

Utah National Guard Restoration Advisory Board

Meeting Minutes
May 18, 2016 7:00 p.m.
Herriman City Offices

Members Present:

Dave Allison

Katie Crane

Walter Gee

Jory Howell

Brad Lauchnor

Robert Price

Organization:

Utah Department of Environmental Quality (Alternate)

Utah Department of Environmental Quality

National Guard Bureau

Herriman City - Alternate

Utah Department of Environmental Quality

Utah National Guard

Members Absent:

Richard Brown

Boyd Dansie

LTC Steven Fairbourn

Marlon Jones

Noell Nelson

Alan Paxton

Gaylord Scott

Heather Upshaw

Tom Williams

Organization:

Hi-County Estates II Community

Unincorporated Salt Lake County

Utah National Guard Public Affairs

Bluffdale Community

Bluffdale City

Herriman City

Salt Lake County

Herriman City

Hi-Country Estates II HOA

Other Attendees:

Joseph Aston

Jeff Fitzmayer

Dave Harris

Melissa Porter

Michelle Randall

Bryce Taggart

John Waldrip

Organization:

Citizen

Parsons

Parsons

Parsons

Parsons

UTNG/ERM

Citizen

Agenda Item #1 Welcome/Introductions

The Restoration Advisory Board (RAB) installation co-chair, Robert Price, opened the meeting, thanked everyone for their attendance, and welcomed all RAB members and community members. The meeting agenda is attached (**Attachment 1**).

Agenda Item #2 RAB Business

Discussion of New Community Co-Chair

Mr. Dave Harris explained a community co-chair should be appointed; however, no one has shown any interest in serving. He said the position will remain open until an applicant is found for the community co-chair position.

Agenda Item #3 Project Update (Attachment 2)

Mr. Price outlined the agenda for his presentation on slide 2. He discussed a map on slide 3 showing the 1914 Camp Williams installation boundary. The 1914 map includes formerly owned defense lands that are no longer part of the current Camp Williams installation. Mr. Price pointed out a map on slide 4 showing land included in the 1990 Camp Williams Land Exchange Act. He explained that portions of the area within the Artillery Impact Area Buffer Zone (AIABZ) and Wood Hollow Munitions Response Sites (MRSs) are a result of this land exchange.

Mr. Price pointed out a map on slide 5, which shows the sites that were initially included in the MMRP. He explained that the boundaries for some of the sites have changed based on findings from the MMRP. The map on slide 6 shows the end result of all the work completed at the AIABZ MRS. Mr. Price explained that each of the stars represent live Munitions and Explosives of Concern (MEC) items that were recovered, and the dots are significant Munitions Debris (MD) items that were found. He said that the MD items were not live munitions, and typically consisted of casings from 155mm artillery rounds. The black outline shows the boundary of the Herriman machine gun wildfire that took place in 2010.

Mr. Price explained that the AIABZ final report was completed in April of 2015. He outlined the conclusions of this report on slide 7. Mr. Price explained that the presence of MEC cannot be completely ruled out, even after the clearance performed over 100-percent of the ground surface at the AIABZ MRS. For this reason, there will be an ongoing educational awareness program as well as a five-year review conducted by the Utah National Guard (UTNG) for the AIABZ MRS. Future actions for this site were summarized on slide 8. Mr. Price explained that no deed notices were required because access was granted to all AIABZ parcels, allowing munitions clearance to be performed throughout the entire site. He said that summary letters have been mailed to all AIABZ landowners.

Mr. Price presented the status of the Wood Hollow MRS on slide 9. He said that MEC clearance within the 258-acre MRS boundary was completed in 2015. He noted that a total of 76 live MEC items have been found at this site since the Remedial Investigation began. Mr. Price said that, because there was such a large concentration of MEC and MD items near the outer boundary of the site, it was determined that additional investigation was required outside the MRS to better characterize the full extent of MEC and MD. He explained that personnel from Staker-Parson mining company, who are working on an active gravel mining operation in the area, reported seeing munitions in outlying areas near the MRS. For this reason, dense step-out transects were investigated in 224 acres adjacent to the MRS and additional transects were investigated in 1,261 acres of more distal land known

as the “far-outlying areas.” Mr. Price said that three types of areas were identified outside of the Wood Hollow MRS based on the transect investigations performed during 2015:

1. Areas with high densities of MEC/MD that require cleanup.
2. Areas with no MEC/MD that require no further action.
3. Areas with moderate densities of MEC/MD that do not warrant 100-percent cleanup, but will be assessed based on risk criteria.

Mr. Price explained that several outlying discontinuous areas will require clean-up or risk-based assessment, but the western portion of the area investigated outside the MRS will not require further action. He said that the western extent of the MRS boundary was well-defined.

Mr. Price explained that the UTNG presented a risk-based proposal to the Utah Department of Environmental Quality (UDEQ) on November 16, 2015 to address the areas outside the MRS with moderate densities of MEC/MD. Introductory slides from this previous UDEQ presentation were shown as slides 10 and 11. Mr. Price pointed out a Staker-Parson mining site development plan on slide 12. He explained that the parcels shown are part of an active mining permit and are most likely to be developed or disturbed first. For this reason, as the work has been expanded, the UTNG has looked to characterize these parcels first.

Mr. Price pointed out a map on slide 13 showing the transect investigation areas from 2015. He explained that the transects followed contours, ridge lines, and gullies. Mr. Price said that some of the step-out areas closest to the MRS had high concentrations of MD, but most of the areas had limited MD. He explained that the information obtained from the transect investigations was used in modeling performed to help identify potential target and impact areas.

Mr. Price presented a map on slide 14 showing the modeled MEC and MD density by color. He said the blue areas have the lowest density and red areas have the highest density based on the Visual Sample Plan (VSP) modeling performed. Mr. Price explained that the higher density areas are located near the current MRS boundary, with the exception of one far-outlying area to the north.

As shown on slide 15, Mr. Price explained that there is no set standard for determining the probability of MEC. There are Environmental Protection Agency (EPA) guidelines that state *“the level of cleanup for the MRS will normally be governed by the reasonably anticipated future land use and associated activities”* and *“statistical approaches may be appropriate in those situations when data acquisition is particularly difficult due to terrain or vegetation.”* Mr. Price explained that there are hundreds of acres of land outside the MRS with the potential for moderate densities of MEC to be present. Based on the large size of this area, the low probability for significant MEC to be present, and the very low potential for future development for most of this land, MEC clearance is not warranted, and thus these areas will remain “non-remediated.” As agreed by UDEQ, a risk-based statistical approach that considers the current Herriman City land-use plan will be used to further evaluate such areas.

Mr. Price pointed out slide 16 and explained the inputs to statistical models for predicting the probability of MEC. These inputs determine the level of investigation needed to meet statistical requirements for non-remediated areas. He also noted that the models can be used to “work backward” to determine the probability of MEC based on data already collected.

Mr. Price continued describing how the UTNG would statistically determine the probability of MEC in the non-remediated areas on slide 17. He explained that when the statistical risk analysis is performed, the target acceptable amount of MEC cannot be zero because there is never 100-percent confidence that the site is free from MEC and MD. Mr. Price said that UTNG used industry standard levels as the basis for its target levels. He said these target levels are for density of MEC per acre based on the land use, as shown on slide 17. He noted that comparison of these target levels to the current data indicates that there is a low probability for MEC in the non-remediated area.

Mr. Price outlined land-use for the area on slide 18. The site is currently undeveloped with the exception of the Staker-Parson mining operations. He said that future land is expected to include residential and commercial development.

Mr. Price noted the risk-based cleanup levels on slide 19. He said that UDEQ has accepted these levels. Mr. Price explained that if the statistical tests performed to verify these levels fail (if MEC is found or if MD density is greater than accepted levels), then reevaluation of the approach would be required. Mr. Price explained that additional long-term controls will include educational awareness, warning signs, and five-year reviews.

Mr. Price pointed out a map on slide 20 and explained that the blue area is a conceptual map showing how the Army Compatible Use Buffer (ACUB) program identifies parcels where a land-use control could be placed to help preserve the military training program. The goal of the ACUB program is to implement conservation measures to assist with natural resource protection, fire management protection, and preserving the lands adjacent to the military training facility. He said that the ACUB program can be used to assist the MMRP.

Mr. Price asked if there were any questions. Mr. Jory Howell asked which property owners were affected by the step-out investigations performed outside the MRS. Mr. Price explained that six to eight landowners were affected. Mr. Price then explained that there would be 10 to 12 new landowners involved in the 2016 project activities which will extend farther to the north to some small parcels that may be developed in the future.

Agenda Item #4 Remedial Action Field Work Report, Wood Hollow (Attachment 3)

Mr. Jeff Fitzmayer outlined the agenda for his presentation on slide 2. He pointed out a map of the AIABZ and Wood Hollow MRSs on slide 3. He explained that there were originally six MRSs, but only these two sites required further investigation because MEC was found. Mr. Fitzmayer explained that the MRS site boundaries for the AIABZ and Wood Hollow MRSs were based on contour lines and data input into the VSP computer modeling program. He said that the results of the MEC clearance performed in 2014 show that the current AIABZ boundary is accurate.

Mr. Fitzmayer pointed out a map of the Wood Hollow MRS on slide 4 presenting the results of the clearance performed during 2014. This map shows that the initial MRS boundary developed during the Remedial Investigation was not large enough. He explained that during the 2014 investigation, MEC and MD were discovered on the edge of the MRS boundary. For this reason, the UTNG decided to perform subsequent transect investigations outside the MRS to adequately characterize the extent of these items.

Mr. Fitzmayer provided an overview of the 2015 field work on slide 5. He said that the Wood Hollow MRS was mapped out in 100-foot by 100-foot grids. In each grid, crews performed a 100-percent clearance of identified

MEC and MD. Transect investigations were also completed in 2015, including the densely-spaced step-out transects in areas adjacent to the existing MRS boundary, and two phases of transects in the more distal far-outlying areas where Staker-Parson mine personnel reported seeing 75mm shells.

Mr. Fitzmayer pointed out a map on slide 6 showing the final results of the intrusive investigations that took place at the Wood Hollow MRS through 2015. He said that approximately 101,000 digs have been completed. Of those, about 70,000 were MD items, and 76 were live MEC items (shown in red). He explained that the purple color represents areas that were originally going to be cleared as part of the MRS, but were already excavated and disturbed from mining/highway building activities or, in some minor cases, were too steep to access.

Mr. Fitzmayer pointed out pictures on slide 7, which show 75mm and 37mm rounds. He said that training activities at the Wood Hollow MRS likely took place around the 1920s. He explained that following World War One (WW I), American troops came home from France with borrowed 75mm howitzers and conducted training in the hills around the Wood Hollow MRS. Mr. Fitzmayer said that there was a lot of obsolete 37mm ammunition left over from WW I. Although the 37mm ammunition could not be used for combat, it could be used for training purposes. Mr. Fitzmayer also noted that approximately 90-percent of the MEC and MD found at this site were within the top three to four inches of soil.

Mr. Fitzmayer pointed out a map on slide 8, which shows the investigation transects in areas outside the MRS. He explained that the black dots represent all the anomalies that were found. He said that almost 9,000 anomalies were intrusively investigated during the transect investigation. Mr. Fitzmayer pointed out a map on slide 9 showing the results of the intrusive investigations along the transects. He said that there was a high density of MD near the MRS boundary. He said this is a good sign indicating that clearance is being performed in the right area, with just the MRS boundary needing to be adjusted.

Mr. Fitzmayer showed photographs of field operations on slide 10. He explained the geophysical instrument used to detect MEC and MD was a PDM8. He said that tape and cones were used to grid out the area being cleared. For quality control (QC) purposes, seed items were secretly planted within the grids at locations known only to the QC team. This allowed the QC team to ensure that the geophysical instrument was working correctly and crews were adequately investigating entire grids. Mr. Fitzmayer showed the intrusive investigation process on slide 11. He asked for any questions, and no audience members responded.

Agenda Item #5 Break

Agenda Item #6 Continued Expanded Investigations at Wood Hollow (Attachment 4)

Mr. Fitzmayer outlined the agenda for his presentation on slide 2. He explained that there is no possible way to claim an area where MEC was discovered is 100-percent free of munitions unless you excavate and sift all the dirt. He said the terrain at the Wood Hollow MRS would not allow for that, so there needs to be a reasonable approach to accurately determine the presence of MEC without digging up the entire site.

On slide 3, Mr. Fitzmayer pointed out the proposed 2015 transects in the area outside the Wood Hollow MRS. He explained that these transects largely followed topographic contours. He showed a map on slide 4 that displays the actual 2015 transects as well as the MD and one MEC item that were recovered during the 2015 transect

investigation. He said that data from the transects was put into the VSP computer modeling program, which is a common tool used in environmental investigations.

Mr. Fitzmayer pointed out a map on slide 5 showing the density of MD and MEC outside the MRS based on VSP modeling. He said that the blue areas indicate low-density, and the high-density areas are indicated by pink, red, and yellow. Mr. Fitzmayer pointed out a small area in the northern portion of the transect investigation area that had a higher density than expected due to the fact that it is not near the current Wood Hollow MRS boundary. He said that this may be the result of MD items that were piled closely together, but this also could be an indication that the site model may need to be revised. Mr. Fitzmayer said that it appears the hilltops were used as target areas during the munitions training. He explained that the VSP computer model looks at the transects to make a prediction of what could be present based on the data provided. For example, if the transects were 100 feet apart, the VSP model would use the data from the two adjacent transects and predict the concentration of MEC and MD between those transects.

Mr. Fitzmayer outlined the process used for determining high-density target areas on slide 6. He pointed out four target areas adjacent to the current MRS boundary, another small target area to the north, and an additional small “data gap” area to the northeast that was not previously included in the investigation. MEC clearance is planned throughout all six of these areas during 2016.

Mr. Fitzmayer outlined the proposed additional work for the transect investigation area on slide 7. In addition to MEC clearance in the six areas identified, more transect investigation will be conducted in areas north and east of the northernmost target area to ensure land near that target area is adequately characterized. Additional transects are also planned for the non-remediated areas outside the MRS according to the statistical approach.

Mr. Fitzmayer pointed out an updated Herriman City future land-use plan on slide 8. Slide 9 shows the land use map from slide 8 superimposed over the Wood Hollow MRS and the adjacent transect investigation area. He said that the planned land use in and around the Wood Hollow MRS is primarily residential and open space, or parks and recreation.

Mr. Fitzmayer pointed out a map on slide 10, which shows the future land-use split into residential/commercial areas, (approximately 196 acres) and non-residential areas (approximately 460 acres). The statistical approach for non-remediated lands takes these different future land uses into account, resulting in a more conservative approach for residential/commercial areas that are likely to be developed, and a less conservative approach for non-residential areas where development is unlikely.

Mr. Fitzmayer pointed out an aerial photograph of the site on slide 11. He explained that these new areas of investigation put the MRS closer to developed areas of Herriman. Mr. Fitzmayer then discussed details of the statistical approach for the residential/commercial area shown on slide 12, noting the 0.1 MEC per acre threshold. He reiterated that zero MEC per acre cannot be used as a target. He said that a total of 26.53 acres (146 miles of transects) need to be investigated to achieve a 95-percent confidence level that there is no more than 0.1 MEC per acre in the 196-acre residential/commercial area.

Mr. Fitzmayer discussed the statistical approach for the non-residential area shown on slide 13. He noted that the non-residential area needs less investigation to meet the requirements of the statistical approach. He said that a

total of 3 acres (16.3 miles of transects) need to be investigated to achieve a 95-percent confidence level that there is no more than 1.0 MEC per acre in the 460-acre non-residential area.

Mr. Fitzmayer showed a map of the transect investigations that have already been completed for the residential/commercial area and the non-residential area on slide 14. He noted that these transect investigations can be used to fulfill the requirements of the statistical approach for each land use area. As shown on slide 15, Mr. Fitzmayer explained that 2.54 of the required 26.53 acres of transect investigation in the residential/commercial areas have been completed. Thus, 23.99 acres (or approximately 100 miles) of additional transect investigations are required in the residential/commercial areas. For the non-residential areas, 7.26 acres of transect investigations have been completed, and only 3 acres are required for the statistical approach. As such, no additional transect investigations are required in the non-residential areas. Additional detail regarding the results from the non-residential areas was presented on slide 16. Mr. Fitzmayer explained that existing data show that, at a 95-percent confidence level, there is actually less than 0.409 MEC per acre in the non-residential areas.

Mr. Fitzmayer discussed the summary of work planned for 2016 on slide 17. He noted that MEC clearance will be conducted throughout the five target areas and one data gap area identified (shown in light yellow), which encompass 109 acres. He said that the transect investigation will be extended into the area (shown in pink) to the north of the northern target area. He noted that this area is largely flat-lying, so the transects will be straight. He then discussed the blue area representing non-remediated residential/commercial land where an additional 100 miles of transect investigations will be completed to meet the requirements of the statistical approach.

Mr. Fitzmayer pointed out the preliminary work schedule on slide 18. He explained that field work should be completed by December 2016. Mr. Fitzmayer asked if there were any questions from RAB members or the audience. Mr. Price asked Mr. Howell what his impression was. Mr. Howell said it seems that the UTNG has almost got everything covered. Mr. Walter Gee explained that last year's transect sampling approach focused on targeting hills and valleys, which are the areas most likely to have MEC or MD. He explained that the concentration of MEC per acre is closer to zero than to 1.0 MEC per acre since biased transect sampling was conducted in order to target the higher density areas. Mr. Howell said he is most interested in the new northern transect areas. Mr. John Waldrip asked how far apart the transects will be. Mr. Fitzmayer said that the transects are going to be 100-feet apart, and noted that there are provisions to step out beyond that if MEC or MD items are found.

Mr. Howell said that the UTNG may get more development pressure in the new northern areas than in the other areas. Mr. Price asked if Mr. Howell was familiar with any of the land owners for the northern area. Mr. Howell said he thought that area might be near the Sorenson or Rose Crest properties. Mr. Price said that he plans to update Herriman City at the end of the 2016 field work. Mr. Howell said that he will give an update of the information he received at the RAB meeting to Herriman City. Mr. Price asked if Herriman City had plans to change their land use plan in the near future. Mr. Howell said that the plan is conceptual, so it can be adjusted as needed. Mr. Price said that the ACUB will help control the development and land use near the installation.

Agenda Item #7 Public Comment Opportunity

Mr. Price asked if there were any additional questions or comments from the audience. No one responded.

Agenda Item #8 Discussion of Agenda Items and Date for Next Meeting

Mr. Price explained the next meeting would take place after the next phase of field work is complete, tentatively during spring of 2017.

Agenda Item #9 Adjourn

The meeting was adjourned at 8:18 p.m.

Attachments:

1. Meeting Agenda
2. Presentation Slides – Project Update
3. Presentation Slides – Remedial Action Field Work Report, Wood Hollow
4. Presentation Slides – Continued Expanded Investigations at Wood Hollow