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June 24, 2013

Ms. Cynthia T. Brown
Chief, Section of Administration
Office of Proceedings
Surface Transportation Board
395 E Street SW
Washington, DC 20423

ENTERED
Office of Proceedings
June 24, 2014
Part of
Public Record



Re: STB Finance Docket No. 35724 Sub No. 1, California High-Speed Rail Authority—Construction Exemption—In Fresno, Kings, Tulare, and Kern Counties, California

Dear Ms. Brown:

Enclosed for filing in the above-referenced docket, please find ten copies of California High-Speed Rail Authority's Letter in response to comments received from the BNSF Railway Company.

If you have any questions, please feel free to contact me.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Katherine C. Bourdon".

Katherine C. Bourdon
Attorney for California High-Speed Rail Authority

Enclosures
cc: Parties of Record

June 23, 2014



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Ms. Cynthia Brown
Chief, Section of Administration
Office of Proceedings
Surface Transportation Board
395 E Street SW
Washington, DC 20423

Dear Ms. Brown:

This letter is in response to comments received from the freight railroad BNSF Railway Company (BNSF). The BNSF sent a comment letter on the Fresno to Bakersfield (F-B) Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) to the California High-Speed Rail Authority (CHSRA or Authority), Federal Railroad Administration (FRA), and the Office of Proceedings of the Surface Transportation Board (STB). (Letter from Richard E. Weicher, BNSF to Mark McLoughlin (CHSRA), David Valenstein (FRA), Cynthia Brown (STB) [May 6, 2014].) The letter was received by the Authority on May 7, 2014, after its Board of Directors had certified the environmental document and approved the project from the City of Fresno south to 7th Standard Road outside of the City of Bakersfield. The comments on the Final EIR/EIS are taken into consideration for the decisions by the FRA and STB. The STB Office of Environmental Analysis has informed the Authority that it expects a response to the BNSF to be filed with its Office of Proceedings with a Certificate of Service to the parties of record to the case.

The letter from BNSF also includes comments that are not related to the Final EIR/EIS, but rather on the possible effects that construction and operation of the California High-Speed Train (HST) on BNSF's operations. This letter provides a point by point response to the issues raised by BNSF—both comments on the substance of the analysis contained in the Final EIR/EIS and the non-environmental related comments pertaining to freight rail operations.

Introduction

The Authority and its Program Management Team (PMT) staff have been actively working with both railroads since the approval of the program level environmental document in 2008 by conducting a number of working meetings to address the railroads' concerns. Since 2009, there have been over 20 meetings or telephone calls with representatives of the BNSF Railway. We understand the railroads' need to utilize their full right-of-way width and have the ability to serve their customers. Specifically for the BNSF Railroad, detailed evaluations have been prepared by

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the Authority and shared with BNSF that address adjacency issues, capacity for BNSF to build additional mainline trackage within its right-of-way, and preparation of an adjacent railroad hazard safety analysis. These discussions have included BNSF's desire to not only maintain its existing customer base, but to also have expansion rights on both sides. The evaluations are further described below. These non-environmental issues will be discussed within this letter to document the Authority's commitment to achieve agreement with BNSF where possible.

The potential environmental impacts of the HST project on adjacent freight rail infrastructure is an important issue that has been considered in the Fresno to Bakersfield EIR/EIS. Section 3.2 (Transportation) of the environmental document describes how the HST could affect existing and future freight rail operations. Freight rail noise was included in the calculations of ambient noise conditions in the project study area as part of the analysis of project-related noise impacts to sensitive receptors (Section 3.4 Noise and Vibration). Section 3.5 (Electromagnetic Fields and Electromagnetic Interference (EMF/EMI)) of the environmental document examines potential EMF/EMI impacts of the project to adjacent freight rails and freight rail operations. Project impacts on existing hazardous waste sites involving freight rail facilities are addressed in Section 3.10 (Hazardous Materials and Waste) of the environmental document. Potential accidents involving the HST and trains using adjacent freight rails are evaluated in Section 3.11 (Safety and Security) of the EIR/EIS. Finally, project-related impacts on freight rail facilities that are historic resources are addressed in Section 3.17 (Cultural Resources) of the environmental document. It should be noted that the BNSF Railway did not comment on the Draft EIR/EIS or the Revised Draft EIR/Supplemental Draft EIS during the formal CEQA/NEPA comment periods. The FRA and Authority received comments from BNSF on the Final EIR/EIS after the Authority certified the EIR and adopted the HST project.

BNSF Comment

(1) The FEIR/FEIS does not state where there will be highway-grade separations. CHSRA only recently provided BNSF with a list of locations for proposed grade separations, but the impacts of these have not been assessed.

Response

The Final EIR/EIS addresses proposed roadway grade separations necessary for the high-speed train project. Roadway grade separations are included generally in Chapter 2, and identified specifically in Appendix 2-A and Volume III, Sections C and D. The roadway grade separations are included in the project footprint in Appendix 3.1-A. The project would separate 23 existing at-grade road crossings of the BNSF. The impacts of implementing roadway grade separations are included throughout the Final EIR/EIS (e.g., noise, aesthetics, biological resources, agricultural land, etc.) Mitigation measures for the impacts of these project features are also included in the Final EIR/EIS.

Appendix 2-A and Volume III, Sections C and D were also included in the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) and the Revised Draft EIR/Supplemental EIS included information on the grade separations.

The Final EIR/EIS also addresses the areas where the proposed project would eliminate an existing at-grade road/BNSF railroad crossing. These include five in Fresno County, one in Kings County, and three in Kern County.

The Authority, in good faith, has worked with both BNSF and UPRR over the past few years on the issue of grade separation. Tables of all known interactions with the railroads within the Fresno to Bakersfield (F-B) section, including grade separations, were provided on multiple occasions. Appendix A to this memo includes two map figures that were provided to the BNSF before the Final EIR/EIS was published. One map figure illustrates the BNSF grade separations and the other shows the approximate BNSF relocations. The information presented in these map figures are identical to the project footprint in Appendix 3.1A of the Final EIR/EIS and design in Volume III Sections C and D. Appendix B of this letter is a map book of the design sheets in Volume III of the Final EIR/EIS for project elements that interact with the BNSF railroad.

The highway-grade separations from the freight railroads that will be implemented as a result of the project provide a substantial improvement in the railroads' overall safety, benefitting both the communities and the railroads themselves (see response to comment from Grimmway Farms, comment BO044-18, Volume V, Chapter 40, Response to Comments from Businesses and Organizations Park 2 of 5, and response to comment from Greater Bakersfield Separation of Grade District, comment L022-20, Volume V, Chapter 39, Response to Comments from Local Agencies A-J). As indicated in Section 3.2 (Transportation) of the Final EIR/EIS, grade separation of the freight railroads would enhance the speed and capacity of the freight rail corridor (Impact#10, page 3.2-71). Those areas where the freight railroad will be grade separated from crossing roads will be substantially less expensive for the railroad to maintain than the current condition involving an "at-grade" crossing. In addition, these grade-separated areas will provide a greater level of safety for railroad maintenance workers than the current condition.

BNSF Comment

(2) CHSRA informed BNSF recently that it would likely pass over our property in two places between Fresno to Bakersfield, but they did not provide further information. However, an Appendix to the Final EIS identifies railroad crossings for the various alternatives, and it appears that in fact the proposed high-speed rail line will cross over BNSF in multiple places, many more than two locations. See FEIR/FEIS Appendix 2-B.

Response

The Authority has had many discussions with BNSF regarding locations where the proposed HST crosses the BNSF railroad. The Final EIR/EIS includes the entire project section between the Fresno station and the Bakersfield station and includes five locations where the HST crosses BNSF. The Final EIR/EIS describes the HST crossing of existing railroads in Chapter 2 and also in Appendix 2-B. In addition, the preliminary engineering drawings for Alignment in Volume III, Sections A and B have depicted the crossings of existing railroads. The impacts of implementing the proposed project with the proposed crossing of existing railroads are included throughout the Final EIR/EIS (e.g., noise, aesthetics, biological resources, agricultural land, etc.) Mitigation measures for the impacts of these project features are also included in the Final EIR/EIS.

The overcrossings of the BNSF railroad evaluated in the Final EIR/EIS that were provided in Appendix 2-B and Volume III, Sections A and B were also included in the Draft EIR/EIS and the Revised Draft EIR/Supplemental EIS. The full analysis was included in the previous two iterations of the environmental document.

BNSF Comment

(3) CHSRA recently informed BNSF that it wants to relocate BNSF's right-of-way in three or four locations, but they did not provide detail. There is no agreement in place between BNSF and CHSRA contemplating such use of BNSF's property, and the FEIR/FEIS is notably deficient in addressing the issues and assessing impacts. For example, as part of the Preferred Alternative's route through Fresno, Kings, and Kern counties, the FEIR/FEIS states that BNSF railway tracks will need to be realigned. Specifically, at page 2-64, the EIS states that "[a]pproximately 5.5 miles of BNSF Railway tracks would be realigned ... to accommodate the HST alignment" through Fresno county. Likewise, the FEIR/FEIS states that "[a]pproximately 0.3 mile of BNSF Railway tracks would be realigned" in Kings county, and "[a]pproximately 4 miles of BNSF Railway tracks would be realigned" in Kern county. See FEIR/FEIS, at pages 2-64 to 2-65. The Alignment Plans provided in Volume III of the FEIR/FEIS appear to identify the location of some of these proposed realignments. See e.g., Appendix 3.1-A, at 91. At no point, however, does the FEIR/FEIS in Chapters 3.2 or 3.13 (those relevant to land use and transportation impacts) assess the impacts associated with the proposed realignment, including the timing/procedures to relocate the tracks and/or the impacts to BNSF's freight rail service as a result of re-location activities.

Response

The proposed relocations of BNSF track within the Fresno to Bakersfield section are described in Chapter 2, and depicted in Volume III, Sections A and B of the Final EIR/EIS. The Authority, in good faith, has worked with BNSF over the past few years on this issue. Tables of all known interactions with the railroads within the F-B section, including BNSF relocations, were provided on multiple occasions.

A description of where the HST alignment would interface with the BNSF Railway is provided in the Final EIR/EIS in Section 2.4.2.3 for the BNSF Alternative and in Section 2.4.3 for the other project alignment alternatives. This information was also provided in Chapter 2.0 of the Draft EIR/EIS and Revised Draft EIR/Supplemental Draft EIS. The description of the interface for the Preferred Alternative presented in the Final EIR/EIS in those sections is provided below. Engineering drawings provided in Volume III of the Final EIR/EIS showing these interfaces are provided in Appendix B of this response. Those engineering drawings were also in Volume III of the Draft EIR/EIS and Revised Draft EIR/Supplemental Draft EIS.

- Approximately 5.5 miles of BNSF Railway tracks in Fresno County would be realigned from approximately East Sumner Avenue to East Huntsman Avenue and from approximately East Rose Avenue to East Kamm Avenue, to accommodate the HST alignment (Drawings CB1790 and CB1792 through CB1798, Appendix B). The alignment would be elevated where it crosses from the western side to the eastern side of the BNSF Railway tracks near East Conejo Avenue (Drawings SV2220 through SV2226, Appendix B). The elevated structure would span approximately 1 mile and would reach a maximum height of approximately 42 feet to the top of the rail as it crosses over the BNSF Railway tracks. The BNSF Railway siding tracks would be reconstructed on the opposite side of the mainline tracks in the vicinity of South Peach Avenue.

- In Kings County, the HST alignment would rejoin the BNSF Railway south of Corcoran, crossing over the BNSF Railway, SR 43, and the Tulare River on an elevated structure. The structure would reach a maximum height of approximately 45 feet to the top of the rail (Drawings SV2490 through SV2497, Appendix B).
- In Tulare County, the HST alignment would be constructed on an elevated structure where it crosses the Stoil railroad spur (Drawings SV1500 through 1507, Appendix B).
- The HST alignment would closely follow the western side of the BNSF Railway corridor in Kern County until just south of Wasco, where it would cross over to the eastern side of the BNSF Railway tracks. Approximately 4 miles of BNSF Railway tracks would be realigned in the vicinity of Fourth Street, from Eighth Street to Poso Avenue, and from Jackson Avenue to Merced Avenue to accommodate the HST alignment (Drawings CB1448, CB1452, CB1453, and CB1455 through 1458, Appendix B). The alignment would continue on the eastern side of the BNSF Railway right-of-way through Shafter and then cross over once more to the western side of the BNSF Railway right-of-way. Approximately 1.5 miles of the BNSF's Lone Star rail spur would be realigned from Riverside Street to south of Burbank Street (Drawing CB1465, Appendix B). The HST alignment would generally follow the BNSF Railway corridor through Bakersfield to the project terminus in the vicinity of Baker Street. Approximately two miles of BNSF Railway tracks would be realigned in Bakersfield from Jomani Drive to Glenn Street to accommodate the HST alignment (Drawings CB0830 through 0835, Appendix B).

The impacts of realigning BNSF tracks and crossing the BNSF right of way were evaluated in the EIR/EIS. These realignments were included in the permanent footprint of the project in the evaluation of project impacts to biological resources, cultural resources, Important Farmland, and land use. Emissions from realigning the BNSF tracks were accounted for in the analysis of project construction impacts. Realignment of the BNSF was also taken into account in evaluating noise and vibration impacts of the project.

The Authority is in the process of negotiating several agreements with BNSF to address the logistical issues for relocation of right-of-way, mitigations and potential impacts from the construction schedule and coordinate efforts between both parties.

BNSF Comment

(4) The FEIR/FEIS has inconsistent information regarding whether the minimum separation between its track and BNSF is 47 feet or 29 feet. Further, the FEIR/FEIS indicates that "[a] 102-foot separation between the centerlines of BNSF Railway and HST tracks is provided wherever feasible and appropriate. In urban areas where a 102-foot separation could result in substantial displacement of businesses, homes, and infrastructure, the separation between the BNSF Railway and the HST was reduced." FEIR/FEIS, at 2-61. The FEIR/FEIS, however, provides no discussion in Chapters 3.2 or 3.13 (those relevant to land use and transportation impacts) regarding potential impacts to BNSF resulting from a minimal separation, including impacts to BNSF's maintenance, use, and operation of its right-of-way as a

result of anything less than a 102-foot separation between the high-speed rail track and BNSF future tracks.

BNSF has explained to CHSRA that in measuring these distances, CHSRA must leave room for BNSF's anticipated future track, meaning that the distances must be measured to the centerline of any future BNSF track. BNSF requires clarification of the diagrams in the FEIR/FEIS that suggest CHSRA's current design plan measures the minimum distances to BNSF's existing track without leaving room for future track to meet increased freight capacity needs. See FEIR/FEIS at 2-62 and 2-63 (Figure 2-32 and Figure 2-33). Further, there are no agreements in place for use of BNSF right-of-way for safety fences, ditches or other improvements associated with the HST project.

Response

BNSF appears to be misreading the EIR/EIS text in 2.4.2.2 on page 2-61 of the Final EIR/EIS. The text states: "For purposes of the EIR/EIS, it is assumed no encroachment on the BNSF right-of-way would occur." This section states that the HST design is based on a 102-foot separation of the HST track centerline from the BNSF Railway track centerline (existing or future) where possible. In areas where that separation is not possible, the separation between the HST and BNSF tracks (existing or future) would include swale or berm protection, or an intrusion protection barrier (wall). As clearly shown in Figure 2-32 of the Final EIR/EIS, none of these intrusion protection features would be located within the BNSF Railway right of way. BNSF has informed the Authority that BNSF requires a typical 30-foot offset between BNSF's property lines and BNSF's closest mainline track. This has been taken into account in designing the possible layouts of the HST alignment adjacent to the BNSF right of way as shown in Figure 2-32. Therefore, the HST design takes into account future expansion of BNSF's tracks.

Section 2.4.2.2 goes on to mention that BNSF could become a shared corridor partner which would then mean that the HST could be brought closer to BNSF tracks, assuming the appropriate intrusion protection barrier is provided. The possible configurations of the HST, if there was a shared right of way, are shown in Figure 2-33. However, as stated in the EIR/EIS, a shared corridor is not the design put forth by the Authority or analyzed in the EIR/EIS. The project design has no encroachment of the HST right of way into the BNSF right of way other than where the HST crosses over the BNSF tracks.

The HST right of way does not encroach upon the BNSF right of way. Therefore, the HST project would have no impact on BNSF's maintenance, use, and operation of its right of way. As stated in Section 3.11 (Safety and Security) beginning on page 3.11-30, safety can be achieved where there is sufficient horizontal or vertical separation between HST and freight rail facilities, and/or by use of a physical barrier to separate the facilities. A horizontal separation of approximately 102 feet between the centerlines of adjacent conventional and HST trackways has been determined to be a distance sufficient to require no additional physical protection as mitigation for derailment (FRA 1994). This minimum separation distance includes the distance of the maximum practicable excursion of the longest U.S. freight rail car from the center of track, plus an allowance for overhead catenary system (OCS) masts. A car body length of 89 feet for the freight rail car displacement, plus an allowance of 12.5 feet to include an OCS mast foundation, results in a minimum separation distance, without an intrusion protection barrier, of 101.5 feet, rounded up to 102 feet.

If a railroad line is less than 102 feet from an HST track and both are at ground level, additional physical protection against derailment is required. The need and type of protection is subject to the distance between tracks and the risk of a derailment. Earth berms can be used as intrusion protection for tracks with centerline separation of 45 to 102 feet. A minimum of 29 feet of separation is required between centerlines of HST and adjacent railroad tracks, and this separation requires a physical intrusion barrier. When intrusion protection is needed, the minimum total height must be 10 feet from the ground with a ditch plus berm, concrete wall plus screen, or only a concrete wall.

The guidance for intrusion protection developed by the Authority generally follows the recommended practices described in the American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual and the design standards developed specifically for the construction and operation of HSTs, based on international practices. This includes technical guidance from National French Railways for separation between HST System and roadway infrastructure and International Union of Railways Codes for Structures Built over Railway Lines.

BNSF Comment

(5) BNSF does not know, and CHSRA has not explained in the FEIR/FEIS or elsewhere, what will be done to mitigate the serious problem of potential electromagnetic interference with freight rail signals and PTC. The FEIR/FEIS acknowledges that the operation of the high-speed rail will interfere with signals on adjacent freight rail lines. The document, however, makes no mention of PTC. Clearly, further study is needed to determine the impact on PTC.

The FEIR/FEIS concludes that there will be no impact to freight rail signals, apparently because modifications will be made to freight assets to prevent interference. The FEIR/FEIS states that the "project design includes working with the engineering department of freight railroads that parallel the HST line to apply the standard design practices that a nonelectric railroad must use when electric power lines or an electric railroad are installed adjacent to its tracks." See FEIR/FEIS at 3.5-20. These practices include "the application of suitable design provisions on the adjoining rail lines to prevent interference" and "often include replacement of specific track circuit types on the adjoining rail lines with other types developed for operation on or near electric railways or adjacent to parallel utility power lines." See *id.* at 3.5-21. This issue has also been raised in a separate proceeding before the California Public Utilities Commission in comments filed jointly by BNSF and Union Pacific, but the issue should also be addressed in the FEIR/FEIS given the potential impacts to freight rail signal systems. See Joint Comments of Union Pacific Railroad Company and BNSF Railway Company to the Technical Panel Report, Public Utilities Commission of the State of California, Order Instituting Rulemaking Regarding Whether to Adopt, Amend, or Repeal Regulations Governing Safety Standards for the Use of 25kV Electric Lines to Power High Speed Trains, R.13-03-0009 (filed Jan. 31, 2014).

The electromagnetic interference issues impact a significant amount of BNSF track. The FEIR/FEIS states that the proposed high-speed rail line would be at grade and close to BNSF track for approximately 60 miles in the BNSF Alternative. The FEIR/FEIS, however, does not specify the number of miles of high-speed track that would be at-grade and adjacent to BNSF's track for the Preferred Alternative. Further assessment is needed.

Response

While the introduction of EMF/EMI may be new to some locations within this corridor, EMF/EMI issues are not new to railroads. There is a long history of preventing EMF/EMI issues and correcting them if they do present conflicts. The Authority is committed to ensure that the HST system provides safe and dependable service and minimizes impacts to third-party facilities and systems. The Authority will find solutions for preventing EMF/EMI issues consistent with best available industry practice.

The Final EIR/EIS fully addresses the EMF/EMI concerns expressed in the BNSF letter. BNSF may have misread parts of the Final FEIR/FEIS.

- The Final EIR/EIS does not state that “the operation of the high-speed rail will interfere with signals on adjacent freight rail lines” as BNSF wrote in their letter. Instead, the Final EIR/EIS page 3.5-19 states: “Operation of the HST System could affect the signaling systems along these existing track lengths.” As noted below, mitigations to be jointly implemented with BNSF will preclude these possible effects.
- BNSF wrote “The document [FEIR/FEIS], however, makes no mention of PTC.” The Final EIR/EIS page 3.11-3 states that “The California HST System will incorporate a positive train control system to protect....” Authority design provisions and EMF/EMI mitigations assuring correct operation of the HST PTC will also mitigate possible EMF/EMI effects on adjacent railroads PTC systems.
- BNSF wrote “The FEIR/FEIS, however, does not specify the number of miles of high-speed track that would be at-grade and adjacent to BNSF’s track for the Preferred Alternative. Further assessment is needed.” The Final EIR/EIS Section 7.0 provides an overview and complete details of the Proposed Preferred Alternative alignment, which “extends from Downtown Fresno to Downtown Bakersfield and includes portions of the BNSF Alternative in combination with the Corcoran Bypass, Allensworth Bypass, and Bakersfield Hybrid alternatives (Figure 7-1).” Figure 7-1 shows the precise alignment of all HST sections including those which are adjacent to the BNSF tracks.

The Authority recognizes the potential EMF/EMI effects on third-party facilities and the Authority has planned and will take all necessary steps to mitigate those effects. These steps include design, third party coordination, and construction measures.

Regarding design, as the Final EIR/EIS explains, the HST program will minimize EMI and EMF effects through:

- Proper design and system configuration during the HST system planning and design phases.
- Simulation and calculations that predict the levels of EMI expected to be produced by the HST system, and
- Design optimization to minimize effects on third party facilities and systems.

Regarding coordination, the Final EIR/EIS states that EMI/EMC mitigations will be implemented “in coordination with the affected owner or utility...”

In particular, Final EIR/EIS page 3.5-21 states “The Authority will work with the engineering departments of BNSF Railway, UPRR, and SJVR where these railways parallel the HST to apply the standard design practices to prevent interference with the electronic equipment operated by these railroads. Design provisions to prevent interference would be put in place and determined to be adequately effective prior to the activation of potentially interfering systems of the HST.”

This approach addresses all potentially affected third party facilities and systems, including the PTC systems mandated by the Rail Safety Improvement Act of 2008, with which the Authority must also comply.

Regarding construction, FEIR/FEIS page 3.5-21 states “The Authority will include electromagnetic compatibility requirements and design provisions in the Systems Bid Specifications and Construction Bid Specifications for all system and construction procurements that raise electromagnetic compatibility issues. The Bid Specification Electromagnetic Compatibility Requirements require each affected supplier and contractor to develop, deliver, and follow an EMC Plan; use and document appropriate EMC design guidelines, criteria, and methods in its equipment and construction; perform required EMC analysis and reporting; and perform required EMC testing.”

The Final EIR/EIS sufficiently addresses the issues raised by BNSF.

The Authority EMC Program Plan, TM 300.02 can be found on the Authority website.

The HST will run parallel to the BNSF railroad tracks for approximately 35 miles between Fresno and Bakersfield. This is disclosed fully in the Final EIR/EIS. Of the information that BNSF has requested, all but one item is not specifically called out in the Final EIR/EIS—the BNSF precise property lines. Specific references to the environmental documents are provided below for the other items:

1. Relative location of each of the railroads with respect to the west or east side of the CHSRA’s alignment (provided in Volume III, Section A, Alignment Plans of Final EIR/EIS)
2. Distance between the railroads (centerline of the closest CHSRA track to the BNSF property line and distance to centerline of a proposed BNSF third track—BNSF to provide its property lines)
3. Identify all CHSRA railroad overpass locations (provided in Appendix 2-B and Volume III, Section F, High-Speed Train Structure Plans, Final EIR/EIS)
4. Identify all highway overpass locations (provided in Appendix 2-A and Volume III, Section C Roadway and Grade Separation Plans, Final EIR/EIS)
5. Identify below-grade locations or trenches (provided in Volume III, Section A, Alignment Plans of Final EIR/EIS)
6. Identify all areas where BNSF is to be relocated, limits of relocation, and verification that their full existing property width will remain after relocation (provided in Volume III, Alignment Plans of Final EIR/EIS)
7. Identify any business leads or sidings CHSRA will be severing (provided in Volume III, Alignment Plans of Final EIR/EIS)
8. Identify parcels that CHSRA want to either purchase or acquire easements (provided in Volume II, Appendix 3.1-A of Final EIR/EIS)

9. Identify land use adjacent to the ROW and Zoning (land use designations for station areas are provided in Section 3.13 of Final EIR/EIS)

Preliminary Engineering for all railroad overpasses, grade separations, grade/trench sections, and railroad relocations was provided in Volume III of the Draft EIR/EIS, Revised Draft EIR/Supplemental EIS and Final EIR/EIS. No comments on the preliminary engineering were received from the BNSF Railway during public and agency comment period associated with the Draft EIR/EIS and Revised Draft EIR/Supplemental EIS.

In conclusion, the design practices incorporated into the high-speed train project provide for the further assessment that BNSF suggests is needed, however there is sufficient information and analysis in the Final EIR/EIS to appropriately depict the impact and how it will be avoided.

BNSF Comment

(6) The FEIR/FEIS states that the "HST alternatives would, in some locations, restrict the ability of ... BNSF to construct new spur lines for potential future customers." *Id.* at 3.2-73. The FEIR/FEIS does not assess how many miles would be impacted or the effect of such restrictions. CHSRA recently provided BNSF with information showing at least 44 miles would be impacted, and the FEIR/FEIS stated that the BNSF Alternative would be at-grade for 76 miles. *See id.* at 2-36. Thus, the implications for freight rail service in the area could be considerable, but remain undefined and inadequately assessed in the FEIR/FEIS.

Response

The Final EIR/EIS, Chapter 3.2, identifies the potential for the HST system to restrict BNSF from expanding its business in the future by adding spur lines to potential future customers on the side of its ROW adjacent to the HST system. It cannot be known where the future spurs would be located to serve businesses. It would be speculative to identify a certain number of miles. The document simply discloses this effect because the specific impact cannot be measured or quantified because the location or extent of future spurs is information that is not readily available.

The letter correctly states that the BNSF Alternative described in the Final EIR/EIS would be at grade for 76 miles. The Final EIR/EIS did not, however, identify the BNSF Alternative as the preferred alternative. The 44 miles of BNSF railroad affected was the number of miles that was recently provided to BNSF as the total number of miles affected by the Fresno to Bakersfield Preferred Alternative and the Merced to Fresno (M-F) section combined. The number is significantly less than 76 miles because the F-B Preferred Alternative diverges from the BNSF railroad in Hanford, Corcoran, and Allensworth and there are few adjacency issues in the M-F section. Within the Fresno to Bakersfield section only, the HST is adjacent to BNSF for approximately 35 miles.

BNSF Comment

(7) BNSF understands that CHSRA may ask to purchase BNSF property that is not part of the right-of-way, but BNSF does not know which property CHSRA is considering for purchase. The FEIR/FEIS states that the "HST alternatives will require acquisition of existing freight rail property," but it does not provide any details. FEIR/FEIS at 40-977. Nor does the FEIS/FEIR for either the Fresno-Bakersfield segment or

the Merced-Fresno segment select a preferred alternative for the Heavy Maintenance Facility, even though CHSRA has stated that such a Facility will be located between Merced and Bakersfield. BNSF does not know how this may impact BNSF's freight service or how CHSRA will access the Facility.

Response

This comment is not contained to the Final EIR/EIS. The Final EIR/EIS evaluates the impacts that project construction and operation would have on the environment. The purchase of property for HST ROW is part of the real property acquisition process, which would begin after the Federal Railroad Administration issues a Record of Decision (ROD); that is, after the environmental review has been completed. Since the beginning of the HSR program, impacts on properties and property owners' interests have been considered a point of mutual agreement to be negotiated between the Authority and the property owner in accordance with state and federal laws and regulations. Detailed right-of-way/access analysis will be conducted during the right-of-way appraisal process. Although the HST alternatives will require a combination of real property acquisition of existing freight rail property and easements of a good number of acres, they do not encroach on the freight rail operating corridors. The Authority has committed to not encroaching into freight rail operations. No permanent intrusion into the freight rail corridors is proposed. In the interest of saving time, the Authority has requested Valuation Maps from BNSF many times to better understand ROW acquisition costs. BNSF has just recently allowed the Authority to purchase Valuation Maps between Merced and Bakersfield and the Authority is currently in the process of obtaining electronic copies of these maps.

At this time, the Authority has not identified a preferred Heavy Maintenance Facility (HMF) location. The Authority understands that more specific information or analysis may be needed, to support identification of one or more preferred HMF sites within the Merced to Fresno or Fresno to Bakersfield sections. The need for additional information and/or analysis will be determined when the decision making process for the HMF facility is advanced

Chapter 2 of the Final EIR/EIS identifies and describes each of the five HMF site alternatives and whether reaching the HMF alternative from the HST mainline track would require a crossover with BNSF track. The footprint of both the track alignment for the Preferred Alternative and the HMF site alternatives are shown in Final EIR/EIS, Volume II, "Technical Appendices, 3.1-A Parcels within HST Footprint." The HMF site alternatives are based on proposals submitted to the Authority in response to a Request for Expression of Interest, and involve owners willing to offer their properties for consideration for the HMF facility. While no property owners are identified for any affected parcel on the Appendix 3.1-A maps, Assessor Parcel Numbers are provided if they were publically available. Each parcel owner will be treated equally in accordance with federal and State laws. From Chapter 2 of the Final EIR/EIS, Fresno Works, Kern COG/Wasco, and Shafter East would require overcrossings of BNSF. Kings County-Hanford and Shafter West would not. These overcrossings were evaluated in the Final EIR/EIS and freight operations would not be adversely effected.

BNSF Comment

(8) The FEIR/FEIS states that existing California Amtrak San Joaquin service could operate over the proposed high-speed rail line but does not state where the line would connect with BNSF's line (over

which the California Amtrak San Joaquin service operates) or what portion of such service may operate over the high-speed rail lines. Because BNSF does not know the impact to the San Joaquin service, it does not know how changes to such service would affect BNSF's available capacity. The FEIR/FEIS does not address this issue.

Response

The Authority is not proposing to operate California Amtrak San Joaquin Service. Operation of Amtrak was not part of the project that was proposed in the Final EIR/EIS. A number of comments were received on the Draft EIR/EIS and the Revised Draft EIR/EIS that asked what the impact of operating diesel trains would be on the high-speed rail. To answer the questions a brief analysis was conducted. It was never suggested that the operation of California Amtrak San Joaquin Service was anticipated with approval of the project. The interim use of the high-speed rail by Amtrak would be the purview of the San Joaquin Railroads Joint Power Authority and subject to its own environmental review.

Appendix 2-F of the Final EIR/EIS, "Potential Interim Service on the Initial Construction Segment" describes and analyzes the potential for use of high-speed railroad tracks by the California Amtrak San Joaquin Service. From the appendix:

The interim service, if it operates at all, would involve (for purposes of this analysis) five of the current six daily roundtrip Amtrak San Joaquin trains shifting to/from its current BNSF track just south of the Madera Amtrak station, running on the HST track infrastructure, then shifting back to/from the Initial Construction Segment (ICS) track infrastructure north of Bakersfield generally at the location of the Shafter HMF site. This would be done via cross-over track at these locations that would be constructed within the construction footprint evaluated in the MF EIR/EIS and this FB EIR/EIS.

Figures 1 and 2 at the end of this Appendix 2-F show a plan and profile view of the cross-over track locations. The appendix proceeds to evaluate the potential impacts from providing such service. Categories evaluated were transportation, noise and vibration, air quality, electromagnetic fields and electromagnetic interference, public utilities, biological resources, hydrology and water quality, geology, hazardous materials and wastes, safety and security, socioeconomics, land use and agriculture lands, parks and recreation, aesthetics and cultural resources. No new significant impacts were identified and impacts were not substantially more severe than already disclosed in the analysis.

BNSF Comment

(9) BNSF does not know the extent to which construction would impact BNSF's operations. CHSRA's Draft 2014 Business Plan acknowledges that these costs could be significant. See CHSRA's Draft 2014 Business Plan at 70 ("[T]here may be significant additional costs to the program associated with any disruptions to service experienced by BNSF ... during construction."). The FEIR/FEIS acknowledges that "there is a possibility for disruption to or temporary delay of railroad operations. In particular, impacts to rail operations are expected to occur in downtown Fresno at several railroad crossing locations." FEIR/FEIS 3.2-68. The FEIR/FEIS thus included "[a]voidance and minimization measures for the protection of freight and passenger rail." *Id.* However, the FEIR/FEIS only included a design feature to "repair any structural damage to freight ... railways, and return any damaged sections to their original

structural condition." *See id.* 3.2- 123. The FEIR/FEIS also contemplated "[i]f necessary, during construction, a 'shoofly' track would be constructed to allow existing train lines to bypass any areas closed for construction activities. Upon completion, tracks would be opened and repaired; or new mainline track would be constructed, and the 'shoofly' would be removed." *See id.* There is insufficient information to assess the scope of these impacts and BNSF has not agreed to allow any of these kinds of impacts to its facilities and operations.

Response

Construction impacts on BNSF operations are not an environmental issue that an EIR/EIS should contemplate. The Authority is currently in discussions with BNSF on establishing responsibility for railroad track relocation and construction that includes a mutually acceptable time frame for the construction of new railroad facilities. The appropriate terms will be set forth in the indemnification and insurance language for inclusion in the proposed Engineering, Construction and Maintenance Agreement between BNSF and Authority. It is currently proposed that the Authority will undertake design. The Authority forces, or BNSF forces, or some combination thereof would construct new trackwork, tie-ins to existing railroad tracks and signaling per BNSF standards.

Closing

We believe that this letter fully responds to the comments that BNSF raised about the Final EIR/EIS. We further believe that this letter addresses many of the non-environmental issues raised by BNSF. We hope that this letter documents the Authority's dedication to reach agreement with BNSF to work through its operational concerns. We appreciate STB's consideration of this response to BNSF's comments and hope that it facilitates the Board's deliberations. We look forward to your decision on our matter before you. Please feel free to call Mark A. McLoughlin, Director of Environmental Services at 916- 403-6934 or via email mark.mcloughlin@hsr.ca.gov or me at 916-324-1541 if you would like to discuss.

Sincerely,



Jeff Morales
Chief Executive Officer
California High-Speed Rail Authority

cc: David Valenstein, Federal Railroad Administration
Mark L. McLoughlin, California High-Speed Rail Authority
Bryan Porter, Program Management Team, California High-Speed Rail Authority

Appendices:

A. Information Provided to BNSF

Ms. Cynthia Brown

June 23, 2014

Page 14

B. Map Book of Project Design and BNSF

APPENDIX A

APPENDIX B

CERTIFICATE OF SERVICE

I hereby certify that on June 24, 2014, I served the foregoing California High-Speed Rail Authority's Letter in Response to the BNSF Comments by email in the instances where an email is listed below and otherwise by first-class mail, postage prepaid, upon the following parties of record in this proceeding:

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Fresno, CA 93706

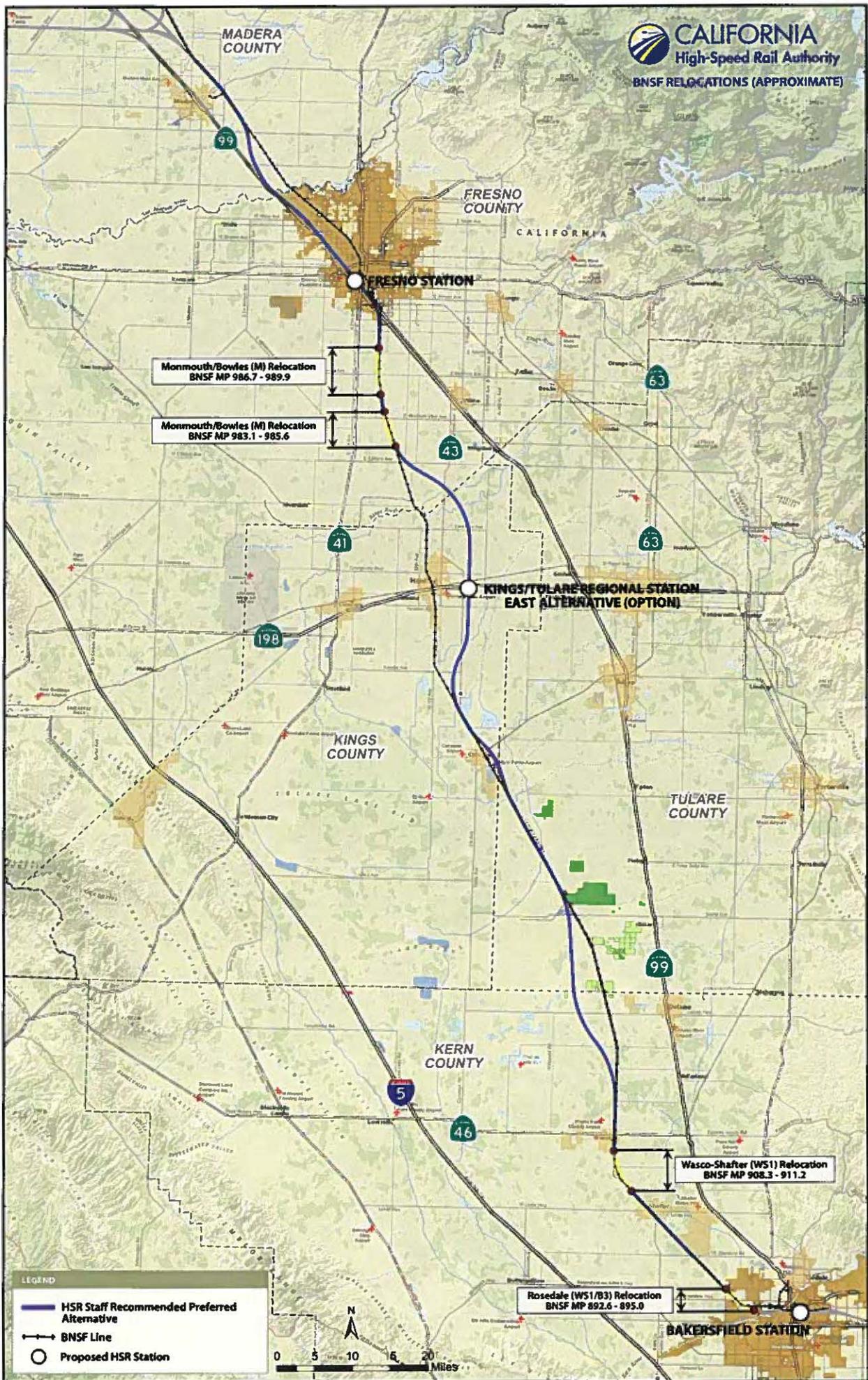
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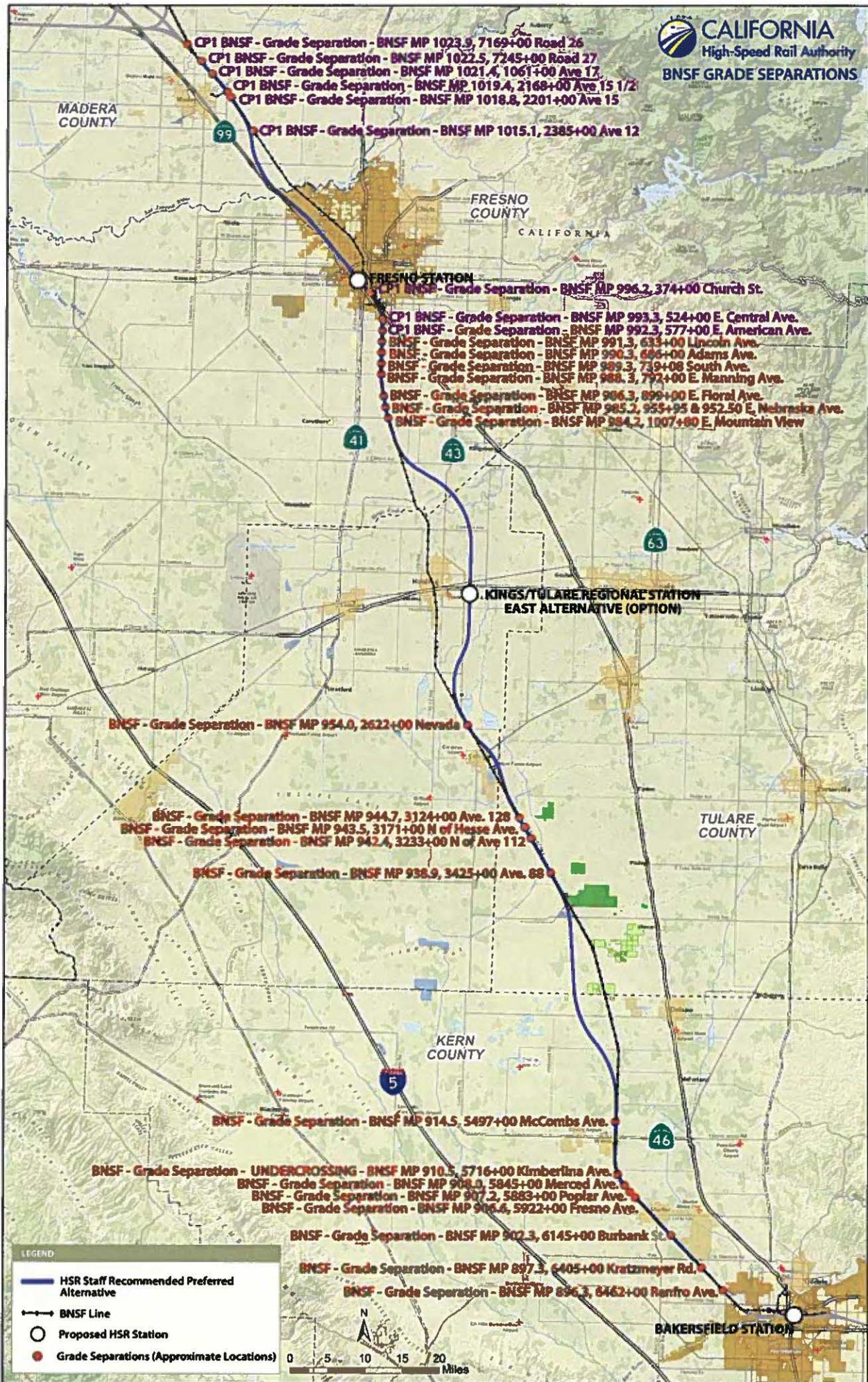
Katherine Bourdon
Counsel for California High-Speed Rail Authority



LEGEND

- HSR Staff Recommended Preferred Alternative
- BNSF Line
- Proposed HSR Station





CP1 BNSF - Grade Separation - BNSF MP 1023.9, 7169+00 Road 26
 CP1 BNSF - Grade Separation - BNSF MP 1022.5, 7245+00 Road 27
 CP1 BNSF - Grade Separation - BNSF MP 1021.4, 1061+00 Ave 17
 CP1 BNSF - Grade Separation - BNSF MP 1019.4, 2168+00 Ave 15 1/2
 CP1 BNSF - Grade Separation - BNSF MP 1018.8, 2201+00 Ave 15
 CP1 BNSF - Grade Separation - BNSF MP 1015.1, 2385+00 Ave 12

FRESNO STATION
 CP1 BNSF - Grade Separation - BNSF MP 996.2, 374+00 Church St.
 CP1 BNSF - Grade Separation - BNSF MP 993.3, 524+00 E. Central Ave.
 CP1 BNSF - Grade Separation - BNSF MP 992.3, 577+00 E. American Ave.
 BNSF - Grade Separation - BNSF MP 991.3, 633+00 Lincoln Ave.
 BNSF - Grade Separation - BNSF MP 990.3, 696+00 Adams Ave.
 BNSF - Grade Separation - BNSF MP 989.3, 739+00 South Ave.
 BNSF - Grade Separation - BNSF MP 988.3, 792+00 E. Manning Ave.
 BNSF - Grade Separation - BNSF MP 986.3, 899+00 E. Floral Ave.
 BNSF - Grade Separation - BNSF MP 985.2, 933+95 & 952.50 E. Nebraska Ave.
 BNSF - Grade Separation - BNSF MP 984.2, 1007+80 E. Mountain View

BNSF - Grade Separation - BNSF MP 954.0, 2622+00 Nevada

BNSF - Grade Separation - BNSF MP 944.7, 3124+00 Ave. 128
 BNSF - Grade Separation - BNSF MP 943.5, 3171+00 N of Hesse Ave.
 BNSF - Grade Separation - BNSF MP 942.4, 3233+00 N of Ave 112

BNSF - Grade Separation - BNSF MP 938.9, 3425+00 Ave. 88

BNSF - Grade Separation - BNSF MP 914.5, 5497+00 McCombs Ave.

BNSF - Grade Separation - UNDERCROSSING - BNSF MP 910.5, 5716+00 Kimberlina Ave.
 BNSF - Grade Separation - BNSF MP 908.0, 5845+00 Merced Ave.
 BNSF - Grade Separation - BNSF MP 907.2, 5883+00 Poplar Ave.
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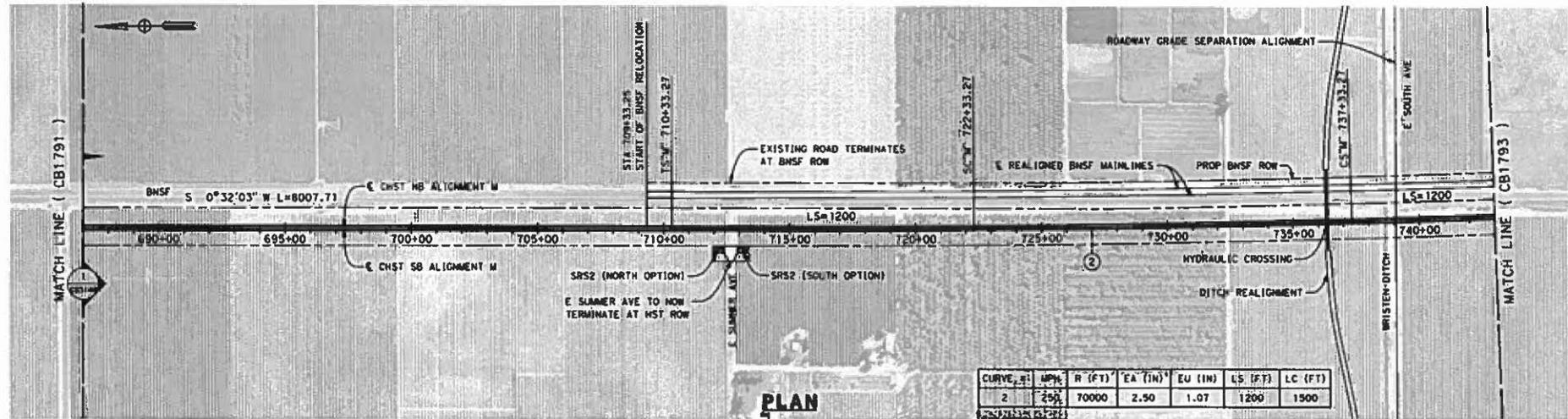
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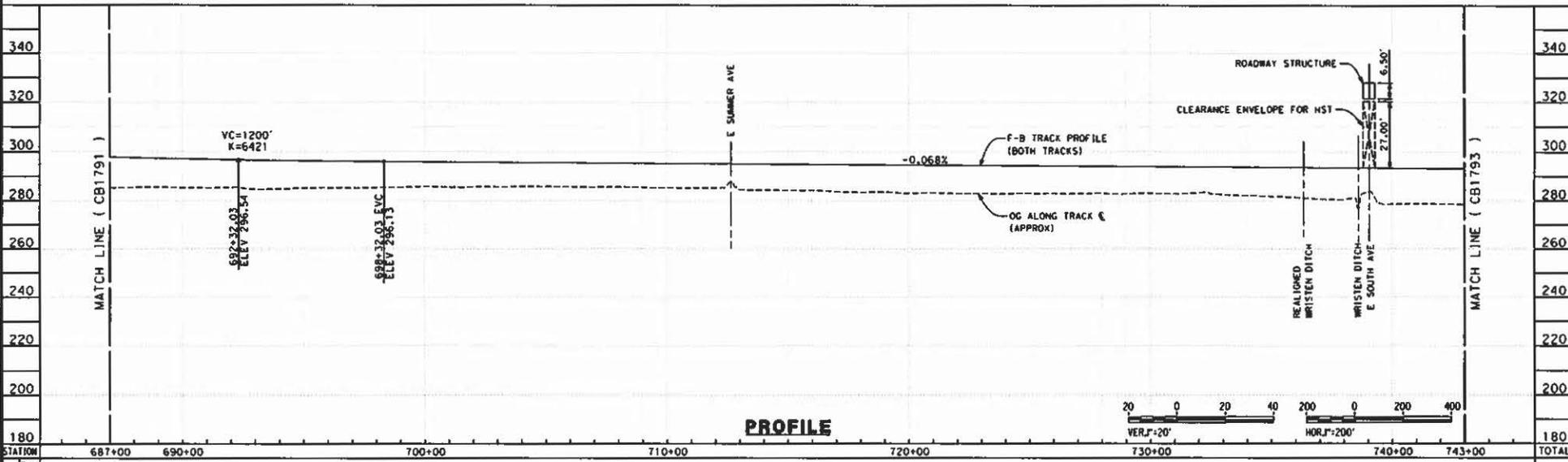
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- HSR Staff Recommended Preferred Alternative
- BNSF Line
- Proposed HSR Station
- Grade Separations (Approximate Locations)

0 5 10 15 20 Miles



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P. TONKIN
 IN CHARGE
E. SETHOUR
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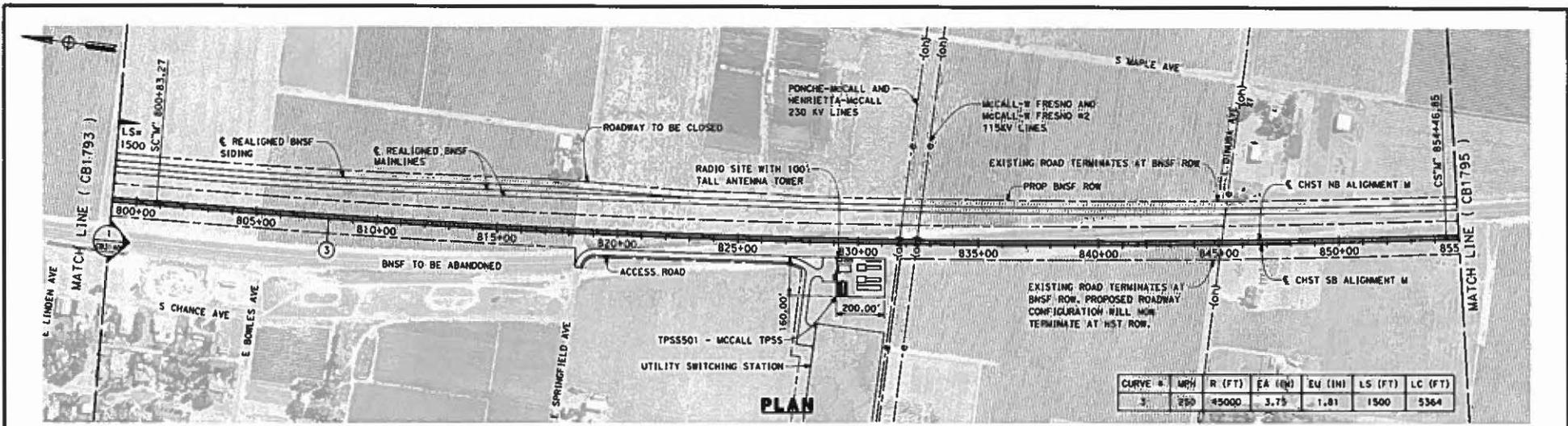
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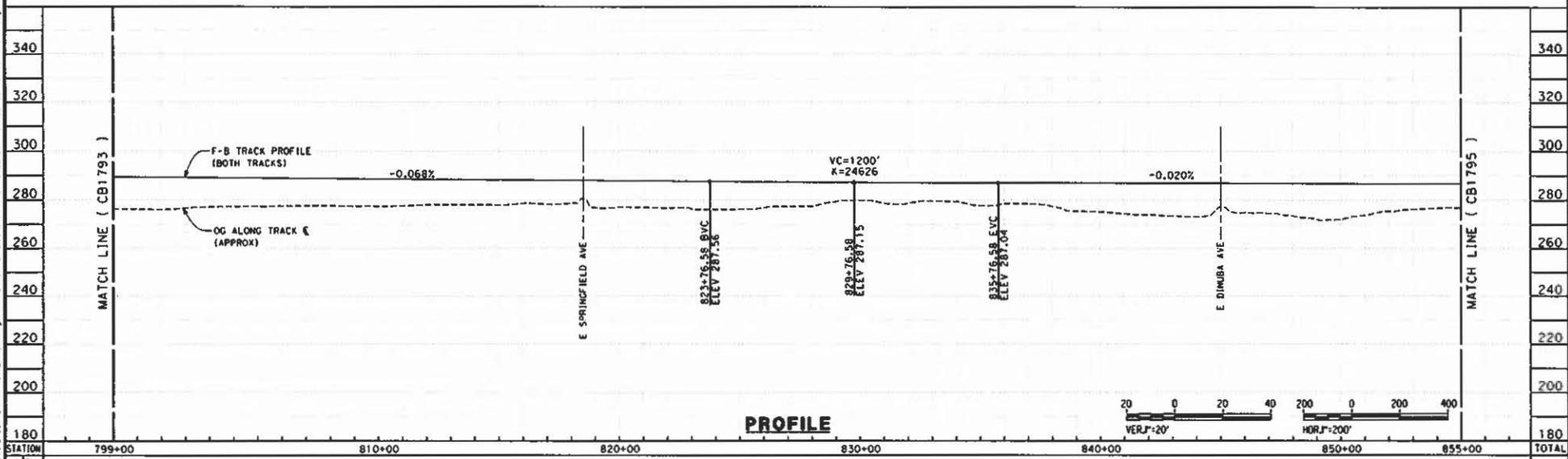
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FRESNO TO BAKERSFIELD
 MONMOUTH SUBSECTION
 ALIGNMENT M
 STA. 687+00 TO 743+00
 PLAN AND PROFILE

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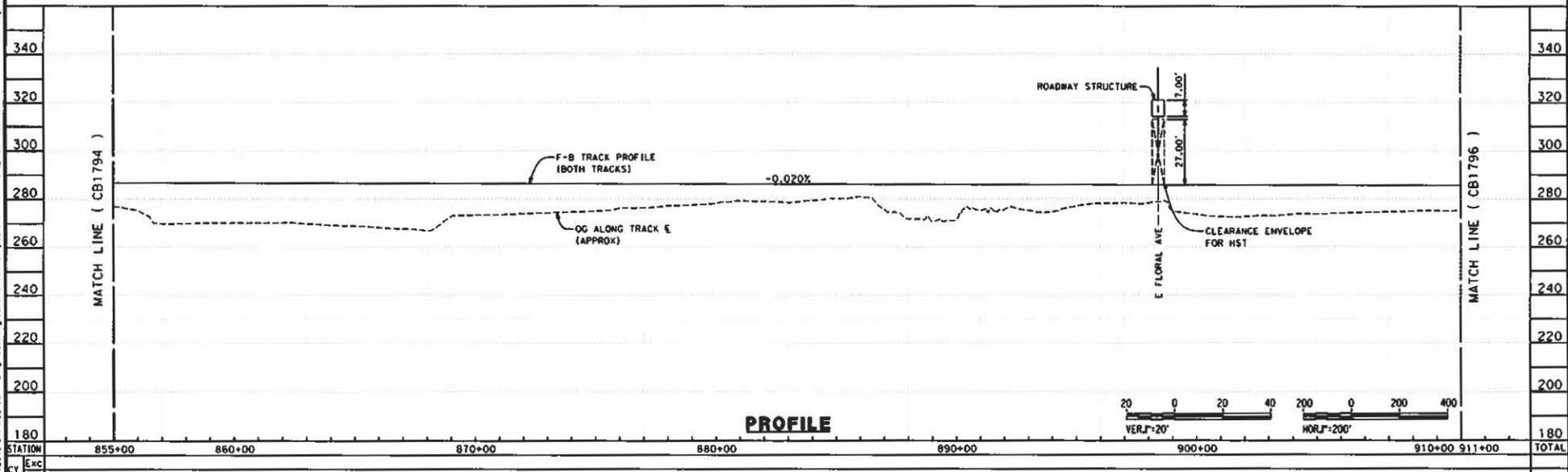
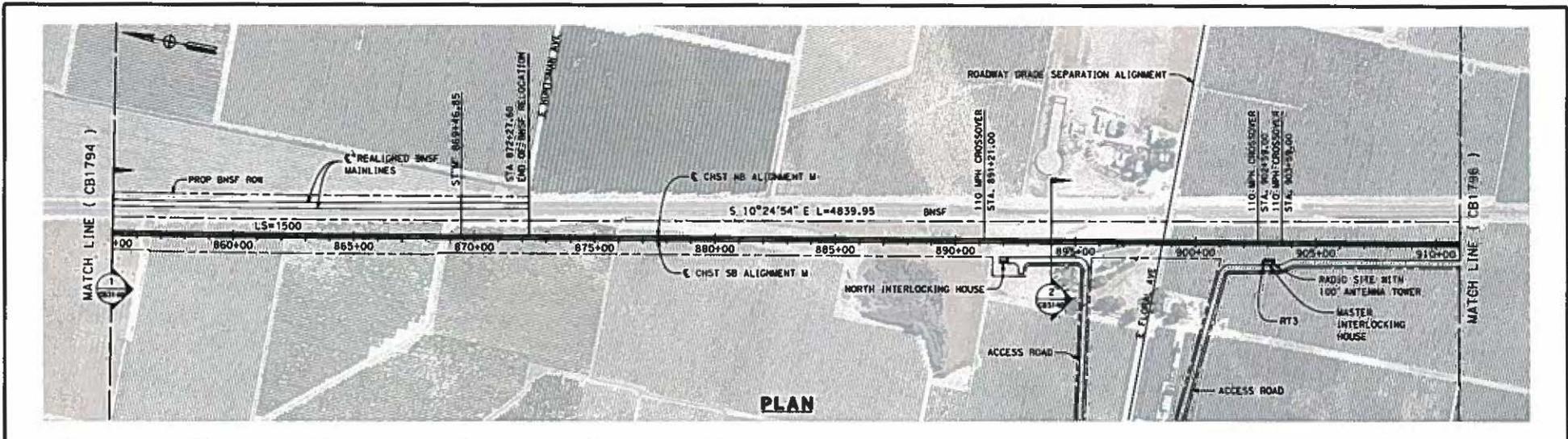
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K. SEYMOUR
 IN CHARGE
R. COFFIN
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 MONMOUTH SUBSECTION
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 STA. 799+00 TO 855+00
 PLAN AND PROFILE

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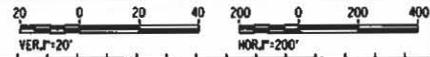
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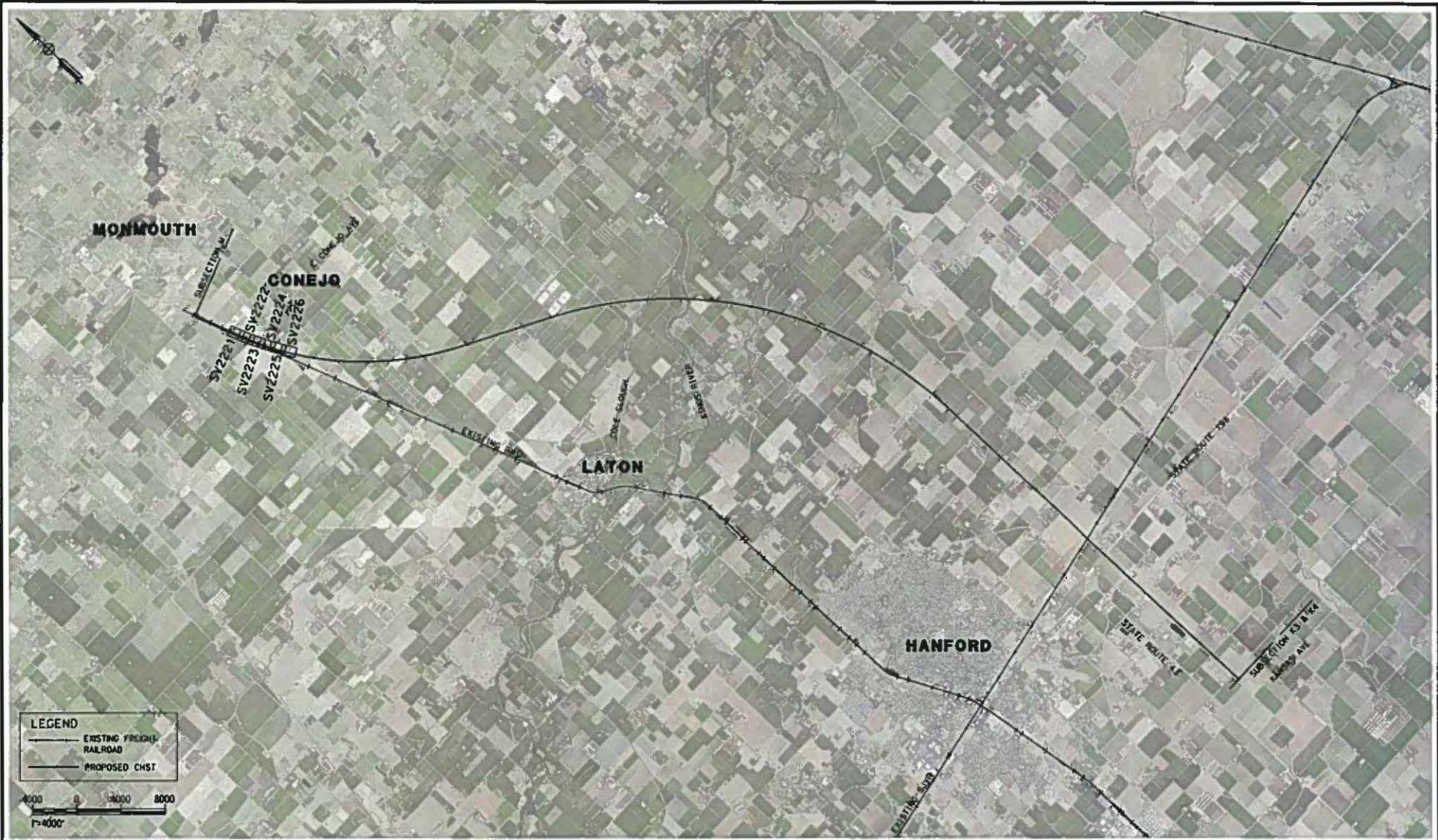
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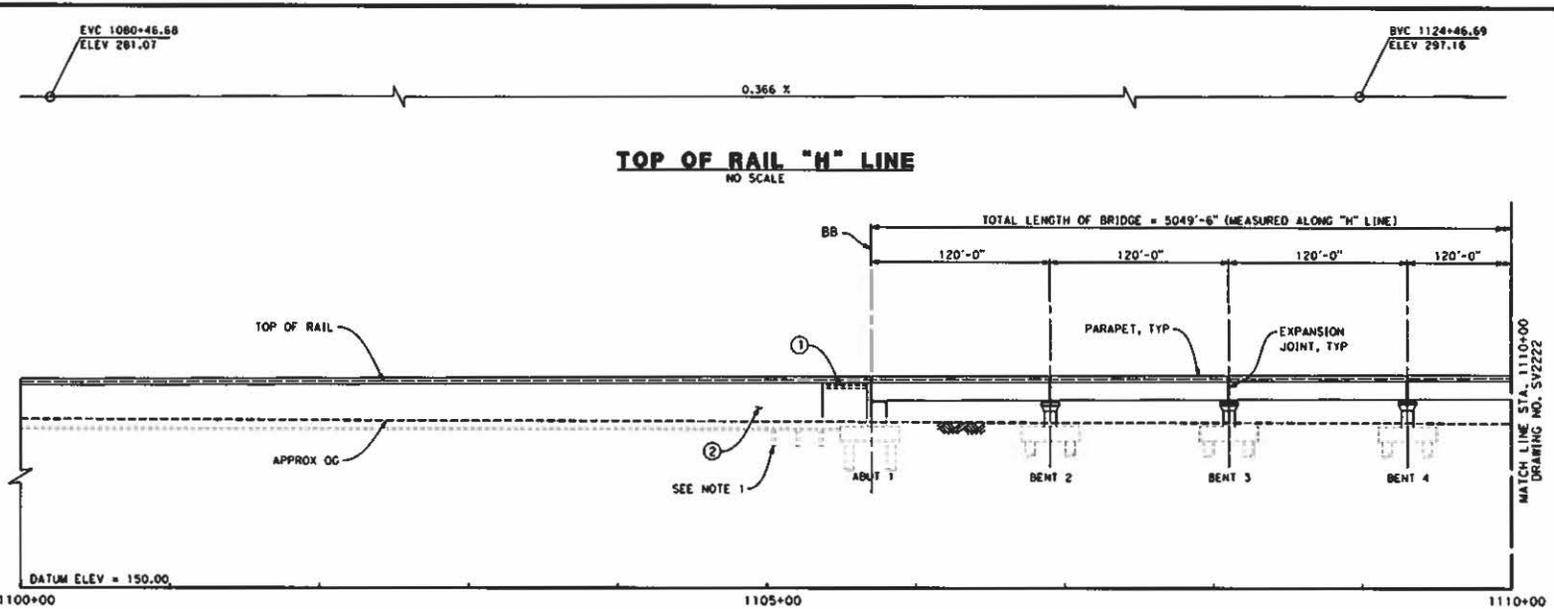
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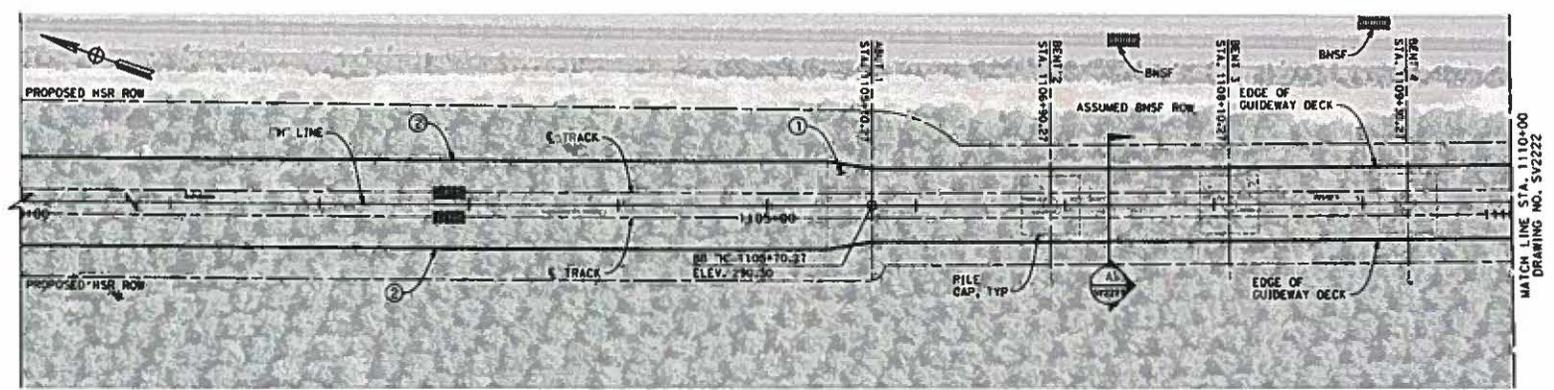


**CALIFORNIA HIGH-SPEED TRAIN PROJECT
 FRESNO TO BAKERSFIELD**
 HANFORD SUBSECTION
 ALIGNMENT H
 CONEJO VIADUCT
 KEY MAP

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 1 OF 8



ELEVATION
SCALE 1" = 40'



PLAN
SCALE 1" = 40'

- NOTES**
1. NOT ALL PILES SHOWN
 2. PILE LENGTH TO BE DETERMINED
 3. SUPERSTRUCTURE CONSTRUCTION, UOH
SIMPLE SPANS - MSS OR FLP
CONTINUOUS SPANS - BCC - PRECAST
IN-SITU
STEEL TRUSS - INSITU, SLID
OR LAUNCHED
ELEVATED SLABS - PC BEAM AND
INSITU SLAB
 4. UTILITY LOCATIONS TO BE DETERMINED
 5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

- LEGEND:**
- ① STRUCTURE APPROACH SLAB
 - ② RETAINING WALL
 - ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".



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Y. REN
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F. PALERMO
DESIGN SUBMITTED BY
A. ARMSTRONG
IN CHARGE
R. COFFIN
DATE
12/31/13

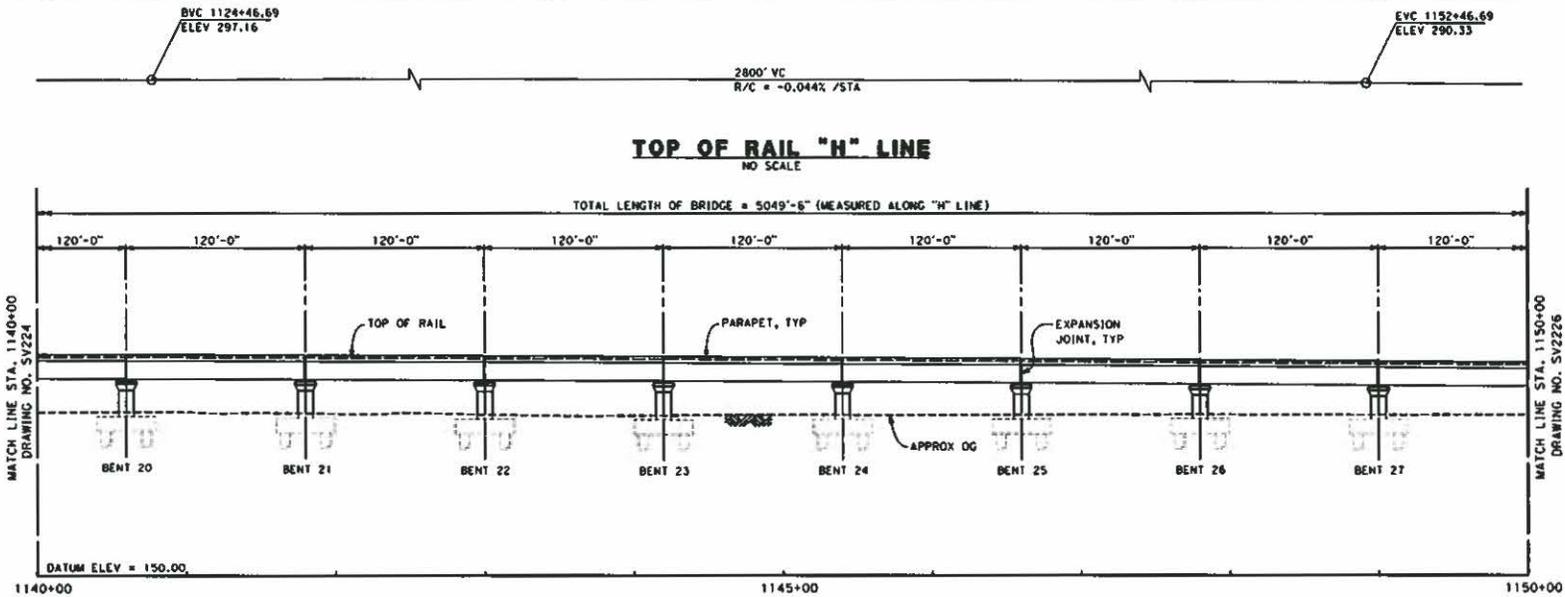
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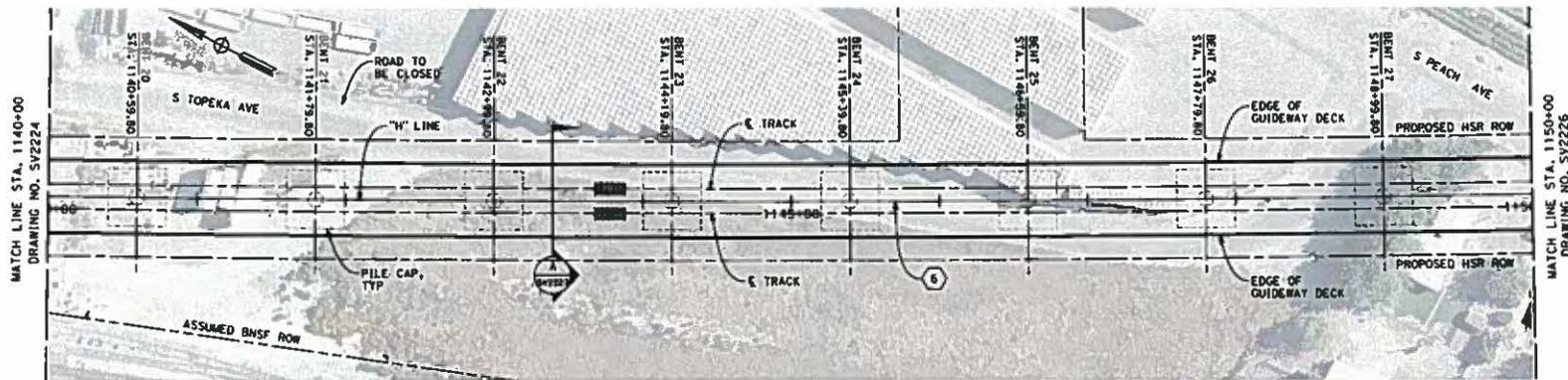
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FRESNO TO BAKERSFIELD
HANFORD SUBSECTION
ALIGNMENT H
CONEJO VIADUCT
PLAN AND ELEVATION

CONTRACT NO.
HSR 06-0003
DRAWING NO.
SV2221
SCALE
AS SHOWN
SHEET NO.
2 OF 8

TOP OF RAIL "H" LINE
NO SCALE



ELEVATION
SCALE 1" = 40'



PLAN
SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UNLESS OTHERWISE NOTED:
SIMPLE SPANS - MSS OR FLPM
CONTINUOUS SPANS - DCC - PRECAST IN-SITU
STEEL TRUSS - INSITU, SLID OR LAUNCHED
ELEVATED SLABS - PC BEAM AND INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

- ① STRUCTURE APPROACH SLAB
- ② RETAINING WALL
- * ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

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T. REN

DRAWN BY
F. PALERMO

CHECKED BY
A. ARMSTRONG

IN CHARGE
R. COFFIN

DATE
12/31/13

RECORD SET SEE
DESIGN SUBMITTALS

**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD

HANFORD SUBSECTION
ALIGNMENT H
CONEJO VIADUCT
PLAN AND ELEVATION

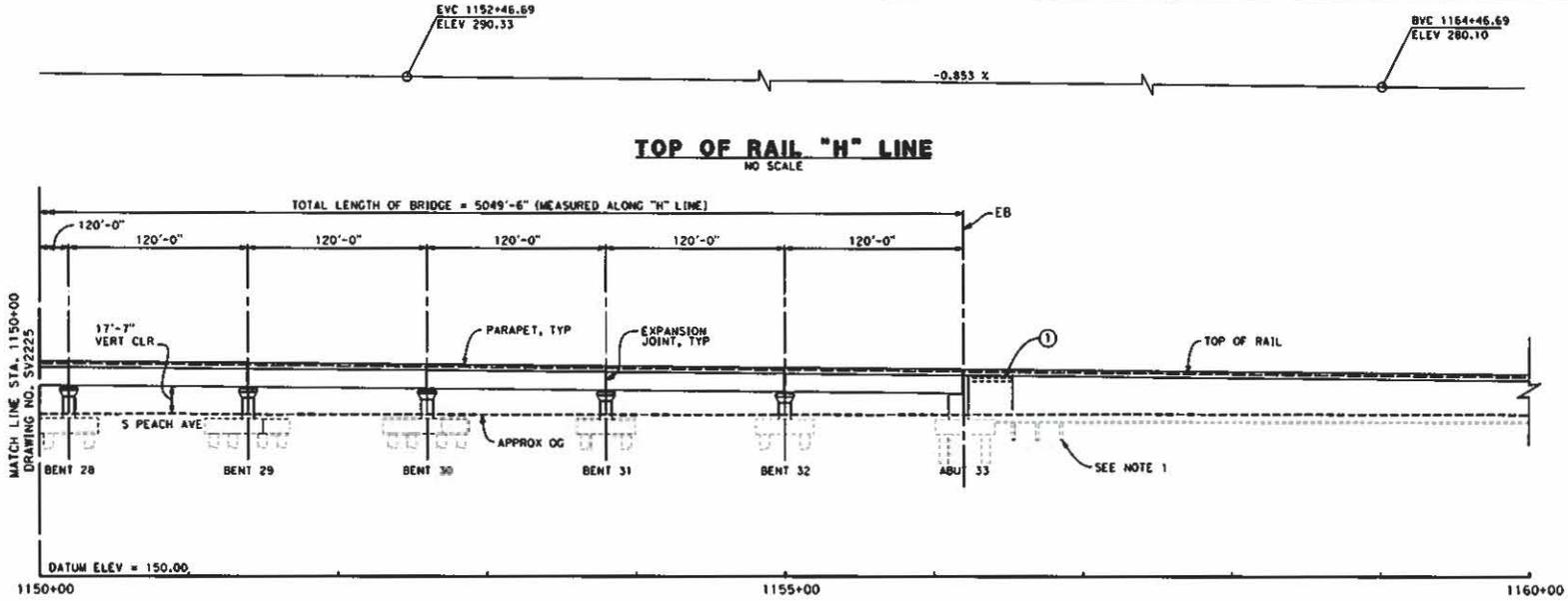
CONTRACT NO.
HSR 06-0003

DRAWING NO.
SV2225

SCALE
AS SHOWN

SHEET NO.
6 OF 8

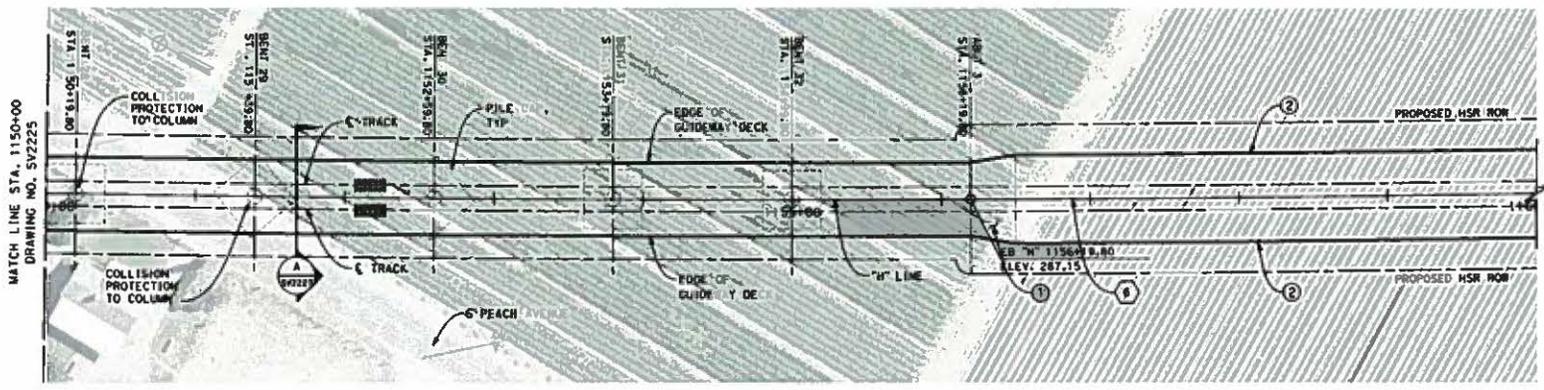
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ELEVATION
SCALE 1" = 40'

- NOTES**
1. NOT ALL PILES SHOWN
 2. PILE LENGTH TO BE DETERMINED
 3. SUPERSTRUCTURE CONSTRUCTION, UON SIMPLE SPANS - MSS OR FLPM CONTINUOUS SPANS - BCC - PRECAST IN-SITU STEEL TRUSS - INSITU, SLID OR LAUNCHED ELEVATED SLABS - PC BEAM AND INSITU SLAB
 4. UTILITY LOCATIONS TO BE DETERMINED
 5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

- LEGEND:**
- ① STRUCTURE APPROACH SLAB
 - ② RETAINING WALL
 - * ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".
- CURVE DATA**
- ⑥
- R = 29000.00'
 $\Delta = 37^\circ 42' 29.3"$
 T = 9903.0'
 L = 19085.8'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
V. REN
 DRAWN BY
F. PALERMO
 CHECKED BY
A. ARMSTRONG
 IN CHARGE
R. COFFIN
 DATE
12/31/13

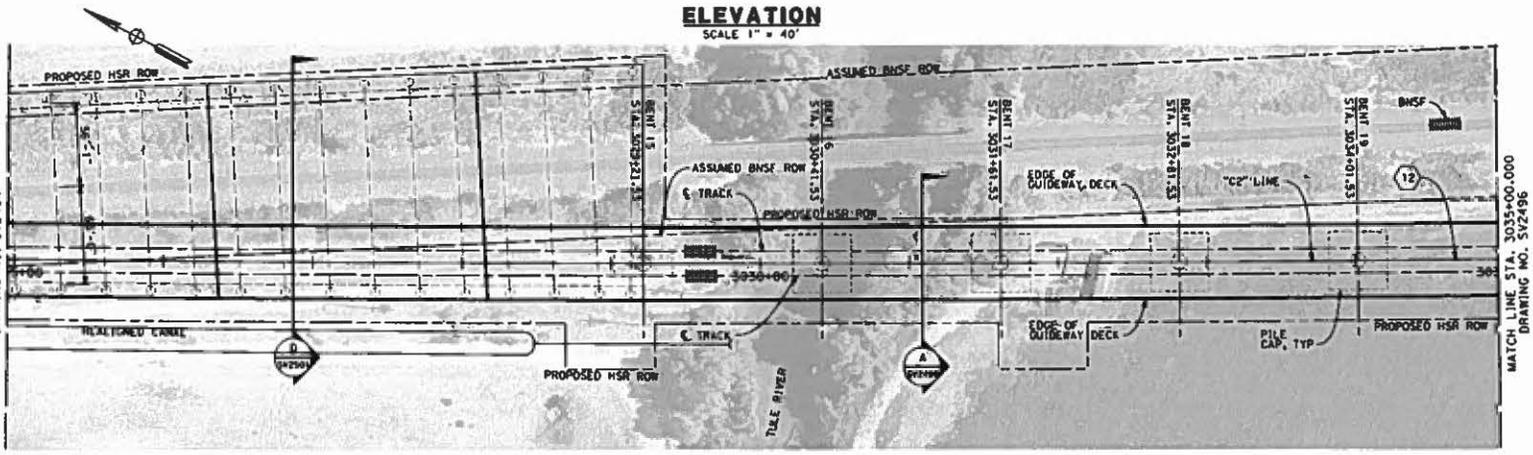
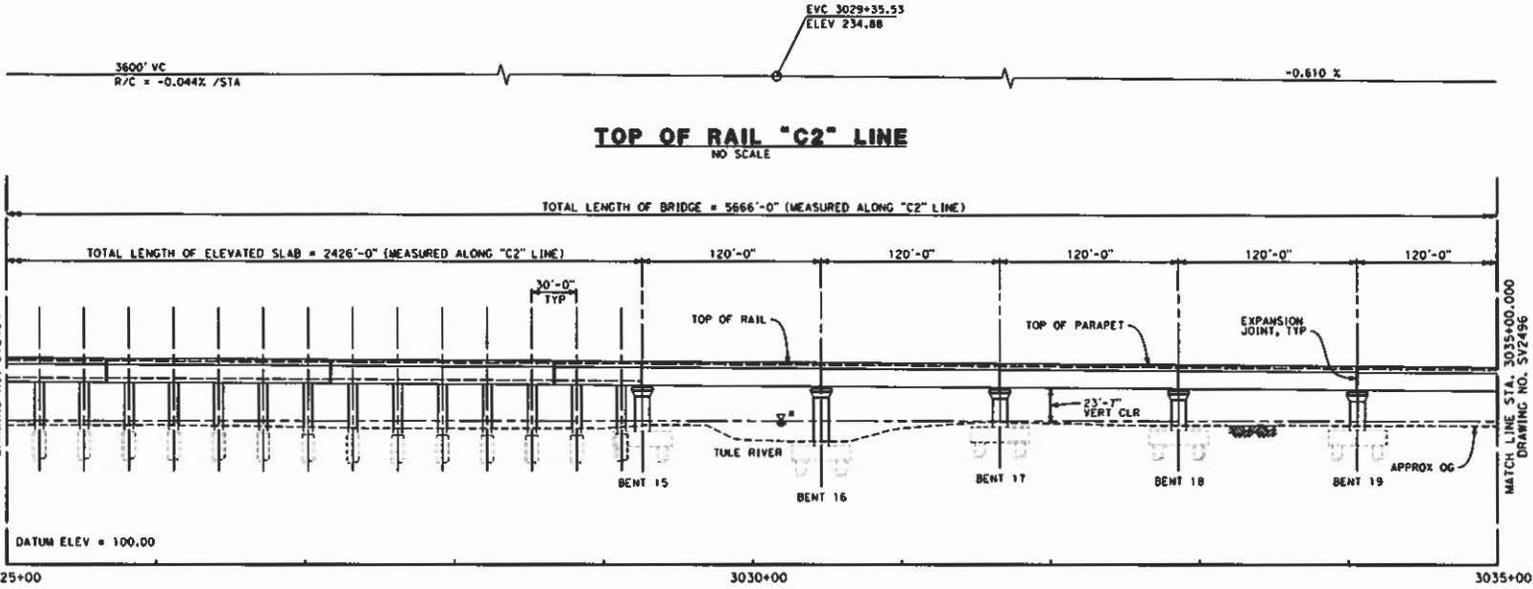
DESIGNED SET 16%
 DESIGN SUBMITTAL
 NOT FOR
 CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 HANFORD SUBSECTION
 ALIGNMENT H
 CONEJO VIADUCT
 PLAN AND ELEVATION

CONTRACT NO.
HSR 06-0003
 DRAWING NO.
5V2226
 SCALE
AS SHOWN
 SHEET NO.
7 OF 8

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- NOTES**
1. NOT ALL PILES SHOWN
 2. PILE LENGTH TO BE DETERMINED
 3. SUPERSTRUCTURE CONSTRUCTION, WITH SIMPLE SPANS - MSS OR FLPM CONTINUOUS SPANS - BCC - PRECAST IN-SITU STEEL TRUSS - INSITU, SLID OR LAUNCHED ELEVATED SLABS - PC BEAM AND INSITU SLAB
 4. UTILITY LOCATIONS TO BE DETERMINED
 5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

- LEGEND:**
- ① STRUCTURE APPROACH SLAB
 - ② RETAINING WALL
 - * ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".
- CURVE DATA**
- ⑫
- R = 41000.00'
 Δ = 01° 34' 39.4"
 T = 1846.0'
 L = 9734.5'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M. FISHER
 CHECKED BY
F. PALERMO
 CHECKED BY
A. ARMSTRONG
 IN CHARGE
R. COFFIN
 DATE
12/31/13

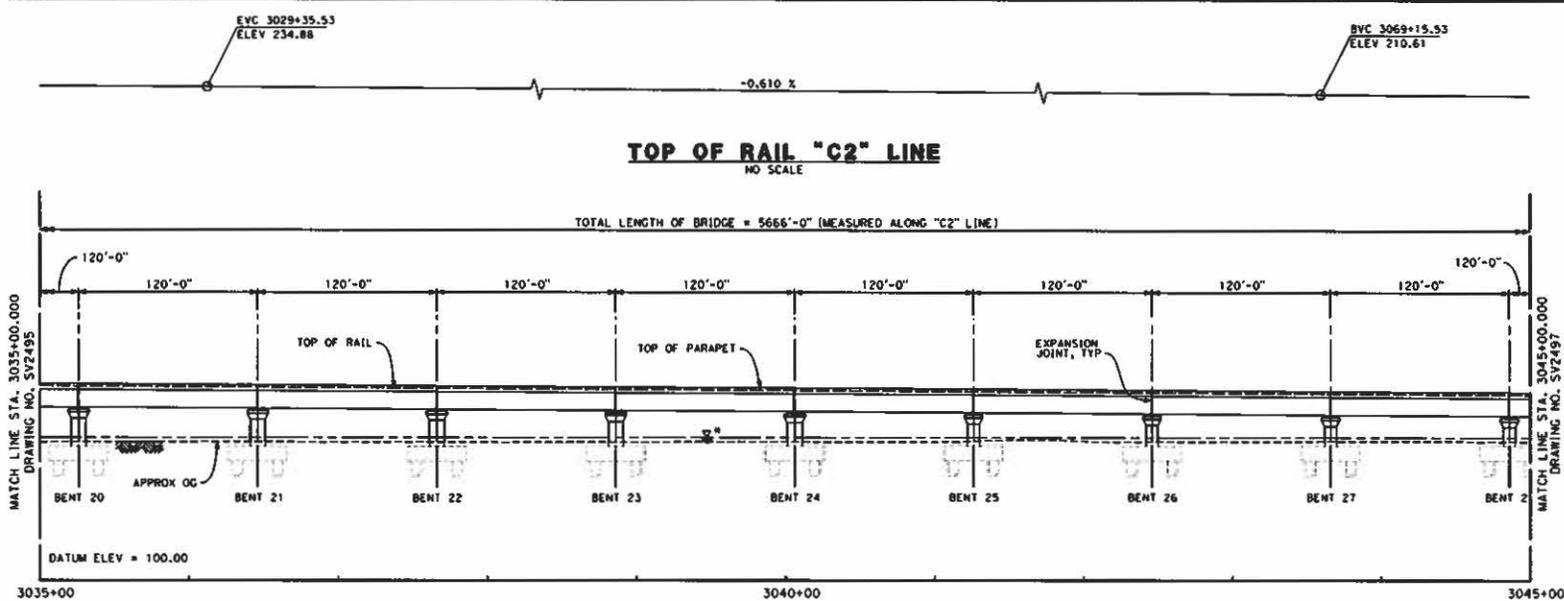
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DESIGN ORDINANCE
 NOT FOR
CONSTRUCTION



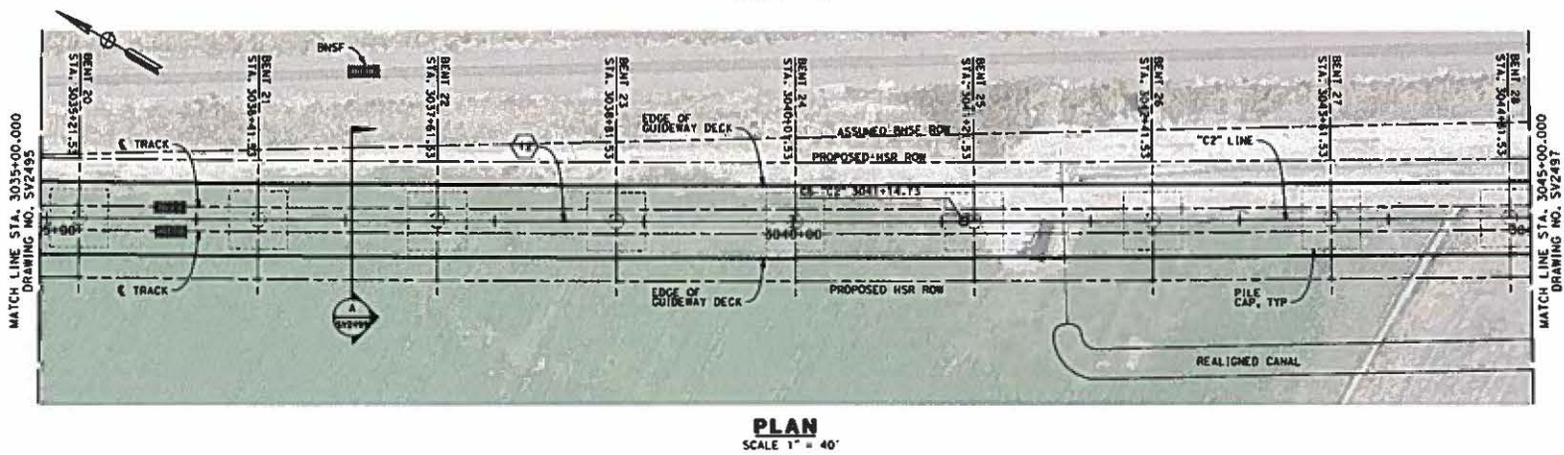
CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 CORCORAN BYPASS SUBSECTION
 ALIGNMENT C2
 STATE ROUTE 43 BNSF VIADUCT
 PLAN AND ELEVATION

CONTRACT NO.
HSR 06-0003
 DRAWING NO.
SV2495
 SCALE
AS SHOWN
 SHEET NO.
6 OF 11

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- NOTES**
- NOT ALL PILES SHOWN
 - PILE LENGTH TO BE DETERMINED
 - SUPERSTRUCTURE CONSTRUCTION, UOM
 SIMPLE SPANS - MSS OR FLPM
 CONTINUOUS SPANS - BCC - PRECAST IN-SITU
 STEEL TRUSS - INSITU, SLID OR LAUNCHED
 ELEVATED SLABS - PC BEAM AND INSITU SLAB
 - UTILITY LOCATIONS TO BE DETERMINED
 - ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.



- LEGEND:**
- ① STRUCTURE APPROACH SLAB
 - ② RETAINING WALL
 - h ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".
- CURVE DATA**
- Ⓢ12
- R = 41000.00'
 Δ = 01° 14' 39.4"
 T = 1846.0'
 L = 9734.5'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M. FISHER

DRAWN BY
F. PALERMO

CHECKED BY
A. ARMS STRONG

IN CHARGE
R. COFFIN

DATE
12/31/13

RECORD SET 15%
 DESIGN QUOS000000

NOT FOR
 CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 CORCORAN BYPASS SUBSECTION
 ALIGNMENT C2
 STATE ROUTE 43 BNSF VIADUCT
 PLAN AND ELEVATION

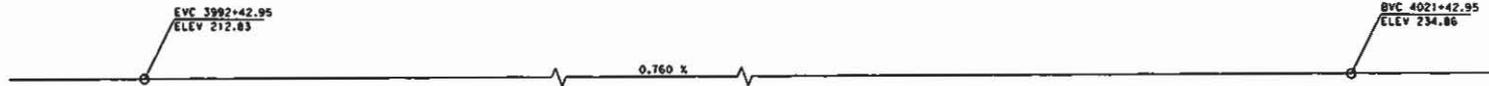
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HSR 06-0003

DRAWING NO.
SV2496

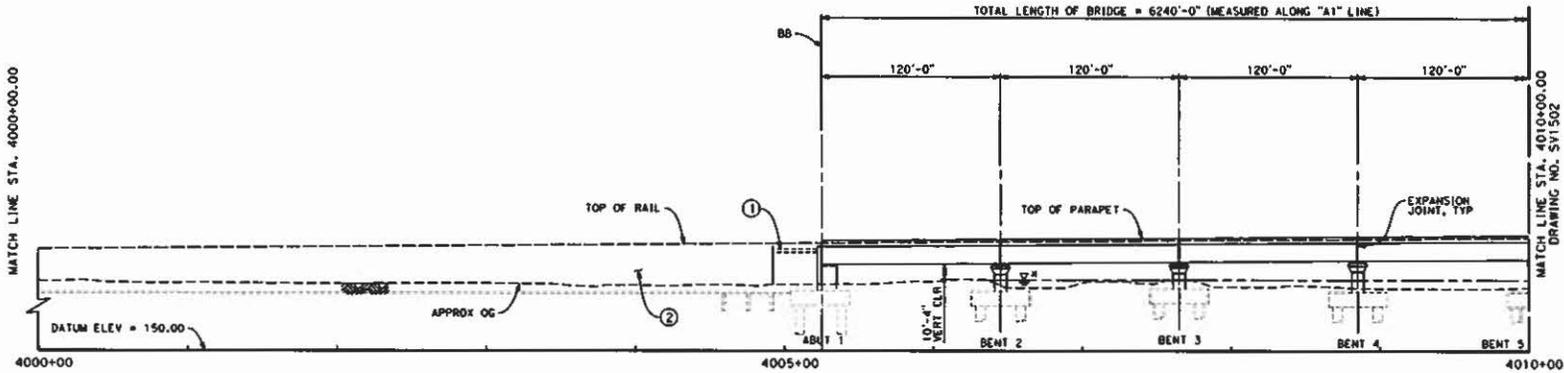
SCALE
AS SHOWN

SHEET NO.
7 OF 11

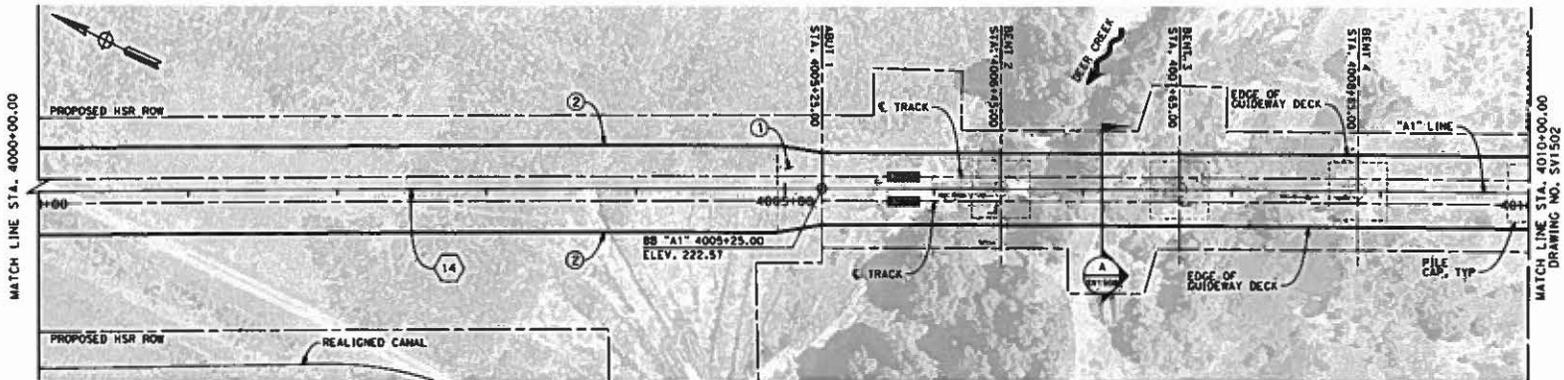
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TOP OF RAIL "A1" LINE
NO SCALE



ELEVATION
SCALE 1" = 40'



PLAN
SCALE 1" = 40'

- NOTES**
1. NOT ALL PILES SHOWN
 2. PILE LENGTH TO BE DETERMINED
 3. SUPERSTRUCTURE CONSTRUCTION, UNLESS OTHERWISE NOTED:
 - SIMPLE SPANS - MSS OR FLPM
 - CONTINUOUS SPANS - BCC - PRECAST IN-SITU
 - STEEL TRUSS - INSITU, SLID OR LAUNCHED
 - ELEVATED SLABS - PC BEAM AND INSITU SLAB
 4. UTILITY LOCATIONS TO BE DETERMINED
 5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

- LEGEND:**
- ① STRUCTURE APPROACH SLAB
 - ② RETAINING WALL
 - " ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

14

R = 50500.0'
 Δ = 24° 16' 19.0"
 T = 10859.4'
 L = 21393.1'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M. FISHER

CHECKED BY
F. PALERMO

ORDERED BY
A. ARMSTRONG

IN CHARGE
R. COFFIN

DATE
12/31/13

ISSUED FOR
DESIGN SUBMITTAL

NOT FOR
CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 ALLENSWORTH BYPASS SUBSECTION
 ALIGNMENT A1
 DEER CREEK VIADUCT
 PLAN AND ELEVATION

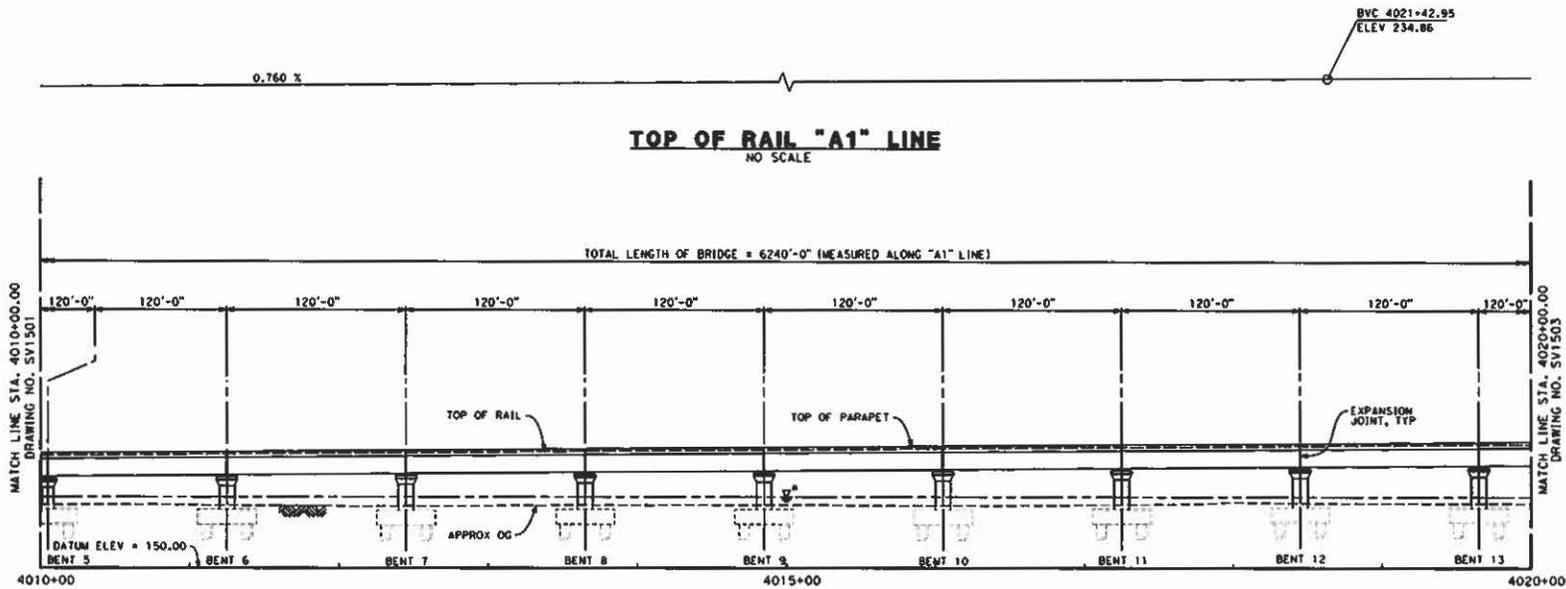
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HSR 06-0003

DRAWING NO.
SV1501

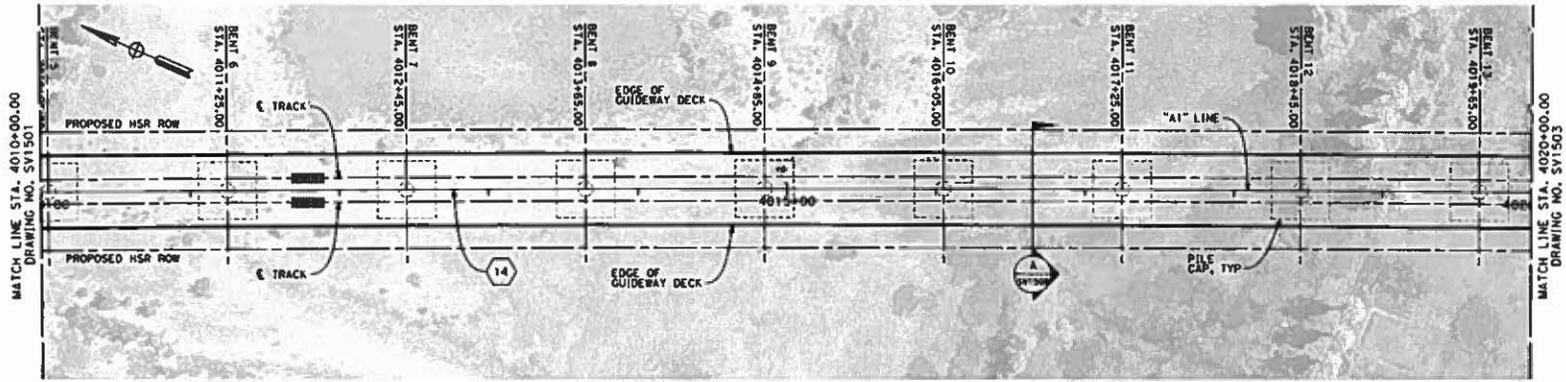
SCALE
AS SHOWN

SHEET NO.
2 OF 9

f:\work\p061800 12/28/2013 1:04:14 PM c:\upwork\img\user\external\frank.palermo01-arup.com\00188274\FB-SV-1502-A1.dgn



- NOTES**
1. NOT ALL PILES SHOWN
 2. PILE LENGTH TO BE DETERMINED
 3. SUPERSTRUCTURE CONSTRUCTION, UOH
 SIMPLE SPANS - MSS OR PRECAST
 CONTINUOUS SPANS - BCC - PRECAST
 IN-SITU
 STEEL TRUSS - INSITU, SLID
 OR LAUNCHED
 ELEVATED SLABS - PC BEAM AND
 INSITU SLAB
 4. UTILITY LOCATIONS TO BE DETERMINED
 5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.



- LEGEND:**
- ① STRUCTURE APPROACH SLAB
 - ② RETAINING WALL
 - * ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 1% DRAFT REPORT".
- CURVE DATA**
- ⑬
- R = 50500.0'
 Δ = 24° 16' 19.0"
 T = 10859.4'
 L = 21393.1'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M. FISHER

CHECKED BY
F. PALERMO

DESIGNED BY
A. STRONG

IN CHARGE
R. COFFIN

DATE
12/31/13

RECORD SET SEE
DESIGN SUBMISSION

**NOT FOR
CONSTRUCTION**



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 ALLENSWORTH BYPASS SUBSECTION
 ALIGNMENT A1
 DEER CREEK VIADUCT
 PLAN AND ELEVATION

CONTRACT NO.
HSR 06-0003

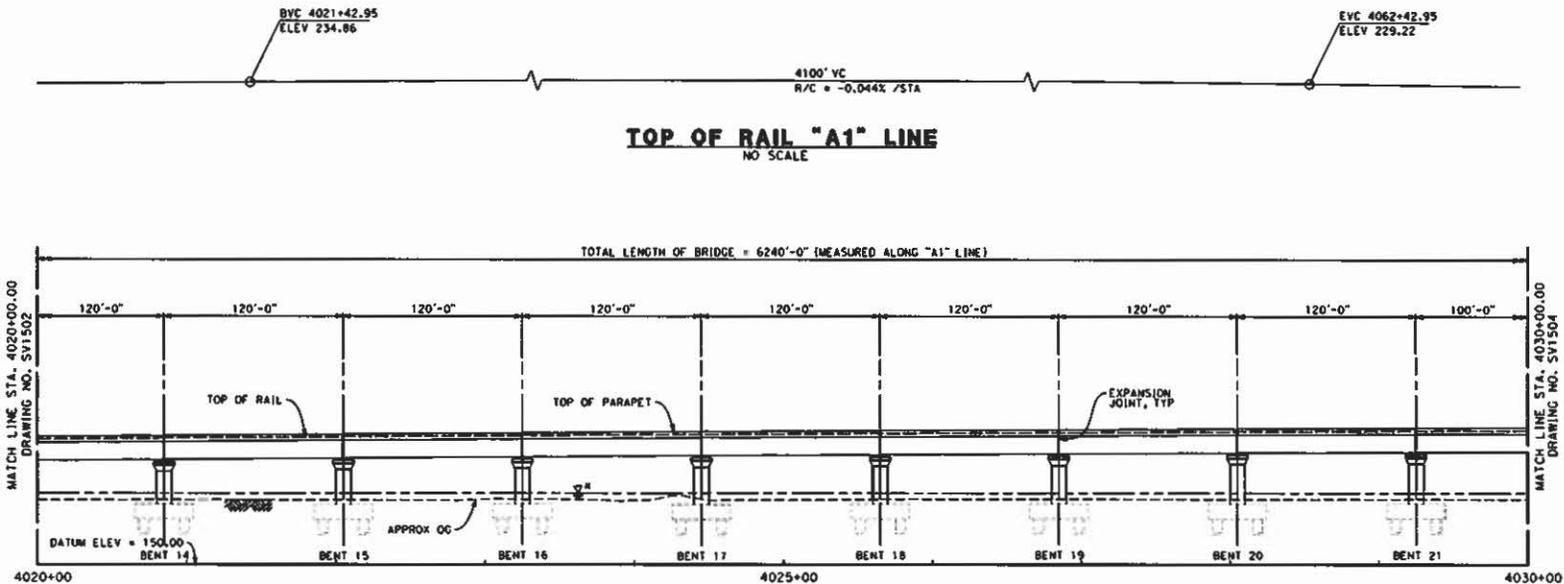
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SV1502

SCALE
AS SHOWN

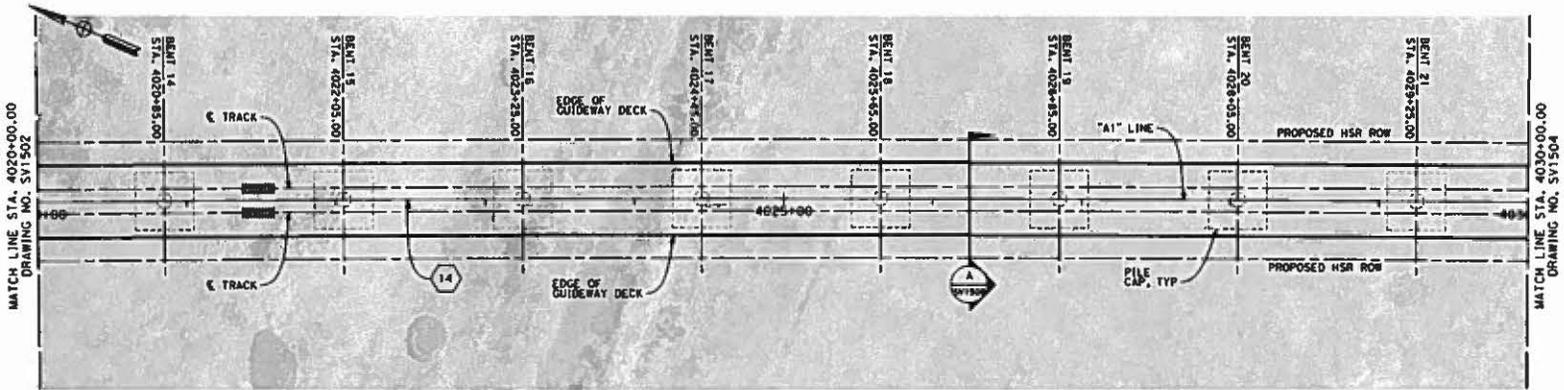
SHEET NO.
3 OF 9

TOP OF RAIL "A1" LINE
NO SCALE

- NOTES**
1. NOT ALL PILES SHOWN
 2. PILE LENGTH TO BE DETERMINED
 3. SUPERSTRUCTURE CONSTRUCTION, UOM SIMPLE SPANS - MSS OR FLPM CONTINUOUS SPANS - BCC - PRECAST IN-SITU
STEEL TRUSS - INSITU, SLID OR LAUNCHED
ELEVATED SLABS - PC BEAM AND INSITU SLAB
 4. UTILITY LOCATIONS TO BE DETERMINED
 5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.



ELEVATION
SCALE 1" = 40'



PLAN
SCALE 1" = 40'

- LEGEND:**
- ① STRUCTURE APPROACH SLAB
 - ② RETAINING WALL
 - ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".
- CURVE DATA**
- 14
- R = 50500.0'
Δ = 24° 16' 19.0"
T = 10859.4'
L = 21393.1'



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M. FISHER
DRAWN BY
F. PALERMO
CHECKED BY
A. ADAMS-STRONG
IN CHARGE
R. COFFIN
DATE
12/31/13

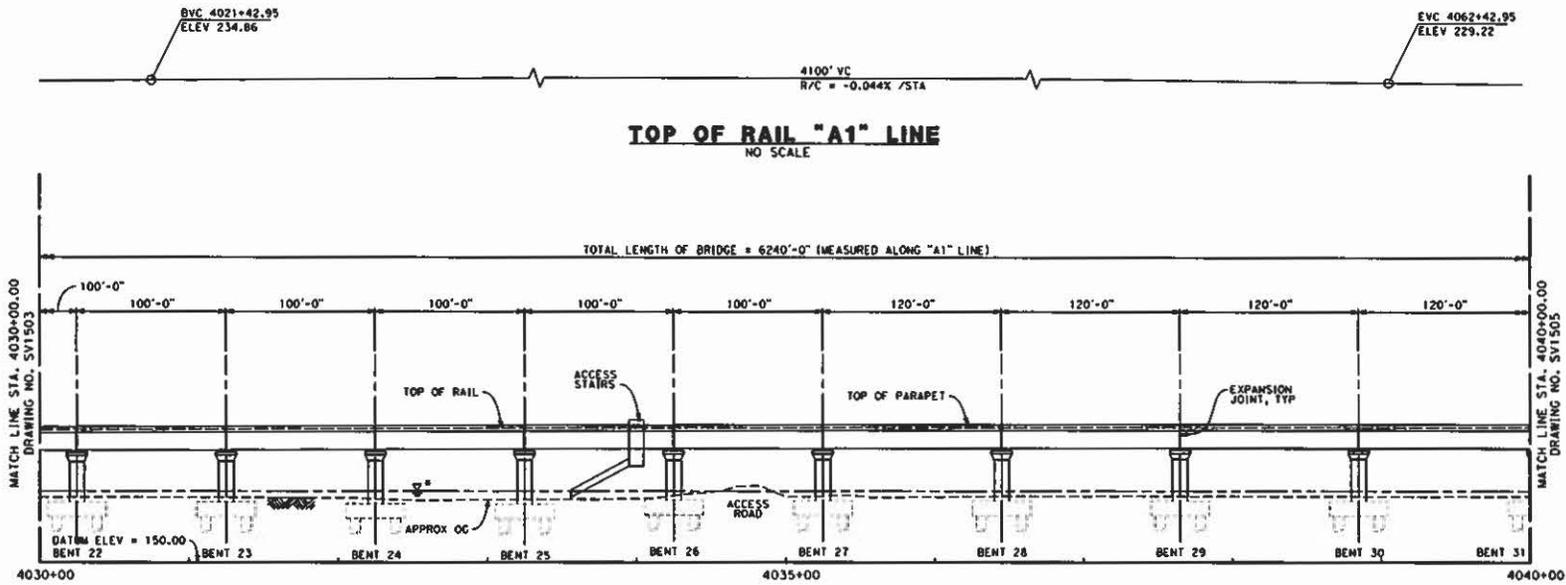
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DESIGN SUBMISSION
NOT FOR CONSTRUCTION



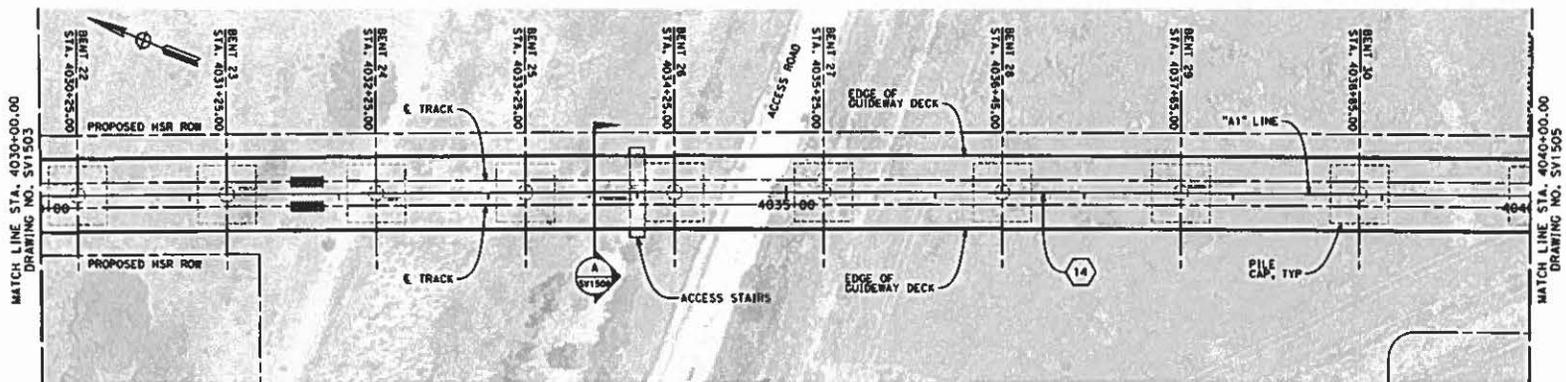
CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
DEER CREEK VIADUCT
PLAN AND ELEVATION

CONTRACT NO.
HSR 06-0003
DRAWING NO.
SV1503
SCALE
AS SHOWN
SHEET NO.
4 OF 9

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ELEVATION
SCALE 1" = 40'



PLAN
SCALE 1" = 40'

- NOTES**
1. NOT ALL PILES SHOWN
 2. PILE LENGTH TO BE DETERMINED
 3. SUPERSTRUCTURE CONSTRUCTION, UOM
 SIMPLE SPANS - MSS OR FLPM
 CONTINUOUS SPANS - BCC - PRECAST IN-SITU
 STEEL TRUSS - INSITU, SLID OR LAUNCHED
 ELEVATED SLABS - PC BEAM AND INSITU SLAB
 4. UTILITY LOCATIONS TO BE DETERMINED
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- LEGEND:**
- ① STRUCTURE APPROACH SLAB
 - ② RETAINING WALL
 - * ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

⑬

R = 50500.0'
 Δ = 24° 16' 19.0"
 T = 10858.4'
 L = 21393.1'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M. FISHER

CHECKED BY
A. ARMSTRONG

IN CHARGE
R. COFFIN

DATE
12/31/13

RECORD SET NOT DESIGN SUBMISSION

NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 ALLENSWORTH BYPASS SUBSECTION
 ALIGNMENT A1
 DEER CREEK VIADUCT
 PLAN AND ELEVATION

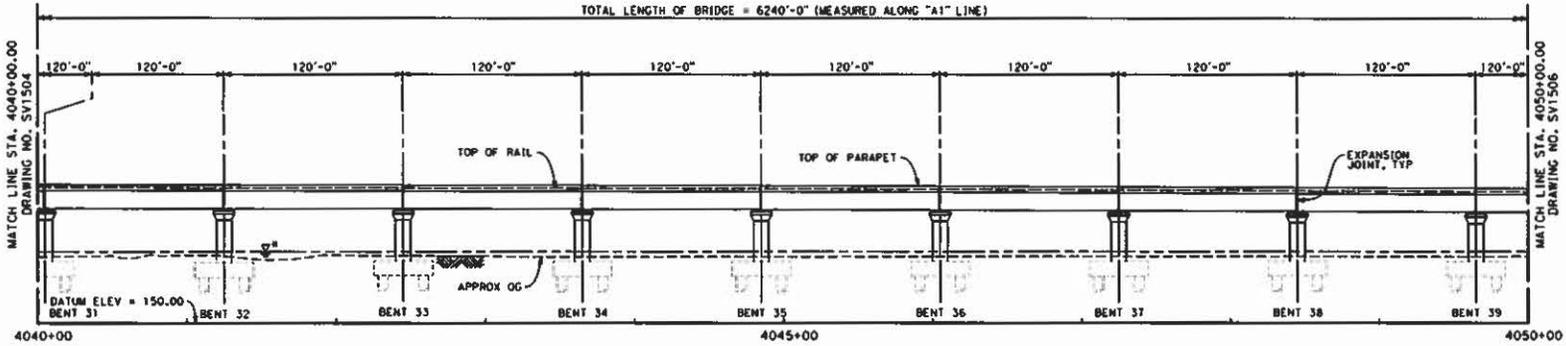
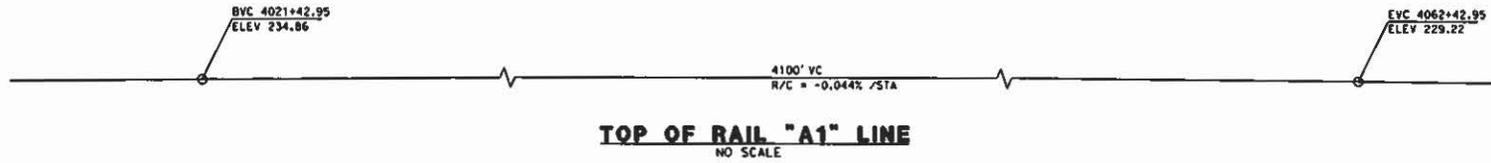
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HSR 06-0003

DRAWING NO.
SV1504

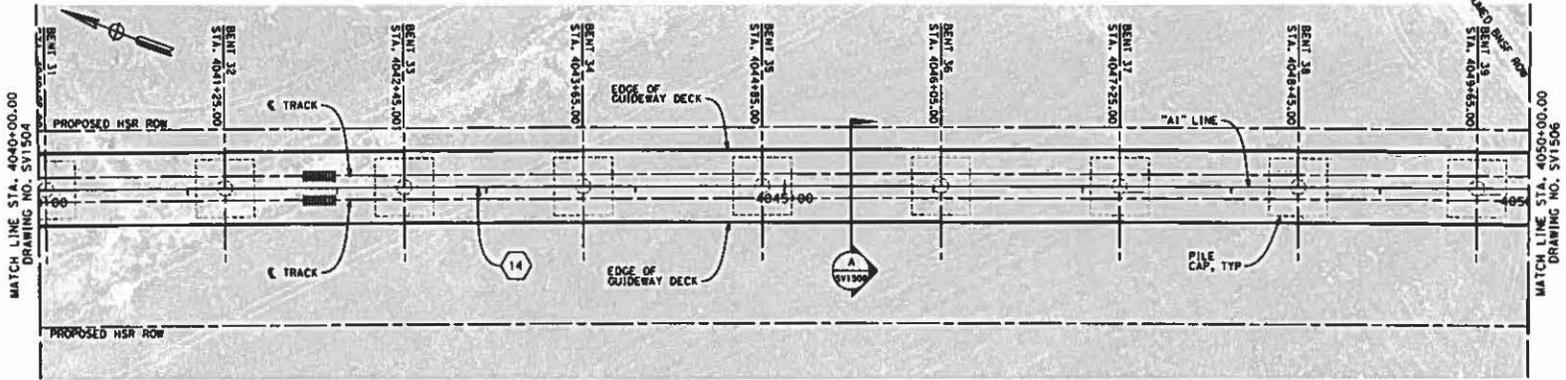
SCALE
AS SHOWN

SHEET NO.
5 OF 9

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ELEVATION
SCALE 1" = 40'



PLAN
SCALE 1" = 40'

- NOTES**
1. NOT ALL PILES SHOWN
 2. PILE LENGTH TO BE DETERMINED
 3. SUPERSTRUCTURE CONSTRUCTION, UOM
SIMPLE SPANS - WSS OR FLPM
CONTINUOUS SPANS - BCC - PRECAST IN-SITU
STEEL TRUSS - INSITU, SLID OR LAUNCHED
ELEVATED SLABS - PC BEAM AND INSITU SLAB
 4. UTILITY LOCATIONS TO BE DETERMINED
 5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

- LEGEND:**
- ① STRUCTURE APPROACH SLAB
 - ② RETAINING WALL
 - h ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".
- CURVE DATA**
- ⑬
- R = 50500.0'
A = 24° 16' 19.0"
T = 10859.4'
L = 21393.1'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M. FISHER
CHECKED BY
F. PALERMO
DESIGNED BY
A. ARMSTRONG
IN CHARGE
R. COFFIN
DATE
12/31/13



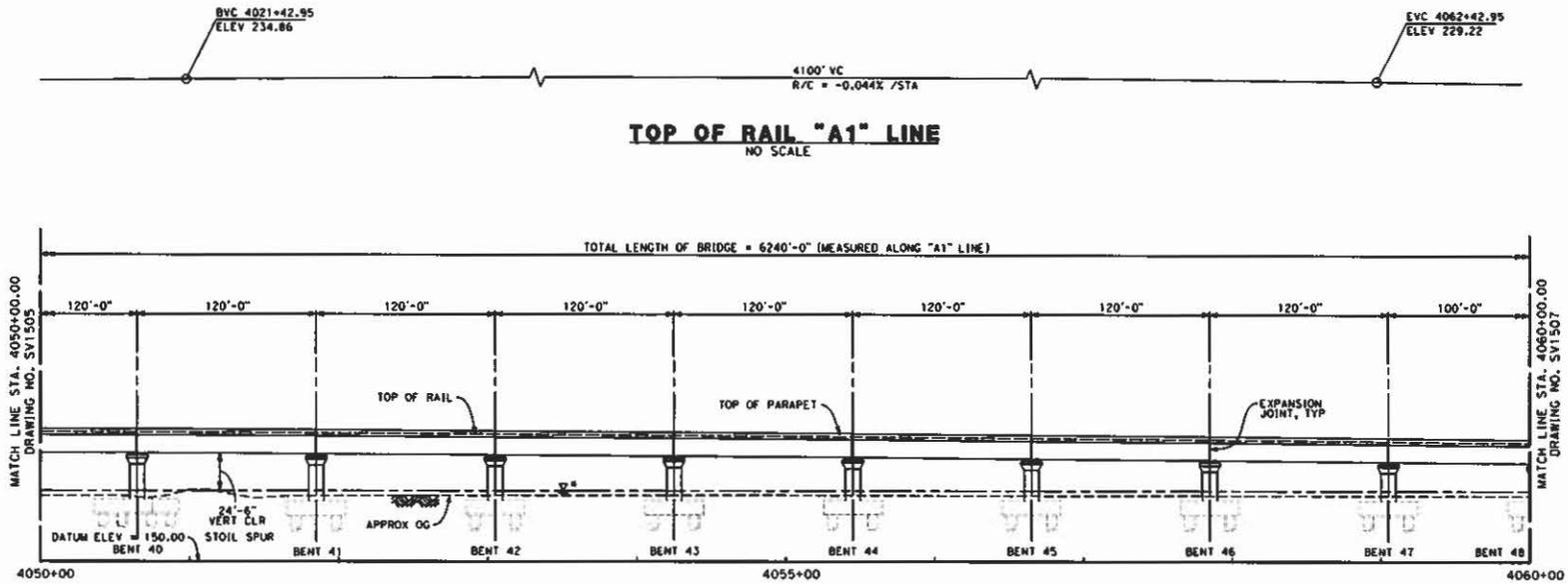
CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
ALLENWORTH BYPASS SUBSECTION
ALIGNMENT A1
DEER CREEK VIADUCT
PLAN AND ELEVATION

CONTRACT NO.
HSR 06-0003
DRAWING NO.
SV1505
SCALE
AS SHOWN
SHEET NO.
6 OF 9

TOP OF RAIL "A1" LINE
NO SCALE

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UOH
SIMPLE SPANS - MSS OR FLPM
CONTINUOUS SPANS - BCC - PRECAST
IN-SITU
STEEL TRUSS - INSITU, SLID
OR LAUNCHED
ELEVATED SLABS - PC BEAM AND
INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.



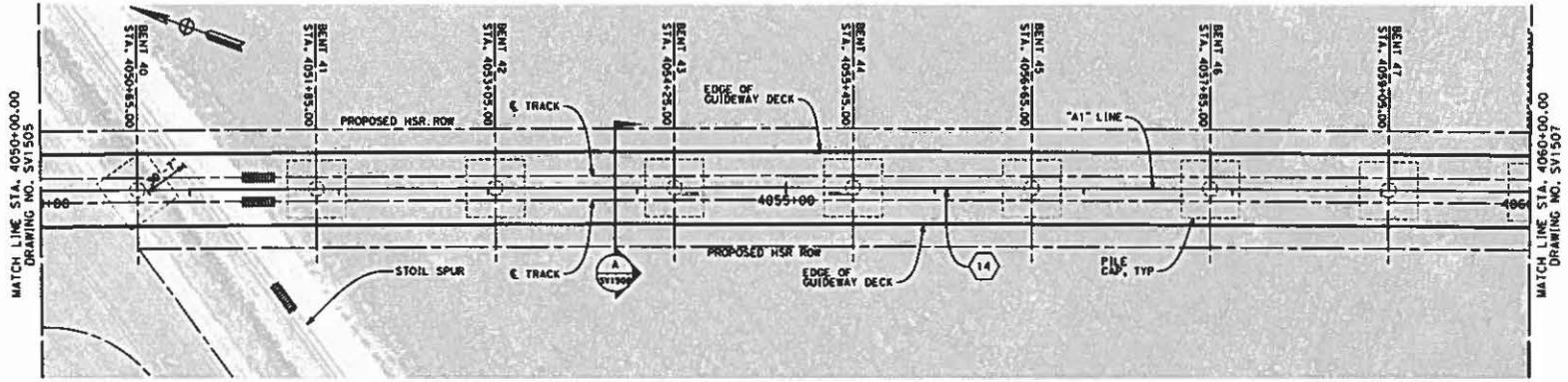
ELEVATION
SCALE 1" = 40'

LEGEND:

- ① STRUCTURE APPROACH SLAB
- ② RETAINING WALL
- W ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

14
R = 50500.0'
Δ = 24° 16' 19.0"
T = 10859.4'
L = 21393.1'



PLAN
SCALE 1" = 40'

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
M. FISHER

DRAWN BY
F. PALERMO

CHECKED BY
A. ARMSTRONG

IN CHARGE
R. COFFIN

DATE
12/31/13

ISSUED FOR THE
DESIGN SUBMISSION

NOT FOR
CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
DEER CREEK VIADUCT
PLAN AND ELEVATION

CONTRACT NO.
HSR 06-0003

DRAWING NO.
SV1506

SCALE
AS SHOWN

SHEET NO.
7 OF 9

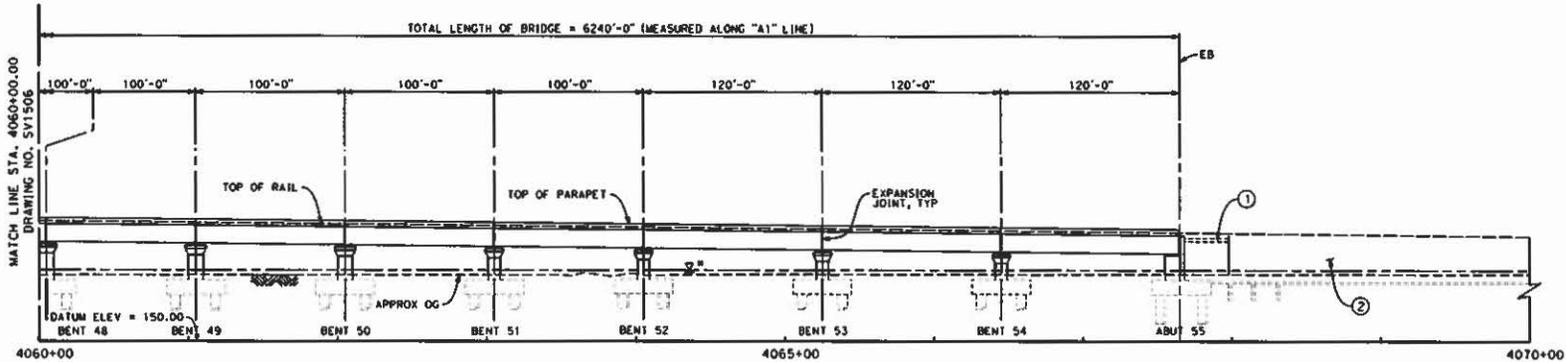
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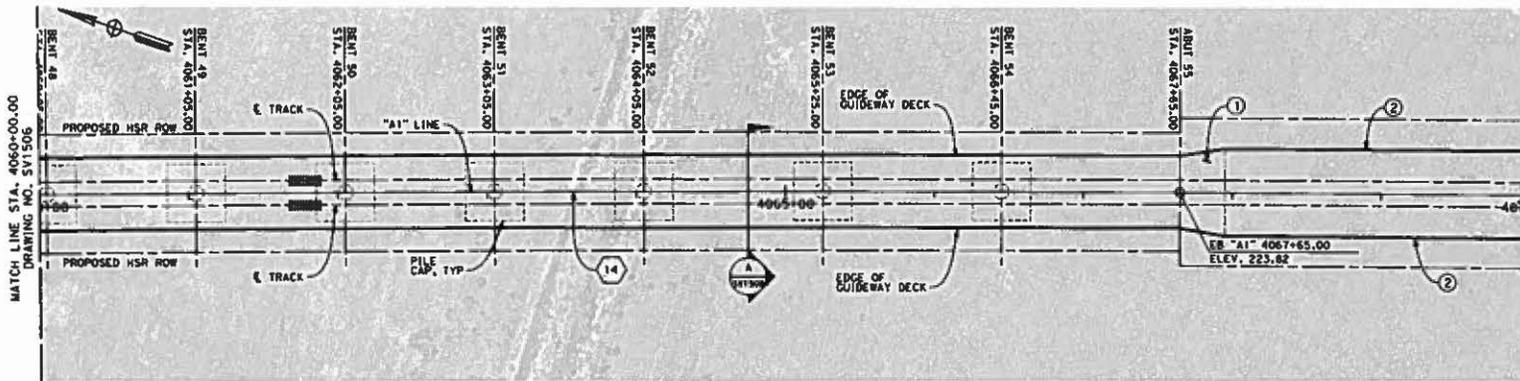
EVC 4062+42.95
ELEV 229.22

-1.034 %

TOP OF RAIL "A1" LINE
NO SCALE



ELEVATION
SCALE 1" = 40'



PLAN
SCALE 1" = 40'

NOTES

1. NOT ALL PILES SHOWN
2. PILE LENGTH TO BE DETERMINED
3. SUPERSTRUCTURE CONSTRUCTION, UON
SIMPLE SPANS - MSS OR FLPM
CONTINUOUS SPANS - BCC - PRECAST
IN-SITU
STEEL TRUSS - INSITU, SLID
OR LAUNCHED
ELEVATED SLABS - PC BEAM AND
INSITU SLAB
4. UTILITY LOCATIONS TO BE DETERMINED
5. ACCESS STAIRWAYS ARE PROVIDED AT SYSTEMS SITES (APPROX. 2.5 MILE INTERVALS). LADDER ACCESS TO VIADUCTS IS PROVIDED AT 2500 FT INTERVALS WITH ACCESS ROAD AND TURNING CIRCLE WHERE NECESSARY.

LEGEND:

- ① STRUCTURE APPROACH SLAB
- ② RETAINING WALL
- △ ESTIMATED 100-YEAR FLOOD ELEVATION, SEE "FRESNO TO BAKERSFIELD CORRIDOR HYDROLOGY, HYDRAULICS AND DRAINAGE 15% DRAFT REPORT".

CURVE DATA

14
R = 50500.0'
Δ = 24° 16' 19.0"
T = 10859.4'
L = 21393.1'



REV	DATE	BY	CHK	APP	DESCRIPTION

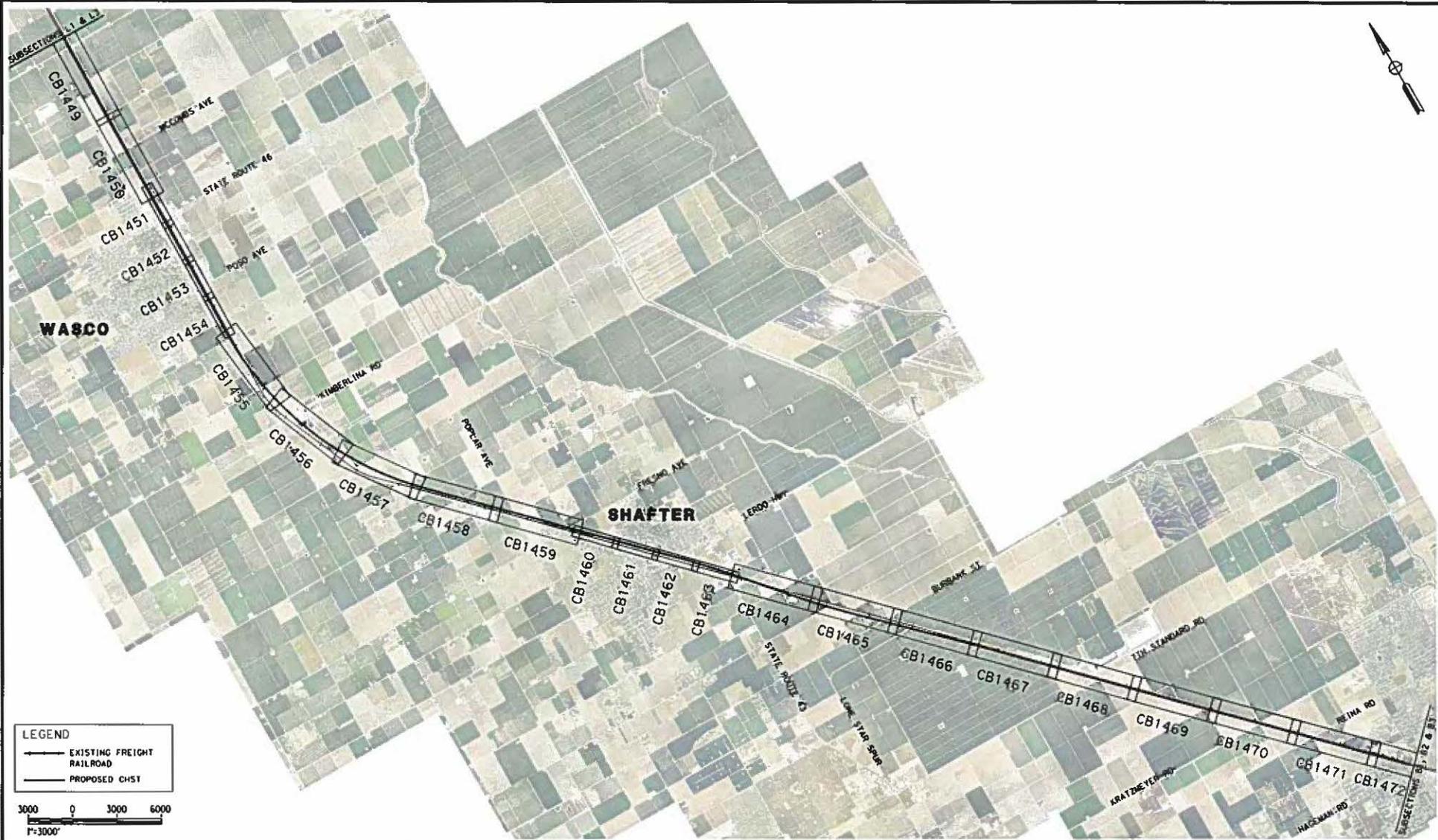
DESIGNED BY
M. FISHER
CHECKED BY
F. PALERMO
IN CHARGE
A. ARMSTRONG
BY
R. COFFIN
DATE
12/31/13

SECOND SET SEE
DESIGN SUBMISSION
NOT FOR
CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
ALLENSWORTH BYPASS SUBSECTION
ALIGNMENT A1
DEER CREEK VIADUCT
PLAN AND ELEVATION

CONTRACT NO.
HSR 06-0003
DRAWING NO.
SV1507
SCALE
AS SHOWN
SHEET NO.
8 OF 9



LEGEND
 ——— EXISTING FREIGHT RAILROAD
 ——— PROPOSED CHST



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. LITSAS
 DRAWN BY
J. BORGHESE
 CHECKED BY
G. WALKER
 IN CHARGE
R. COFFIN
 DATE
12/31/13

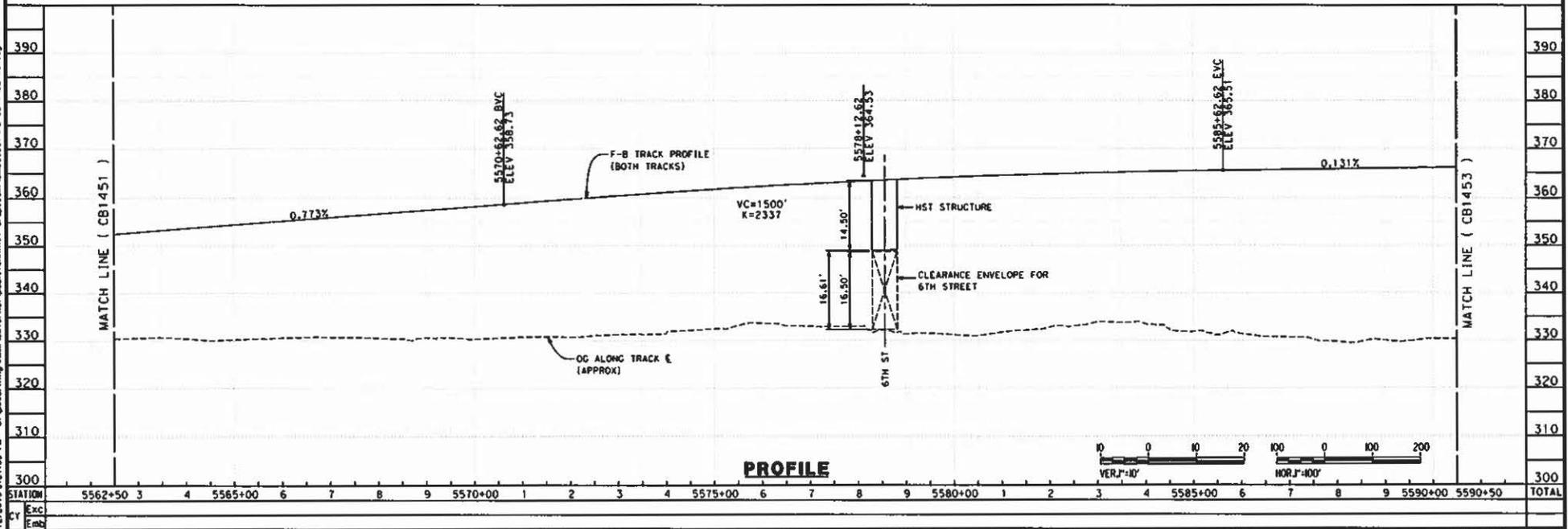
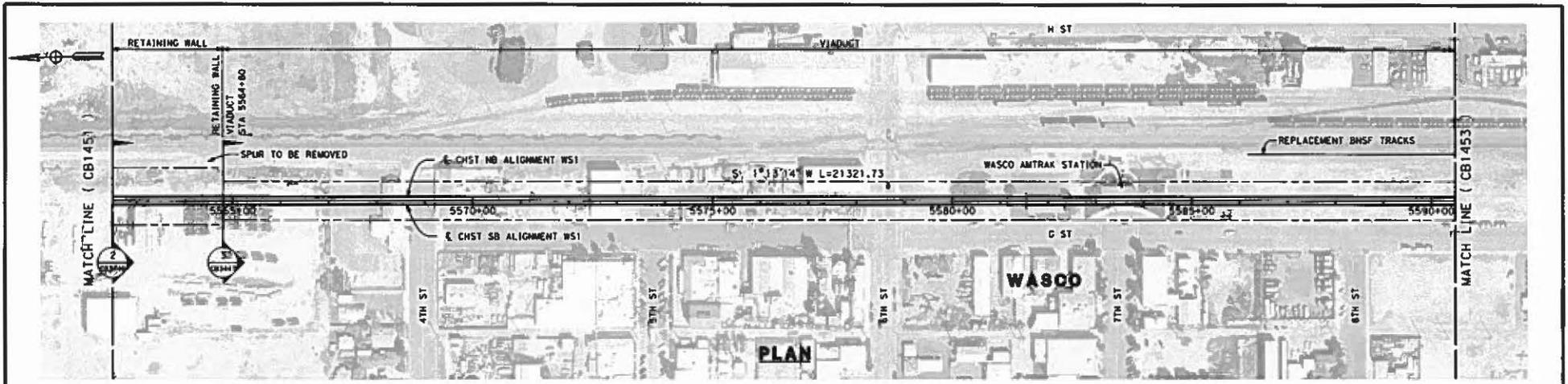
RECORD SET NOT FOR CONSTRUCTION
 DESIGN SUBMISSION
 NOT FOR CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 THROUGH WASCO-SHAFTER SUBSECTION
 ALIGNMENT WS1
 STA. 5422+50 TO 6511+99
 KEYPLAN

CONTRACT NO.
HSR-06-0003
 DRAWING NO.
CB1448
 SCALE
AS SHOWN
 SHEET NO.
1 OF 35

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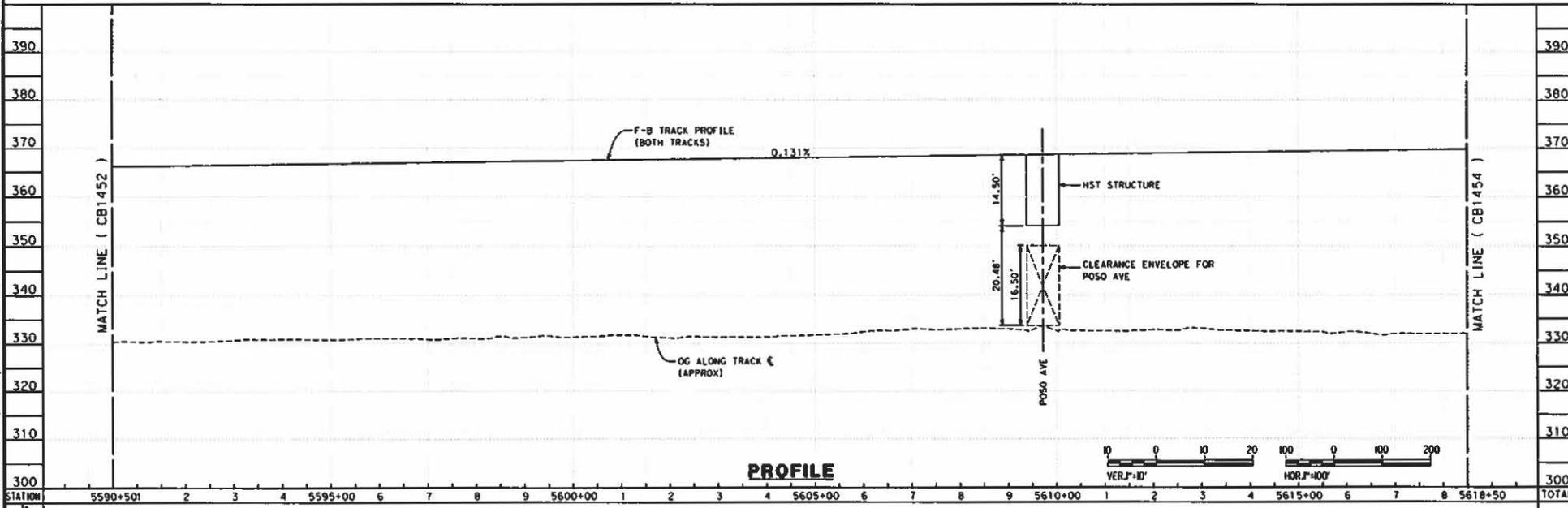
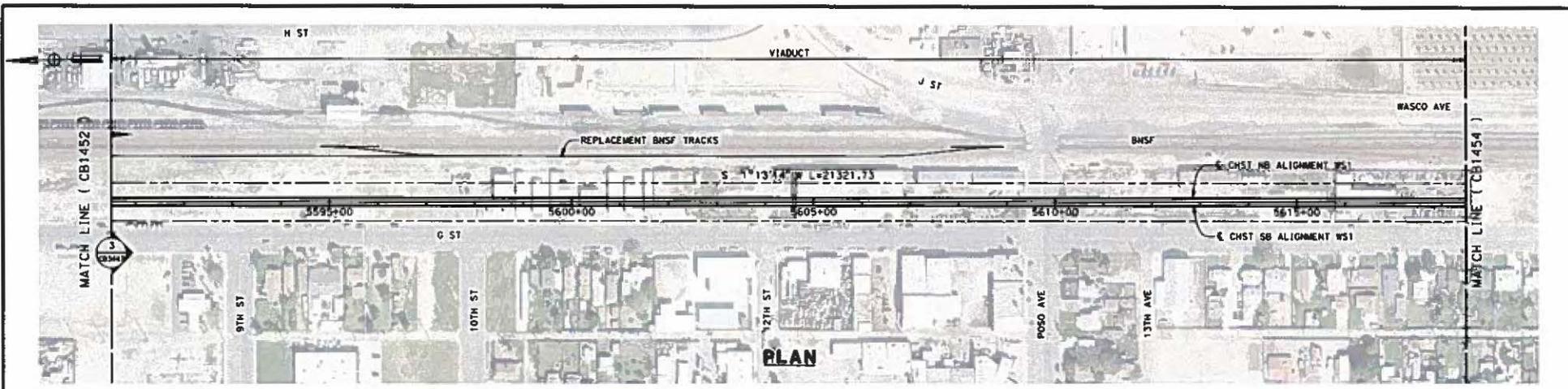
DESIGNED BY
S. LITISAS
CHECKED BY
J. BORGHESI
IN CHARGE
R. COFFIN
DATE
12/31/13

APPROVED FOR USE
DESIGN ORIGINATOR
**NOT FOR
CONSTRUCTION**



**CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD**
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5562+50 TO 5590+50
PLAN AND PROFILE

CONTRACT NO.
HSR 06-0003
SHEET NO.
CB1452
SCALE
AS SHOWN
SHEET NO.
5 OF 35



STATION	5590+50	2	3	4	5595+00	6	7	8	9	5600+00	1	2	3	4	5605+00	6	7	8	9	5610+00	1	2	3	4	5615+00	6	7	8	5618+50	TOTAL
Exc																														
Exc																														

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. LITSAS
CHECKED BY
J. BORGHESI
ENGINEER
G. WALKER
IN CHARGE
R. COFFIN
DATE
12/31/13

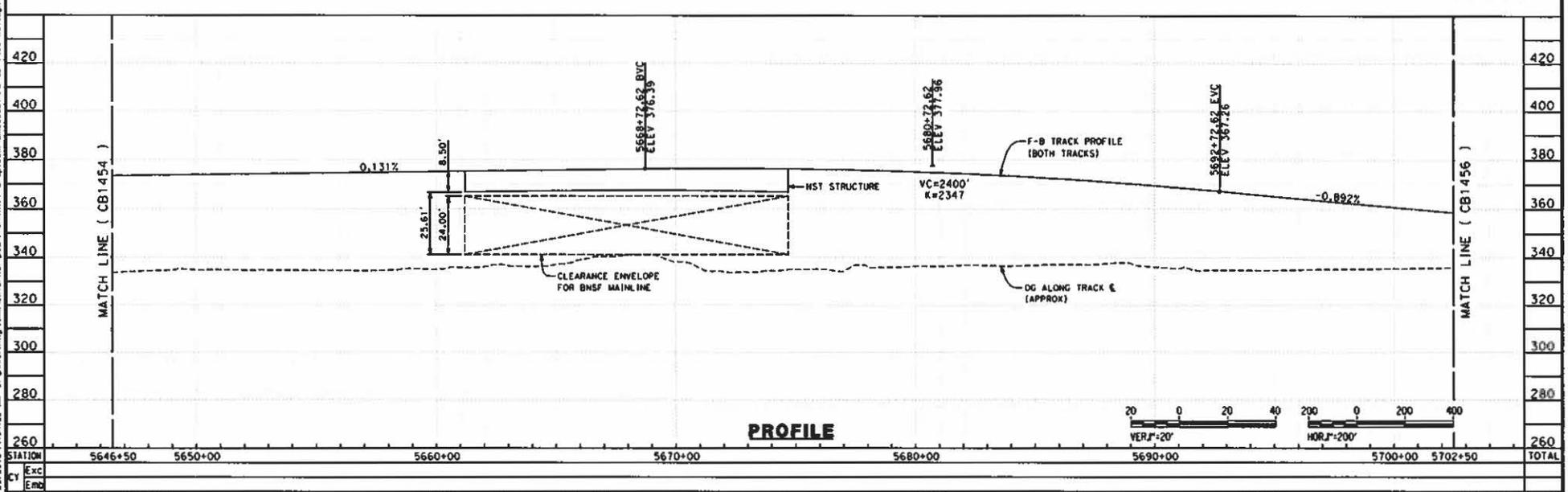
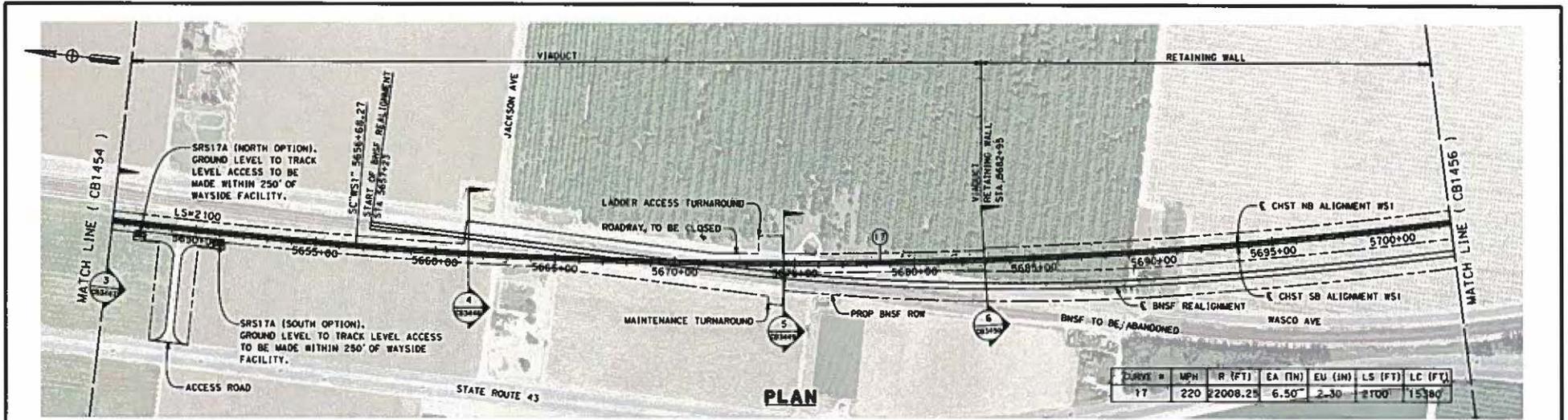
ISSUED FOR THE
DESIGN SUBMISSION
NOT FOR
CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
THROUGH WASCO-SHAFTER SUBSECTION
ALIGNMENT WS1
STA. 5590+50 TO 5618+50
PLAN AND PROFILE

CONTRACT NO.
HSR 06-0003
PROJECT NO.
CB1453
SCALE
AS SHOWN
SHEET NO.
6 OF 35

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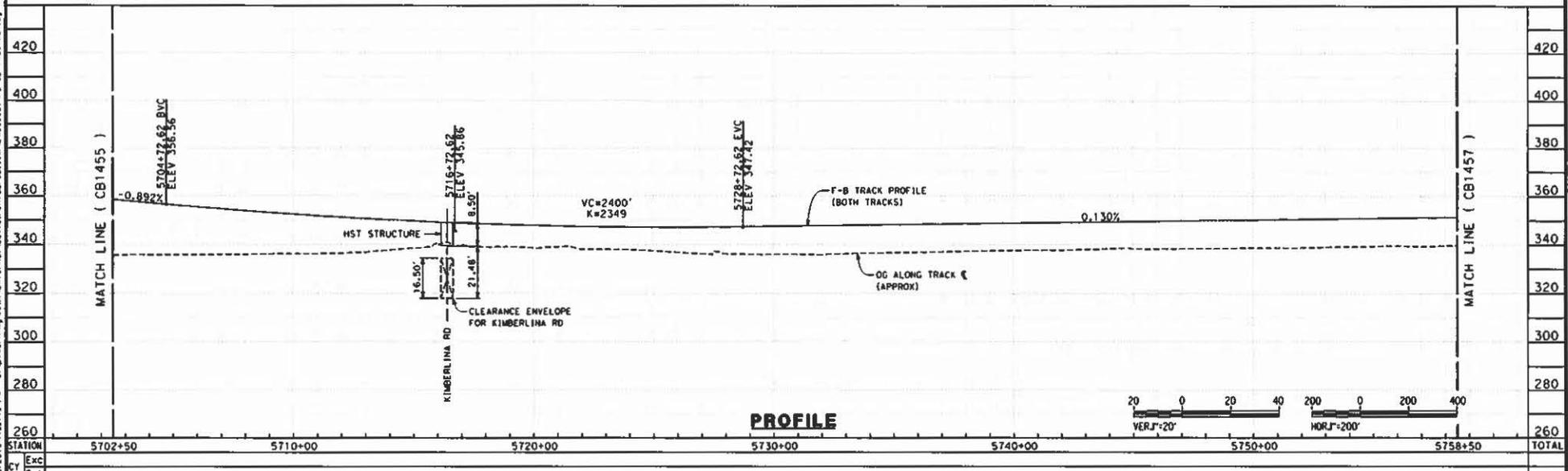
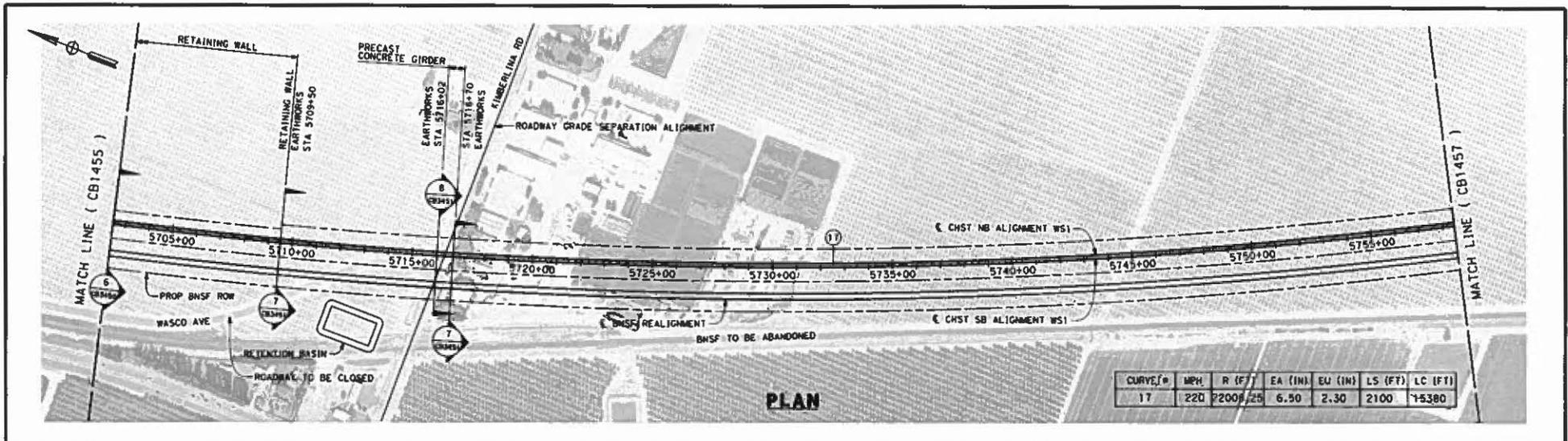
DESIGNED BY
S. LITSAS
 DRAWN BY
J. BORGHESI
 CHECKED BY
G. WALKER
 IN CHARGE
R. COFFIN
 DATE
 12/31/13

RECORD SET HAS
 DESIGN DIMENSIONS
 NOT FOR
 CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
PRESNO TO BAKERSFIELD
 THROUGH WASCO-SHAFTER SUBSECTION
 ALIGNMENT WS1
 STA. 5646+50 TO 5702+50
 PLAN AND PROFILE

CONTRACT NO.
 HSR 06-0003
 DRAWING NO.
 CB1455
 SCALE
 AS SHOWN
 SHEET NO.
 8 OF 35



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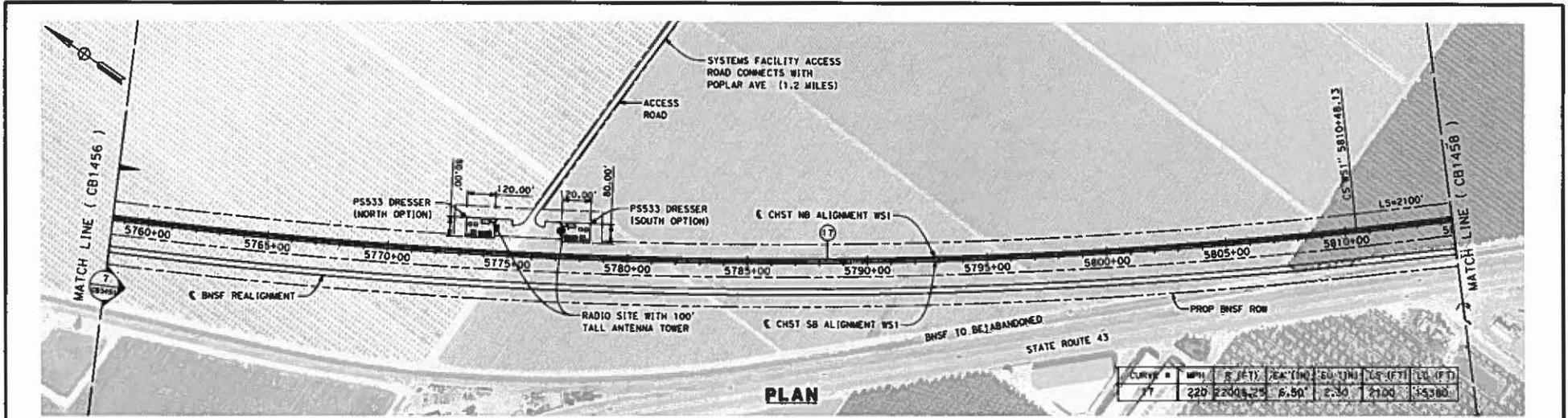
DESIGNED BY
S. LITSAS
 DRAWN BY
J. BORGHESI
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 IN CHARGE
R. COFFIN
 DATE
12/31/13

RECORD SET 15%
 DESIGN SUBMISSION
 NOT FOR
 CONSTRUCTION

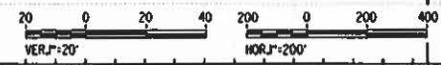
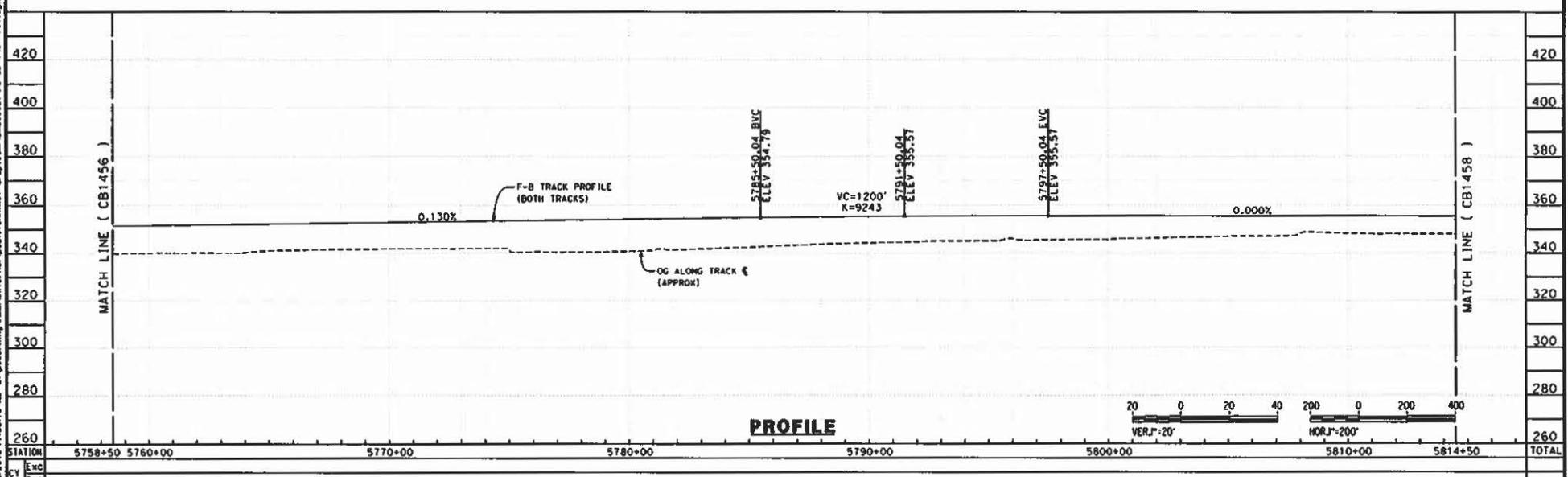


CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 THROUGH WASCO-SHAFTER SUBSECTION
 ALIGNMENT WS1
 STA. 5702+50 TO 5758+50
 PLAN AND PROFILE

CONTRACT NO.
HSR 06-0003
 DRAWING NO.
CB1456
 SCALE
AS SHOWN
 SHEET NO.
9 OF 35



CURVE #	MPH	R (FT)	EA (IN)	EA (IN)	LS (FT)	LL (FT)
17	220	2200.25	6.50'	2.30'	2100'	33300'



REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
S. LITSAS
CHECKED BY
J. BORGHESI
DESIGNED BY
D. WALKER
IN CHARGE
R. COFFIN
DATE
12/31/13

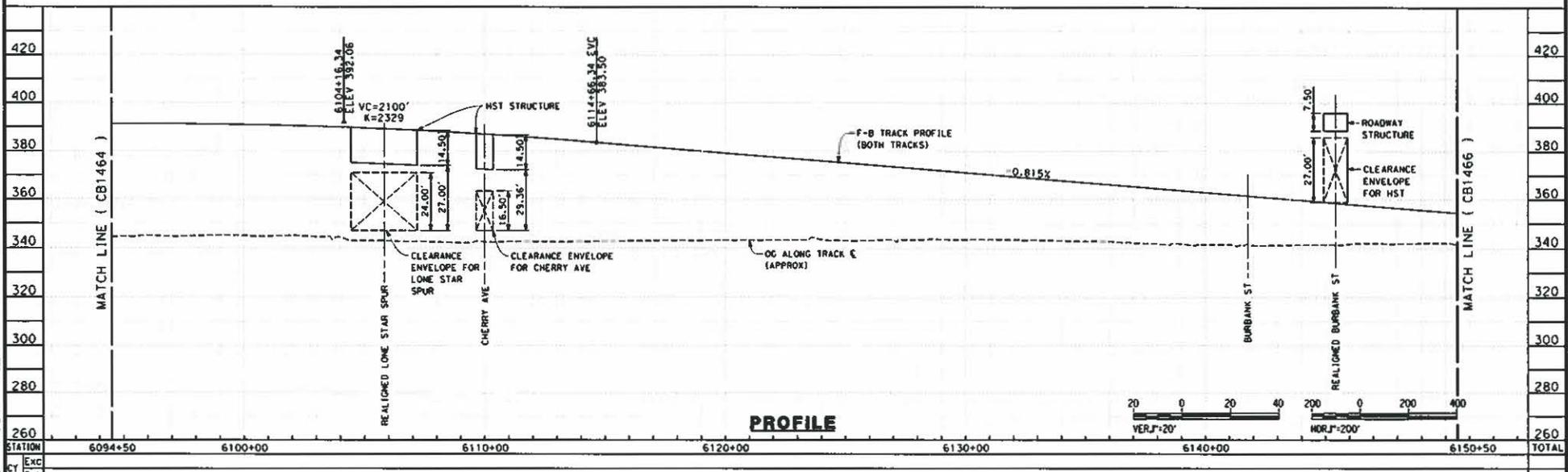
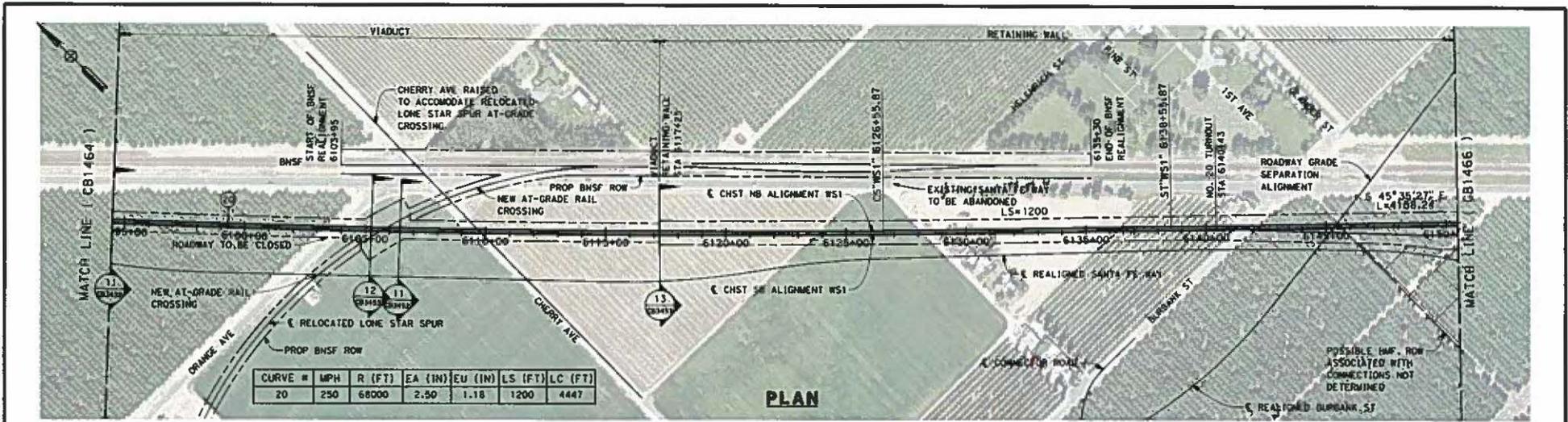
DESIGNED BY SEE
DESIGN SUBMISSION
NOT FOR
CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 THROUGH WASCO-SHAFTER SUBSECTION
 ALIGNMENT WSI
 STA. 5758+50 TO 5814+50
 PLAN AND PROFILE

CONTRACT NO.
HSR 06-0003
 DRAWING NO.
CB1457
 SCALE
AS SHOWN
 SHEET NO.
10 OF 35

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SHEETS
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 REVISIONS

NO.	DATE	BY	CHK	APP	DESCRIPTION

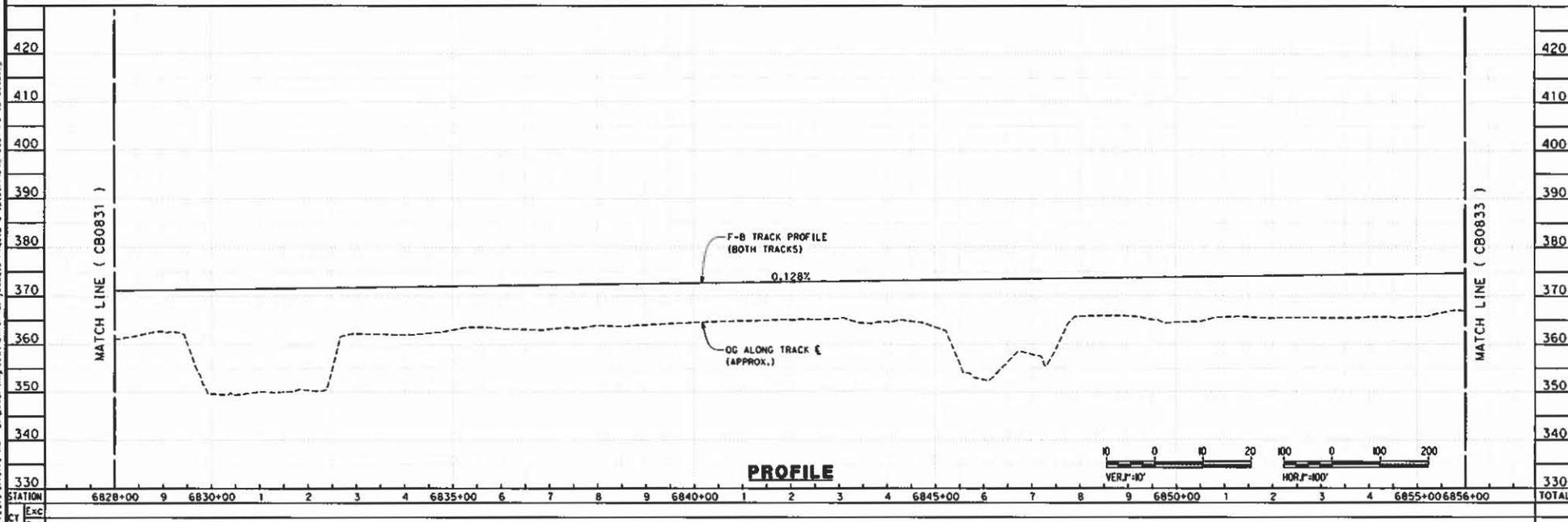
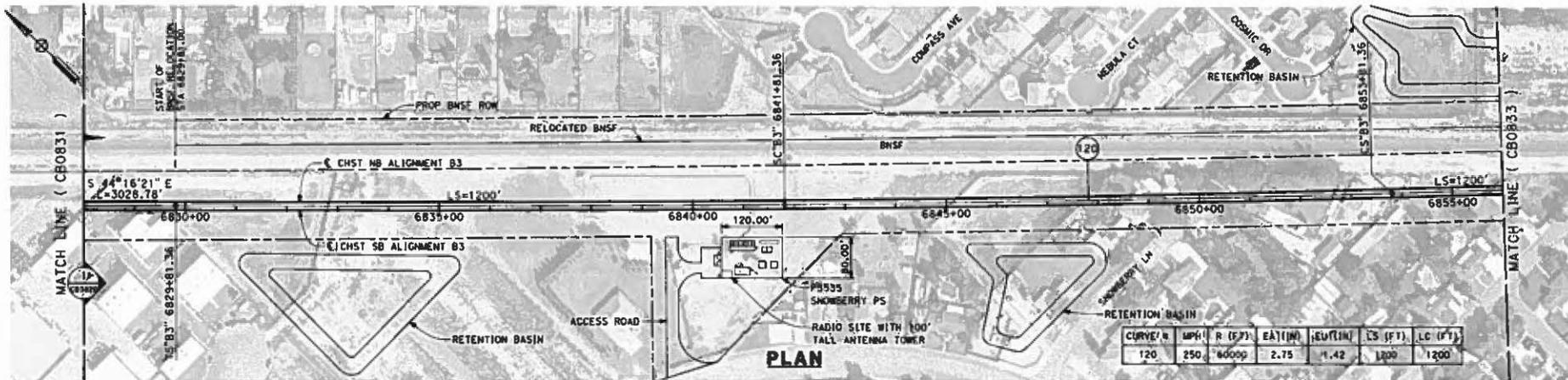
DESIGNED BY
 S. LITSAKIS
 DRAWN BY
 J. BORGHESE
 CHECKED BY
 G. WALKER
 IN CHARGE
 R. COFFIN
 DATE
 12/31/13

RECORD SET 15%
 DESIGN SUBMISSION
 NOT FOR
 CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 THROUGH WASCO-SHAFTER SUBSECTION
 ALIGNMENT WS1
 STA. 6094+50 TO 6150+50
 PLAN AND PROFILE

CONTRACT NO.
 HSR 06-0003
 DRAWING NO.
 CB1465
 SCALE
 AS SHOWN
 SHEET NO.
 18 OF 35



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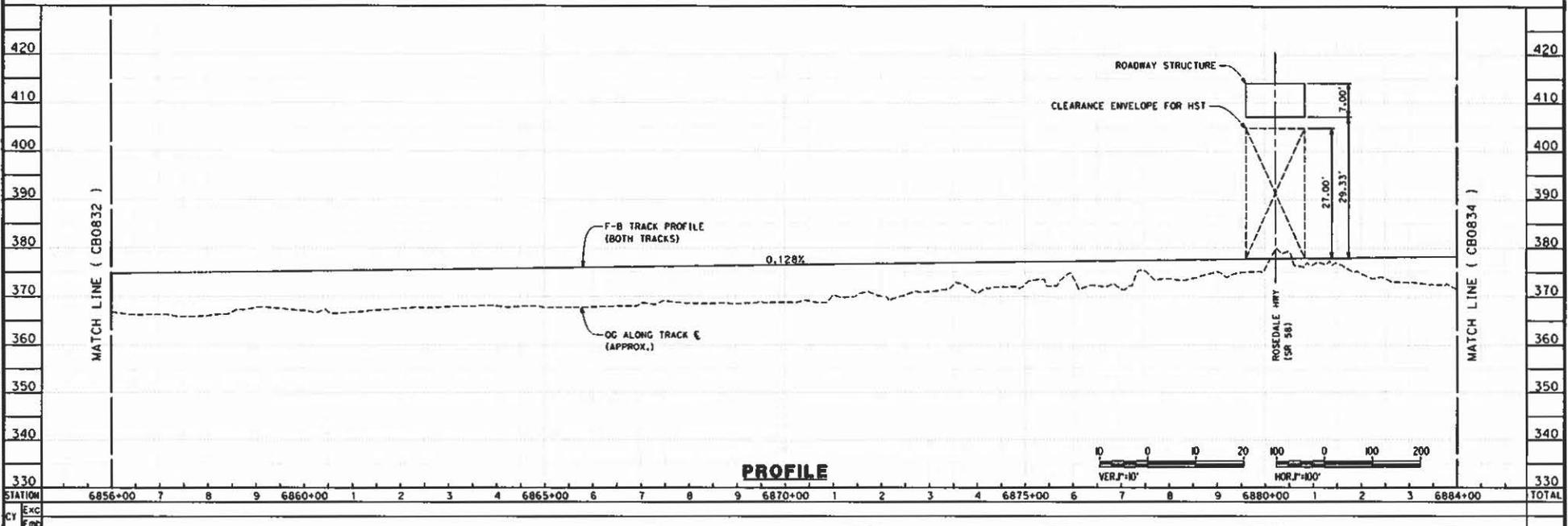
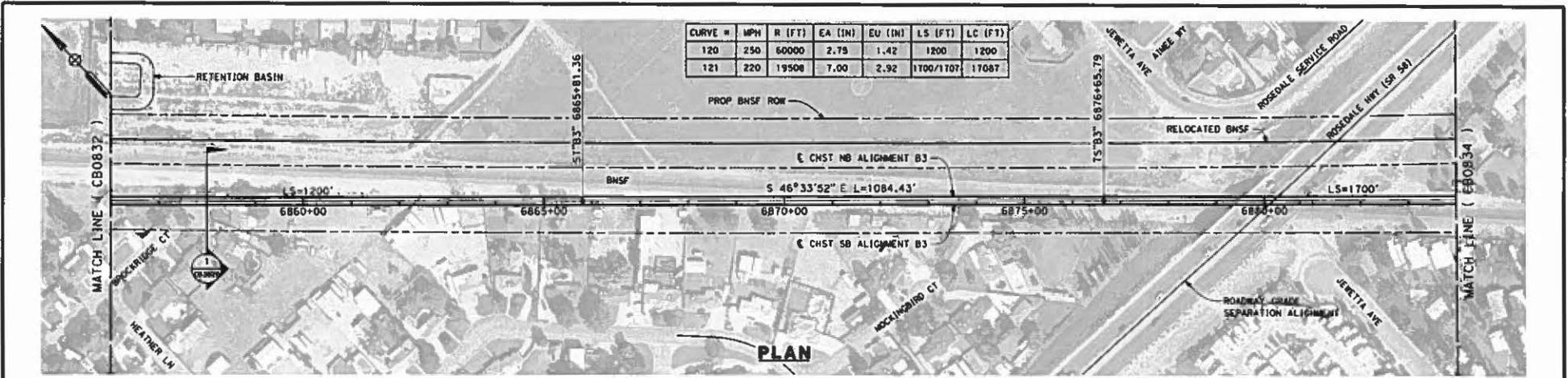
DESIGNED BY
J. ENRIQUEZ
 DRAWN BY
E. TANAKA
 CHECKED BY
G. WALKER
 IN CHARGE
R. COFFIN
 DATE
 12/31/13

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 DESIGN SUBMISSION
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 CONSTRUCTION



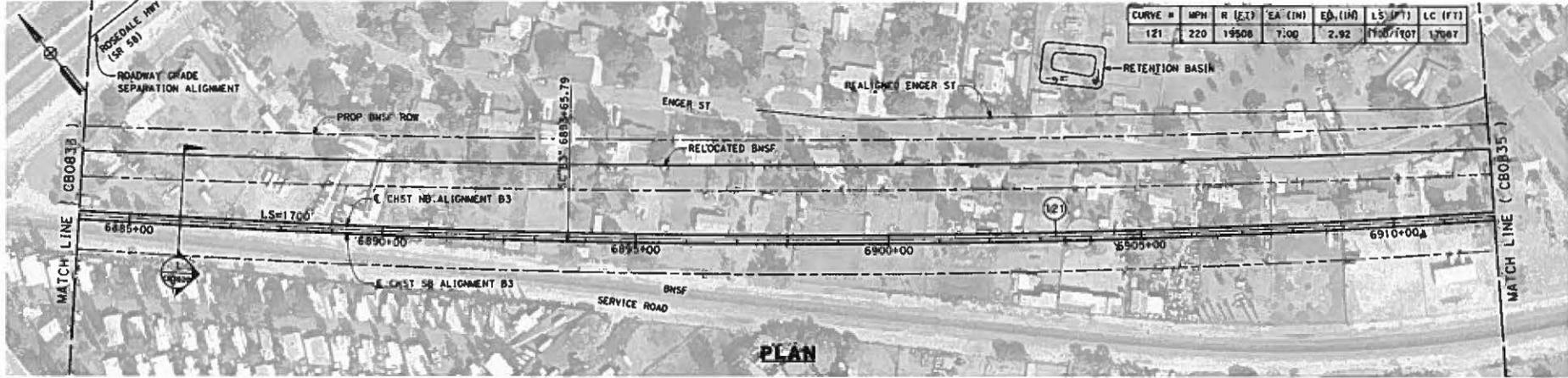
CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 BAKERSFIELD URBAN SUBSECTION
 ALIGNMENT B3
 STA. 6828+00 TO 6856+00
 PLAN AND PROFILE

CONTRACT NO.
 HSR 06-0003
 DRAWING NO.
 CB0832
 SCALE
 AS SHOWN
 SHEET NO.
 3 OF 31

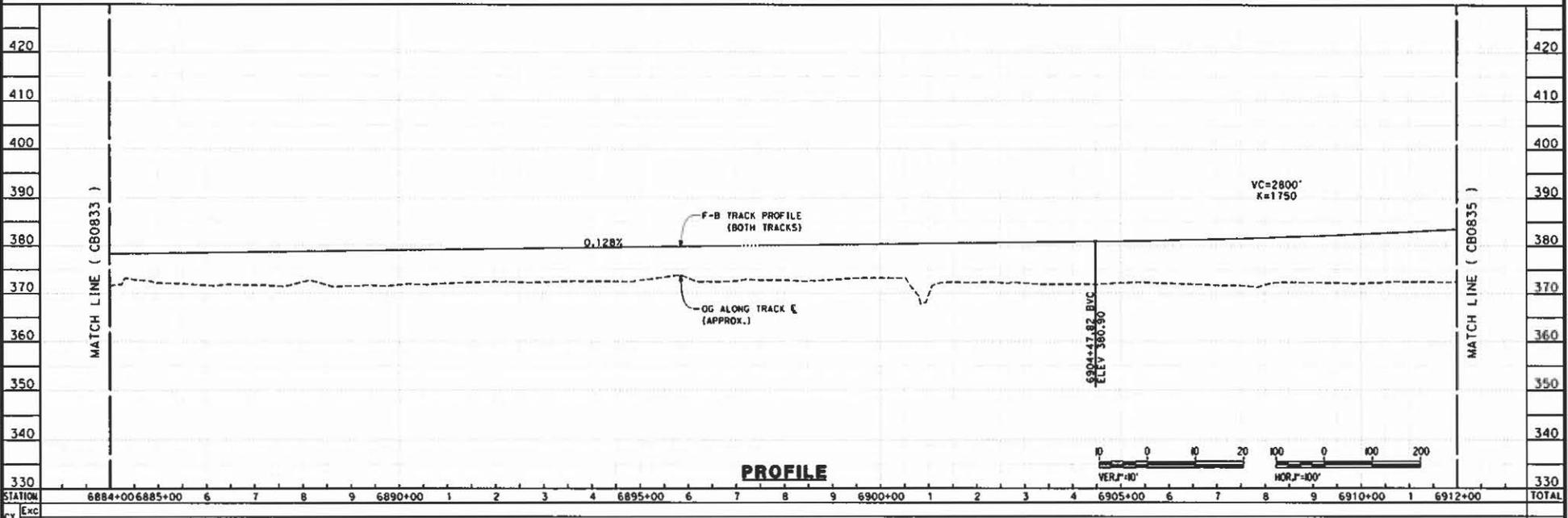


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DESIGNED BY J. ENRIQUETA		RECORD SET 15% DESIGN SUBMISSION NOT FOR CONSTRUCTION			CALIFORNIA HIGH-SPEED TRAIN PROJECT FRESNO TO BAKERSFIELD BAKERSFIELD URBAN SUBSECTION ALIGNMENT B3 STA. 6856+00 TO 6884+00 PLAN AND PROFILE	CONTRACT NO. HSR 06-0003
CHECKED BY G. WALKER						DRAWING NO. CB0833
IN CHARGE R. COFFIN						SCALE AS SHOWN
DATE 12/31/13						SHEET NO. 4 OF 31



PLAN



PROFILE

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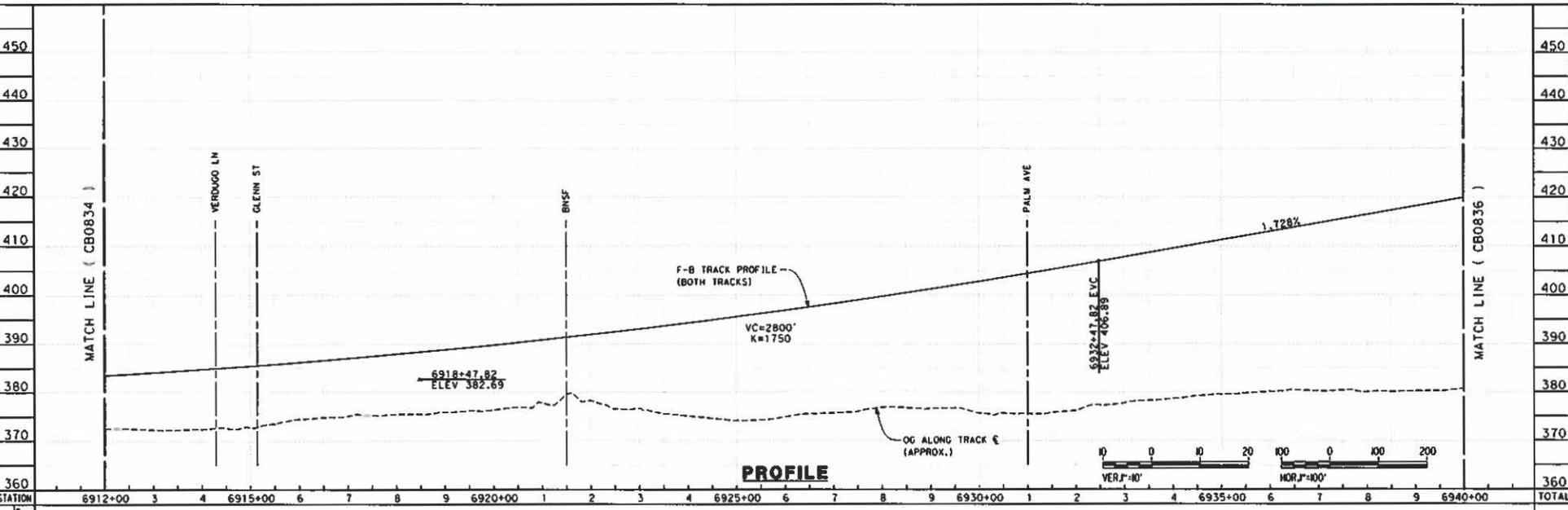
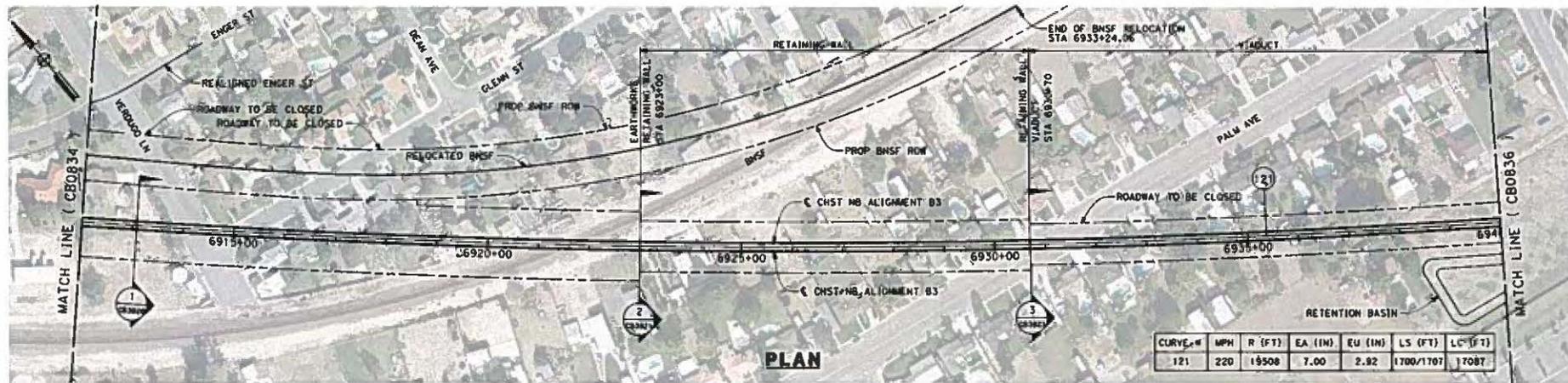
DESIGNED BY
J. ENRIQUEZ
 DRAWN BY
E. TANAKA
 CHECKED BY
G. WALKER
 IN CHARGE
R. COFFIN
 DATE
 12/31/13

RECORD SET 15%
 DESIGN SUBMISSION
 NOT FOR
 CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 BAKERSFIELD URBAN SUBSECTION
 ALIGNMENT B3
 STA. 6884+00 TO 6912+00
 PLAN AND PROFILE

Contract No.
 HSR 06-0003
 Drawing No.
 CB0834
 SCALE
 AS SHOWN
 SHEET NO.
 5 OF 31



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REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
J. ENRIQUEZ
 DRAWN BY
E. TANAKA
 CHECKED BY
G. WALKER
 IN CHARGE
R. COFFIN
 DATE
 12/31/13

RECORD SET 15%
 DESIGN SUBMISSION
 NOT FOR
 CONSTRUCTION



CALIFORNIA HIGH-SPEED TRAIN PROJECT
FRESNO TO BAKERSFIELD
 BAKERSFIELD URBAN SUBSECTION
 ALIGNMENT B3
 STA. 6912+00 TO 6940+00
 PLAN AND PROFILE

CONTRACT NO.
 HSR 06-0003
 DRAWING NO.
 CB0835
 SCALE
 AS SHOWN
 SHEET NO.
 6 OF 31