# Final
# FORMER MARINE CORPS AIR STATION (MCAS) El Toro
# 111th Restoration Advisory Board (RAB) Meeting Summary

**Meeting Location**: Irvine City Hall, 1 Civic Center Plaza, Irvine, California
**Meeting Date/Time:** 20 August 2014/6:30 p.m. to 8:30 p.m.
**Minutes Prepared by:** Fabiola A. Hatley, Accord MACTEC 8A Joint Venture (AM8AJV)

**ATTACHMENTS:**

Sign-In Sheets for the 20 August 2014 RAB Meeting

Presentation Slides:

- Remedial Action Update IRP Sites 1 and 2 Groundwater, Former MCAS El Toro
- Capture Zone Evaluation, IRP Sites 18 and 24 Groundwater Remedy, Former Marine Corps Air Station El Toro, Irvine, CA
- Installation Restoration Program Second Five-Year Review Update, Former MCAS El Toro

**ATTENDEES:** A total of 23 people attended the RAB meeting:

Navy: Jim Sullivan, Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) and RAB Co-Chair; Marc P. Smits, Navy Remedial Project Manager (RPM); and Morgan Rogers, Contracted Navy Project Manager (PM).

Regulatory Agencies: Mary Aycock and Viola Cooper, United States Environmental Protection Agency (USEPA); Jennifer Rich, California Department of Toxic Substances Control (DTSC); and Patricia Hannon, California Regional Water Quality Control Board, Santa Ana Region (RWQCB).

RAB Members: Bob Woodings, Community Co-Chair; Marcia Rudolph, Technical Subcommittee Chair; Peter Hersh; Chris Crompton; and Don Zweifel.

Other Attendees: Crispin Wanyoike, Architecture, Engineering, Consulting, Operations, and Maintenance [AECOM]; Michael Foster, KCH (Kleinfelder/CH2M Hill Joint Venture); Dhananjay Rawal, Enviro Compliance Solutions, Inc. (ECS); Robert Reitenour and Keri Dionzo, Lowe Enterprises; Cliff Wallace, Orange County Great Park (OCGP); Harvey Liss, Irvine Planning Commissioner; and Tony Guiang, Max Pan, Joe Sevrean, and Fabiola A. Hatley, AM8AJV.

## WELCOME/PLEDGE/INTRODUCTIONS/AGENDA REVIEW:

Mr. Jim Sullivan, BEC and Navy RAB Co-Chair, welcomed everyone to the Former Marine Corps Air Station (MCAS) El Toro 111th RAB meeting. Mr. Sullivan presented the opening slides, which included the following information: agenda, points of contacts for the RAB, locations for reviewing key documents, environmental websites, process for reviewing the meeting minutes, and proposed dates for the 2015 RAB meetings.

Ms. Marcia Rudolph led the RAB attendees in reciting the pledge of allegiance.

## OLD BUSINESS:

**Announcements and Review of Action Items:**

Mr. Bob Woodings, Community Co-Chair, announced that he was notified of no absences prior to the meeting. He noted that the Meeting Summary from the 110th RAB Meeting held on 23 April 2014 was approved and finalized.

Mr. Sullivan announced that he received two excused absences. Excused absences were received from Ms. Desire' Chandler and Mr. Roy Herndon, both RAB members.

No Action Items from the last RAB were reported.

**Subcommittee Meeting Report:**

Ms. Rudolph provided a Subcommittee Meeting Report. She stated that the RAB needs to be kept informed of ongoing work, including the remedial actions at IRP Site 1. She explained that the RAB should meet four times per year rather than the two meetings currently scheduled. Ms. Rudolph noted that, although the Navy has done a great job with the cleanup effort at El Toro, she and others have committed themselves to the RAB, and meeting four times a year would help ensure that work continues to be implemented correctly. In addition, she mentioned that in the past the RAB Subcommittee has discussed that agendas should be released early enough before a scheduled meeting to allow those who cannot attend to review them and participate in topic discussions outside the scheduled meeting.

## NEW BUSINESS:

**RAB Community Co-Chair Election:**

Mr. Sullivan opened the floor for Community Co-Chair nominations. Mr. Don Zweifel, RAB member, nominated Mr. Bob Woodings, current Community Co-Chair, and Mr. Peter Hersh, RAB member, seconded the nomination. Mr. Sullivan asked if there were any more nominations. No further nominations were made. Mr. Woodings accepted the nomination and was re-elected as the RAB Community Co-Chair.

**RAB Operating Procedures Update:**

Mr. Sullivan opened the floor for a discussion on the RAB Charter and Operating Procedures. He stated that in 2006, guidance for RABs was codified into the Code of Federal Regulations (CFR) Section 32 Part 202. Mr. Sullivan brought copies of the Regulations for those interested in obtaining a copy. He mentioned that a copy is also available on the internet. He explained that in association with CFR Section 32 Part 202, the Department of Defense (DOD) issued a RAB Handbook. The RAB Handbook, released in March 2007, expands on CFR Section 32 Part 202. Mr. Sullivan brought copies of the RAB Handbook for those interested in obtaining a copy. Mr. Sullivan explained that he reviewed the RAB Operating Procedures, which were written in 1995 and last amended in 1999. He then presented a slide showing the RAB Operating Procedures with red-line changes he made in an effort to update the document to the present. Mr. Sullivan proposed two ways for RAB members to comment on the updates to the RAB Operating Procedures: (1) the Navy could send the red-line copies of the Operating Procedures to the RAB members or (2) the RAB attendees could discuss the Operating Procedures update during the current RAB meeting.

Mr. Hersh explained that the RAB procedures have deviated from the Operating Procedures. Specifically, it has drifted from the Operating Procedures in meeting frequency and changed how minutes are reviewed

and approved. He continued by saying that it should be left to the discretion of the RAB members to determine what should be done about the procedures since they seem to be out of date.

Mr. Zweifel added that, in past years, if an event or situation required the attention of the RAB, then a special meeting would be called to address the issue. Today's RAB should consider this process. The RAB meetings may continue to be held semi-annually and, when necessary, a special meeting may be called to address important and unexpected issues.

Ms. Rudolph stressed that she felt that this organization is not ready to switch to two meetings per year and should consider going back to holding four meetings per year, one of which may be a tour. At the end of each meeting, the RAB can decide whether the next meeting is needed and, if not, the meeting can be cancelled. It is premature for the RAB to switch to a two-meeting-per-year calendar. Currently, there is not enough information to support such a decision.

Mr. Hersh concurred with Ms. Rudolph. He also said that calling a special meeting is logistically difficult, and instead supports implementing a four-meeting-per-year calendar, and assessing at the end of each meeting the necessity to hold the next meeting. It is much easier to cancel a meeting, he said, than calling a special meeting. As for the Operating Procedures, he would like for the Navy to make changes, and to provide a red-lined copy to the RAB members for comment.

Mr. Sullivan will e-mail the red-lined Operating Procedures to the RAB members for comment. Ms. Mary Aycock, USEPA, requested that the regulators be added to the mailing list for the Operating Procedures red-lined document. Ms. Rudolph concurred and added that the regulators should be involved in the review and comment of any document. Further, she noted RAB members have great respect for the regulators and are very interested in what they have to say.

Self-introductions were made by all of those in attendance before the Regulatory Agency Update.

## REGULATORY AGENCY UPDATE:

**Ms. Jennifer Rich (DTSC)**

Ms. Rich provided the DTSC update since the last RAB meeting. In May 2014, DTSC completed site tours with Mr. Rogers, Navy PM, of all sites for Former MCAS El Toro. In June 2014, DTSC concurred with the Work Plan Addendum for Operation and Maintenance (O&M) and Long-Term Monitoring (LTM) for Landfill Sites. In July 2014, DTSC reviewed and provided comments on the Data Summary Report for IRP Site 16; concurred with the Project Environmental Review Form for Runway Removal; reviewed the Final Monitoring Well Destruction Report; and reviewed and provided comments for the Draft Technical Memorandum for Capture Zone Evaluation at IRP Sites 18 and 24.

Mr. Zweifel asked when and how many runways were scheduled for demolition. Mr. Cliff Wallace, OCGP, replied an approximate date for demolition of the runways is scheduled for September 2014 although he did not know how many runways would be demolished. Mr. Zweifel requested that information.

**Ms. Patricia Hannon (RWQCB)**

Ms. Hannon provided the RWQCB update since the last RAB meeting. The same documents described by DTSC were also reviewed by the RWQCB. In addition, the RWQCB reviewed the following documents:

- Draft Second Five-Year Review Report;
- Draft 2013 Annual Remedy Report for IRP Sites 18 and 24;
- Draft Site Closure Report for UST 651;
- Draft 2013 Annual O&M/ LTM Report for Anomaly Area 3;
- Draft 2013 Annual O&M/LTM Report for IRP Sites 3and 5; and
- Draft 2013 Annual Long-Term Groundwater Monitoring Report for IRP Site 16.

Mr. Rob Reitenour (Lowe Enterprises) asked whether DTSC has received the Draft Site Inspection (SI) report for Hangar 296, which documents the survey results from the recent investigation conducted at the hangar. Ms. Hannon replied the DTSC has not yet received this report.

**Ms. Mary Aycock (USEPA)**

Ms. Aycock noted the USEPA is reviewing the same documents currently being reviewed by the State agencies. Of note, she focused on two milestones: the investigations at Hangar 296 and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Five Year Review.

Ms. Aycock noted she toured Hangar 296 twice in the past year with Mr. Rogers and with Mr. Smits to look at the excavations and inspect what was being done to manage the waste. She was very impressed with the technology being used and the waste management practices being implemented. She was able to witness the excavation of the pipeline where radium had been discharged in the past and reported there were no leaks or visible releases from the site. Ms. Aycock reported that she returned to the site after the pipe had been excavated to inspect the waste management practices. She stated that the Navy and contractors did an excellent job in making sure that all radiation controls are being applied.

Currently, Ms. Aycock explained the Navy was preparing the SI Report but that they would be returning to the site to re-evaluate some areas. She noted the USEPA was awaiting this SI report, which would document a determination on whether a release can be issued for the Hangar for use as a warehouse.

Ms. Aycock provided a brief explanation of the CERCLA Five Year Review and noted the purpose of the Five Year Review was to evaluate the current remedies in place at the Sites. She explained that the review process involved looking at remedies in place at each Site and insuring the nine criteria used in selecting the remedy were still applicable and that the remedy continues to operate properly and successfully. She noted the evening's RAB presentation would focus on the Five Year Review for IRP Sites 2, 3, 5, 16, 17, 18, and 24 and Anomaly Area 3. Comments from the regulators are due on 28 August 2014. Ms. Aycock announced that by the next RAB meeting, USEPA will announce whether the onsite remedies are proving to be protective of human health and the environment.

Mr. Zweifel commented that years ago the RAB was concerned with the possible discharge of radium effluent into the sewer system. He asked the Navy to provide an update on this concern. Ms. Aycock asked Mr. Marc P. Smits, Navy RPM, to expand on this discussion. Mr. Smits replied that the current investigations at Building 296 would provide information about the current status of the radium room.

Further, he added that a full report would be submitted upon completion of additional investigations at Building 296. Mr. Zweifel asked when the RAB could expect to see the report. Mr. Smits replied that it was too early to provide a definite date for the report submittal but it would more than likely be some time towards the end of the year through the beginning of next year.

Mr. Chris Crompton, RAB member, asked whether or not the Navy will revert back to the practice of providing the RAB the opportunity to view Navy and Agency correspondences. Mr. Woodings replied that the Navy previously had Navy and Agency letters available for the RAB but the protocol has been updated to provide only a few members, specifically he and Ms. Rudolph, with copies of Navy and Agency letters. Mr. Woodings asked that the Navy consider providing correspondence letters to all RAB members in the future. Mr. Sullivan noted he would look into re-instating this practice. Mr. Crompton explained this would allow RAB members to keep up to date on the cleanup status of sites.

Further discussion regarding the runway demolition took place. Mr. Hersh asked for clarification regarding the responsibility if an environmental issue were to occur on a property already conveyed to a non-federal entity. Specifically with regard to the runway demolition, he asked whether the Navy would continue to be involved during its demolition. Mr. Sullivan explained that for properties already transferred under a Finding of Suitability to Transfer (FOST), or properties that have been leased via a Lease in Furtherance of Conveyance (LIFOC) there are procedures and processes in place that property owners such as the OCGP can implement if they wanted to take action. He explained a request would be submitted to the Navy for review and the Navy would determine whether the action is appropriate. Mr. Hersh asked if the Navy was required to review and comment on a demolition plan. Mr. Sullivan replied if the demolition plan was written for a property that was already transferred with no restrictions, the Navy would not necessarily need to review or provide comment on that document. However, if a property had institutional controls, then the Navy and the Regulatory Agencies would review and comment. To augment Ms. Rich noted that for properties where deed restrictions exist, the Navy's priority is to ensure any action taken by a current property owner does not interfere with the remedy in place. Mr. Smits explained that the Navy's priority is the protection of the remedies in place at a Site that has been transferred but where deed restrictions remain in place. As an example, if demolition of a runway is planned where a remedy is currently implemented, the Navy would have concerns. He explained that if the property has been transferred with no deed restrictions, the current property owner is free to implement any action on that property. However, Mr. Smits noted if the property owner performing work on property already transferred were to come across an environmental issue, it is likely the Navy would be notified.

Mr. Sullivan introduced the first technical speaker, Mr. Rogers.

## PRESENTATIONS:

**Remedial Action Update, IRP Sites 1 and 2 Groundwater**

Slide 1 – Title Slide

Slide 2 – Overview

Slide 3 – Site Locations. This slide presents a regional diagram showing the boundary of Former MCAS El Toro and the approximate locations/outlines of IRP Sites 1 and 2.

Slide 4 – Site Descriptions. This slide indicates that IRP Site 1 was a former explosive ordnance disposal training range that was operational from 1952 to 1999. The groundwater chemical of concern (COC) is perchlorate. IRP Site 2 was described as a former landfill known as the Magazine Road Landfill. The

landfill was operational from the 1950s until about 1980. Groundwater COCs are chlorinated volatile organic compounds (VOCs).

Slide 5 – Selected Remedies. This slide indicates that the remedy for IRP Site 1 groundwater is in situ bioremediation (ISB) at the source area, downgradient of the source area between IRP Sites 1 and 2, and near the Former MCAS El Toro boundary. The remedy for IRP Site 2 groundwater is monitored natural attenuation. Groundwater monitoring, institutional controls (ICs) and five-year reviews are also remedy components for both IRP sites.

Slide 6 – Selected Remedies (map). This slide presents a diagram of the source areas at IRP Sites 1 and 2, ISB treatment areas, the outline of the IRP Site 2 capped landfill, general groundwater flow directions, and groundwater sampling locations.

Slide 7 – Project Status Update. The slide summarized the current status of the project, tasks completed from January through July 2014, and the next steps planned from September 2014 through December 2015.

In closing, Mr. Rogers explained that over the course of time, the Navy's expectations are that the concentrations of the VOCs and perchlorate will continue to reduce over time through the ISB and natural attenuation remedies. He noted the Navy would continue to provide the RAB with updates on the success of this remedial action.

Slide 8 – Questions

There were no questions from the RAB.

Slide 9 – Acronyms

Mr. Sullivan introduced the next presenter of the evening, Mr. Smits.

**Capture Zone Evaluation, IRP Sites 18 and 24 Groundwater Remedy**

Slide 1 – Title Slide

Slide 2 – Overview

Slide 3 – Project Background. This slide indicates that two separate groundwater extraction and treatment systems have been operational in the shallow groundwater unit (SGU) and principal aquifer (PA) since 2006/2007. The objectives of the two systems are to reduce concentrations of VOCs and capture the plumes. Semiannual groundwater monitoring is conducted.

Slide 4 – IRP Site 18 and 24 Location Map. This slide presents an aerial map showing the location of the extraction wells, associated pipelines, and extent of the trichloroethene plume where concentrations are greater than 5 micrograms per liter.

Mr. Smits used Slide 4 to show the orientation of the two plumes. IRP Site 24 is the on-station portion where groundwater is observed at approximately 100 feet below ground surface (bgs) in the SGU. The plume migrates off- station into IRP Site 18 where groundwater is observed at approximately 300 to 350 feet bgs in the PA. He explained there were 43 extraction wells in the SGU and 3 extraction wells in the PA.

Mr. Zweifel asked at what rates the off-station wells (ET-1, ET-2 and IRWD-78) were pumping. Mr. Smits replied that the off-station wells were capable of pumping up to 1000 gallons per minute (gpm);

ET-1 currently pumps at about 1000 gpm, ET-2 currently pumps at 600 gpm, and IRWD-78 currently pumps at 800 gpm. Mr. Zweifel asked if IRWD was recharging the PA. Mr. Smits replied water is being reused for recycled water purposes.

Mr. Smits next introduced Mr. Foster, hydrogeologist with KCH (Kleinfelder/CH2M Hill Joint Venture) who presented the remaining slides of the presentation.

Slide 5 – Project Objectives. This slide indicates that the objectives were to update the previous (2008) capture zone evaluation with more recent data and to incorporate the conclusions into the current five-year review.

Mr. Foster summarized the objectives of the capture zone evaluation. He explained that this was the second time an evaluation was being conducted; the first was conducted in 2008. He noted that the current capture zone evaluation was being conducted in coordination with and in support of the Five-Year Review and results from this study would aid in determining whether remedy is operating as it was intended.

Slide 6 – Project Approach. This slide indicates that three independent analytical methods were utilized for capture zone evaluation. These methods are the same as utilized in the previous capture zone evaluation conducted in 2008. The most recent capture zone evaluation is based on data collected since the previous evaluation.

Mr. Foster explained that existing data were used to evaluate the current extent of the plumes. He explained that the three independent analytical methods used were: (1) USEPA Single Well Method; (2) Analytical Element Modeling of multiple wells; and (3) Graphical/Numerical Modeling. For this evening's presentation, only the Single Well Evaluation was discussed.

Slide 7 – March 2013 SGU Groundwater Elevation Map. This slide presents March 2013 groundwater elevation contours of the SGU superimposed on an aerial photograph.

Mr. Foster used the map on Slide 7 to show the groundwater elevations in the SGU. He explained the groundwater map was like a topographic map except here it shows the surface of the water table in the SGU. The map showed the groundwater flow moving perpendicular to the iso-contour elevations. He used the "inset" on Slide 7 to show a trough in the groundwater table surface called a cone of depression which is evidence that groundwater flow is moving towards the extraction wells and plume capture is being achieved.

Slide 8 – March 2013 PA Groundwater Contour Map. This slide presents March 2013 groundwater elevation contours of the PA superimposed on an aerial photograph.

Mr. Foster noted the cone of depression evident in the previous slide is not as obvious here because there are less extraction wells in the PA. However, he noted where a "V' pattern is observed that indicates a valley in the water surface where the groundwater is converging towards the center which means capture is occurring.

Slide 9 – Example Analytical Method – Single Wells. This slide presents groundwater flow lines superimposed on an aerial photograph.

Mr. Foster used Slide 9 to demonstrate the use of the Single Well Evaluation in determining plume capture. He explained this method was accomplished by assuming a location in the middle of the extraction system and then assigning the total pumping rate for all extraction wells to a single extraction well. The area marked by the green boundary shown on the Slide 9 indicates the area by which

groundwater is influenced by the extraction from the single well. The boundary generated by the software is called the capture zone and in this case, as shown on the figure, it is far larger than the area where groundwater is impacted by VOCs.

Mr. Zweifel asked whether the area marked by more groundwater flow lines flowing into three southern-most wells located at the edge of the plume, were pumping or extracting groundwater at a greater rate than the other extraction wells within the plume. Mr. Foster replied, the model allows for particle tracking whereby if one were to place a water molecule anywhere within the capture zone the direction of flow could be determined. In this case, the model placed particles around the boundary of the plume to determine where groundwater would flow.

Mr. Zweifel asked how large of an area the Capture Zone in this model comprised. Mr. Foster replied the width of the Capture Zone was several hundred feet.

Slide 10 – Conclusions. This slide indicates that the extraction systems continue to be effective in meeting the remedial action objectives. There is full hydraulic capture being achieved by the SGU barrier wells and PA extraction system.

Mr. Foster explained that, by applying the data using several groundwater modeling methods, the current extraction systems at IRP Sites 18 and 24 are effective and are establishing capture zones capable of capturing VOCs in groundwater in the SGU and PA.

Slide 11 – Schedule. This slide indicates that the final capture zone evaluation technical memorandum would be published by 24 September 2014.

Slide 12 – Questions

There were no further questions from the RAB.

Slide 13 – Acronyms

Mr. Sullivan reintroduced Mr. Rogers for the last technical presentation of the evening.

**Installation Restoration Program, Second Five-Year Review Update**

Slide 1 – Title Slide

Slide 2 – Presentation Overview

Slide 3 – Sites – Second Five-Year Review. This slide states that the Navy issued the draft five-year review report for IRP Sites 2, 3, 5, 16, 17, 18, 24 and Anomaly Area 3 on 27 June 2014. This was the first five-year review for IRP Sites 3 and 5 and Anomaly Area 3 and the second five-year review for the other Sites.

Slide 4 – Sites – Locations. This slide presents a regional map showing the locations of the IRP sites, Anomaly Area 3, and extents of groundwater plumes at Sites 18 and 24.

Slide 5 – Components of Five-Year Review. This slide presents a schematic of the five-year review process and indicates that the purpose of the review is to assess whether the remedies are currently or will be protective of human health and the environment.

Slide 6 – Components of Five-Year Review (continued). This slide presents a schematic outlining the three questions that need to be answered to determine the protectiveness of a particular remedy.

Slide 7 – Site-Specific Findings and Protectiveness Statements. This slide indicates that the remedies at all sites are functioning as intended by their respective Records of Decision. Exposure assumptions, toxicity data, and remedial action objectives used at the time of remedy selection are still valid. No other information has been identified that would affect the protectiveness of the remedies, which are still considered protective of human health and the environment.

Slide 8 – Schedule. This slide indicates that regulatory review of the draft five-year review report is ongoing through August 2014, and the final report will be issued by 30 September 2014.

Slide 9 – Questions

Mr. Zweifel asked the Agencies whether they would meet the comment period review deadline for the Five Year Review. The Agencies replied they were certainly on schedule to meet the schedule.

Slide 10 – Acronyms

Mr. Liss asked about post-earthquake inspections. Specifically, he asked the Navy to identify the organization responsible for ensuring that inspections are taking place and he asked where the inspection reports are kept when completed. According to Mr. Liss, post-earthquake inspections are part of engineering controls, and recently he has observed lack of commitment by the Navy to conduct inspections. Mr. Rogers stated that according to the Final Work Plans for the landfill sites, a qualifying earthquake is one that is of magnitude 4.0 or greater. No distance specification was given in the Final Work Plans. The Final Work Plan Addendum for the landfill sites clarified the definition of a significant earthquake event as an earthquake of magnitude 4.0 or greater within 50 miles of the site or an earthquake of magnitude 6.0 or greater within 100 miles of the site. In addition, inspections must take place within a week. According to Mr. Rogers, only one earthquake qualified in the past year. Inspection teams arrived onsite and performed an inspection as required. No significant findings were noted during the inspection.

## MEETING EVALUATION AND SUGGESTIONS FOR FUTURE MEETING TOPICS:

Mr. Woodings asked to briefly discuss the calendar. He stated that if the RAB wanted to return to the quarterly system, this system would take them into November 2014. That date poses a problem because November is a month used by many to travel because of the Thanksgiving holiday. Mr. Sullivan stated that the Navy is currently proposing a February 2015 and August 2015 date for the RAB meetings. He noted the August 2015 meeting coincides with the Proposed Plan for IRP Site 1. It was determined that further discussion may take place regarding the proposed meeting dates but for now the proposed dates of February and August 2015 will remain.

Ms. Aycock approached the front of the room to recognize RAB members and their contributions to the organization. Thanks to their dedication and hard work, U.S. EPA delisted over 2,000 acres of Former MCAS El Toro from the Superfund list during the last year. Certificates of appreciation were given to Mr. Woodings, Ms. Rudolph, Mr. Zweifel, and Mr. Hersh. There were several recipients absent. She noted that for those RAB members not in attendance, certificates would be mailed to them.

## LIST OF HANDOUTS PROVIDED AT THE MEETING:

- Presentation Slides: Remedial Action Update, IRP Sites 1 and 2 Groundwater, Former MCAS El Toro
- Presentation Slides: Capture Zone Evaluation, IRP Sites 18 and 24 Groundwater Remedy, Former Marine Corps Air Station El Toro, Irvine, CA
- Presentation Slides: Installation Restoration Program Second Five-Year Review Update, Former MCAS El Toro, Irvine, CA
- 20 August 2014 Former MCAS El Toro RAB Meeting Agenda
- Public Notice for the 20 August 2014 RAB Meeting
- Final RAB Meeting Summary from the 23 April 2014 Meeting
- Former MCAS El Toro Where To Get More Information

Copies of the RAB meeting summaries and handouts are available at the information repository for Former MCAS El Toro located in the Government Publication Section of the Heritage Park Regional Library, in Irvine, California. Library hours are 10:00 a.m. to 9:00 p.m. on Monday through Thursday; 10:00 a.m. to 5:00 p.m. on Friday and Saturday; and 12:00 p.m. to 5:00 p.m. on Sunday. The library phone number is (949) 936-4040. In addition, copies of the meeting minutes and handouts are also available in the CERCLA Administrative Record File.

Final meeting summaries from previous RAB meetings can be found on the internet at the Navy BRAC Program Management Office (PMO) website: http:///www.bracpmo.navy.mil/

**INTERNET SITES:**

**Navy and Marine Corps Internet Access:**

BRAC PMO website (includes RAB meeting minutes): http://www.bracpmo.navy.mil/

**Department of Defense – Environmental Cleanup Home Page Website:**

http://www.dtic.mil/envirodod/

**USEPA:**

Homepage: http://www.epa.gov

Superfund information: http://www.epa.gov/superfund

National Center for Environmental Assessment: http://www.epa.gov/ncea

Federal Register Environmental Documents: http://www.epa.gov/federalregister

**California Agencies:**

California Environmental Protection Agency Homepage: http://www.calepa.ca.gov

DTSC: http://www.dtsc.ca.gov

Department of Health Services, reorganized into the Department of Health Care Services and the Department of Public Health: http://www.dhs.ca.gov

RWQCB: http://www.waterboards.ca.gov/santaana

**Additional Websites: Reuse and Redevelopment**

Orange County Great Park: http://www.ocgp.org

Great Park Conservancy: http://www.orangecountygreatpark.org

**Reference Documents**

Title 32 of the *Code of Federal Regulations*, Part 202: http://www.gpo.gov/fdsys/pkg/CFR-2011-title32-vol2/pdf/CFR-2011-title32-vol2-part202.pdf

Restoration Advisory Board Handbook: http://www.denix.osd.mil/rab/upload/RAB-Rule-Handbook_Final.pdf

# FORMER MCAS EL TORO
# RESTORATION ADVISORY BOARD MEETING

## *NAVY SIGN-IN SHEET*

## *August 20, 2014*

| Name | Signature |
|---|---|
| Jim Sullivan, BRAC Environmental Coordinator | |
| Content Arnold, Lead Navy RPM | |
| Marc P. Smits, Navy RPM | |
| Morgan Rogers, Contracted PM | |
| | |
| | |

# FORMER MCAS EL TORO
# RESTORATION ADVISORY BOARD MEETING
## *AGENCY AND RAB MEMBER SIGN-IN SHEET*
## *August 20, 2014*

**Please sign in on the appropriate line. If your address and/or phone number has recently changed, help us update our records by writing your new information on the back of the sign-in sheet. Thank you.**

| Name | Signature | Name | Signature |
|---|---|---|---|
| Bob Woodings, Community Co-chair | | Mary Aycock, U.S. EPA | |
| Peter Hersh | | Viola Cooper, U.S. EPA | |
| Mary Aileen Matheis | | Patricia Hannon, RWQCB | |
| Chris Crompton | | Jennifer Rich, DTSC | |
| Marcia Rudolph, Subcommittee Chair | | Crispin Wangh | |
| Roy Herndon | | Michael Foster | |
| Desire' Chandler | | | |
| Donald Zweifel | | | |

**GUEST SIGN IN**

# FORMER MCAS EL TORO

## *RAB MEETING- SIGN-IN SHEET*

## August 20, 2014

| *NAME* ***PLEASE PRINT CLEARLY*** | *AFFILIATION (community member/resident, elected official, agency official)* | *MAILING ADDRESS* | *PHONE EMAIL FAX* | *SHOULD WE ADD YOU TO THE MAILING LIST? (yes/no)* | *NEW TO MEETING? HOW DID YOU HEAR ABOUT THIS MEETING* |
|---|---|---|---|---|---|
| Dhananjay Rawal | ECS Inc | | | | |
| Cliff Duncan | City of Irvine | | | | |
| Keri Stoltzo | Lowe Enterprises | | | | |
| Fabiola Hatley | Accord Eng. | | | | |
| Joe Seurean | Accord Eng | | | | |
| Tony Guang | AMEC | | | | |

**GUEST SIGN IN**

# FORMER MCAS EL TORO

## *RAB MEETING- SIGN-IN SHEET*

## August 20, 2014

| *NAME*<br><br>***PLEASE PRINT CLEARLY*** | *AFFILIATION (community member/resident, elected official, agency official)* | *MAILING ADDRESS* | *PHONE EMAIL FAX* | *SHOULD WE ADD YOU TO THE MAILING LIST? (yes/no)* | *NEW TO MEETING? HOW DID YOU HEAR ABOUT THIS MEETING* |
|---|---|---|---|---|---|
| ROB REITENOUR | LOWE ENT. | | | | |
| MAX PAN | ACCORD ENG | | | | |
| [signature] | USEPA | | | | |
| HARVEY LISS | IRVINE PLANNING COM | | | | |
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# Remedial Action Update
# IRP Sites 1 and 2 Groundwater
# Former MCAS El Toro

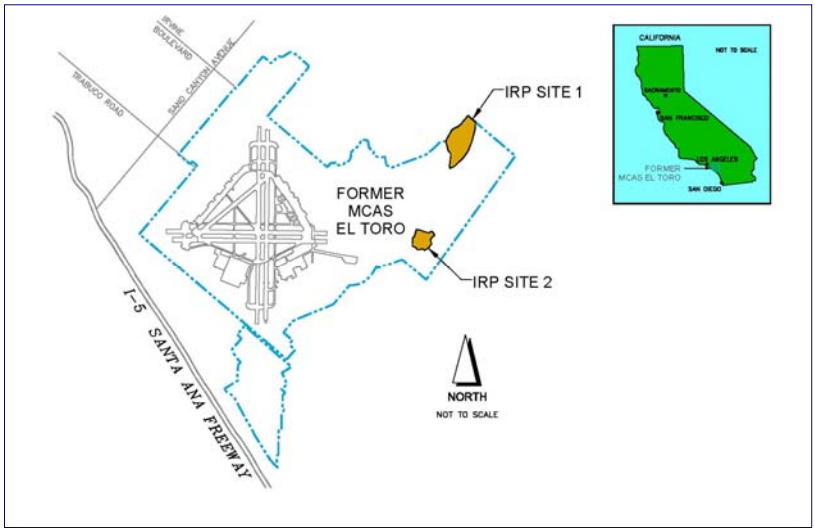
Restoration Advisory Board (RAB) Meeting
Morgan Rogers, PE (Navy Project Manager)

***08/20/2014***

## Presentation Overview

- Site Locations
- Site Descriptions
- Selected Remedies
- Project Status Update
- Questions
- Acronyms

## Site Locations






## Site Descriptions

- **IRP Site 1**
  - Former Explosive Ordnance Disposal (EOD) Training Range
  - EOD training exercises were conducted from 1952 until Station closure in 1999
  - The groundwater chemical of concern (COC) is perchlorate

- **IRP Site 2**
  - Former landfill known as Magazine Road Landfill
  - IRP Site 2 was an operational landfill from the late 1950s until about 1980
  - Groundwater COCs include the following VOCs: trichloroethene, tetrachloroethene, cis-1,2-dichloroethene, 1,1,2-trichloroethane, and 1,2-dichloroethane

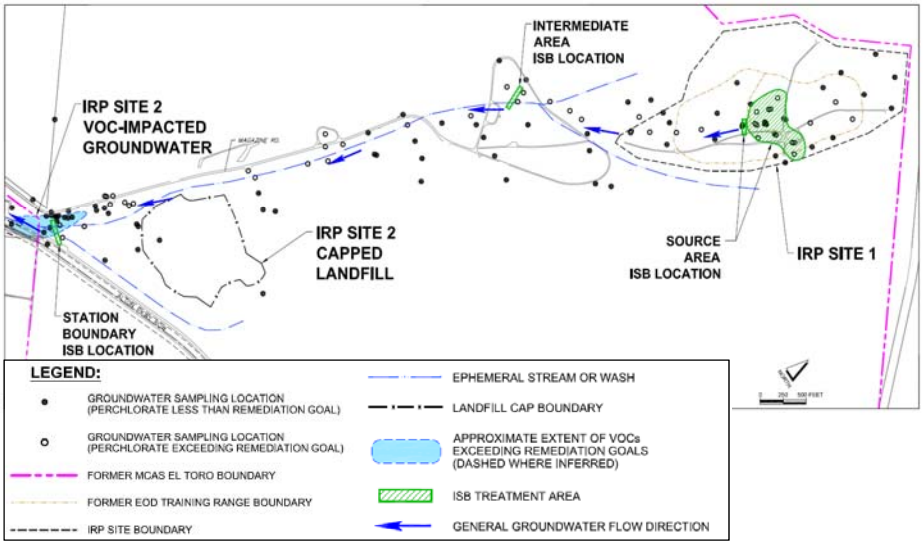
## Selected Remedies

- **Selected Remedy – IRP Site 1 Groundwater**
  - In-Situ Bioremediation (ISB) at the Source Area;
  - ISB downgradient of the perchlorate Source Area between IRP Sites 1 and 2;
  - ISB near the former Station Boundary;
  - Groundwater monitoring;
  - Institutional Controls (ICs) and Five-Year Reviews.

- **Selected Remedy – IRP Site 2 Groundwater**
  - Monitored natural attenuation (MNA)
  - Groundwater monitoring;
  - ICs and Five-Year Reviews.



## Selected Remedies



## Project Status Update

- **Current Status**
  - Final Remedial Design/Remedial Action Work Plan - January 2014
  - Final Fact Sheet – February 2014
  - Site mobilization – March 2014
  - Installed injection & monitoring wells – April thru June 2014
  - Baseline groundwater sampling – July 2014
  - Injection of ISB substrate – July 2014

- **Next Steps**
  - Performance monitoring – Sept 2014, Dec 2014 & Mar 2015
  - Annual Monitoring Report – December 2015
  - Interim Remedial Action Completion Report - 2015
  - Long-Term Monitoring Plan – 2015
  - Implement Long-Term Monitoring



## Questions?

## Acronyms

| | |
|---|---|
| **BRAC** | **Base Realignment and Closure** |
| **COC** | **Chemical of Concern** |
| **EOD** | **Explosive Ordnance Disposal** |
| **ICs** | **Institutional Controls** |
| **IRP** | **Installation Restoration Program** |
| **ISB** | **In-Situ Bioremediation** |
| **MCAS** | **Marine Corps Air Station** |
| **MNA** | **Monitored Natural Attenuation** |
| **NAVFAC** | **Naval Facilities Engineering Command** |
| **PE** | **Professional Engineer** |
| **RAB** | **Restoration Advisory Board** |
| **VOCs** | **Volatile Organic Compounds** |

# Capture Zone Evaluation, IRP Sites 18 and 24 Groundwater Remedy

## Former Marine Corps Air Station El Toro, Irvine, CA

Restoration Advisory Board (RAB) Meeting

Marc P. Smits P.E. – Navy Remedial Project Manager
Michael Foster, PhD, PG – KCH Hydrogeologist

***20 August 2014***

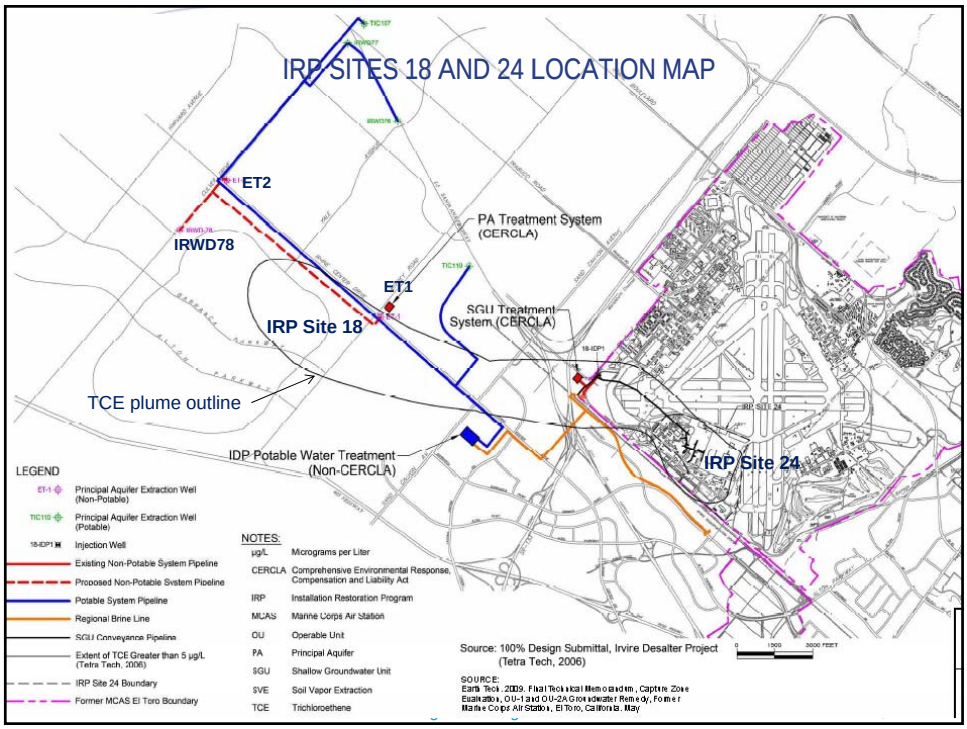
## OVERVIEW

- PROJECT BACKGROUND
- IRP SITES 18 AND 24 LOCATION MAP
- PROJECT OBJECTIVES
- PROJECT APPROACH
- MARCH 2013 GROUNDWATER CONTOUR MAPS
- EXAMPLE ANALYTICAL METHOD – SINGLE WELL EVALUATION
- CONCLUSIONS
- SCHEDULE

## PROJECT BACKGROUND

- Groundwater extraction and treatment systems operational within the Shallow Groundwater Unit (SGU) and Principal Aquifer (PA) since 2006/2007
- Systems intended to reduce volatile organic compound (VOC) concentrations and contain migration of VOC groundwater plumes (Remedial Action Objectives)
- Groundwater water level measurements and samples are collected semiannually to evaluate the progress of the remedies for Installation Restoration Program (IRP) Sites 18 and 24





## PROJECT OBJECTIVES

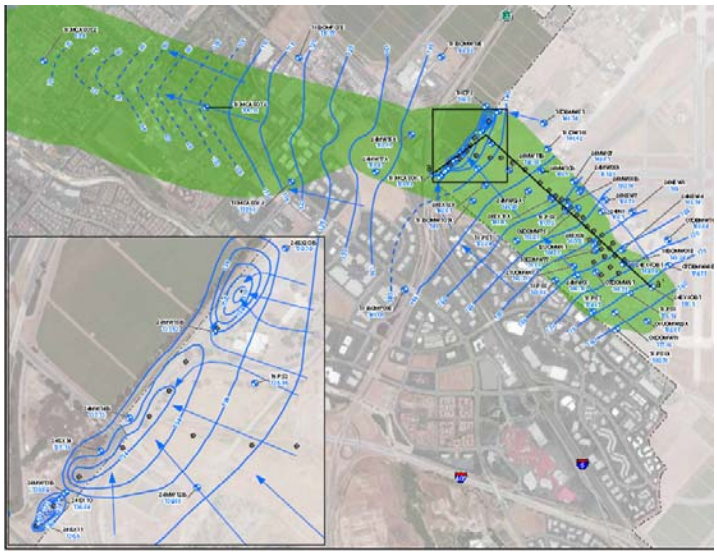
- Perform capture zone evaluation to assess the effectiveness of the IRP Sites 18 and 24 groundwater extraction systems in meeting the remedial action objective of preventing plume migration
- Update the previous capture zone evaluation performed in 2008 with water level data and groundwater VOC sampling results from April 2008 through March 2013
- Incorporate the conclusions from the capture zone evaluation into the Five-Year Review currently being conducted for MCAS El Toro



## PROJECT APPROACH

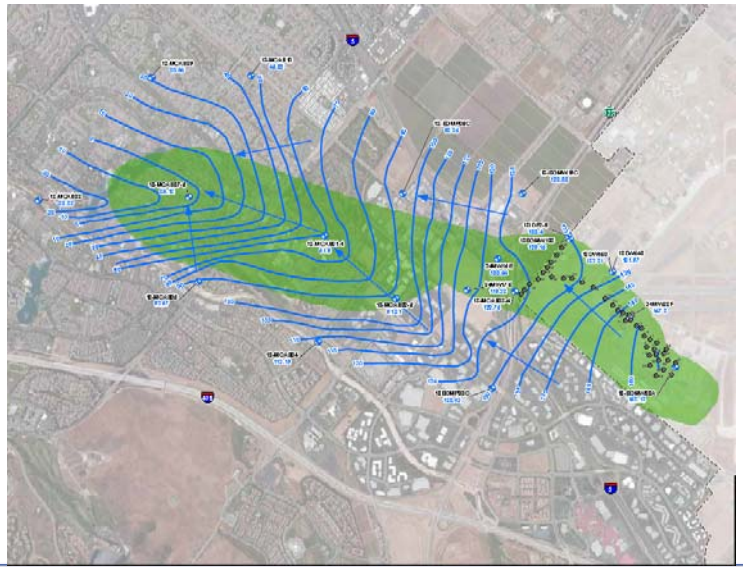
- Conduct capture zone evaluation that is consistent with previous evaluations
- Utilize existing data to evaluate the current status of the plumes
- Compared current groundwater conditions and plume extent against 2008 conditions
- Capture zone evaluation by three (3) independent analytical methods:
  - U.S. Environmental Protection Agency (EPA) Single Well Method
  - Analytic Element Modeling of Multiple Wells
  - Graphical/Numerical Modeling

## March 2013 SGU Groundwater Elevation Map

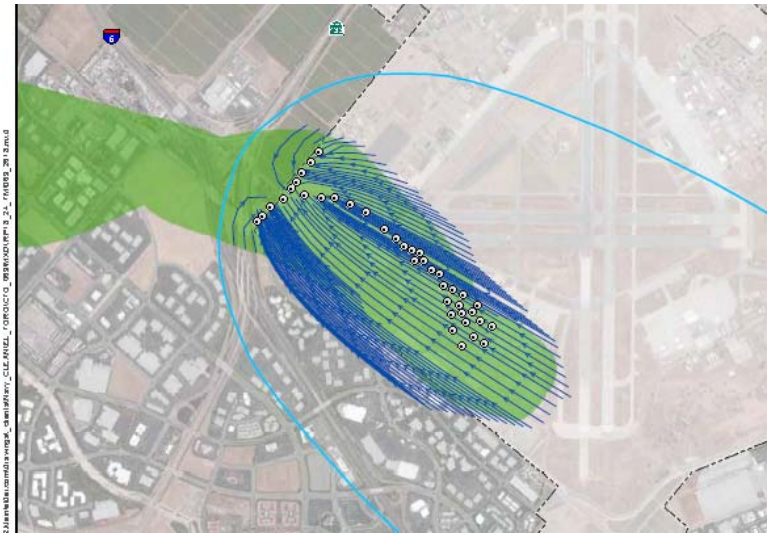




## March 2013 PA Groundwater Contour Map



## EXAMPLE ANALYTICAL METHOD – SINGLE WELL EVALUATION





## CONCLUSIONS

- Extraction systems continue to be effective in meeting remedial action objective of containing the migration of VOCs in the SGU (IRP Site 24) and the PA (IRP Site 18)
- Full hydraulic capture achieved by the SGU barrier wells and PA extraction system
- Conclusions supported by the results of the 3 independent analytical methods utilized for capture zone evaluation

## SCHEDULE

**Capture Zone Evaluation Technical Memorandum**

- Final Technical Memorandum 24 September 2014



## QUESTIONS?

# ACRONYMS

| | |
|---|---|
| **BCT** | **BRAC Cleanup Team Meeting** |
| **BRAC** | **Base Realignment and Closure** |
| **IDP** | **Irvine Desalter Project** |
| **IRP** | **Installation Restoration Program** |
| **KCH** | **Kleinfelder CH2M Hill Joint Venture** |
| **NAVFAC** | **Naval Facilities Engineering Command** |
| **PA** | **Principal Aquifer** |
| **P.E.** | **Professional Engineer** |
| **PG** | **Professional Geologist** |
| **SGU** | **Shallow Groundwater Unit** |
| **TM** | **Technical Memorandum** |
| **U.S. EPA** | **United States Environmental Protection Agency** |
| **VOCs** | **Volatile Organic Compounds** |

# Installation Restoration Program
# Second Five –Year Review Update
# Former MCAS El Toro, California

Restoration Advisory Board (RAB) Meeting
Morgan Rogers, PE (Navy Project Manager)

*8/20/2014*

## Presentation Overview

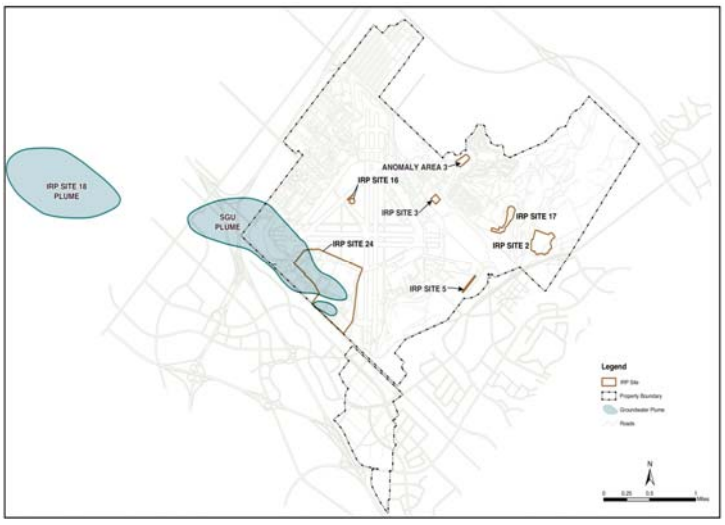
- **Sites – Second Five Year Review & Locations**
- **Components of Five-Year Reviews**
- **Site Specific Findings & Protectiveness Statements**
- **Schedule**
- **Questions**
- **Acronyms**

## Sites – Second Five-Year Review

- **The Department of the Navy (DoN) has conducted its second Five-Year Review of in-place remedial actions at Former Marine Corps Air Station (MCAS) El Toro. The Draft Report was issued on June 27, 2014.**
- **Sites include:**
  - IRP Sites 2 and 17 (Operable Unit [OU] – 2B)
  - IRP Sites 3 and 5 (OU–2C)
  - IRP Site 16 (OU–3B)
  - IRP Sites 18 (OU–1) and 24 (OU–2A)
  - Anomaly Area 3 (AA3) (OU–2C)
- **First Five-Year Review for IRP Sites 3, 5 and AA3; second Five-Year Review for IRP Sites 2, 16, 17, 18, and 24.**



## Sites - Locations



## Components of Five-Year Review

The fundamental purpose of a Five-Year Review is to determine whether the remedy at a site is, or upon completion will be, protective of human health and the environment.

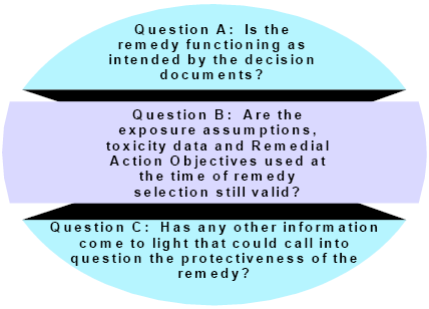

Figure 1: Components of the Five-Year Review Process



## Components of Five-Year Review

**Protectiveness Determination:**

- A technical assessment is performed with the objective of answering the following three questions:



## Site Specific Findings & Protectiveness Statements

- The remedies at all Sites are functioning as intended by their Records of Decision
- Exposure assumptions, cleanup levels, and Remedial Action Objectives used at the time of the remedies are still valid
- No other information has come to light that could call into question the protectiveness of the remedies
- Remedies are protective of human health and the environment



## Schedule

- Site Inspections and Interviews completed – April 2014
- Issued Draft Five-Year Review – June 2014
- Regulatory Review – June – August 2014
- Issue Final Five-Year Review by September 30, 2014

## Questions?



## Acronyms

| | |
|---|---|
| BRAC | Base Realignment and Closure |
| DON | Department of the Navy |
| IRP | Installation Restoration Program |
| MCAS | Marine Corps Air Station |
| NAVFAC | Naval Facilities Engineering Command |
| OU | Operable Unit |
| PE | Professional Engineer |
| RAB | Restoration Advisory Board |
| PMO | Program Management Office |