



Midpeninsula Regional  
Open Space District

R-19-09  
Meeting 19-02  
January 23, 2019

## AGENDA ITEM 7

### AGENDA ITEM

Award of contract for professional engineering services to complete the Mount Umunhum Radar Tower Assessment Project at Sierra Azul Open Space Preserve

### GENERAL MANAGER'S RECOMMENDATIONS *den*

1. Authorize the General Manager to enter into contract with Wiss, Janney, Elstner Associates, Inc., of Emeryville, California for a not-to-exceed base contract amount of \$107,700.
2. Authorize a 15% contract contingency of \$16,155 to be reserved for unanticipated issues, thus allowing the total contract amount not-to-exceed \$123,855.

### SUMMARY

The purpose of the Mount Umunhum Radar Tower Assessment Project (Assessment Project) is to carry out the Board of Director's (Board) policy to "Retain and Seal" the structure over the long term. On September 12, 2018, the Board approved the Assessment Project goals, criteria, and scope of work (R-18-105), and authorized the General Manager to issue a Request for Proposals to complete the Assessment Project. A Request for Proposals was issued on October 18, 2018, with three firms submitting proposals. Through a competitive selection process, Wiss, Janney, Elstner Associates, Inc., (WJE) was identified as the most qualified firm to perform the Assessment Project, which consists of structural, safety, and hazardous materials assessment of the radar tower, and development of repair options. The repairs options will be categorized as short-term or long-term repairs, and will be presented in the future to the Board in a Basis of Design (BOD) report. The General Manager recommends awarding a contract to WJE for a base amount of \$107,700, with a 15% contingency of \$16,155. Sufficient funds are included in the Fiscal Year (FY) 2018-19 Budget for the contract. The scope of work is limited to the assessment and BOD development. Once the Board reviews repair options and approves the repair elements, staff will issue a Request for Proposals (RFP) or amend WJE's contract to complete the next phase of work, which includes preparation of construction documents, permitting assistance, and construction administration services.

### BACKGROUND

In 1986, the District acquired the former Almaden Air Force Station (Almaden AFS) and all of its remaining facilities on Mount Umunhum and Mount Thayer (R-86-20) with the intent to restore the area and provide public access. In December 2009, the United States Congress appropriated \$3.2 million for the identification, evaluation, and remediation of hazardous

materials and site cleanup at the former Almaden Air Force Station (AFS) site, which included abatement of the Mount Umunhum radar tower. In 2011, the United States Army Corp of Engineers completed the removal of at-risk and peeling lead-containing paint from the exterior of the radar tower, as well as removal of unstable lead-containing paint and other hazardous materials from the interior. Following the federally funded remediation project, the District completed site demolition and landform restoration at the former Almaden AFS site in 2014 (R-12-90). Through this work, the District restored many of the natural contours and removed all, but one structure from the mountaintop, leaving only the radar tower.

### **Recent History**

#### *Interim Repair – January 2015*

On January 28, 2015, the Board authorized short-term interim structural repairs to the radar tower prior to making a final decision on the future disposition of the structure. The Interim Repair Project included: repairs to the first floor caused by the Loma Prieta earthquake; sealing all first floor openings to prevent the public from entering the structure; and “collapse prevention” repairs required by the County of Santa Clara (County) to allow for public access to the exterior perimeter of the structure as part of the summit grand opening. The Interim Repair Project received final signoff and approval from the County in July 2016. With these Interim Repairs completed, the District was able to move forward with the summit improvements and open Mount Umunhum to the public in September 2017. The repairs were designed to be short-term and last at least five years.

#### *Retain and Seal – June 2016*

On May 10, 2016, the County Board of Supervisors listed the radar tower on the County Heritage Resource Inventory. Given this action and implications on the future disposition of the radar tower, the General Manager recommended and the Board approved the Retain and Seal option for the structure on June 8, 2016. The Board-approved Retain and Seal decision effectively seals and stabilizes the structure, with no visitor access to the interior.

#### *Conservation Easement – December 2017*

On December 6, 2017, the Board authorized the Quitclaim of a Cultural Conservation Easement (conservation easement) to protect and preserve the Mount Umunhum Summit in perpetuity. The conservation easement permits the following as it pertains to the radar tower and its future repairs:

*“To repair and maintain the Tower, consistent with the District’s approved Retain and Seal option and to any degree required by the County of Santa Clara, based on its general health and safety regulatory authority, or based on the structure’s status on the County’s Heritage Resource Inventory, or as needed in the District’s discretion for nature resource management, health and safety purposes, provided in all cases that the Tower is not expanded in footprint or height or use.”*

#### *Exterior Remediation Project – February 2018*

Following winter storm events in 2017, flakes of paint from the exterior of the radar tower were observed within the immediate vicinity surrounding the radar tower. Out of an abundance of caution to ensure public health and safety, staff immediately closed the area around the radar tower to public access. Simultaneously, the District hired Hazard Management Services, Inc., (HMS) in November 2017 to collect and test samples from the exterior of the radar tower. The collected samples contained low levels of lead, and one sample contained trace amounts of

asbestos. Soil samples collected adjacent to the radar tower, however, did not contain hazard levels for heavy metal contamination, including lead.

On February 14, 2018, the Board authorized funding for the Mount Umunhum Radar Tower Exterior Remediation Project, and approved a contract with PARC Environmental to complete the removal of all remaining paints and coatings from the exterior four walls of the structure (R-18-18). The Project was completed in May 2018, with two hazardous materials testing firms confirming that all paints had been completely removed from the exterior four faces of the structure. However, following the removal of all exterior paints and coatings, small pieces of aggregate (as large as 1.5 inches in width) have been observed around the perimeter of the radar tower. Due to these observations, the area around the radar tower continues to be fenced off from public access, and has been designated a hard-hat required area. The current closure extends to the East Summit, Summit Stairs, and Mt Umunhum Trail from the Summit Stairs to the trailhead shelter (refer to Attachment 1).

#### *Exterior Assessment Project – July 2018*

On July 31, 2018, the District entered into contract with ZFA Structural Engineers (ZFA) to perform a limited assessment of the radar tower exterior walls and determine the integrity of the exterior concrete. ZFA conducted visual observations and performed hammer testing on the exterior walls, and identified locations of concrete and rebar deterioration. Additionally, the strength and chemical composition of the exterior walls were determined by testing concrete core samples extracted from the exterior walls. The test results indicate that the exterior concrete walls have a high compressive strength and are structurally sound. However, ZFA's report recommends the repair of damaged concrete and exposed rebar to provide safe public access around the exterior of the radar tower.

#### *Project Criteria Approval – September 2018*

In order to fulfill Board-approved project goals and criteria, a comprehensive assessment of the entirety of the radar tower is required. The assessment will build upon prior assessment and design work completed through the Interim Repair Project and Exterior Assessment Project. However, site conditions have changed substantially since the structure was evaluated in 2011 for Interim Repair Project, and the Exterior Assessment Project scope of work was limited to only the exterior concrete walls. A comprehensive assessment is required to fully evaluate the current state of the structure and provide repair options that achieve the Project goals. On September 12, 2018, the Board approved the Assessment Project goals, criteria, and scope of work (refer below to the section on Project Criteria for details). The project goals and criteria will guide this next more comprehensive assessment process, and guide the development of proposed repair options. The goals and criteria will ensure that the selected consultant provides a deliverable that is in line with Board policy and direction. The Board-approved project goals and criteria were incorporated into the Assessment Project Request for Proposals.

#### *Santa Clara County Historic Heritage Commission – November 2018*

On November 18, 2018, upon the request of Santa Clara County, staff presented current radar tower conditions, ongoing District efforts to manage the radar tower, and the scope of the assessment project, including the Board-approved project criteria to retain and seal the tower, to the Santa Clara County Historical Heritage Commission (HHC). The HHC took no formal action. Individual commissioners expressed their desire for the radar tower to be repaired as quickly as possible.

## DISCUSSION

The Assessment Project and subsequent repairs to the radar tower will ensure the ongoing stability of the structure, the continued safety of the public visiting the summit around the outside of the building, and the safety of staff who patrol and maintain the summit and who may infrequently enter the building to address maintenance issues.

Since completing the short-term interim repairs in 2016, the following issues have emerged, which will be evaluated as part of the repair assessment:

- Water intrusion
- Wildlife entry through small openings
- Presence of remnant lead and asbestos
- Concrete spalling
- Roof integrity

### *Project Goals and Criteria*

The goal of the Assessment Project is to fulfill the Board's decision to retain and seal the structure. A structural assessment of existing exterior and interior conditions is required to evaluate the radar tower with short-term and long-term stabilization goals in mind. Prior information collected about the structure, including the prior exterior concrete assessment work, will be used to inform this more comprehensive assessment. To establish a clear framework that will guide the assessment work and the subsequent development of repair options and/or protocols, the selected consultant will follow the following Board-approved project criteria:

- Ensure public and worker safety around the radar tower
- Avoid future contamination concerns
- Reduce (or eliminate) future need to enter building
- Protect workers if/when ingress is needed
- Avoid wildlife trappings and other resource impacts
- Reopen a pathway to the east summit
- Supports the retain and seal option previously approved by the Board of Directors

### *Assessment Project Scope of Work*

The project scope will require the consultant to review existing documents and perform tests and assessments on the radar tower. Findings from the assessments will be summarized in a Basis of Design (BOD) report that includes recommended repairs, schematic plans, and cost estimates to complete the Assessment Project and meet the Board-approved project goals and criteria. The recommended repairs will be categorized as Short-Term or Long-Term repair options with an associated approximate life span. Once the BOD is complete, the Board will receive a presentation of the repair recommendations, preliminary cost estimates, and outline of next steps. After the Board reviews and selects the repair elements, staff will issue an RFP or amend WJE's contract for the next phase of the Assessment Project to develop construction documents for the elements selected. The Assessment Project will return to the Board to consider an Award of Contract to construct the repairs.

### Consultant Selection

A Request for Proposals was issued on October 18, 2018 on the District's website, BidSync, and directly emailed to 28 professional engineering firms. A pre-proposal meeting and site tour was held on November 1, 2018 and November 8, 2018 with six firms in attendance for both days. Staff received three proposals on November 30, 2018:

<b>Consultant</b>	<b>Location</b>	<b>Proposal Price</b>
Wiss, Janney, Elstner Associates, Inc.	Emeryville, CA	\$107,700
Maffei Structural Engineering	San Francisco, CA	\$113,625
ZFA Structural Engineers	San Carlos, CA	\$188,671

Based on a thorough evaluation, Wiss, Janney, Elstner Associates, Inc., (WJE) was deemed the most qualified given their projects team's diverse fields of knowledge, prior experience with similar concrete military buildings of historic interest, and expertise in the field of structural engineering and concrete structure evaluation (see lists below/see attached WJE proposal). WJE demonstrated a deep knowledge of the project's background, setting, deliverables and goals, and submitted a high quality proposal to perform the scope of work at a fair and reasonable price. For these reasons, the General Manager recommends entering into an agreement with WJE to complete the Assessment Project.

The WJE project team consists of experts in the following fields:

- Structural Engineering
- Historic Architecture
- Civil Engineering
- Waterproofing
- Fall Protection
- Hazardous Materials Investigation and Remediation
- Construction Cost Estimation

Examples of relevant projects completed by WJE include:

- Structural assessments of concrete buildings on Alcatraz Island (National Park)
- Seismic assessment of U.S. Coast Guard concrete lighthouse on Molokai Island (National Historic Park)
- Steel corrosion assessment of historic U.S. Navy concrete structures at Point Richmond (National Historic District)
- Condition assessment of elevated concrete roadways and support structures at San Francisco International Airport
- Seismic assessment and retrofit of U.S. Department of Energy Reactor B at Hanford Nuclear Site (National Historic Landmark)

## FISCAL IMPACT

The FY2018-19 budget includes \$262,000 for the Mount Umunhum Radar Tower Assessment Project #31307-54-100000. There are sufficient funds in the project budget to cover the recommended action and expenditures.

	FY2018-19
<b>Project #31307-54-100000 Budget</b>	<b>\$262,000</b>
Spent-to-Date (as of 12/11/18):	\$66,496
Encumbrances:	\$19,526
Award of Contract (including 15% contingency):	\$123,855
<b>Budget Remaining (Proposed):</b>	<b>\$52,123</b>

The recommended action is not funded by Measure AA.

## BOARD COMMITTEE REVIEW

Given the level of Board interest, this item is coming to the full Board. The Board approved the project criteria and scope of work for the Assessment Project at the September 12, 2018 regular meeting (R-18-105), and authorized the General Manager to release a Request for Proposals for the assessment.

## PUBLIC NOTICE

Public notice was provided as required by the Brown Act. Notices were also sent to interested parties on the Mount Umunhum mailing list.

## CEQA COMPLIANCE

On August 30, 2010 the Board approved in the Initial Study/Mitigated Negative Declaration (IS/MND) for the Almaden Air Force Station Structure Abatement Project (R-10-102), which included an evaluation of potential repairs and work on the exterior of the radar tower. In addition, on October 17, 2012 the Board adopted the Mount Umunhum Environmental Restoration and Public Access Project Environmental Impact Report, which included an analysis of the Retain and Seal option for the radar tower. The Board also adopted an Addendum to the Environmental Impact Report for the Umunhum Environmental Restoration and Public Access Project prepared on December 9, 2015. Approving the Goals & Delivery Process of the Mount Umunhum Radar Tower Long-Term Assessment & Repair Project is consistent with the IS/MND, EIR, Addendum, and repair work previously executed on the project site. No new significant environmental effects or substantial increase in the severity of previously identified effects would result from this project beyond what was analyzed in the existing CEQA documents.

## NEXT STEPS

If approved, the General Manager will enter into a contract with WJE. Final contract signature is subject to meeting all District requirements. Initial research and evaluation of the radar tower

will begin immediately following contract approval. Future Board review and input are anticipated to occur as follows:

- Board review of repair options and approval of repair elements (Basis of Design) - Summer 2019
- Board award of contract or contract amendment to complete the construction plans and permits for the Board-approved Basis of Design - Fall 2019
- Board award of contract for the repair work, construction begins - Spring 2020

Attachment:

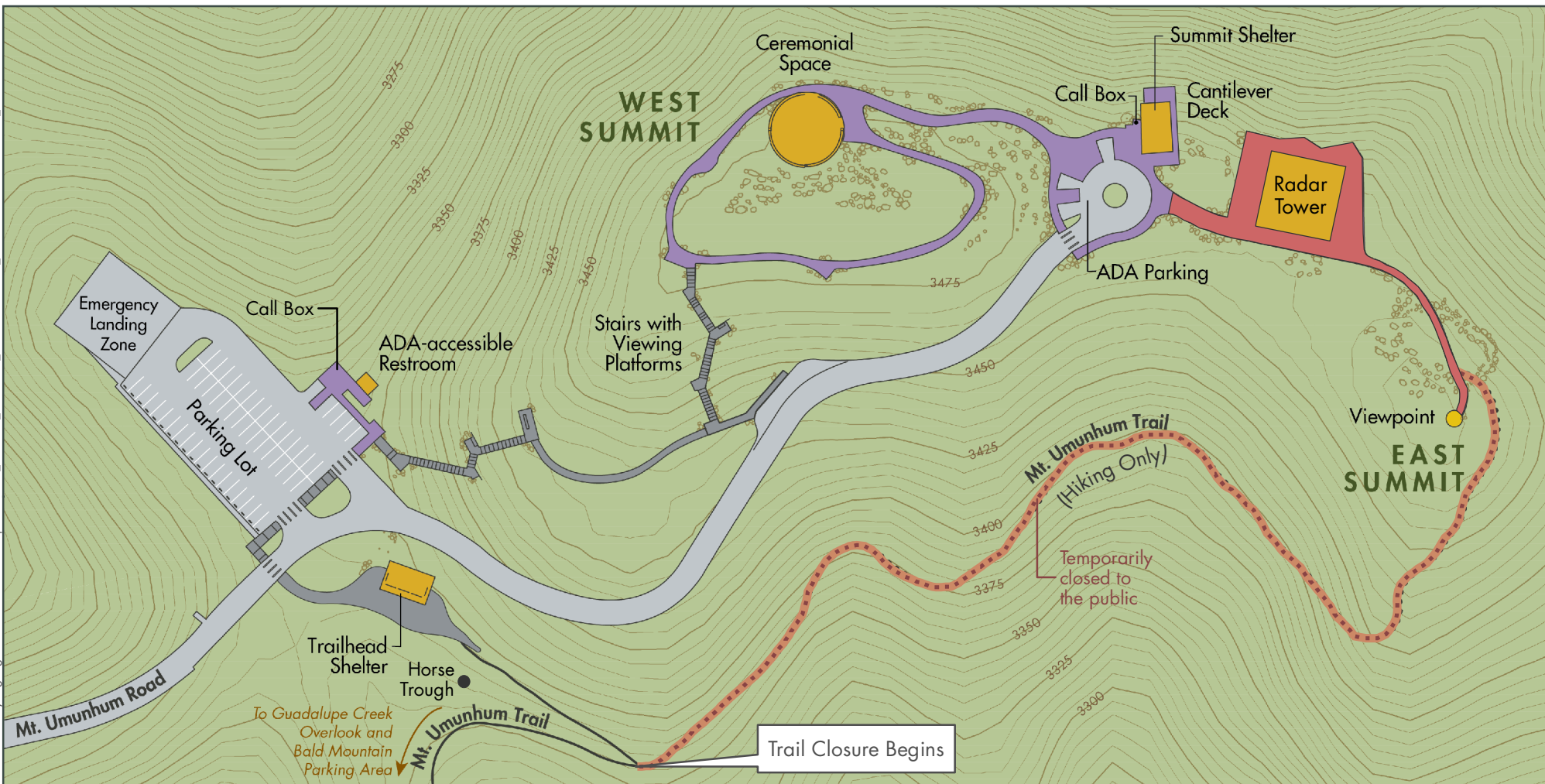
1. Mount Umunhum Public Access Closure

Responsible Department Head:

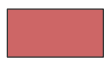

Jason Lin, PE, Engineering and Construction Department Manager

Prepared by:

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### Attachment 1: Mount Umunhum Public Access Closure

-  No Public Access
-  Closed Section of Mt. Umunhum Trail

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Open Space District  
(MROSD)  
January 2019



While the District strives to use the best available digital data, these data do not represent a legal survey and are merely a graphic illustration of geographic features.