CALIFORNIA HIGH-SPEED TRAIN
Engineering Plans

Burbank to Los Angeles
Option B Revised Alignment
Volume 3.2

General, Aerial Structures, Tunnels & Retaining Walls
August 2021
PRELIMINARY ENGINEERING FOR PROJECT DEFINITION (PEPD)
CALIFORNIA HIGH-SPEED TRAIN PROJECT
VALLEY/RIVER SUBDIVISION
BURBANK TO LOS ANGELES - OPTION B Refined
VOLUME 3.2

GENERAL, AERIAL STRUCTURES, TUNNELS & RETAINING WALLS

PROJECT LOCATION MAP

B-La STA 3026+28.25 = D-R STA 2294+47.04
REFER TO GENERAL PEPD SUBMITTAL (VOLUME 3.7) FOR WORK NORTH OF THIS LOCATION

B-La STA 3697+99.22 = LINKUS STA 64+86.72
REFER TO LINKUS SUBMITTAL (VOLUME 3.8) FOR WORK SOUTH OF THIS LOCATION
## PEPD INDEX OF VOLUMES

<table>
<thead>
<tr>
<th>VOLUME NO.</th>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLUME 3.1</td>
<td>GENERAL</td>
</tr>
<tr>
<td></td>
<td>TRACK ALIGNMENT</td>
</tr>
<tr>
<td></td>
<td>RIGHT-OF-WAY IMPACT</td>
</tr>
<tr>
<td>VOLUME 3.2</td>
<td>GENERAL</td>
</tr>
<tr>
<td></td>
<td>AERIAL STRUCTURES</td>
</tr>
<tr>
<td></td>
<td>TUNNEL</td>
</tr>
<tr>
<td></td>
<td>RETAINING WALLS</td>
</tr>
<tr>
<td>VOLUME 3.3</td>
<td>GENERAL</td>
</tr>
<tr>
<td></td>
<td>GRADE SEPARATIONS</td>
</tr>
<tr>
<td></td>
<td>ROADWAY IMPROVEMENTS</td>
</tr>
<tr>
<td>VOLUME 3.4</td>
<td>GENERAL</td>
</tr>
<tr>
<td></td>
<td>UTILITIES</td>
</tr>
<tr>
<td></td>
<td>GRADING AND DRAINAGE</td>
</tr>
<tr>
<td></td>
<td>TRACTION POWER FACILITIES SITE</td>
</tr>
<tr>
<td></td>
<td>COMMUNICATION SYSTEM SITE</td>
</tr>
<tr>
<td></td>
<td>AUTOMATIC TRAIN CONTROL SITE</td>
</tr>
<tr>
<td>VOLUME 3.5</td>
<td>GENERAL</td>
</tr>
<tr>
<td></td>
<td>STATIONS</td>
</tr>
<tr>
<td></td>
<td>MAINTENANCE FACILITIES</td>
</tr>
<tr>
<td></td>
<td>TRACKSIDE ACCESS</td>
</tr>
<tr>
<td>VOLUME 3.6</td>
<td>GENERAL</td>
</tr>
<tr>
<td></td>
<td>CONSTRUCTION PHASING PLANS</td>
</tr>
<tr>
<td>VOLUME 3.7</td>
<td>GENERAL</td>
</tr>
<tr>
<td></td>
<td>BURBANK AIRPORT STATION</td>
</tr>
<tr>
<td>VOLUME 3.8</td>
<td>GENERAL</td>
</tr>
<tr>
<td></td>
<td>LINK UNION STATION (LINK US) BY LA METRO</td>
</tr>
</tbody>
</table>
### VOLUME 3.2 - GENERAL, TUNNELS & RETAINING WALLS

#### RETAINING WALLS

<table>
<thead>
<tr>
<th>DRAWING NO.</th>
<th>DRAWING TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST-G1101</td>
<td>HSR - Retaining Wall Sta 3119+00 to Sta 3125+00</td>
</tr>
<tr>
<td>ST-G1102</td>
<td>HSR - Retaining Wall Sta 3125+00 to Sta 3130+00</td>
</tr>
<tr>
<td>ST-G1103</td>
<td>HSR - Retaining Wall Sta 3130+00 to Sta 3134+00</td>
</tr>
<tr>
<td>ST-G1104</td>
<td>HSR - Retaining Wall Sta 3134+00 to Sta 3137+00</td>
</tr>
<tr>
<td>ST-G1105</td>
<td>HSR - Retaining Wall Sta 3137+00 to Sta 3139+00</td>
</tr>
<tr>
<td>ST-G1106</td>
<td>HSR - Retaining Wall Sta 3190+00 to Sta 3203+00</td>
</tr>
<tr>
<td>ST-G1107</td>
<td>HSR - Retaining Wall Sta 3203+00 to Sta 3216+00</td>
</tr>
<tr>
<td>ST-G1108</td>
<td>HSR - Retaining Wall Sta 3216+00 to Sta 3229+00</td>
</tr>
<tr>
<td>ST-G1109</td>
<td>HSR - Retaining Wall Sta 3229+00 to Sta 3242+00</td>
</tr>
<tr>
<td>ST-G1110</td>
<td>HSR - Retaining Wall Sta 3242+00 to Sta 3254+00</td>
</tr>
<tr>
<td>ST-G1111</td>
<td>HSR - Retaining Wall Sta 3254+00 to Sta 3268+00</td>
</tr>
<tr>
<td>ST-G1112</td>
<td>HSR - Retaining Wall Sta 3268+00 to Sta 3281+00</td>
</tr>
<tr>
<td>ST-G1113</td>
<td>HSR - Retaining Wall Sta 3281+00 to Sta 3284+00</td>
</tr>
<tr>
<td>ST-G1114</td>
<td>HSR - Retaining Wall Sta 3284+00 to Sta 3307+00</td>
</tr>
<tr>
<td>ST-G1115</td>
<td>HSR - Retaining Wall Sta 3307+00 to Sta 3320+00</td>
</tr>
<tr>
<td>ST-G1116</td>
<td>HSR - Retaining Wall Sta 3320+00 to Sta 3334+00</td>
</tr>
<tr>
<td>ST-G1117</td>
<td>HSR - Retaining Wall Sta 3334+00 to Sta 3346+00</td>
</tr>
<tr>
<td>ST-G1118</td>
<td>HSR - Retaining Wall Sta 3346+00 to Sta 3359+00</td>
</tr>
<tr>
<td>ST-G1119</td>
<td>HSR - Retaining Wall Sta 3359+00 to Sta 3373+00</td>
</tr>
<tr>
<td>ST-G1120</td>
<td>HSR - Retaining Wall Sta 3373+00 to Sta 3385+00</td>
</tr>
<tr>
<td>ST-G1121</td>
<td>HSR - Retaining Wall Sta 3385+00 to Sta 3398+00</td>
</tr>
<tr>
<td>ST-G1122</td>
<td>HSR - Retaining Wall Sta 3398+00 to Sta 3411+00</td>
</tr>
<tr>
<td>ST-G1123</td>
<td>HSR - Retaining Wall Sta 3411+00 to Sta 3424+00</td>
</tr>
<tr>
<td>ST-G1124</td>
<td>HSR - Retaining Wall Sta 3424+00 to Sta 3437+00</td>
</tr>
<tr>
<td>ST-G1125</td>
<td>HSR - Retaining Wall Sta 3437+00 to Sta 3450+00</td>
</tr>
<tr>
<td>ST-G1126</td>
<td>HSR - Retaining Wall Sta 3450+00 to Sta 3463+00</td>
</tr>
<tr>
<td>ST-G1127</td>
<td>HSR - Retaining Wall Sta 3463+00 to Sta 3476+00</td>
</tr>
<tr>
<td>ST-G1128</td>
<td>HSR - Retaining Wall Sta 3476+00 to Sta 3489+00</td>
</tr>
<tr>
<td>ST-G1129</td>
<td>HSR - Retaining Wall Sta 3489+00 to Sta 3502+00</td>
</tr>
<tr>
<td>ST-G1130</td>
<td>HSR - Retaining Wall Sta 3502+00 to Sta 3515+00</td>
</tr>
<tr>
<td>ST-G1131</td>
<td>HSR - Retaining Wall Sta 3515+00 to Sta 3528+00</td>
</tr>
<tr>
<td>ST-G1132</td>
<td>HSR - Retaining Wall Sta 3528+00 to Sta 3541+00</td>
</tr>
<tr>
<td>ST-G1133</td>
<td>HSR - Retaining Wall Sta 3541+00 to Sta 3554+00</td>
</tr>
<tr>
<td>ST-G1134</td>
<td>HSR - Retaining Wall Sta 3554+00 to Sta 3567+00</td>
</tr>
<tr>
<td>ST-G1135</td>
<td>HSR - Retaining Wall Sta 3567+00 to Sta 3580+00</td>
</tr>
<tr>
<td>ST-G1136</td>
<td>HSR - Retaining Wall Sta 3580+00 to Sta 3593+00</td>
</tr>
<tr>
<td>ST-G1137</td>
<td>HSR - Retaining Wall Sta 3593+00 to Sta 3606+00</td>
</tr>
<tr>
<td>ST-G1138</td>
<td>HSR - Retaining Wall Sta 3606+00 to Sta 3619+00</td>
</tr>
<tr>
<td>ST-G1139</td>
<td>HSR - Retaining Wall Sta 3619+00 to Sta 3632+00</td>
</tr>
<tr>
<td>ST-G1140</td>
<td>HSR - Retaining Wall Sta 3632+00 to Sta 3645+00</td>
</tr>
</tbody>
</table>

### NON-ROADWAY STRUCTURES

<table>
<thead>
<tr>
<th>DRAWING NO.</th>
<th>DRAWING TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST-K1201</td>
<td>HSR - Retaining Wall Sections</td>
</tr>
<tr>
<td>ST-K1202</td>
<td>Burbank Channel Cap General Plan - Sheet 1 of 1</td>
</tr>
<tr>
<td>ST-K1203</td>
<td>Verdugo Wash General Plan - Sheet 1 of 1</td>
</tr>
</tbody>
</table>

---

**CALIFORNIA HIGH-SPEED TRAIN PROJECT**

**DOWNEY BRIDGE - LA RIVER OVERPASS**

**ST-G1140**

INDEX OF DRAWINGS

VOLUME 3.2 - SHEET 2 OF 2
BEGIN B-LA CHSR PROJECT
ALTERNATIVE E2 ALIGNMENT
STA 3026+28.25 -
P-B STA 2254+469.81
REFER TO P-B PEPP SUBMITTAL (VOLUME 7)
FOR WORK NORTH OF THIS LOCATION

Burbank Airport Station

GOLDEN STATE FWY (I-5)

Burbank Metrolink Station

CITY OF BURBANK

CITY OF GLendale

CITY OF LOS ANGELES

San Fernando Rd

END B-LA CHSR PROJECT
HSR STA 3697+99.27 - LINKS STA 64+46.72
REFER TO LINKS SUBMITTAL (VOLUME 8)
FOR WORK SOUTH OF THIS LOCATION

Burbank to Los Angeles

Option B Revised Alignment - Revised Final PEPP
Volume 3.2 Key Map Structures

For work north of this location, refer to P-B PEPP Submittal (Volume 7). For work south of this location, refer to Link Submittal (Volume 8).
BASIS OF DESIGN SUMMARY

1. SYSTEMS

The Authority has established performance requirements to guide the development of the High-Speed Rail System in Blended Corridors based on the FRA tier structure for passenger systems described in the "High-Speed Passenger Rail Safety Strategy (2009)." In order to address the requirements of the various design elements that are not covered in detail in the FRA 0.3.1 and are being reviewed by the Authority.

INFRASTRUCTURE REQUIREMENTS

The Authority has established performance requirements to guide the development of the High-Speed Rail System in Blended Corridors based on the FRA tier structure for passenger systems described in the "High-Speed Passenger Rail Safety Strategy (2009)."

The requirements for major design elements are listed below:

1. INTEROPERABILITY

Required level of interoperability between the passenger and freight railroads that operate in the B-LA corridor will be maintained.

The railroad operators and right-of-way owners are:

- Authority
- Metrolink
- Amtrak
- Union Pacific Railroad

2. DESIGN SPEEDS

Design speed: maximum allowed per existing alignment/row constraints with a speed not to exceed maximum of 125 mph.

- Maximum 125 mph for passenger operations
- Maximum 25 mph for freight operations

3. TRACK CENTER SPACING

10'-0" minimum, except for 16'-6" minimum between I-5 and SR-134, North of CWF access road, and from Denny Bridge to LAUS.

4. AT-GRADE CROSSING

There will be no at-grade crossings in the B-LA segment. All intersections will be grade-separated or closed.

5. ACCESS CONTROL

The B-LA corridor will be fenced with no at-grade crossings. Intrusion protection, and access control measures will be employed within notification as required to promote safe and reliable operation.

6. TRACK ALIGNMENT

The B-LA corridor is planned to operate as a Class 7 service up to 125 mph with no at-grade roadway crossings.

7. INTRUSION PROTECTION

Intrusion detection will be provided at locations where it is appropriate to mitigate an intrusion hazard based on hazard assessment and requirements of adjacent railroad (UP).

8. TERMINAL AND INTERMEDIATE STATIONS

The following station in the corridor is designated as a terminal station:

- Burbank Airport Station & Los Angeles Union Station

There will be no intermediate high-speed rail station.

9. TRACK AND PLATFORM CONFIGURATION

Station passenger platforms are planned for a length of approximately 1410 feet to accommodate a range of high-speed trainsets.

10. VEHICLE STORAGE AND MAINTENANCE

Under current operating assumption, fleet storage, cleaning, servicing, inspection, maintenance, and repair requirements will be supported.

Terminal storage and maintenance facility (level 1) that provides in-service inspection, cleaning and maintenance with a location in proximity to Los Angeles Union Station.

Storage tracks for overnight layup at Los Angeles Union Station.

Current designs to be modified per upcoming discussion with RDP.

11. ADJACENT RAIL OPERATIONS

In the Burbank to Los Angeles corridor, the Authority will operate in a shared right-of-way corridor and will share tracks with other passenger trains South of downtown Burbank Metrolink Station. Freight trains will not operate on HSR electrified tracks.

12. SHARED RIGHT-OF-WAY (ROW)

Generally, the right-of-way is owned by LA Metro on the Valley and Ventura Subdivisions, and is owned partially by the freight railroad. In the Burbank to Los Angeles corridor, passenger and freight operations occur concurrently throughout the day on parallel alignments.

Track separation and intrusion protection, as determined through risk-based analysis, will be provided.

13. DIAMOND (AT-GRADE) CROSSINGS

The use of "owl" diamond crossings will be limited to HSR service and will not be allowed due to high volume of crossing tracks. The HSR tracks will not run alongside the western side of the CMF building to avoid diamond crossings.

NOT FOR CONSTRUCTION (INTERNAL USE ONLY)

CALIFORNIA HIGH-SPEED TRAIN PROJECT
Burbank to Los Angeles
Option B Revised Alignment - Revised Final
BASIS OF DESIGN SUMMARY

HSR14-39
GE-B0201

DATE
11/14/2021

SCALE
NO SCALE

RECORD SET
6/27/2021

C. CUSSON
C. LEE

DRAFTED BY

PREPARED FOR

DATE
8/27/2021

CONTRACT NO.
HSR14-39

DRAWN BY

DESIGNED BY

08/27/2021

RECORD SET

NOT FOR CONSTRUCTION
INTERNAL USE ONLY
<table>
<thead>
<tr>
<th>ACRONYMS AND ABBREVIATIONS</th>
<th>meanings</th>
<th>ACRONYMS AND ABBREVIATIONS</th>
<th>meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Acronym</td>
<td>A</td>
<td>Acronym</td>
</tr>
<tr>
<td>B</td>
<td>Acronym</td>
<td>B</td>
<td>Acronym</td>
</tr>
<tr>
<td>C</td>
<td>Acronym</td>
<td>C</td>
<td>Acronym</td>
</tr>
<tr>
<td>D</td>
<td>Acronym</td>
<td>D</td>
<td>Acronym</td>
</tr>
<tr>
<td>E</td>
<td>Acronym</td>
<td>E</td>
<td>Acronym</td>
</tr>
<tr>
<td>F</td>
<td>Acronym</td>
<td>F</td>
<td>Acronym</td>
</tr>
<tr>
<td>G</td>
<td>Acronym</td>
<td>G</td>
<td>Acronym</td>
</tr>
<tr>
<td>H</td>
<td>Acronym</td>
<td>H</td>
<td>Acronym</td>
</tr>
<tr>
<td>I</td>
<td>Acronym</td>
<td>I</td>
<td>Acronym</td>
</tr>
<tr>
<td>J</td>
<td>Acronym</td>
<td>J</td>
<td>Acronym</td>
</tr>
<tr>
<td>K</td>
<td>Acronym</td>
<td>K</td>
<td>Acronym</td>
</tr>
<tr>
<td>L</td>
<td>Acronym</td>
<td>L</td>
<td>Acronym</td>
</tr>
<tr>
<td>M</td>
<td>Acronym</td>
<td>M</td>
<td>Acronym</td>
</tr>
<tr>
<td>N</td>
<td>Acronym</td>
<td>N</td>
<td>Acronym</td>
</tr>
<tr>
<td>O</td>
<td>Acronym</td>
<td>O</td>
<td>Acronym</td>
</tr>
<tr>
<td>P</td>
<td>Acronym</td>
<td>P</td>
<td>Acronym</td>
</tr>
<tr>
<td>Q</td>
<td>Acronym</td>
<td>Q</td>
<td>Acronym</td>
</tr>
<tr>
<td>R</td>
<td>Acronym</td>
<td>R</td>
<td>Acronym</td>
</tr>
<tr>
<td>S</td>
<td>Acronym</td>
<td>S</td>
<td>Acronym</td>
</tr>
<tr>
<td>T</td>
<td>Acronym</td>
<td>T</td>
<td>Acronym</td>
</tr>
<tr>
<td>U</td>
<td>Acronym</td>
<td>U</td>
<td>Acronym</td>
</tr>
<tr>
<td>V</td>
<td>Acronym</td>
<td>V</td>
<td>Acronym</td>
</tr>
<tr>
<td>W</td>
<td>Acronym</td>
<td>W</td>
<td>Acronym</td>
</tr>
<tr>
<td>X</td>
<td>Acronym</td>
<td>X</td>
<td>Acronym</td>
</tr>
<tr>
<td>Y</td>
<td>Acronym</td>
<td>Y</td>
<td>Acronym</td>
</tr>
<tr>
<td>Z</td>
<td>Acronym</td>
<td>Z</td>
<td>Acronym</td>
</tr>
</tbody>
</table>

Not for construction (internal use only)
GENERAL NOTES

1. REFER TO TRACK PLANS, VOLUME 1 AND PROPOSED UTILITY PLANS, VOLUME 4, FOR VERTICAL UTILITY CONFLICTS.
2. ADJUST UTILITY MANHOLES TO GRACE WHERE IMPACTED BY EARTHWORK OR STREET IMPROVEMENTS.
3. USE LACTMA STANDARD DRAWINGS (2010) FOR TEMPORARY SUPPORT OF UTILITIES IMPACTED BY CUT AND FILL OPERATIONS.

GRADING AND DRAINAGE NOTES:
1. CONTOUR GRADING ALONG THE HSR TRACKS IS BASED ON THE TOP OF SUBGRADE ELEVATIONS. BALLAST IS NOT INCLUDED.
2. FOR RETAINING WALL INFORMATION, SEE RETAINING WALL PLANS IN VOLUME 2.

VOLUME 3.4 (CONT.)

EXISTING COMPOSITE UTILITY NOTES:
1. FOR TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
2. FOR RIGHT-OF-WAY INFORMATION, SEE RIGHT-OF-WAY PLANS IN VOLUME 1.
3. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 1.
4. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
5. FOR GRADE INFORMATION, SEE GRADE PLANS IN VOLUME 4.
6. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
7. FOR SYSTEM INFORMATION, SEE SYSTEM PLANS IN VOLUME 4.
8. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
9. ACCESS RETAINING SOLID BARRIER RAILING TO BE INSTALLED ON ALL EXISTING AND PROPOSED OVERHEAD BRIDGE STRUCTURES CROSSING HSR TRACKS PER RDP DIRECTIVE NO. 0006.

VOLUME 3.5

1. FOR MAIN LINE TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
2. FOR RIGHT-OF-WAY INFORMATION, SEE RIGHT-OF-WAY PLANS IN VOLUME 1.
3. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
4. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
5. FOR GRADE INFORMATION, SEE GRADE PLANS IN VOLUME 4.
6. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
7. FOR SYSTEM INFORMATION, SEE SYSTEM PLANS IN VOLUME 4.
8. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
9. ACCESS RETAINING SOLID BARRIER RAILING TO BE INSTALLED ON ALL EXISTING AND PROPOSED OVERHEAD BRIDGE STRUCTURES CROSSING HSR TRACKS PER RDP DIRECTIVE NO. 0006.

VOLUME 3.6

1. FOR MAIN LINE TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
2. FOR RIGHT-OF-WAY INFORMATION, SEE RIGHT-OF-WAY PLANS IN VOLUME 1.
3. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
4. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
5. FOR GRADE INFORMATION, SEE GRADE PLANS IN VOLUME 4.
6. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
7. FOR SYSTEM INFORMATION, SEE SYSTEM PLANS IN VOLUME 4.
8. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
9. ACCESS RETAINING SOLID BARRIER RAILING TO BE INSTALLED ON ALL EXISTING AND PROPOSED OVERHEAD BRIDGE STRUCTURES CROSSING HSR TRACKS PER RDP DIRECTIVE NO. 0006.

VOLUME 3.7

1. FOR MAIN LINE TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
2. FOR RIGHT-OF-WAY INFORMATION, SEE RIGHT-OF-WAY PLANS IN VOLUME 1.
3. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
4. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
5. FOR GRADE INFORMATION, SEE GRADE PLANS IN VOLUME 4.
6. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
7. FOR SYSTEM INFORMATION, SEE SYSTEM PLANS IN VOLUME 4.
8. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
9. ACCESS RETAINING SOLID BARRIER RAILING TO BE INSTALLED ON ALL EXISTING AND PROPOSED OVERHEAD BRIDGE STRUCTURES CROSSING HSR TRACKS PER RDP DIRECTIVE NO. 0006.

VOLUME 3.8

1. FOR MAIN LINE TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
2. FOR RIGHT-OF-WAY INFORMATION, SEE RIGHT-OF-WAY PLANS IN VOLUME 1.
3. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
4. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
5. FOR GRADE INFORMATION, SEE GRADE PLANS IN VOLUME 4.
6. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
7. FOR SYSTEM INFORMATION, SEE SYSTEM PLANS IN VOLUME 4.
8. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
9. ACCESS RETAINING SOLID BARRIER RAILING TO BE INSTALLED ON ALL EXISTING AND PROPOSED OVERHEAD BRIDGE STRUCTURES CROSSING HSR TRACKS PER RDP DIRECTIVE NO. 0006.

VOLUME 3.9

1. FOR MAIN LINE TRACK INFORMATION, SEE TRACK PLANS IN VOLUME 1.
2. FOR RIGHT-OF-WAY INFORMATION, SEE RIGHT-OF-WAY PLANS IN VOLUME 1.
3. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
4. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
5. FOR GRADE INFORMATION, SEE GRADE PLANS IN VOLUME 4.
6. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
7. FOR SYSTEM INFORMATION, SEE SYSTEM PLANS IN VOLUME 4.
8. FOR UTILITY INFORMATION, SEE UTILITY PLANS IN VOLUME 4.
9. ACCESS RETAINING SOLID BARRIER RAILING TO BE INSTALLED ON ALL EXISTING AND PROPOSED OVERHEAD BRIDGE STRUCTURES CROSSING HSR TRACKS PER RDP DIRECTIVE NO. 0006.
BURBANK STATION
TUNNEL STAGING AREA

CUT & COVER TUNNEL

PIPE BOX TUNNEL SUPPORT

BURBANK AIRPORT EXISTING RUNWAY/TAXIWAY LIMITS

SEW TUNNEL

B-1A TRACK PROFILE

B-LA TRACK PROFILE

TUNNEL STAGING AREA

REFER TO SHEETS RW-M4101 AND RW-M4201 FOR LIMITS

BURBANK STATION

PALMDALE TO BURBANK SEGMENT

BURBANK TO LOS ANGELES SEGMENT

SEW PORTAL

HEWMALL AT

SOIL NAILS

HEWMALL PORTAL

FOR SEW TUNNEL

4" DIA INTERLOCKING PIPE BOX EXCAVATION SUPPORT EXTENDS 50' BEYOND SEW HEWMALL

20' DIA SUPPLEMENTAL SETTLEMENT MITIGATION SHAFT

FOR OPEN CUT EXCAVATION SUPPORT SEE SHEET TN-C3003

NOTES:

1. SUPPLEMENTAL SETTLEMENT MITIGATION WOULD BE EMPLOYED AS NEEDED TO IMPROVE GROUND CONDITION FOR BOX EXCAVATION AND CONTROL SETTLEMENT BELOW TAXIWAY AND RUNWAY. LOCATION OF THE SETTLEMENT MITIGATION SHAFTS ARE INDICATIVE AND ARE SUBJECT TO LIMITATIONS OF AVAILABLE AREAS FOR STAGING. DETAILS OF SETTLEMENT MITIGATION WILL DEPEND ON SOIL CHARACTERIZATION AND GROUTABILITY AND ARE NOT PROVIDED HEREIN.
NORTH CUT & COVER SUPPORT OF EXCAVATION PLAN

SCALE: 1" = 10'

HEADWALL N.I.C.

BURBANK STATION N.I.C.

SOIL NAIL WALL EXCAVATION SUPPORT BETWEEN BURBANK STATION AND SEW TUNNEL

STATION AND SEW TUNNEL

HEADWALL N.I.C. -

NORTH CUT & COVER SUPPORT OF EXCAVATION PLAN

SCALE: 1" = 10'

CALIFORNIA HIGH-SPEED TRAIN PROJECT

BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL PEPD

SUPPORT OF EXCAVATION

NORTH CUT & COVER

STV

McKenna Jacobs

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

HSR14-39

DRAWING NO.

TN-D3001

CONSTRUCTION NOT FOR RECORD SET

NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY

07/15/2021

08/27/2021

7/27/2021

08/27/2021

H. SCHAADT

W. OSTERMANN

K. ABEY

C. LEE

CONTRACT NO.

HSR14-39

DATE

IN CHARGE

sheet no.

DRAWN BY

CHECKED BY

DESCRIPTION

REV

CPU

chk

0

0

0

20

SCALE APPLICABLE FOR FULL SIZE ONLY
NOTES:
1. Sheet Piles and Internal Bracing may be utilized as an alternative Excavation Support System.

CALIFORNIA HIGH-SPEED TRAIN PROJECT
Burbank to Los Angeles
Option B Revised Alignment - Revised Final PE
Support of Excavation
Typical Cut & Cover Sections
TYPICAL PORTAL AND VENTILATION SECTION STA 3044+10

SCALE 1"=5'-0"

TUNNEL VENTILATION FAN ABOVE

EXTERIOR GRADE

TRACK MSR1

TRACK MSR2

WALKWAY ENVELOPE (TYP)

EXITING ABOVE (TYP)

TOP OF RAIL

ELECTRICAL ROOM

42'-0"

5'-0"
NOTES:
1. SHEET PILES AND INTERNAL BRACING MAY BE UTILIZED AS AN ALTERNATIVE EXCAVATION SUPPORT SYSTEM.
TYPICAL EXCAVATION AND SUPPORT CROSS SECTION

SECTION CENTER DRIFT
(SIDE DRIFTS NOT SHOWN)

CENTER DRIFT EXCAVATION SEQUENCE:

1. Excavation of Top Heading One Unit Advance Around Support Wedge (6 ft max).
3. Installation of Pipe Canopy.
4. Installation of Pipe Canopy every four advances, see Note 04.
5. Excavation of Support Wedge One Unit Advance.
7. Application of Fiber Reinforced Shotcrete in Third Unit Advance From Heading.
8. Repetition of steps 5 to 7.
10. Application of Fiber Reinforced Shotcrete to Bench.
12. Excavation of Invert Two Unit Advance (6 ft max).

NOTES:
1. Tunnel Configuration and Support Shown Are Illustrative Only and Not Intended for Construction.
2. Flashcrete to Be Applied to All Ground Surfaces Immediately After Exposure.
3. All Support (Flashcrete, Shotcrete, Reinforcement for Each Excavation Round Must Be Completed Prior to Commencing Next Excavation Round in Sequence.
4. Install Initial Shotcrete Lining with All Required Support Elements up to 16 FT of the Excavation Face Before Excavation Continues.
5. Face Stabilization Will Be Provided by Sem Toolbox Item(s) As Required by Ground Conditions (Face Bolts, Metal Sheet, Pocket Excavations, Grouting, Support Wedge, Dewatering).
6. Install Lattice Girder.
7. Temporary Sidewalls Shall Be Demolished Not Closer Than 20 Feet From Completed Tunnel Rings.
8. Flashcrete to Be Applied to All Ground Surfaces Immediately After Exposure. 
9. The Face Bolt Pattern Shown Is Indicative and To Be Adjusted in the Field According to Actual Site Conditions.
10. Slope of the Face Shown Is Indicative and To Be Adjusted in the Field According to Actual Site Conditions.
11. The Length of Canopy Pipes Shown Is Indicative, Frequency of Canopy Pipes Installation Depends on Actual Length and Required Minimum Overlap of 10 Feet.

NOT FOR CONSTRUCTION
FOR INTERNAL USE ONLY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REVISIONS - REVISED FINAL PEP DTP

TYPICAL EXCAVATION AND SUPPORT CROSS SECTION
SEM EXCAVATION
CALIFORNIA HIGH-SPEED TRAIN PROJECT  
BURBANK TO LOS ANGELES  
OPTION B REVISED ALIGNMENT - REVISED FINAL PEP  
PEPB CONSTRUCTION SEQUENCE PLAN

GENERAL CONSTRUCTION SEQUENCE:

1. INSTALLATION OF SOLDIER PILE HEADWALLS AT WEST AND EAST ENDS OF NORTH HOLLYWOOD WAY.
2. SOUTH BOUND LANE CLOSURE FOR SEGMENT A.
3. RETAINING WALL EXCAVATION.
4. INSTALLATION OF TEMPORARY DECKING IN SEGMENT B.
5. INSTALLATION OF TEMPORARY RETAINING WALL IN PLACE ALONG EAST SIDE OF NORTH HOLLYWOOD WAY.
6. INSTALLATION OF TEMPORARY DECKING IN SEGMENT A.
7. RESTORATION OF SOUTH BOUND LANE.
8. CUT AND COVER EXCAVATION.
9. INSTALLATION OF TEMPORARY SUPPORT OF EXISTING RETAINING WALL.
10. CONSTRUCTION OF PERMANENT CUT AND COVER BOX STRUCTURE IN BOTH SEGMENT A AND SEGMENT B.
11. SOUTH BOUND LANE CLOSURE FOR SEGMENT B.
12. RESTORATION OF SOUTH BOUND TRAFFIC LANE.
13. NORTH BOUND LANE CLOSURE FOR SEGMENT B.
14. RESTORATION OF NORTH BOUND TRAFFIC LANE.

CONSTRUCTION SEQUENCE PLAN

SCALE: 1" = 20'
Note:
1. Where trench wall is shorter than the required height to mount the ride contact system, then OCS pole shall be mounted on top of wall.

Typical Section - Trench

Scale: 3/16"=1'

STA 3072+50 to STA 3119+26

Typical Section - Retaining Walls

Scale: 3/16"=1'

STA 3119+26 to STA 3152+75

Note:
Where trench wall is shorter than the required height to mount the ride contact system, then OCS pole shall be mounted on top of wall.
NOTES
1. WALLS, LENGTHS, ARE MEASURED ALONG (APPROX) PROPOSED HSR2;
   WALLS AND FOR WALL TYPE, SEE DWG. NO. ST-G3101
2. VOL. 4 DWG NO. TC-O4104

PLANT
SCALE: 1"=50'

ELEVATION
VERT.: 1"=10'
HORIZ.: 1"=50'
NOT FOR CONSTRUCTION
FOR INTERNAL USE ONLY

NOTES
1. WALLS LENGTHS ARE MEASURED ALONG C.
2. FOR WALL TYPES SEE Dwg. No. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS

CALEIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REVISED ALIGNMENT - REVISED FINAL
PEPD
HSR - RETAINING WALL
HSR2 3359+00 TO HSR2 3372+00

ELEVATION
VERT.: 1"=10'
HORIZ.: 1"=50'

PLAN
SCALE: 1"=50'

HORZ.: 1"=50'
VERT.: 1"=10'
ELEVATION TOF 462.00 (APPROX)
GLENDALE SLIDE TRACK •

TOP OF NORTH WALL ALONG GLENDALE SLIDE TRACK

TOP OF SOUTH WALL ALONG HSR TRACK

TOP OF SOUTH WALL ALONG HSR TRACK & PROPOSED METROLINK (MT01)

TOP OF SOUTH WALL ALONG HSR TRACK & PROPOSED METROLINK (MT02)

TOF 467.00

TOF 464.00 (APPROX)
OG ALONG HSR TRACK •

BEGIN SOUTH WALL

BEGIN SOUTH WALL

END SOUTH WALL

END SOUTH WALL

TOP OF NORTH WALL ALONG GLENDALE SLIDE TRACK

TOP OF SOUTH WALL ALONG HSR TRACK

BEGIN SOUTH WALL

BEGIN SOUTH WALL

END SOUTH WALL

END SOUTH WALL

TOF 464.00 (APPROX)
OG ALONG HSR TRACK •

BEGIN SOUTH WALL

BEGIN SOUTH WALL

END SOUTH WALL

END SOUTH WALL
NOTES

1. Walls lengths are measured along c
c
2. For wall types see DWG. NO. ST-G3101
3. Vertical clearance under existing and proposed structures shown on Vol. 1 plan
   and profile sheets

CALEB S. LEE
PeD
PScf

2021.07.15

D. HAGHIGHI
P. ZUCCHI

DATE

ST-G1122

DRAWING NO.

IN CHARGE

CONTRACT NO.

CALIFORNIA HIGH-SPEED TRAIN PROJECT

HSR - RETAINING WALL
HSR2 3398+00 TO HSR2 3411+00

MAY BE APPLICABLE FOR FULL SIZE ONLY

NOT FOR CONSTRUCTION
FOR INTERNAL USE ONLY
NOT FOR CONSTRUCTION
FOR INTERNAL USE ONLY

CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REVISED ALIGNMENT - REVISED FINAL
PEPD
HSR - RETAINING WALL
HSR2 3424+00 TO HSR2 3437+00

NOTES
1. WALLS LENGTHS ARE MEASURED ALONG E.
2. FOR WALL TYPING SEE DWG. NO. ST-G3101.
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS.

SCALE: 1"=50'

ELEVATION
VERT.: 1' = 10'
HORZ.: 1"=50'

PLAN
SCALE: 1"=50'
NOTES

1. WALLS LENGTH ARE MEASURED ALONG C-C

2. FOR WALL TYPES SEE DWG. NO. ST-G3101

ELEVATION

VERT.: 1'=10'

HORIZ.: 1'=50'

CITY OF GLENDALE

CITY OF LOS ANGELES

PLAN

SCALE: 1'=50'

EXISTING PROPOSED METROLINK (MT01)

EXISTING PROPOSED METROLINK (MT02)

EXISTING ROW

PROPOSED ROW

EXISTING ROW

PROPOSED ROW

PROPOSED ROW

EXISTING GLendale SLIDE TRACK

(TO BE REMOVED)

EXISTING HSR - RETAINING WALL

END INTERMEDIATE WALL BETWEEN METROLINK AND HSR TRACKS (NOT SHOWN ON ELEVATION)

NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY

CALIFORNIA HIGH-SPEED TRAIN PROJECT

BURBANK TO LOS ANGELES

OPTION B REVISED ALIGNMENT - REVISED FINAL

HSR - RETAINING WALL

HSR 3437+00 TO HSR 3450+00

(both tracks)
NOTES
1. Walls lengths are measured along E.
2. For wall types see dwg. no. ST-G3101

EXIST METROLINK TRACKS
PROPOSED INTERLOCKING SITE
SEE VOL. 4, DWG. NO. TC-04003

PROPOSED UPRR 1 / METROLINK TRACK 1
PROPOSED UPRR 2 / METROLINK TRACK 2

EXIST ROW
EXIST METROLINK TRACKS
EXIST GLENDALE SLIDE TRACK (TO BE REMOVED)
PROPOSED TCE
PROPOSED UPRR MT01
PROPOSED UPRR MT02
PROPOSED TCE (TO BE REMOVED)

ELEVATION
VERT.: 1' = 10'
HORIZ.: 1' = 50'

PLAN
SCALE: 1' = 50'

FOR WALL TYPES SEE DWG. NO. ST-G3101
PROPOSED HSR2/MT02 • PROPOSED HSR1/MT01
PROPOSED TCE • PROPOSED UPRR 2 / METROLINK TRACK 2
• PROPOSED UPRR 1 / METROLINK TRACK 1

WASHINGTON ST - S.TA 3490+00
FLOWLINE - S.TA 3490+00

CASITAS AVENUE

NOT FOR CONSTRUCTION FOR INTERNAL USE ONLY
ELEVATION
VERT.: 1"=10'
HSR, 1"=50'

PLAN
SCALE: 1"=50'

NOTES
1. WALLS LENGTHS ARE MEASURED ALONG C.
2. FOR WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND
   PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN
   AND PROFILE SHEETS

PROPOSED HSR2/MT02
PROPOSED HSR1/MT01
(APPROX)

EXIST METROLINK TRACKS
• EXIST TCE (TO BE REMOVED)

PROPOSED UPRR TRACK 2 / METROLINK TRACK 2
• PROPOSED UPRR TRACK 1 / METROLINK TRACK 1

PROPOSED ICE

EXIST ROW

PROPOSED TRACK PROFILE
(BOTH TRACKS)

GOUND LEVEL FOR WAY (SR-2)

VERTICAL CLEARANCE
UNDER EXISTING AND
PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN
AND PROFILE SHEETS

3.2.
1.2.

PROPOSED WALLS LENGTHS ARE
MEASURED ALONG

PROPOSED HSR2

3.

PROPOSED TCE

PROPOSED HSR1/MT01

EXIST ROW

EXIST METROLINK TRACKS (TO BE REMOVED)
NOTES

1. WALLS LENGTHS ARE MEASURED ALONG &
PROPOSED HSR2/MT02

2. FOR WALL TYPES
SEE Dwg. NO. ST-G1134

MATCH LINE ST. 3541+00 TO ST. 3554+00
SEE DRAWING NO. ST-G1132
MATCH LINE ST. 3554+00 TO ST. 3567+00
SEE DRAWING NO. ST-G1133

450
400
350
300
250
200
150
100
50
0

VERT.: 1'=10'
HSR1: 1"=50'
HSR2: 1"=50'

SCALE: 1"=50'

PLAN

ELEVATION

3541+00 3542+00 3543+00 3544+00 3545+00 3546+00 3547+00 3548+00 3549+00 3550+00 3551+00 3552+00 3553+00 3554+00

EXIST ROW
EXIST ROW
EXIST ROW
EXIST ROW

PROPOSED UPRR1 / METROLINK TRACK 1
PROPOSED UPRR2 / METROLINK TRACK 2
PROPOSED TIE
EXIST METROLINK TRACKS
(to be removed)

PROPOSED HSR1 / MT01
PROPOSED HSR2 / MT02

PROPOSED HSR - RETAINING WALL
HSR2 3541+00 TO HSR2 3554+00

3541+00 3545+00 3546+00 3547+00 3548+00 3549+00 3550+00 3551+00 3552+00 3553+00 3554+00

350
300
250
200
150
100
50
0

SCALE: 1' = 10'

TIE ALONG HSR TRACK 1.

HORZ.: 1"=50'
VERT.: 1"=10'
ELEVATION
NOT FOR CONSTRUCTION
FOR INTERNAL USE ONLY

NOTES
1. WALLS LENGTHS ARE MEASURED ALONG E
2. FOR WALL TYPES SEE DWG. NO. ST-G3101

TOP OF FOOTING (APPROX)
UPRR/METROLINK TRACK •
OG ALONG PROPOSED TOF 350.00
TO 352.00 (APPROX)
OG ALONG HSR TRACK •
TOP OF FOOTING

EXIST ROW (BOTH TRACKS)
B-LA TRACK PROFILE

PROPOSED HSR2/MT02
PROPOSED HSR1/MT01

TOP OF NORTH WALL ALONG UPPR/METROLINK TRACK

TOP OF FOOTING

TOP OF PROPOSED TRACKS

TOP OF PROPOSED TRACKS

PROPOSED ROW
EXIST ROW

EXIST ROW

EXIST METROLINK TRACKS

PROPOSED ROW
EXIST METROLINK TRACKS
(TO BE REMOVED)

PROPOSED UPPR TRACK 1 / METROLINK TRACK 1

PROPOSED UPPR TRACK 2 / METROLINK TRACK 2

PROPOSED HSR1/AUTO1

PROPOSED HSR2/AUTO2

EXIST METROLINK TRACKS

MATCH LINE - STA 3554+00
SEE DWG. NO. ST-G1133

BEGIN NORTH WALL

UPRR/METROLINK TRACK
TOP OF NORTH WALL ALONG

ELEVATION
VERT.: 1"=10'
HSR1 1"=50'

PLAN
SCALE: 1"=50'

NOT FOR CONSTRUCTION
FOR INTERNAL USE ONLY
NOTES
1. WALLS LENGTHS ARE MEASURED ALONG • PROPOSED HSR2/MT02 • PROPOSED HSR1/MT01 (BOTH WALLS)
   TOP OF WALL TOF 332.00 (APPROX)

2. FOR WALL TYPES SEE DWG NO. ST-G1139
   PROPOSED RETAINING WALL
   PROPOSED RETAINING WALL
   PROPOSED RETAINING WALL

3606+00 3607+00 3608+00 3609+00 3610+00 3611+00 3612+00 3613+00 3614+00 3615+00 3616+00 3617+00 3618+00 3619+00

EXIST ROW (BOTH TRACKS)
B-LA TRACK PROFILE

TAYLOR YARD

LOS ANGELES RIVER
CALIFORNIA HIGH-SPEED TRAIN PROJECT
BURBANK TO LOS ANGELES
OPTION B REVISED ALIGNMENT - REVISED FINAL
HSR - RETAINING WALL
HSR 3619+00 TO HSR 3632+00

NOTES
1. WALLS LENGTHS ARE MEASURED ALONG • PROPOSED HSR2
2. WALL TYPES SEE DWG. NO. ST-G3101
3. VERTICAL CLEARANCE UNDER EXISTING AND PROPOSED STRUCTURES SHOWN ON VOL. 1 PLAN AND PROFILE SHEETS

PROPOSED TCE END SOUTH WALL
PROPOSED TCE END NORTH WALL

EXIST ROW
PROPOSED HSR2/MT02
PROPOSED HSR1/MT01
METROLINK TRACK 1
METROLINK TRACK 2
PROPOSED UPRR TRACK 1
PROPOSED UPRR TRACK 2

LOCATIONS
ST-G1139

C. LEE

DATE
08/27/2021

REFERENCES
STV
JACOBS

SCALE: 1"=50'

ELEVATION
VERT.: 1"=10'
PLAN
SCALE: 1"=50'

NOTE
ST-G1138
MA T C H L I N E
ST-G1140

FOR INTERNAL USE ONLY
NOT FOR CONSTRUCTION
NOTES
1. WALL LENGTHS ARE MEASURED ALONG C.
2. FOR WALL TYPES SEE DWG. NO. ST-G3101

EXIST ROW
(BOTH TRACKS)
B-LA TRACK PROFILE

LOS ANGELES RIVER

METRO MAINTENANCE FACILITY

EXIST METROLINK TRACKS (TO BE REMOVED)

• PROPOSED HSR2/MT02
• PROPOSED HSR1/MT01

OG ALONG HSR TRACK • PROPOSED HSR2/MT02
APPROX.

ELEVATION
VERT.: 1"=10'
HSR1 1"=50'

PLAN
SCALE: 1"=50'

MATCH LINE - STA 3645+00
SEE DRAWING NO. ST-G1140

MATCH LINE - STA 3654+00
SEE DRAWING NO. ST-G1142
NOTES
1. WALLS LENGTHS ARE MEASURED ALONG &
2. FOR WALL TYPES
3. VERTICAL CLEARANCE
4. EXIST LEGENDS ARE SHOWN ON VOL. 1 PLAN
AND PROFILE SHEETS

EXIST ROW

PROPOSED HSR/MT02
PROPOSED HSR1/MT01
PROPOSED TCE

EXIST METROLINK TRACKS
(TO BE REMOVED)

EXIST ROW

PROPOSED TCE

PROPOSED MAIN ST GRADE SEPARATION

DWG NO. CV-T1151

SEE VOL 3
GRADE SEPARATION

PROPOSED MAIN ST

27'

PROPOSED MAIN ST

OVERPASS

MAIN ST
1. For drainage plan see Volume 4.
2. Thickness of MSE wall (T) shall be per manufacturer's recommendation.
3. For OCS pole locations see Volume 1 typical sections.

For external use only.

NOTES