE 2

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BEGIN NEW LEADS/
RUN-THRU TRACKS

LOS ANGELES RIVER

5 DEDICATED
REGIONAL/INTERCITY
RAIL LEAD TRACKS

E. CESAR CHAVEZ AVE

EL MONTE BUSWAY

US-101

FIRST ST

REGIONAL/INTERCITY
RAIL MAIN LINE
TRACK CONNECTION

REGIONAL/INTERCITY
RAIL BRIDGE OVER
BNSF/AMTRAK LEAD
TRACK

SINGLE LOOP TRACK

CENTER/COMMERCIAL
STREET
INTERSECTION
LOWERING

PROPOSED
ESOC
SITE

FUTURE HSR
BRIDGE

TEMPORARY
MODIFICATION TO BNSF
WEST BANK YARD
(LOWERING AND
RECONSTRUCTION OF
STORAGE TRACKS)

CENTER ST

NEW BRIDGE OVER US-101 AND
EL MONTE BUSWAY

DUCOMMUN ST

JACKSON ST

E. TEMPLE ST

N. VIGNES ST

5 REGIONAL/INTERCITY RAIL RUN-THROUGH TRACKS
2 HSR RUN-THROUGH TRACKS

N. VIGNES ST

PLATFORM 6 (REGIONAL/
INTERCITY RAIL) 880'

PLATFORMS 3, 4, 5 (REGIONAL/
INTERCITY RAIL) 1200'

2 DEDICATED HSR
LEAD TRACKS

AVILA ST

N. GAREY ST

PROPOSED BRIDGE MODIFICATION

NEW HSR BRIDGE

EXISTING
GARDEN TRACKS
TO BE REMOVED

PROPOSED BRIDGE
MODIFICATION

COMMERCIAL ST

PERMANENT REALIGNMENT OF
GOLD LINE NORTH OF LAUS

GOLD LINE LRT

PLATFORM 1 (GOLD LINE LRT) 370'
(TEMPORARY GOLD LINE TRACKS AND
PLATFORM DURING CONSTRUCTION)

PLATFORM 2 (HSR) 1420'

LEGEND

- EXISTING TRACK
- REGIONAL/INTERCITY RAIL TRACK
- FUTURE HSR TRACK
- LACMTA GOLD LINE TRACK
- BNSF YARD AND AMTRAK LEAD TRACK

N

250 0 250 500

1"=500'

HDR | Metro

LINK UNION STATION

TRACK ALIGNMENT ALTERNATIVE 3

SCALE: 1"=500'

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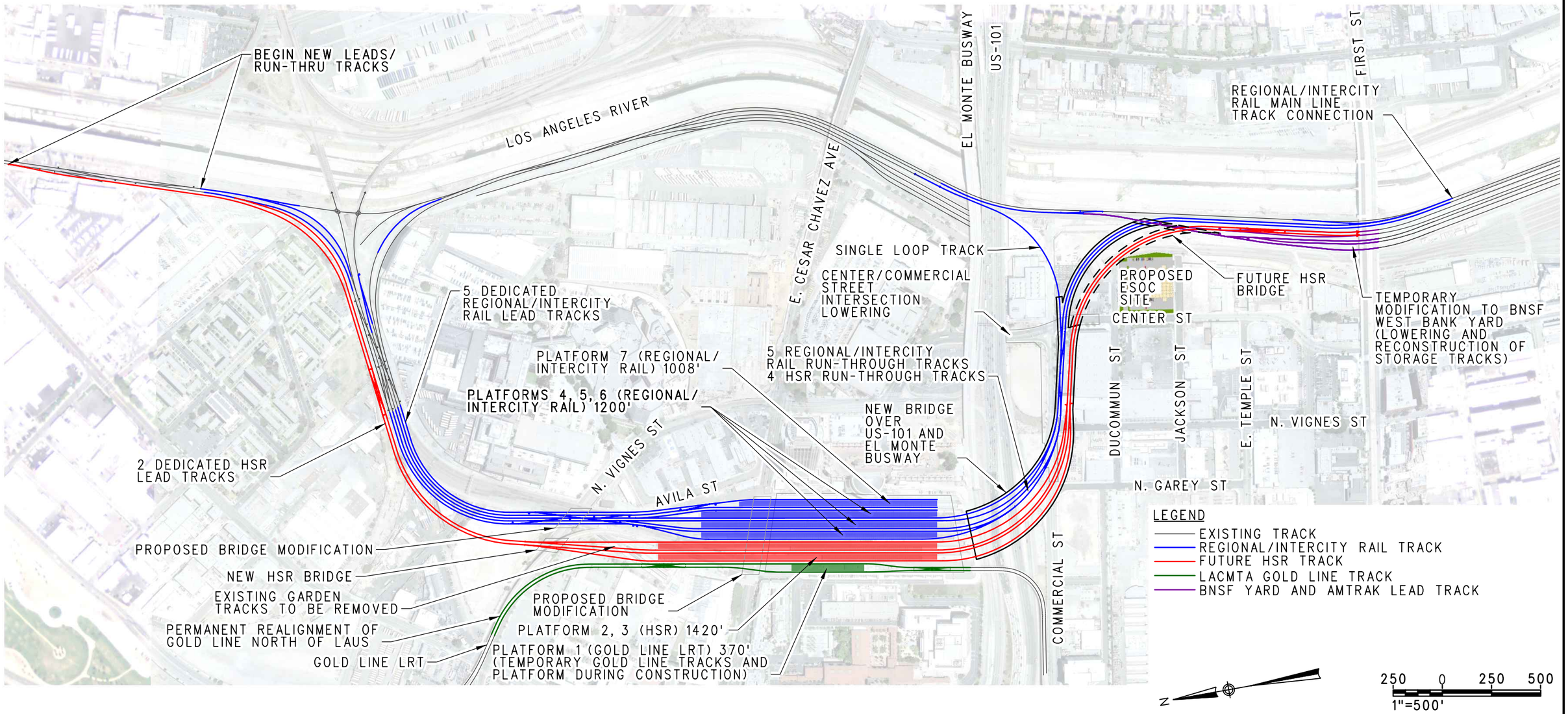

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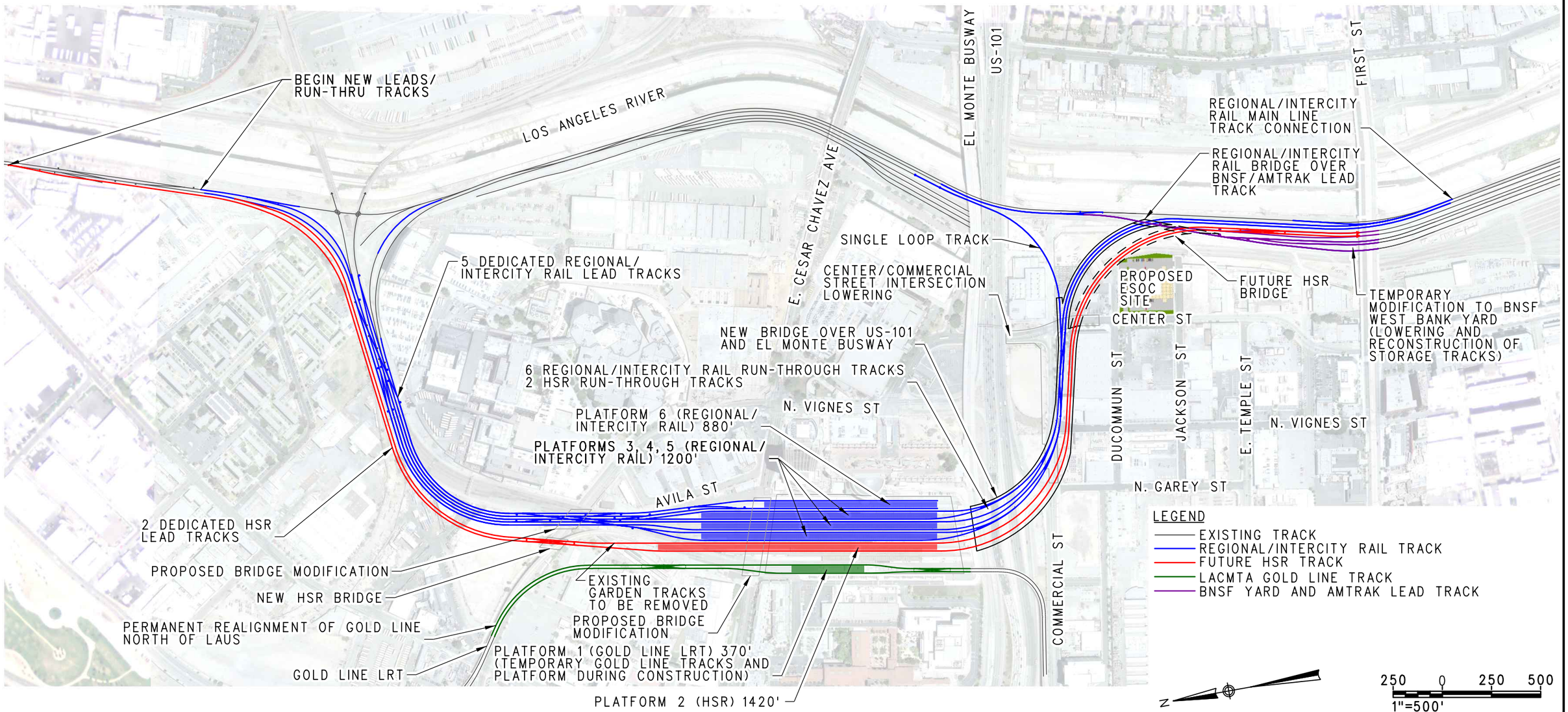

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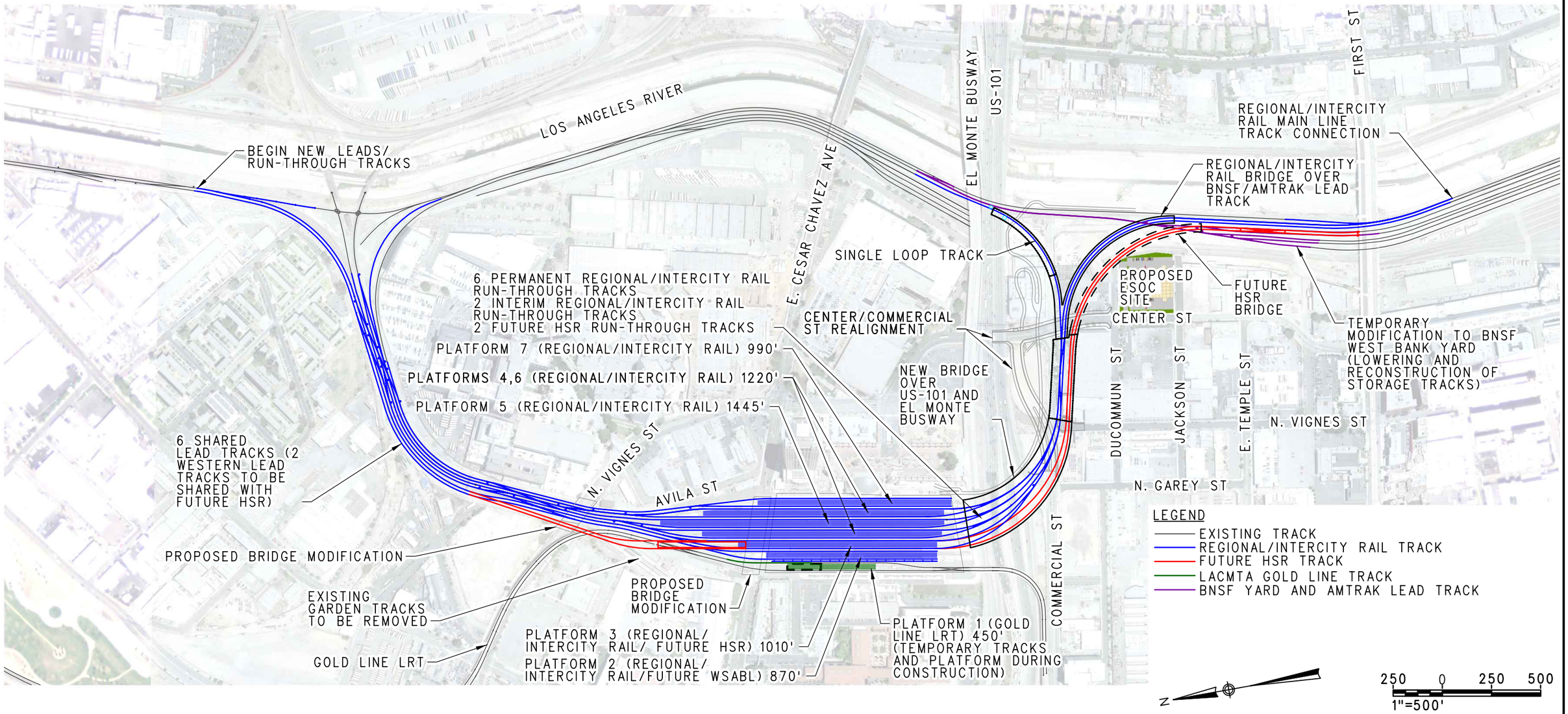

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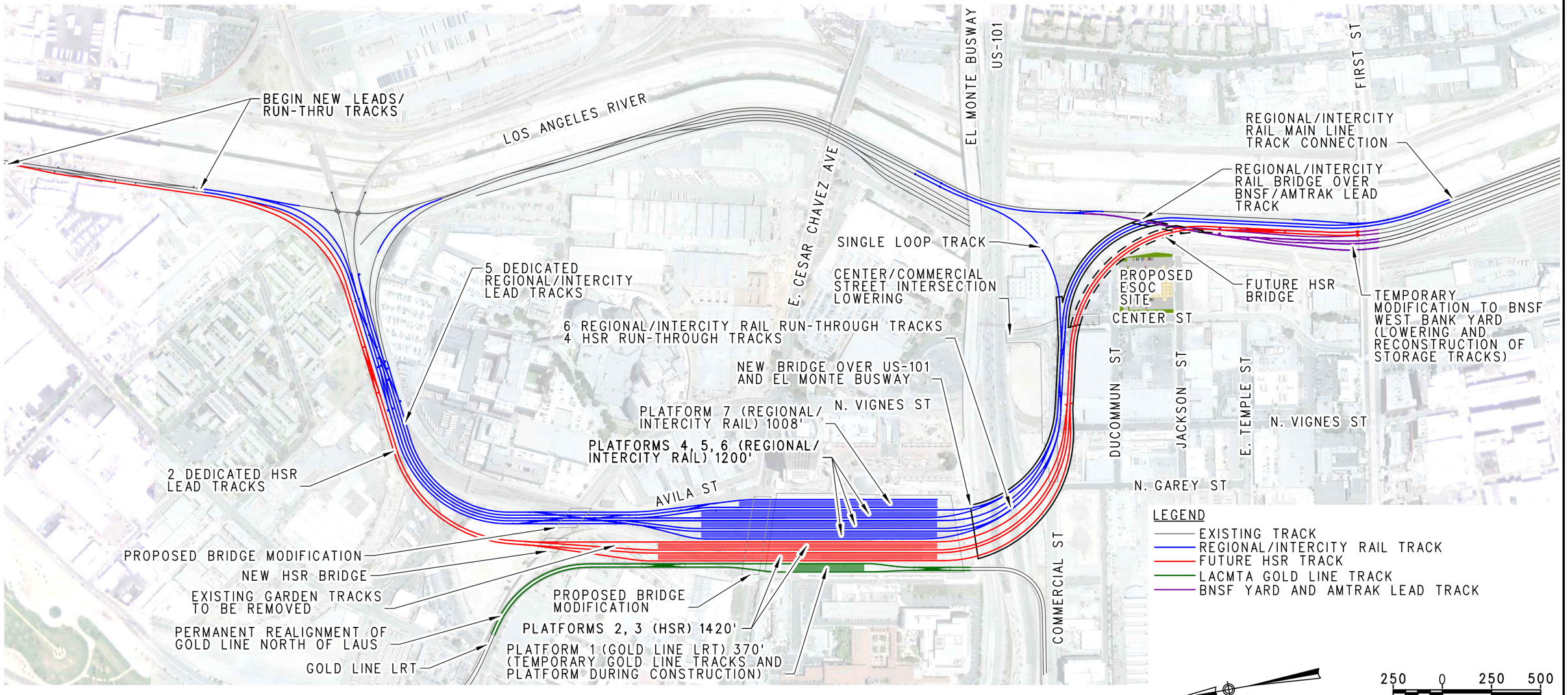

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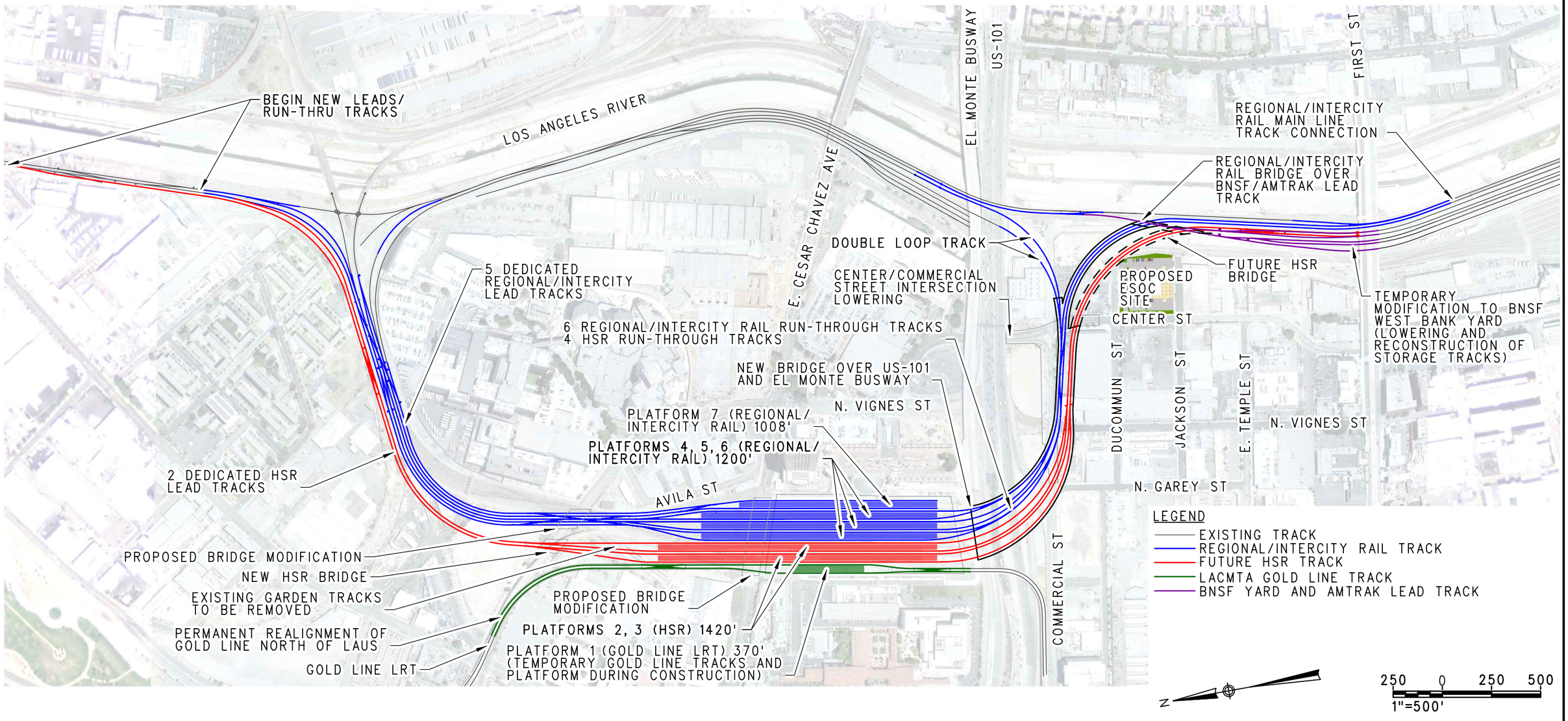

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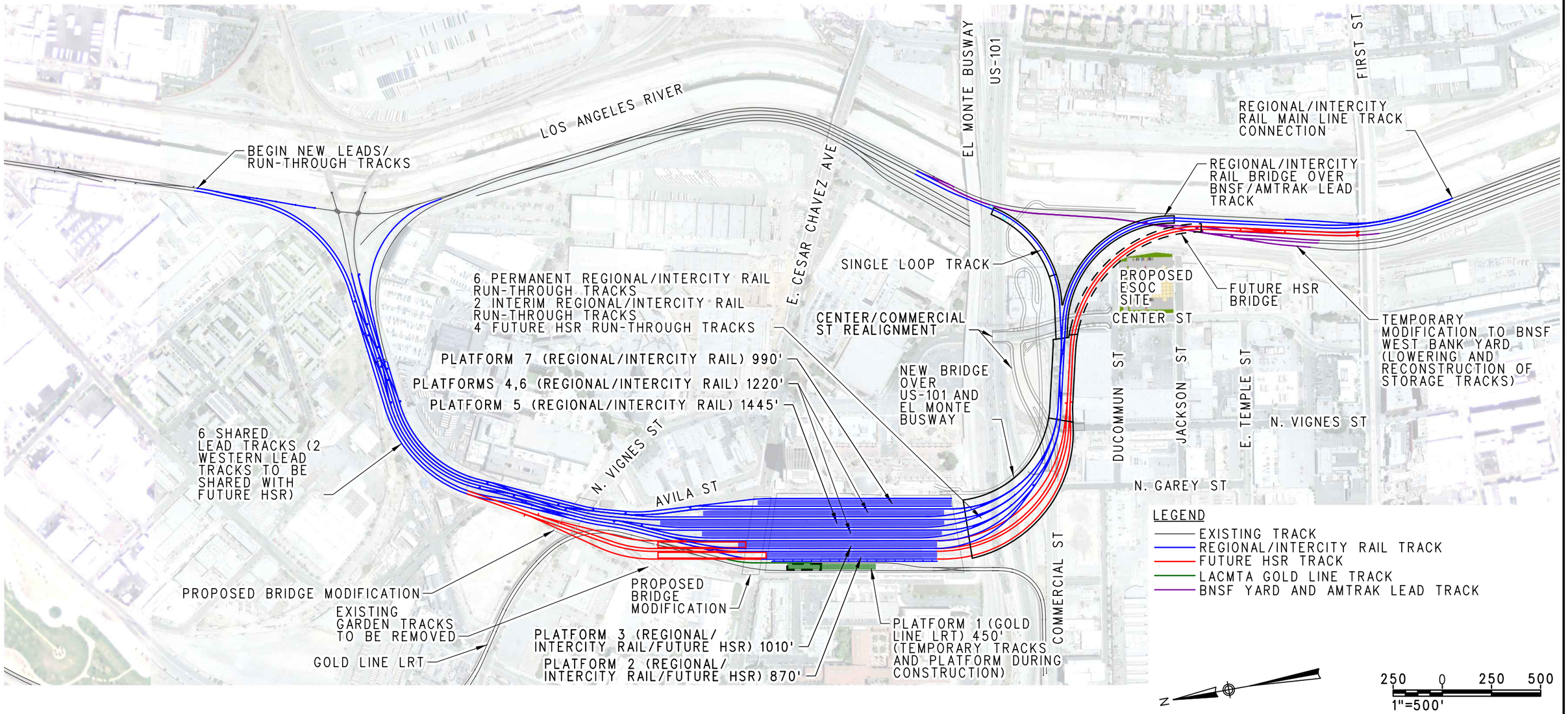

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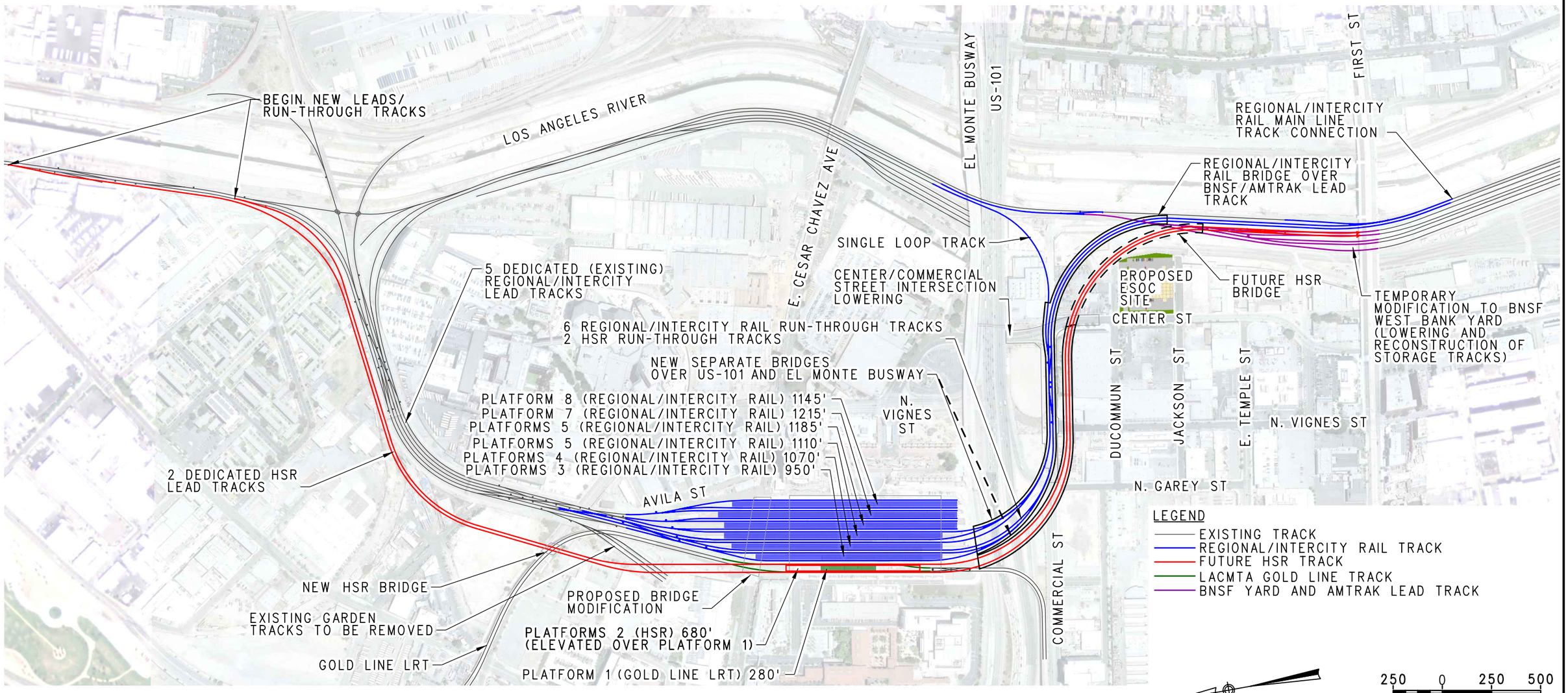

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BEGIN NEW LEADS/
RUN-THROUGH TRACKS

LOS ANGELES RIVER

4 DEDICATED
REGIONAL/INTERCITY
LEAD TRACKS

2 DEDICATED HSR
LEAD TRACKS

NEW REGIONAL/INTERCITY
RAIL MAINTENANCE
TRACK CONNECTION

NEW HSR BRIDGE

EXISTING GARDEN TRACKS
TO BE REMOVED

PERMANENT REALIGNMENT OF
GOLD LINE NORTH OF LAUS

GOLD LINE LRT

E. CESAR CHAVEZ AVE

EL MONTE BUSWAY

US-101

SINGLE LOOP TRACK

CENTER/COMMERCIAL
STREET INTERSECTION
LOWERING

6 REGIONAL/INTERCITY RAIL RUN-THROUGH TRACKS
4 HSR RUN-THROUGH TRACKS

NEW SEPARATE BRIDGES
OVER US-101 AND
EL MONTE BUSWAY

PLATFORM 8 (REGIONAL/INTERCITY RAIL) 1165'
PLATFORM 7 (REGIONAL/INTERCITY RAIL) 1350'
PLATFORM 6 (REGIONAL/INTERCITY RAIL) 1400'
PLATFORMS 4, 5 (REGIONAL/INTERCITY RAIL) 1420'

AVILA ST

PROPOSED BRIDGE
MODIFICATION

PLATFORMS 2, 3 (HSR) 1420'

PLATFORM 1 (GOLD LINE LRT) 570'
(TEMPORARY GOLD LINE TRACKS AND
PLATFORM DURING CONSTRUCTION)

PERMANENT
REALIGNMENT OF
GOLD LINE
SOUTH OF LAUS

COMMERCIAL ST

N. VIGNES ST

FIRST ST

REGIONAL/INTERCITY
RAIL MAIN LINE
TRACK CONNECTION

REGIONAL/INTERCITY
RAIL BRIDGE OVER
BNSF/AMTRAK LEAD
TRACK

PROPOSED
ESOC
SITE

FUTURE HSR
BRIDGE

TEMPORARY
MODIFICATION TO BNSF
WEST BANK YARD
(LOWERING AND
RECONSTRUCTION OF
STORAGE TRACKS)

CENTER ST

DUCOMMUN ST

JACKSON ST

E. TEMPLE ST

N. VIGNES ST

N. GAREY ST

LEGEND

- EXISTING TRACK
- REGIONAL/INTERCITY RAIL TRACK
- FUTURE HSR TRACK
- LACMTA GOLD LINE TRACK
- BNSF YARD AND AMTRAK LEAD TRACK

N

250 0 250 500
1"=500'

HDR | Metro

LINK UNION STATION

TRACK ALIGNMENT ALTERNATIVE 11

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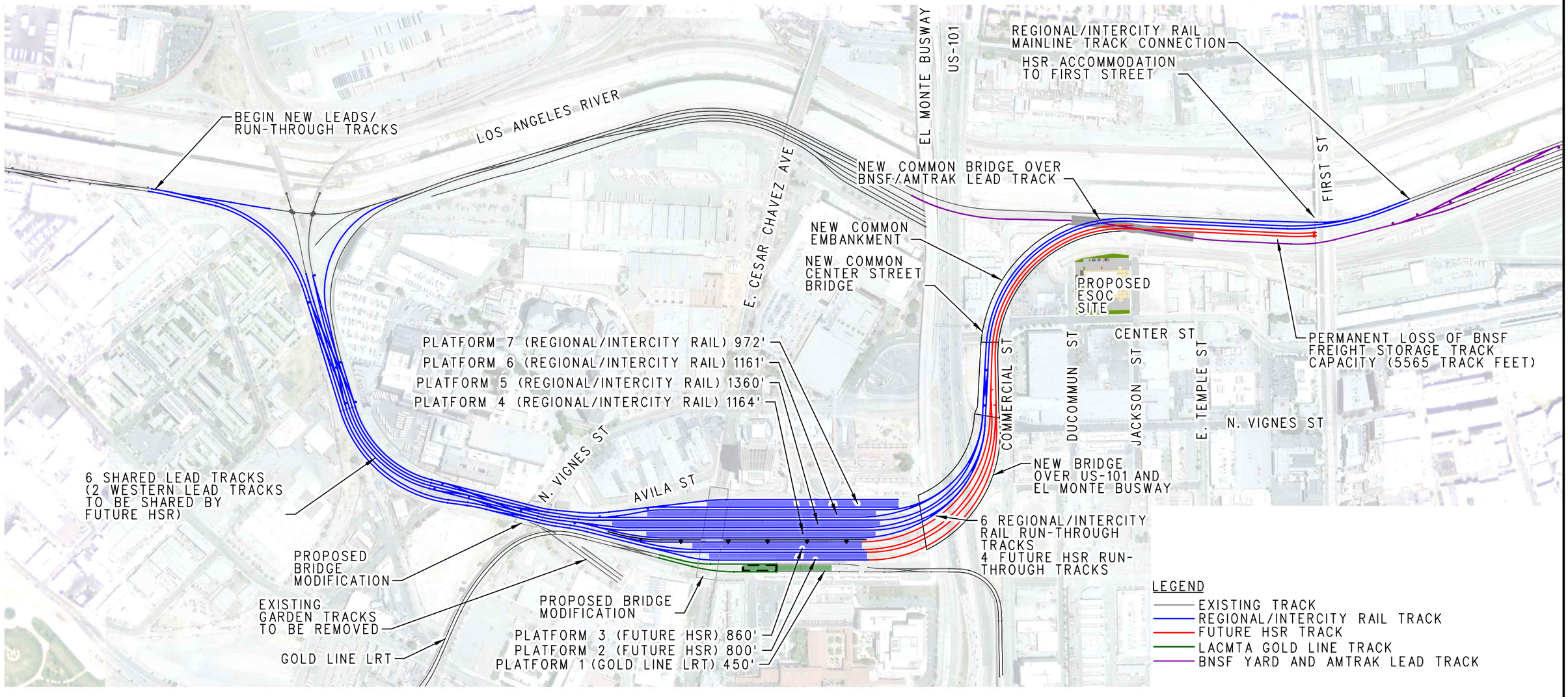

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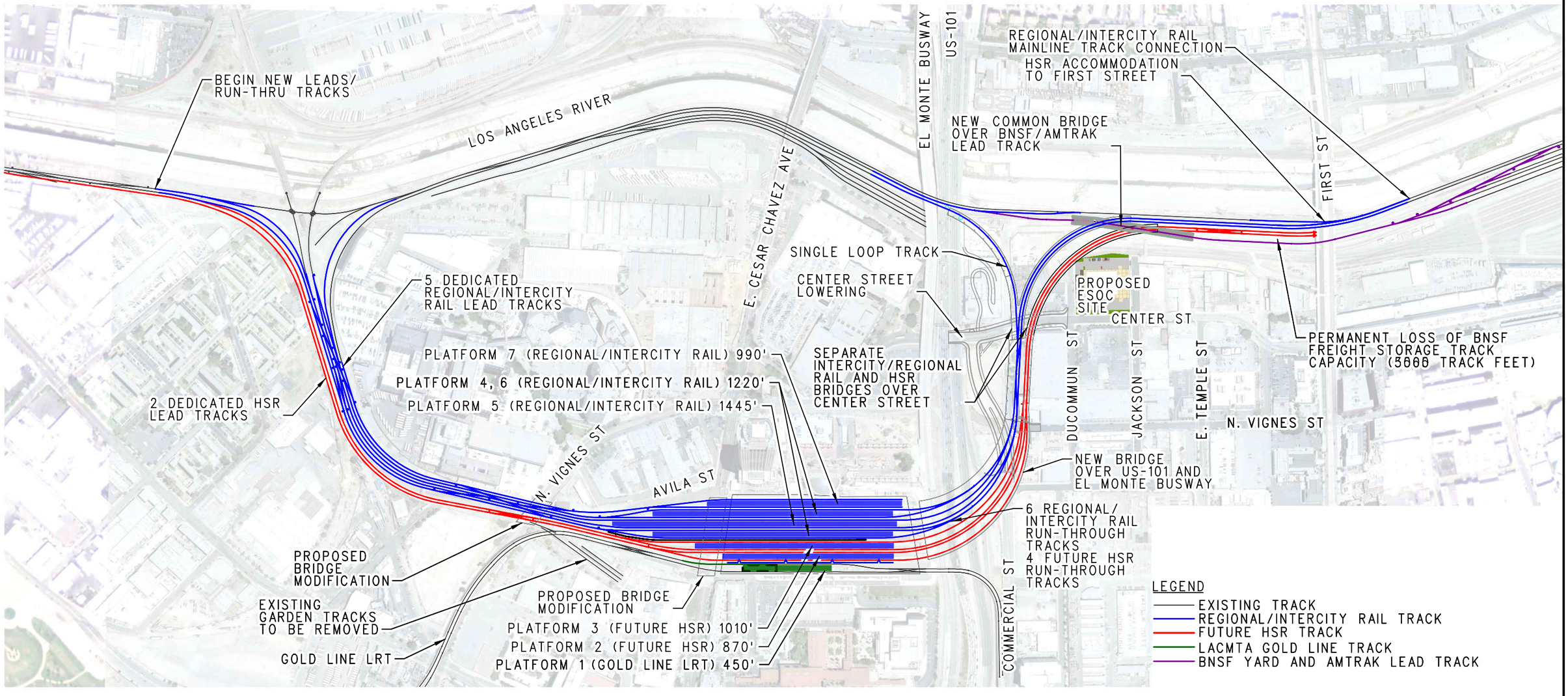

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HDR | Metro

LINK UNION STATION

TRACK ALIGNMENT ALTERNATIVE 13

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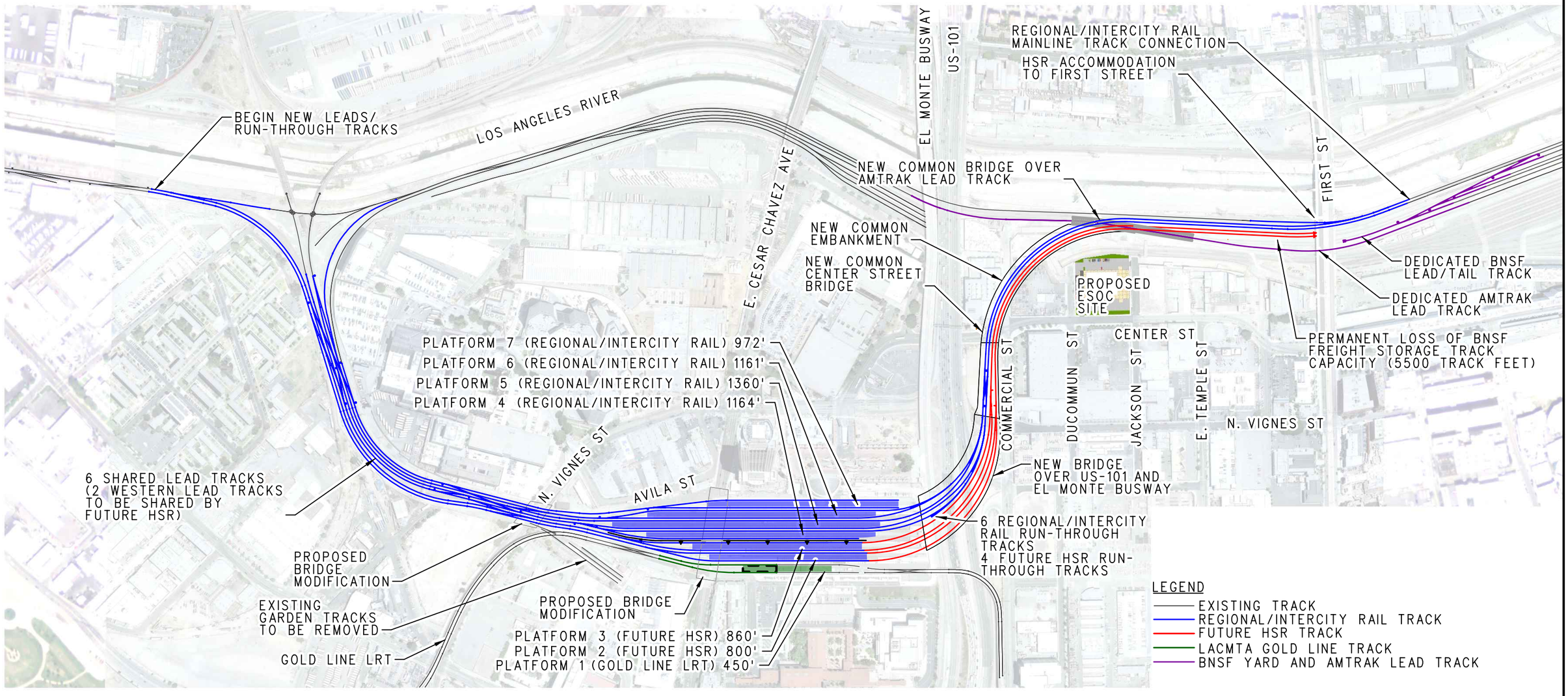

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1"=500'

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Attachment B:
Passenger Concourse Concepts Considered

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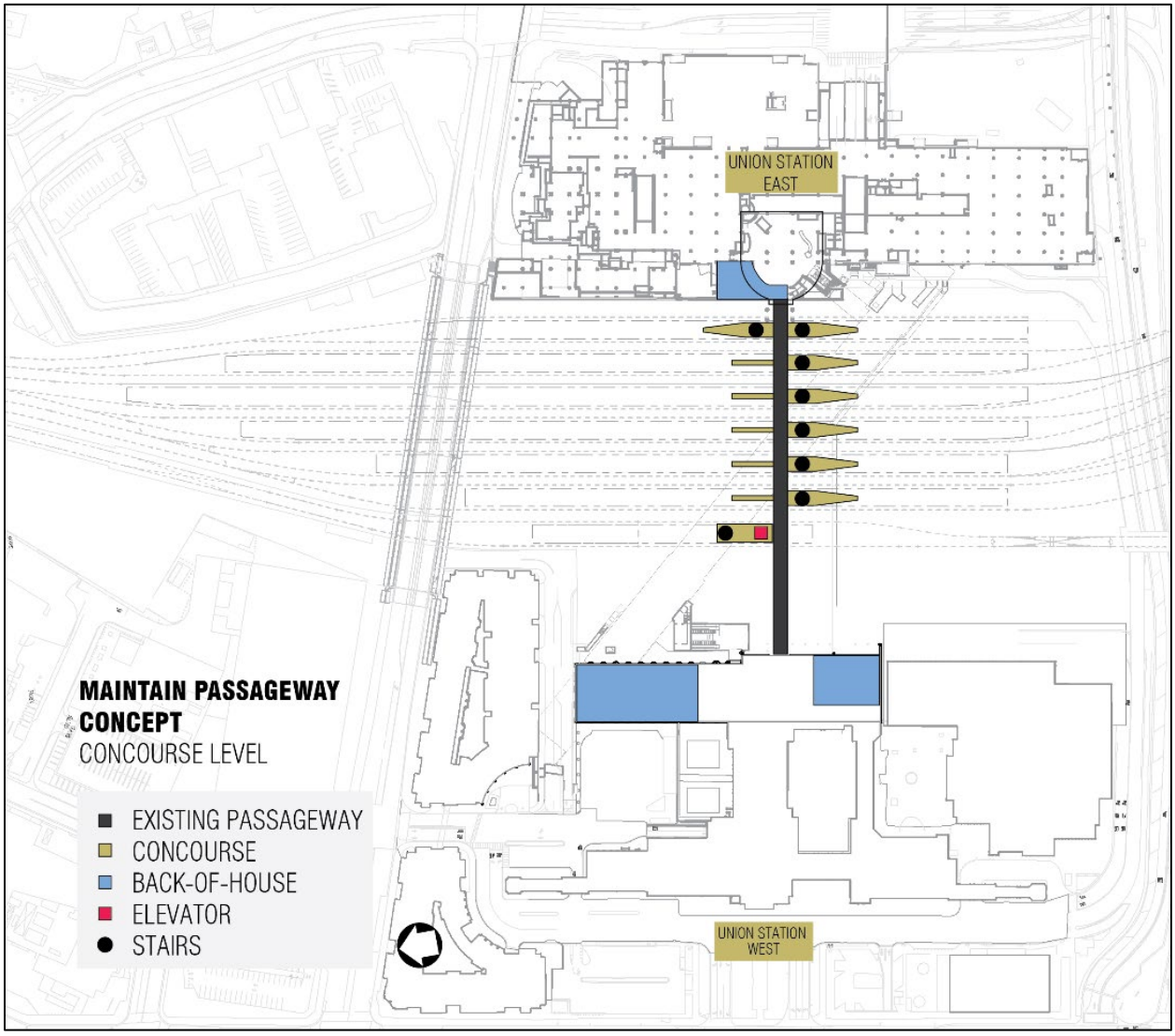
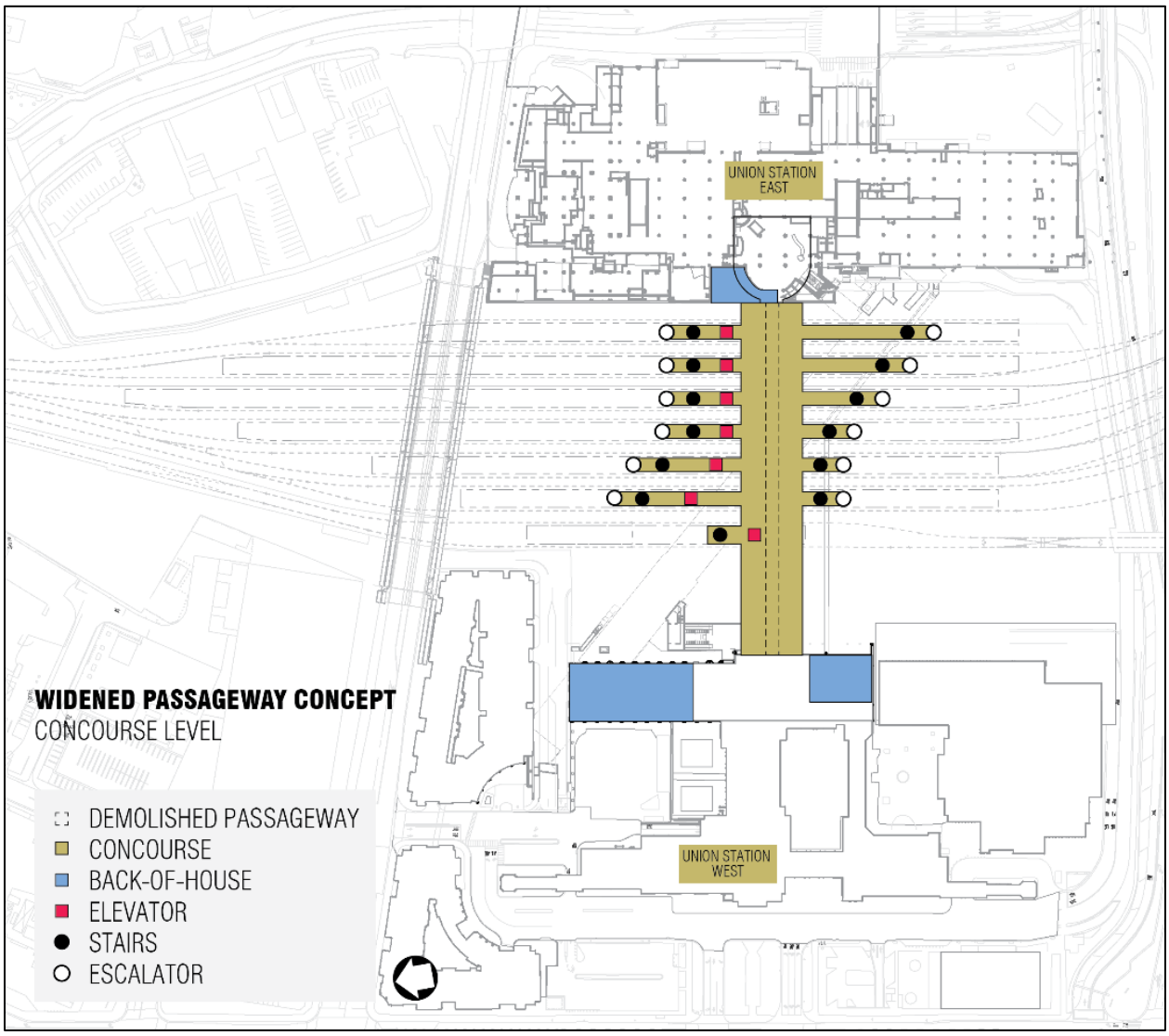
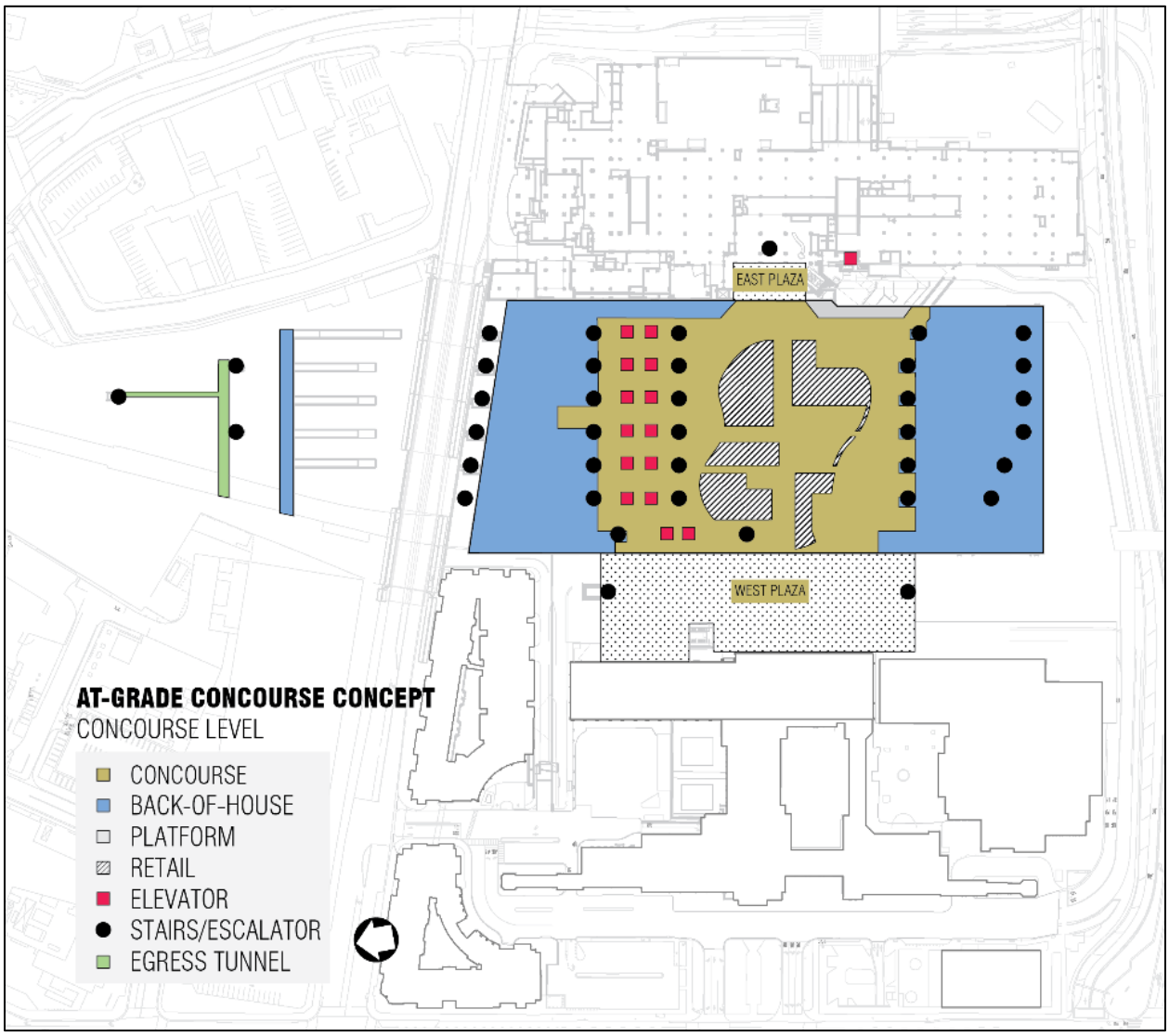
Passenger Concourse Concept 1 - Maintain Passageway Concourse



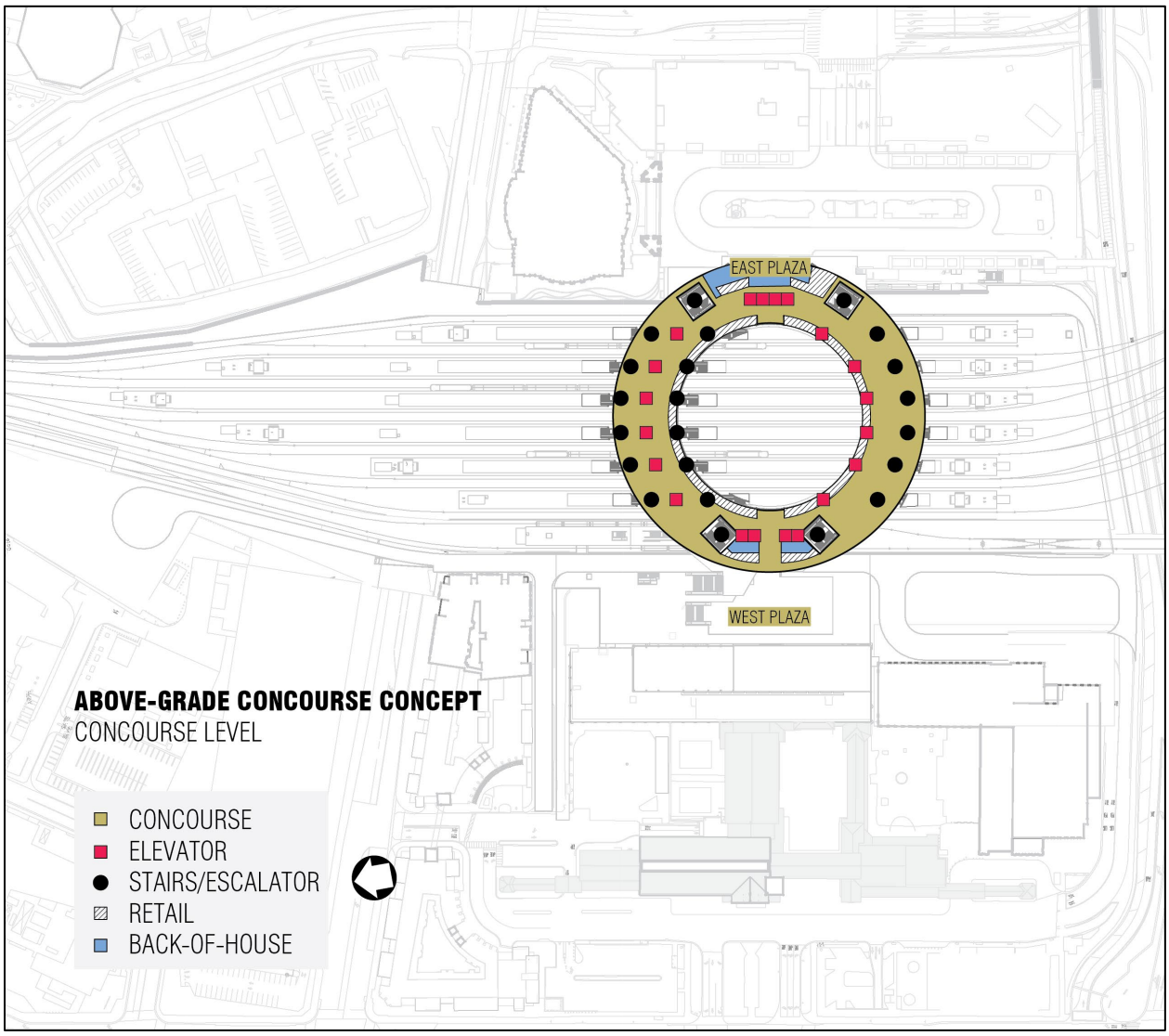
Passenger Concourse Concept 2 - Widened Passageway Concourse



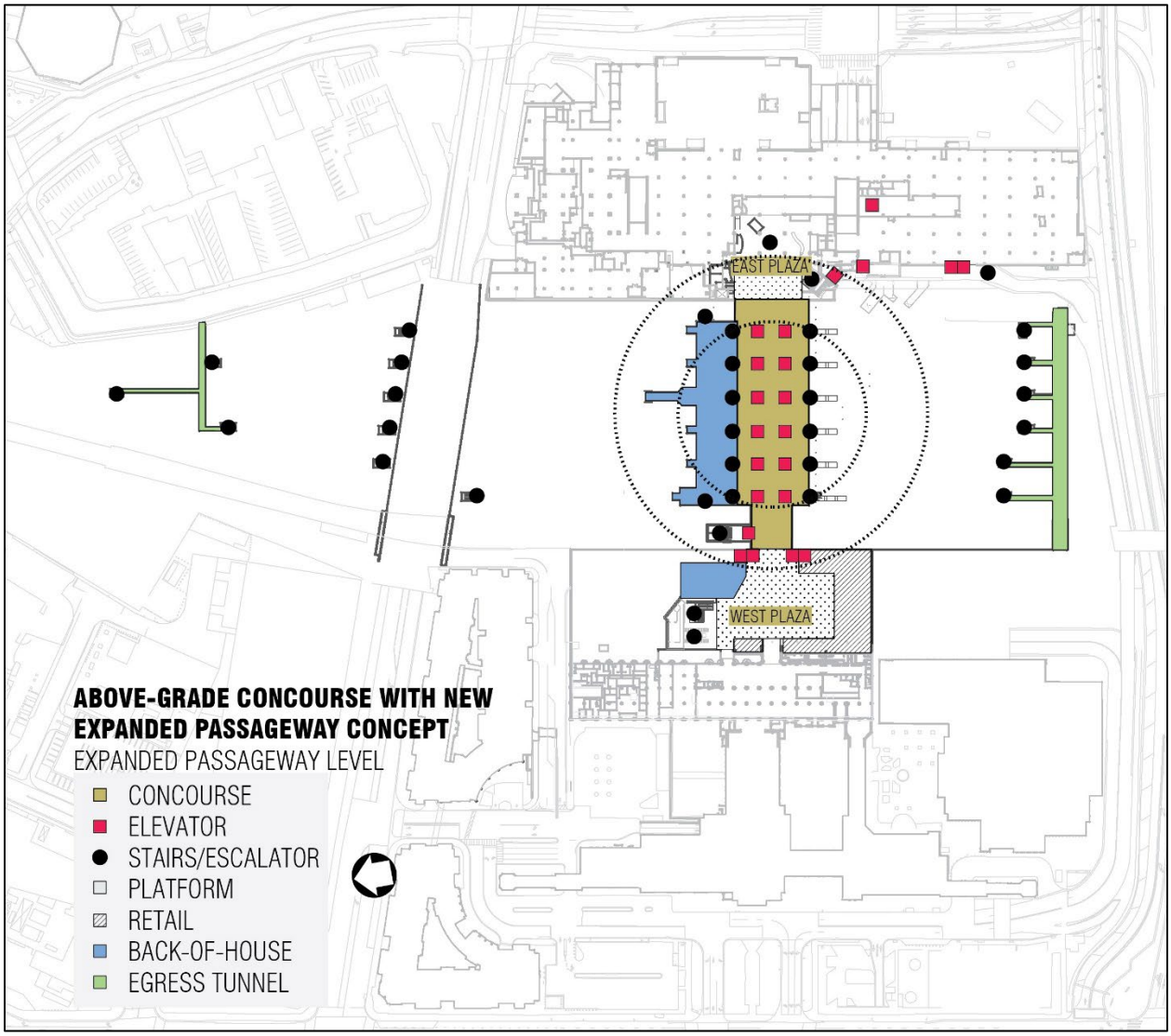
Passenger Concourse Concept 3 - At-Grade Concourse



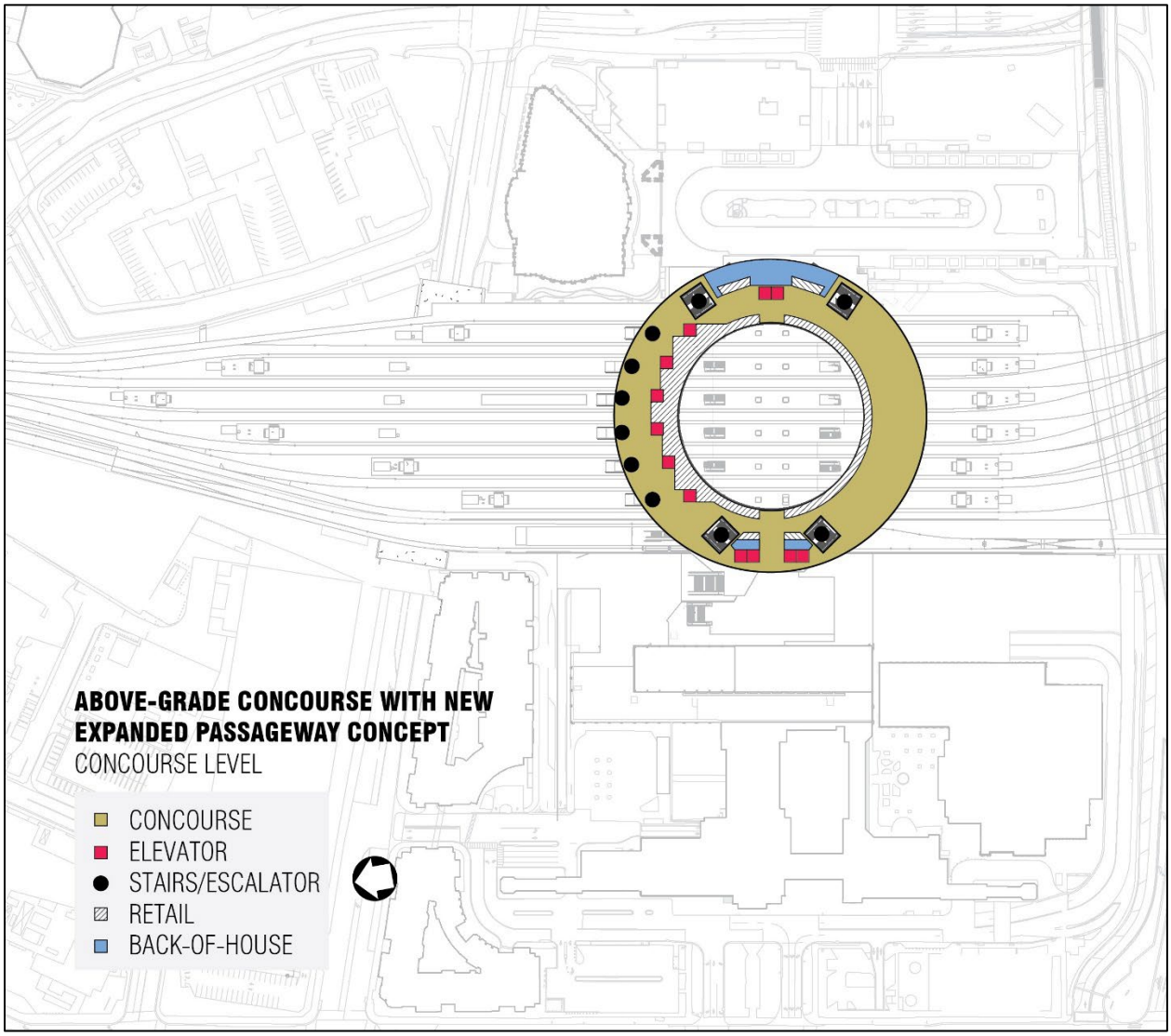
Passenger Concourse Concept 4 - Above-Grade Concourse



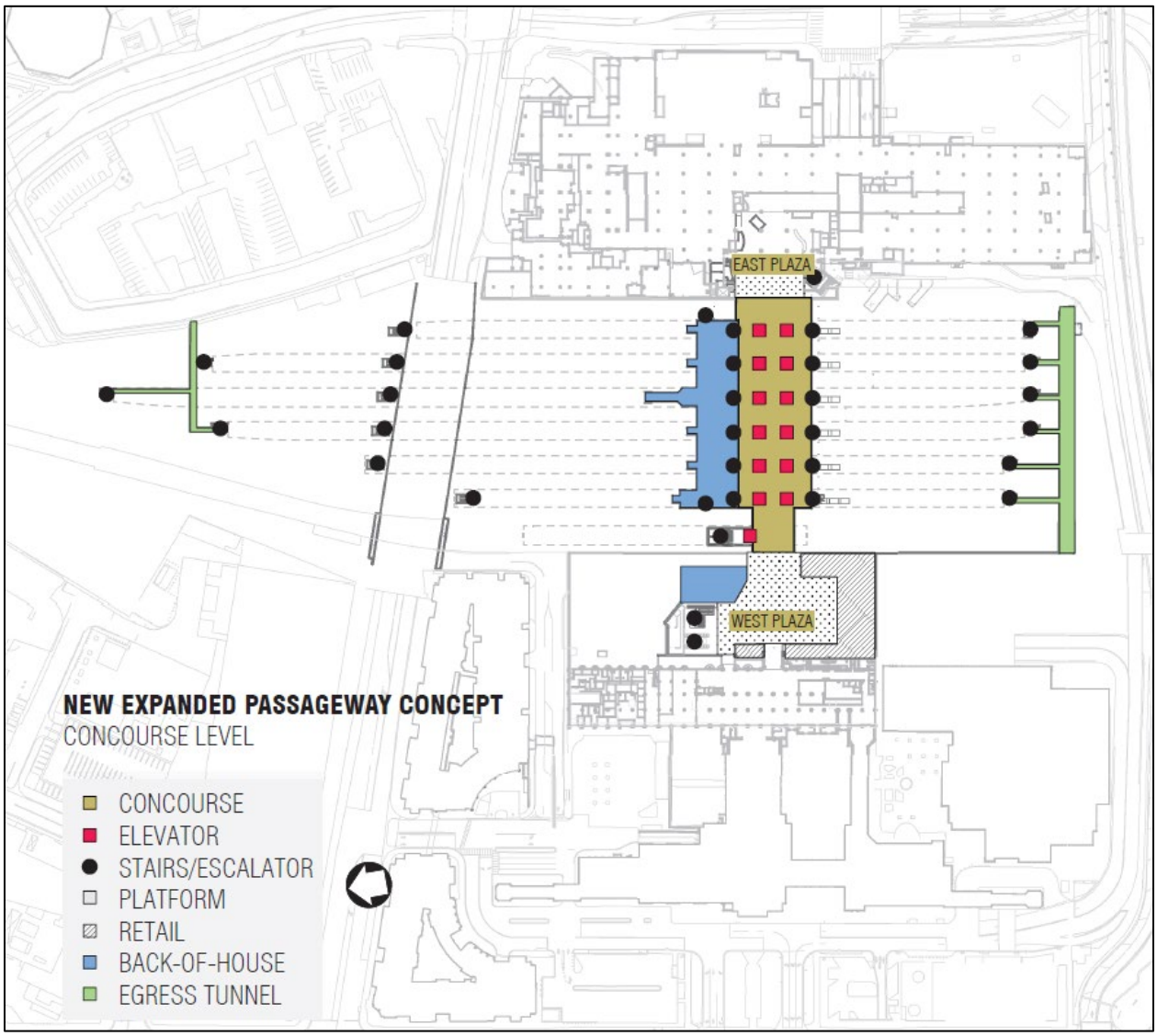
Passenger Concourse Concept 5 - Above-Grade Concourse with New Expanded Passageway (1 of 2)



Passenger Concourse Concept 5 - Above-Grade Concourse with New Expanded Passageway (2 of 2)



Passenger Concourse Concept 6 - Expanded Passageway



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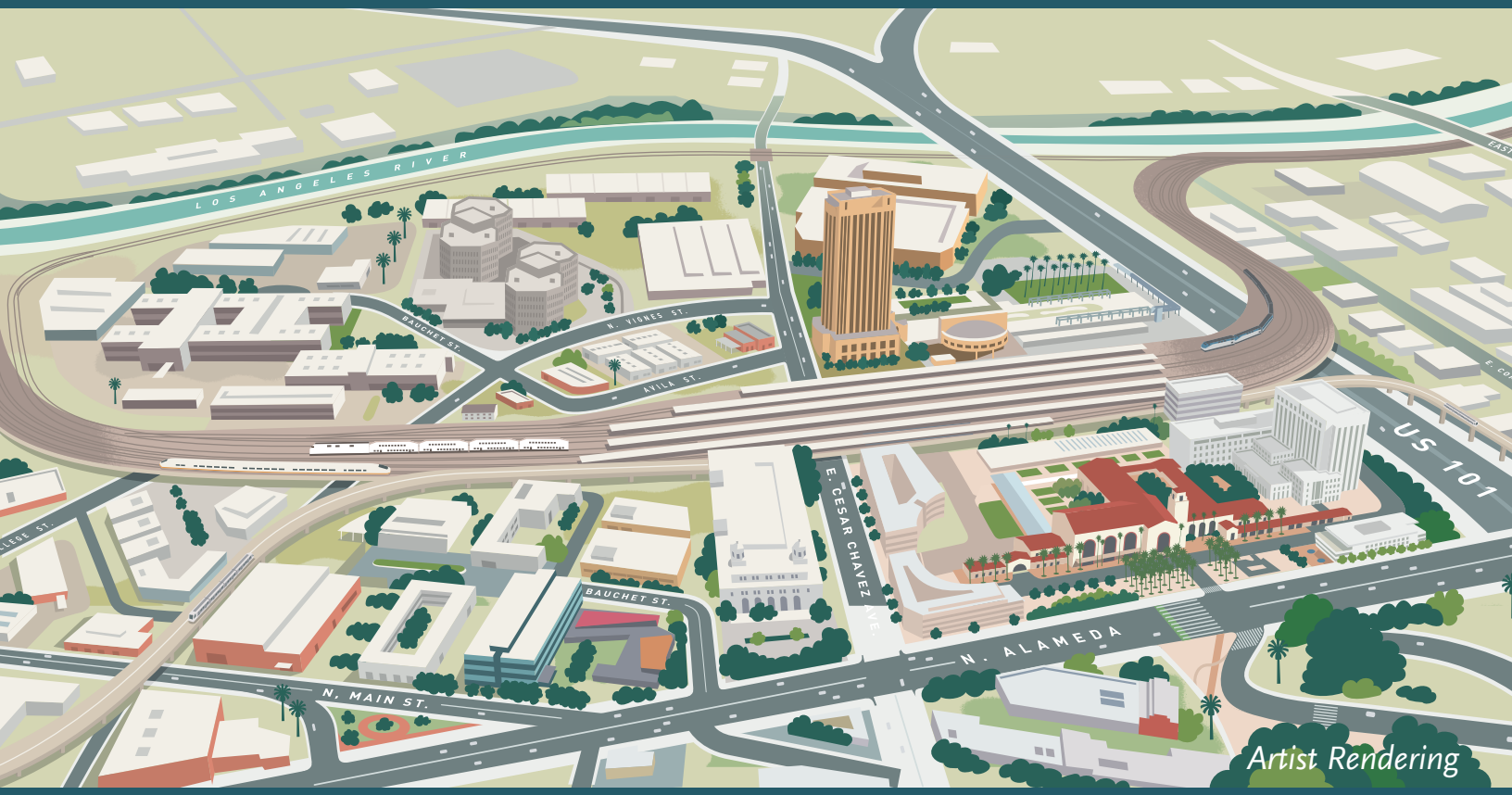
Link Union Station

Draft Engineering Plans

June 2024



The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 23, 2019, and executed by the Federal Railroad Administration and the State of California.

Metro

CALIFORNIA High-Speed Rail Authority

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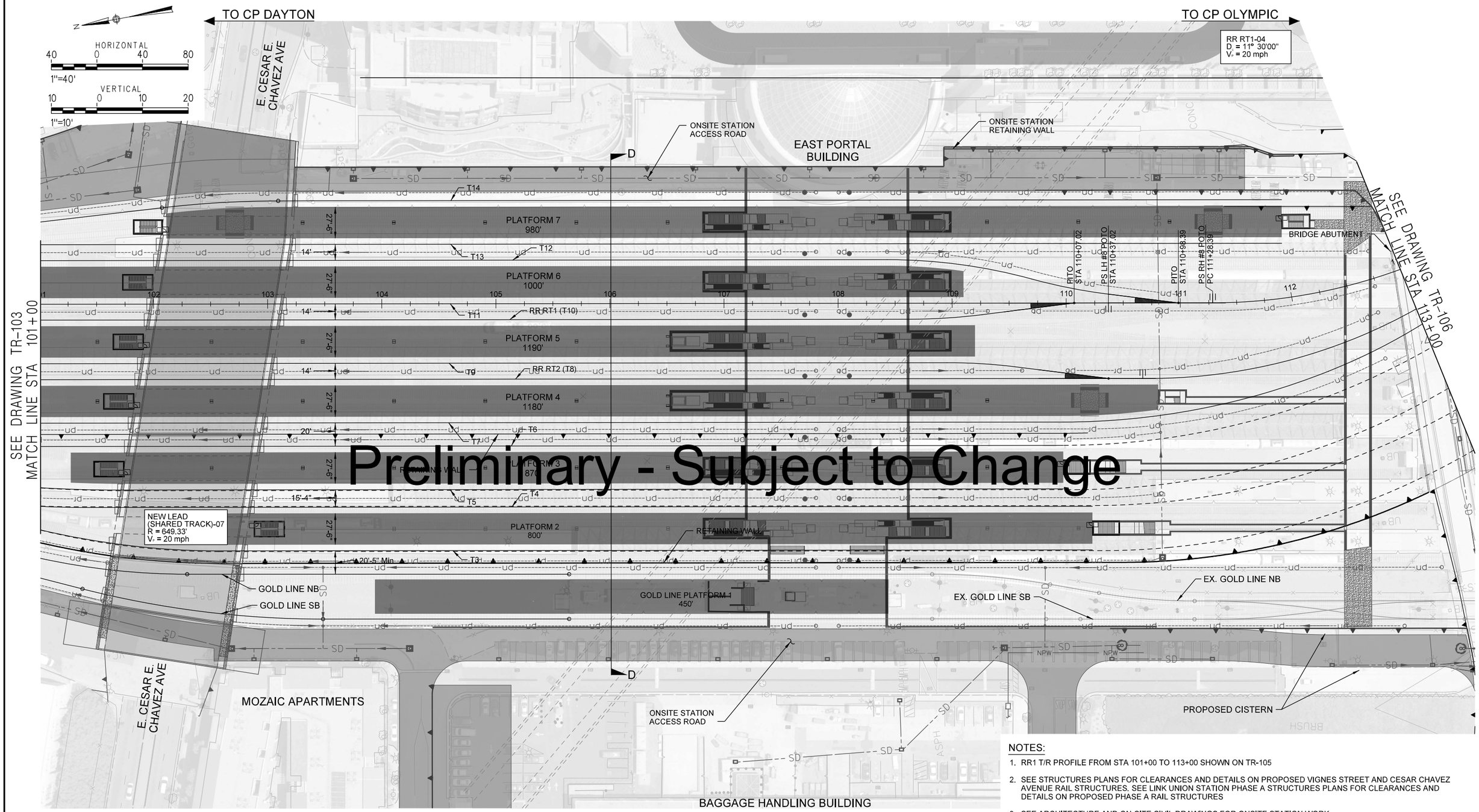


NOTES:

1. RR1 T/R PROFILE FROM STA 101+00 TO 113+00 SHOWN ON TR-105
2. SEE STRUCTURES PLANS FOR CLEARANCES AND DETAILS ON PROPOSED VIGNES STREET AND CESAR CHAVEZ AVENUE RAIL STRUCTURES. SEE LINK UNION STATION PHASE A STRUCTURES PLANS FOR CLEARANCES AND DETAILS ON PROPOSED PHASE A RAIL STRUCTURES
3. SEE ARCHITECTURE AND ON-SITE CIVIL DRAWINGS FOR ONSITE STATION WORK

35% DESIGN PLANS
NOT FOR CONSTRUCTION

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION (FTA), UNDER THE FEDERAL TRANSIT ACT OF 1964, AS AMENDED, AND IN PART BY THE TAXES OF THE CITIZENS OF LOS ANGELES COUNTY AND OF THE STATE OF CALIFORNIA.

REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY: Z. MACDONELL
DRAWN BY: M. SHAHIN
CHECKED BY: A. MULL
IN CHARGE: T. KIM
DATE: 3/11/2022

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

Metro

LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

HDR ENGINEERING
350 S. GRAND AVENUE
SUITE 2900
LOS ANGELES, CA 90071
(213) 239-5800

SUBMITTED: _____ PROJECT MANAGER

APPROVED: _____

LINK UNION STATION PROJECT

TRACK DRAWINGS
TRACK PLAN
RR1 STA 101+00 TO RR1 STA 113+00

CONTRACT NO

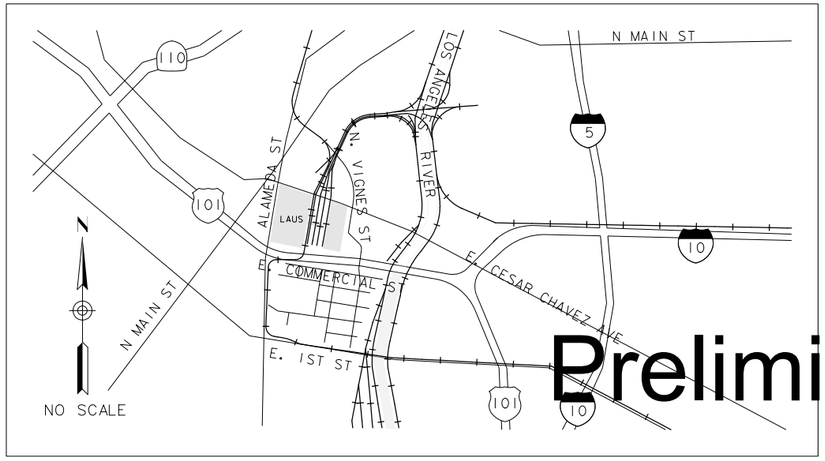
DRAWING NO: TR-104
REV

SCALE: HORIZ: 1"=40'
VERT: 1"=10'

SHEET NO

LINK UNION STATION PROJECT

CONTRACT NUMBER PS2415-3172



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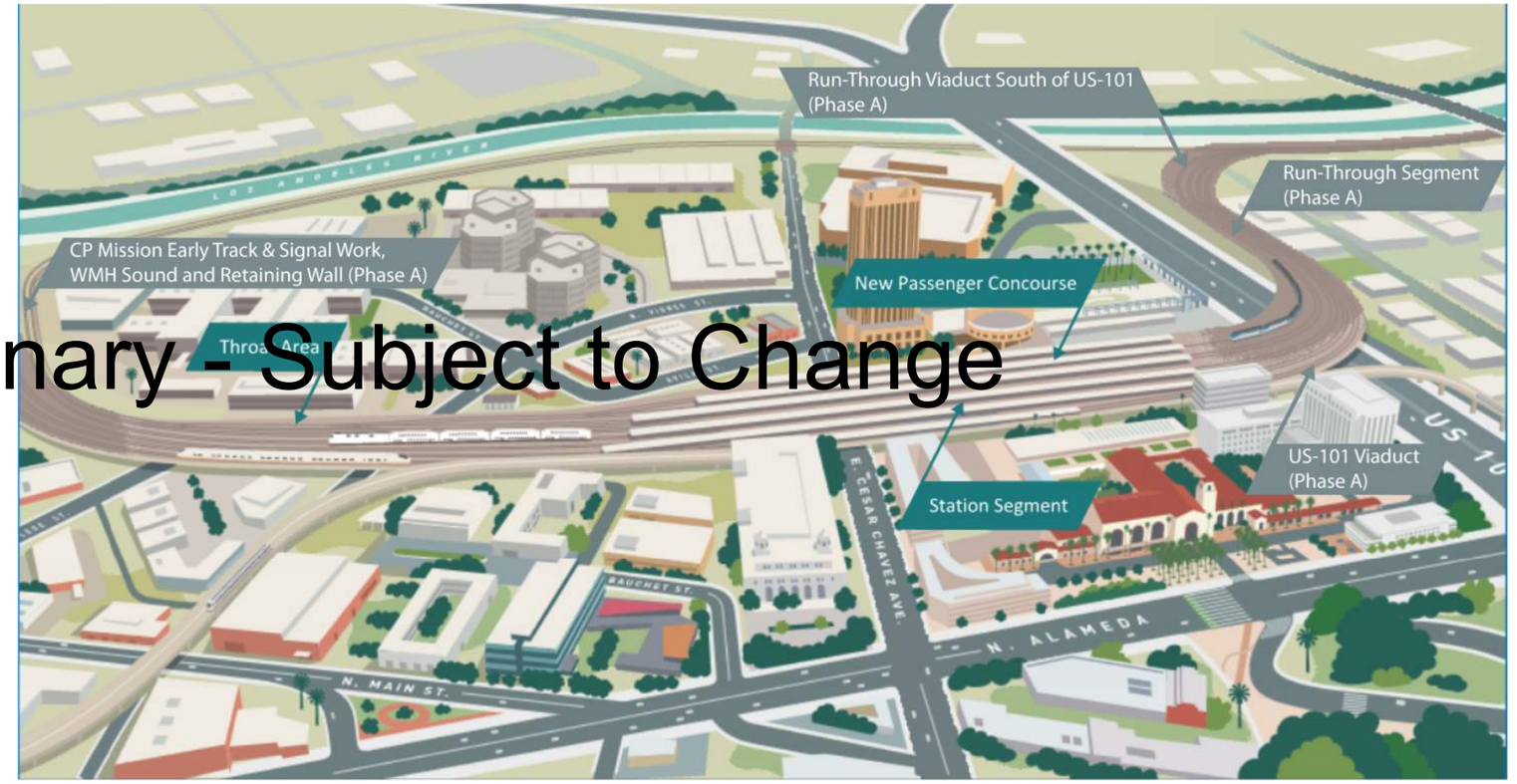


Preliminary - Subject to Change

Metro

CONCEPTUAL PHASE B DESIGN SUBMITTAL
NOT FOR CONSTRUCTION
(IN SUPPORT OF CMGC PROCUREMENT)
JULY 2021

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

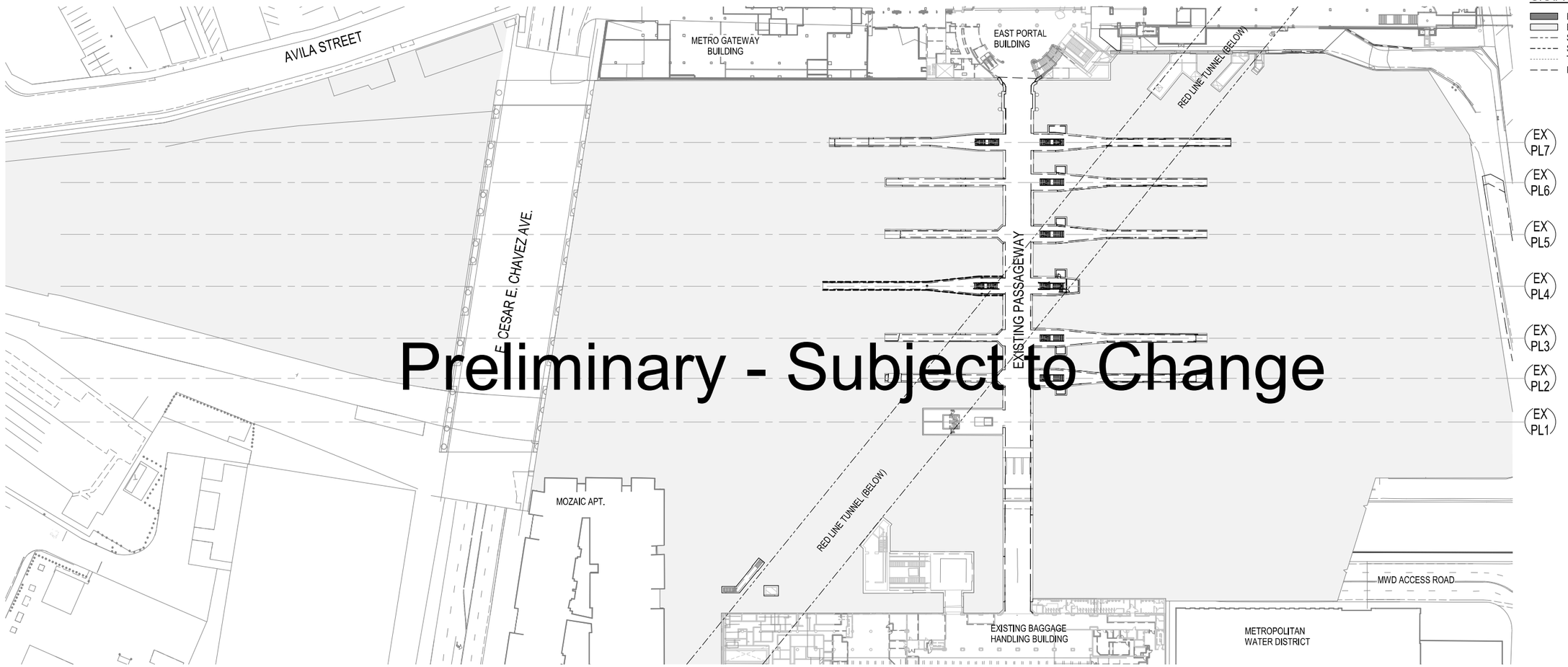
HDR

GENERAL NOTES

1. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
2. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
4. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
5. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.

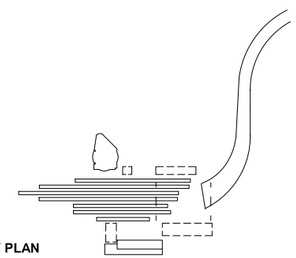
GRAPHICS LEGEND

- EXISTING STRUCTURE
- EARTH
- STRUCTURE BELOW
- STRUCTURE ABOVE
- TRACK CENTERLINE
- PROPOSED DEMOLITION



1 AX-001 DEMOLITION PLAN - PASSAGEWAY LEVEL
1" = 60'-0"

0' 30' 60' 120'



CONCEPTUAL DESIGN SUBMITTAL
NOT FOR CONSTRUCTION

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION (fta), UNDER THE FEDERAL TRANSIT ACT OF 1964, AS AMENDED, AND IN PART BY THE TAXES OF THE CITIZENS OF LOS ANGELES COUNTY AND OF THE STATE OF CALIFORNIA

REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY M. MAH
DRAWN BY M. PERROS
CHECKED BY M. RAMIREZ
IN CHARGE T. KIM
DATE 7/13/2021

Metro
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

V&A, INC.
875 S. FAIR OAKS AVENUE
PASADENA, CA 91105
(213) 972-8700

HDR ENGINEERING
350 S GRAND AVENUE
SUITE 2900
LOS ANGELES, CA 90071
(213) 239-6800

SUBMITTED: _____ PROJECT MANAGER

APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

DEMOLITION PLAN - PASSAGEWAY LEVEL

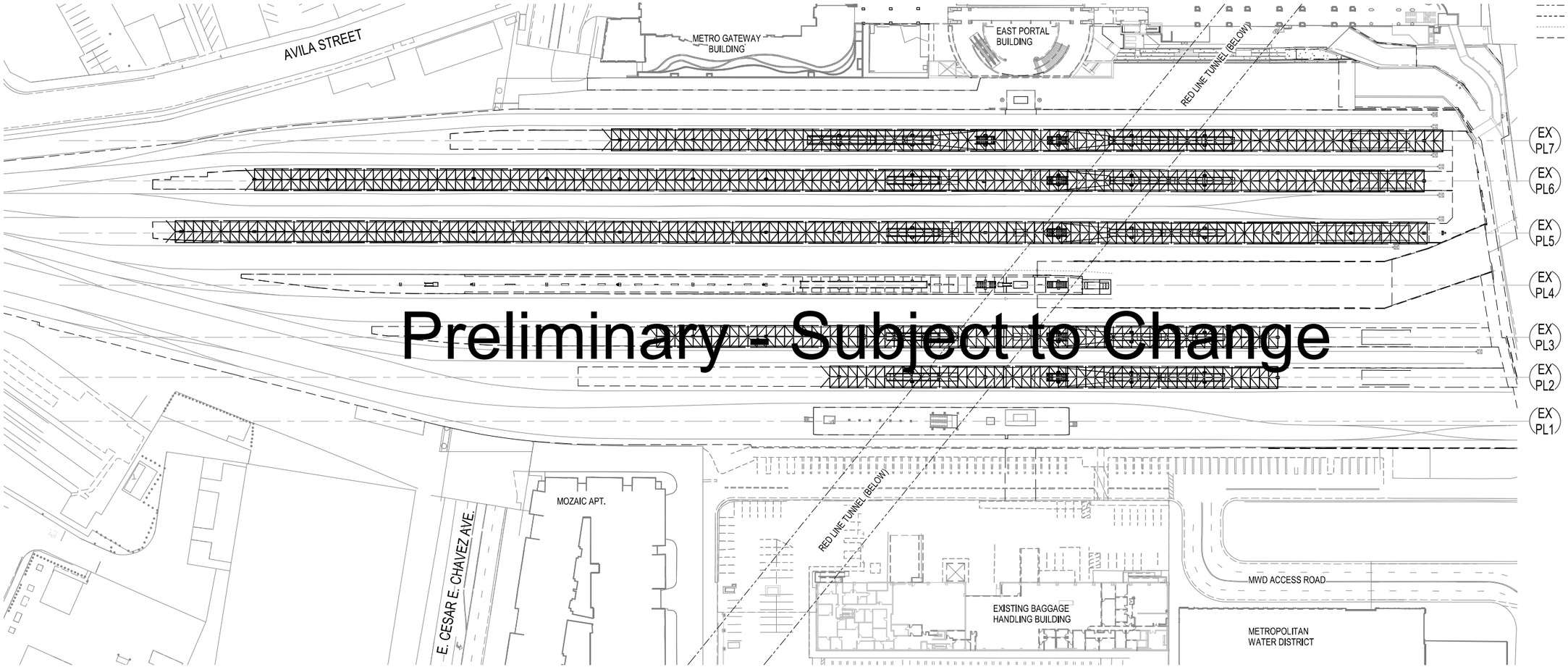
CONTRACT NO.
DRAWING NO. AX-001 REV. 0
SCALE 1" = 60'-0"
SHEET NO. 18 of 91

GENERAL NOTES

1. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
2. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
4. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
5. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.

GRAPHICS LEGEND

- EXISTING STRUCTURE
- EARTH
- STRUCTURE BELOW
- STRUCTURE ABOVE
- TRACK CENTERLINE
- PROPOSED DEMOLITION



1 / AX-002 DEMOLITION PLAN - PLATFORM LEVEL
1" = 60'-0"

0' 30' 60' 120'

KEY PLAN

CONCEPTUAL DESIGN SUBMITTAL
NOT FOR CONSTRUCTION

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION (fta), UNDER THE FEDERAL TRANSIT ACT OF 1964, AS AMENDED, AND IN PART BY THE TAXES OF THE CITIZENS OF LOS ANGELES COUNTY AND OF THE STATE OF CALIFORNIA

REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY: M. MAH
DRAWN BY: M. PERROS
CHECKED BY: M. RAMIREZ
IN CHARGE: T. KIM
DATE: 7/13/2021

Metro
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

V&A, INC.
975 S. FAIR OAKS AVENUE
PASADENA, CA 91105
(213) 972-0700

HDR ENGINEERING
350 S GRAND AVENUE
SUITE 2900
LOS ANGELES, CA 90071
(213) 228-6800

SUBMITTED: _____ PROJECT MANAGER

APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

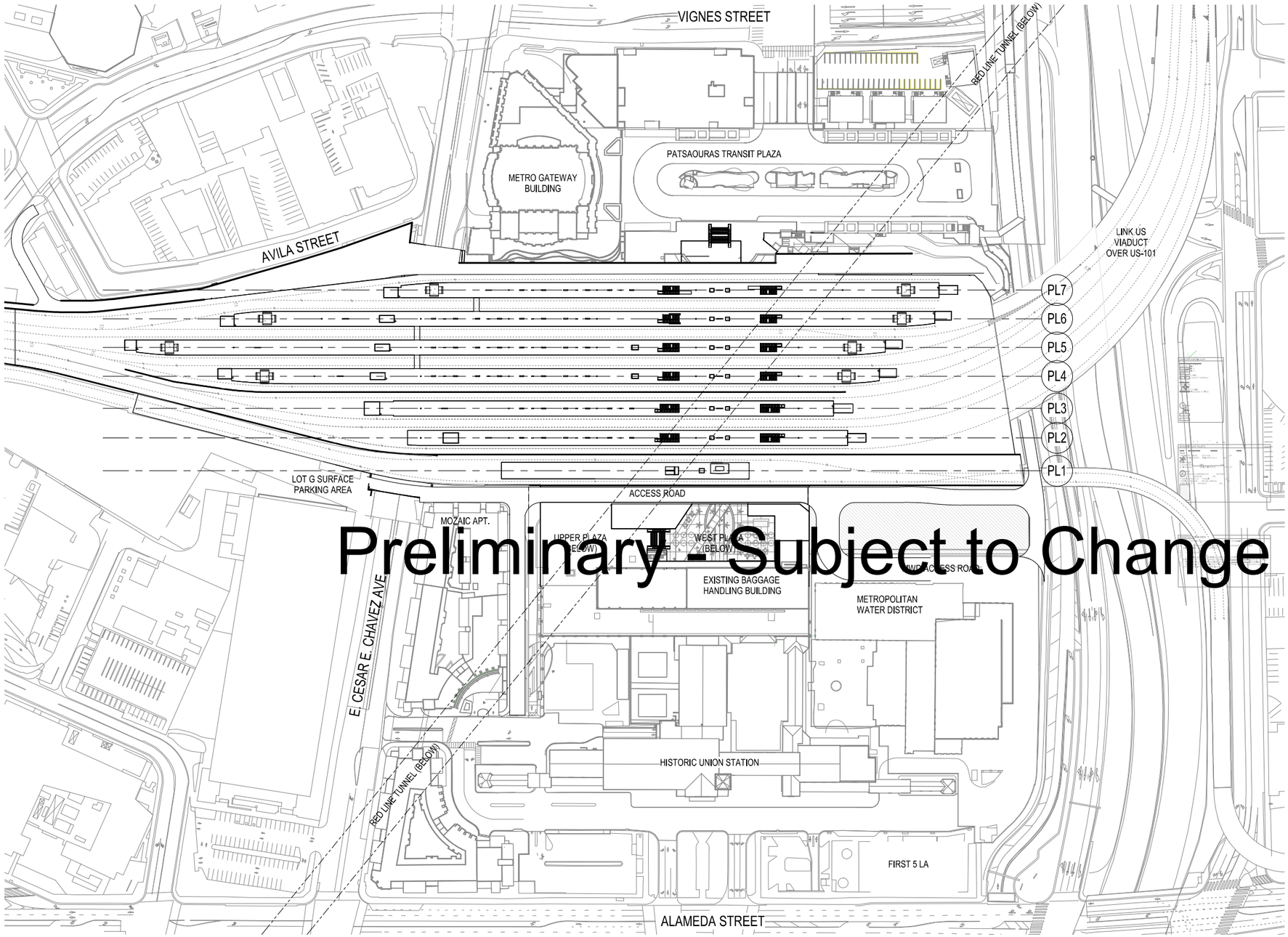
DEMOLITION PLAN - PLATFORM LEVEL

CONTRACT NO.

DRAWING NO. AX-002 REV. 0

SCALE 1" = 60'-0"

SHEET NO. 19 of 91



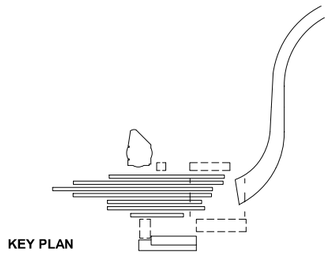
Preliminary - Subject to Change

1 A-000 SITE PLAN
1" = 100'-0"

0' 50' 100' 200'

GENERAL NOTES

1. EXISTING PASSENGER TUNNEL TO REMAIN IN SERVICE. CONTRACTOR TO PROVIDE PEDESTRIAN PROTECTION AGAINST ANY AND ALL HAZARDS. PEDESTRIAN PROTECTION SHALL CONFORM TO ALL REGULATIONS.
2. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
4. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
5. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
6. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.



KEY PLAN

CONCEPTUAL DESIGN SUBMITTAL
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REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY: M. MAH
DRAWN BY: M. PERROS
CHECKED BY: M. RAMIREZ
IN CHARGE: T. KIM
DATE: 7/13/2021

Metro
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

VSA, INC.
975 S. FAIR OAKS AVENUE
PASADENA, CA 91105
(213) 972-0700

HDR ENGINEERING
350 S GRAND AVENUE
SUITE 2900
LOS ANGELES, CA 90071
(213) 2354800

SUBMITTED: _____ PROJECT MANAGER

APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

SITE PLAN

CONTRACT NO.

DRAWING NO. A-000 REV. 0

SCALE 1" = 100'-0"

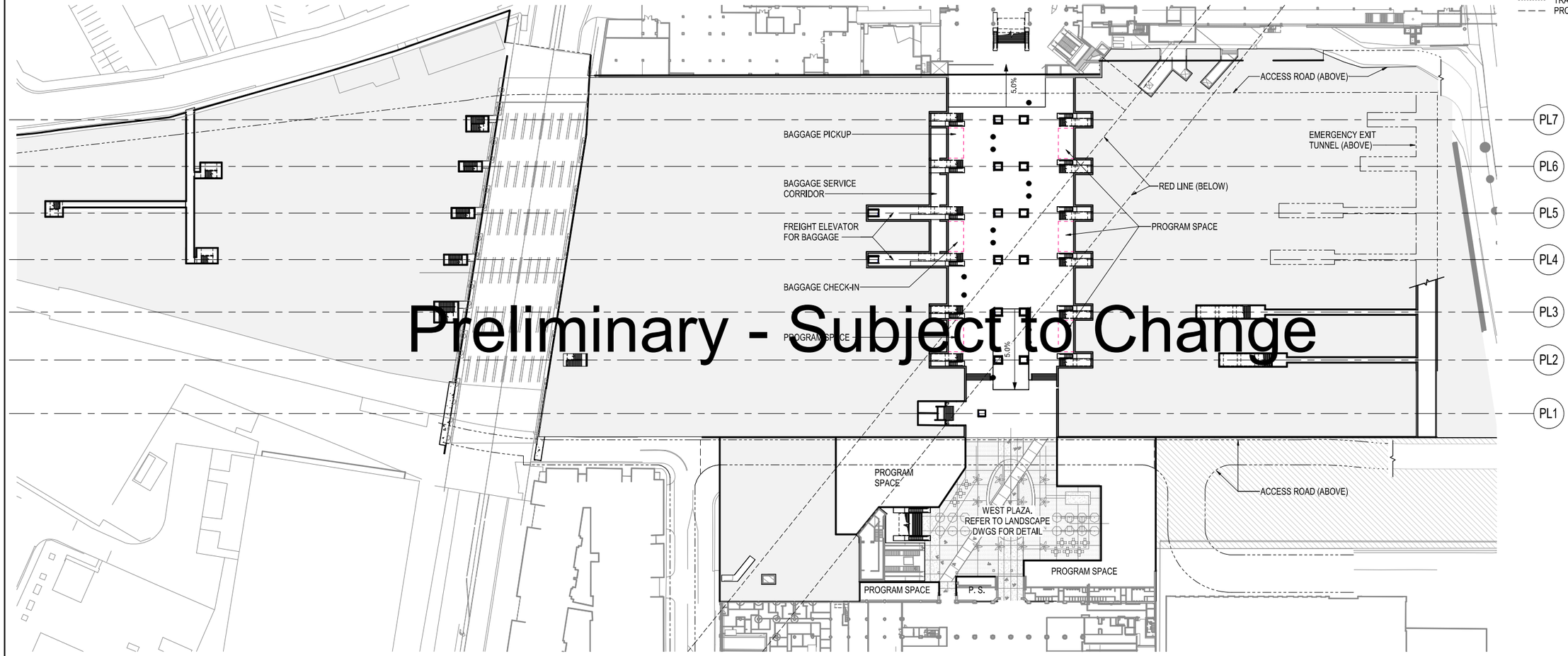
SHEET NO. 20 of 91

GENERAL NOTES

1. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
2. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
4. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
5. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.

GRAPHICS LEGEND

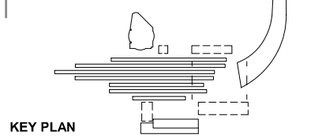
- EXISTING STRUCTURE
- EARTH
- STRUCTURE BELOW
- STRUCTURE ABOVE
- TRACK CENTERLINE
- PROPOSED DEMOLITION



Preliminary - Subject to Change

1 / A-010 OVERALL PASSAGEWAY PLAN
1" = 60'-0"

0' 30' 60' 120'



KEY PLAN

CONCEPTUAL DESIGN SUBMITTAL
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REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY: M. MAH
DRAWN BY: M. PERROS
CHECKED BY: M. RAMIREZ
IN CHARGE: T. KIM
DATE: 7/13/2021

Metro
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

VSA, INC.
975 S. FAIR OAKS AVENUE
PASADENA, CA 91105
(213) 972-0700

HDR ENGINEERING
350 S GRAND AVENUE
SUITE 2900
LOS ANGELES, CA 90071
(213) 239-6800

SUBMITTED: _____ PROJECT MANAGER

APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

OVERALL PASSAGEWAY PLAN

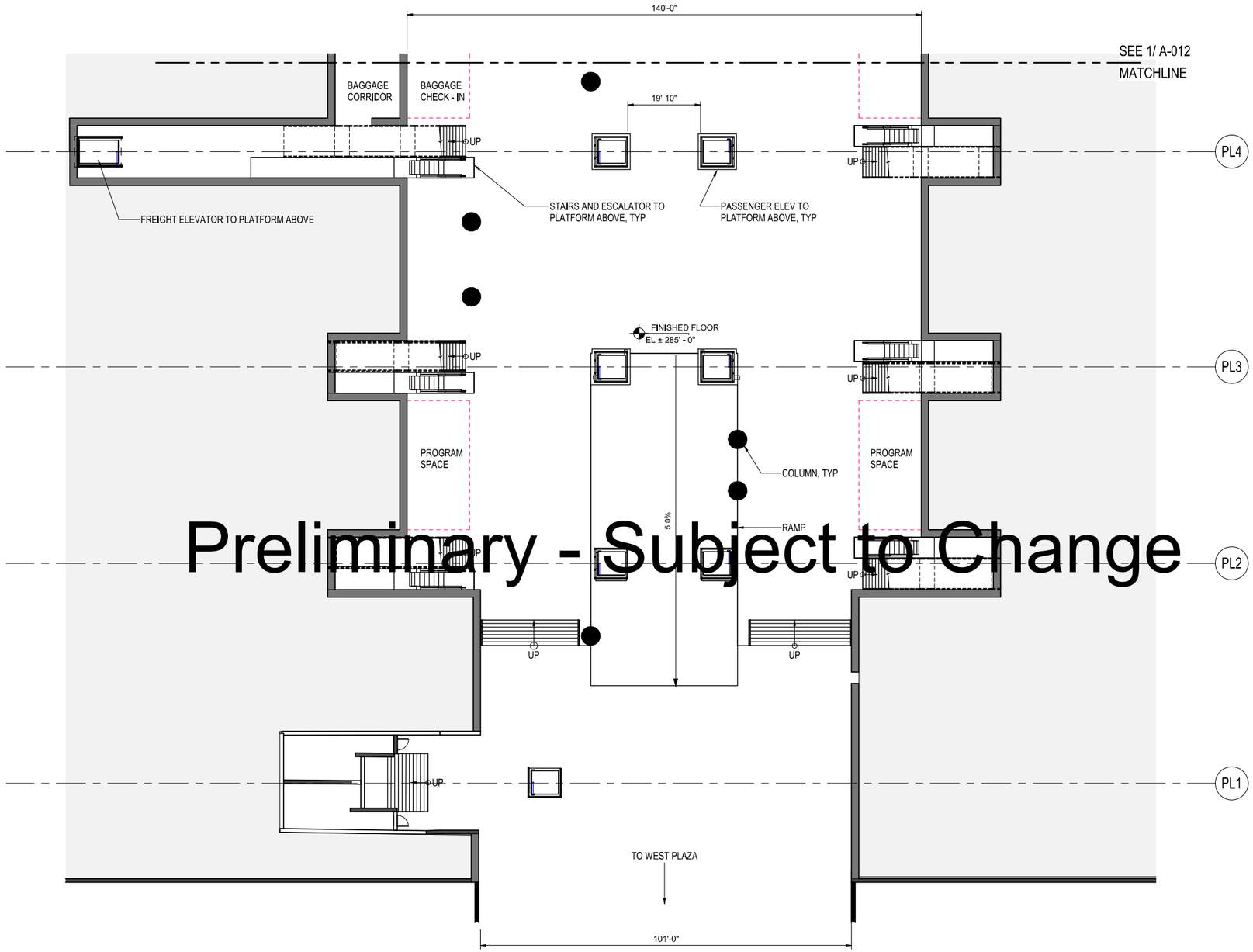
CONTRACT NO.
DRAWING NO. A-010
REV. 0
SCALE 1" = 60'-0"
SHEET NO. 21 of 91

GENERAL NOTES

1. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
2. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
4. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
5. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.

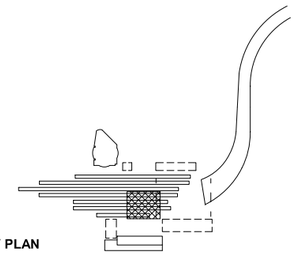
GRAPHICS LEGEND

- EXISTING STRUCTURE
- EARTH
- STRUCTURE BELOW
- STRUCTURE ABOVE
- TRACK CENTERLINE
- PROPOSED DEMOLITION



1 / A-011 PASSAGEWAY PLANS - WEST
1/16" = 1'-0"

0' 8' 16' 32'



KEY PLAN

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REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY: M. MAH
DRAWN BY: M. PERROS
CHECKED BY: M. RAMIREZ
IN CHARGE: T. KIM
DATE: 7/13/2021

Metro
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

V&A, INC.
975 S. FAIR OAKS AVENUE
PASADENA, CA 91105
(213) 972-4700

HDR ENGINEERING
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SUITE 2900
LOS ANGELES, CA 90071
(213) 228-6800

SUBMITTED: _____ PROJECT MANAGER
APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

PASSAGEWAY PLAN

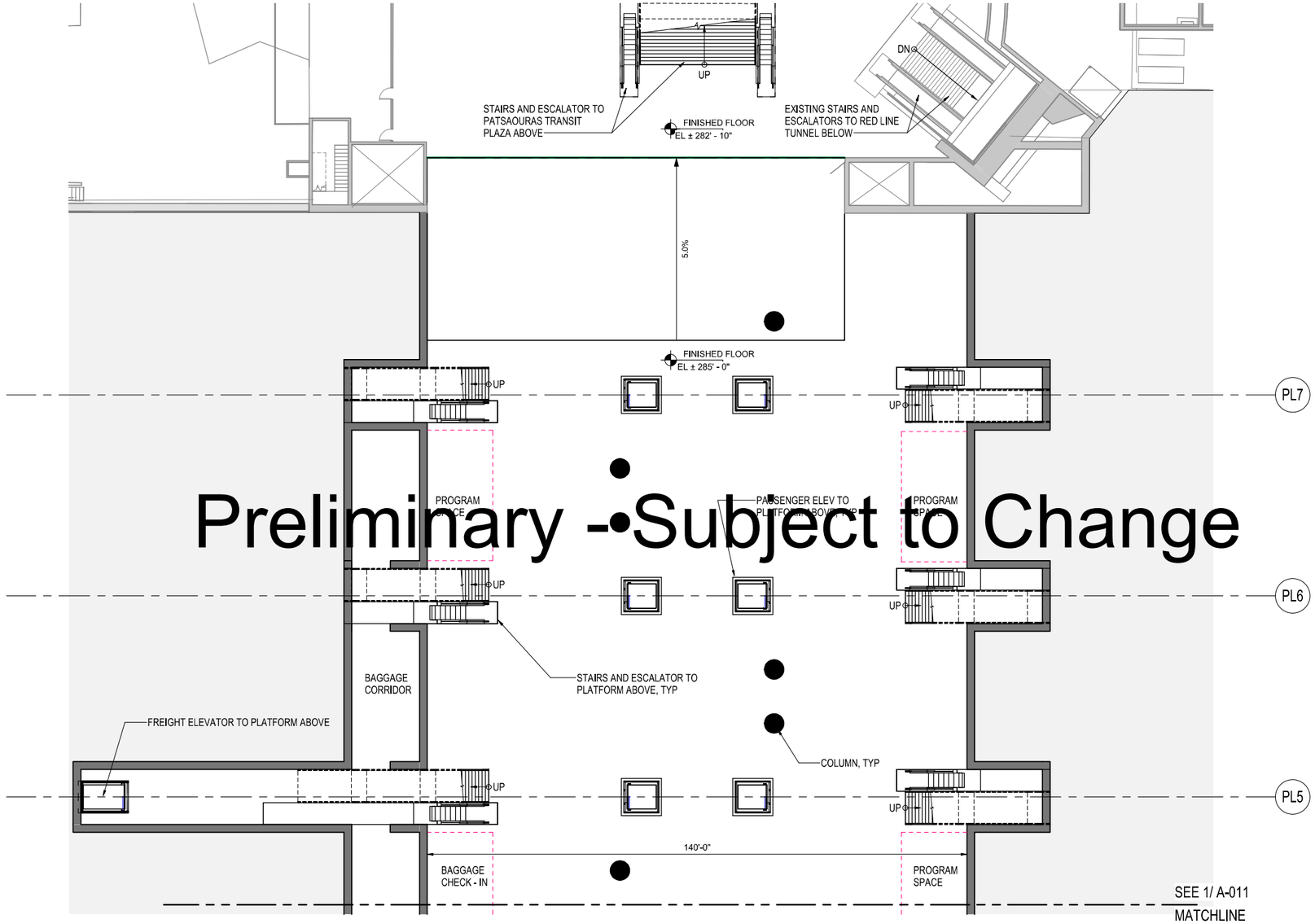
CONTRACT NO.
DRAWING NO. A-011 REV. 0
SCALE 1/16" = 1'-0"
SHEET NO. 22 of 91

GENERAL NOTES

1. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
2. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
4. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
5. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.

GRAPHICS LEGEND

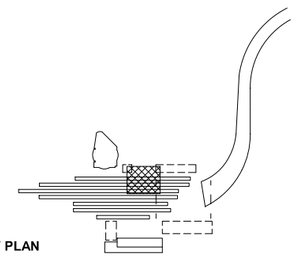
- EXISTING STRUCTURE
- EARTH
- STRUCTURE BELOW
- STRUCTURE ABOVE
- TRACK CENTERLINE
- PROPOSED DEMOLITION



Preliminary - Subject to Change

1 / A-012 PASSAGEWAY PLANS - EAST
1/16" = 1'-0"

0' 8' 16' 32'



KEY PLAN

CONCEPTUAL DESIGN SUBMITTAL
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REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY: M. MAH
DRAWN BY: M. PERROS
CHECKED BY: M. RAMIREZ
IN CHARGE: T. KIM
DATE: 7/13/2021

Metro
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

V&A, INC.
975 S. FAIR OAKS AVENUE
PASADENA, CA 91105
(213) 972-8700

HDR ENGINEERING
350 S GRAND AVENUE
SUITE 2900
LOS ANGELES, CA 90071
(213) 228-8800

SUBMITTED: _____ PROJECT MANAGER
APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

PASSAGEWAY PLAN

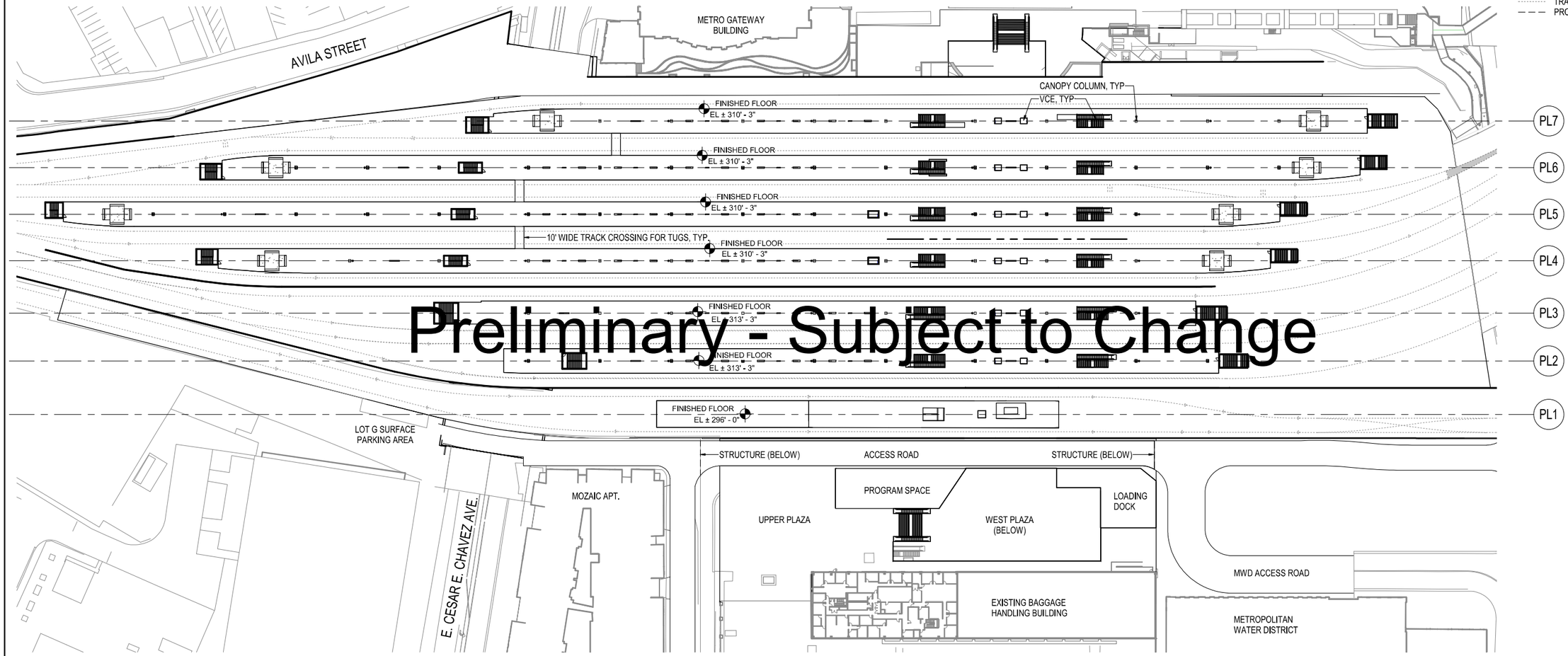
CONTRACT NO.
DRAWING NO. A-012
REV. 0
SCALE 1/16" = 1'-0"
SHEET NO. 23 of 91

GENERAL NOTES

1. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
2. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
4. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
5. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.

GRAPHICS LEGEND

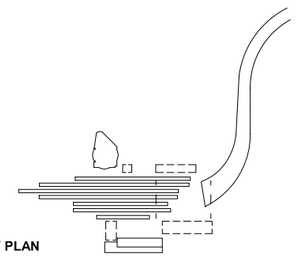
- EXISTING STRUCTURE
- EARTH
- STRUCTURE BELOW
- STRUCTURE ABOVE
- TRACK CENTERLINE
- PROPOSED DEMOLITION



Preliminary - Subject to Change

1 / A-020 OVERALL PLAN - PLATFORM LEVEL
1" = 60'-0"

0' 30' 60' 120'



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REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY M. MAH
DRAWN BY M. PERROS
CHECKED BY M. RAMIREZ
IN CHARGE T. KIM
DATE 7/13/2021

Metro
LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

V&A, INC.
975 S. FAIR OAKS AVENUE
PASADENA, CA 91105
(213) 972-6700

HDR ENGINEERING
350 S GRAND AVENUE
SUITE 2600
LOS ANGELES, CA 90071
(213) 236-6800

SUBMITTED: _____ PROJECT MANAGER

APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

OVERALL PLATFORM LEVEL PLAN

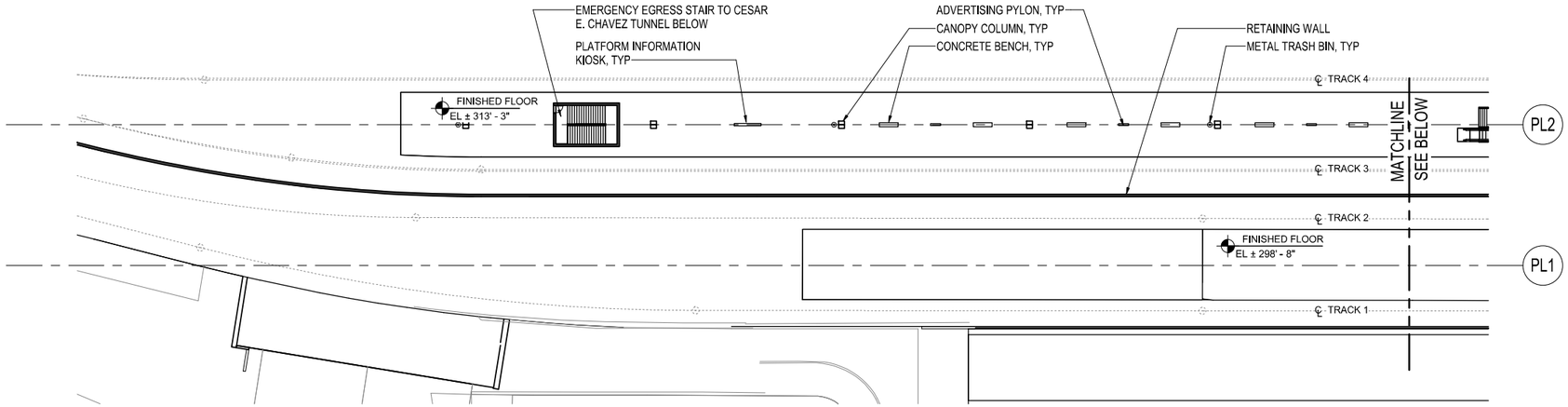
CONTRACT NO.
DRAWING NO. A-020 REV. 0
SCALE 1" = 60'-0"

GENERAL NOTES

1. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
2. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
4. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
5. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.

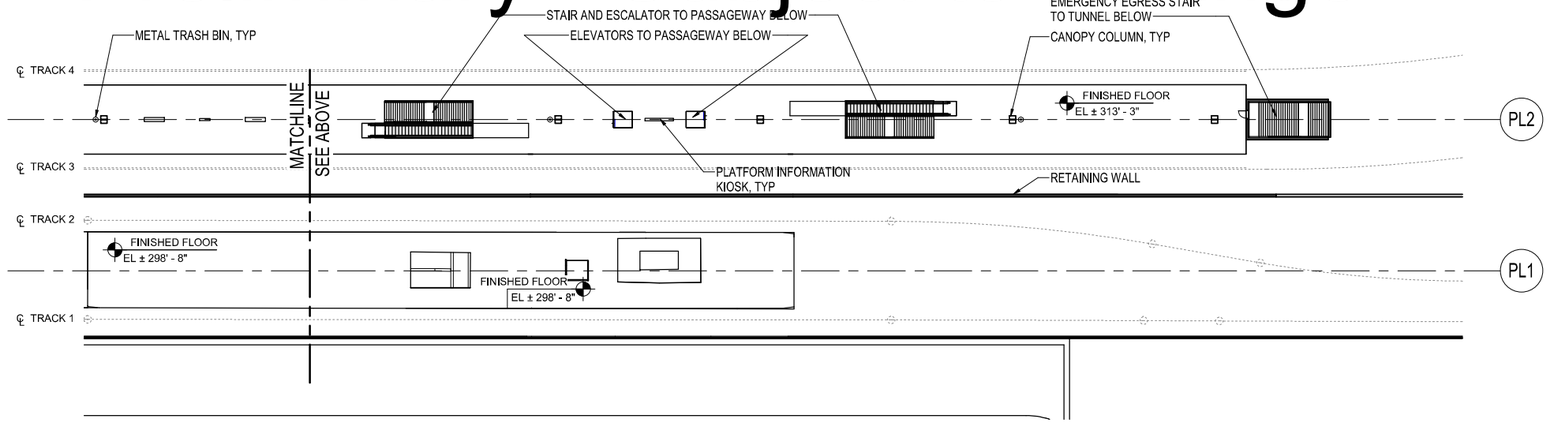
GRAPHICS LEGEND

- EXISTING STRUCTURE
- EARTH
- STRUCTURE BELOW
- STRUCTURE ABOVE
- TRACK CENTERLINE
- PROPOSED DEMOLITION

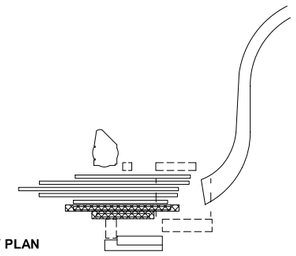


1 / A-021 PLATFORM PLAN - P1 + P2 - NORTH
1" = 30'-0"
0' 15' 30' 60'

Preliminary - Subject to Change



2 / A-021 PLATFORM PLAN - P1 + P2 - SOUTH
1" = 30'-0"
0' 15' 30' 60'



KEY PLAN

CONCEPTUAL DESIGN SUBMITTAL
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REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY: M. MAH
DRAWN BY: M. PERROS
CHECKED BY: M. RAMIREZ
IN CHARGE: T. KIM
DATE: 7/13/2021

Metro
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

V&A, INC.
975 S. FAIR OAKS AVENUE
PASADENA, CA 91105
(213) 972-0700

HDR ENGINEERING
350 S GRAND AVENUE
SUITE 2900
LOS ANGELES, CA 90071
(213) 239-6800

SUBMITTED: _____ PROJECT MANAGER
APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

PLATFORM PLAN

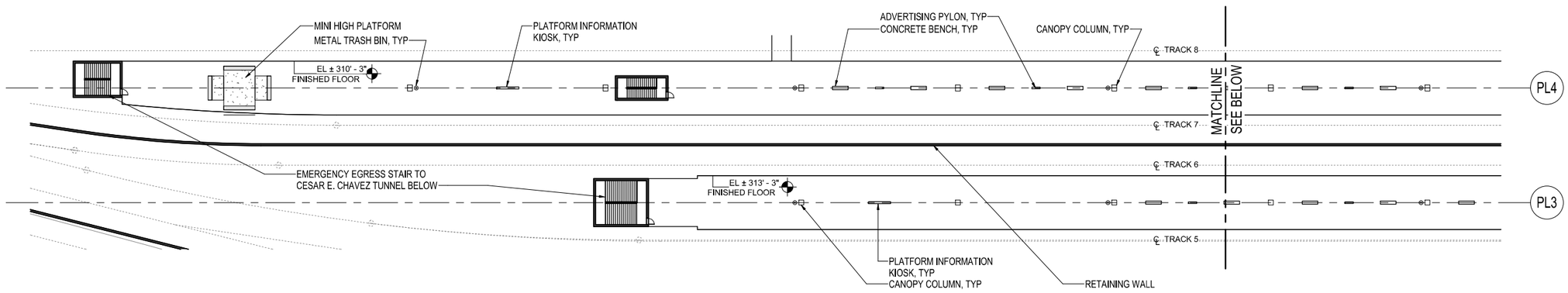
CONTRACT NO.
DRAWING NO. A-021
REV. 0
SCALE 1" = 30'-0"
SHEET NO. 25 of 91

GENERAL NOTES

1. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
2. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
4. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
5. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.

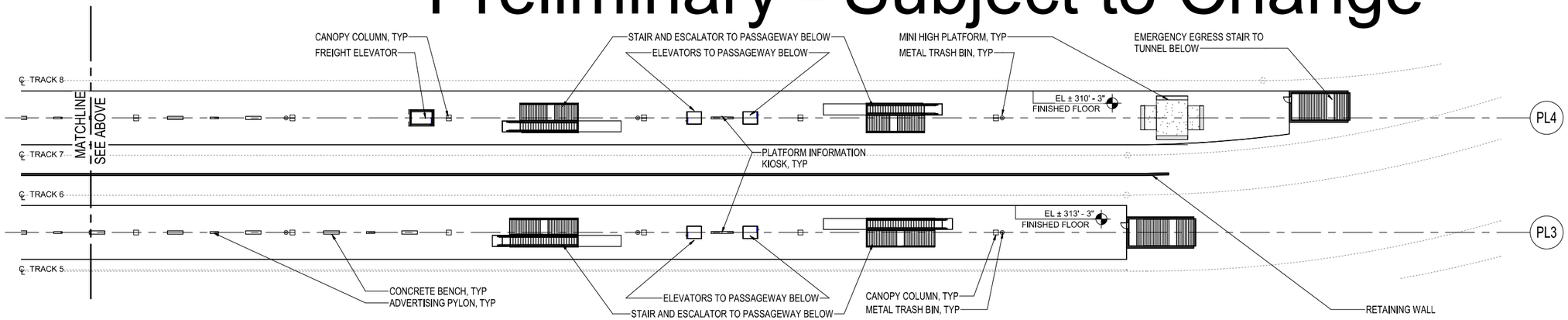
GRAPHICS LEGEND

- EXISTING STRUCTURE
- EARTH
- STRUCTURE BELOW
- STRUCTURE ABOVE
- TRACK CENTERLINE
- PROPOSED DEMOLITION

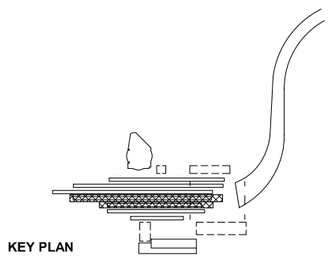


1 A-022 PLATFORM PLAN - P3 + P4 - NORTH
1" = 30'-0"
0' 15' 30' 60'

Preliminary - Subject to Change



2 A-022 PLATFORM PLAN - P3 + P4 - SOUTH
1" = 30'-0"
0' 15' 30' 60'



KEY PLAN

CONCEPTUAL DESIGN SUBMITTAL
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REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY M. MAH
DRAWN BY M. PERROS
CHECKED BY M. RAMIREZ
IN CHARGE T. KIM
DATE 7/13/2021

Metro
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

V&A, INC.
975 S. FAIR OAKS AVENUE
PASADENA, CA 91105
(213) 972-0700

HDR ENGINEERING
350 S GRAND AVENUE
SUITE 2900
LOS ANGELES, CA 90071
(213) 228-6800

SUBMITTED: _____ PROJECT MANAGER
APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

PLATFORM PLAN

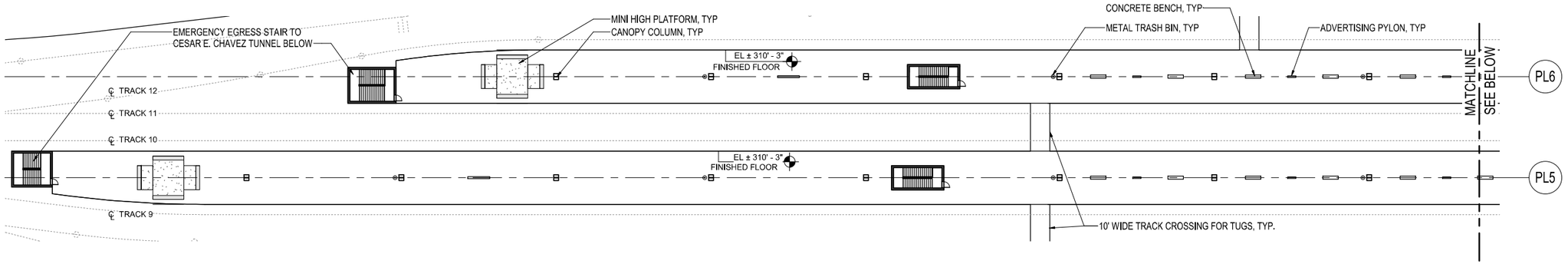
CONTRACT NO.
DRAWING NO. A-022 REV. 0
SCALE 1" = 30'-0"
SHEET NO. 26 of 91

GENERAL NOTES

1. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
2. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
4. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
5. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.

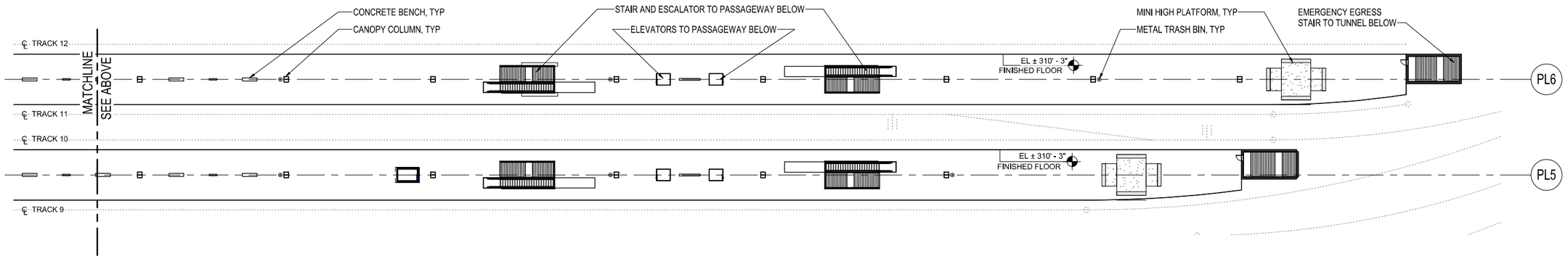
GRAPHICS LEGEND

- EXISTING STRUCTURE
- EARTH
- STRUCTURE BELOW
- STRUCTURE ABOVE
- TRACK CENTERLINE
- PROPOSED DEMOLITION

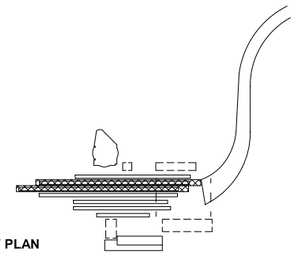


1 A-023 PLATFORM PLAN - P5 + P6 - NORTH
1" = 30'-0"
0' 15' 30' 60'

Preliminary - Subject to Change



2 A-023 PLATFORM PLAN - P5 + P6 - SOUTH
1" = 30'-0"
0' 15' 30' 60'



KEY PLAN

CONCEPTUAL DESIGN SUBMITTAL
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REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY	M. MAH
DRAWN BY	M. PERROS
CHECKED BY	M. RAMIREZ
IN CHARGE	T. KIM
DATE	7/13/2021

Metro
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

V&A, INC.
975 S. FAIR OAKS AVENUE
PASADENA, CA 91105
(213) 972-0700

HDR ENGINEERING
350 S GRAND AVENUE
SUITE 2900
LOS ANGELES, CA 90071
(213) 239-6800

SUBMITTED: _____ PROJECT MANAGER

APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

PLATFORM PLAN

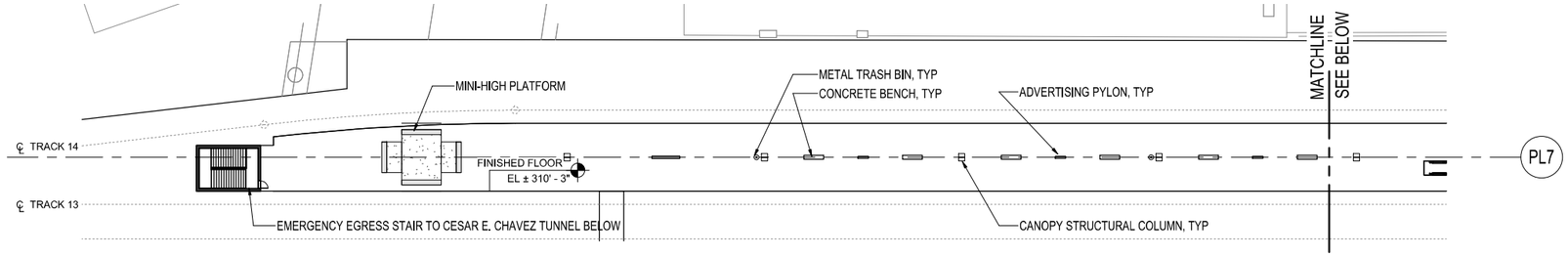
CONTRACT NO.	
DRAWING NO.	A-023
REV.	0
SCALE	1" = 30'-0"
SHEET NO.	27 of 91

GENERAL NOTES

1. FOR LEVEL DATUMS, SEE CIVIL DRAWINGS.
2. FOR DETAILS OF FIRE ACCESS ROAD, SEE CIVIL DRAWINGS.
3. FOR DETAILS OF TRACK ALIGNMENT, SEE TRACK DRAWINGS.
4. FOR DRAINAGE DETAILS, SEE DRAINAGE DRAWINGS.
5. FOR EXISTING CONDITIONS, SEE METRO RAIL PROJECT CONTRACT A135 REFERENCE DWGS.

GRAPHICS LEGEND

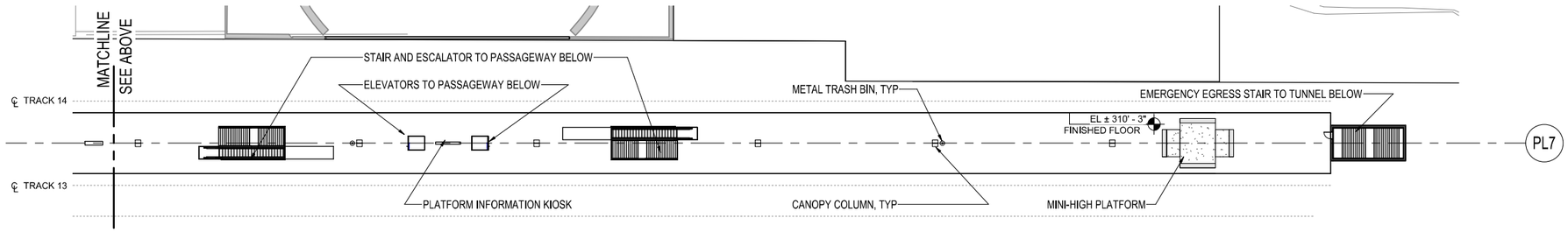
- EXISTING STRUCTURE
- EARTH
- STRUCTURE BELOW
- STRUCTURE ABOVE
- TRACK CENTERLINE
- PROPOSED DEMOLITION



1 A-024 PLATFORM PLAN - P7 - NORTH
1" = 30'-0"

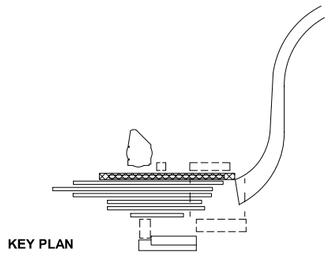
0' 15' 30' 60'

Preliminary - Subject to Change



2 A-024 PLATFORM PLAN - P7 - SOUTH
1" = 30'-0"

0' 15' 30' 60'



KEY PLAN

CONCEPTUAL DESIGN SUBMITTAL
NOT FOR CONSTRUCTION

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION (fta), UNDER THE FEDERAL TRANSIT ACT OF 1964, AS AMENDED, AND IN PART BY THE TAXES OF THE CITIZENS OF LOS ANGELES COUNTY AND OF THE STATE OF CALIFORNIA

REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

DESIGNED BY M. MAH
DRAWN BY M. PERROS
CHECKED BY M. RAMIREZ
IN CHARGE T. KIM
DATE 7/13/2021

Metro
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

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LOS ANGELES, CA 90071
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SUBMITTED: _____ PROJECT MANAGER
APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

PLATFORM PLAN

CONTRACT NO.
DRAWING NO. A-024 REV. 0
SCALE 1" = 30'-0"
SHEET NO. 28 of 91

GENERAL NOTES

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GRAPHICS LEGEND

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- TRACK CENTERLINE
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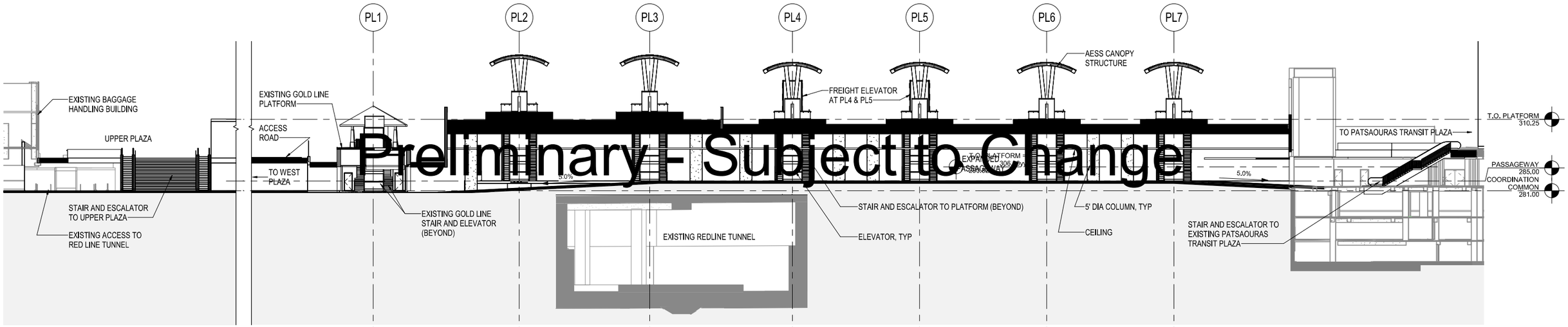
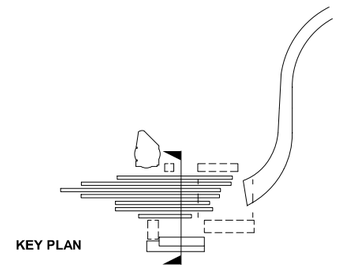


1 / A-300 OVERALL SITE SECTION
1" = 20'-0"

0' 10' 20' 40'



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REV	DATE	BY	APP	REG NO	EXPIRES	SEAL HOLDER	DESCRIPTION

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SUBMITTED: _____ PROJECT MANAGER

APPROVED: _____

LINK UNION STATION PROJECT
ARCHITECTURAL DRAWINGS

OVERALL SITE SECTIONS

CONTRACT NO.
DRAWING NO. A-300 REV. 0
SCALE 1" = 20'-0"
SHEET NO. 29 of 91