CHAPTER 2.0: RECOMMENDED PROJECT DESCRIPTION

2.1 INTRODUCTION

The recommended Project description is presented in this chapter from north to south and by city (Fremont, Milpitas, San Jose, and Santa Clara), and includes the design changes developed during Preliminary Engineering and the options recommended by VTA staff for station, alignment, and facilities features. Updated plan and profile drawings (from Appendix C of the Draft SEIR) that reflect the recommended Project description are included at the end of this chapter (Figures C-1 through C-36). Detailed descriptions of Project features including electrical facilities, train control and communication equipment, railroad intrusion detection system, cross passages, tunnel and underground ventilation facilities, pump stations, maintenance emergency access, BART core system access, fleet requirements, operating plan, station boardings, and the Project schedule are as described in the Draft SEIR, Chapter 3.

The Draft SEIR, Section 1.8 included a number of issues to be resolved, which are essentially the Project features that include alignment and station options. Table 2.1-1 lists these issues/options and the VTA staff recommendations. Staff does not have recommendations at this time for the parking options at the Montague/Capitol, Berryessa, and Diridon/Arena stations.

Table 2.1-1: Options in the SEIR and Staff Recommendations

Design Feature	Options Analyzed in the SEIR	Recommended Option
Design Change 1 – Mission Boulevard/ East Warren Avenue Alignment	▪ At Grade Option ▪ Aerial Option ▪ Aerial East Option	▪ At Grade Option
Design Change 8 – Dixon Landing Road Alignment	▪ Retained Cut Option ▪ At Grade Option	▪ At Grade Option
Design Change 13 – Locomotive Wye in Milpitas	▪ Relocated Milpitas Wye Option ▪ No Wye Option	▪ Relocated Milpitas Wye Option
Design Change 14 – Curtis Avenue to Trade Zone Boulevard	▪ Retained Cut Long Option ▪ Retained Cut Short Option ▪ Aerial Long Option ▪ Aerial Short Option	▪ Retained Cut Long Option
Design Change 17 – Montague/Capitol Station	▪ Parking Structure with Surface Parking Option ▪ Surface Parking Option	▪ No preferred option
Design Change 23 – Berryessa Station	▪ Parking Structure with Surface Parking Option ▪ Surface Parking Option	▪ No preferred option
Design Change 25 – Electrical and communication facilities near Mabury Rd	▪ Mabury Underground Option ▪ Las Plumas Overhead Option	▪ Las Plumas Overhead Option
Design Change 42 - Diridon/Arena Station Parking	▪ Parking Structure Option ▪ No Parking Option	▪ No preferred option
Design Change 42 - Diridon/Arena Station and Alignment	▪ North Bus Transit Center Option ▪ South Bus Transit Center Option	▪ North Bus Transit Center Option
Design Change 52 - Santa Clara Station	▪ Parking Structure North Option ▪ Parking Structure South Option	▪ Parking Structure North Option[1]

[1] For Design Change 52, the SEIR describes a parking structure north of Brokaw Road for the Santa Clara Station. This was formerly referred to as the Parking Structure North Option in the 2004 FEIR, and the PAB recommended approval to the VTA Board of Directors on May 26, 2004. However, on December 4, 2004 (the certification date of the 2004 FEIR), the VTA Board of Directors directed staff to retain the Parking Structure South Option in addition to the Parking Structure North Option for further study. Further study resulted in the recommendation for the Parking Structure North Option.

Subsequent to publication of the Draft SEIR, four additional design changes were identified that are noteworthy, but that do not result in additional environmental impacts. The first design change is the elimination of five gap breaker stations. Instead, the functions of these facilities would be provided by two gap breakers located in the mid-tunnel ventilation structures. The five gap breaker stations are described under Design Changes 31, 34, 37, 44, and 46. While the footprints of these gap breaker station sites would no longer include permanent structures, they would still be used as construction staging areas (see Chapter 4 for the addition of these sites to the list of proposed construction staging areas). The two new gap breakers would be located either aboveground or underground in the mid-tunnel ventilation structures, which are described under Design Changes 36 and 45. The second is the change in location of the revenue processing building at the yard and shops facility. The Draft SEIR describes two optional locations for the revenue processing building under Design Change 51. Both these locations are eliminated, as well as the need for property acquisition from the Arcadia Development Company. The new location for this building would be farther to the west, with access provided from the planned future extension of Newhall Drive by the City of San Jose. The third is the enlargement of the detention basin located in the San Jose portion of the yard and shops facility. The SEIR describes a 12,000 square foot detention basin under Design Change 51. This detention basin would be increased to 19,000 square feet. The design requirements and best management practices described in the Draft SEIR for the smaller detention basin would also apply to the larger facility. The fourth is the elimination of the Dixon Landing Road construction staging area, which included 1.78 acres along the south side of Dixon Landing Road between the railroad ROW and Milmont Drive.

On June 7, 2007, the VTA Board of Directors will act to certify the SEIR and approve the Project with the design changes developed during Preliminary Engineering. All design changes are listed in Table 2.1-2 with staff recommendations to the Board.

Table 2.1-2: Design Changes for the Project and Staff Recommendations

No.	Project Feature	Staff Recommendation
1	Mission Boulevard to East Warren Avenue	Select the At Grade Option for the alignment
2	Electrical and communication facilities near East Warren Avenue (new access road)	Approve the access to Mission Falls Court
3	Locomotive wye (Fremont)	Approve the elimination of the wye in Fremont
4	Crossover tracks near Kato Road	Approve a crossover track both north and south of Kato Road
5	Kato Road underpass	Approve the 5 percent grade design for the roadway
6	Electrical and communication facilities near Scott Creek	Approve the addition of a train control building and access to Milmont Drive
7	Railroad intrusion detection system[1]	Approve the addition of a railroad intrusion detection system
8	Dixon Landing Road Alignment	Select the At Grade Option for the alignment (VTA will work with the City of Milpitas on construction phasing plan)
9	Berryessa Creek	Approve the triple box culvert
10	Crossover tracks between Berryessa Creek and Railroad Court	Approve the elimination of a crossover track near Railroad Court and the addition of a crossover track farther north
11	Electrical and communication facilities near Railroad Court	Approve the access to Railroad Court
12	High rail vehicle access south of Calaveras Boulevard	Approve the access to Railroad Avenue
13	Locomotive wye (Milpitas)	Approve the relocation of the wye in Milpitas
14	Curtis Avenue to Trade Zone Boulevard	Select the Retained Cut Long Option
15	Crossover tracks north of Montague Expressway	Approve the crossover tracks in the retained cut under the Long Retained Cut Option

Table 2.1-2: Design Changes for the Project and Staff Recommendations

No.	Project Feature	Staff Recommendation
	Expressway	Long Retained Cut Option
16	Electrical facilities north of Montague Expressway	Approve the location of the facilities under the Long Retained Cut Option
17	Montague/Capitol Station	Approve all the design changes associated with the station; retain both parking options
18	Depth of retained cut south of East Penitencia Channel	Approve the depth of the retained cut at between 10 and 30 feet below grade
19	Electrical Facilities south of Trade Zone Boulevard	Approve the access to Qume Road (two optional routes under consideration)
20	Depth of retained cut Hostetter Road to Sierra Road/Lundy Avenue	Approve the depth of the retained cut at between 10 and 35 feet below grade
21	Communication facilities south of Hostetter Road	Approve the addition of a train control building
22	Electrical and communication facilities near Berryessa Road	Approve the addition of a train control building and the location of the facilities
23	Berryessa Station	Approve all the design changes associated with the station; retain both parking options
24	Crossover tracks and pocket track near Berryessa and Mabury roads	Approve the location of crossover tracks and pocket track on the aerial structure
25	Electrical and communication facilities near Mabury Road	Select the Las Plumas Overhead Option; retain both alternate locations for the high voltage substation and switching station
26	High rail vehicle access south of Mabury Road	Approve the location of the high rail vehicle access and the access to Nicora Avenue
27	Maintenance of way siding track	Approve the addition of a maintenance of way siding track
28	Tunnel portals	Approve the location of the east and west tunnel portals
29	Tunnel cross passages	Approve the interval range for cross passages at every 300 to 800 feet
30	Ventilation structure south of Las Plumas Avenue	Approve the elimination of the ventilation structure/shaft at this location
31	Gap breaker station near Marburg Way	No action required; the gap breaker station at this location was considered but eliminated
32	US 101 alignment	Approve the alignment shift to the east
33	Alum Rock Station	Approve all the design changes associated with the station
34	Gap breaker station near 22nd Street	No action required; the gap breaker station at this location was considered but eliminated
35	Ventilation structure near 20th Street	Approve the elimination of the ventilation structure/shaft at this location
36	Ventilation structure west of Coyote Creek	Retain the four alternate locations for the ventilation structure/shaft west of Coyote Creek
37	Gap breaker station near 9th Street	No action required; the gap breaker station at this location was considered but eliminated
38	Civic Plaza/SJSU Station	Approve the consolidation of the Civic Center/SJSU Station into the Downtown San Jose Station
39	Downtown San Jose Crossover	Approve the location and length of the crossover tracks within the Downtown San Jose Station box
40	Downtown San Jose Station	Approve the Downtown San Jose Station, which consolidated the Civic Center/SJSU and Market Street stations; approve

Table 2.1-2: Design Changes for the Project and Staff Recommendations		
No.	**Project Feature**	**Staff Recommendation**
		the station entrance at the Western Dental/Moderne Drug buildings
41	Market Street Station	Approve the consolidation of the Market Street Station into the Downtown San Jose Station
42	Diridon/Arena Station and alignment	Select North Bus Transit Center Option; retain both parking options; approve all other design changes associated with the station and alignment
43	Traction power substation near Diridon/Arena Station	Approve the location of the facilities at White and West Santa Clara streets
44	Gap breaker station near Morrison Avenue	No action required; the gap breaker station at this location was considered but eliminated
45	Ventilation structure near Stockton Avenue	Retain the four alternate locations for the ventilation structure/shaft and auxiliary power substation near Stockton Avenue
46	Gap breaker station near Emory Street	No action required; the gap breaker station at this location was considered but eliminated
47	Tunnel alignment near Hedding Street	Approve the alignment shift to the east
48	Ventilation structure south of I-880	Approve the elimination of the ventilation structure/shaft at this location
49	Depth of tunnel bores	Approve the depth of the tunnel bores at between 20 to 75 feet below grade
50	Crossover tracks at west tunnel portal	Approve the crossover tracks in the retained cut north of the west tunnel portal
51	Yard and shops facility	Approve all the design changes associated with the yard and shops facility including the new location for the revenue processing building
52	Santa Clara Station	Select Parking Structure North Option; parking structure of up to 6 levels; approve all other design changes associated with the station
53	Construction staging areas (CSAs)	Approve the location of the construction staging areas including the elimination of the Dixon Landing Road CSA and the addition of the five locations previously identified for gap breaker stations (see 31, 34, 37, 44, and 46)
54	BART core system access	Approve the number of parking spaces for the BART core system for Year 2030 service levels
55	Fleet requirements	Approve the fleet requirements for Year 2030 service levels
56	Operating plan	Approve the operating plan for Year 2030 service levels
57	Station boardings	Approve the number of station boardings determined for Year 2030 service levels

2.2 RECOMMENDED PROJECT DESCRIPTION

2.2.1 CITY OF FREMONT

The BART Extension Project in Fremont is shown on Figure 2.2-1. The Project would begin slightly south of the planned BART Warm Springs Station in Fremont with a new, at grade, two-track BART rail line near the Union Pacific Railroad (UPRR) Warm Springs Yard (approximately 2,200 feet north of Mission Boulevard) and east of the existing railroad right-of-way

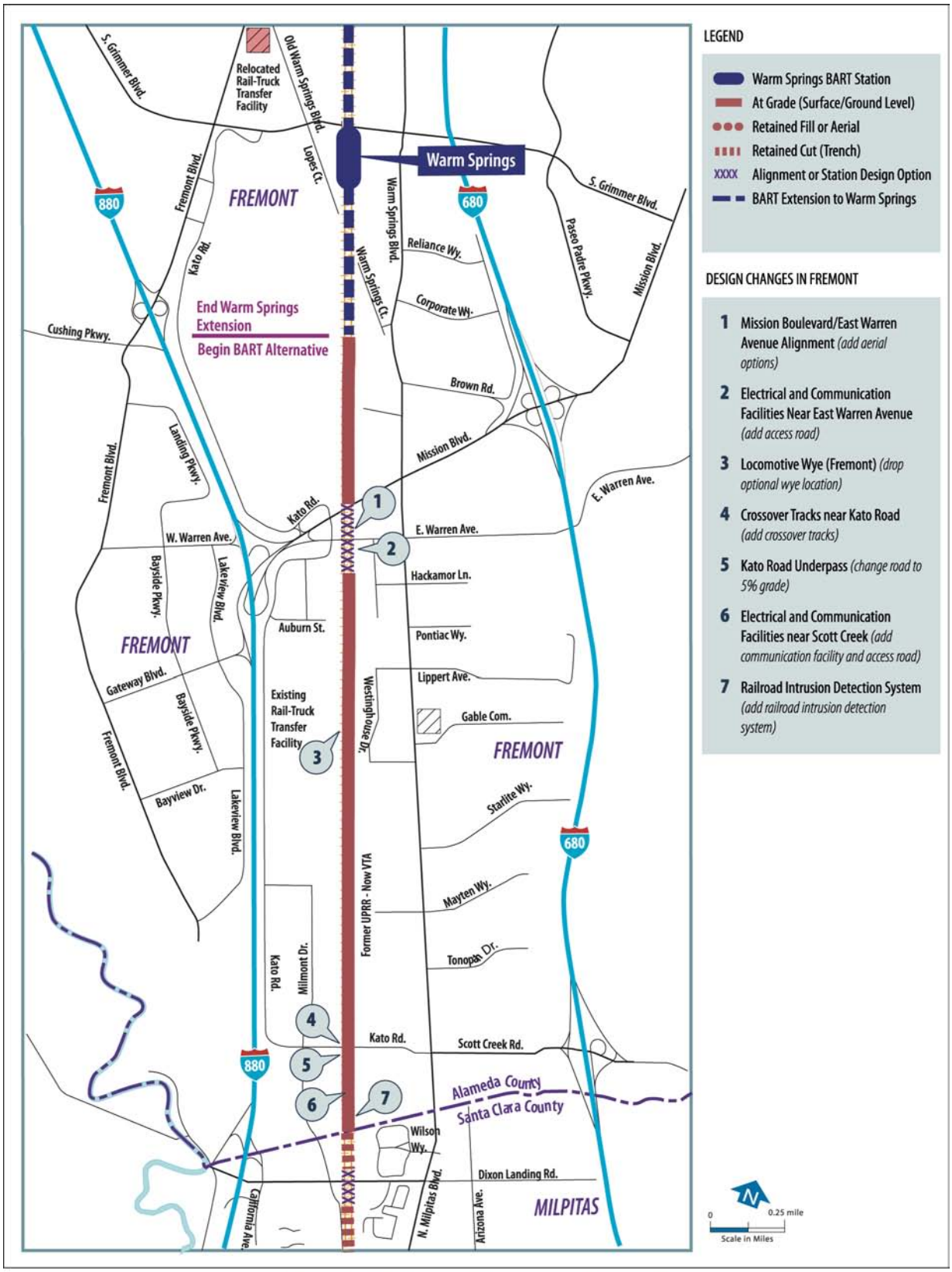


Figure 2.2-1: Design Changes in Fremont

(ROW) (STA 45+00). BART would cross Agua Caliente Creek/Line F, where a new double box culvert would be constructed by VTA (STA 45+50).[1]

BART would transition back into the railroad ROW south of the UPRR Warm Springs Yard (STA 60+00) and continue at grade. Other agencies would widen Mission Boulevard and reconstruct East Warren Avenue, which is currently at grade, as a new roadway underpass. BART would therefore cross both Mission Boulevard and East Warren Avenue at grade on new bridge structures that pass over these roadways. Other agencies would construct drainage improvements at Agua Fria Creek/Line D, which is slightly south of Mission Boulevard (STA 71+00).[2]

South of East Warren Avenue, Traction Power Substation SWA and Train Control Building S24 would be located on the east side of the railroad ROW (STA 78+50), with access provided by an easement to Mission Falls Court.

The alignment would continue at grade and cross over Toroges Creek/Line C, where a new box culvert would be constructed by others (STA 101+50). The alignment would continue past two additional culverts: Line B-1 (STA 122+00), where there are no planned improvements, and Line B (STA 146+00), where a new box culvert would be constructed by VTA.

BART would cross on a new bridge structure over Kato Road, which would be reconstructed as a roadway underpass by VTA (STA 167+00). VTA would also construct a new bridge for the UPRR to cross over Kato Road. The slope of the Kato Road underpass would be a 5 percent grade to accommodate safe stopping distances for a design speed limit of 40 miles per hour. This slope would impact access to existing driveways serving businesses immediately north of Kato Road and east and west of the alignment. These access points would be either relocated or eliminated (with other access points remaining). Single crossover tracks, which allow the passage of a train from one track to the other through the use of switches, would be constructed both north and south of Kato Road (STA 157+00 and STA 170+00). These crossovers would provide for 10-car train storage and allow single-track operations around an occasional stored train.

South of Kato Road, BART would cross over Scott Creek/Line A, where a new box culvert would be constructed by others (STA 173+00). Traction Power Substation SKR and Train Control Building S26 would be located south of the creek on the west side of the railroad ROW, (STA 175+00), with access provided by an easement to Milmont Drive.

2.2.2 CITY OF MILPITAS

The BART Extension Project in Milpitas is shown on Figure 2.2-2. From the Alameda/Santa Clara county and Fremont/Milpitas city lines (STA 182+00), BART would continue at grade and cross on a new bridge structure over Dixon Landing Road (STA 191+50), which would be reconstructed as a roadway underpass by VTA. VTA would also construct a new bridge for the UPRR to cross over the roadway. An adjacent cross street to the west of the railroad ROW, Milmont Drive, would also be lowered due to the new slope of Dixon Landing Road. Access to two existing driveways on the west side of the alignment, with one on the north side of Dixon Landing Road and the other on the south side, would be eliminated due to the reconstruction; however, each property would have multiple access points remaining.

[1] The Alameda County Flood Control and Water Conservation District refers to creeks in Alameda County as “Drainage Lines”, e.g., Agua Caliente Creek as Drainage Line F. Therefore, the creeks in Alameda County within the project study area are also referred to as “Lines.”

[2] I-880/Mission Boulevard (Route 262)/Warren Avenue Interchange Reconstruction and I-880 Widening. Phase 1B of the project would include the widening of Mission Boulevard, new UPRR railroad bridges over Mission Boulevard, and new ramps to Kato Road.

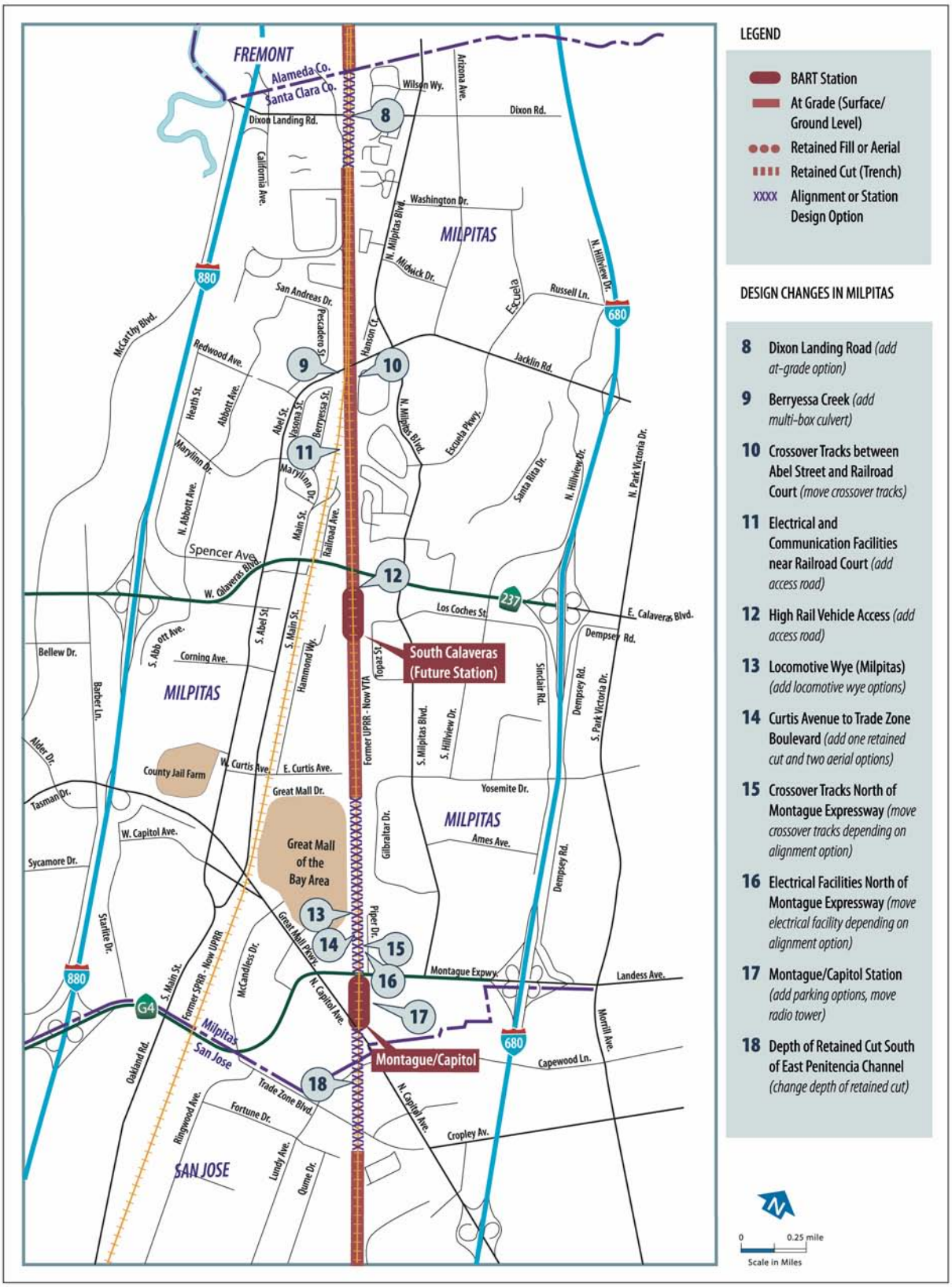


Figure 2.2-2: Design Changes in Milpitas

Approaching Abel Street, the BART alignment would cross over an existing underground culvert containing Calera Creek (STA 231+00), where no improvements are planned, and pass under the existing Abel Street overcrossing (STA 244+00). BART would continue over Berryessa Creek on a new multi-cell box culvert constructed to accommodate the widening and realigning of the creek by the Santa Clara Valley Water District (STA 246+00). Crossover tracks would be located south of this box culvert (STA 258+00).

Continuing south, High Voltage Substation SRC, Traction Power Substation SRR, Switching Station SRR, and Train Control Building S28 would be located west of the railroad ROW, with access provided from Railroad Court (STA 259+00). The high voltage substation would require installation of high voltage (115 kilovolt [kV]) power feed lines that connect to nearby existing PG&E towers/lines and/or PG&E substations. To provide 115-kV service from PG&E to High Voltage Substation SRC with adequate clearance between BART and the existing overhead high voltage power lines, a new 60-foot-high tapered tubular steel tower would be constructed within PG&E's existing easement. A second, smaller tower/pole would also be constructed to the south and on the facility site. This tower/pole would allow the 115-kV line to transition down to the substation connection.

The alignment would continue over Wrigley Creek, where a new box culvert would be constructed by others (STA+274+00), and pass under the Calaveras Boulevard/SR 237 overpass (STA 287+00). A high rail vehicle access point would be located just south of Calaveras Boulevard/SR 237, with access provided from Railroad Avenue (STA 289+00).[3]

South Calaveras Future Station. The South Calaveras Future Station area would be located in mid-town Milpitas, south of Calaveras Boulevard, and on the east side of the railroad ROW (starting at approximately STA 288+00) and would be built after construction of the BART Project. As funding of the station and associated facilities (e.g., parking structure) would be provided for by other agencies, the timing of construction is unknown. The station area would encompass up to 22 acres of land and require several business relocations. Wrigley Creek, which runs along the west side of the station area, may need to be relocated several feet to the west, but would remain in an open, natural channel. The station would be at grade and contain an approximately 700-foot-long, 28- to 32-foot-wide center platform with a mezzanine one level above. Access to the station platform would be from the mezzanine level. Pedestrian connections would extend from the mezzanine level to a 10-bay bus transit center and kiss-and-ride area. There are three options under consideration for a multi-level parking structure.

- **Parking Structure North Option**. Under this option, a multi-level parking structure would be located on the north side of the bus transit center, located in the center of the station area and perpendicular to the station. Future transit facilities would be accommodated east and south of the center.
- **Parking Structure South Option**. Under this option, a multi-level parking structure would be located south of the bus transit center, again located in the center of the station area and perpendicular to the station, with additional surface parking to the north of the center. Future transit facilities would be accommodated to the east of the bus transit center and parking areas.
- **Parking Structure North Option with Parallel Bus Transit Center**. Under this option, the bus transit center would be parallel to the station with a multi-level parking structure located near the northern end of the center and additional surface parking located near the southern end. Future transit facilities would be accommodated to the east and south of the station area.

[3] A high rail vehicle is a vehicle used for track or train maintenance that has the ability to operate on the rails.

South Milpitas Boulevard and Los Coches Street would be widened to facilitate traffic flow into and out of the South Calaveras Station area, with the main access to parking areas from Los Coches Street.

The BART alignment would continue past the UPRR Milpitas Yard located to the west of the ROW and cross over the Hetch-Hetchy underground aqueduct pipeline (STA 315+00). BART would transition into a retained cut from south of Curtis Avenue (STA 330+00), past the Milpitas/San Jose city lines, to south of Trade Zone Boulevard (STA 337+00 to 411+00). The length and depth of the retained cut enables the freight track on the west side of the railroad ROW to cross over the lowered BART tracks to access a relocated locomotive wye and an existing spur track. Accommodating the retained cut would require that the freight track on the west side of the railroad ROW be relocated 22 feet further to the west; therefore, up to 20 feet of ROW would be acquired from: 1) the easternmost portion of the Parc Metropolitan Condominiums, including a park area to be dedicated to the City of Milpitas and 2) the Great Mall. This approximate 20-foot-wide strip of land acquired to accommodate the freight track and construction of the retained cut would continue for approximately 2,200 feet along Great Mall Drive. Then, the freight track would cross over the BART retained cut on a new bridge structure near the mid-way point along the Great Mall parking lot. On the east side of the railroad ROW, additional ROW would be acquired to accommodate this freight track as it continues to the new locomotive wye location. The new wye location would occupy a triangular area approximately 575 feet long, with an additional tail track that would occupy a strip of land approximately 30 feet wide and 350 feet long. The wye would connect to an existing UPRR Milpitas Yard industry lead track. To accommodate the wye, some property acquisition would be required east of the railroad ROW.

Crossover tracks would be located within the retained cut (STA 363+00 and 368+00). Traction Power Substation SME would be located just north of Montague Expressway on the east side of the railroad ROW (STA 366+50). Montague Expressway, Capitol Avenue, and Trade Zone Boulevard would be supported above the BART retained cut on new roadway bridge structures (STA 369+00, 380+00, and 402+00, respectively). UPRR freight service would be discontinued near Montague Expressway, and BART would no longer share the railroad ROW with freight trains as the alignment continues south.

Montague/Capitol Station. The Montague/Capitol Station area would be located between Montague Expressway and Capitol Avenue and on the east side of the railroad ROW (starting at approximately STA 371+00), encompass up to 27 acres of land, and displace some existing uses including research and development industries to the east of the station and a storage area for a trucking company to the west. The station would consist of two 700-foot-long, 16-foot-wide (minimum) side platforms in a retained cut. Access to either station platform would be from a mezzanine situated at street level. A pedestrian overcrossing would extend from the east side of Capitol Avenue over the roadway to the adjacent Montague LRT station situated in the median of Capitol Avenue. Train Control Room S40 would be located near the north end of the station area. An approximately 60-foot-high radio tower and an associated equipment shelter would be located west of the railroad ROW and south of South Milpitas Boulevard. There are two options for parking in the station area:

- **Parking Structure with Surface Parking Option.** Under this option, a four- to eight-level parking structure on 2 acres would be constructed at the north side of station area, to the east of the station, and along Montague Expressway. New property acquisition would include the areas east and west of Gladding Court, to be designated as surface parking and/or future transit facilities. Additional surface parking and/or future transit facilities would be located as needed within the station area.
- **Surface Parking Option.** Under this option, surface parking would be located within the station area in one or more locations. For example, the parking structure location under the Parking Structure Option would be used for surface parking and/or future transit facilities. The areas east and west of Gladding Court would be acquired and used for surface parking and/or future transit facilities. Additional surface parking and/or future transit facilities would be located as needed within the station area.

Access to the Montague/Capitol Station area would be from South Milpitas Boulevard on the northeast, Montague Expressway and Gladding Court on the north, and Capitol Avenue on the west. Traffic into and out of the station area would be facilitated by roadway improvements on Montague Expressway and an extension of South Milpitas Boulevard beginning on the south side of Montague Expressway, continuing through the station area, and terminating at Capitol Avenue. In addition, traffic signals would be installed at the new intersections of South Milpitas Boulevard and Capitol Avenue and at South Milpitas Boulevard and Gladding Court.

2.2.3 CITY OF SAN JOSE

The BART Extension Project in San Jose is shown on Figures 2.2-3 and 2.2-4. BART would continue past the Milpitas/San Jose city lines in a retained cut, pass over East Penitencia Channel (STA 390+00) where VTA would construct drainage improvements, and transition to an at grade configuration south of Trade Zone Boulevard. Slightly south, Traction Power Substation SMB would be located on the west side of the railroad ROW partially within commercial parking areas (STA 416+00), with access provided by one of two optional easements to Qume Drive.

Approaching Hostetter Road, BART would transition into a retained cut. Hostetter Road would be supported above the retained cut on a new roadway bridge structure. Train Control Building S44 would be located immediately south of Hostetter Road on the east side of the railroad ROW (STA 458+00). BART would continue in a retained cut to south of Lundy Avenue and Sierra Road (STA 450+00 to 498+00). The Sierra Road/Lundy Avenue intersection, which is located at the BART crossing, would remain at grade, but be supported over the BART retained cut on new bridge structure. A maintenance access road would be constructed to the east of the BART alignment and within the railroad ROW from Hostetter Road to Sierra Road/Lundy Avenue.

South of Sierra Road/Lundy Avenue, BART would transition to an at grade configuration and then to an aerial configuration as the alignment approaches Berryessa Road. The aerial structure would pass over Berryessa Road (STA 521+00) and Upper Penitencia Creek and lead into the Berryessa Station. No improvements would be required to Berryessa Road.

Berryessa Station. The Berryessa Station area would be located between Berryessa Road and Mabury Road (starting at approximately STA 525+50), would encompass approximately 55 acres, and would displace approximately 115 vendor stalls at the San Jose Flea Market. The station area would be set back approximately 150 to 200 feet from the tops of the banks of both Upper Penitencia Creek and Coyote Creek (except where access is provided from Berryessa Road). The station would be located at the north end of the site, and would contain an approximately 700-foot-long, 29-foot-wide center platform on the aerial structure. Pedestrian access to the station platform would be from a mezzanine situated at street level. A 10-bay bus transit center and kiss-and-ride area would be located to the east of the station. Traction Power Substation SBE and Train Control Room S50 would be located at the north end of the Berryessa Station under the BART aerial structure (STA 525+00). There are two options for parking in the station area:

- **Parking Structure with Surface Parking Option.** Under this option, a four- to six-level parking structure on 3.4 acres would be constructed at the south end of the site and to the west of the ROW. Property would be acquired to the east of the railroad ROW and north of Mabury Road. This area would be designated for surface parking and/or future transit facilities. Additional surface parking and/or future transit facilities would be located as needed within the station area. An approximate 60-foot-high radio tower and associated equipment shelter would be located at the northeast corner of the multi-story parking structure.

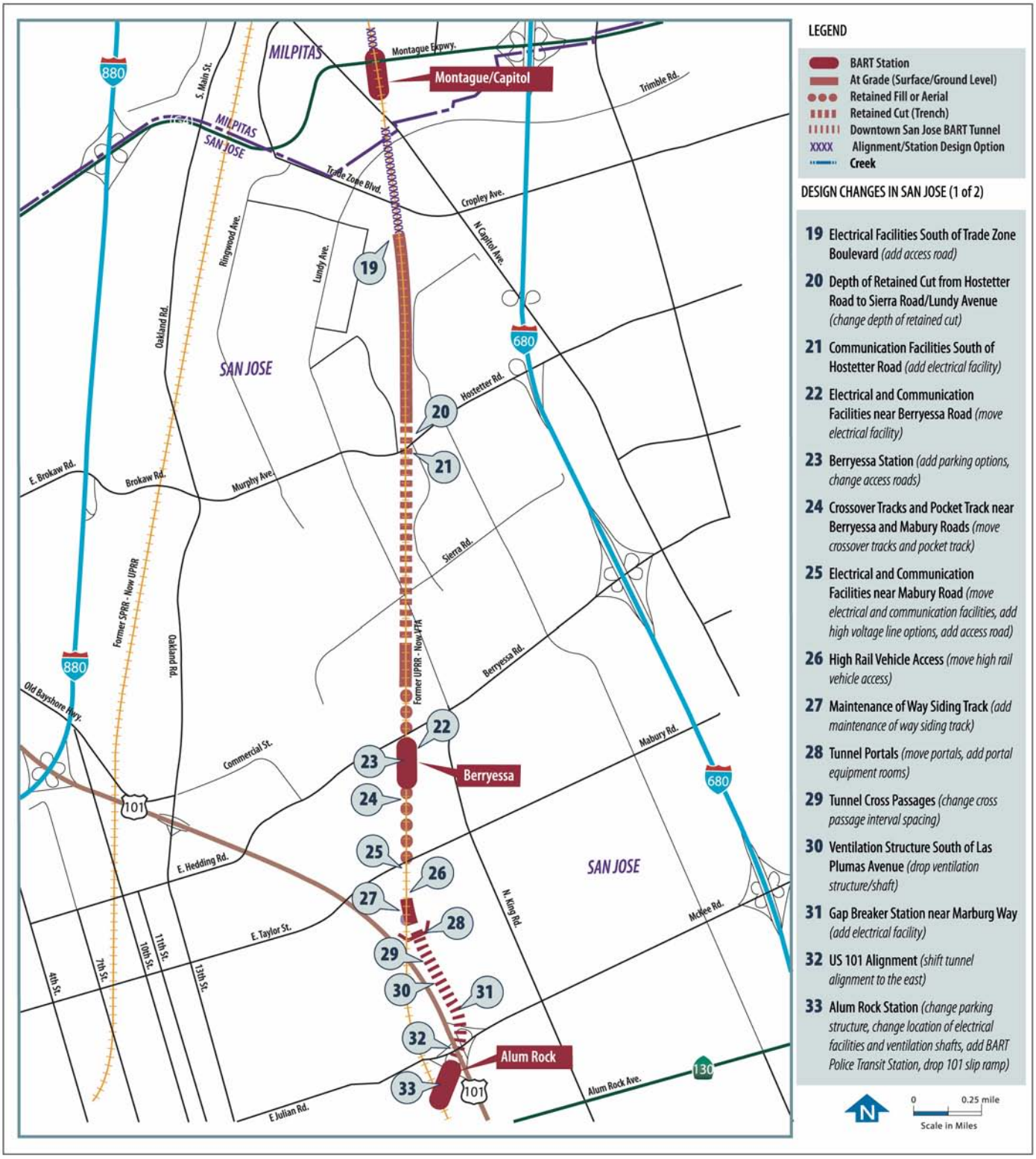


Figure 2.2-3: Design Changes in San Jose

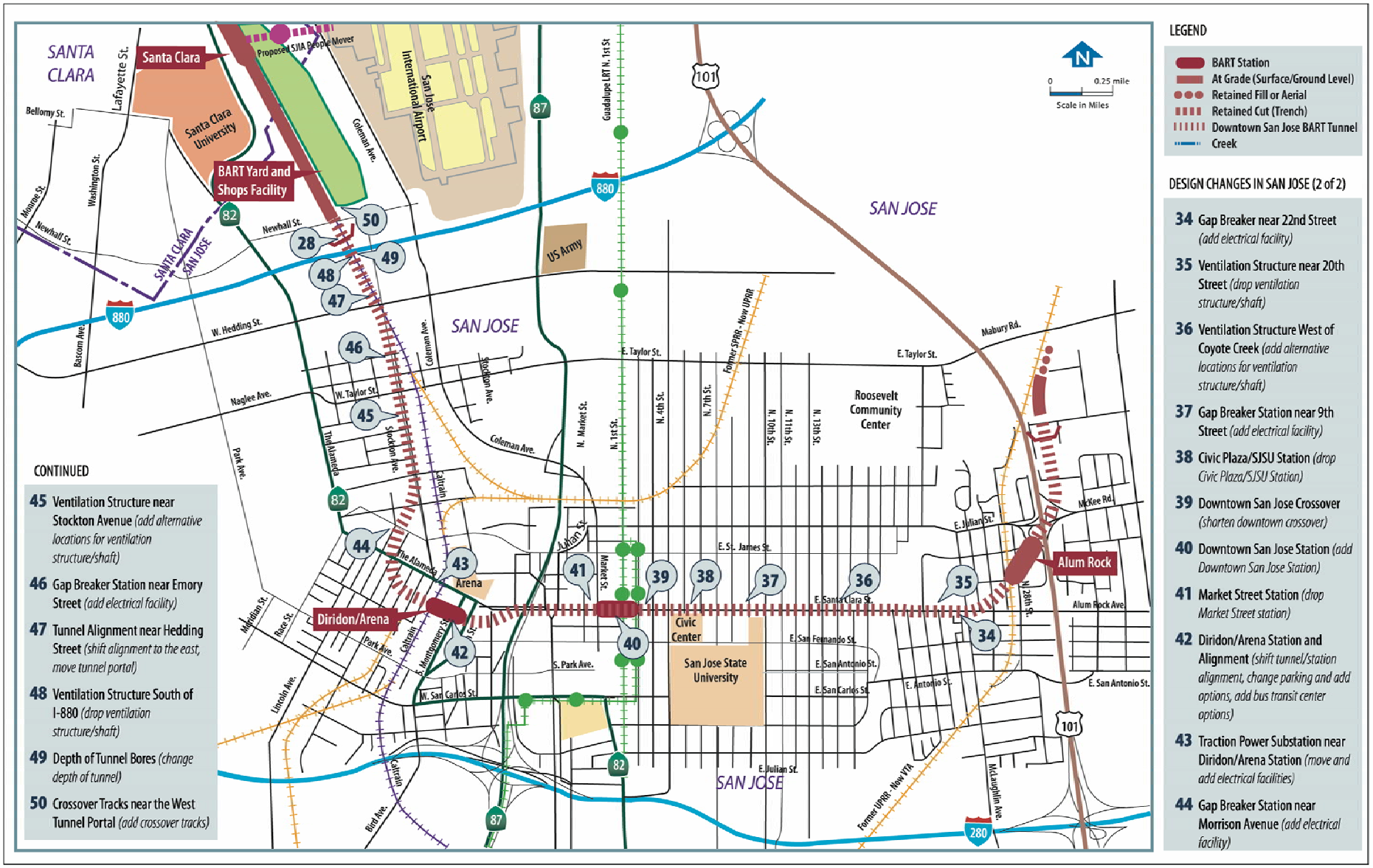


Figure2.2-4: Design Changes in San Jose

- **Surface Parking Option.** Under this option, surface parking would be located within the station area in one or more locations. For example, the parking structure location under the Parking Structure Option would be for surface parking and/or future transit facilities. Additional surface parking would be provided as described under the Parking Structure with Surface Parking Option. The approximate 60-foot-high radio tower and an associated equipment shelter would be located in the same general area as under the Parking Structure with Surface Parking Option.

Access to the station area from the north would be from Berryessa Road via a new street on the east side of the railroad ROW. Access to the two parking areas at the south end of the station area would be from newly constructed streets originating at Mabury Road. Intersection improvements, including traffic signals, would be required at these three locations.

South of Berryessa Station, two crossover tracks and a pocket track, which allows storage of a train adjacent to the mainline(s), would be constructed on the aerial structure. High Voltage Substation SMR, Switching Station SSM, Gap Breaker Station SXB, and Train Control Building S56 would be located south of Mabury Road on the west side of the ROW (STA 551+00). An alternate site to the south at the San Jose Mabury Yard is also considered for the high voltage substation and switching station only (STA 566+00). The high voltage line connection to the PG&E Mabury Substation would begin at the high voltage substation, run south parallel to the BART alignment, continue along Marburg Way, then run along Las Plumas Avenue to King Road. The existing PG&E high voltage line on King Road would be upgraded, extending for approximately 550 feet to the PG&E Mabury Substation.

A high rail vehicle access point would be located west of Nicora Avenue, with access to this facility provided from this roadway (STA 558+50). A maintenance of way siding track, which allows for the storage of track and wayside maintenance vehicles (e.g., ballast tamper, rail-grinder, track and tunnel vacuum, work train), high rail vehicles, and other miscellaneous vehicles would be constructed to the west of the high rail vehicle access point (STA 558+50 to 570+00).

The east tunnel portal would be located near Las Plumas Avenue. At the portal, an aboveground structure (approximately 21 by 11 feet, and 10 feet high) would provide access down to a tunnel portal equipment room. South of the portal, the tunnel would pass beneath Lower Silver Creek (STA 581+00)., curve under the freeway south of the McKee Road/East Julian Street interchange, and enter the Alum Rock Station.

Alum Rock Station. The Alum Rock Station area would be located between US 101 and 28th Street (starting at approximately STA 600+00). The station area would encompass approximately 19 acres and displace existing industrial uses on the site. The station "box" would be underground, approximately 850 to 950 feet long and 65 feet wide, and would consist of a platform area, a mezzanine one level above, and ancillary areas at the ends of the station box. Ancillary facilities include an electrical room, emergency equipment room, fire sprinkler equipment, ventilation equipment, and staff break room. The depth of the station, measured from ground level to the top of the station box (the roof of the mezzanine), would be 8 to 15 feet. The center platform would be approximately 700 feet long and 28 feet wide. Pedestrian access to the mezzanine would be from both the north and south ends of the station. At the south end of the station, pedestrian access (elevators and escalators) would connect the mezzanine level with a plaza. At the north end, pedestrian access would connect the mezzanine level with the parking structure. Kiss-and-ride facilities would be located both along 28th Street, on the west side of the station site, and to the east of the bus transit center. Two station emergency exits to allow for evacuation in the event of a fire or other significant hazardous incident would be located at each end of the station, with one hatch opening up at the north end near the vent shafts and the other at the south end in the plaza area. A five-level parking structure would be located on 3.9 acres at the north end of the Alum Rock Station area.

Additional surface parking and/or future transit facilities would be located as needed within the station area. The station area would include a BART Transit Police Station.

The station also includes electrical, ventilation, and communication equipment. Traction Power Substation SAR would be located aboveground at the north end of the station. Auxiliary Power Substation SAN and an emergency generator would be located near the traction power substation. The station would include one emergency ventilation facility at each end of the station in the ancillary areas. At the north end of the station, the ventilation facility would include three fans with three vent shafts leading to the surface near the traction power substation. The south end of the facility would contain two fans with two vent shafts located near the plaza. There would be one fresh air intake/exhaust facility with an associated shaft at each end of the station. The station area would also include Train Control Room S60.

Access to the Alum Rock Station area would be primarily from East Julian and 28th streets at the north end of the station site and East Santa Clara and 28th streets at the south end of the site. East Julian Street would be widened between 28th Street and the southbound US 101 on-ramp. New or modified traffic signals would be installed at the intersections of 28th/East Julian streets and 28th/East Santa Clara streets. The intersection of 28th/East Santa Clara streets would be designed as a pedestrian/transit gateway into the station area with pedestrian links to buses and potential LRT operating on East Santa Clara Street/Alum Rock Avenue.[4]

From Alum Rock Station, the tunnel would curve under 28th Street, a railroad ROW, 27th Street, and 26th Street before aligning under East Santa Clara Street (STA 620+00). The tunnel would continue under the 100-foot-wide East/West Santa Clara Street ROW (consisting of a 68-foot wide street and 16-foot wide sidewalks) and passing beneath Coyote Creek (STA 644+00).

West of Coyote Creek, there are four alternate locations for a Tunnel Ventilation Structure FSS, an aboveground structure with an associated vent shaft. One potential site is at the northwest corner of East Santa Clara and 13th streets (STA 660+00). Another site is on the south side of East Santa Clara Street between 16th and 17th streets (STA 648+00). Two other sites are also on the south side of East Santa Clara Street between 15th and 16th streets (650+00, and 651+00). Any of the sites would also include Auxiliary Power Substation SFF. The site on the north side of East Santa Clara Street at 13th Street is currently occupied by a surface parking area for the San Jose Medical Center. The site on the south side of East Santa Clara Street between 16th and 17th streets is currently occupied by Walgreens and an associated parking area, which would be acquired. This site is also adjacent to a residential area. The two other sites on the south side of East Santa Clara Street between 15th and 16th streets are located in the same general area. However, one site would be located more towards 15th Street and the other site would be located more towards 16th Street. Each site includes one residential building. Both sites include the same vacant lot (located approximately in the middle of the block) and are adjacent to a residential area. Depending on which of these two locations were chosen, one or the other residential building would be acquired, as well as the vacant lot.

BART would continue beneath East Santa Clara Street to the Downtown San Jose Station. Crossover tracks would be located east of the Downtown San Jose Station between 2nd and 4th streets and within the station box.

Downtown San Jose Station. The Downtown San Jose Station box would be located underground from San Pedro to 4th streets. The box would be approximately 1,500 to 1,700 feet long and 65 feet wide, and would consist of a platform area, a mezzanine one level above, ancillary areas at the ends of the station box, and the downtown crossover at the east end of the box. The depth of the station, measured from ground level to the top of the station box (the roof of the mezzanine), would be 5 to 15 feet. The center platform would be approximately 700 feet long and 28 feet wide. Pedestrian access (elevators and escalators) to the mezzanine would be from several station entrances between 2nd and San Pedro streets. One entrance would be

[4] VTA is currently evaluating both light rail and bus rapid transit alternatives for the Santa Clara/Alum Rock corridor.

located at the southwest corner of West Santa Clara and Market streets. Another entrance would be located on the south side of East Santa Clara Street between 1st and 2nd streets in the Western Dental/Moderne Drug buildings. The third entrance would be located on the north side of East Santa Clara Street mid-block between Market and 1st streets. One potential future entrance would be located on the north side of East Santa Clara Street mid-block between 1st and 2nd streets. Four station emergency exits would be located along or near East/West Santa Clara Street, with the hatches opening at street level within the sidewalk area. The station area would include pedestrian links to buses (with a connection to VTA's Guadalupe LRT) and potential LRT operating on East Santa Clara Street/Alum Rock Avenue. The station area would not include a multi-level parking structure or surface parking.

The ancillary areas would include ventilation facilities and associated vent shafts, a traction power substation, an auxiliary power substation, and a train control room. An emergency generator would be located near the east end of the station in either an underground or aboveground location. One emergency ventilation facility would be located at each end of the station. Each facility would include two fans and one vent shaft leading to the surface. At the east end, the vent shaft would be located on the north side of East Santa Clara Street between 2nd and 3rd streets. At the west end, another vent shaft would be located on the south side of West Santa Clara Street between San Pedro and Market streets. Three fresh air intake/exhaust facilities and associated shafts would be within the station area. Two of the facilities would be in the same locations as the emergency ventilations facilities (one at each end of the station). The third facility would be located on the north side of East Santa Clara Street between 2nd and 3rd streets. An alternate location would also be on the north side of East Santa Clara Street between 1st and 2nd streets. This alternate location would be considered if it is determined during subsequent engineering phases of the Project that one of the three other locations is not preferred. Traction Power Substation SDN and Auxiliary Power Substation SSJ would be located underground at the east end of the station. The station area would also include Train Control Room S70.

The station also includes streetscape improvements along East/West Santa Clara Street between 4th and San Pedro streets to create a vibrant pedestrian corridor connecting the Civic Center and San Jose State University with the Downtown Commercial District. The 16-foot-wide sidewalks on both sides of East/West Santa Clara Street would be replaced and landscaped with street trees. The streetscape also includes accent street lighting, bus transit furniture, signage, and other street furnishings appropriate to the character of downtown. Streetscape improvements would be guided by the City of San Jose's Master Streetscape Plan.

BART would continue beneath West Santa Clara Street, shifting slightly to the south as it passes beneath State Route 87, the Guadalupe River, and Los Gatos Creek to the Diridon/Arena Station.

Diridon/Arena Station. The Diridon/Arena Station area would be located between Los Gatos Creek to the east and the San Jose Diridon Caltrain Station to the west. The underground station box would be approximately 800 to 1,000 feet long and 65 feet wide. The depth of the station, measured from ground level to the top of the station box (the roof of the mezzanine), would be 5 to 15 feet. The center platform would be approximately 700 feet long and 28 feet wide, with the mezzanine one level above. Pedestrian access to the mezzanine would be from both the north and south ends of the station. Street level pedestrian connections would be provided from the station to the San Jose Diridon Caltrain Station and Diridon LRT station. Two station emergency exits would be located at each end of the station, with one hatch opening up at the north end near Cahill Street and the other at the south end near Autumn Street. The ancillary areas would include ventilation facilities, associated vent shafts, and a train control room. One emergency ventilation facility would be located at each end of the station. Each facility would include two fans and two vent shafts leading to the surface. At the east end, the two shafts would be located east of Autumn Street. At the west end, the two shafts would be located west of Cahill Street. There would be one fresh air intake/exhaust facility at each end of

the station. The station area would also include Train Control Room S80. An existing bus transit center located south of West Santa Clara Street between the Caltrain railroad tracks and Cahill Street would be expanded. There are two options for parking in the station area.

- **Parking Structure Option.** Under this option, a four-level parking structure on 4.5 acres would be located north of West Santa Clara Street and west of the HP Pavilion. The station area would not include surface parking. A pedestrian overcrossing would connect the parking garage with the south side of West Santa Clara Street. The number of parking spaces required to meet Year 2030 service levels would vary slightly depending on whether or not the South Calaveras Future Station is built by Year 2030. Therefore, the number of parking spaces required by Year 2030 would be approximately 1,320.
- **No Parking Option.** Under this option, no parking structure would be constructed and no surface parking would be provided.

West of the Diridon/Arena Station, BART would continue beneath the San Jose Diridon Caltrain Station train tracks and White Street. Traction Power Substation SDS, Auxiliary Power Substation SDA, and an emergency generator would be located aboveground at the southeast corner of White and West Santa Clara streets. The tunnel would then curve under Sunol Street, The Alameda, West Julian Street, Cinnabar Street, and Lenzen Avenue before aligning under Stockton Avenue (STA 780+00). The tunnel would continue under the 80-foot-wide Stockton Avenue ROW (consisting of a 56-foot wide street and 12-foot wide sidewalks).

There are five alternate locations near Stockton Avenue between Schiele Avenue and Taylor Street for Tunnel Ventilation Structure STS, an aboveground facility with an associated vent shaft (STA 786+00 to STA 791+00). One potential location is on the west side of Stockton Avenue near Schiele Avenue. Two sites are on the east side of Stockton Avenue, also near Schiele Avenue. Two other sites are on the east side of Stockton Avenue near Villa Avenue. Any of the sites would also include Auxiliary Power Substation SST. The site on the west side of Stockton Avenue near Schiele Avenue is currently occupied by a parking lot, which would be acquired. This acquisition would eliminate access on the south side of a printing business warehouse; therefore, this building may be acquired. This site is also adjacent to a residential area. The two sites on the east side of Stockton Avenue near Schiele Avenue are located in the same general area. However, one site would be located closer to Schiele Avenue, and the other site would be located slightly north. The site located closer to Schiele Avenue includes a parking area and large industrial building, as well as smaller structures. The site located slightly north includes a parking area and one industrial building. Depending on which of these two locations were potentially chosen, one or more buildings would be acquired. The two sites on the east side of Stockton Avenue near Villa Avenue are located in the same general area. However, one site would be located closer to Villa Avenue, and the other site would be located slightly north. The site located closer to Villa Avenue includes a parking area for a private coach bus company. A portion of the parking area would be acquired, which would reduce the available parking for buses. The site located slightly to the north includes a building with several businesses. A portion of this building would be acquired.

Where Stockton Avenue crosses the Caltrain ROW south of Hedding Street, the tunnel would divert from Stockton Avenue and pass under the railroad tracks (STA 806+00). The tunnel would continue under the east side of the Caltrain ROW, Hedding Street, several industrial buildings and storage areas that border the ROW, and finally I-880 before ascending and then exiting the west tunnel portal near Newhall Street (STA 833+00). At the portal, an aboveground structure (approximately 21 by 11 feet, and 10 feet high) would provide access down to a tunnel portal equipment room. Crossover tracks would be located in a retained cut just northwest of the tunnel portal (STA 833+00 to 839+00). Continuing west, BART would be at grade as it enters the yard and shops facility and the Santa Clara Station.

2.2.4 CITY OF SANTA CLARA

The BART Extension Project in Santa Clara is shown on Figure 2.2-5. The yard and shops facility would begin north of the west tunnel portal at Newhall Street and extend to De La Cruz Boulevard, where a single tail track would go under the De La Cruz Avenue overpass and terminate on the other side of the overpass. The facility would be long and narrow, encompassing approximately 69 acres, and would be constructed on the former UPRR Newhall Yard (purchased by VTA in 2004). The facility would displace the western portion of the Food Machinery Corporation (FMC) manufacturing facility (owned by City of San Jose). The tail track alignment would require some property acquisition from a site currently leased by Federal Express and the relocation of two cellular towers. The main entrance to the facility would be from Newhall Drive. Other secured entrances would be provided at various locations for employees and emergency personnel. The site would include service roads to all buildings on site along with provisions for approximately 470 parking spaces for employees, authorized visitors, and delivery and service vehicles.

The facility would serve three general purposes: 1) cleaning, maintenance, and storage of BART train cars; 2) major repair and overhaul functions, involving body damage, wheel and truck assemblies, electromagnetic systems (e.g., door mechanisms, brakes), and electronics (e.g., train control and communication equipment); and 3) other functions such as cash handling. To provide for these functions, several buildings and numerous transfer and storage tracks would be constructed. Notable buildings and facilities would include a revenue processing building, vehicle turntable, non-revenue vehicle maintenance shop and maintenance and engineering offices, revenue vehicle maintenance shop, train car washer, car interior cleaner facility, window replacement platform, inspection facility, blowdown facility, wheel truing facility, and yard control tower. The structures would vary in height from one to two stories to up to three stories for the yard control tower. Each of these buildings or facilities is described below.

- **Revenue Processing Building.** The revenue processing building would be located across from the main entrance along Newhall Drive. The site would require approximately 1.5 acres for the building, parking, and tractor/trailer turnaround operations. The specially constructed, stand-alone building would be approximately 14,500 square feet. The facility would be used to store and document revenue delivered from the BART stations.
- **Vehicle Turntable.** The approximate 85-foot-diameter vehicle turntable would be located on a spur track close to the storage tracks. The vehicle turntable would be used for turning cars that must be oriented in the correct direction before they are added to a consist. Turntable rotation would be motorized, as there would be no third rail.
- **Non-revenue Vehicle Maintenance Shop and Maintenance and Engineering Offices.** The non-revenue vehicle maintenance shop would be for non-revenue service vehicles such as rubber-tired vehicles and maintenance of way cars for the maintenance of track and equipment. The building would be approximately 29,000 square feet. The shop would contain maintenance bays for rubber-tired vehicles and a service bay with a depressed pit for train maintenance, and a storage area for replacement parts. The shop would contain an overhead crane, vehicle hoists, and diagnostic repair equipment. The maintenance and engineering offices would be on the second level above the shop.
- **Maintenance and Engineering Shops.** The maintenance and engineering shops would be for maintenance of power and mechanical systems, servicing BART facilities other than non-revenue or revenue vehicles. The building would be approximately 10,000 square feet. The shop would contain maintenance bays for mechanical and power components, as well as hoists, diagnostic repair equipment, and a storage area for replacement parts.

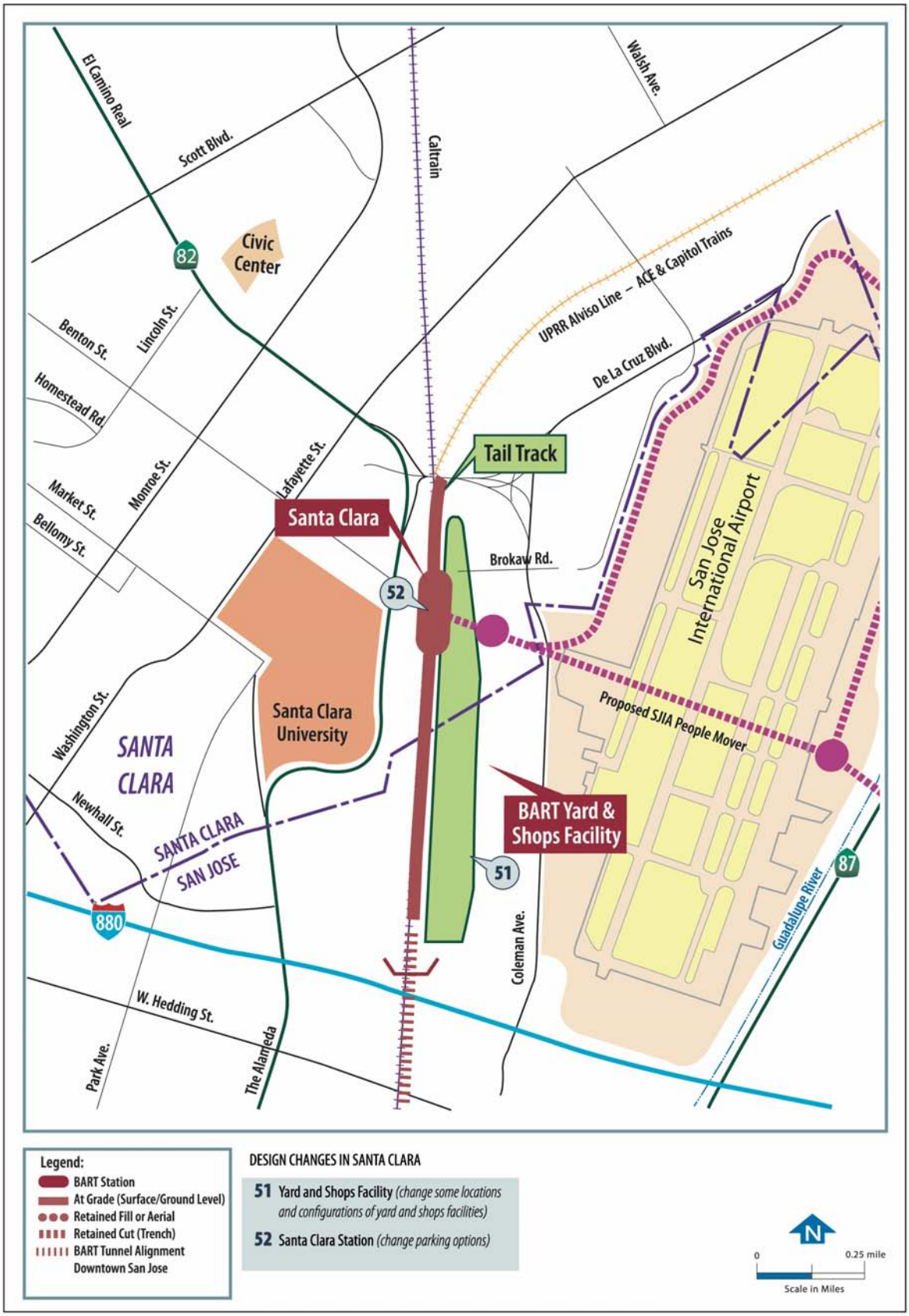


Figure 2.2-5: Design Changes In Santa Clara

- **Fuel Station.** The diesel and gasoline fuel station would be located southeast of the non-revenue vehicle maintenance shop building. The facility allows maintenance vehicles such as pickup trucks and rail mounted maintenance equipment to fuel up within the yard.
- **Revenue Vehicle Maintenance Shop.** The revenue vehicle maintenance shop would be approximately 131,000 square feet. Tracks would lead to and through the building to allow for double ended access and flexibility in operations for the vehicles to enter or exit the facility. Vehicle car lifts, bridge cranes, and jib cranes would be located within the first floor shop. The second floor would be primarily for administration offices. The major functions carried out in the shop would include car inspections and repairs, parts storage, heavy component repairs, electro-mechanical repairs, and electronic repairs.
- **Train Car Washer.** The train car washer is an open-ended, automated vehicle washing machine. As each train returns to the yard for storage, it would be driven through the car wash where the exterior would be cleaned.
- **Car Interior Cleaner Facility:** The car interior cleaner facility would be approximately 9,500 square feet, and would include storage areas for cleaning carts and tools (cleaning chemicals, mops, brooms, squeegees, vacuum cleaners, etc.). The configuration of the building would allow for the interior of BART cars to be cleaned in the Santa Clara Station area.
- **Window Replacement Platform.** The window replacement platform would be located near the revenue vehicle maintenance shop and covered with a canopy. The facility would provide for easy access for the replacement of vehicle windows.
- **Inspection Pit.** The inspection pit would be located adjacent to the blowdown facility, and would be enclosed in a shed approximately 1,200 square feet. The shed would be open at each end to allow trains to travel over a depressed pit so that the underside of trains could be inspected.
- **Blowdown Facility.** The blowdown facility would be approximately 7,000 square feet and located near the train car washer and inspection pit. The length of the facility would accommodate two cars. The facility would be primarily for cleaning the underside of trains in a combined wet and dry process in preparation for scheduled inspections. The cleaning operation would be performed within a service pit.
- **Wheel Truer Facility.** The wheel truer facility would be located near the revenue vehicle maintenance shop in a stand-alone building approximately 5,000 square feet. The primary function of this facility would be to enclose the wheel truing pit and equipment to facilitate the maintenance and repair of BART vehicle wheel sets.
- **Yard Control Tower.** The yard control tower would be approximately three stories high and 10,000 square feet. The tower would be situated to have a proper view of train operations in the yard and shops area. Employees staffing the tower would control the majority of train movements within the yard and shops area.
- **Electrical and Communication Facilities.** The yard and shops facility includes several electrical and communication facilities. High Voltage Substation SNH, Switching Station SNS, and Traction Power Substation SNS would be located north of Newhall Street (STA 834+00). Approximately 500 feet of new high voltage line would run overhead from High Voltage Substation SNH to the PG&E substation located near Newhall Street and Stockton Avenue. This line would require approximately 60-foot-high tapered tubular steel towers spaced every 400 to 500 feet. Traction Power Substation SSY, Auxiliary Power Substation SNY, Gap Breaker Station SZA, Gap Breaker Station SZB, and Train Control Building S84 would be located in the Newhall Yard area. Traction Power Substation SSC and Auxiliary Power Substation SCS/SYA would be located north of the Santa Clara Station. An approximately 150-foot-high radio tower and an associated equipment shelter would be located in the tail track area.

- **Material Storage Areas.** The material storage areas are utilized to store maintenance equipment and stockpile supplies. There are two material storage areas: one is located east of the Santa Clara Station and the other is located east of Auxiliary Power Substation SNY.

In addition to these facilities, two detention basins would be constructed to retain stormwater, and would release the water at a controlled rate to the storm drain system. One detention basin would be approximately 19,000 square feet and located near the main entrance. The other detention basin would be approximately 26,000 square feet and located near Auxiliary Power Substation SNY in Santa Clara. The size of each facility is designed to accommodate increased stormwater runoff during a 100-year flood event due to the yard and shops development.

Santa Clara Station. The Santa Clara Station area would be located primarily between the Caltrain tracks on the west, Coleman Avenue on the east, and Brokaw Road on the south. The station area would encompass approximately 12 acres, and would displace (along with the yard and shops facility) the existing Federal Express operations. The station would be at grade, centered at the end of Brokaw Road, and would contain an approximately 700-foot-long, 28-foot-wide center platform with a mezzanine one level above. An approximate 400-foot-long, pedestrian overcrossing would connect the Santa Clara Caltrain, mezzanine level of the BART station, and five-bay bus transit center and kiss-and-ride area. The pedestrian connection to the Caltrain Station would require the relocation of the historic Santa Clara Tower and Utility Sheds (components of the Santa Clara Caltrain Station) north of Benton Street to approximately 30 feet south of the Santa Clara Station Depot to maintain the historic relationship between the Tower, Sheds, and Depot. A proposed Automated People Mover would link the BART station and the Santa Clara Caltrain Station with SJIA. Train Control Room S90 would be located within the Santa Clara Station area. The Santa Clara Station would include a parking structure up to six levels on 3.3 acres at the north end of the station area, north of Brokaw Road to accommodate the station's parking demand. Additional surface parking and/or future transit facilities would be located to the east within the station area, as needed. Access to the Santa Clara Station area would be from Brokaw Road off Coleman Avenue. Brokaw Road would be widened to four lanes.

2.3 DESIGN OPTIONS RECOMMENDED BY THE POLICY ADVISORY BOARD

On February 28, 2007, VTA submitted a meeting information packet to the SVRT Policy Advisory Board (PAB) that included alignment, facility, and station options for the Project and a summary of significant environmental impacts identified in the Draft SEIR. While the PAB received the meeting information packet, the meeting was subsequently cancelled. On April 25, 2007, a meeting was held where staff presented several of the options to the PAB for their consideration prior to the June 7, 2007 VTA Board of Directors meeting. The presentation to the PAB included staff's evaluation of the pros and cons for each option, which considered issues related to environmental impact, construction, operation, city/community acceptance, right-of-way acquisition/relocation, and cost. The PAB concurred with staff recommendation on the following options:

- **Design Change 1 – Mission Boulevard/East Warren Avenue Alignment.** From Mission Boulevard to south of East Warren Avenue, the SEIR describes three options for the BART alignment: At Grade, Aerial, and Aerial East. The PAB concurred with the staff recommendation for the *At Grade Option*.
- **Design Change 14 – Curtis Avenue to Trade Zone Boulevard.** South of Curtis Avenue to south of Trade Zone Boulevard, the SEIR describes four alignment options for the BART alignment: Retained Cut Long, Retained Cut Short, Aerial Long, and Aerial Short. The PAB concurred with the staff recommendation for the *Retained Cut Long Option*.
- **Design Change 25 – Electrical and communication facilities near Mabury Road.** The SEIR describes two options for a high voltage line connection from high voltage substation SMR to the

PG&E Mabury Substation located south of the King Road/Las Plumas Avenue intersection. The PAB concurred with the staff recommendation for the *Las Plumas Overhead Option*.

- **Design Change 42 – Diridon/Arena Station and Alignment.** The SEIR describes two options for a 15-bay bus transit center at the station: North Bus Transit Center and South Bus Transit Center. The PAB concurred with the staff recommendation for the *North Bus Transit Center Option*.
- **Design Change 52 – Santa Clara Station.** The VTA Board did not select a parking structure option at conclusion of the 2004 FEIR. After further study, Preliminary Engineering and the SEIR focused on the Parking Structure North Option. The PAB concurred with the staff recommendation for the *Parking Structure North Option*.

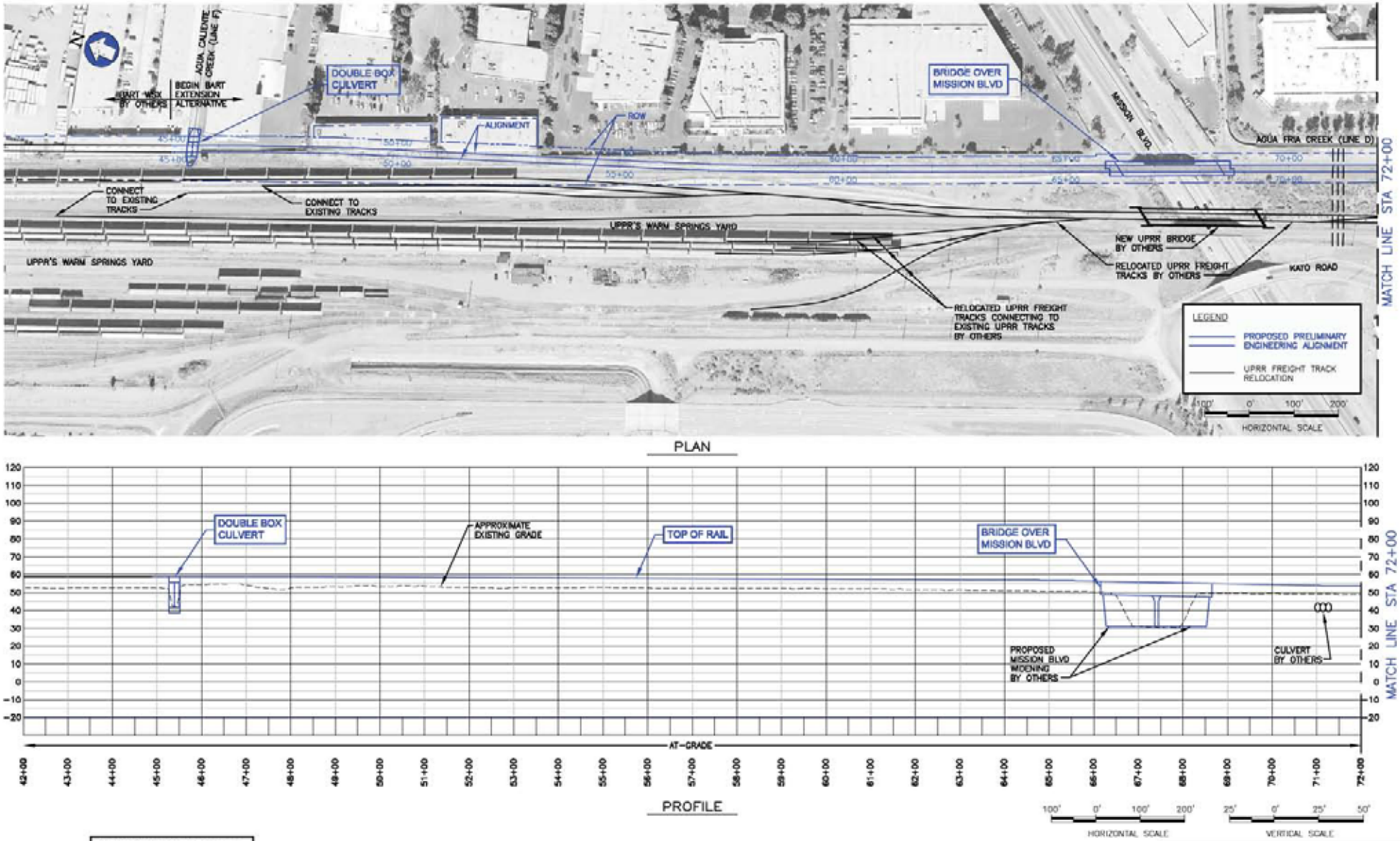
The PAB did not concur with the VTA staff recommendations on the following options.

- **Design Change 8 – Dixon Landing Road Alignment.** From the Alameda/Santa Clara county and Fremont/Milpitas city lines to south of Dixon Landing Road, the SEIR describes two options for the alignment: Retained Cut and At Grade. The PAB did not concur with the staff recommendation for the *At Grade Option*.
- **Design Change 42 – Diridon/Arena Station Parking.** The SEIR describes two options for parking at the station: Parking Structure and No Parking. The PAB did not concur with the staff recommendation for the *No Parking Option*. It should be noted that based on the input received from the PAB and after further discussions with interested parties, VTA staff is no longer making a recommendation regarding parking at the Diridon/Arena Station.

Neither the VTA staff nor the PAB made a recommendation on the following option at the April 25th meeting.

- **Design Change 40 – Downtown San Jose Station.** The SEIR addressed three options for a station entrance south of Santa Clara Street and between 1st and 2nd Streets. These included Entrance M-1A: Ravioli/Firato Delicatessen buildings, Entrance M-1B: Bank of America/Bank of Italy building, and Entrance M-1C: Western Dental/Moderne Drug building. It should be noted that subsequent to the PAB meeting, VTA staff is recommending an entrance at the Western Dental/Moderne Drug building.

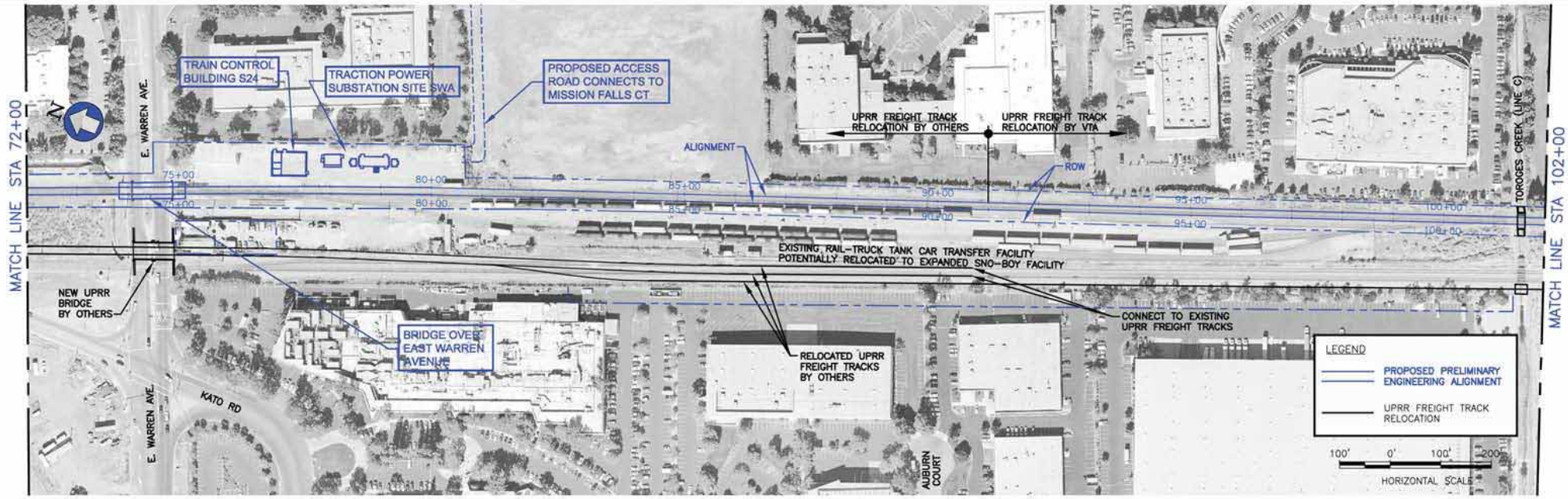
APPENDIX C
BART EXTENSION PROJECT PRELIMINARY ENGINEERING PLANS AND PROFILES
INDEX OF DRAWINGS



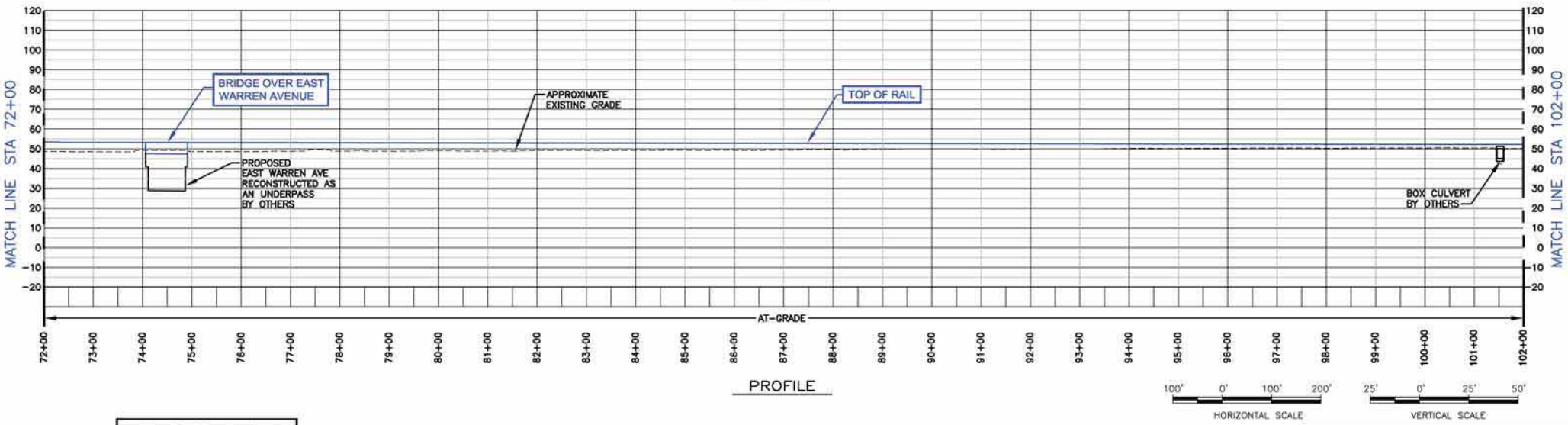
DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-2

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT
EAST WARREN AVENUE
AT GRADE OPTION: SHEET 1 OF 2
PLAN AND PROFILE
STA 42+00 TO STA 72+00



PLAN



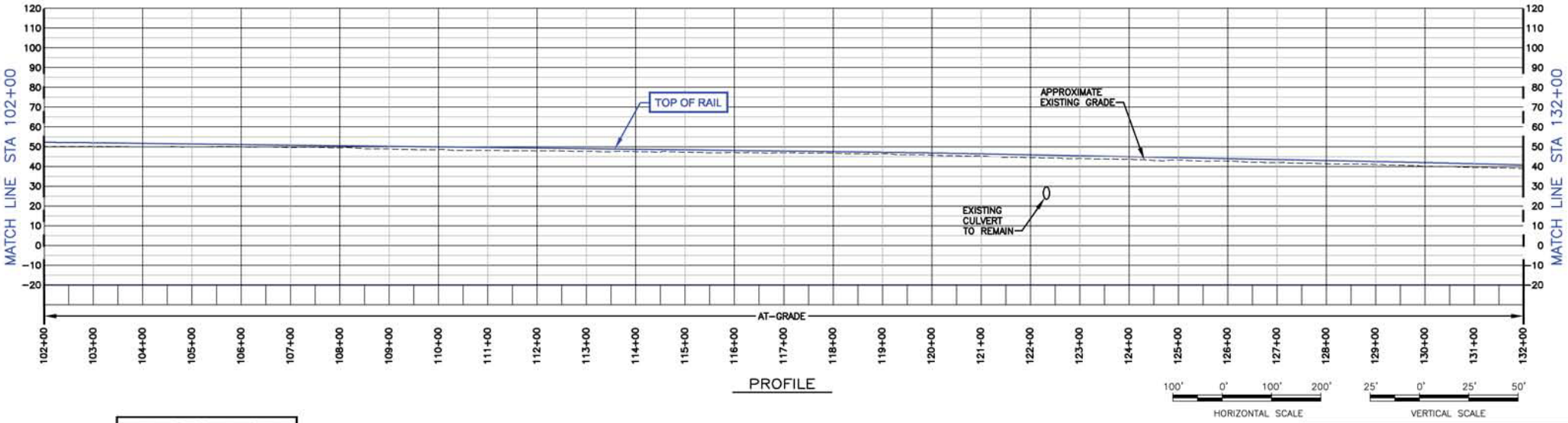
PROFILE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-3

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT
EAST WARREN AVENUE
AT GRADE OPTION: SHEET 2 OF 2
PLAN AND PROFILE
STA 72+00 TO STA 102+00

PLAN



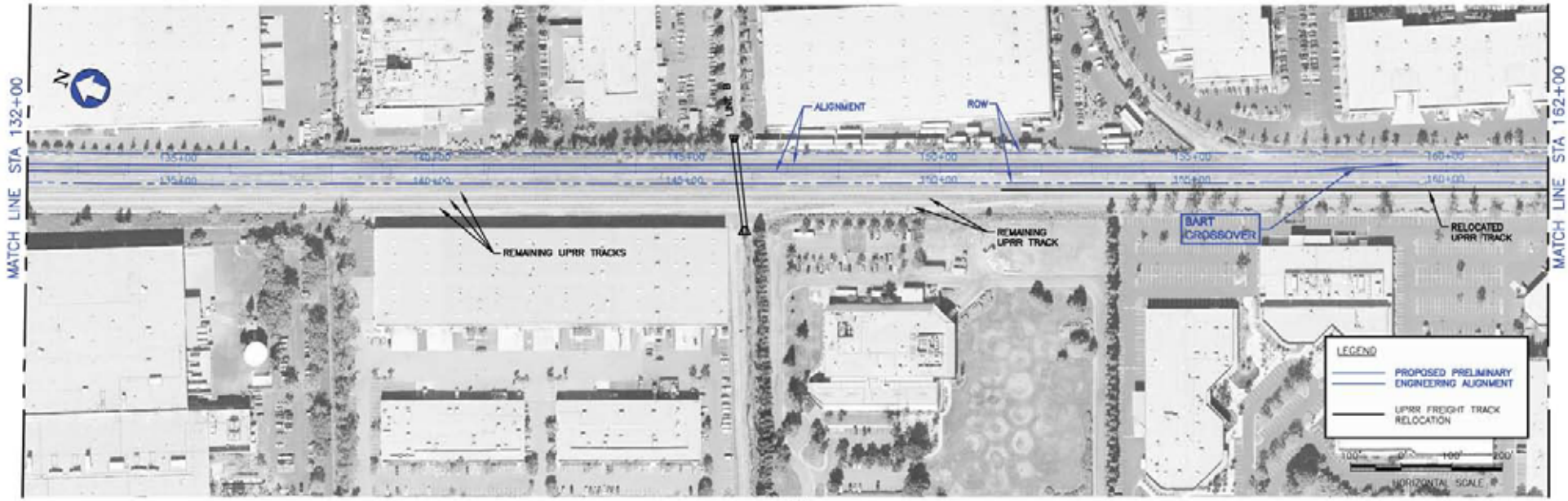
PROFILE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-4

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PLAN AND PROFILE
STA 102+00 TO STA 132+00



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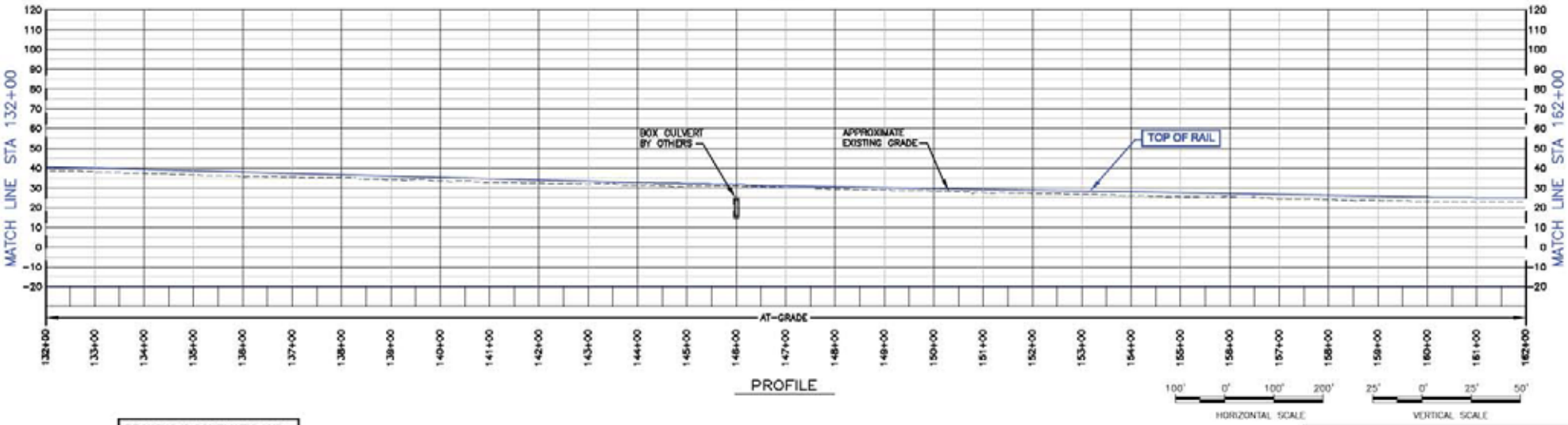


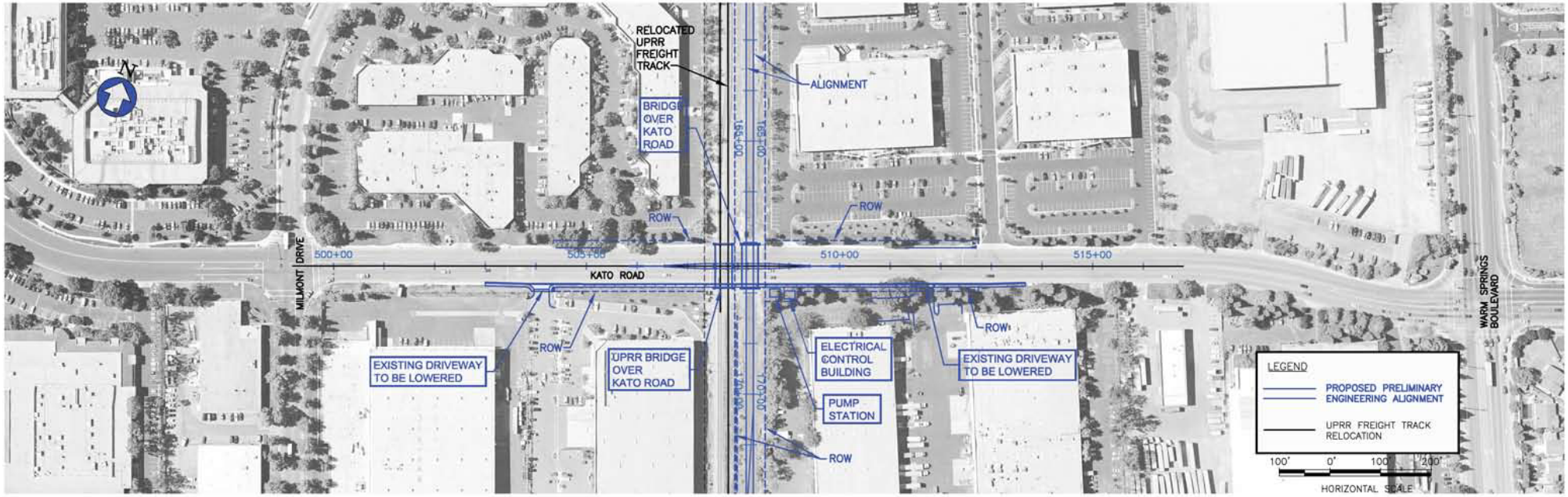
PROFILE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-5

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PLAN AND PROFILE
STA 132+00 TO STA 162+00



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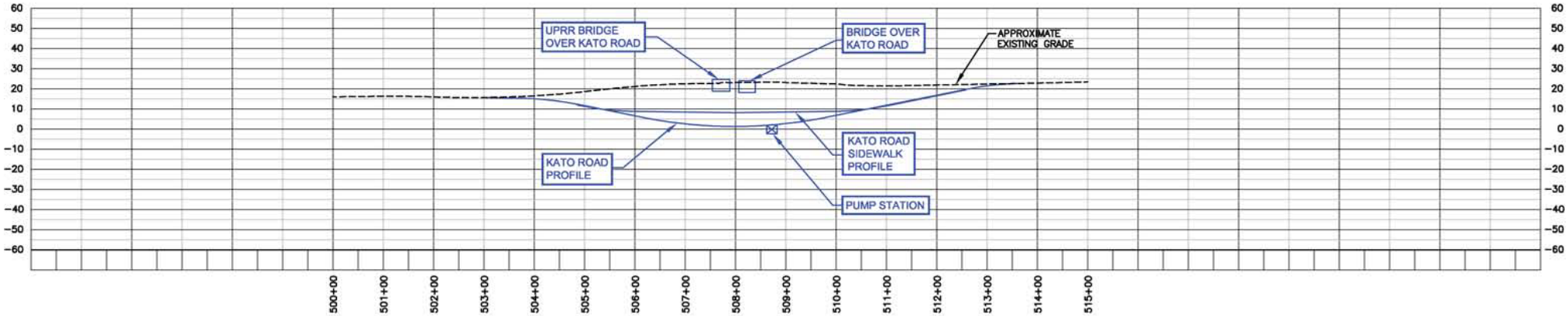


PROFILE

100' 0' 100' 200' HORIZONTAL SCALE

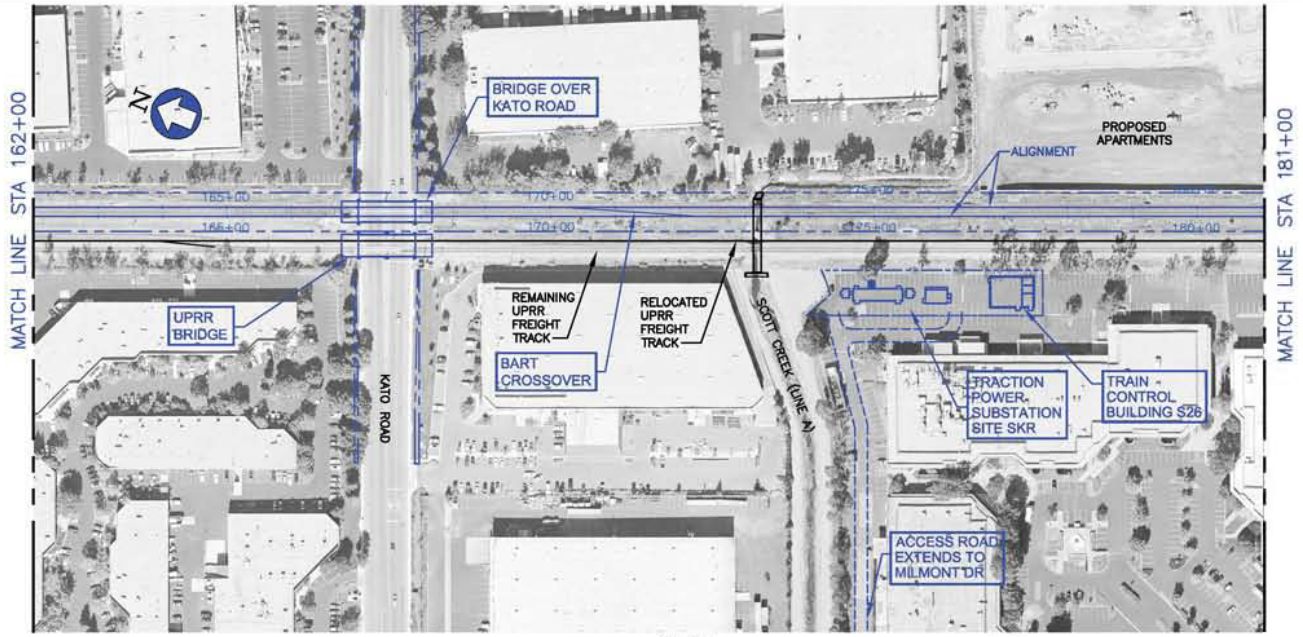
25' 0' 25' 50' VERTICAL SCALE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

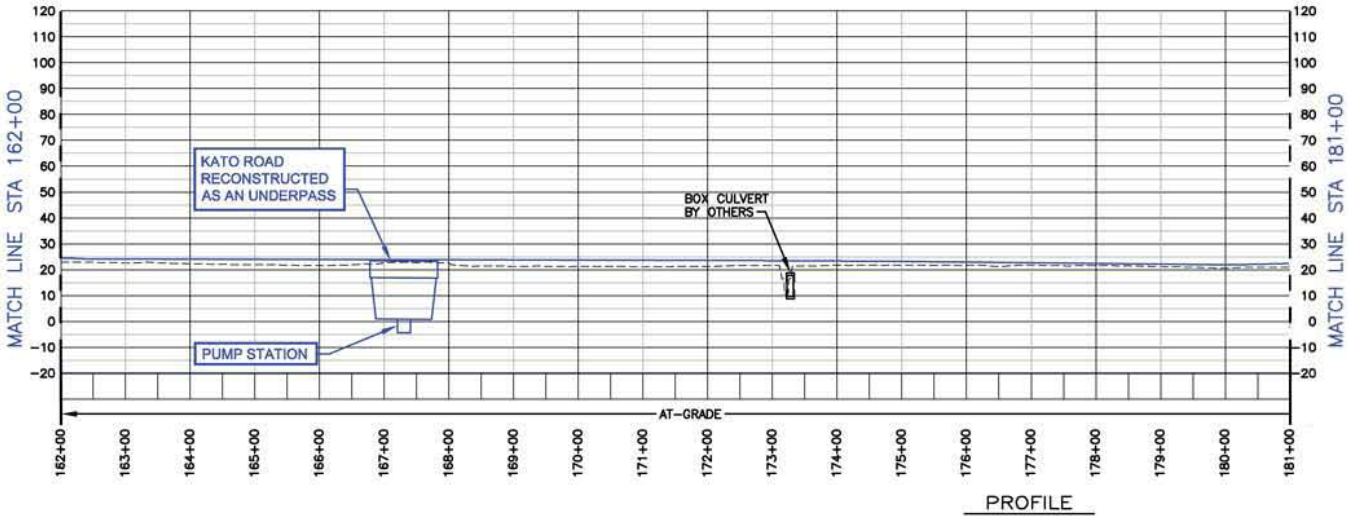
Figure C-6

BART EXTENSION PROJECT

KATO ROAD
LOWERED ROADWAY – SHEET 1 OF 1
PLAN AND PROFILE
STA 500+00 TO STA 515+00



PLAN



PROFILE

100' 0' 100' 200'
HORIZONTAL SCALE

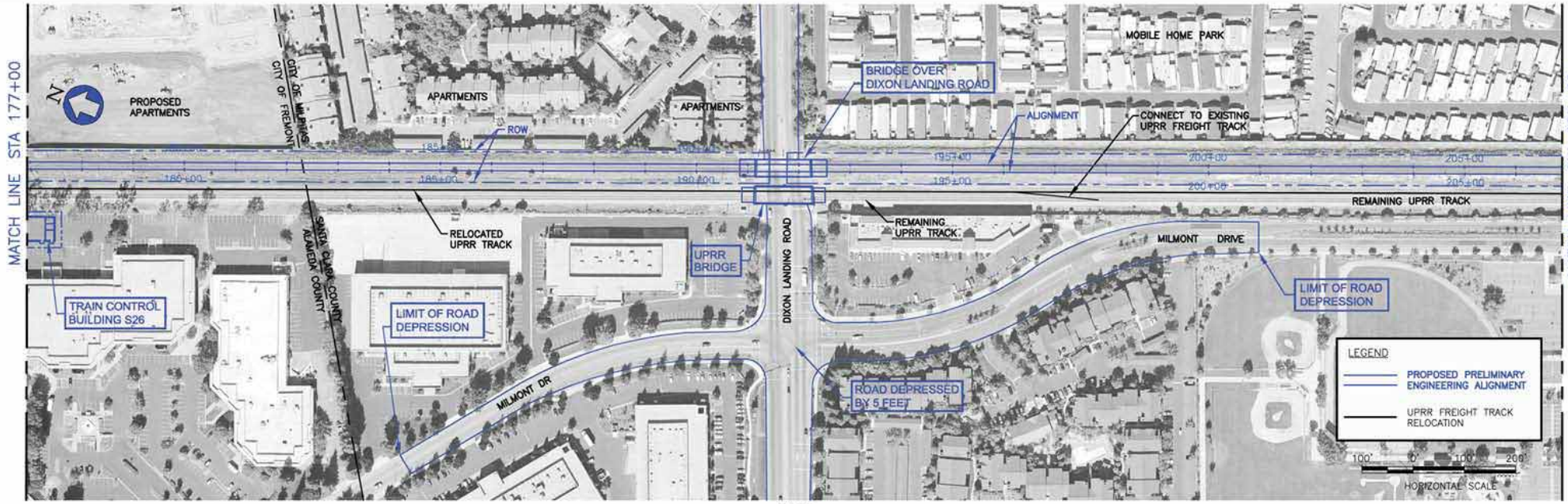
25' 0' 25' 50'
VERTICAL SCALE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

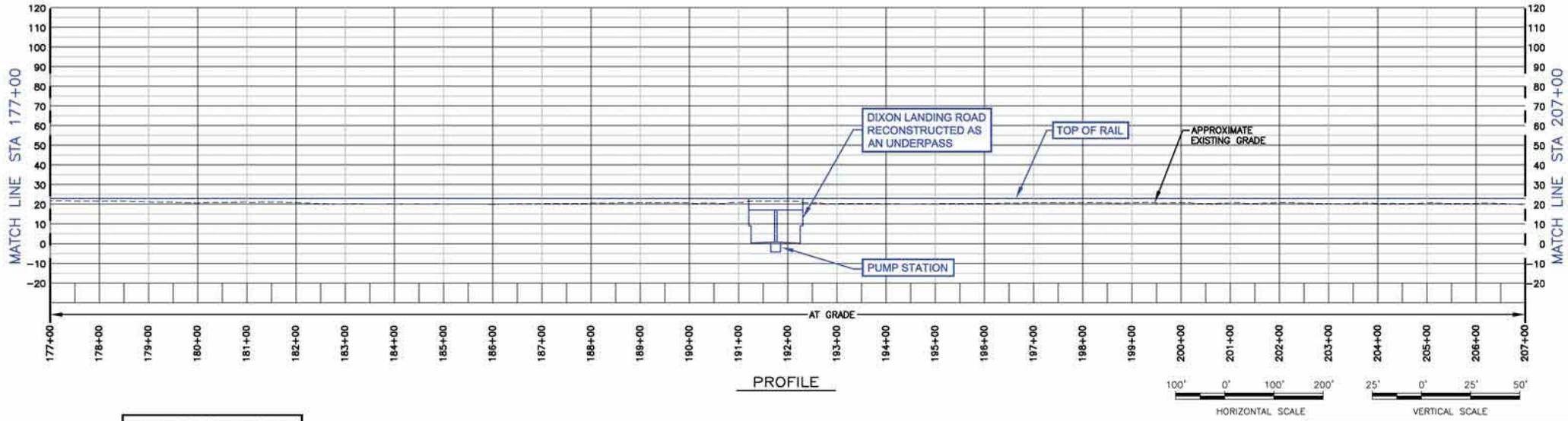
Figure C-7

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

KATO ROAD
PLAN AND PROFILE
STA 162+00 TO STA 181+00



PLAN

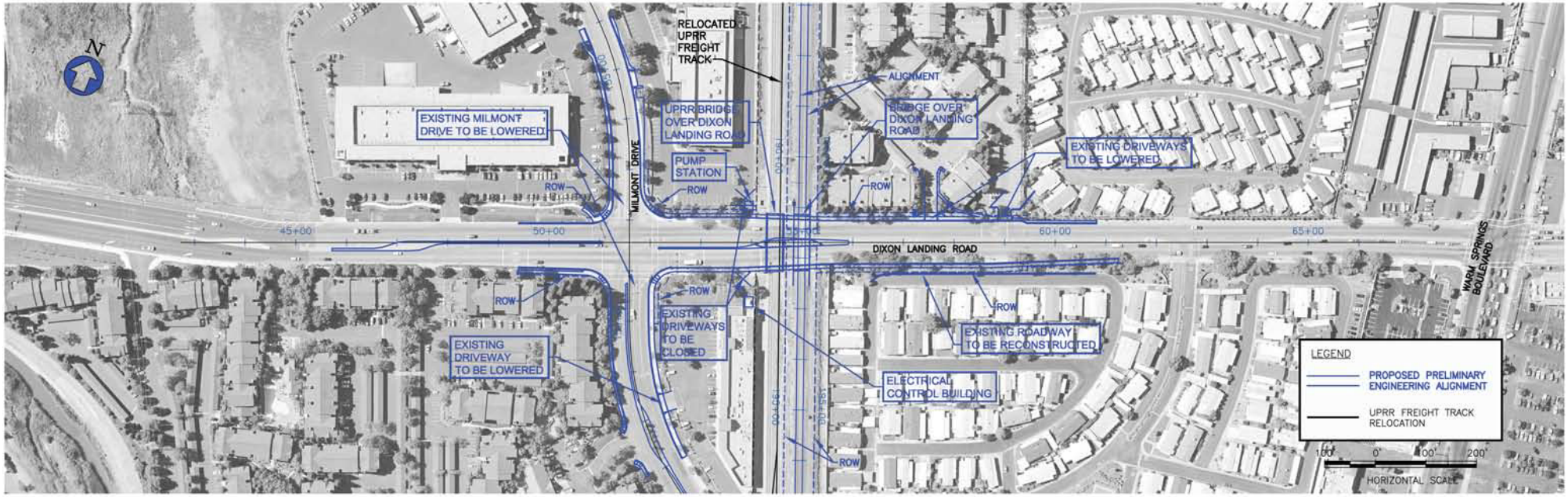


PROFILE

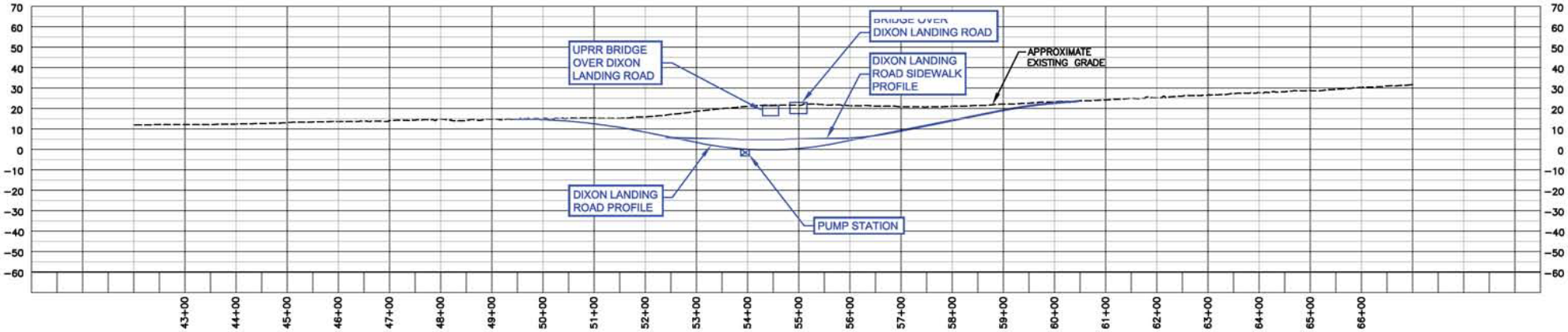
DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-8

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT
DIXON LANDING ROAD
BART AT GRADE OPTION: SHEET 1 OF 1
PLAN AND PROFILE
STA 177+00 TO STA 207+00



PLAN



PROFILE

100' 0' 100' 200'
HORIZONTAL SCALE

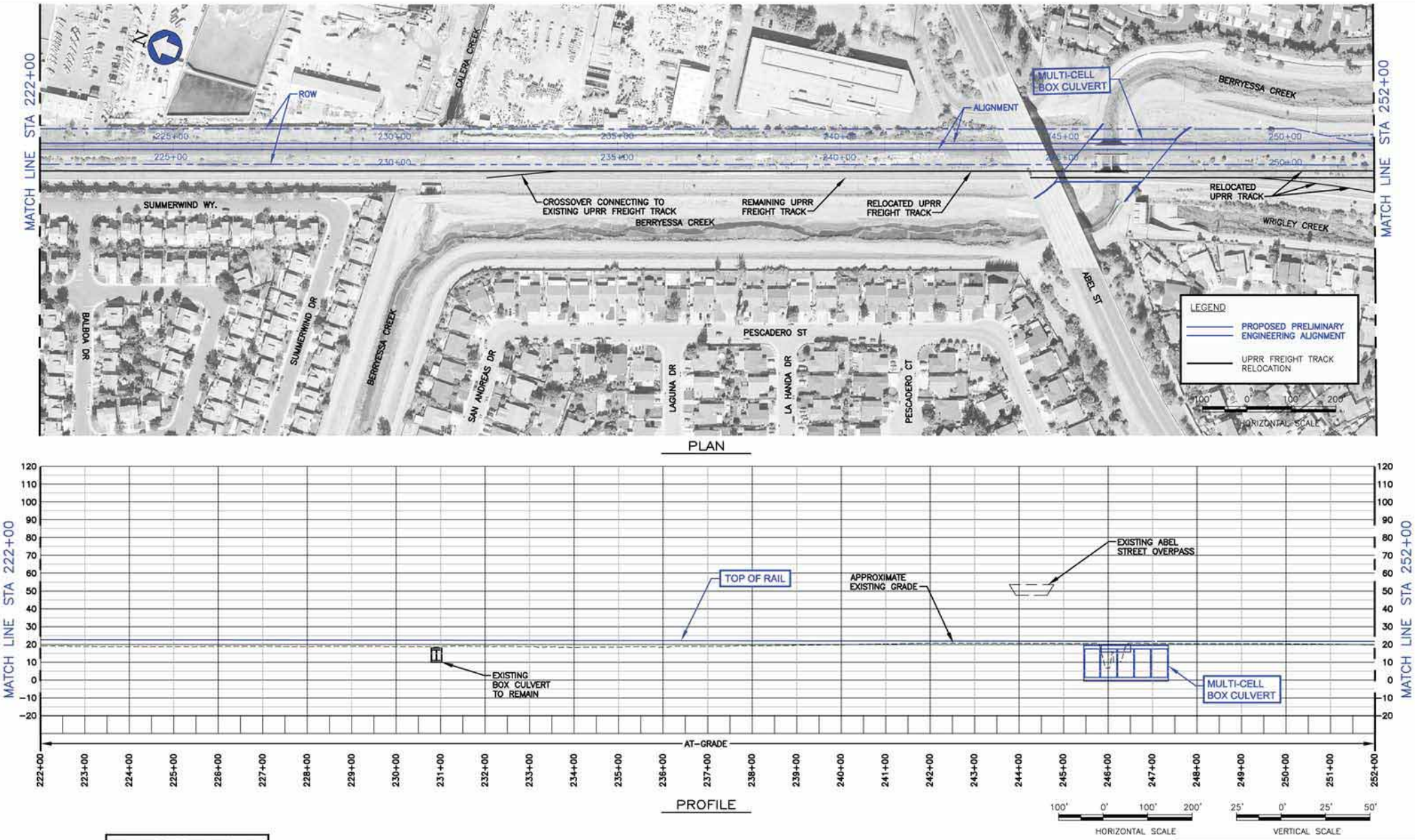
25' 0' 25' 50'
VERTICAL SCALE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-9

BART EXTENSION PROJECT

DIXON LANDING ROAD – BART AT-GRADE OPTION
LOWERED ROADWAY – SHEET 1 OF 1
PLAN AND PROFILE
STA 43+00 TO STA 66+00

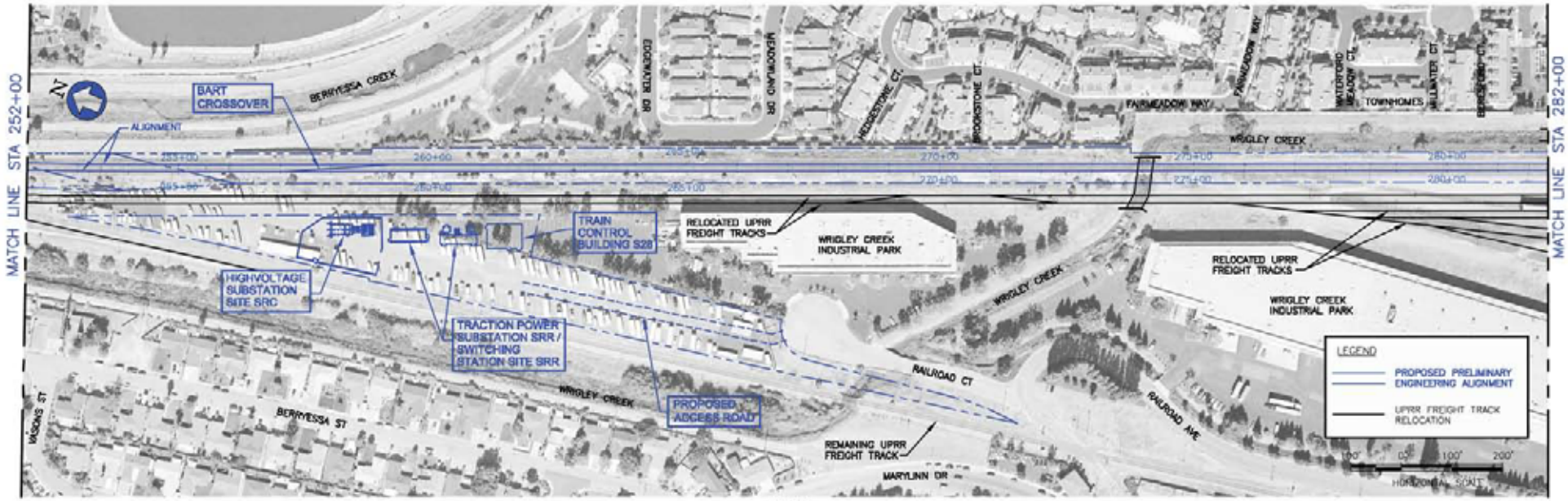


DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

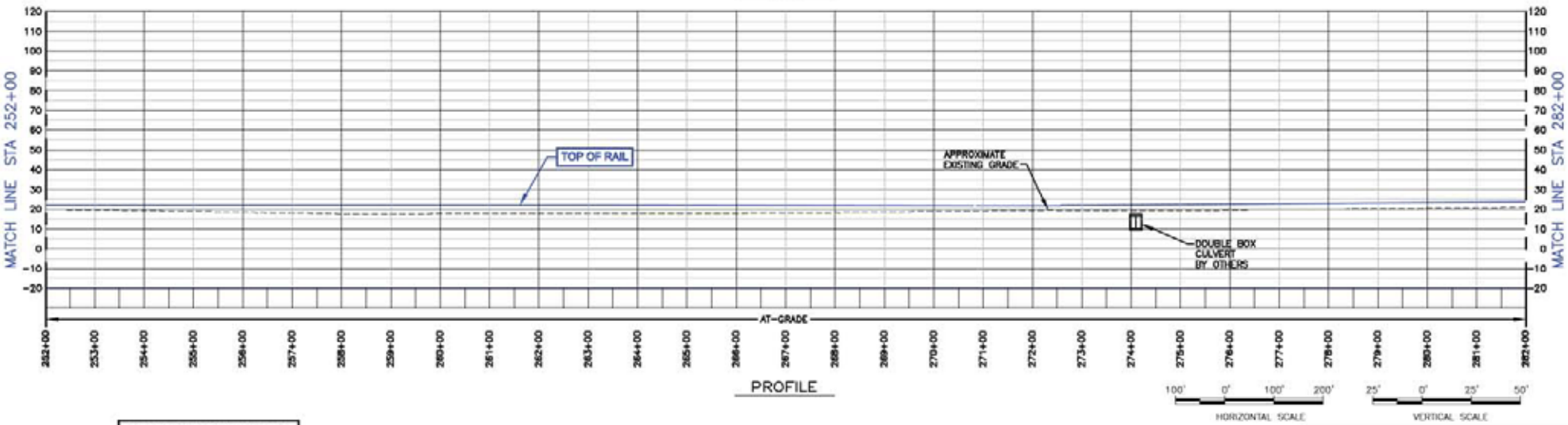
Figure C-10

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PLAN AND PROFILE
STA 222+00 TO STA 252+00



PLAN



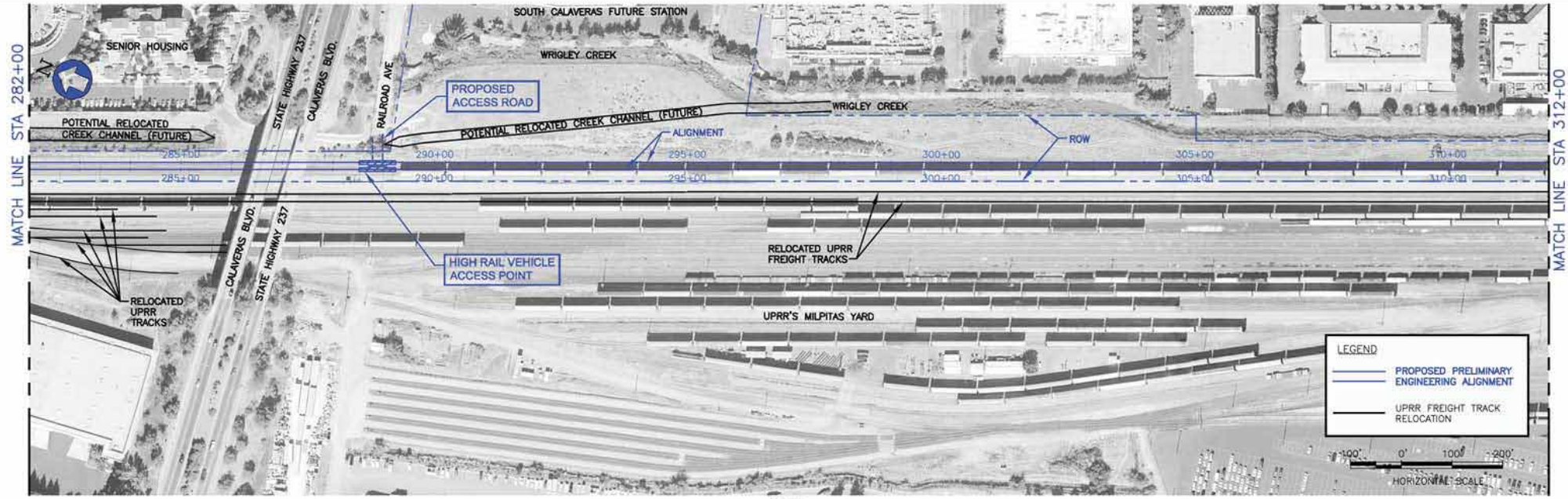
PROFILE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

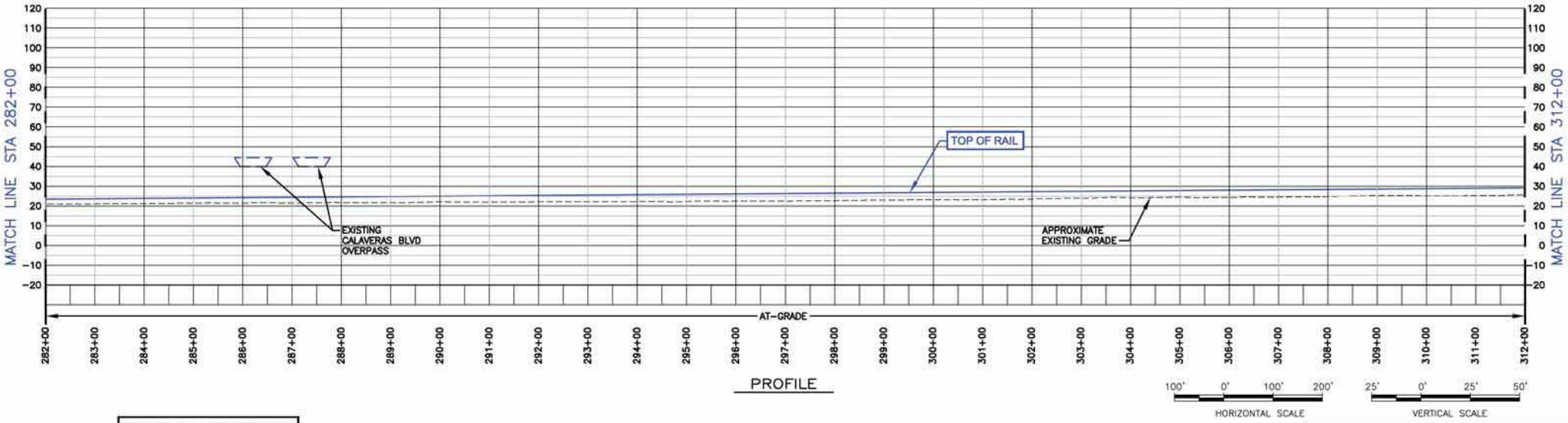
Figure C-11

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PLAN AND PROFILE
STA 252+00 TO STA 282+00



PLAN



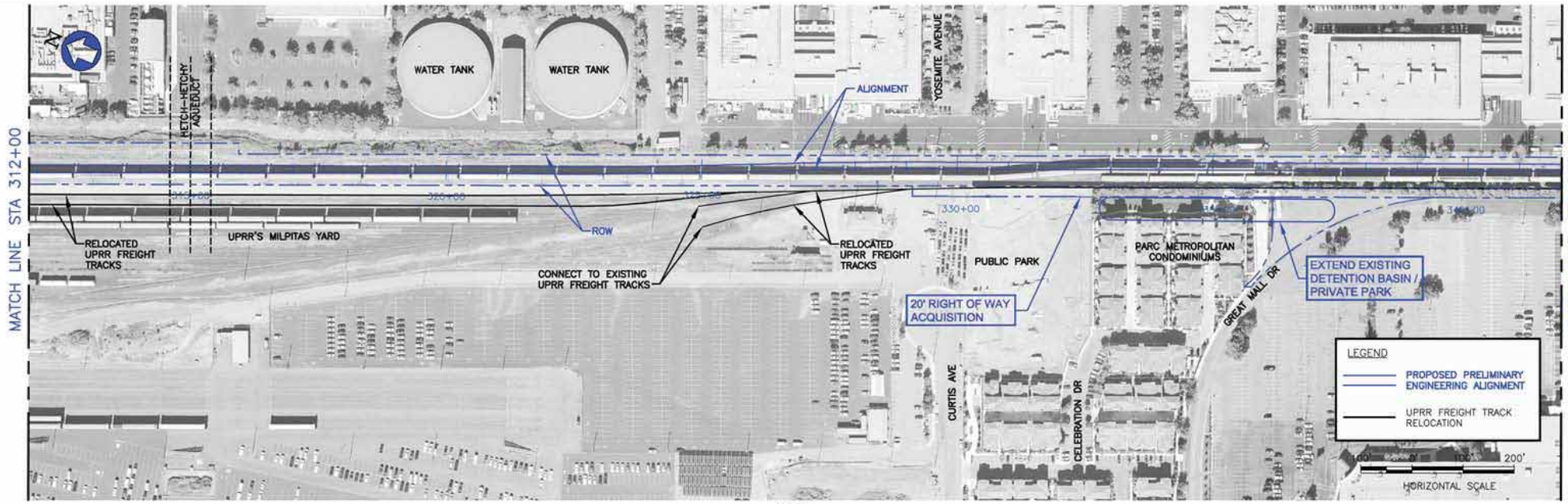
PROFILE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

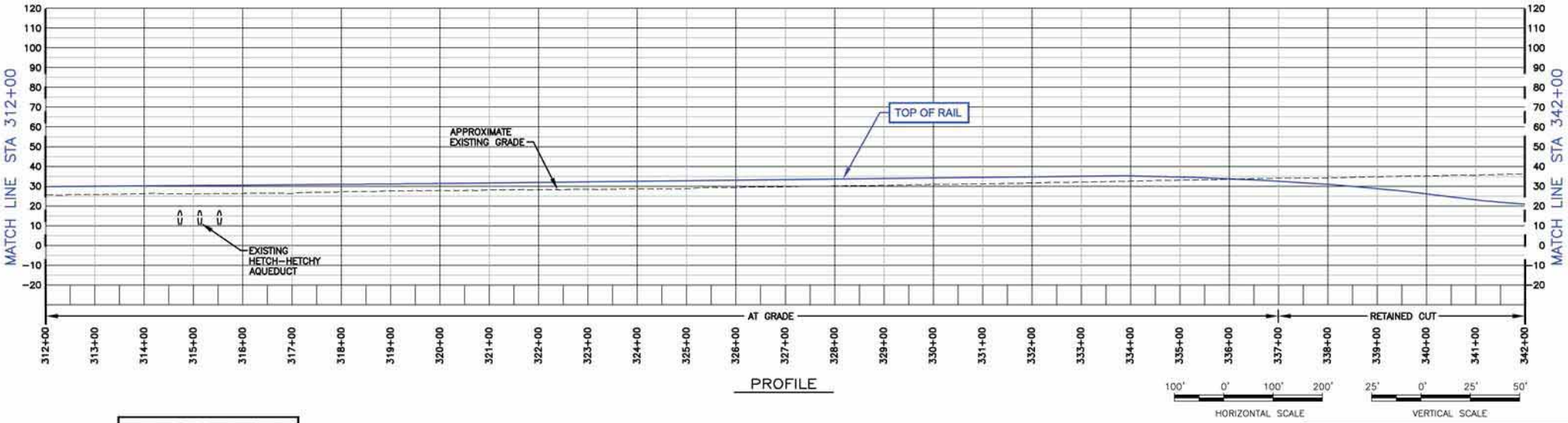
Figure C-12

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PLAN AND PROFILE
STA 282+00 TO STA 312+00



PLAN

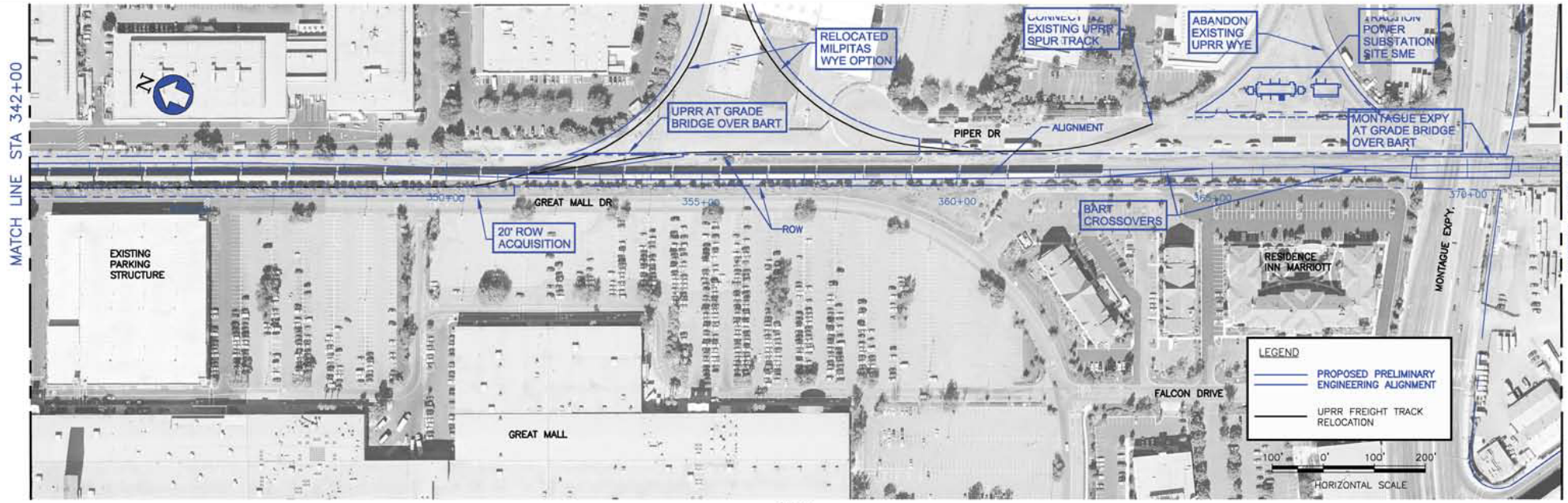


PROFILE

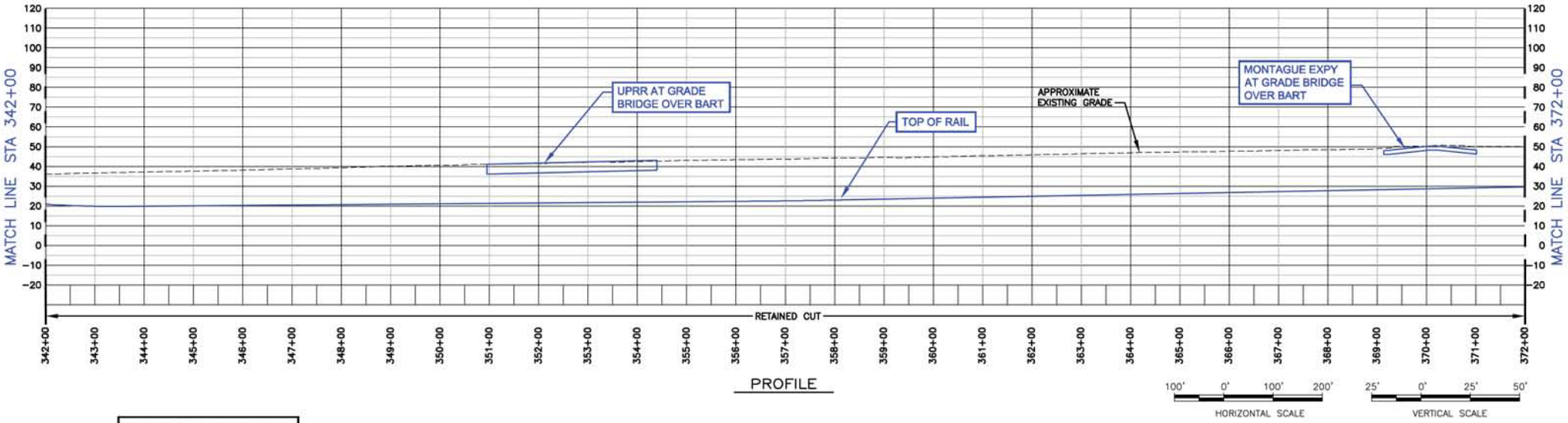
DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-13

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT
NORTH OF MONTAGUE / CAPITOL STATION
RETAINED CUT LONG OPTION: SHEET 1 OF 4
PLAN AND PROFILE
STA 312+00 TO STA 342+00



PLAN

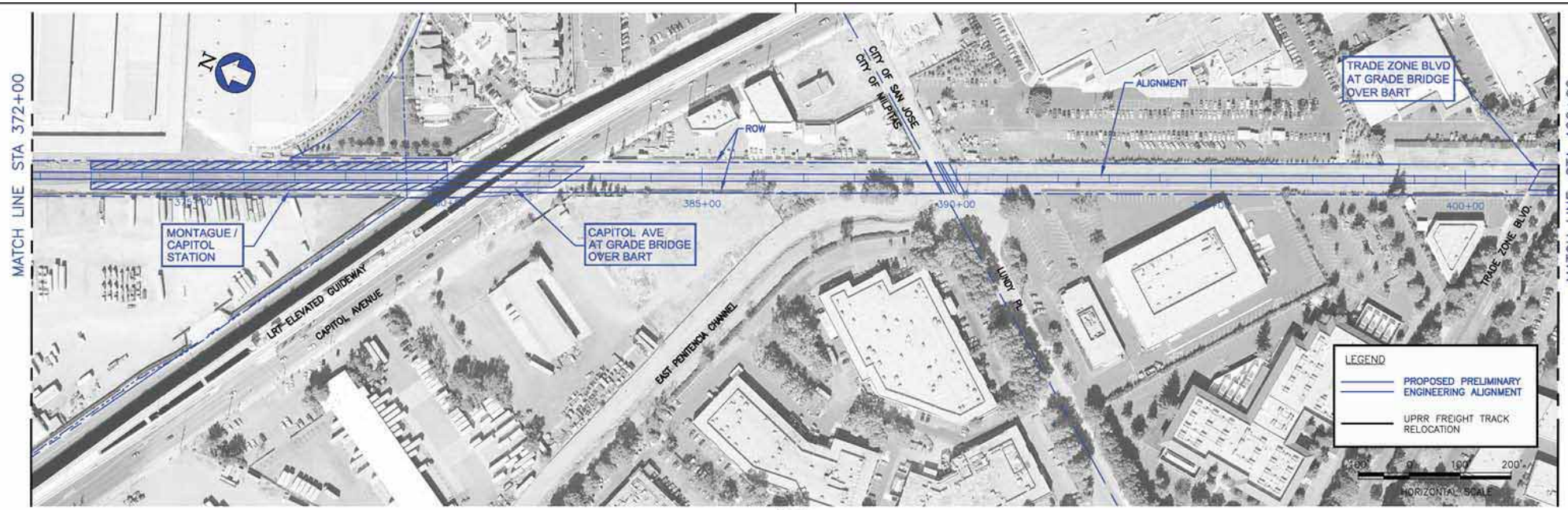


PROFILE

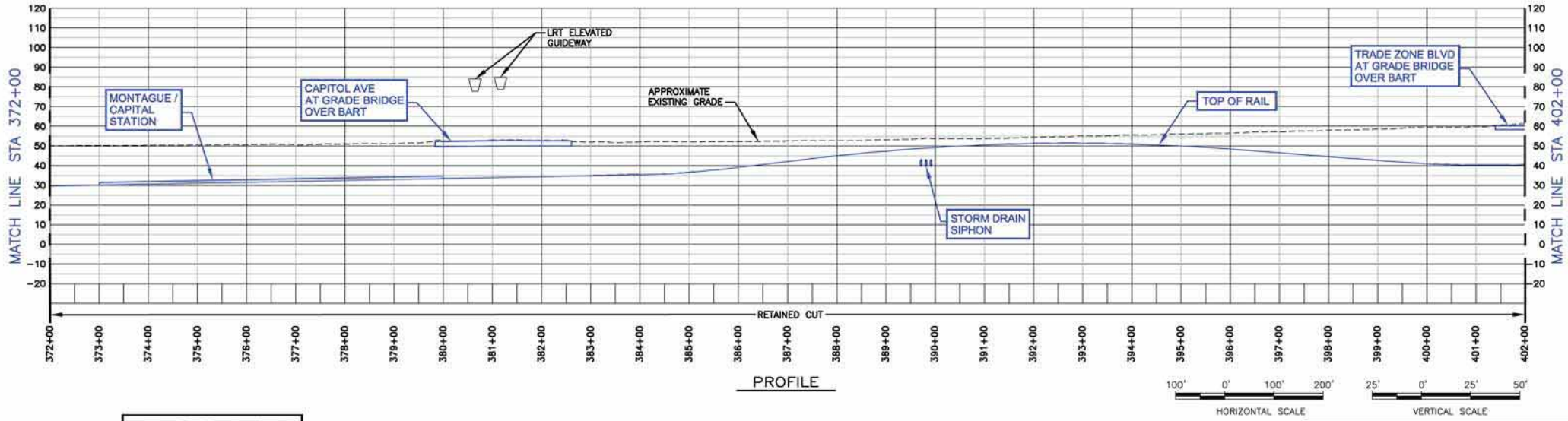
DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-14

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT
NORTH OF MONTAGUE / CAPITOL STATION
RETAINED CUT LONG OPTION: SHEET 2 OF 4
PLAN AND PROFILE
STA 342+00 TO STA 372+00



PLAN

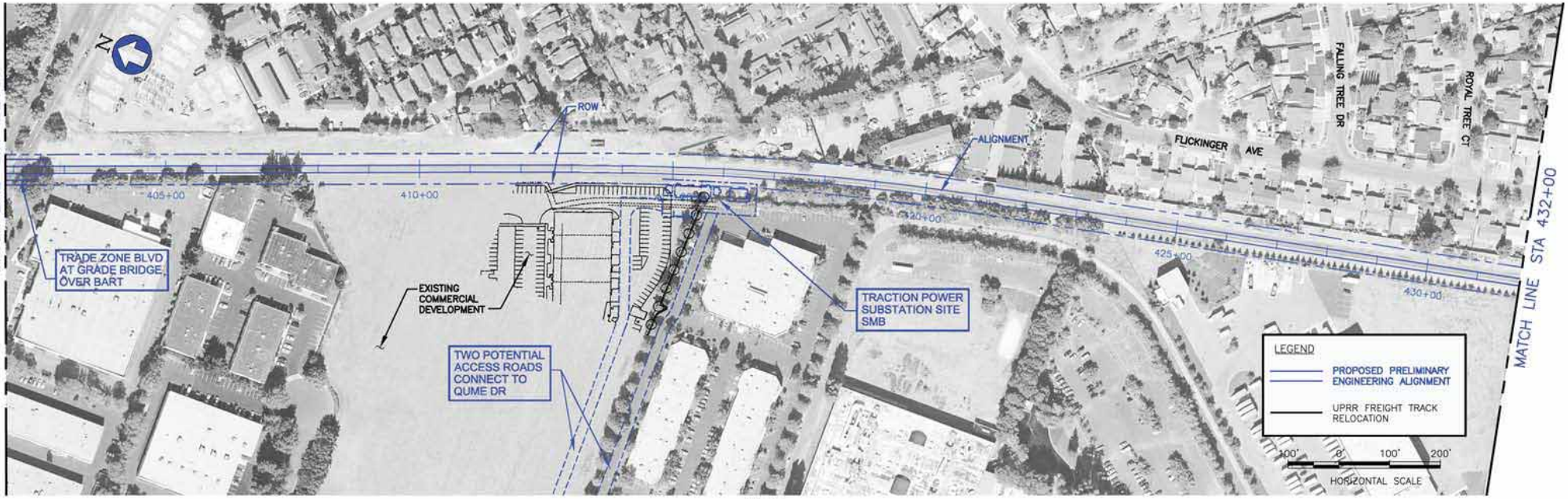


PROFILE

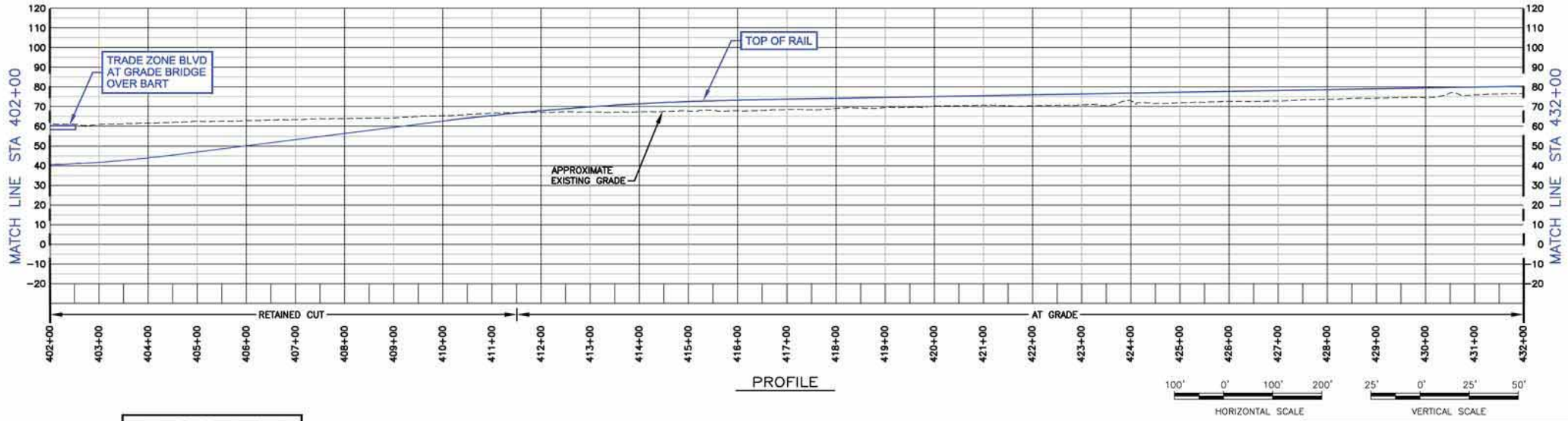
DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-15

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT
NORTH OF MONTAGUE / CAPITOL STATION
RETAINED CUT LONG OPTION: SHEET 3 OF 4
PLAN AND PROFILE
STA 372+00 TO STA 402+00



PLAN

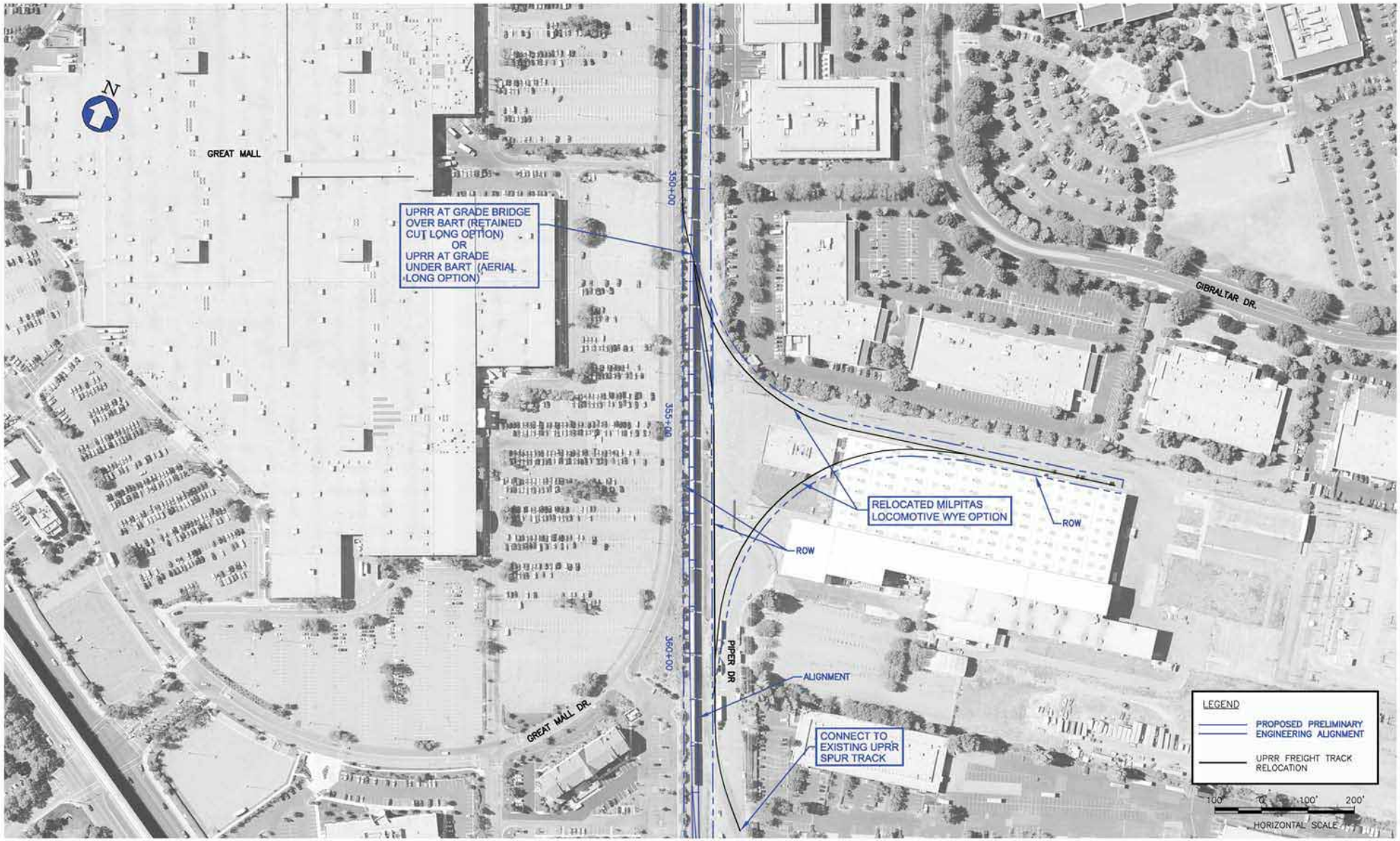


PROFILE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-16

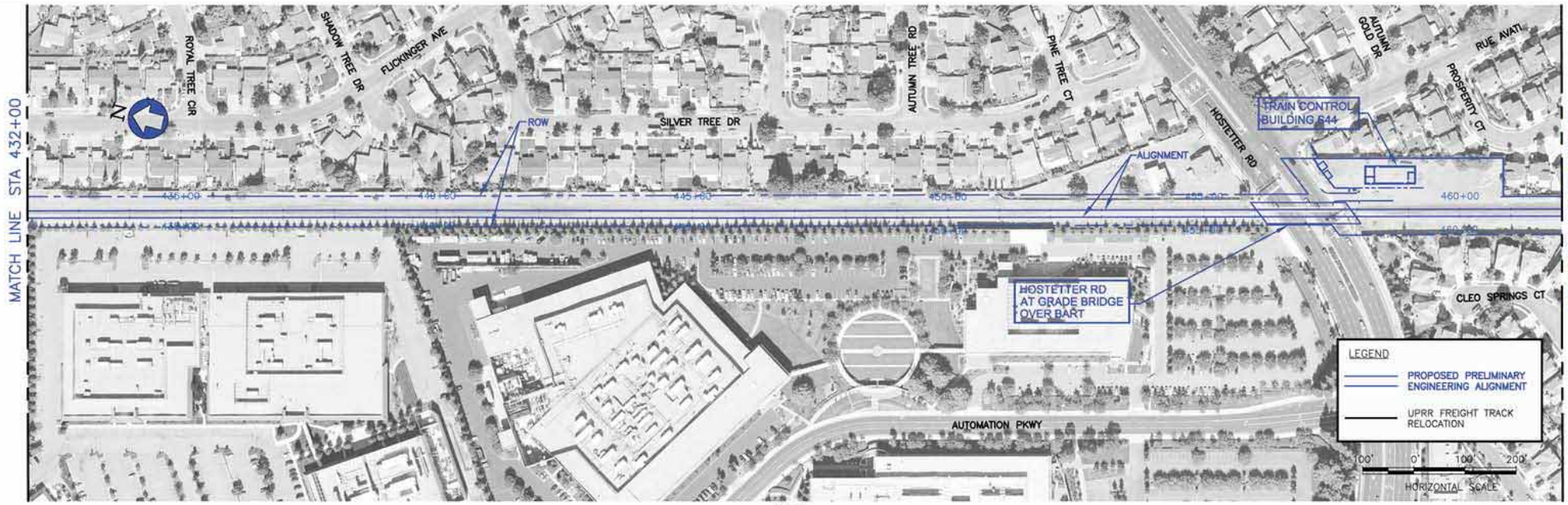
BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT
NORTH OF MONTAGUE / CAPITOL STATION
RETAINED CUT LONG OPTION: SHEET 4 OF 4
PLAN AND PROFILE
STA 402+00 TO STA 432+00



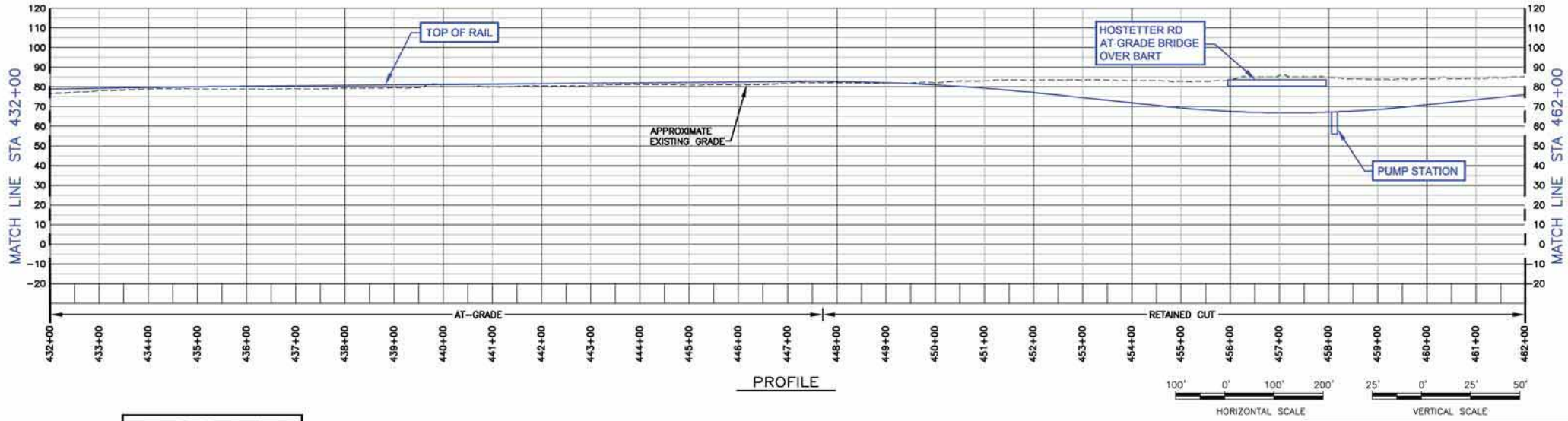
DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-17

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT
RELOCATED
MILPITAS WYE OPTION: SHEET 1 OF 1
PLAN



PLAN



PROFILE

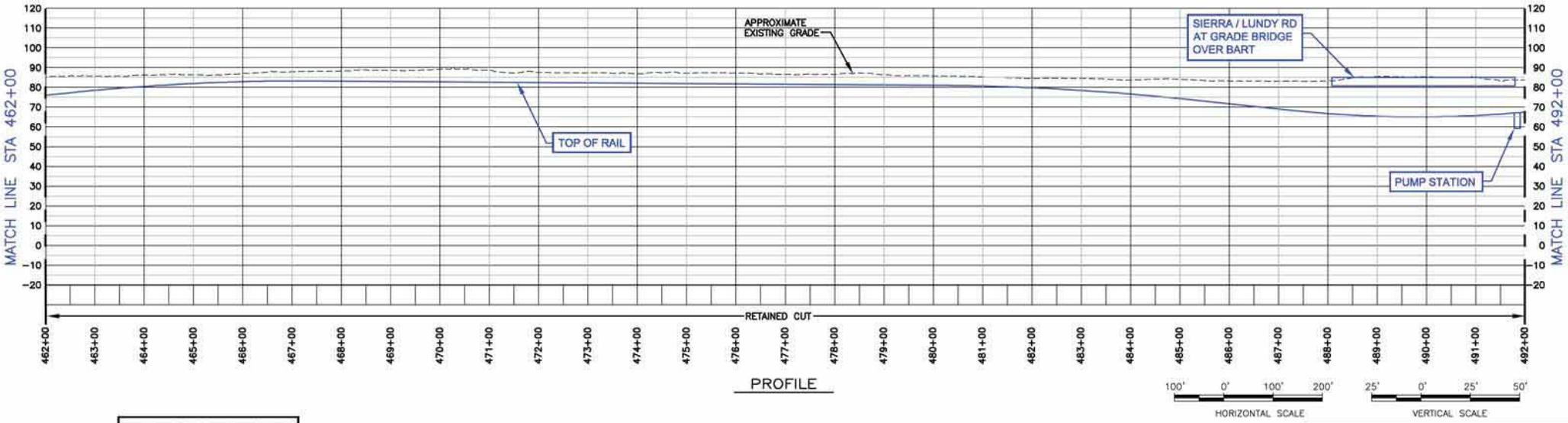
DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-18

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PROPOSED PE ALIGNMENTS
PLAN AND PROFILE
STA 432+00 TO STA 462+00

PLAN



PROFILE

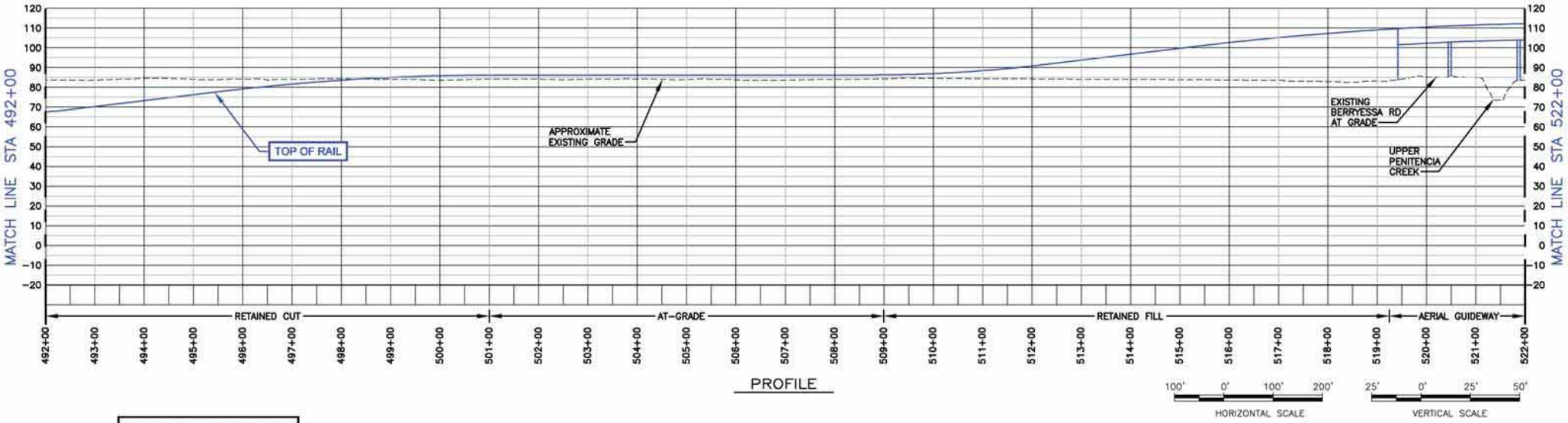
DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-19

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PROPOSED PE ALIGNMENTS
PLAN AND PROFILE
STA 462+00 TO STA 492+00

PLAN



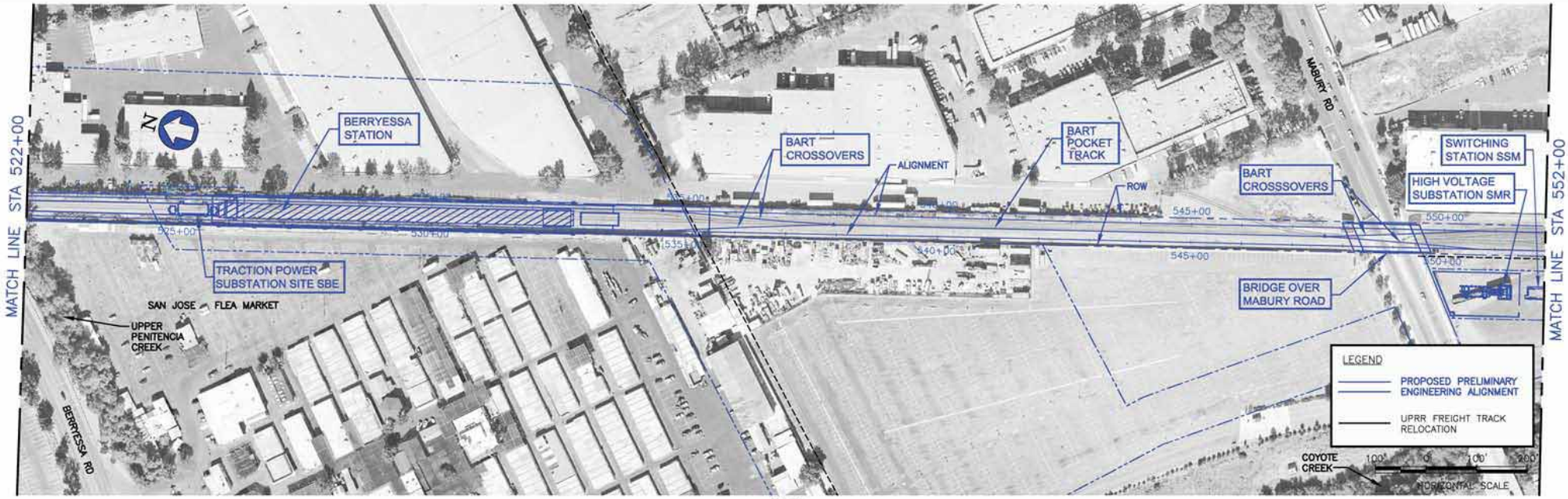
PROFILE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

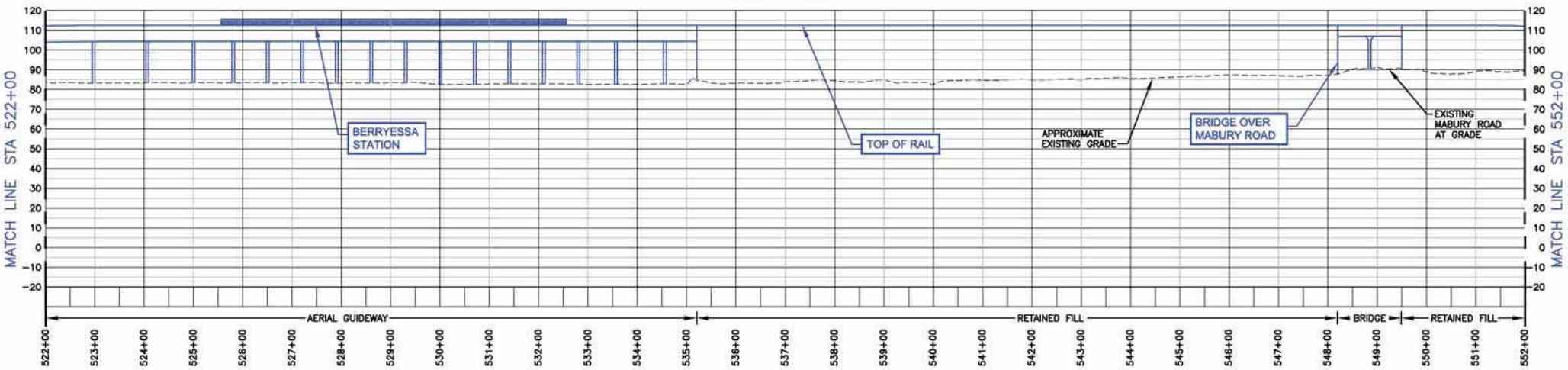
Figure C-20

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PROPOSED PE ALIGNMENTS
PLAN AND PROFILE
STA 492+00 TO STA 522+00



PLAN



PROFILE

100' 0' 100' 200'
HORIZONTAL SCALE

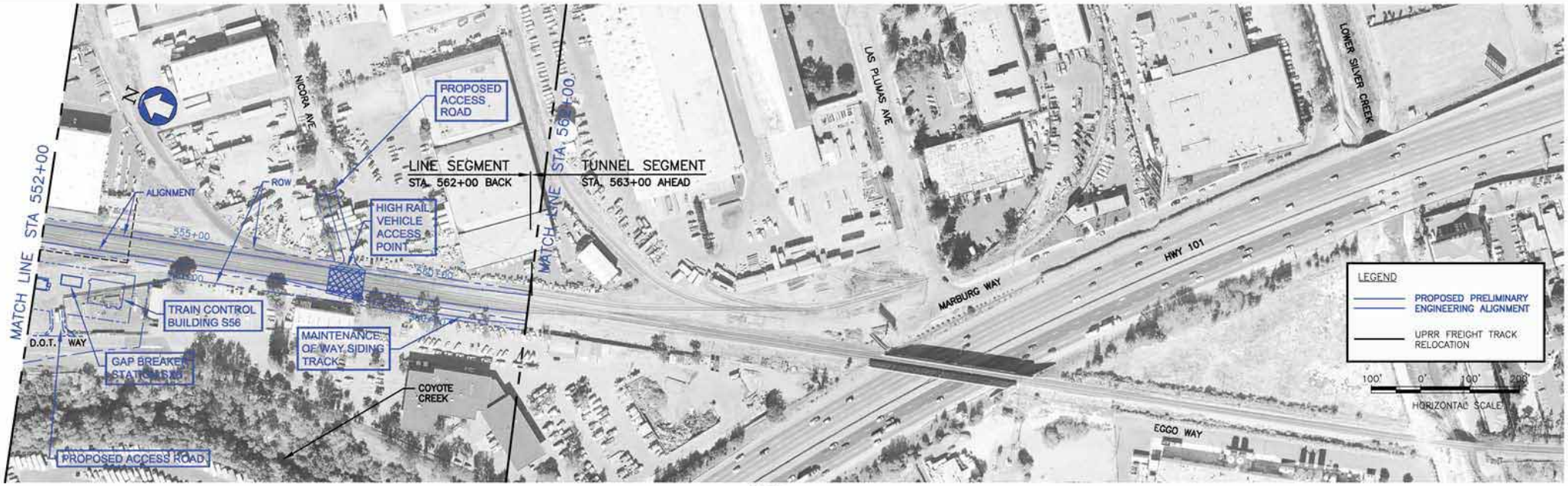
25' 0' 25' 50'
VERTICAL SCALE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

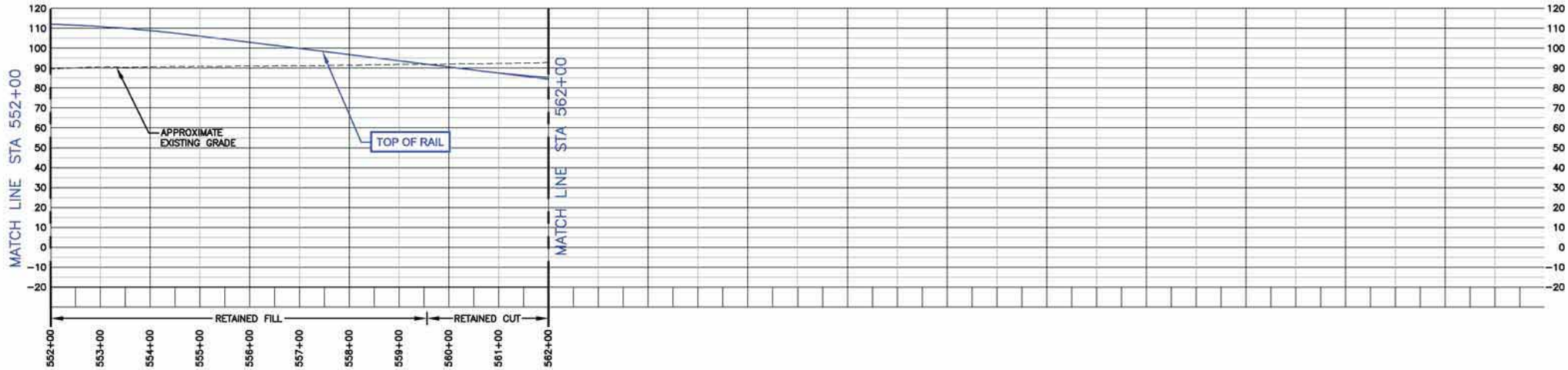
Figure C-21

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PROPOSED PE ALIGNMENTS
PLAN AND PROFILE
STA 522+00 TO STA 552+00



PLAN



PROFILE

100' 0' 100' 200'
HORIZONTAL SCALE

25' 0' 25' 50'
VERTICAL SCALE

DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-22

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PROPOSED PE ALIGNMENTS
PLAN AND PROFILE
STA 552+00 TO STA 562+00

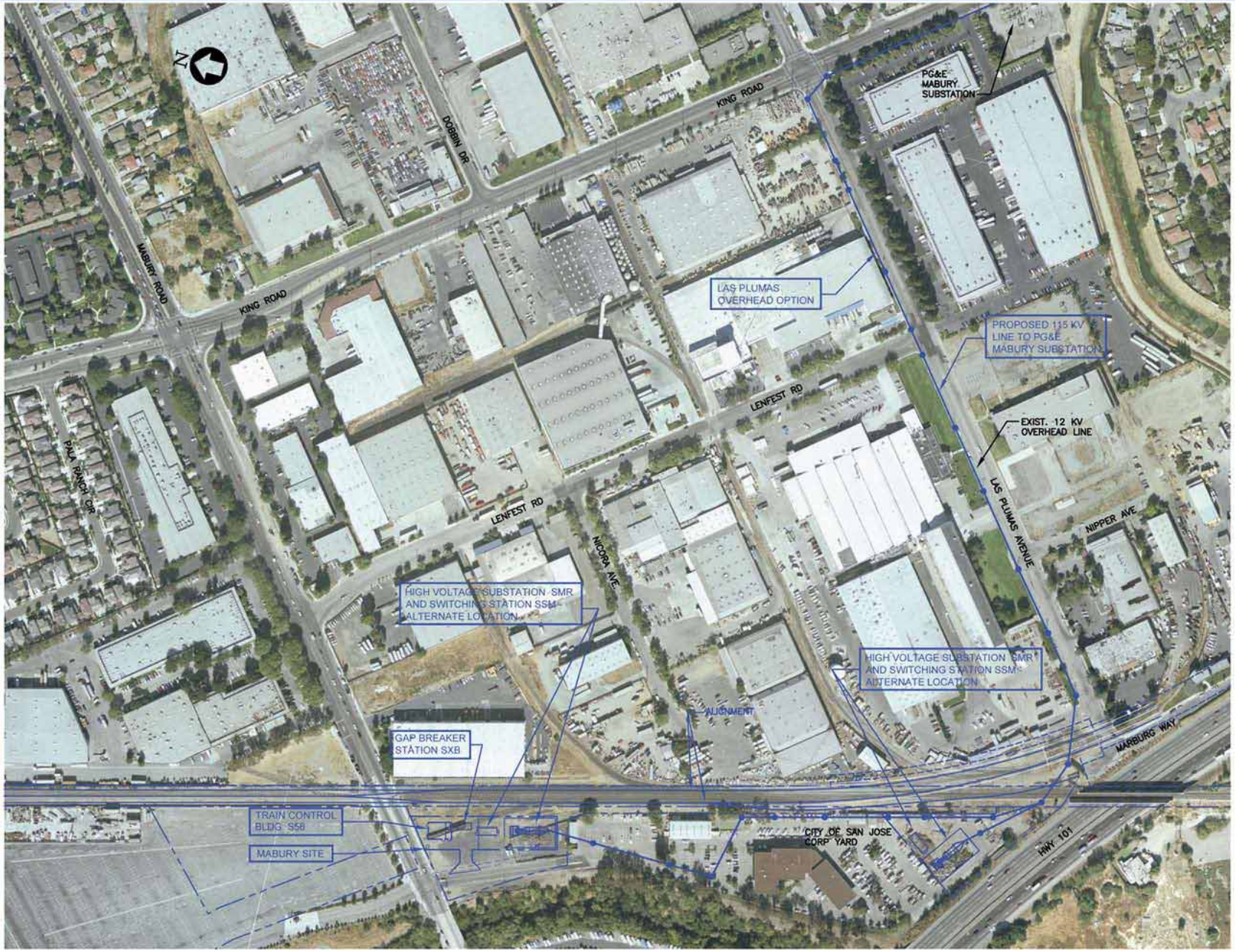


Figure C-23

LEGEND

115 KV OVERHEAD LINE

PRELIMINARY ENGINEERING ALIGNMENT

140' 0' 140' 280'

GRAPHIC SCALE

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT
115 KV ELECTRIC LINE LOCATION OPTIONS
MABURY HIGH VOLTAGE SUBSTATION:
SHEET 1 of 1

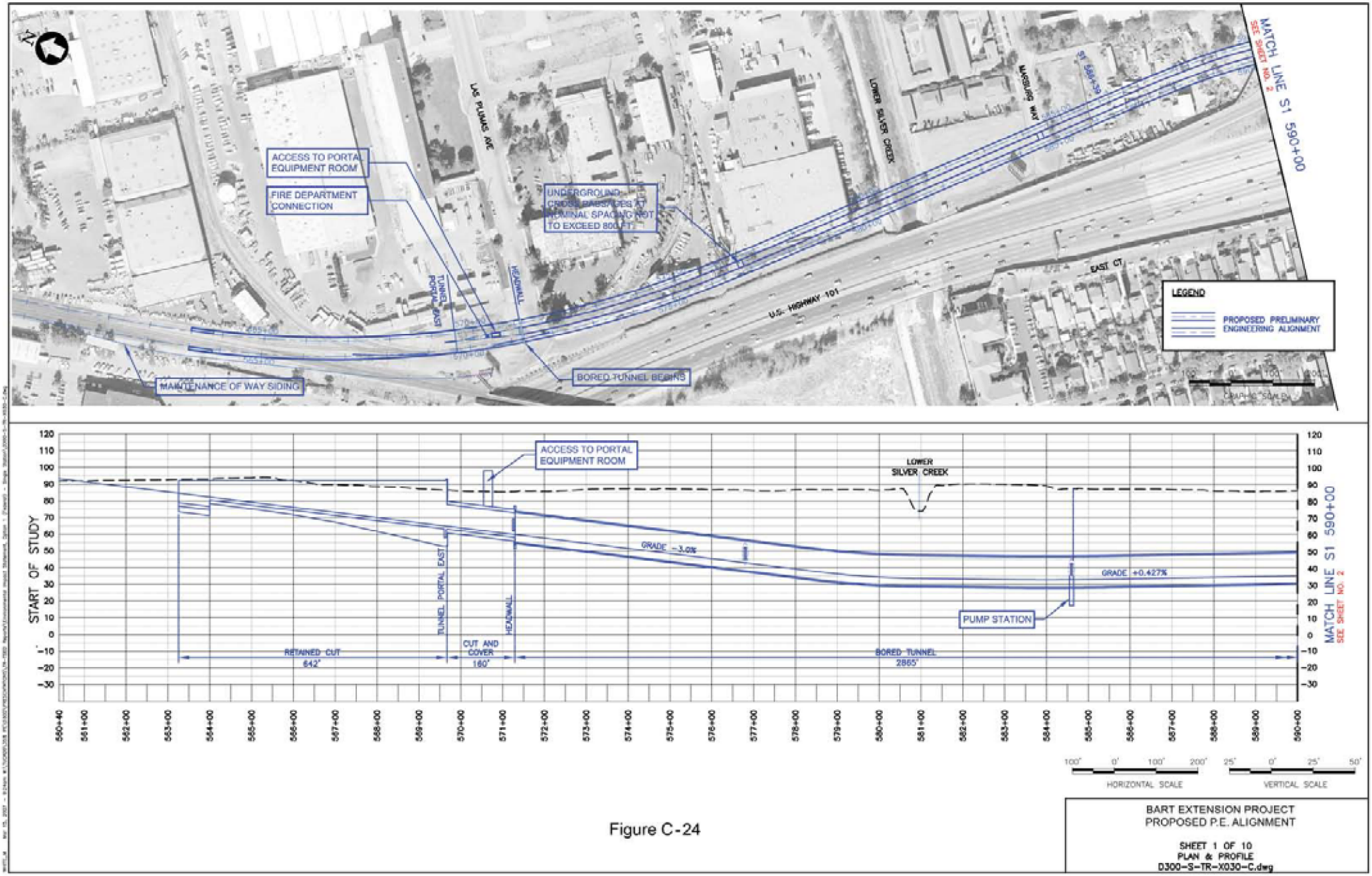
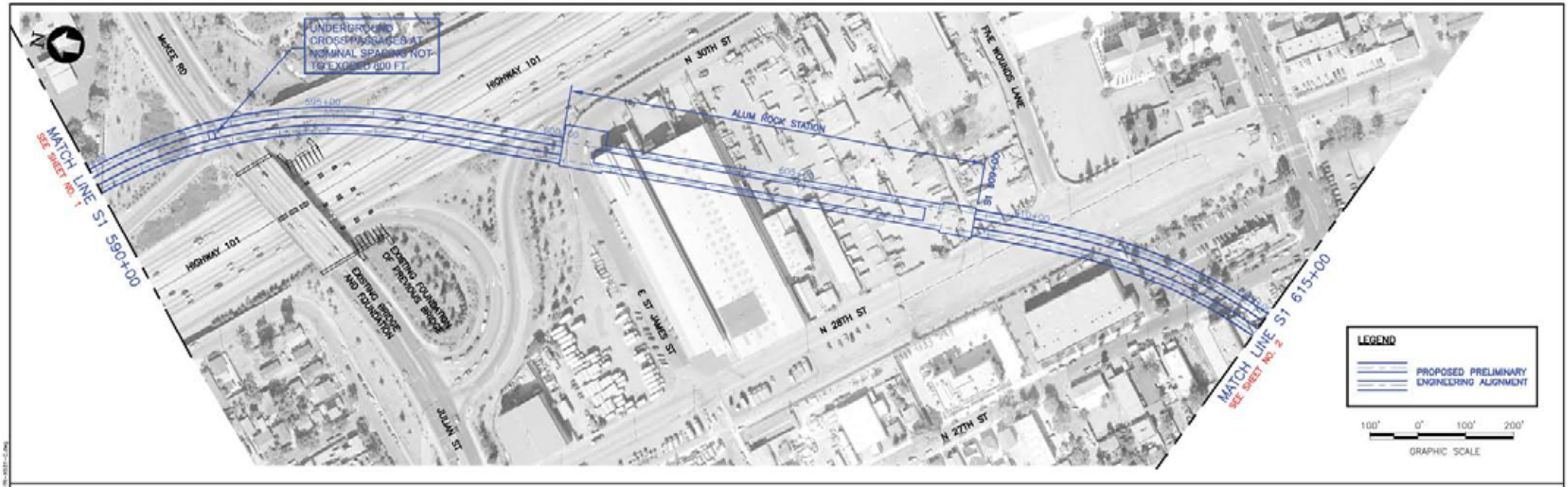


Figure C-24

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

SHEET 1 OF 10
PLAN & PROFILE
D300-S-TR-X030-C.dwg



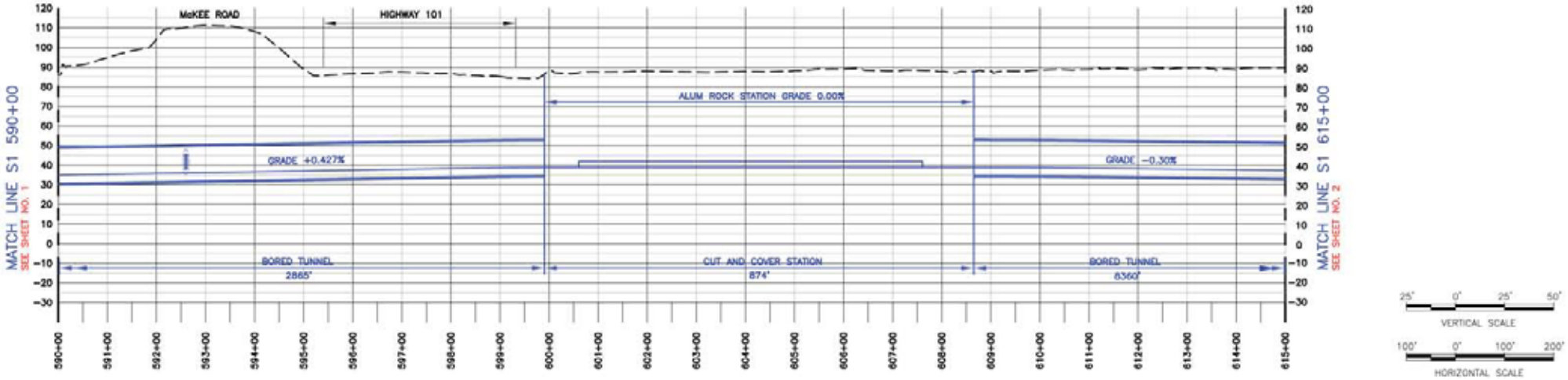


Figure C-25

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

SHEET 2 OF 10
PLAN & PROFILE
D300-S-TR-X031-C.dwg

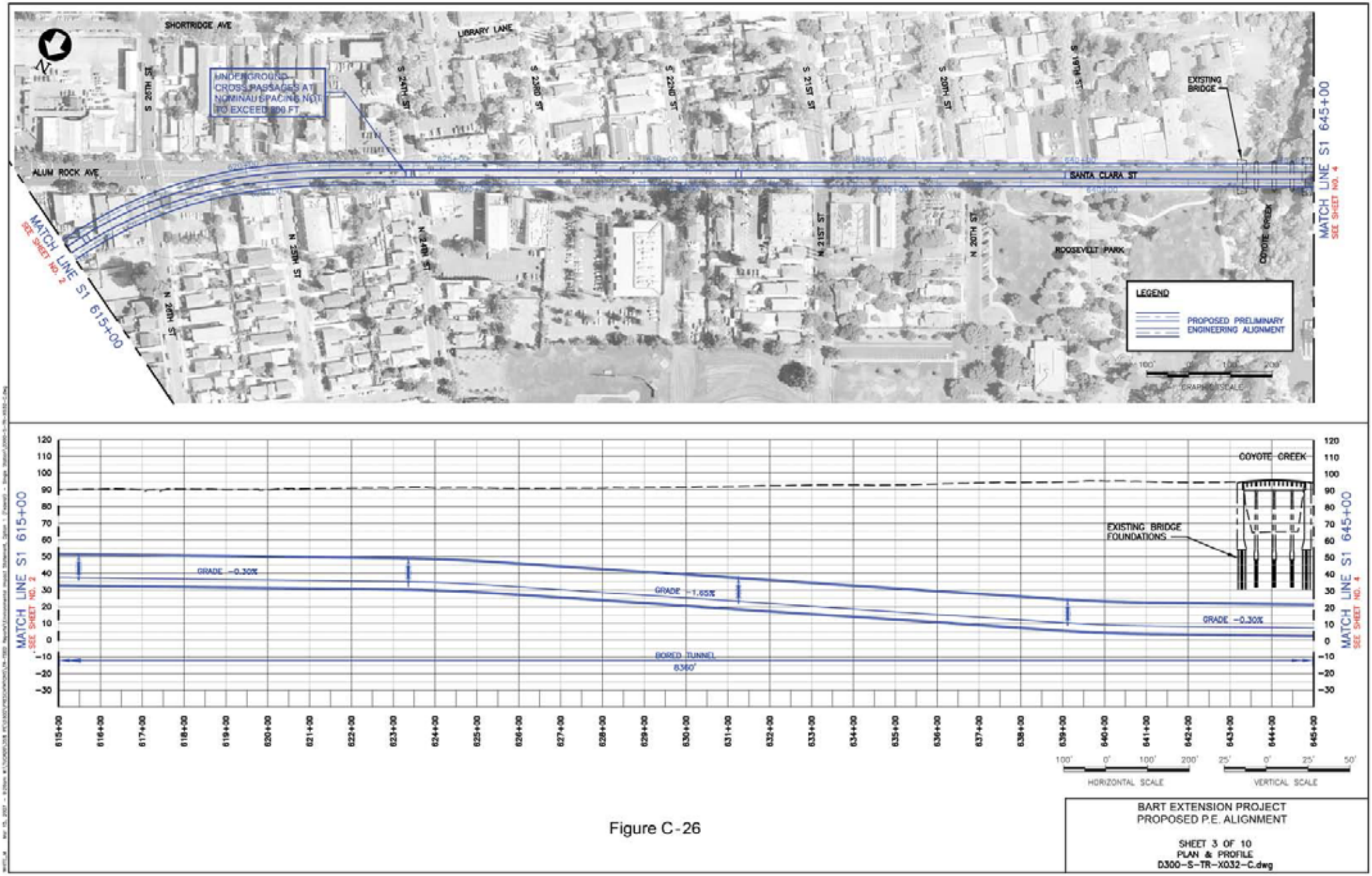


Figure C-26

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

SHEET 3 OF 10
PLAN & PROFILE
D300-S-TR-X032-C.dwg

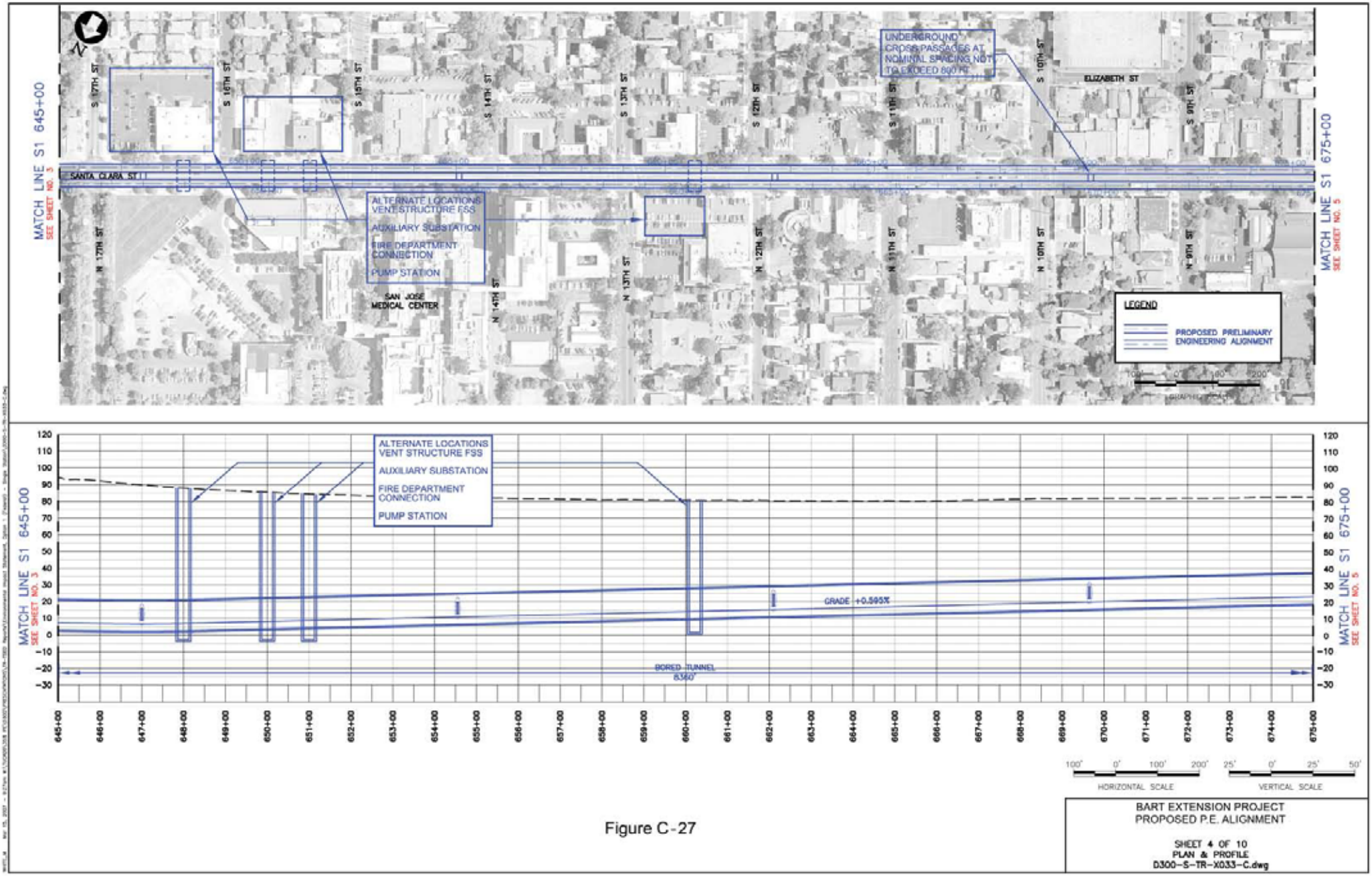


Figure C-27

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

SHEET 4 OF 10
PLAN & PROFILE
D300-S-TR-X033-C.dwg

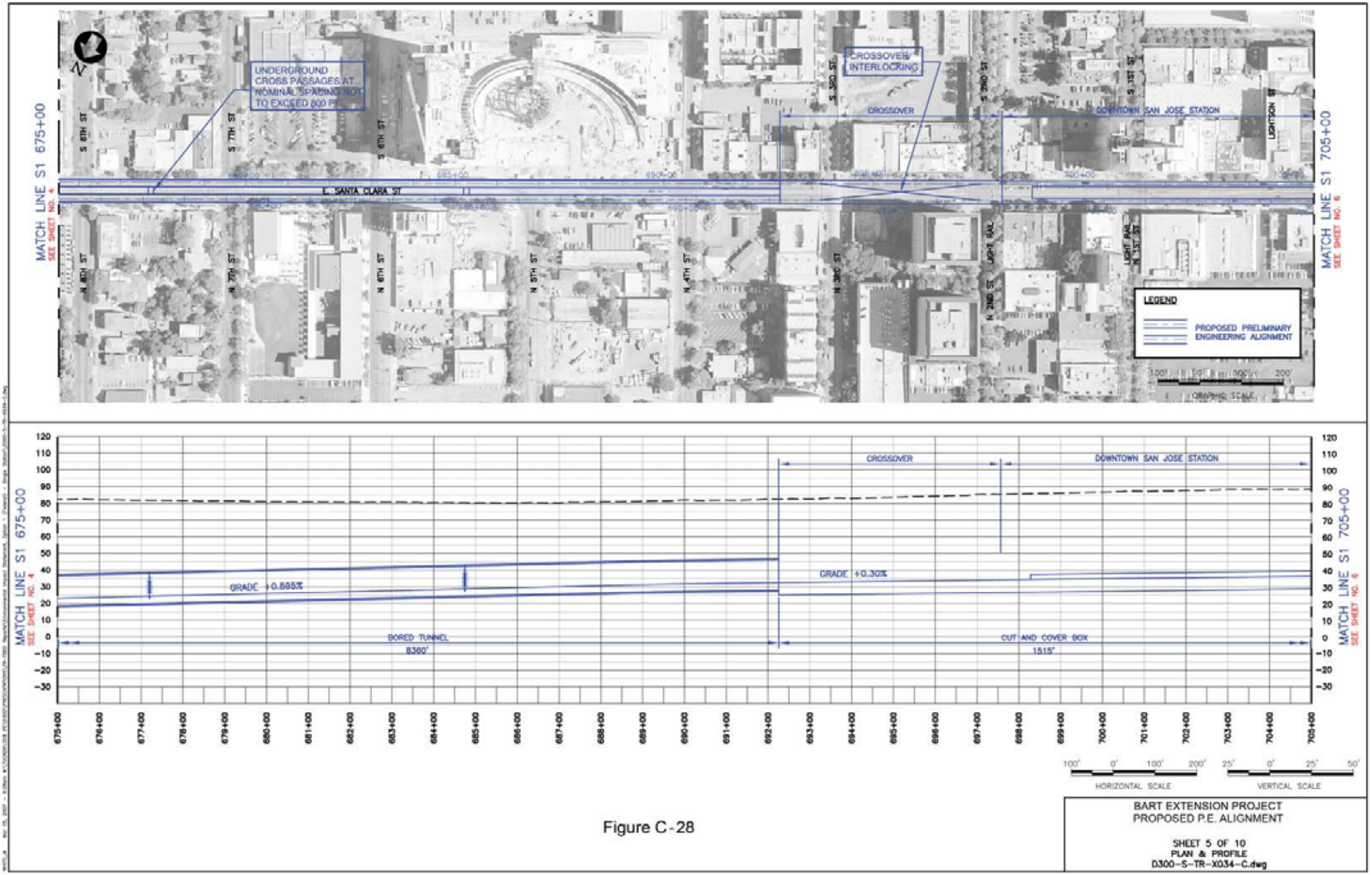


Figure C-28

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

SHEET 5 OF 10
PLAN & PROFILE
D300-S-TR-X034-C.dwg

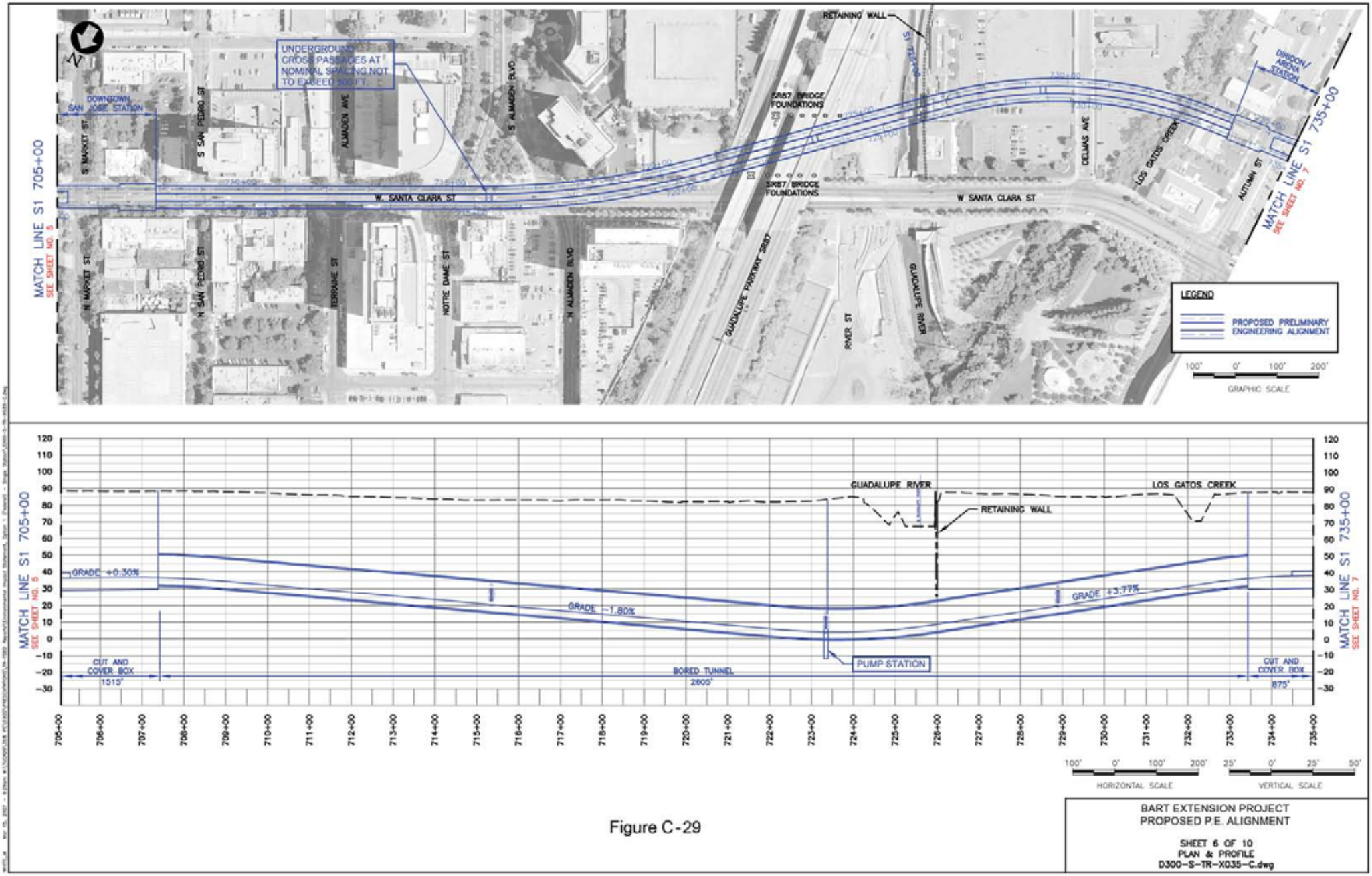


Figure C-29

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

SHEET 6 OF 10
PLAN & PROFILE
D300-S-TR-X035-C.dwg

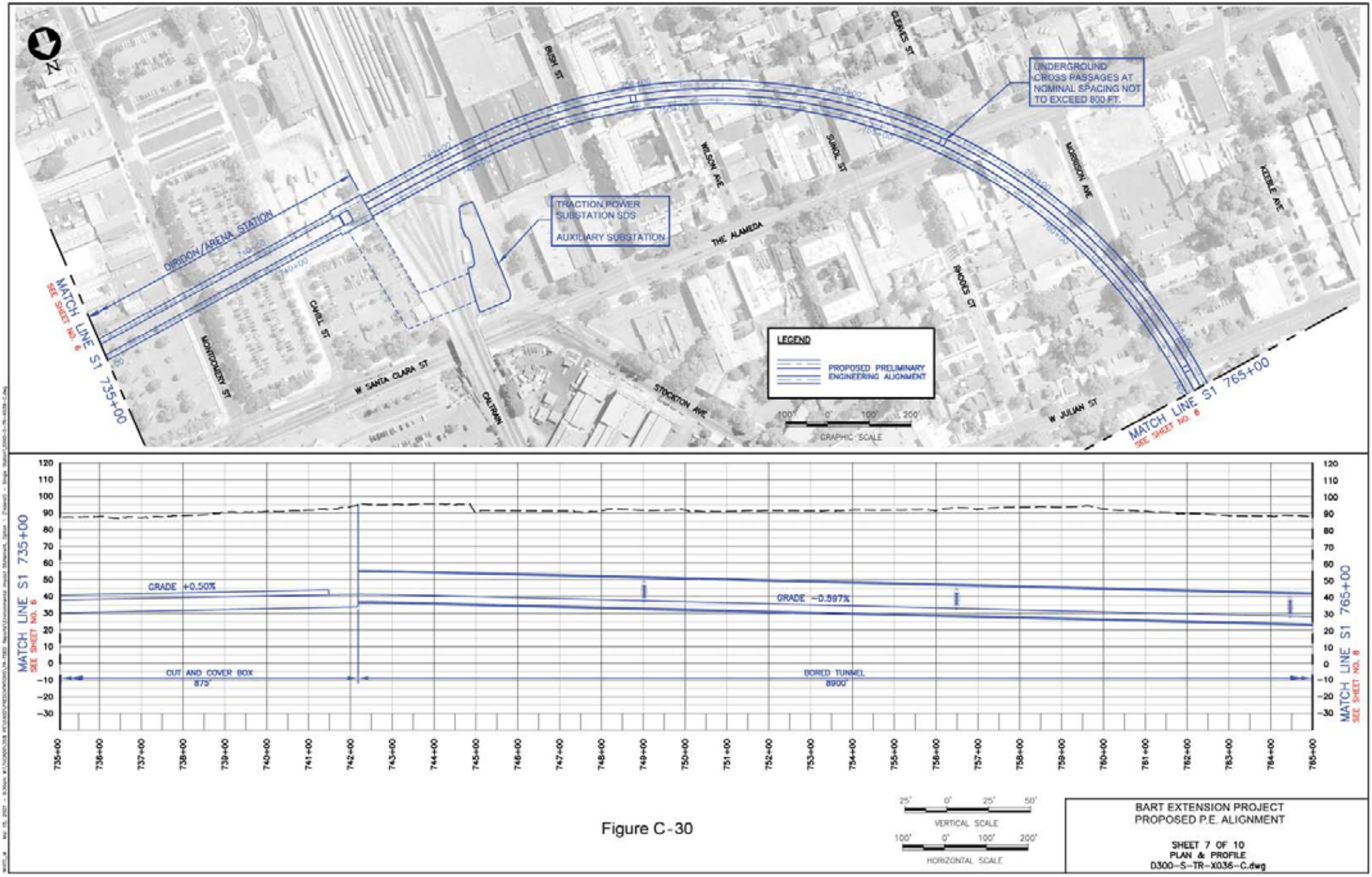


Figure C-30

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

SHEET 7 OF 10
PLAN & PROFILE
D300-S-TR-X036-C.dwg

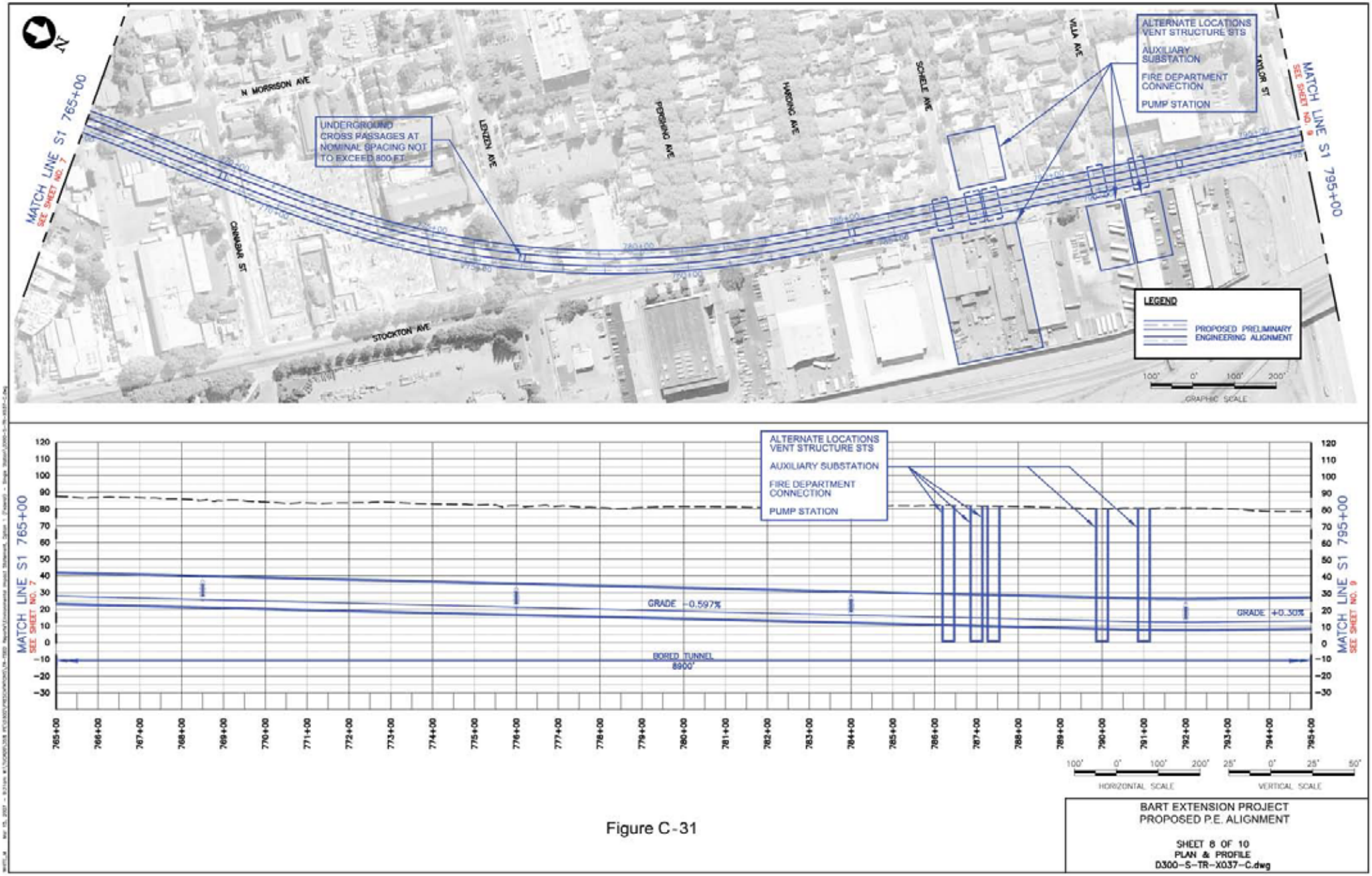


Figure C-31

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

SHEET 8 OF 10
PLAN & PROFILE
D300-S-TR-X037-C.dwg

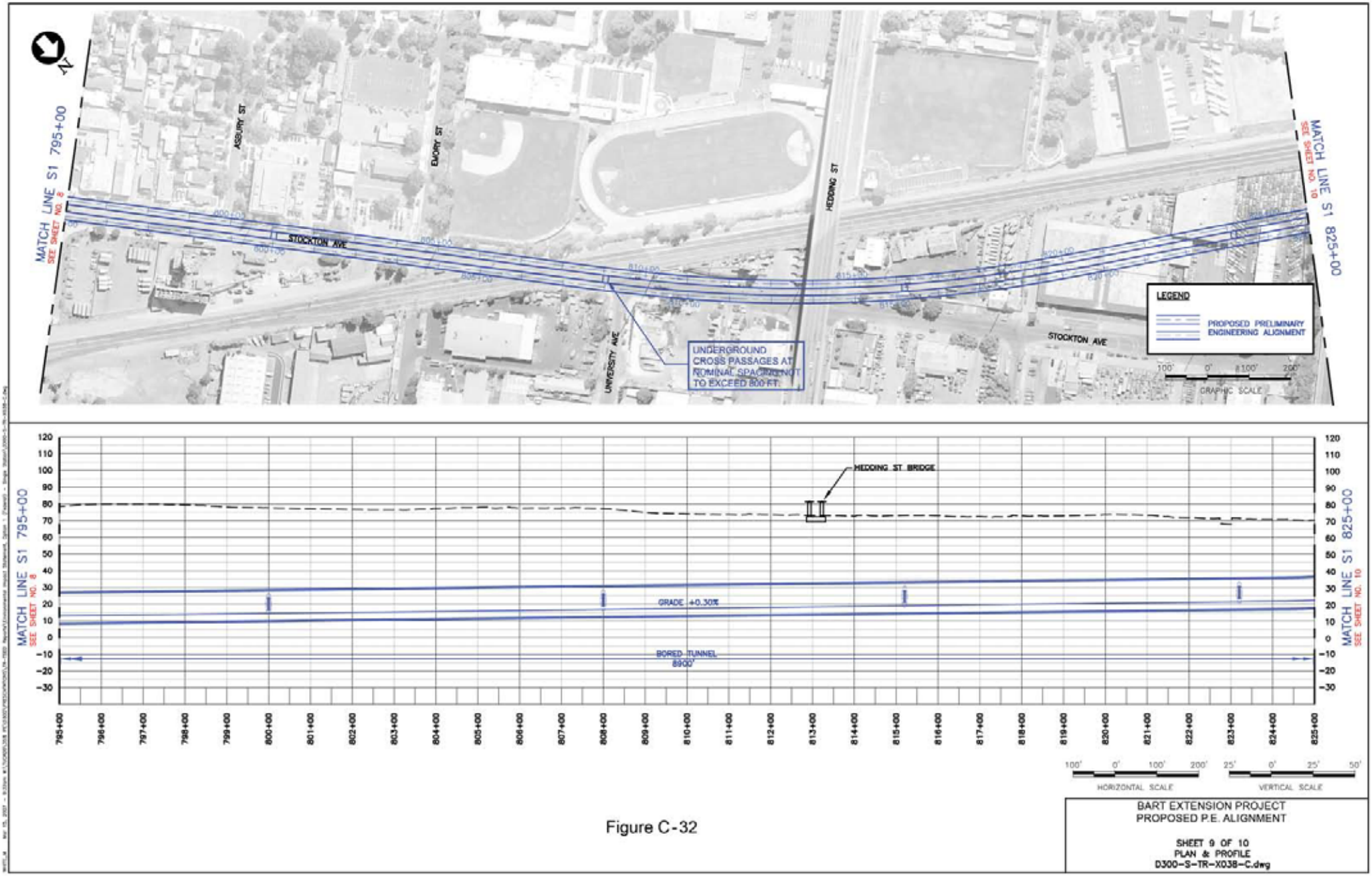
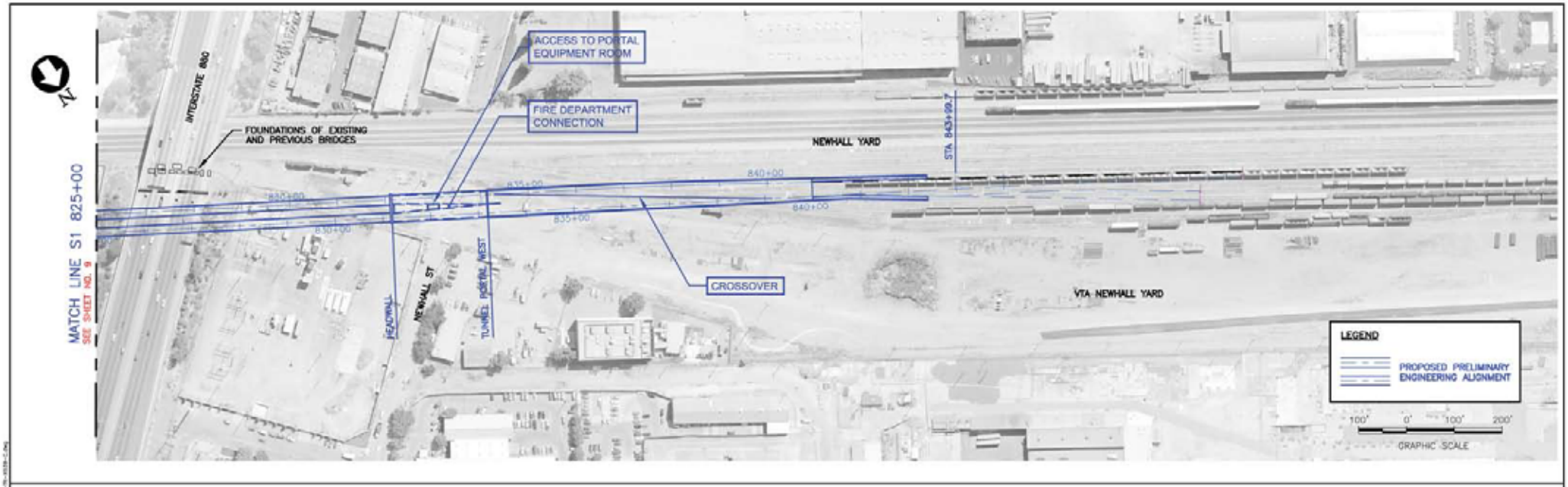
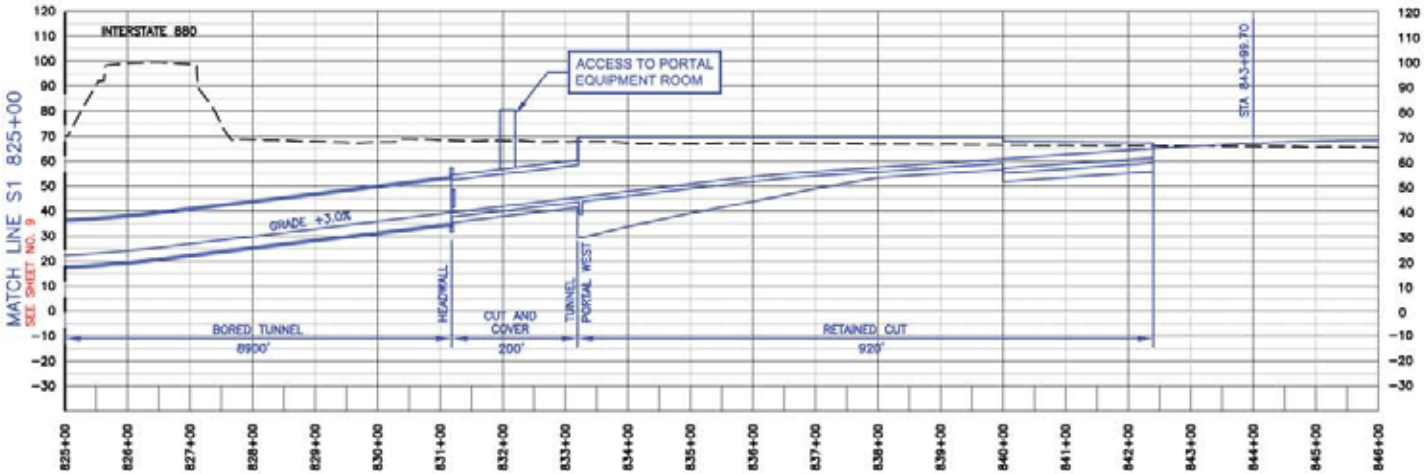


Figure C-32

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

SHEET 9 OF 10
PLAN & PROFILE
D300-S-TR-X038-C.dwg





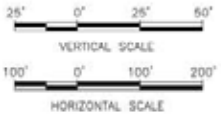
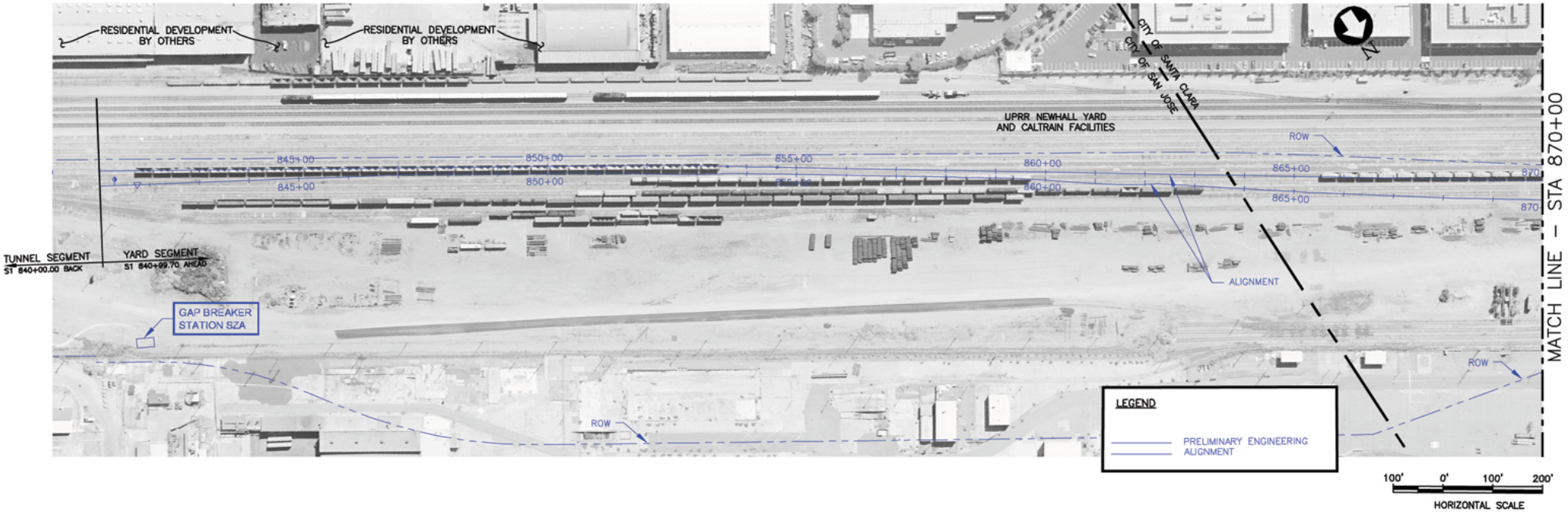
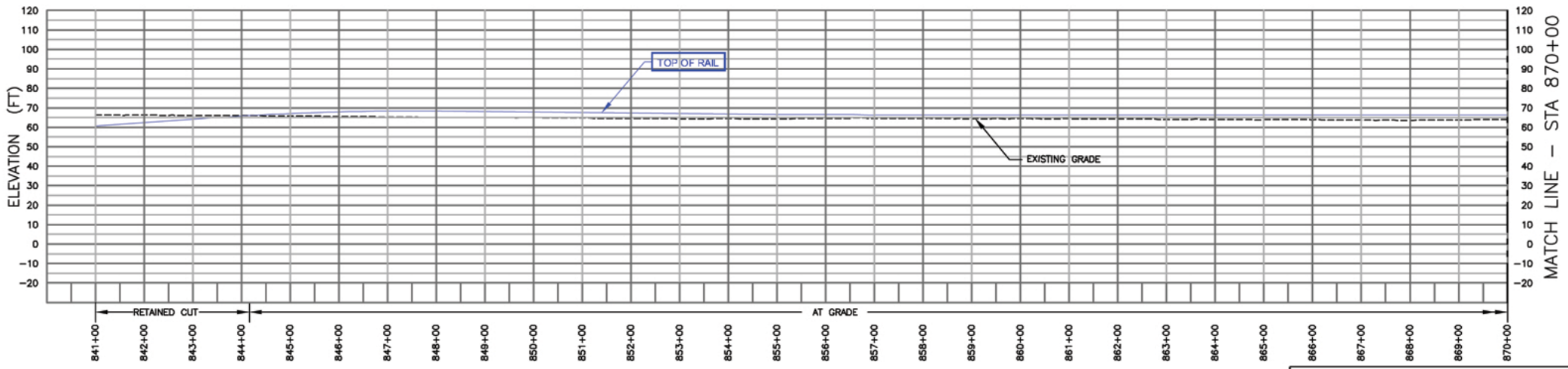


Figure C-33

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

SHEET 10 OF 10
PLAN & PROFILE
D300-S-TR-X039-C.dwg



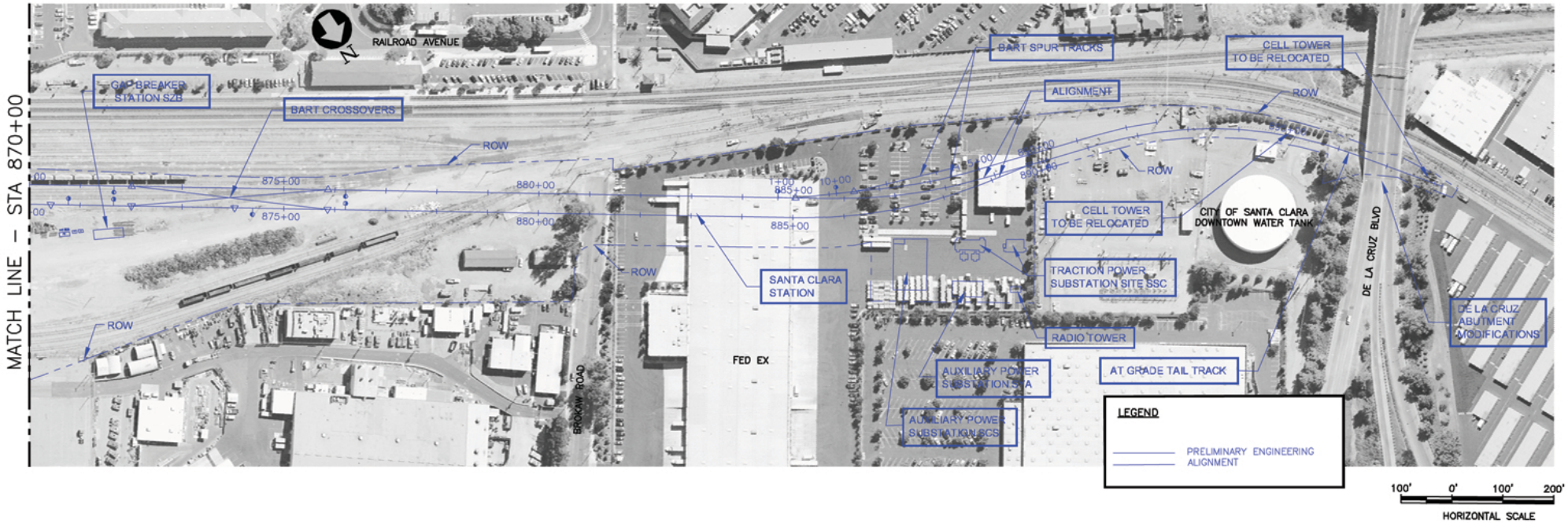


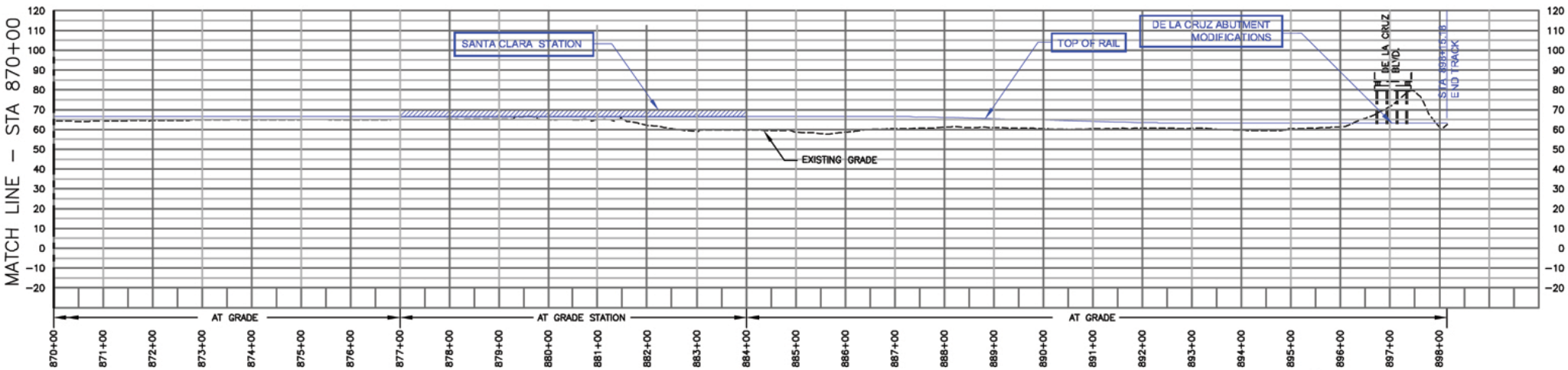
DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-34

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PLAN & PROFILE
STA 840+99.70 TO STA 870+00



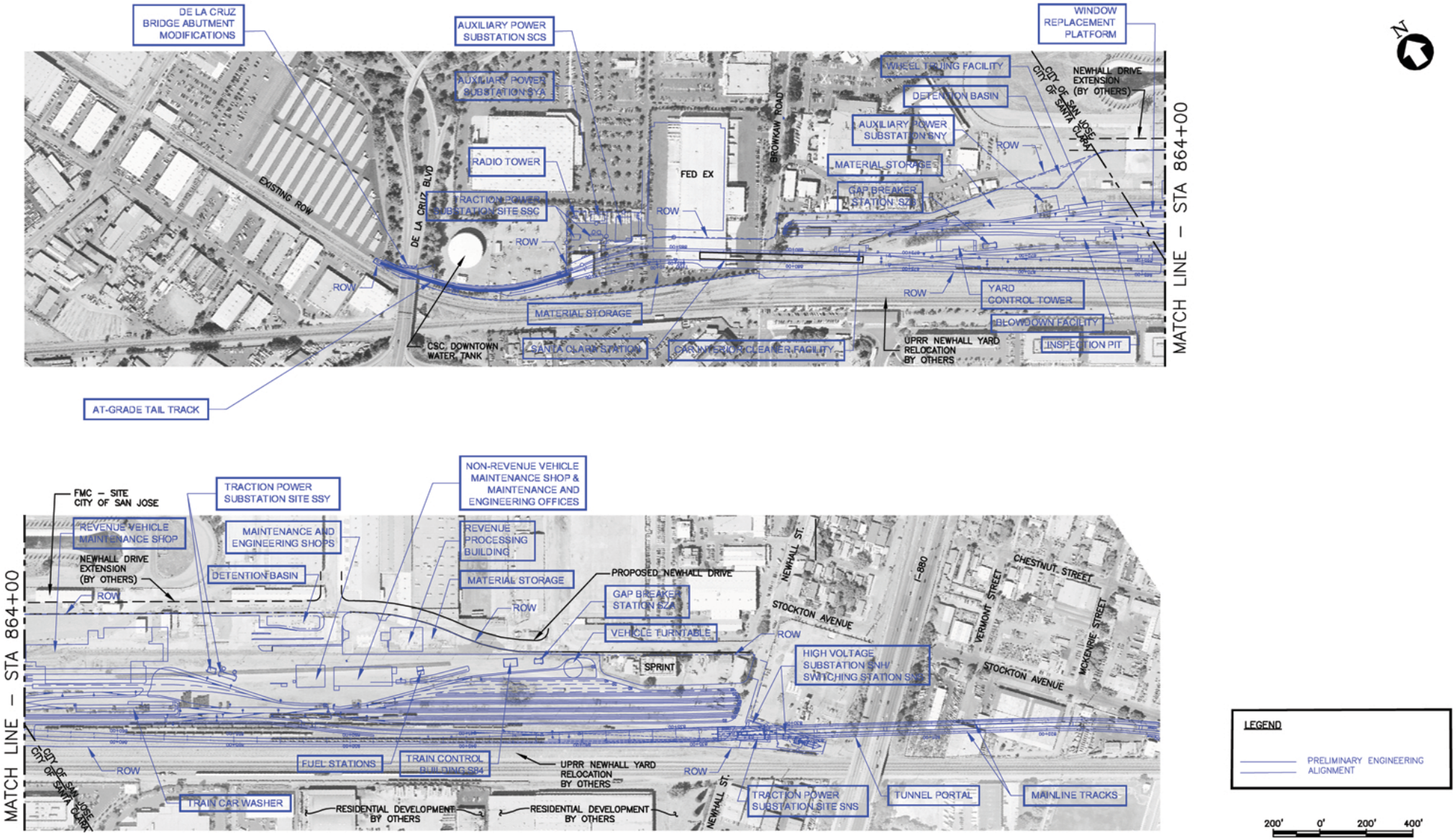


DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

Figure C-35

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT

PLAN & PROFILE
STA 870+00 TO STA 898+15.18



DRAWING IS SCHEMATIC AND FOR ALIGNMENT COMPARISON PURPOSES ONLY.

PRELIMINARY ENGINEERING CONFIGURATION

Figure C-36

BART EXTENSION PROJECT
PROPOSED P.E. ALIGNMENT
SHEET 1 OF 1
BART MAINTENANCE FACILITY LAYOUT