

## **SITE SPECIFIC RI TECHNICAL APPROACH**

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### *Former Trabuco Bombing Range*

The Trabuco Bombing Range (referenced in some documents as the "Plano Trabuco Target Area" or "Temecula Bombing Range") in southern Orange County, California, initially comprised an area of approximately 1,800 acres. From 1944 through 1956, all or part of the area (now identified as the Trabuco Bombing Range Formerly Used Defense Site (FUDS) project area) was used by the U.S. Navy and Marine Corps as a practice bombing/target range in conjunction with Marine Corps Air Station (MCAS) El Toro. The range originally was acquired by the Secretary of the Navy on 21 February 1944 by condemnation for military purposes. The lease was modified in 1949 to reduce the leased area to 503 acres. This agreement continued until 1956, when the rest of the range was released to the owners and the land was returned to its former use as farmland and grazing.

A large amount of debris from the activities at the Trabuco Bombing Range remained on the range following its closure. This debris included some unexploded ordnance (UXO), in the form of practice bombs containing spotting charges.

In 1984, the Orange County Hazardous Devices Squad (OCHDS) and the MCAS El Toro Explosive Ordnance Disposal (EOD) Unit conducted a clearance operation, and transported 14 dump-truck loads of certified inert ordnance items from the site. Over 400 ordnance items suspected of containing spotting charges were destroyed. The 1990 U.S. Army Corps of Engineers (USACE) Inventory Project Report (INPR) assigned Trabuco Bombing Range a Risk Assessment Category (RAC) Score of "2", "critical, high priority". In 1991, USACE removed 61 tons of ordnance items that had been collected by developers during construction activities. Another large stockpile of ordnance was buried under 20 feet of soil in the area that is now the 8<sup>th</sup> fairway of the Tijeras Creek Golf Club. The Archives Search Report (ASR), completed in 1993, identified areas outside of the site boundary near the historic Adobe Hut that may have been impacted, and recommended an Engineering Evaluation/Cost Analysis. A Time Critical Removal Action (TCRA) was conducted in 2003-2004 following the discovery of several pieces of ordnance by the contractor working on an extension to the Trabuco Canyon Bikeway. This action—a sweep of several areas in and adjacent to the path of the bikeway extension—resulted in the discovery and disposal of a total of eleven MEC items, all of them inert.

The site contains Munitions Debris and Unexploded Ordnance (UXO) may be present. The lateral extent and overall concentration of remaining ordnance-related items is unknown, as significant topographic reworking of much of the project site has occurred over the years in the course of development of the City of Rancho Santa Margarita, Tijeras Creek Golf Course, and O'Neill Regional Park. Due to historical identification of ordnance, the lack of documented removal actions, and the continued developmental pressure on the area, additional ordnance discoveries at the site are expected. Exposure pathways are complete as a result of site use and the lack of access restrictions. Therefore, in accordance with ER 200-3-1, sufficient data need to be collected during the RI to characterize the site for effective and rapid initiation of the Feasibility Study (FS). ITSI/Parsons proposes the following activities in support of the RI for Former Trabuco Bombing Range, California:

**Site Visit** – ITSI/Parsons conducted a Site Visit in accordance with the baseline procedures. In addition, since sufficient evidence already exists (confirmed historical presence of munitions debris, and UXO in several areas) to support this RI/FS, the Site Visit focused on site aspects impacting implementation of the RI/FS. The impacts of dense vegetation and the rugged topography of some areas on site characterization were evaluated. Data also were gathered to identify the potential limitations to subsequent recommended actions because of development that has occurred.

**Geophysical Prove-Out** – A formal analysis of the optimal method of detection of UXO-related material will be performed using a selection of instruments including a time-domain EM (EM61-MK2), a G858 magnetometer, and a Schonstedt magnetometer. Each of the selected instruments will be used to collect data over the geophysical prove-out (GPO) grid. The GPO grid will be established by seeding a number of MEC objects of the types that are expected to be found at the site. The grid will be located on relatively flat, vegetation-free ground and will cover an area approximately 100 feet by 100 feet. The results of the GPO will be processed in a manner similar to the procedures that will be used for the RI.

**Remedial Investigation** – ITSI/Parsons will conduct a combination of meandering path and transects throughout the project site, and will use a grid system around the Adobe Hut. The geophysical field team will be using an EM-61 MK 2, G858 magnetometer, or Schonstedt magnetometer to locate subsurface anomalies. As much of the approximately 1.9% of the 520 acre site as possible will be mapped. The data collected will be evaluated to determine if each identified anomaly meets the criteria of being a potential ordnance item or other target of interest. The UXO Team will excavate each of the selected target anomalies. All UXO items that can be moved to the explosives storage magazine will be transported within the park boundaries to the magazine for storage and destruction at a later date. Any items deemed inappropriate to move will be blown in place as soon as possible in accordance with the approved WP.

**Munitions Constituent (MC) Sampling** – ITSI/Parsons will conduct MC Sampling in accordance with the baseline procedures. For the Trabuco Bombing Range, surface soil in the immediate vicinities of the high concentrations encountered during the TCRA and in the undeveloped areas of the former targets (including the area of the Adobe Hut), will be screened for MC presence. Since numerous munitions debris items have been recovered over the years, the samples will be taken in the highest-probability locations or in accessible locations within the areas of the former targets. Surface soil samples will also be collected in lesser-probability areas to aid in the planning for any subsequent sampling. In the event that UXO are deemed unsafe to move, a soil sample will be collected before and after each blow-in-place event.

**Exhibit 1 – ITSI/Parsons MC Sampling Approach  
Former Trabuco Bombing Range, CA.**

Sample Type	Number of Samples/ Proposed Analyses	Justification
Surface Soil	20 – MC Constituents List	<ul style="list-style-type: none"> <li>• Collected from undeveloped areas within the reduced 503-acre footprint of the original bombing range. Samples will be collected in undeveloped areas where MC would be expected in relation to the former targets.</li> <li>• Collected before and after each blow in place event.</li> </ul>
Appropriate quality control or blow in place samples are not included in above sample count.		