OCTA

February 3, 2025

To: Regional Transportation Planning Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Coastal Rail Stabilization Priority Project Update

Overview

On September 9, 2024, staff was directed by the Board of Directors to continue to engage the regulatory agencies to identify opportunities to streamline processes and obtain regulatory permits to immediately implement solutions identified through the Coastal Rail Resiliency Study Assessment. Staff has continued to coordinate with regulatory agencies, and develop and update the Coastal Rail Priority Stabilization Project to proceed into the environmental phase.

Recommendation

Direct staff to advance Reinforcement Areas (Areas 1 through 4) and complete the preliminary engineering/environmental phase to minimize additional rail closures.

Background

The Orange County Transportation Authority (OCTA) owns the Orange Subdivision railroad right-of-way (ROW) in Orange County between the Fullerton Junction and the San Diego County Line. A map of the Orange and Olive subdivisions is provided as Attachment A. This rail corridor is part of the Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor that provides intercity and commuter passenger and freight rail service. Since fall 2021, several bluff failures and landslides on the inland side and diminishing beaches on the seaward side in the City of San Clemente (City) have resulted in significant impacts to rail operations and have required a series of emergency projects to restore rail operations. The remedial actions have included stabilization of a landslide at Cyprus Shore which was associated with beach loss, and construction of catchment walls at Casa Romantica and Mariposa Point to protect the tracks from privately-owned bluff failure debris. These remedial actions required nearly $40 million to support immediate stabilization and continued safe and reliable rail operations.

In late 2023, OCTA initiated the South Coast Rail Infrastructure Feasibility Study and Alternative Concepts Analysis (also known as the Coastal Rail Resiliency Study [Study]) along the seven-mile stretch of the coastal rail line in Orange County to assess existing and future risks, challenges, and concepts to protect the rail line in place.

The Study explores opportunities to protect the rail corridor for the short-term (ten years) and mid-term (30 years) between the City of Dana Point and the San Diego County Line. An Initial Assessment Technical Memorandum identified the need for immediate protective measures for the highest at-risk areas (reinforcement areas) in the City, where coastal storm surges, failing bluffs, and other factors create an immediate threat of additional extended rail service disruptions, impacting service quality and reliability. This effort led to the advancement of four reinforcement area projects known as the Coastal Rail Stabilization Priority Project (Project) and a map of the locations is provided as Attachment B. A long-term study to include potential relocation of the rail line will be led by the state.

Since spring 2024, staff has worked to continue the development of the reinforcement areas with geotechnical, structural, and coastal engineers to study various alternative solutions for each area to prepare for the next phase to design and environmentally clear the proposed solutions. In October 2024, OCTA secured $305 million in state and federal funds for the Project, which will allow the completion of design and construction for the Project.

Discussion

The following is a status update of the ongoing Project:

Regulatory permitting agencies have determined that the four immediate need reinforcement areas will not be processed under emergency permitting procedures because the rail line is in operation and an emergency does not exist. Efforts to implement the Project under the normal project development process are summarized below. A comment letter from the City providing feedback on the Project preliminary alternatives was received on January 6, 2025 (Attachment C).

Reinforcement Area 3

In coordination with various regulatory permitting agencies, the Area 3 location providing landslide and bluff collapse protection on the inland side of the railroad could be advanced with a proposed protective catchment structure more quickly than Areas 1, 2, and 4, which are ocean intrusion risk areas. A proposed protective catchment structure would be constructed outside of the United States Army Corps of Engineers (USACE) and California State Lands Commission (CSLC) jurisdictions. Staff is advancing multiple project activities, including geological mapping, geotechnical investigation, utility mapping, utility potholing, and

right-of-way (ROW) surveys to be used for Area 3 preliminary engineering to accelerate the delivery schedule. Staff has developed protective concept alternatives and evaluated the concepts for resilience, protective reliability, cost, impacts on public assets, feasibility of implementation, constructability, and environmental impacts to select the best alternative to move forward to the final design and construction phase.

As part of the alternatives analysis, each of the alternatives is screened and scored based on the weighted evaluation criteria developed with the project development team (PDT) members. The PDT members include the City, OC Parks, State Parks, Southern California Regional Rail Authority (SCRRA), LOSSAN, Amtrak, and BNSF Railway (BNSF) who provided input to the evaluation of solutions. Through this coordinated effort, the top scoring alternative and the preferred concept to advance to design is a soldier pile wall. A soldier pile wall has been used successfully in past emergencies at Mariposa Point and Casa Romantica locations, and other locations within the rail corridor. Staff is working closely with the City and railroad stakeholders to refine the catchment wall concept to include relocation of the pedestrian trail at grade and to protect the underground utilities with the wall alignment. Staff is also working closely with all rail operators to develop potential construction work windows to allow construction to advance efficiently while minimizing impacts to passenger and freight rail services.

The goal is to finalize the alternatives analysis in March 2025, complete 30 percent preliminary engineering with environmental documentation in the first quarter of 2026 and seek a Coastal Development Permit (CDP) from the California Coastal Commission (CCC) by the third quarter of 2026 to allow construction to commence by late 2026. Staff will be seeking Board of Directors (Board) approval to release a Request for Qualifications (RFQ) in the first quarter of this year as the first step to identify qualified design-builders before the release of a Request for Proposals (RFP) for a design-build construction contractor in early 2026.

Reinforcement Areas 1, 2, and 4

Staff is developing various alternatives to mitigate beachside coastal erosion risks for reinforcement Areas 1, 2, and 4. Similar to the alternative analysis for Area 3, evaluation criteria and scoring specific to the beachside areas were developed with the PDT to select the best alternative to advance into the design phase for each reinforcement area. The top concepts to be further evaluated include repairing existing riprap, constructing new engineered revetment, and constructing a seawall, all with sand nourishment to complement and reinforce the armoring acting as the final protective feature. A sand nourishment-only alternative has also been included in the alternative analysis process for the selection of the preferred alternative.

The alternative analysis is planned to be completed in the second quarter of 2025 and preliminary engineering with environmental documentation is to be completed in the first quarter of 2027. Concurrently, staff is assessing all available sources of sand for potential placement at the reinforcement areas.

Sand Sources and Permitting

While preliminary design and environmental for reinforcement Areas 1, 2, and 4 progress, a key component that needs to be identified is the source for imported sand. The source of sand is required for environmental documentation, design, and permitting. Staff has investigated the inland sources of sand available in the project vicinity. Potential inland sources include Prado Dam, Lapeyre Industrial Sands, Lower Santa Ana River, Cabazon, Durbin Sand and Gravel, West Coast Sand and Gravel, San Bernardino Sand and Gravel, and Dana Point Harbor. Key evaluation considerations include quantity, quality, feasible delivery method, travel distance, number of trips, costs, beach access, staging areas, and work hours. The inland sources have a range of quantities available, varying qualities, and distances that factor into the determination of a viable source of inland sand.

The estimated volume of sand needed for the Project is approximately 540,000 cubic yards. A significant number of truck trips (up to 44,000) would be necessary to deliver the sand needed to the project site. The northern section of the Project, generally north of the City pier, would be more accessible for truck delivery while the southern section of the Project has no truck access, which makes truck delivery difficult as a transportation option in addition to the environmental impacts. When evaluating transport by rail for source locations like Prado Dam, additional costly rail infrastructure would need to be constructed to allow for rail cars to be loaded and unloaded. We have not identified a viable means to unload rail cars for placement of sand on beaches. It may take up to a week to unload each train, and up to 100 train trips make the train transport option impracticable.

Known offshore sand borrow sites were also investigated, including in the City of Oceanside where the sand quality is not acceptable to the City, and Surfside-Sunset which was recently successfully used by the USACE and the City for sand replenishment at the City pier. Surfside-Sunset has additional capacity to allow the Project to borrow from the source, and staff has begun pursuing the necessary environmental studies such as offshore biological surveys to support the utilization of the Surfside-Sunset location as the most efficient and economical sand source available for this Project. The environmental and permitting process for sand will take approximately two years to complete. Staff is also in coordination with the City to explore opportunities to shorten this duration with the City's existing USACE approvals, environmental assessments, and lease agreements with CSLC.

In addition, the City recently awarded a grant-funded contract to conduct ocean exploration and testing to identify new offshore sand borrow sites for beach nourishment use in the City. This study is scheduled to conclude in fall 2025, and potential borrow sites identified will be a potential source for the Project's beach nourishment sand needs. The City's study will provide valuable information on additional offshore sand sources available to the Project.

The USACE recently returned to provide an additional 86,000 cubic yards of sand nourishment sourced from the Surfside-Sunset location to the areas surrounding the City pier. OCTA was not able to utilize this opportunity without the appropriate completed environmental studies, necessary permitting, and lease with CSLC for the areas the Project needs sand. The environmental studies, necessary permitting, and leasing with CSLC are anticipated to take up to two years to complete. Staff will continue to work expeditiously to identify the sand source(s) and coordinate with regulatory agencies to obtain the appropriate permits and leases to proceed with the Project's beach nourishment needs.

Staff holds regularly scheduled meetings with the USACE and CCC to provide updates on the status of the Project and seek guidance on permitting actions necessary for the Project. In August 2024, staff submitted a Nationwide Permit 13 (NWP-13) application to USACE for Areas 1, 2, and 4 for construction of revetment and sand nourishment. However, at the request of the USACE, OCTA rescinded the permit in October 2024 for the following reasons: the proposed quantity of sand for beach nourishment exceeded the NWP-13 permitting limits, and the lack of sufficient project design details, studies, and environmental documentation. In September 2024, staff also submitted an emergency Regional General Permit 63 (RGP-63) application to USACE for Areas 1, 2, and 4. This permit was also rescinded in October 2024 since it is not the appropriate mechanism due to the large quantity of sand proposed by OCTA. Specifically, the sand quantity exceeds the minimum necessary to alleviate an immediate emergency, and the proposed activities would result in more than minimal adverse environmental effects. Finally, OCTA would not be able to initiate construction activities within 14 days of permit issuance. The appropriate sand source identification and environmental actions should already be in place prior to application submittal.

A CDP application was submitted to the CCC in August 2024. Staff received a notice of incomplete from the CCC with a request to provide detailed project information, including alternatives analysis, plans, sand source, soil suitability analysis, sand transportation and staging, aquatic resources delineation, environmental documents, maintenance and monitoring plan, and other agency's approvals to continue processing the permit. Staff will continue to coordinate with CCC staff and provide project progress updates.

Staff continues to coordinate with CSLC regarding which reinforcement areas of the proposed Project need a lease that is within CSLC's jurisdiction and to understand the process and timeline to obtain a lease if it is needed.

A lease would be necessary for the sand placement locations and any revetment below the Mean High Tide Line, and if the sand borrow site is offshore, a lease would be required for the borrow site. The lease application would need to provide specifics on the project limits, impacted areas within the CSLC's jurisdiction, project design, and environmental documents to be able to process the application.

During an emergency, a project can proceed with immediate construction with the proper notifications to regulatory agencies, and the agency is required to follow up and complete the necessary documentation afterward. When a project proceeds as a non-emergency project, the required project development includes the appropriate planning, environmental, design, and construction. Regulatory permits are typically sought when the environmental phase is completed and sufficient design has been accomplished to provide the details required by each permitting agency.

Delivery Risks

As the Project continues to be developed, there are risks that may impact the delivery of the reinforcement areas. These risks include selection of a preferred alternative for each of the four reinforcement areas which minimizes environmental impacts and is acceptable to multiple permitting resource agencies, identifying and obtaining permits and approvals for each reinforcement area, including an offshore sand source, sand transport and delivery method and placement, and determining the temporary railroad work windows necessary to deliver the Project. If these tasks cannot be achieved in a reasonable timeframe (i.e., before the next one or two storm seasons), then there is a risk of potential passenger and freight rail service disruptions as a result of additional bluff failures and coastal erosion.

Next Steps

Staff will continue to advance the project development process through the environmental phase for the four reinforcement areas. Staff will also continue to expedite all reinforcement areas and continue work, in coordination with the City, to identify a closer more cost-effective offshore sand source for permitting.

Summary

Upon Board approval, staff will continue to advance the Project and complete the preliminary engineering/environmental phase. Staff will continue to prepare environmental studies and necessary permitting for the identified offshore sand source that meets the project requirements and expedite approvals in coordination with the resource agencies.

Attachments

A. Orange and Olive Subdivisions Map
B. Reinforcement Area Locations Map
C. Letter from Leslea Meyerhoff, AICP, Coastal Administrator, City of San Clemente to Jason Lee, OCTA, dated January 6, 2025, re: Feedback on OCTA Coastal Rail Stabilization Priority Project Concepts

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