



**PUBLIC WORKS AND TRANSPORTATION COMMITTEE  
AGENDA REPORT**

**REPORTS  
AGENDA ITEM NO. D.4**

**DATE:** July 28, 2020  
**TO:** Public Works and Transportation Committee  
**FROM:** Rosemarie Gaglione, Public Works Director, (805) 385-8055, rosemarie.gaglione@oxnard.org  
**SUBJECT:** Resolution to Affirm City Commitment to Seawall Funding. (10/10/5)

**RECOMMENDATION**

That the City Council approve and authorize the Mayor to execute a resolution affirming the City of Oxnard's (City) commitment to share the repair/replacement costs associated with the Mandalay Bay seawalls in the amount of 50% of the total repair/replacement costs if, and only if, Mandalay Bay residents form a Community Facilities District (CFD) to satisfy their obligations to the remaining 50%. The costs are estimated to be approximately \$200 million. This would include replacement of the seawalls during the first 25 years, with maintenance beyond 25 years. (Public Works and Transportation Committee approved 3-0)

**BACKGROUND**

*Executive Summary: Between 1968 and 1973, 743 single-family attached and detached homes and 37 City-owned greenbelts were constructed to create the Mandalay Bay community. At the time of construction, seawalls were built to create waterways throughout the newly built homes. When the seawalls were constructed in the mid-1960s, developers built the seawalls according to the building codes at that time, which were inferior to today's building codes regarding seismic activity and soil and structure responses. The materials used to construct the seawalls have adversely reacted to the marine environment and began to degrade within 20 years of completion.*

*Over the last 60 years, hundreds of repairs have been made to the seawalls to maintain their integrity. The City will continue to make repairs to the seawalls in an effort to insure their integrity until such time that a CFD is formed and the City of Oxnard is in a financial position to meet its obligation for the replacement of the Mandalay Bay seawalls.*

*In the Mandalay Bay Seawalls Capital Improvement Program: Phase C prepared by TranSystems, repairs were proposed to be made to the seawalls to extend the lifespan of the existing infrastructure. Repairs included the removal of degraded concrete, repair to weep holes, concrete jacketing of pilasters, and the placement of vinyl sheeting over the seawall. Estimates for these repairs were in excess of \$86 million dollars, which are probably closer to \$135 million when adjusted for inflation. Additionally, these repairs did not account for seismic activity or the potential for liquefaction in the soil during a large seismic event.*

*In contrast, the April 2020 TetraTech study provided recommendations for seawall replacement throughout the community. The recommendation by TetraTech included the installation of panels and tieback walls*

*constructed according to the most current California Building Code, that would withstand seismic activity and provide a 75-year life span for the new system. Currently, there is no imminent danger of failure to the seawalls which will allow the City to work with a phased approach for the replacement work and funding for this project.*

When the homes in Mandalay Bay were constructed, the developer installed reinforced concrete Boise and Zurn style seawalls to create the Oxnard waterways portion of the Channel Islands Harbor. This allowed the developer to create lots and install foundations for residential development. The Boise system consists of restrained precast concrete panels held in place by precast concrete “T” shaped pilasters, which are anchored to a cast-in-place concrete footing. The Zurn wall is a cast-in-place concrete cantilevered retaining wall supported on a continuous cast-in-place concrete footing. The footing is supported by a row of vertical timber piles and a row of battered timber piles. The vertical piles are spaced at 6 feet on center and the battered piles at 12 feet on center. Waterways Zone 1 Mandalay Bay consists of 7.8 miles of seawalls; 3.4 miles of Boise walls and 4.4 miles of Zurn walls.

On May 26, 1970, by Resolution No. 5,121, the City declared its intention to form an assessment district for the maintenance of waterways and landscaping for Tract 1904 and 2026-1. On June 16, 1970, by Resolution No. 5,144, the City Council approved the establishment of Waterways Zone 1 assessment district for the maintenance of the waterways and landscaping on public rights-of-way within Mandalay Bay. On November 23, 1971, by Resolution No. 5,487, the City Council approved the addition of Tract 2026-2 into the assessment district. On October 26, 1976, by Resolution 6,830, the City Council approved the addition of Tract 2026-3 into the assessment district. The waterways district was formed pursuant to the Improvement Act of 1911 in order to recover the City’s cost of the maintenance of landscaping, seawalls, and other authorized improvements.

Due to the adoption of Proposition 218 by California voters in 1996, the City is precluded from increasing assessments within a district without majority vote and protest procedures. Mandalay Bay is currently maximum assessed and the CFD formation documents did not include a consumer price index (CPI) escalator to fund increasing maintenance costs or to fund costs associated with seawall replacement.

City staff began to realize the need for constant maintenance of the seawalls as early as 1972. Beginning in 1992, staff began to address multiple issues with both types of seawalls. Within a 20 year period, between 1972 - 1992, the City had made more than 500 individual repairs to the seawalls including repairs to foundation piles, concrete wraps for pilasters, cracks and spalling, slope protection, and backfilling. The walls are 48 years old and will require a strategic phased plan for their replacement over the next 25 years, with maintenance beyond 25 years.

On March 1, 2011, the City entered into an agreement A-7390 with TranSystems Corporation (TranSystems) to assess the condition and develop a plan for capital repairs and replacement of the seawalls in Mandalay Bay. The first amendment to agreement A-7390 was approved by City Council on February 7, 2012, for the purpose of collecting adequate samples for the engineering assessment of all seawall exposure segments. This strategic investigation was completed on August 20, 2012.

TranSystems identified 200 repairs that were not to exceed \$1,000,000. On March 26, 2013, the City Council approved agreement A-7581 between the City and the Channel Islands Waterfront Homeowners Association (CIWHA) to share the cost of the repairs to the Mandalay Bay seawalls. The City agreed to pay 50% of the costs from the General Fund with a not-to-exceed amount of \$500,000. The Association agreed to pay the remaining 50% from the Waterways Zone 1 Mandalay Bay Assessment District.

On July 26, 2016, the City Council approved 7401-16-PW with TranSystems for on-call marine engineering services for the Waterway Districts of Mandalay, Westport and Seabridge in an amount not to exceed \$929,500 over a three-year term. Additionally, the City Council approved task orders for permit process and engineering design for the West Hemlock Street seawall repairs. Task Order 1 was for permit processing and project approval by regulatory agencies. The second task order was for geotechnical testing, design, construction monitoring, and follow-up performance evaluations.

On July 18, 2017, the City Council approved the first amendment to 7401-16-PW in the amount of \$137,600 for a new not to exceed amount of \$1,067,100 for on-call marine technical engineering service with TranSystems. The scope of work for this amendment included the development of new repair concept details as well as the refinement of existing repair details, development of specific project areas and timelines, budgetary cost estimates, and attendance at meetings to discuss recommendations between the City and CIWHA.

On October 17, 2019, Public Works released a Request for Bid (“RFB”) for the Pilaster Jacket Repairs at the Mandalay Bay Seawalls project. Bids were originally due on December 3, 2019, but due to lack of responses by manufacturers to contractors with regards to the specialized concrete required for this project, the bid deadline was extended to January 7, 2020. On February 18, 2020, the City Council awarded agreement A-8206 to Harbour Constructors Company in the amount of \$634,000. The Notice to Proceed was issued on March 30, 2020.

## **DISCUSSION**

In December 2017, Transystems completed the Mandalay Bay Seawalls Capital Improvement Program: Phase C. As part of Phase C, Transystems included a survey and recommendations for repair of weep holes, pilasters, and walls. These recommendations included items such as the installation of concrete pilaster jackets, removal of the outer 1-inch of concrete on the existing walls, then wrapping them on the water side with resin and fiberglass-reinforced plastic sheet pile. In essence, the recommendations only placed a band-aid on the seawalls to extend their life, but ultimately they would need to be replaced regardless. The cost for this superficial work was estimated to be \$86.5 million over 25 years, not adjusted for inflation. Furthermore, these recommendations did not provide any solutions for the seismic vulnerability of the seawalls, as they were built prior to current California seismic codes.

In early 2018, the Public Works Director reviewed the accumulation of documents provided by TranSystems over the years. Due to the TranSystems study costs and methodology for repairs, it was recommended that the City proceed with a value engineering process for the seawall replacement to confirm the accuracy of the information and costs provided.

On October 10, 2018, the City released a Request for Proposal (“RFP”) for the Mandalay Bay Seawall Repair Feasibility Study and Phase 2 Construction Documentation for 3900-3966 West Hemlock Street. Proposal submission closed on November 6, 2018. Due to a lack of responses from qualified proposers, a revised RFP was released on November 21, 2018. PW 19-25R closed on December 10, 2018. A budget appropriation for this contract was approved by the City Council on February 5, 2019, in the amount of \$163,413 to fund the approved contract with TetraTech.

In March 2019, TetraTech began studying the Mandalay Bay seawalls. Part of their analysis required observing the walls at the annual low tide which was a critical piece of the data necessary to accurately analyze the deterioration of the seawalls. The Mandalay Bay Seawalls Repair Conceptual Study and Feasibility Analysis

was completed in April 2020. In this study, TetraTech identified the deterioration of the walls as vertical cracking and spalling of pilasters, cracking to the Boise walls, and surface erosion to the Zurn walls. Several locations showed alkali-silica reaction which is a chemical reaction that causes cracking and spalling when concrete is exposed to moisture. Additional concerns include risks to the seawalls from seismic activity and liquefaction of soils behind some seawalls during a major earthquake.

Based on the study, which included a cost analysis for replacement of the seawalls, TetraTech recommended two options; installation of panels and tiebacks or installation of cantilever sheet pile. Installation of the tieback option would consist of installing a new panel in front of the existing wall, filling the space between the two walls, and installing tiebacks that extend down into the competent, non-liquefiable soils. The other option, installation of the cantilever sheet pile, would include the installation of new sheet pile in front of the existing wall using a press-in method (which causes less vibration and noise) and filling the gap between the two walls. This method of seawall replacement would require the new wall to be placed approximately 8 feet in front of the existing wall. The City does not believe that Mandalay Bay can accommodate the space requirements for the sheet pile option and is recommending the tieback method for the new seawalls.

Although several options were analyzed for replacement of the seawalls, it was determined that the tieback method was the best solution for Mandalay Bay to ensure the greatest area of navigable waters in the smaller back basins of the waterways. TetraTech estimates that the replacement costs for the tieback option would be approximately \$4,277 per linear foot for the Boise walls and \$4,155 for the Zurn walls. It is estimated that the total the costs for the replacement of the seawalls could potentially be in excess of \$200,000,000 not including inflation over the life of the project which is estimated to be between 25 years for replacement of the seawalls and for additional maintenance beyond 25 years. The project would be completed in phases and funding would be assessed and allocated based on the stage of the project. The lifespan of the new seawalls is expected to be at least 75 years.

The TetraTech study considered multiple factors when detailing the overall costs which are shown on page 34 of Attachment A: Mandalay Bay Seawalls Repair Feasibility Study. Construction costs were determined in linear feet and ranked in Rough Order Magnitude (ROM). Maintenance costs were estimated and ranked based on calculations for the life of the seawall and are relatively low compared to construction costs. Design criteria were evaluated based on seawall life expectancy and the ability to withstand seismic activity. Constructability rates the ease of construction for each design scheme. Disruption looked at how the construction of each scheme would affect existing docks and if construction could be done at or near the existing wall. Regulatory factors considered the difficulty in obtaining approval for the construction of the new seawalls. Wall capacity evaluated each design concept and its ability to increase capacity for the seawall as it relates to seismic activity. The appearance was ranked on final repairs and is somewhat subjective in nature. For the Boise walls, the tieback method tied for #1 based on the calculated metrics with cantilever soldier piles and panels, however, the soldier pile method was almost double the cost. For the Zurn walls, the tieback method ranked #1 overall.

City staff, NBS Government Finance Group (NBS), NHA Advisors, and residents from the Channel Islands Waterfront Homeowner's Association (CIWHA) have been meeting over the past three years to discuss the formation of a bonded CFD to satisfy the obligations of paying for the replacement of the seawalls. While the current Mandalay Waterways assessment district can not support replacement efforts for the seawalls, a new bonded CFD could be formed to cover the 50% resident portion of the replacement cost.

Leadership from CIWHA, through their annual meetings and person-to-person coordination, have been engaging and educating their community on the needs and costs of the seawall replacement. Through the City's contract with NBS, the City will work with residents on outreach and surveying to obtain the required  $\frac{2}{3}$  vote

by registered voters to approve a bonded CFD for seawall replacement. With the approval of the CFD, Mandalay residents would have a bonded assessment placed on their tax bill to cover the costs associated with 50% of the seawall obligations.

## **STRATEGIC PRIORITIES**

This agenda item supports the Infrastructure and Natural Resources strategy. The purpose of the Infrastructure and Natural Resources strategy is to establish, preserve and improve our infrastructure and natural resources through effective planning, prioritization, and efficient use of available funding. This item supports the following goals and objectives:

Goal 4. Ensure proper construction and maintenance of infrastructure to provide maximum benefit with lowest life cycle cost following CIP plans.

Objective 4a. Implement CIP plans.

Objective 4b. Catch up on deferred maintenance for City facilities.

## **FINANCIAL IMPACT**

While approval of this resolution affirms the City Council's commitment to 50% of the final seawall obligations, there is no immediate financial impact to the General Fund or Mandalay Bay residents. Approval of funding for this project will be based on the formation of the CFD by Mandalay Bay residents to fund 50% of the replacement costs and approval of the Capital Improvement Project (CIP) by the City Council. The City will commit to funding 50% of the replacement cost based on the City's financial ability to sustain the project. Multiple funding mechanisms will be explored.

The TetraTech study provides an Engineer's cost estimate for a 25-year replacement plan, however, bonding for this phased approach can potentially be extended to a 40 or 50-year model.

Public Works continues to seek grant funding to offset the City's financial obligation to the seawall replacements. The estimated overall financial impact for the duration of the project will be in excess of \$200,000,000.

*Prepared by: Jeri Cooper, Special Districts Project Manager*

## **ATTACHMENTS**

1. Seawalls City Commitment Resolution
2. Districts Map and Legend
3. City Commitment to Seawall Funding Presentation
4. NEW- Mandalay Bay Seawall Repair Feasibility Study\_FINAL DRAFT