Project Report
Eastbrook to Shell Double Track
SANDAG CIP Project #1239809

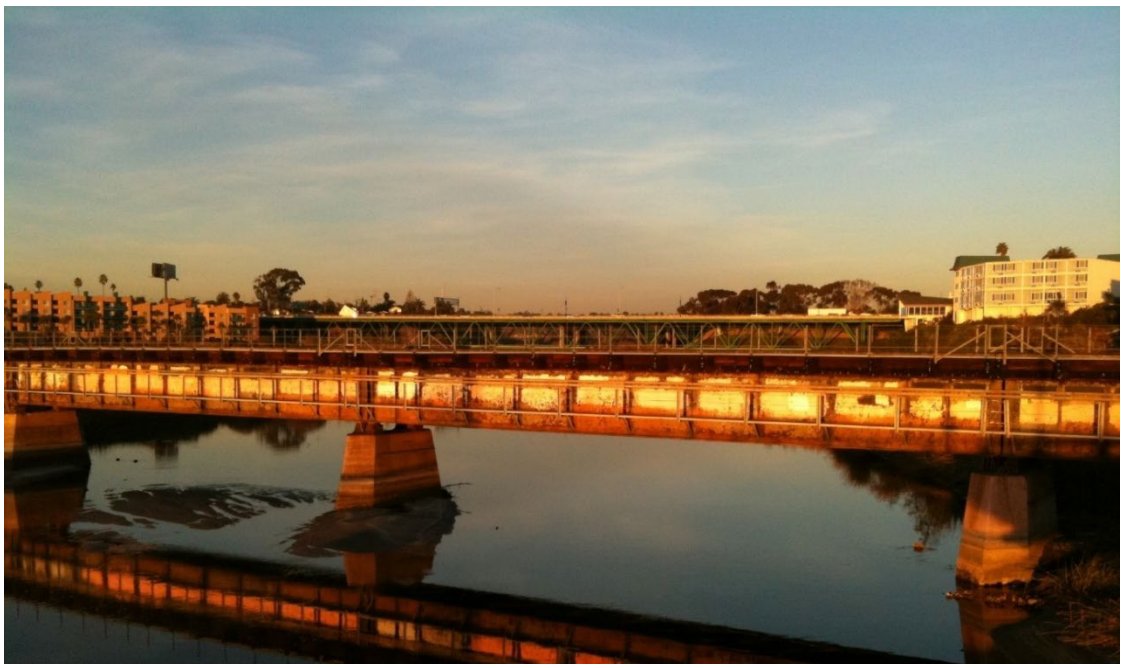


Photo of San Luis Rey River railway bridge built in 1916.

On Route LOSSAN Corridor

Between CP East Brook near Harbor Drive, City of Oceanside

And CP Shell near Pier View Way, City of Oceanside

San Diego Association of Governments – www.sandag.org

November 12, 2026

Eastbrook to Shell Double Track Project Report

Revision Log			
Revision Date	**Author**	**Organization**	**Description**
December 2024	Blake Loftus, PE	RailPros Inc.	PSR Update to reflect the revised funding schedule
February 3, 2026	George Karayiannis, PE	SANDAG	Updated per SANDAG Capital Project Cost Estimating Guide - December 2025 and new SANDAG Style Guidelines.
November 12, 2026	George Karayiannis, PE	SANDAG	Cost update based on recent Bid Prices

APPROVAL RECOMMENDED: *Tim DeWitt*_____*11/2/2026*

Tim DeWitt, PE. SANDAG Project Manager Date

APPROVAL RECOMMENDED: *B. Smith* _____*11/2/2026*

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APPROVED: *Clint Peace*_____*11/2/2026*

Clint Peace PE, SANDAG PPM Director Date

Vicinity Map



Vicinity Map with Railroad limit - CP Shell to CP Eastbrook (looking North)



San Luis Rey River mouth and Oceanside Harbor (looking Northwest)

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1. Introduction

The project involves the improvement of a 0.6-mile-long segment of single track to a double track between LOSSAN San Diego Railroad Control Point (CP) Eastbrook at Mile Post (MP) 225.3 and CP Shell at MP 225.9. This project also includes the replacement of the existing 700-foot long, single-track San Luis Rey River bridge (BR 225.3) built in 1916, shown below, with a new, modern double-track concrete girder bridge. The existing rail bridge was built in two phases. Piers 1 to 4 were constructed in 1916 after the great flood, while the northern piers 5 and 6 and the north abutment were built in1925. Other associated improvements include the realignment of an existing Class I Bike Path, extending an existing pedestrian underpass (BR 225.33), grading, drainage, and signal improvements, and double tracking of the Surfrider at-grade crossing, which is an FRA approved Quiet Zone (CPUC #106-225.30-B).



Figure 1: Bridge 225.3 over the San Luis Rey River, view Southwest

The Project will connect two existing double track segments to create a continuous 10.3-mile double track segment. This is more fully described in the Project Purpose and Need section. The Project also replaces the existing turnout at CP Shell with a new right-hand, No. 14 crossover. This provides operational flexibility for eastbound trains to choose Platform 1 or 2 as they approach the Oceanside Transit Center.

This Project Report is an update to the Project Study Report (PSR) dated December 2024. Since the last PSR, there have been no engineering changes, however the cost has been re-evaluated due to current market conditions. The Project cost estimate to completion is currently estimated at $244 million. (Attachment C) SANDAG is directly responsible for funding and implementation of the Project. Primary stakeholders include NCTD, BNSF, Metrolink, Amtrak, and the City of Oceanside.

2. Background

The proposed project is located in the City of Oceanside on the Los Angeles-San Diego-San Luis Obispo (LOSSAN) Corridor between Control Point (CP) East Brook at Railroad Milepost (MP) 225.3 and CP Shell at MP 225.9. The project is fully within existing railroad right of way owned by North County Transit District (NCTD).



Figure 2: LOSSAN Corridor in San Diego County Project Location

3. Project Management Responsibilities

Project management will be performed by SANDAG. SANDAG will use existing on-call engineering and environmental services contracts to expedite delivery of Final Design ready to list PS&E. SANDAG will issue a Request for Qualifications Proposal to secure a Construction Management consultant of this project. As has been done on previous projects, SANDAG will design and construct improvements under the existing memorandum of understanding with NCTD. SANDAG will work cooperatively with the environmental resource agencies and other stakeholders in delivering the project.

4. Purpose and Need

The purpose of the project is two-fold: eliminate the 0.6-mile single-track bottleneck between CP East Brook and CP Shell and replace the aging single track San Luis Rey River Bridge built in 1916 with a new double track bridge. This will increase rail capacity and reliability on the LOSSAN Corridor.

The Project is necessary to support growth and meet future rail service demand throughout the LOSSAN Corridor while maintaining safety. To provide for future demand for rail services on the corridor, double tracking this segment is required. Without increasing the amount of double track on the LOSSAN corridor, increases in train service will not be possible without degrading overall service reliability.

The existing single track within the project limits negatively affects reliability in the corridor. This segment of track requires meeting or passing trains to take turns using the single track which reduces operational flexibility and results in delays to other trains if a train is late. By adding a second track, the project would eliminate the waiting requirement and reduce the effects of cascading delays.

This project and adjacent sections of passing track will result in a 10.3-mile continuous double track segment. There are existing double track segments both north and south of the project. The existing southerly double track extends 2.5 miles from CP Shell to CP Longboard. The existing northerly double track extends 7.2 miles from CP East Brook to CP Pulgas. (See Figure 3 below). This includes the double track installed as part of the Santa Margarita River Bridge Project completed in March 2014. This results in a post-Project, combined total double track segment of 10.3 miles, thus removing the existing 0.6-mile bottleneck.



Figure 3: Map of 10.3-mile, Continuous Double Track

5. Deficiencies

In addition to providing a second main track to this portion of the LOSSAN corridor, the project replaces the San Luis Rey River Bridge which was constructed in 1916 and contains potentially hazardous materials such as lead-based paint and creosote-soaked railroad ties. Components of the existing steel bridge are corroding in the high salinity marine environment and require regular maintenance repairs. See photos below



.Figure 4a: San Luis Rey railway Bridge 225.4 – Photos of steel corrosion

In October 2022 a slow order, reducing freight traffic to 20 mph, was placed on the bridge as the lateral steel bracing system in all seven spans was determined to have reduced capacity through corrosion-based section loss. NCTD has designed and implemented repairs to lateral steel bracing under the bridge to restore normal operating speeds and NCTD has lifted the slow order.



Figure 4b Lateral bracing corrosion and replacement

A new modern, double-track concrete girder bridge will be constructed and will improve the safety and reliability for the LOSSAN Corridor by reducing bridge maintenance requirements and the potential for failure.

As the only viable rail line to the port of San Diego, and the second busiest passenger rail line in the United States, there would be substantial ramifications if the rail line was taken out of service due to a bridge failure event. It is currently estimated that a one year shut down to rebuild a portion of the rail line would cost the region approximately $300 million in lost revenue. See the attached economic impacts analysis performed in 2021 to assess impacts of rail closure on the region.

6. Corridor and System Coordination

Current Rail Service

The following companies/agencies provide rail service on this portion of the LOSSAN corridor:

Amtrak

Amtrak operates weekday Pacific Surfliner intercity service between Oceanside and Downtown San Diego, providing 26 trains per weekday. Major cities served are San Diego, Solana Beach, Oceanside, Santa Ana, Fullerton, Anaheim, Los Angeles, Santa Barbara, and San Luis Obispo. Amtrak plans to increase weekday Pacific Surfliner service to 60-minute frequency by 2035.

BNSF Railway

The BNSF Railway operates freight rail service throughout the San Diego portion of the LOSSAN corridor, seven days per week. Typically, three to four freight trains operate per day. The BNSF freight service is both local and national in scope and the LOSSAN Corridor is the only viable rail link between San Diego and the rest of the country.

Metrolink

The Southern California Regional Rail Authority (SCRRA) operates Metrolink commuter services between Oceanside and Los Angeles and between Oceanside and Riverside, providing 13 trains per day Monday through Friday and 12 trains per day on the weekends.

Stuart Mesa Maintenance Facility

Stuart Mesa Maintenance Facility, located approximately 3 miles north of the project, provides overnight maintenance and storage for SCRRA Metrolink, BNSF Freight and NCTD COASTER trains originating and terminating in Oceanside. Four COASTER trains and three Metrolink trains depart and arrive in the maintenance yard each weekday, decreasing to two COASTER trains and two Metrolink trains per day during the weekend. Amtrak Pacific Surfliner and freight trains also pass through this single-track segment intermittently to access the maintenance facility.

7. Alternatives

The HNTB Team developed a 10% Alternatives Analysis Report (AAR) in order to recommend a preferred alignment and bridge type to the agency on November 15, 2011. Based on a combination of engineering, cost, and environmental factors, the HNTB team recommended that SANDAG construct a new dual mainline track and bridge on the east side of the existing track from MP 225.3 south to 225.7, with the track crossing over at that location and continuing on the west side of the existing track to MP 226.0.

A new double-track rail bridge will replace the existing single-track bridge. Removal of the existing bridge will better ensure the project will obtain a required "No-Rise" certificate from FEMA. The resulting configuration connects two existing double-track sections and thus continuous dual track between CP Pulgas MP 218 and CP Longboard 228.4.

The Report outlined the factors and data leading to the preferred alternative of a concrete bulb-tee girder bridge set on piers spaced at 100.5' intervals. This alternative resulted in lower construction cost, higher durability and lower maintenance, and aesthetics that match nearby concrete structures.

8. Community Involvement

A Public Involvement Plan was developed and implemented for the initial phase of the project in August 2013. SANDAG held a public open house meeting in 2013 and posted an updated fact sheet on the Project website in August 2022.

As part of the project development process, presentations were provided to stakeholder groups to share preliminary design concepts and gather feedback. The following are notable public meetings held and other outreach conducted by SANDAG:

There was an informational public meeting held in Oceanside on Wednesday, October 9, 2013 from 6:00 p.m. – 8:00 p.m. at Oceanside High School located at 1 Pirates Cove Way • Oceanside, CA 92054, on Planned Rail Improvements near Oceanside Harbor. SANDAG, in coordination with the North County Transit District (NCTD), Caltrans, and the City of Oceanside, held this informational meeting to give the public an opportunity to learn more about the future Eastbrook to Shell Double Track Project in northern Oceanside. Oceanside Councilmember Jack Feller was in attendance and provided opening remarks and listened to participants.

Project email updates were also sent out in September and December 2013 in support of the public outreach process.

The Project has also been discussed at several SANDAG and NCTD Board meetings.

Project improvements are proposed to occur within the railroad ROW and discussions with the City of Oceanside are ongoing. The California Public Utilities Commission and resource agencies also have been consulted regarding this project.

The California Coastal Commission conducted public outreach prior to the project's hearing on June 6, 2018.

SANDAG also conducted a meeting on the USACE 408 Permit status with the City of Oceanside on November 21, 2022.

In addition, public outreach will be conducted prior to and during construction.

9. Environmental Compliance

Key Environmental Constraints

Biological Resources

The majority of the study area is disturbed/developed land, although the project does cross the San Luis Rey River. Based on review of an aerial photo, adjacent sensitive native vegetation communities may include coastal sage scrub and riparian vegetation. Bloom Biological was retained to review the project area for impact on federally listed species of wildlife, particularly the coastal California gnatcatcher, Least Bell's Vireo, and Southwest Willow Flycatcher. The findings of Bloom Biological were provided in a report Dated July 27, 2012.

The report confirms that the majority of the project limits are within predominantly urban areas. The Bloom Biological report states that around the lagoon there is approximately 2.75 acres of willow riparian areas and 4.95 acres of an assemblage of coastal sage scrub species. These areas are noted to be small to support more than one or two endangered animals, however damage to these resources would require mitigation in accordance with the requirements of the regulatory resource agencies. Bloom Biological performed follow-up visits to determine if any of the potential endangered species have a presence in the target area. Timing of the visits was intended to coincide with the most likely time to find the birds in the habitat and recordings of bird calls were utilized to attempt to locate any of the animals. Bloom Biological, Inc. found no individuals of the Least Bell's Vireo, the Southwestern Willow Flycatcher, or the California gnatcatcher during the surveys.

Further study of the project area was performed by SWCA environmental Consultants to identify if any special-status plants would be affected by the work. The results of their study were presented in a report dated August 22, 2012. Based upon previous vegetation and habitat mapping SWCA noted that the area was a suitable habitat for San Diego Ambrosia and Brand's Phacelia. Biologists performed multiple surveys of the project area to identify the presence or absence of the special-status plants and found no San Diego Impacts to wetlands, aquatic resources, and waterways require authorization from US Army Corp of Engineers (USACOE) Pursuant to Section 404 of the Federal Clean Water Act, Regional Water Quality Control Board (RWQCB) pursuant to section 401 of the Federal Clean Water Act, and Federal Coastal Zone Management Act Consistency Certification will be required from the California Coastal Commission.

Although no listed fairy shrimp species have been detected to date, a habitat suitability study must be conducted prior to construction (focusing on the access roads). If any suitable habitat is found, then the Project must avoid these areas. If avoidance is not possible, then both wet and dry season surveys must be conducted to determine whether listed species are present. If listed species are present, consultation with the U.S. Fish and Wildlife Service must be conducted and additional Conservation Measures must be incorporated.

The Clean Water Act Section 401 Water Quality Certification was issued by the Regional Water Quality Control Board in September 2023, the Consistency Certification was concurred with by the California Coastal Commission in June 2018, the Clean Water Act Section 404 Nationwide Permit was issued by the U.S Army Corp of Engineers in April 2025, the Biological Opinion was issued by the U.S. Fish and Wildlife Service in September 2014 ., and the Section 408 permission was issued by the U.S. Army Corps of Engineers in November 2023. All approvals will be updated/renewed, as required.

Tidewater Goby

Prior to construction, blocking seines will be installed at least 50 feet upstream and downstream from the outer limits of the instream work footprint to minimize gobies from entering the work site during construction. After installing the blocking seines. all gobies will be seined from the work area by a USFWS-approved goby biologist and relocated to an area outside the perimeter of the blocking seines or coffer dams at the direction of the authorized goby biologist.

Prior to cofferdam(s) installation. blocking seines will be used as described previously to remove all gobies from within the boundaries of the blocking seines. After all gobies are removed. the cofferdam(s) will be installed within the inner limits of the blocking seines. and the area within the cofferdams will be dewatered. After the cofferdam(s) is/are installed and dewatered. the blocking nets will be removed to allow gobies to move through the diversion area during construction activities. Blocking seines will be reinstalled and all gobies within the perimeter of the blocking seines will be removed prior to and during removal of the cofferdam(s).

Cultural

Archaeologists from HNTB Corporation and SWCA Environmental Consultants conducted a site visit to analyze the conditions of the project site on September 15, 2011. San Diego Natural History Museum paleontologists conducted a site survey on October 19, 2011. In addition to these field visits, records searches were performed for cultural and paleontological resources. A prehistoric and historic archaeological resources assessment was conducted as part of the Alternatives Analysis Report during the 10% design phase. This assessment included compiling existing conditions data from a records search of the California Historical Resources Information System (CHRIS) at the South Coastal Information Center (SCIC), at San Diego State University (SDSU). An intensive field survey of the project area was completed to determine the presence of any previously unknown cultural resources.

An intensive-level cultural resources survey did not identify any archaeological resources within the Area of Potential Effect (APE).

On March 18, 2014, the SHPO concurred that no historic properties will be affected by the proposed project.

The results of any subsequent surveys or consultations with Tribes or the SHPO will be incorporated into the Project.

Paleontological Resources

Based on the results of the Paleontological resources review section of the AA report, the entire project area should be treated as paleontologically sensitive. Paleontological monitoring will be necessary in any area where earthwork activities would disturb native soils. Impacts to paleontological resources can occur during construction that involves any subsurface earthwork activity or rock removal, such as grading, excavation and trenching, blasting, and cuts into geological formations. The project area is primarily underlain by geological deposits with a high or moderate paleontological resource sensitivity, indicating a strong possibility that the ground, even at or near its surface, could contain significant fossil remains. Any project grading and excavation activities should be considered likely to cut into strata of potentially fossil-bearing deposits.

Hazardous Materials

An Environmental Site Assessment (ESA) was performed for the proposed project site between CP East Brook to CP Shell, including the 700-foot-long San Luis Rey River Bridge (BR. 225.4). The study identified potential hazardous substances that can potentially negatively impact the proposed construction site. These include chemicals such as total petroleum hydrocarbons (TPH), semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), creosote, pesticides, herbicides, and metals such as arsenic and lead. To identify hazardous substances within the soil, hand borings were taken within the existing NCTD ROW.

Laboratory analysis concluded that portions of soil contain heightened levels of arsenic and lead, including locations north of the San Luis Rey Bridge (BR. 225.4) to the northern project limits, and south of Surfrider Way to the southern project limits. In total, most of the soil that would be excavated and reused for construction does not represent significant environmental or health hazard. Only portions of heightened arsenic and lead will require special handling during the project construction phase.

Based on the results of the ESA, it is recommended that a soil management plan (SMP) be developed outlining the proper handling and disposal of contaminated soils at the project site. The plan should include the proper procedures for identification, monitoring, sampling, and testing of impacted soils that may be encountered during construction. Additionally, several railroad ties will require disposal at an appropriately licensed facility that handles treated wood waste (TWW). Lastly, lead based paint (LBP) abatement should be performed by a properly licensed contractor during the demolition of the San Luis Rey River Bridge (BR. 225.4), as LBP was identified on metal girders of the bridge.

Stormwater

The incorporation of best management practices (BMPs) during construction activities will be necessary to ensure compliance with federal effluent limitations. Recommended permanent BMP solutions may include the installation of a curb, and the installation of rock check dams and/or lining the channel within the ROW with concrete or rip rap on a geotextile fabric.

HNTB has prepared a Draft- stormwater pollution prevention plan (SWPPP) dated January 2022

Environmental Clearance & Permits

Construction of the proposed project will impact wetlands and aquatic resources. Authorizations from both state (RWQCB) and federal (USACOE) agencies have been obtained.

The project was cleared through a Categorical Exclusion by the Federal Railroad Administration (FRA) as the lead agency under the National Environmental Policy Act (NEPA). Section 106 of the National Historic Preservation Act was completed as part of this NEPA process. The Project is permitted with the USACOE under 33 U.S. Code Section 408, ensuring that the project will not impact the adjacent USACOE Levee, which would endanger public safety. As part of the Section 408 permitting process, the USACOE reviewed the NEPA Environmental Assessment (EA) that was prepared by SANDAG in 2021. The Interstate Commerce Commission Termination Act ("ICCTA"), 49 U.S. Section 10101 et seq., preempts the Proposed Project from the CEQA.

Permitting under the Federal Clean Water Act, Sections 401 (RWQCB) and 404 (USACOE) permits has been cleared. In 2005, the U.S. Fish and Wildlife Service (USFWS) issued a Programmatic Biological Opinion (PBO) to the FRA for the rail corridor from the Orange County border to southern Oceanside, including the Proposed Project. Subsequently, in 2014, USFWS issued an amendment to the PBO to address the Proposed Project at a project level.

Under CEQA Title 14, Article 18, Section 15275, "the institution or increase of passenger or commuter service on rail lines or high-occupancy vehicle lanes already in use, including the modernization of existing stations and parking facilities" are considered to have Statutory Exempt status. A portion of City parking lot property required to the west of MT2 was previously owned by the Railroad and is currently used for public transportation purposes; and the City parking lot properties to the east of MT1 are currently used for public transportation purposes. Due to previous ownership and current use of the properties, both might be exempt from LCP permitting and/or considered CEQA Statutorily Exempt. However, the City of Oceanside Redevelopment Plan shows these properties to fall within areas designated as "High Density Residential" and "Commercial Retail and Office". In addition, while the Oceanside LCP Land Use Plan does not specifically mention whether the parking lots should be considered beach access parking, the Plan does mention that additional parking spaces between Breakwater Way and Wisconsin Ave would make more beach frontage conveniently available to visitors arriving by automobile.

The following table summarizes the environmental clearance and permits obtained with Federal, State, and Local environmental agencies.

Permit or Approval	Responsible Agency	Date Issued
Federal		
NEPA Categorical Exclusion	FRA	September 2014*
Programmatic Biological Opinion (PBO) amendment	U.S. Fish and Wildlife Service (USFWS)	September 2014
Section 404 Clean Water Act	United States Army Corps of Engineers	April 2025
33 U.S. Code Section 408	United States Army Corps of Engineers	November 2023
State		
Section 106 - No historic properties will be affected	State Office of Historic Preservation (SHPO)	March 2014
Section 401	Regional Water Quality Control Board	September 2023
Coastal Consistency Concurrence	California Coastal Commission (Federal Consistency Unit)	June 2018

Permit or Approval	Responsible Agency	Date Issued
Rail Crossings (GO 88-B and Formal Application)	California Public Utilities Commission	December 2021

*Revalidation anticipated within six months.

Environmental Mitigation

SANDAG will mitigate the impacts to 0.3-acre(s) of wetland waters of the U.S., the Permittee shall provide documentation verify the acquisition of 0.6-acre of wetland waters the U.S. re-establishment credits at the San Dieguito Lagoon W-19 Mitigation Site.

According to the final, approved mitigation plan, Final Habitat Mitigation and Monitoring Plan for the San Dieguito Lagoon W-19 Restoration Project" dated November 2020 and prepared by AECOM, San Diego Association of Governments (SANDAG) is responsible for the implementation, performance, and long-term management of the San Dieguito Lagoon W19 Mitigation Site. SANDAG retains ultimate legal responsibility for meeting the requirements of the final approved mitigation plan. Any requirements for financial assurances and/or long-term management provisions are also described in the above final, approved mitigation plan, as well as in Corps permit number SPL-2004-01089-SJH.

10. Funding, Programming, and Estimate

As outlined in the TransNet Ordinance, capacity enhancing improvements along the LOSSAN corridor are eligible for TransNet sales tax matching funds. This project is included in SANDAG's FY 2026 Capital Budget.

Previous and Current Funding:

Previously funded project phases included completion of preliminary design and environmental clearance. These funds were awarded in July 2010 and included:

- $3,526,000 in Federal PRIIA Funding

In FY2018, to complete final design and permitting, SANDAG was awarded:

- $1,441,000 in SB1 Local Partnership Program (LPP) funding
- $10,899,000 in additional TransNet matching funds

In FY2023, SANDAG was awarded the following for Construction:

In FY2024, SANDAG was awarded the following for Construction:

- $26,836,000 in Transit and Intercity Rail Capital Program (TIRCP) Funding

In FY2027, SANDAG was awarded the following for Construction:

- $124,429,778 in FRA Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program (CRISI) Funding

Total Project Funding to Date = $167,131,000

Future Funding Needed:

To move into the construction phase and complete the project, SANDAG is seeking funding in the additional amount of:

$253,647,000 (Total Project Cost Estimate – See Attachment C)

$167,130,000 (Total Project Funding to Date)

$86,517,000 TOTAL AMOUNT NEEDED

11. Projected Delivery Schedule

Project Report Updated	October 2026
Begin Environmental (PA&ED) Phase	July 2011
Begin Design (PS&E) Phase	July 2011
Interagency agreement with RTA Exhibit A	December 2012
Circulated Draft Environmental Document	August 2013
MOU 18 with Rail Operator	October 2013
End Environmental Phase (PA&ED)	August 2014
Construction Funding Awarded (Federal from FRA)	July 2026
Construction Funding Awarded *(Matching from State anticipated)*	*July 2027*
Grant Execution for Construction funds	January 2028
MOU 18 Exhibit A with NCTD for Construction	Grant Execution plus 6 Mo.
RTA design completion agreement and release to contracts	September 2028
End Design Phase (Ready to List for Advertising)	October 2028
Construction Notice to Proceed (CNTP)	March 2029
End Construction (Construction Contract Acceptance)	CNTP +30Months
End Closeout Phase (Closeout Report)	CNTP + 48 Months

12. Risks

Risk mitigation strategies for the Project are guided by the LOSSAN Program Management Plan (PMP). The PMP follows industry best practices as identified in the Caltrans Project Risk Management Handbook and the Project Management Institute's Practice Standard for Project Risk Management and A Guide to the Project Management Body of Knowledge.

SANDAG has developed and maintains a risk register for each capital project, which defines potential risks, the potential impacts of those risks, and strategies to mitigate those risks. The largest dollar figure risks are included in the five categories shown in Table 1. SANDAG will maintain and update the risk register throughout the Final Design and Construction phases of the Project. An initial Risk Management Review Meeting will be held upon the start of construction and at major project milestones. Since risks change or arise as the Project progresses, the risk register will be re-evaluated throughout the Project by the SANDAG PM.

The major risks to the project include:

Table 1: Top Five Risks

Risk Category	Risk Description	Mitigation Strategy
Project Management (Budget)	Inflation is higher than what is estimated	The Project Report has been updated to include recent construction bid rates, with a construction contingency of 10%. Inflation estimates have been made using SANDAG's Rail construction Index to escalate the project costs to the mid-point of construction.
Construction	Schedule Delays due to missing AWW	Project management strategies to mitigate this risk include detailed schedule tracking by Project phase. Schedule around existing pre-approved AWWs.
Construction	Pile Installation close to existing bridge (specifically caving)	Substantial geotechnical review and design have been performed with a high level of confidence in the existing conditions. New piles are cased to minimize the risk of soil caving during construction.
External	Assumed laydown areas will be available in existing Parking lots	Agreements for the Laydown areas will be finalized upon securing construction funding.
Environmental	FRA NEPA CE was obtained in 2014 and the revalidation take longer than anticipated	SANDAG is currently working with the FRA to revalidate the CE. This process is anticipated to be completed within six months of the adoption program (March 2027).

13. External Agency Coordination

This project has been identified as a Priority Project for SANDAG and NCTD as an organization. SANDAG is actively pursuing funding opportunities and coordinating with various agencies, described below, to implement this project in a timely fashion.

The project requires the following coordination:

Federal Railroad Administration (FRA)

NEPA Clearance was initially obtained in September 2014. FRA Staff recently advised that the NEPA clearance would need to be revalidated once full funding was obtained for the project. Per meeting with FRA in November 2, 2026, revalidation will take up to six (6) months.

State Funding:

SANDAG has been successful in obtaining Transit and Intercity Rail Capital Program (TIRCP) Funding for construction.

Local Agency

Agreements with NCTD are as follows:

It is the objective for SANDAG and NCTD to improve reliability of existing passenger rail services. The East Brook to Shell Double Track Project directly supports this objective. The proposed project is consistent with key regional and corridor plans including the SANDAG 2025 Regional Plan and the LOSSAN Program Environmental Impact Report / Environmental Impact Statement by Caltrans and the Federal Railroad Administration (Record of Decision 2009).

SANDAG and NCTD have a Memorandum of Understanding (MOU 18) in place outlining roles and responsibilities for development and implementation of capital projects in the LOSSAN corridor.

Agreements with City of Oceanside will be obtained once construction funding is awarded.

14. Project Reviews

The following Design and Environmental documents reviews have been completed:

- Design Plans, specifications, and estimates have been prepared and reviewed at the 30%, 60%, 90%, and 100% design stages.
- Design reports have been prepared and reviewed as follows:
  - Basis of Design Report
  - Geotechnical Report
  - Bridge Foundations Report
  - Alternatives Analysis Report
  - Hydrology and Hydraulics Report
  - Environmental Constraints Report
- Environmental clearance as outlined in the Environmental Clearance section of this Report.
- Permits have been obtained as outlined in the Environmental Clearance section of this report.
- Appropriate environmental Mitigation outlined in the Environmental

Mitigation section of this report.

Final Design and preconstruction with FRA funding activity

- Revalidate NEPA
- Time extension for USACOE section 408 Permit
- Prepare Issue for Bid (IFB) Set of Plans and Specifications once Construction funds become available.
- Bid and Award and manage construction contract
- Negotiate an agreement with City of Oceanside for construction staging area and utility relocation

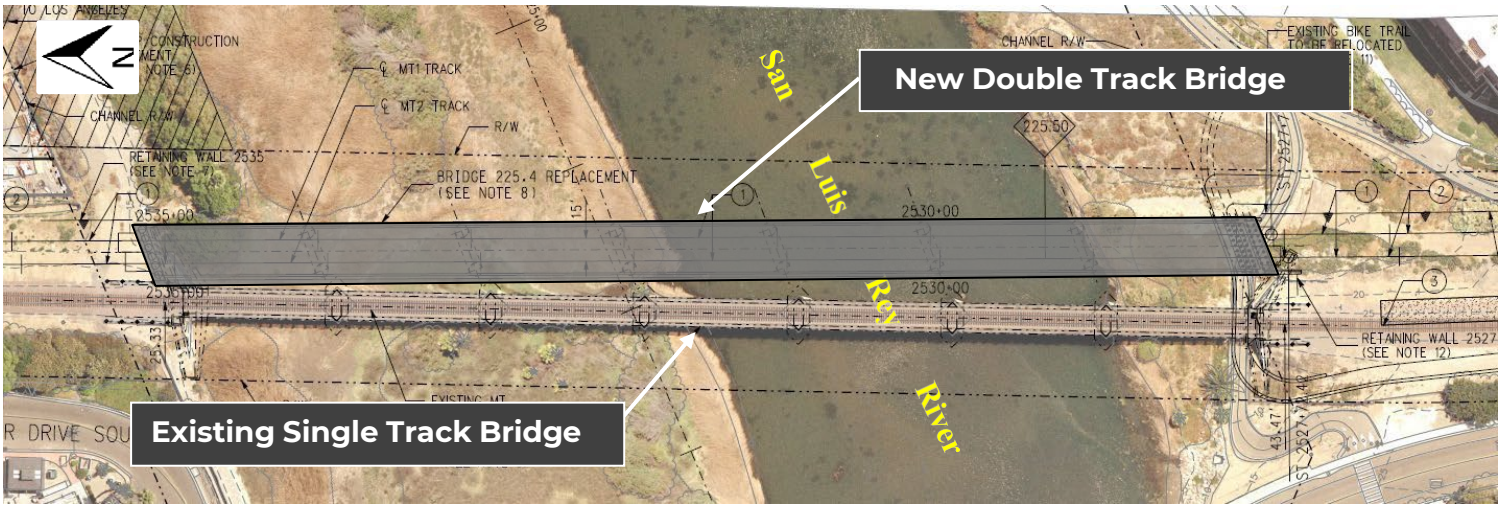


Figure 5: New Concrete Double Track Bridge over the San Luis Rey River

The following Construction work elements are anticipated per the 100% PS&E

- Replacement of existing steel, single track bridge (BR225.4) spanning 700 feet over the San Luis Rey River with a concrete double track bridge.
- Extension of existing pedestrian undercrossing (BR 225.33) connecting Harbor Drive to a city-owned parking lot due to the new second main track (located 250 feet south of CP East Brook).
- Installation of 6,000 track feet (TF) of new track and two new No. 14 crossovers.
- Realignment of 900 TF of existing track.
- Approximately 200 lineal feet of retaining wall averaging 10-ft. in height.
- Approximately 500 lineal feet of retaining wall averaging 15-ft. in height.
- Placement of 7,400 cubic yards of embankment.
- An at-grade crossing for the new second track and relocation of and upgrade of existing grade crossing warning devices (Surfrider – MP 225.9).
- Relocation of fiber optic line and 10-in. sewer line (located on existing bridge).
- Relocation of 500 lineal feet of concrete drainage ditch.
- Installation of one control point for a universal crossover.
- Installation of 0.6 track-miles of Centralized Traffic Control (CTC) signaling, plus miscellaneous signal upgrades.

15. Project Personnel

Name	Title	Agency/Firm	Office
Atayee, Omar	Principal Engineer PPM	SANDAG	(619) 595-5319
Cortez, David PE	Director of Engineering and construction	SANDAG	(619) 595-5315
DeWitt,Tim PE	Project Manager	SANDAG	(619) 595-5613
Greer, Keith	Environmental Planning Deputy Director	SANDAG	(619) 699 7390
Goldinez, Ralph	Flagging	Jacobs	(760) 975-9692
Hahn,Chris PE	HNTB Project Manager	HNTB	(619) 684-6576
Karayiannis, George PE	Senior Engineer	SANDAG	(619) 850-2958
Martinez, Beth	Environmental Consultant	HELIX, Environmental	(619) 462-1515
Mena, Jesus, PE	Construction Manager	SANDAG	(760) 576-9445
Romana, Jerry	Senior Rail Engineer	NCTD	(760) 435-9126
Pesce, Tim	Environmental Planner	SANDAG	(619) 595-5374
Ussenova, Dinara PE	Project Manager	SANDAG	(619) 699-7339
Venky Ganesan, PE	Principal Construction Engineer	SANDAG	(619) 595-5367
Vacant	Director of Railroad Engineering	NCTD	
Smith, Bruce, PE	OES Principal Engineer	SANDAG	(619) 699-1907
Sweitzer, Brandy	Manager of Outreach and Engagement	SANDAG	(619) 595 5610
Webber, Marc PE	Vice President	HNTB	(619) 684 6562

16. Attachments

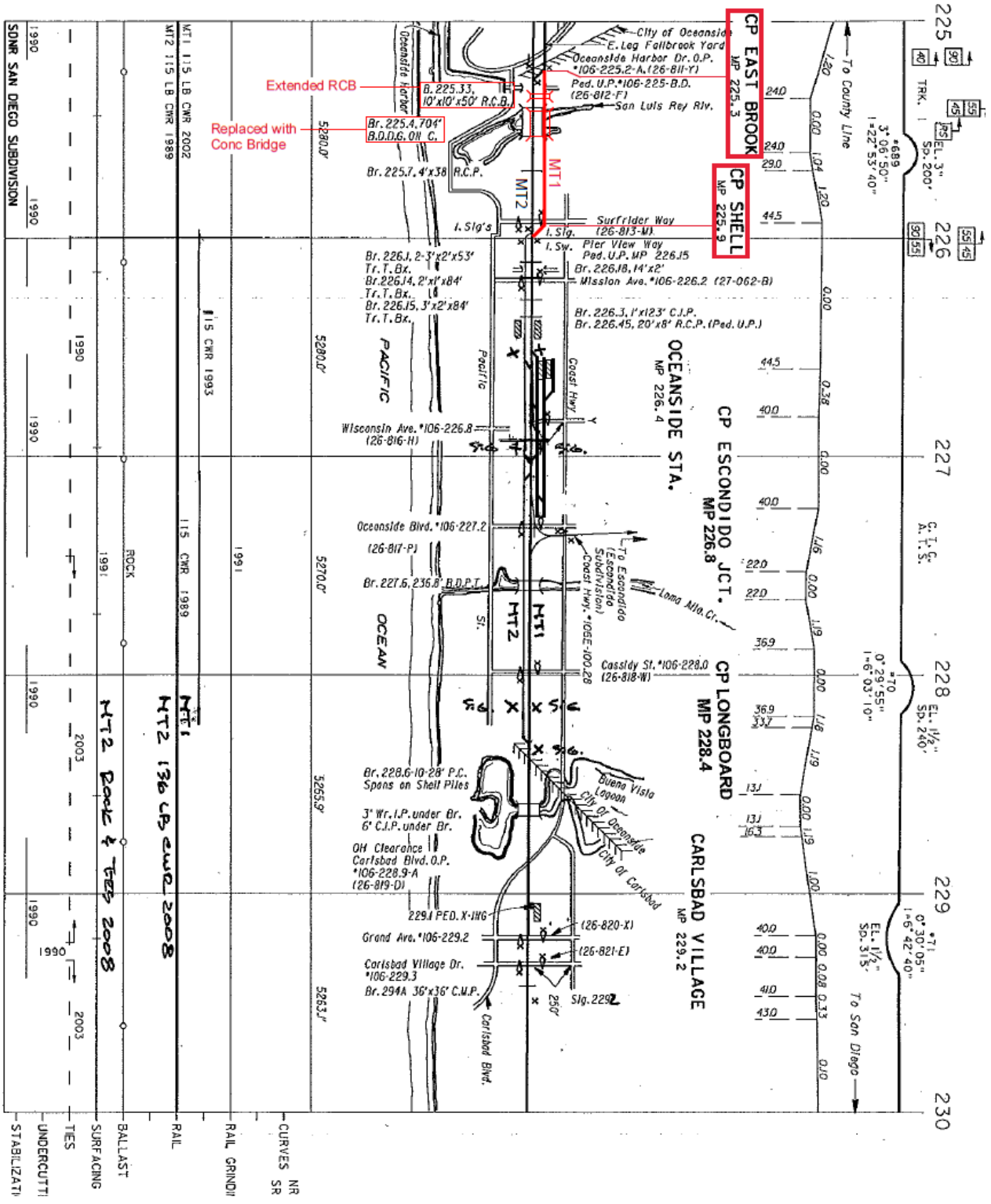
A. Location map (Track Chart MP 225 to MP 230 on the LOSSAN Corridor)
B. EBSDT Layout Drawings
C. Detailed Cost Estimates
D. Risk Matrix

17. References

A. 10% Alternatives Analysis Report East Brook to Shell Double-Track Project Task Order #63 Contract #5000923, HNTB, November 15, 2011.
B. Biological Opinion No. FWS-SDG-08B0311-14F0231 for the Rail Corridor from the Orange County Border South to Southern Oceanside for Operations and Maintenance and for Six Double Track Projects - East Brook to Shell Double Track Project, San Diego County, California (1-6-05-P-4132.2), Dated September 12, 2014
C. NEPA Environmental Clearance with a Categorical Exclusion, Dated September 24, 2014 from Federal Railway Administration.
D. California Coastal Commission Consistency Certification CC-000i-18 (Eastbrook to Shell Double Track Project, Oceanside, San Diego County) June 7, 2018
E. Infrastructure Development Plan for the LOSSAN Rail Corridor in San Diego County by WSP on June 7, 2018
F. Economic Impact of the Los Angeles-San Diego-San Luis Obispo (LOSSAN) Rail Corridor on the San Diego Region, San Diego Regional Rail Corridor Alternative Alignment and Improvements Conceptual Engineering Study, HDR Inc. May 2021
G. Final soil management plan prepared by Leighton consulting, inc., January 18, 2022

H. Final Phase II environmental site assessment Prepared by Leighton consulting, inc., January 18, 2022
I. Bridge MP 225.3 Foundation Report for the Bridge MP 225.3 Underpass in the City of Oceanside, prepared by Earth Mechanics on January 18, 2022
J. Geotechnical Design Report, Earth Mechanics, Inc. On January 18, 2022
K. 100% Final Hydrology and Hydraulics by HNTB on August 22, 2013 and 100% Final January 18, 2022
L. Draft- stormwater pollution prevention plan (SWPPP) for order no. 2012-0006-dwq prepared by HNTB in January 2022
M. State of California regional water quality control board clean water act section 401 water quality certification, February 3, 2023 file number R9-2018-0039.
N. Department of the Army 33 U.S.C. Section 408 permission U. S. Army Corps of Engineers. Permission number: spl-408-2016-068408 dated November 16, 2023
O. U.S. army corps of engineers (file no. Spl-2018-00137-wsz) March 26, 2024.

Attachment A - Location map (Track Chart)



Attachment B - EBSDT Layouts

PLANS FOR THE CONSTRUCTION OF THE
CP EAST BROOK TO CP SHELL DOUBLE TRACK PROJECT

MP 225.16 TO MP 226.11

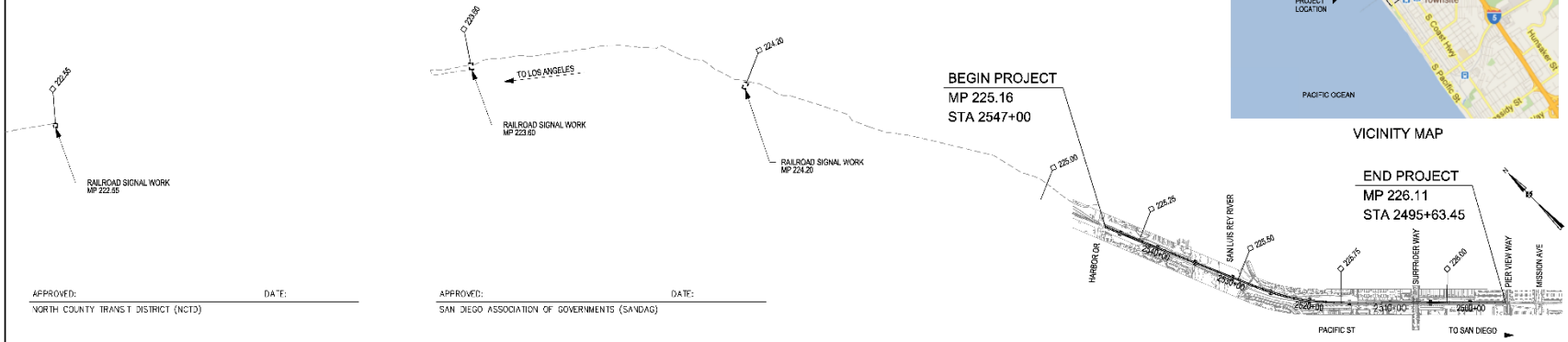
SAN DIEGO ASSOCIATION OF GOVERNMENTS



LOCATION MAP



VICINITY MAP



APPROVED: DATE:
NORTH COUNTY TRANSIT DISTRICT (NCTD)

APPROVED: DATE:
SAN DIEGO ASSOCIATION OF GOVERNMENTS (SANDAG)

NO.	DATE	REVISIONS	BY	CHK	APRV
01	01/18/22	100% DESIGN SUBMITTAL			

HNTB 401 B Street Suite 301 San Diego, CA 92101

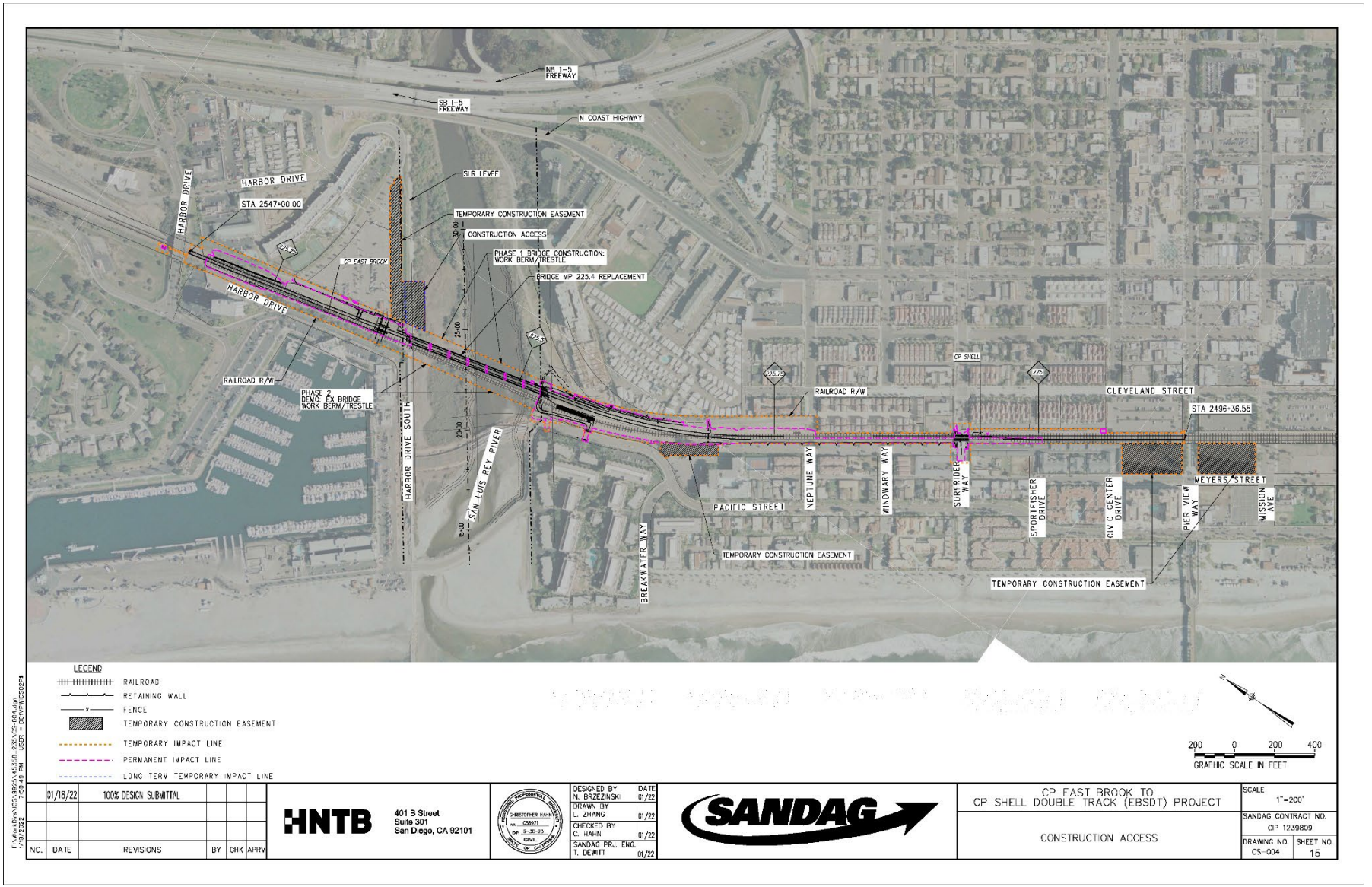
		DATE
DESIGNED BY	A. LANGTRY	01/22
DRAWN BY	M. COOPER	01/22
CHECKED BY	C. HAHN	01/22
SANDAG PR. ENG.	T. DEWITT	01/22

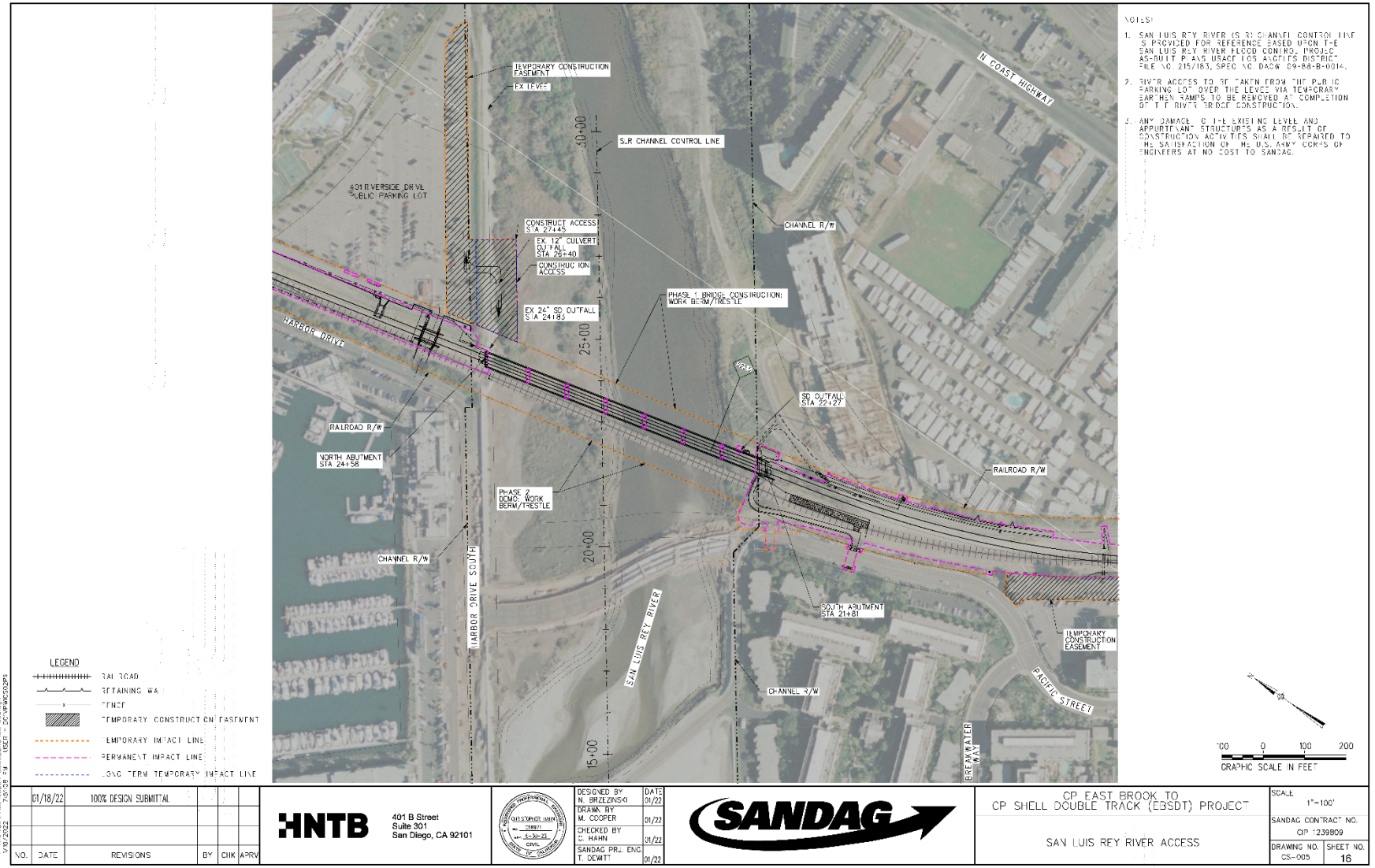
SANDAG

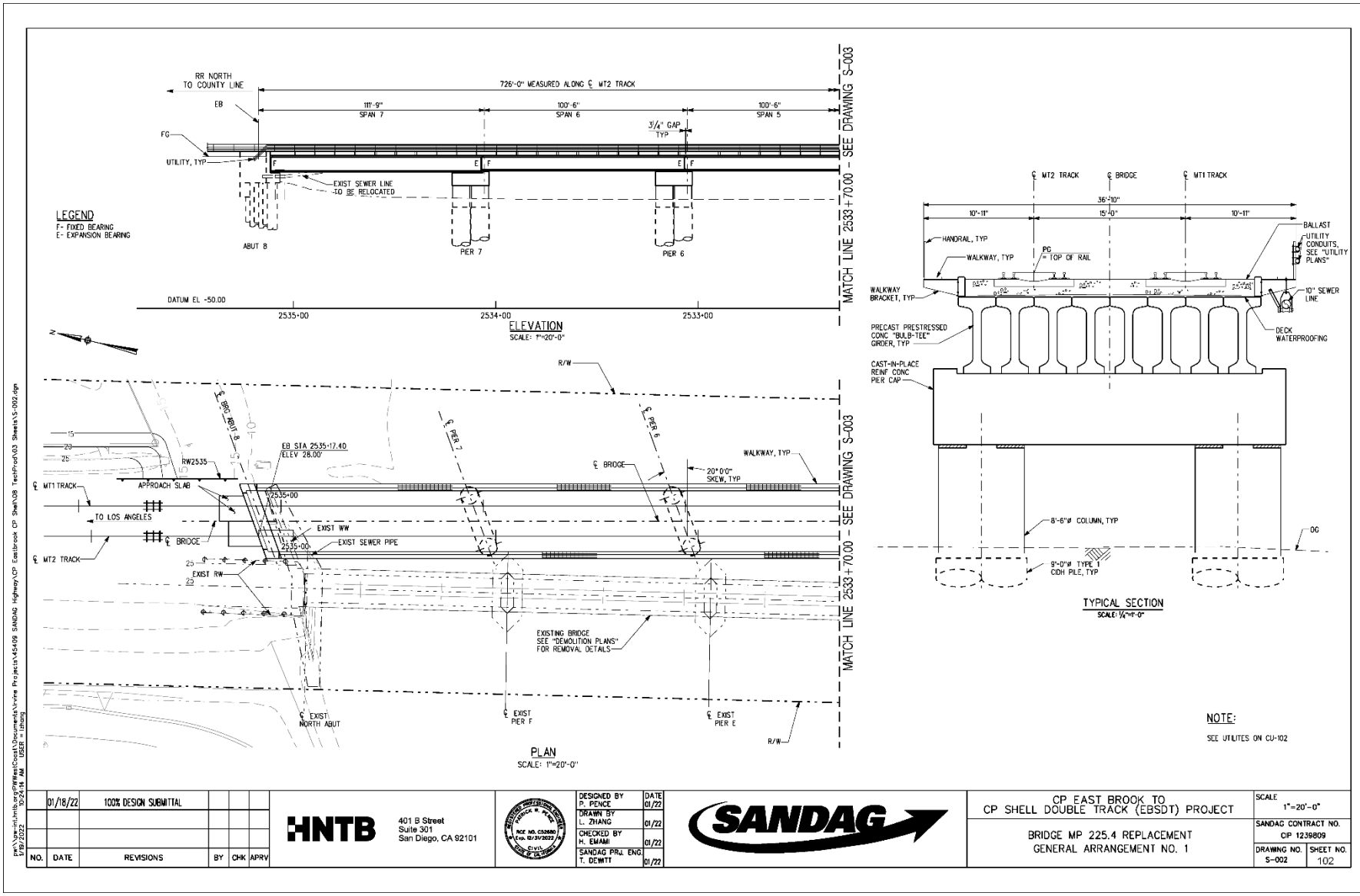
CP EAST BROOK TO CP SHELL DOUBLE TRACK (EBSDT) PROJECT

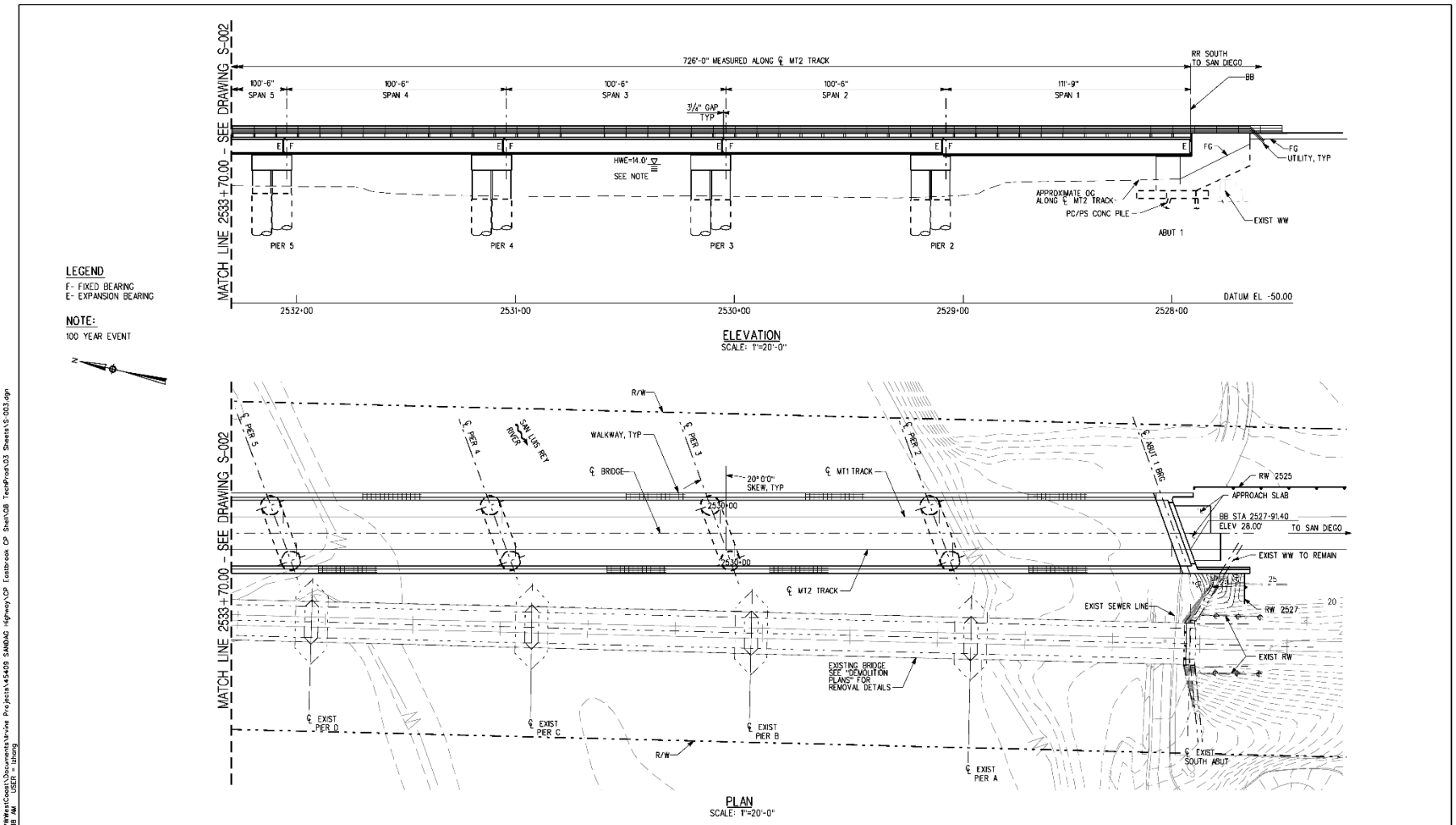
TITLE SHEET

SCALE: NTS
SANDAG CONTRACT NO. CIP 1239809
DRAWING NO. GN-001
SHEET NO. 1


NB I-5 FREEWAY
SB I-5 FREEWAY
N COAST HIGHWAY
HARBOR DRIVE
STA 2547+00.00
SLR LEVEE
TEMPORARY CONSTRUCTION EASEMENT
CONSTRUCTION ACCESS
PHASE 1 BRIDGE CONSTRUCTION: WORK BERM/TRESTLE
BRIDGE MP 225.4 REPLACEMENT
CP EAST BROOK
RAILROAD R/W
PHASE 2 DEMO. EX. BRIDGE WORK BERM/TRESTLE
HARBOR DRIVE SOUTH
SAN LUIS REY RIVER
CP SHELL
CLEVELAND STREET
STA 2496+36.55
MEYERS STREET
PACIFIC STREET
NEPTUNE WAY
WINDWARY WAY
SURFRIDER WAY
SPORTFISHER DRIVE
CIVIC CENTER DRIVE
PIER VIEW WAY
MISSION AVE
BREAKWATER WAY
LEGEND
RAILROAD
RETAINING WALL
FENCE
TEMPORARY CONSTRUCTION EASEMENT
TEMPORARY IMPACT LINE
PERMANENT IMPACT LINE
LONG TERM TEMPORARY IMPACT LINE
200 0 200 400
GRAPHIC SCALE IN FEET
01/18/22 100% DESIGN SUBMITTAL
NO. DATE REVISIONS BY CHK APRV
HNTB 401 B Street Suite 301 San Diego, CA 92101
DESIGNED BY N. BRZEZINSKI 01/22
DRAWN BY L. ZHANG 01/22
CHECKED BY C. HAHN 01/22
SANDAG PRJ. ENG. T. DEWITT 01/22
SANDAG
CP EAST BROOK TO CP SHELL DOUBLE TRACK (EBSDT) PROJECT
CONSTRUCTION ACCESS
SCALE 1"=200'
SANDAG CONTRACT NO. CIP 1239809
DRAWING NO. CS-004
SHEET NO. 15


NOTES:
1. SAN LUIS REY RIVER (S.R.) CHANNEL CONTROL LINE IS PROVIDED FOR REFERENCE BASED UPON THE SAN LUIS REY RIVER FLOOD CONTROL PROJECT AS-BUILT PLANS USACE LOS ANGELES DISTRICT FILE NO. 215/183, SPEC. NO. DACW 09-88-B-0014.
2. RIVER ACCESS TO BE TAKEN FROM THE PUBLIC PARKING LOT OVER THE LEVEE VIA TEMPORARY EARTHEN RAMPS TO BE REMOVED AT COMPLETION OF THE RIVER TRAIL CONSTRUCTION.
3. ANY DAMAGE TO THE EXISTING LEVEE AND APPURTENANT STRUCTURES AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE U.S. ARMY CORPS OF ENGINEERS AT NO COST TO SANDAG.
TEMPORARY CONSTRUCTION EASEMENT
EX LEVEE
S.R CHANNEL CONTROL LINE
N COAST HIGHWAY
401 RIVERSIDE DRIVE PUBLIC PARKING LOT
CONSTRUCT ACCESS STA 27+45
EX. 12" CULVERT OUTFALL STA 26+40
CONSTRUCTION ACCESS
CHANNEL R/W
PHASE 1 BRIDGE CONSTRUCTION: WORK BERM/TRESTLE
EX. 24" SD OUTFALL STA 24+83
HARBOR DRIVE
SD OUTFALL STA 22+27
RAILROAD R/W
NORTH ABUTMENT STA 24+58
PHASE 2 DEMO. WORK BERM/TRESTLE
RAILROAD R/W
CHANNEL R/W
HARBOR DRIVE SOUTH
SOUTH ABUTMENT STA 21+81
SAN LUIS REY RIVER
TEMPORARY CONSTRUCTION EASEMENT
PACIFIC STREET
CHANNEL R/W
BREAKWATER WAY
50+00
25+00
20+00
15+00
LEGEND
RAILROAD
RETAINING WALL
FENCE
TEMPORARY CONSTRUCTION EASEMENT
TEMPORARY IMPACT LINE
PERMANENT IMPACT LINE
LONG TERM TEMPORARY IMPACT LINE
100 0 100 200
GRAPHIC SCALE IN FEET
NO. DATE REVISIONS BY CHK APRV
01/18/22 100% DESIGN SUBMITTAL
HNTB 401 B Street Suite 301 San Diego, CA 92101
DESIGNED BY N. BRZEZINSKI DATE 01/22
DRAWN BY M. COOPER 01/22
CHECKED BY C. HAHN 01/22
SANDAG PR. ENG. T. DEWITT 01/22
SANDAG
CP EAST BROOK TO CP SHELL DOUBLE TRACK (EBSDT) PROJECT
SAN LUIS REY RIVER ACCESS
SCALE 1"=100'
SANDAG CONTRACT NO. CIP 1239809
DRAWING NO. CS-005
SHEET NO. 15


RR NORTH TO COUNTY LINE
726'-0" MEASURED ALONG ℄ MT2 TRACK
EB
111'-9" SPAN 7
100'-6" SPAN 6
100'-6" SPAN 5
3/4" GAP TYP
FG
UTILITY, TYP
EXIST SEWER LINE TO BE RELOCATED
LEGEND
F- FIXED BEARING
E- EXPANSION BEARING
ABUT 8
PIER 7
PIER 6
DATUM EL -50.00
2535+00
2534+00
2533+00
ELEVATION
SCALE: 1"=20'-0"
MATCH LINE 2533+70.00 - SEE DRAWING S-003
℄ MT2 TRACK
℄ BRIDGE
℄ MT1 TRACK
36'-10"
10'-11"
15'-0"
10'-11"
HANDRAIL, TYP
WALKWAY, TYP
PG = TOP OF RAIL
BALLAST
UTILITY CONDUITS, SEE "UTILITY PLANS"
10" SEWER LINE
WALKWAY BRACKET, TYP
PRECAST PRESTRESSED CONC "BULB-TEE" GIRDER, TYP
DECK WATERPROOFING
CAST-IN-PLACE REINF CONC PIER CAP
8'-6"ø COLUMN, TYP
9'-0"ø TYPE 1 CIDH PILE, TYP
OG
TYPICAL SECTION
SCALE: 1/4"=1'-0"
R/W
℄ ABUT 8
℄ PIER 7
℄ PIER 6
EB STA 2535+17.40 ELEV 28.00'
RW2535
APPROACH SLAB
TO LOS ANGELES
EXIST WW
EXIST SEWER PIPE
EXIST RW
20° 0'0" SKEW, TYP
EXISTING BRIDGE SEE "DEMOLITION PLANS" FOR REMOVAL DETAILS
℄ EXIST NORTH ABUT
℄ EXIST PIER F
℄ EXIST PIER E
PLAN
SCALE: 1"=20'-0"
NOTE:
SEE UTILITES ON CU-102
01/18/22 100% DESIGN SUBMITTAL
NO. DATE REVISIONS BY CHK APRV
HNTB 401 B Street Suite 301 San Diego, CA 92101
DESIGNED BY P. PENCE 01/22
DRAWN BY L. ZHANG 01/22
CHECKED BY H. EMAMI 01/22
SANDAG PRJ. ENG. T. DEWITT 01/22
SANDAG
CP EAST BROOK TO CP SHELL DOUBLE TRACK (EBSDT) PROJECT
BRIDGE MP 225.4 REPLACEMENT GENERAL ARRANGEMENT NO. 1
SCALE 1"=20'-0"
SANDAG CONTRACT NO. CIP 1239809
DRAWING NO. S-002
SHEET NO. 102



NO.	DATE	REVISIONS	BY	CHK	APRV
1	01/18/22	100% DESIGN SUBMITTAL			

HNTB 401 B Street Suite 301 San Diego, CA 92101

DESIGNED BY P. PENCE	DATE 01/22
DRAWN BY L. ZHANG	01/22
CHECKED BY H. EMAMI	01/22
SANDAG PRJ. ENG. T. DEWITT	01/22

SANDAG

CP EAST BROOK TO CP SHELL DOUBLE TRACK (EBSDT) PROJECT

BRIDGE MP 225.4 REPLACEMENT GENERAL ARRANGEMENT NO. 2

SCALE	AS SHOWN
SANDAG CONTRACT NO.	CIP 1239809
DRAWING NO.	S-003
SHEET NO.	103

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1/18/2022

Attachment C - Detailed Cost Estimate

Project Estimate for Eastbrook to Shell DT Project		**Design Level:**		100%	
Date: 11/12/2026		**Estimated By:**		JE/GK/BS/TDW	
1. Preliminary Engineering Assessment & Environmental Document Cost Estimate					
Item	**Quantity**	**Unit**	**Unit Price**	**Amount**	**Subtotal**
Agency Design Admin Costs	0.6%	x	CCE	$939,371	
Environmental Costs to Date	2.8%	x	CCE	$4,493,749	
Total			CCE	**PA & ED**	**$5,433,120**
2. Design Plans Specs, Estimates & Permits					
Item	**Quantity**	**Unit**	**Unit Price**	**Amount**	
Agency Design Admin Costs spent	0.6%	x	CCE	$939,371	
Design and Permit Costs (30% to 90%)	2.0%	x	CCE	$3,232,034	
Comms to date	0.0%	x	CCE	$18,007	
Agency Admin to FD Bid and award	1.0%	x	CCE	$1,585,013	
Constructability Review	0.5%	x	CCE	$792,507	
Design -IFB Ready, Bid Support and Conformed Plans and Specs	3.0%	x	CCE	$4,755,039	
Legal consultant support	0.1%	x	CCE	$158,501	
Outreach consultant support	0.1%	x	CCE	$158,501	
Independent Quantities and Cost Estimate	0.3%	x	CCE	$475,504	
Design Review and Quality Assurance	0.5%	x	CCE	$792,507	
Design Contingency (Allow 10% Design Est. to complete)	0.50%	x	CCE	$792,507	
				Design & Permit	**$13,699,490**
3. Temporary Construction Easement Estimate					
Item	**Quantity**	**Unit**	**Unit Price**	**Amount**	
Temporary Construction Easements					
TCE access agreement with City of Oceanside	1	Sum	$10,000	$10,000	
TCE Parking space hire Harbor parking lot	104,025	day/ space	$12.5	$1,300,313	
TCE Parking space hire 50% Pier View Way NW parking	76,650	day/ space	$12.5	$958,125	
TCE Contingency at 10% Est	20%		$2,268,437	$453,688	
Total TCE's					**$2,722,125**

Project Estimate for Eastbrook to Shell DT Project		**Design Level:**		100%	
Date: 12/09/2025		**Estimated By:**		JE/GK/BS/TDW	
4. Construction Cost Estimate					
Item	**Quantity**	**Unit**	**Unit Price**	**Amount**	
Site Civil	1	LS	$3,998,410	$3,998,410	
Signs	1	LS	$67,925	$67,925	
Track	1	LS	$8,479,457	$8,479,457	
Trackside Drainage	1	LS	$2,567,840	$2,567,840	
Signals & Communications	1	LS	$6,182,163	$6,182,163	
PTC/Fiber Related Work	1	LS	$4,279,239	$4,279,239	
River Bridge	1	LS	$41,293,188	$41,293,188	
Retaining Walls	1	LS	$7,372,954	$7,372,954	
Culverts and Drainage	1	LS	$645,351	$645,351	
Site Mitigation & Erosion Control	1	LS	$3,385,720	$3,385,720	
Permanent Revegetation	1	LS	$1,268,105	$1,268,105	
Utilities	1	LS	$2,764,040	$2,764,040	
Bid Alternative	1	LS	$4,509,960	$4,509,960	
Hard construction costs (HCC)				$94,627,644	FY26 HCC 86,814,352; increased HCC by 9% to anticipated RTL of FY29
Mobilization, Bonds & Insurance	10.0%	X	HCC	$9,462,764	
Time Related Overhead (Per CMGC & Caltrans Contract)	15.0%	X	HCC	$14,194,147	
Construction Contractors Bid Estimate (CCBE)				**$118,284,555**	
Rail Construction Safety Flagging	14%	X	CCBE	$16,559,838	
Construction Contingency	20%	X	CCBE	$23,656,911	
Construction Cost Estimate (CCE)					**$158,501,303**
5. Ancillary Construction Cost (ACC) Estimate					
Item	**Quantity**	**Unit**	**Unit Price**	**Amount**	
Agency Construction Admin. (SANDAG)	3.2%	x	CCE	$5,072,042	
Agency CBA Admin. (SANDAG & GAFCON)	0.5%	x	CCE	$776,656	
Misc ACC; e-builder, LCP, Docusign, Blue Beam, SWPP, safety, quality, CM Manual, CM Bench, Labor Compliance.	0.5%	x	CCE	$797,507	
Agency Construction Admin. & Signals (NCTD)	0.6%	x	CCE	$951,008	
Quality Assurance	0.5%	x	CCE	$792,507	
Design Support During Construction	4.7%	x	CCE	$7,449,561	
Construction Management	18.0%	x	CCE	$28,530,235	
Legal Support	0.1%	x	CCE	$158,501	
Communications Outreach Support	0.2%	x	CCE	$317,003	
ACC Contingency (10% of ACC)	9.09%	x	CCE	$4,484,002	
	28%	**Ancillary Construction Cost (ACC)**			**$49,324,021**

Project Estimate for Eastbrook to Shell DT Project		**Design Level:**		100%	
Date:: 10/28/2026		**Estimated By:**		JE/GK/BS/TDW	
6. OFF-SITE ENVIRONMENTAL MITIGATION					
Other Wetlands Permanent Impact Mitigation	0.39	Acre	$407,053	$158,751	
Other Wetlands Temporary Impact Mitigation	2.17	Acre	$345,272	$749,240	
Off site Environmental Mitigation Provided via W-19 Site in San Dieguito Valley				**$907,991**	
Project estimate before Unallocated contingency (PEBC)					**$230,588,049**
7. TOTAL PROJECT CONTINGENCY					
Unallocated Project Contingency	10%	x	PEBC	$15,014,523	**$23,058,805**
PROJECT COST ESTIMATE					**$253,646,854**
Spent to Date	PA&ED and FD & Permit				**$9,622,531**
Estimate to Completion					**$244,024,323**

Attachment D - Risk Matrix

Project Manager: *Tim DeWitt* **Corridor:** *LOSSAN*
Corridor Director: *Bruce Smith* **Segment:** *Eastbrook to Shell*
Project EA: *1239809*
Project Phase: *100% PS&E*

SANDAG

PROJECT RISK MANAGEMENT PLAN

Identification				Quantitative Analysis					Risk Response Plan		Monitoring and Control
Status	ID #	Risk Categories	Risk Description	Consensus Probability	Estimated Schedule Impact (Working Days)	Recommended Schedule Contingency (Working Days)	Estimated Effect on Cost	Recommended Construction Contingency Budget	Strategy	Strategy Plan	Owner
Active	1	Project Management	Lack of Construction Funding. Project Costs may escalate above budgeted amount.	90%	264	238	$3,960,000	$ 3,564,000	Mitigation	The Project Report has been updated to include recent construction bid rates, with a construction contingency of 10%. Inflation estimates have been made using SANDAG's Rail construction Index to escalate the project costs to the mid point of construction.	SANDAG PM
Active	9	Construction	**Missing AWW:** Missing an AWW window for critical work items can delay the construction schedule.	35%	180	63	$2,700,000	$ 945,000	Transference	Present AWW schedule to CM team. Update AWW schedule in specifications when project nears construction. Schedule around existing pre-approved AWWs.	Contractor
Active	6	Construction	Piling Constructability: Piling May not go according to plan. On many projects in lagoons the piling encounters unforseen conditions and may take longer or require a CCO.	50%	110	55	$1,650,000	$ 825,000	Mitigation	SANDAG has completed a substantial geotechnical review and design with a high level of confidence in the existing conditions. The Bridge piling contractor is required to install steel casings mitigating for any potential soil caving during pile installation.	Contractor
Active	10	External	Agreements for Laydown Areas are not Finalized with City	30%	0	0	$2,200,000	$ 660,000	Mitigation	For City owned lots we need to finalize an agreement with the City and for renting these lots for laydown during construction as was done for SOP1. The cost estimate assumes that we will pay the city to rent the parking spots similar to what we did in Del Mar for DB5	SANDAG PM
Active	4	Environmental	Risk that the FRA CE revalidation takes longer than anticipated (3-6 months) and delays the start of construction by three (3) months.	25%	66	17	$990,000	$ 247,500	Mitigation	Work with FRA to advance the CE revalidation. FRA advised revalidation would take approximately 6 months.	SANDAG Environmental
Active	15	Utilities	**NCTD PTC fiber cables are affected by project:** Risk that NCTD PTC personnel schedules do not align with the construction schedule for cable relocation can cause construction delays.	50%	30	15	$450,000	$ 225,000	Transference	SANDAG contractor to relocate conduit and cables. Continue coordination regarding relocation of the cables with NCTD during design phase. Incorporating coordination and relocation of the fiber cables into specifications. CM to coordinate construction phase schedule.	SANDAG
Active	20	Utilities	**SDG&E gas casing affected by undercrossing:** Coordination with SDG&E on the gas line can delay the project if SDG&E is not responsive and there is the possibility that SANDAG will ultimately be responsible for extending casing or relocating the line.	20%	45	9	$675,000	$ 135,000	Mitigation	Coordinate with SDG&E and incorporate extending the gas casings into the project scope.	SANDAG

SANDAG

Project Manager: *Tim DeWitt* **Corridor:** *LOSSAN*
Corridor Director: *Bruce Smith* **Segment:** *Eastbrook to Shell*
Project EA: *1239809*
Project Phase: *100% PS&E*

PROJECT RISK MANAGEMENT PLAN

Identification				Quantitative Analysis					Risk Response Plan		Monitoring and Control
Status	ID #	Risk Categories	Risk Description	Consensus Probability	Estimated Schedule Impact (Working Days)	Recommended Schedule Contingency (Working Days)	Estimated Effect on Cost	Recommended Construction Contingency Budget	Strategy	Strategy Plan	Owner
Active	12	Utilities	**FCC permits may be required to relocate PTC antennae:** Delays in obtaining permit may delay construction schedule.	10%	60	6	$900,000	$ 90,000	Mitigation	Permit will be applied for when construction funding is allocated.Permit is only valid for one year and will be obtained during DSDC phase closer to physical relocation of the antennae.	Contractor
Active	13	External	**Local Residents may object to various aspects of the project.** Condo association residents, cyclists, hikers, can raise concern with project's impacts. Public meeting held in Oceanside 10-09-13 to gather public feedback. During meeting condos on both sides on south end of the bridge requested a follow up meeting. Also note that residents may raise concerns during construction when train horns are utilized despite implementation of a quiet zone in the area,	10%	30	3	$450,000	$ 45,000	Acceptance - Active	Meet with condos to discuss global strategy and continue public outreach. Note that a Quiet Zone was established in Oceanside recently.	SANDAG Public Outreach
Active	17	Construction	**Unknown conditions at north levee, bridge abutment**. Possibility to encounter debris, rip rap and other misc. fill when building the north abutment & wingwalls.	50%	5	2.5	$75,000	$ 37,500	Mitigation	Provide a construction contingency in the budget to account for potential unknown elements in the soil.	Contractor
Active	18	Construction	**Geotechnical Aspects of Br.225.4**. Similar geotechnical concerns as SMR Bridge project for the EBSDT bridge.	15%	1	0.15	$15,000	$ 2,250	Mitigation	HNTB has performed borings at abutment locations, but has not performed borings in the river. Discuss with NCTD regarding possibilities to perform borings at existing bridge. Additional borings not feasable during design phase. Additional geotech borings to be included in const scope.	Geotech
Active	5	Construction	Market prices for steel could increase before construction phase	10%	0	0	$0	$ -	Acceptance - Active	Build into project contengency.	SANDAG
Active	23	Utilities	**SDG&E poles may be afffected by project**. If the poles are affected then coordination with SDG&E would be required that could delay the project.	0%	45	0	$675,000	$ -	Mitigation	Design the project to be constructed in a manner that the SDG&E poles are not affected.	Contractor
Active	24	Utilities	**Verizon data fiber cables are affected by project:** Coordination with the third party utility provider has the potential to cause construction delays.	0%	30	0	$450,000	$ -	Transference	Master agreement in place between Verizon and NCTD. Verizon will pay for first relocation of their cables. CM will coordinate construction phase schedule for pulling the new cables with Verizon.	Contractor
Active	25	External	**Cost of PTC Compliance:** Risk that standards or requirements change, increasing costs of PTC compliance from current estimate.	0%	60	0	$900,000	$ -	Mitigation	Discuss Project with NCTD and reach consensus on estimate.	Contractor
								$ 6,776,250			

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Meeting Date: 06/12/2019