IMFD–PWE 10 AUGUST 2016

MEMORANDUM FOR RECORD

SUBJECT: Fort Detrick Restoration Advisory Board (RAB) Meeting Summary,
10 AUGUST 2016

1. Summary Contents

Items addressed at the meeting are listed below, with corresponding section numbers indicated in the column on the right.

Please note: PowerPoint presentations were utilized during the RAB meeting. A copy of the presentations is attached to these minutes and is incorporated into these minutes by this reference.

Text contained within brackets [] has been added for clarification purposes.

2. Attendees

Members Present:
Dr. Gary Pauly, Community RAB Member, Co-Chair
Mr. Robert Craig, Army Co-Chair
Mr. Joseph Gortva, Fort Detrick, Environmental Restoration Program Manager
Mr. Rolan Clark, Community RAB Member
Mr. Barry Glotfelty, Frederick County Health Department
Dr. Elisabeth Green, Maryland Department of the Environment
Ms. Jennifer Hahn, Community RAB Member
Mr. George Rudy, Community RAB Member
Mr. Rob Thomson, US Environmental Protection Agency

Others Present:
Lt. Col. Brian Barthelme, Fort Detrick
Mr. Larry Brown, US EPA Public Affairs
Ms. Tracy Coleman, City of Frederick
Mr. Jeremy Holder
Mr. Joe Ceci, Fox and Associates
Mr. Vincent Ceci, Fox and Associates
Mr. Brandon Fleming, USGS
Mr. John Buck, US Army Corps of Engineers
Mr. Gary Zolyak, Fort Detrick Office of the Staff Judge Advocate
Mr. Keith Hoddinott, US Army Public Health Center
Ms. Sylvia Carignan, Frederick News Post
Mr. John Cherry, ARCADIS
Ms. Shelly Morris, On-Site Contractor to Fort Detrick Environmental Restoration Program
Ms. Katrina Harris, Bridge Consulting Corp.

Members Absent:
Mr. Eli DePaula, Community RAB Member
Dr. Henry Erbes, Community RAB Member
Mr. Cliff Harbaugh, Community RAB Member
Ms. Karen Harbaugh, Community RAB Member
Mr. Barry Kissin, Community RAB Member

3. Meeting Opening / Remarks

Mr. Gary Pauly opened the meeting, welcomed everyone, and thanked everyone for attending. He explained a Restoration Advisory Board (RAB) is put together when a Department of Defense facility has significant environmental restoration issues. He stated the RAB consists of representatives from the Army, Federal (EPA) and state (Maryland Department of the Environment) regulators, and community members. Mr. Pauly noted the Fort Detrick RAB is co-chaired by himself as the community co-chair and Mr. Bob Craig as the Army co-chair. Mr. Pauly said the meetings are a forum for discussion and dissemination of information about the Environmental Restoration Program progress and where it is headed. He advised meetings are open to the public, and hopefully the meeting is a venue to bring information to the public. Mr.

Pauly noted the Board does have some ground rules, and since there were only a few new people in attendance, he would just summarize them. He said the RAB is limited to discussions of environmental restoration topics, no video or audio recording is permitted, and the RAB tries to limit discussion to topics on the agenda to finish on time which is 9 pm. He then invited introductions. After introductions, Mr. Joe Gortva reviewed the meeting agenda.

4. Meeting Minutes presented by Mr. Joseph Gortva, Fort Detrick

Mr. Gortva advised the previous meeting's minutes had been distributed for review in hard copy form this evening, and he will also email a pdf version to the members. He asked all the members to review and let him know of any comments. Mr. Gortva said he would normally be saying after the minutes are final, they will be posted to the web site; however, the web site has not been updated for some time as the webmaster has retired and the Public Affairs Office is still seeking a replacement. He stated the Public Affairs Office had advised updates should be resuming by the end of the month, along with taking down most of the environmental restoration site for revision so it has more updated information and fact sheets. Mr. Gortva said he had some example fact sheets and invited RAB members to look at them after the meeting and provide any comments. He stated he would also be emailing the fact sheets out to the RAB members before they are finalized and made available to the general public.

5. City of Frederick Proposed Road (Christopher's Crossing) presented by Ms. Tracy Coleman, City of Frederick and Mr. Joe Ceci, Fox and Associates

Ms. Tracy Coleman stated almost two years ago the City of Frederick hired Fox and Associates to start the design of a proposed road through Fort Detrick to connect Kemp Lane to Old Camp Road. Ms. Coleman said the project is still very much in the design phase, and she and Fox and Associates are here to share the information gathered to date. Ms. Coleman then introduced Mr. Joe Ceci, a civil engineer with Fox and Associates.

Mr. Ceci stated the proposed road would be built through Area B on Fort Detrick. He stated Monocacy Boulevard and Christopher's Crossing form a northern bypass around the city, starting at I-70 and Route 85, about 11 miles around the city, out to West Patrick Street and back onto Route 70; east of Route 15 is Monocacy Boulevard and west of Route 15 is Christopher's Crossing. He noted the project has been on the City's master plan for close to 30 years, with the first section being built in the late 1980s. He said there are only a few pieces that still need to be built, a piece on the east side of city, a section on Route 15 that the State is building, a piece of the Sanner farm, and Rocky Springs Road to Old Camp Road through Area B which goes out to West Patrick Street. Mr. Ceci said the portion involving Fort Detrick runs long Kemp Lane beginning at the property boundary and runs to the south. Mr. Ceci said the areas in red on the aerial photograph he displayed are the capped waste disposal areas at Area B.

Ms. Jennifer Hahn asked how close the road would be to the capped areas, and Mr. Ceci said approximately 10 to 15 feet

Mr. George Rudy stated there had been a meeting of several of the RAB's community members with Ms. Coleman after the last RAB meeting, and he was concerned that there was not a comprehensive understanding of what all the conditions are of going through Area B. He asked

about Fox and Associates' experience with contaminated sites. Mr. Ceci responded Fox and Associates are using environmental consultants who have expertise in working with contaminated sites.

Ms. Coleman stated the proposed road placement being shown this evening is slightly different than the previous version that went in between two smaller areas at Area B. She said Fox and Associates conducted a site visit and worked with the staff from Fort Detrick to realign the proposed road to make sure it avoided disturbing the known capped areas and the boundaries of those capped areas.

Mr. Ceci stated the project has been on the City's master plan for some time, and there is a lot of development in the area which is driving some of the interest. He advised the Mayor and Board of Alderman approved the funding for the design in 2014.

Mr. Ceci explained the National Environmental Policy Act (NEPA) requires an Environmental Assessment of the project to assess the environmental impacts and their significance. He stated in 2010 the Environmental Assessment on Area B included the concept of Christopher's Crossing so EPA knew it was a proposed project. He said Fox and Associates are updating that Environmental Assessment, focusing on the roadway. Mr. Ceci stated they are working with the staff at Fort Detrick to avoid the capped areas and any of the monitoring wells. He said as Ms. Coleman had mentioned, the original plan showed the roadway bridging over the two smaller caps; after meeting with Fort Detrick, the design was changed so there is no impact to the caps.

Ms. Hahn asked about any impacts for any increased water flow. Mr. Ceci said the project is required to meet the State requirements for stormwater management. Ms. Hahn asked if the requirements are different for a Superfund Site, and Mr. Ceci said they are the same as for any site. He advised part of the design process, and part of what has to be demonstrated in the Environmental Assessment, is that the project is not going to dramatically change the overland flow paths. Mr. Ceci said the objective is not to impact the soils at Area B so the proposed design is for an elevated road with storm drain culverts to maintain existing drainage paths. Mr. Gortva said there are storm events and natural areas where water will collect, and the Army was concerned the road would create an embankment and area of ponding water and artificially changed the hydrogeology or the natural flow of the water. Mr. Gortva said the proposed project will now include putting culverts under the road, so if the five-year or ten-year rain events occur, the water will be allowed to flow under the roadway. Mr. Gortva said these design considerations would need to be approved by the Army as well as by EPA and Maryland Department of the Environment. Mr. Pauly asked if what is being proposed are storm drains. Mr. Ceci responded that they do not want to dig deep storm drains that end in Area B so the proposed design is keeping the roadway elevated so the culverts under the new proposed roadway would be on grade with what is existing at the site now. He said there would be some type of storm drain to collect the water off the road; however, it would not disturb Area B.

Mr. Rudy asked what plan will be in place to prevent a vehicle from running off the road in the contaminated areas at Area B. Mr. Gortva responded the contamination is under the cap and buried under several feet of soil and a liner; vehicles being in the area or people walking in the area not being exposed to contamination. Mr. Gortva emphasized it is important for the public to

have the correct perception and that they would not be exposed to the contamination. Mr. Ceci stated there are engineering guidelines as to what are safe embankment controls; if a road exceeds the safe height and run off distance, then guardrails would need to be installed to prevent the car from leaving the roadway. In response to a question about the runoff, Mr. Ceci stated the purpose of the caps on the disposal areas is to prevent runoff from getting into those areas; any runoff from the road, would not be adding runoff to those areas as any runoff from rainfall would be directed away from the capped areas.

Mr. Ceci said to minimize the disturbance a smaller roadway is being proposed near Area B. He said part of the investigation will be conducting electromagnetic surveys to look for any previously excavated areas; this will help determine if there is anything present that would require a shift in the roadway. Mr. Rob Thomson stated that electromagnetics may not be the best option for surveying the area, and ground penetrating radar may provide better results. Ms. Hahn asked who would have responsibility if anything is found. Mr. Thomson asked if there would be a contingency plan for workers to immediately stop work if something is found and if there would be safety briefings on a daily basis. Mr. Ceci said the plan is not to be doing any excavation at Area B, and if through the surveys, something is found, it would be communicated to Fort Detrick for the Army to handle. Mr. Ceci said during construction there would be a health and safety plan which would include a provision for stopping work if something is found; no digging is planned before construction.

Mr. Craig said his past experience with road construction involved rolling out a sheet of fabric, putting gravel on top of the fabric, and common fill on top of the gravel. Mr. Craig asked if the same type of strategy was being considered here so there would be no intrusive work. Mr. Ceci responded there are no geotechnical studies yet, but the plan is to not do intrusive work but to use geotextile and materials to bridge the road over the topsoil; any culverts would sit on the existing grade. Mr. Ceci said there would be minimal land disturbance, such as construction vehicle traffic, but the plan is not to excavate at Area B. Mr. Craig asked if storm water management would be performed outside of Area B. Mr. Ceci responded that is probable, but there may be something that can be done in the elevated section of the roadway. Mr. Craig said it is possible to under treat in one area and over treat in another and that would minimize the impact on the property, and he would recommend such an approach to manage the storm water to the left or right of Fort Detrick. Mr. Ceci said the plan is still being developed, but the initial thinking is to do what can be done within the elevated section with the balance being done outside Area B.

Mr. Rudy asked whether reports that require EPA and MDE approval have been developed. Mr. Ceci responded that the Environmental Assessment would have to be approved by EPA, MDE and Fort Detrick; the Environmental Assessment is being developed. Mr. Craig added that MDE has a role in approving storm water management. Mr. Thomson asked if there are construction workers on Army property, would any special health and safety plans be required. Mr. Craig said there would not be if they are working above ground; if there is excavation, there would be plan requirements.

Mr. Ceci said the plan is to avoid any excavated utilities within Area B, maintain natural drainage paths, and import clean fill so there is no soil disturbance at Area B.

Mr. Ceci discussed the anticipated impacts from the proposed roadway. He stated there would be minimal impacts to any of the geology and soils, as there are no plans to blast rock or move any soil. He noted there would be minimal impacts to water resources by meeting State stormwater requirements. Mr. Ceci said the roadway would have minimal impacts on human health and safety, as Mr. Craig had pointed out there are no restrictions on being above ground. He stated there would be no impacts on wetlands at Area B, and there is no plan to impact in any way monitoring wells or liners on Area B. Mr. Ceci advised there would be minimal impacts to any forest cover, and the requirements would be met for any replanting of lost trees. Mr. Ceci said there would be minor air impacts, and minor impacts from street lighting. Mr. Craig added that part of the Environmental Assessment is describing what "minimal impacts" means.

Ms. Hahn referred to site investigation plans and risk assessments which state that "Currently land use in Area B is industrial. Workers including caretakers performing known maintenance activities and personnel conducting maintenance activities in Area B buildings have the greatest potential for exposure to environmental media at Fort Detrick. In the future, land use in (for example) Area B2 is expected to remain agricultural fields. An upgraded Area B fence has been installed and a planned control gate facility is likely to reduce the potential for trespassing." Ms. Hahn said various documents repeat the language she had just read which indicates the anticipation that only a few people will be on Area B land; there was no expectation of construction workers and cars. Ms. Hahn questioned whether the City of Frederick had the funding to revise the risk assessments versus looking at having the road not go through Area B. Mr. Gortva said the risk assessment was for landfills and distinct areas, not all of Area B. Mr. Ceci reiterated that no one is going to be able to get into the capped areas, and the entire roadway will be fenced. Mr. Rudy stated Mr. Ceci said there would be no intrusive work but mentioned installing lighting which means drilling post holes. Mr. Ceci said the lighting would be installed in the embankment fill which would be several feet above the existing land.

Ms. Elisabeth Green asked about impact on existing monitoring wells and planned future wells. She asked if there was an overlay of the road and current monitoring well locations. Mr. Ceci responded the original alignment went over one existing well, but the revised alignment moved away from that well. Mr. Vincent Ceci added that Fort Detrick had provided the locations of all the monitoring wells, plus the project surveyors are going to locate all those wells; the current alignment avoids all known wells. Ms. Green said she was primarily referring to the proposed new monitoring wells which have not yet been drilled. Mr. Ceci said once that information is provided, the alignment could be adjusted. Mr. Craig asked if the monitoring well locations could also be adjusted, and Ms. Green said that could be considered as it looks like only one proposed monitoring well could be impacted.

Ms. Green asked how the fencing of the roadway would impact access to Area B for monitoring well sampling and mowing. Mr. Gortva said the gate would probably have to be on Kemp Lane which is a low volume road.

Ms. Green referred to Mr. Ceci's earlier comment that this roadway would be smaller and asked for more details. Mr. Ceci said the roadway at Area B would be four 12-foot lanes; the roadway outside of Area B also has a 14-foot median; there would be no median in Area B. Ms. Green

asked about the impact of no median if there is an accident. Mr. Ceci said it will be similar to the roadway near the intersection of Monocacy Boulevard and Route 26 where there are just four lanes. Ms. Green asked about the location of the fences, and Mr. Cedi said the location will be determined in coordination with Fort Detrick.

Mr. Craig said construction workers were cautioned when new telephone poles were installed about the potential for coming in contact with groundwater, and they did not encounter groundwater after going about 20 feet deep or more. Mr. Gortva stated there is no known disposal where the road is constructed; if it is not a disposal area, then there is minimal concern about putting in fence posts.

Mr. Rudy asked to whom questions should be sent after the meeting, and Ms. Coleman invited questions to be sent to her office.

Mr. Rudy asked if there would be an emergency management plan to train first responders for when they come into this area to respond to an accident. Mr. Ceci responded he was not sure why such a plan would be needed as there are no restrictions for people walking on the surface. Ms. Hahn questioned the language used in the risk assessment regarding the risk to people at the site. Ms. Green stated the area is safe for industrial use, which assumes a worker is present for eight hours a day, five days a week, for about 25 years. Ms. Green said if there is an accident, responders would be there for only a very short time and have significantly less exposure than an industrial scenario.

Ms. Shelly Morris stated the document Ms. Hahn was reading is a summary of many more in-depth studies, so it is just a small amount of information from much larger documents. Ms. Morris advised the full documents are in the library in the Administrative Record. Mr. Gortva added that the risk assessment was done when completing the Remedial Investigation and Feasibility Study for the landfills; as part of the risk assessment future scenarios were examined such as a resident living on the site, industrial workers, and a trespasser digging into the landfill. Mr. Gortva said the exposure pathway is someone doing something intrusive into the caps. Ms. Green added that the risk assessment was done prior to the landfill caps being constructed; because of the potential risks, the landfill caps were constructed. Mr. Keith Hoddinott added the "future risks" as discussed in a risk assessment assumes no remediation; it does not assume a cap is in place. He stated the purpose is to determine if remediation needs to be performed. Mr. Craig suggested that the summary document Ms. Hahn is referring to perhaps should have had wording adding to the effect that "now that the cap is in place the risks have been mitigated" and Mr. Gortva agreed.

Mr. Rolan Clark asked if vibrations over time will have an impact on the buried wastes, and if there have been any studies on this issue. Mr. Ceci responded the soils will need to be examined to see if they will consolidate when a road is built; that data will be provided to the Army and regulators. Mr. Thompson said he would also explore the topic. Mr. Craig stated that subsidence in landfills is not uncommon, and when it occurs, it is fixed. Mr. Gortva stated the landfill caps are inspected on a semi-annual basis, and if a problem is found, the Army needs to take an action.

Mr. Ceci reviewed the project schedule noting the finalization of the Environmental Assessment is in process which will involve conducting the geotechnical testing in the next couple of months. He said the schedule is for the draft Environmental Assessment to be completed by the end of the year and submitted to the regulatory agencies and then distributed for the public comment period.

Mr. Rudy asked if the people working on site will be trained relative to the risk and who within Fort Detrick, EPA or MDE reviews the qualifications and training programs to ensure workers are properly trained. Mr. Ceci responded that the people doing the geotechnical investigation have a health and safety plan that will be submitted to Fort Detrick. Ms. Hahn asked if the plan needs to meet CERCLA requirements, and Mr. Ceci stated it would meet all requirements. Ms. Hahn said she had been told once by the City that it is not the City nor their attorneys' responsibility to under CERCLA law so she wanted to be sure there would be compliance with CERCLA requirements. Ms. Coleman stated these requirements are part of the reason the City of Frederick has hired consultants to bring the required expertise to the project. Ms. Hahn asked the name of company who would be doing the work and if the RAB would have the opportunity to meet them. Mr. Craig noted that most geotechnical firms and drilling companies are HAZWOPER certified and appropriately trained to work on waste sites. Mr. Ceci said the firm doing the geotechnical work is Specialized Engineering who will probably use subcontractors for drilling and field work. Mr. Craig said his understanding of how the work will proceed is that the geotechnical assessment will occur first to see if there are any anomalies in the soil, and then there will be a number of borings to determine the sub-grade. Mr. Craig continued stating his understanding is there is no intention of drilling to groundwater; drilling will occur only to about 10 feet to understand the characteristics of the soil in that area where bearing strength is important.

Mr. Rudy asked if samples from the borings would be assessed for contamination. Mr. Craig responded that the assumption is the drilling is being performed in a clean area, not into a waste disposal area. Mr. Craig said contamination in terms of chemicals cannot be seen, but if waste material is found that would significantly alter the plans. Mr. Gortva said natural, native soils are easily identifiable; if no debris is encountered or disturbed soils, then it is a clean site and therefore soils are not contaminated.

6. Site Inspections at Area A and Area B Update presented by Mr. John Cherry, Arcadis

Mr. Cherry summarized the background on the project. He said in 2010 the US Army Corps of Engineers did an extensive records review of historical activities to determine if there were any potential areas of environmental concern which had not yet evaluated; the work resulted in the Archive Search Reports that were finalized in 2014. Mr. Cherry said, based on those reports, the Army came up with a list of sites that looked to be of interest and which warranted further attention and sampling. He displayed a list of those sites and reminded the Board he had reviewed each of the different types of sites during the April meeting. Mr. Cherry noted the sites included herbicide test plots, incinerators, buildings on Area A where TCE (a solvent) was used, petroleum/oil/lubricant facilities, dispersion test areas where outdoor testing of simulants was performed, vehicle maintenance areas, and miscellaneous areas used for disposal, storage or other purposes.

Mr. Cherry displayed a graphic showing the CERCLA process. He noted the Area B groundwater project which is frequently discussed is at the Remedial Investigation phase and all the data collected will feed into the Feasibility Study which examines options for possible remedies. Mr. Cherry explained the Site Investigation work is an earlier phase of the CERCLA process, an initial evaluation to see if a site warrants continuing through the CERCLA process. He advised recommendations will be made to the regulators based on the data, and a site may advance to the Remedial Investigation stage, or all may agree no further action is needed.

Mr. Cherry reviewed the status of the field investigations. He reminded the Board at the April RAB meeting Arcadis had just concluded its first mobilization which was primarily working at Area A. He advised there is a separate work plan for Area A and Area B, and at the time of the first mobilization, the work plan for Area B was still in the approval process. Mr. Cherry noted 285 samples were collected from 196 locations in January and then the team demobilized until the Area B work plan was approved. He said the team remobilized in July and completed some drilling on Area A to collect groundwater samples, along with work at Area B. Mr. Cherry said the field team demobilized the previous Tuesday, and a report will be prepared once all the data is back from the laboratory.

Mr. Cherry displayed aerial photographs showing where the work was conducted on Area A and on Area B. Mr. Cherry noted Area B already has an extensive network of groundwater monitoring wells in place so limited investigation was needed on Area B.

Ms. Hahn asked about the location of sites being investigated on Area B in comparison to where the roadway is proposed. Ms. Hahn questioned whether the City should be putting funds at risk for the roadway before these initial environmental investigations are completed. Mr. Cherry noted the closest site to the roadway would not seem to warrant a high level of concern; however, the data will be received in plenty of time to make any needed adjustments and the information will be shared with the City and its consultants.

Mr. Craig asked if there was any additional information from the preliminary report of finding some petroleum around Building 201; he asked if there were any other items of interest noted from the first round of sampling. Mr. Cherry said there was nothing significant or alarming noted; however, he did not want to give any conclusions until the data was received and reviewed. He noted once the analytical results are received, recommendations will be made for no further action or further investigation. Mr. Cherry advised the reports for both Area A and Area B will be submitted for regulatory review in the fall/winter.

7. Area B Groundwater Remedial Investigation Status presented by Mr. John Cherry, Arcadis

Mr. Cherry reminded the Board that in 2010 a Remedial Investigation work plan was prepared by another Army contractor with EPA and MDE input, and Arcadis received a contract to perform that work which took a number of years. Mr. Cherry said there are still some questions, and Arcadis prepared a supplemental work plan which is under EPA and MDE review and comments are close to being resolved. He explained the scope of the supplemental work plan is primarily some off-post work in the Montevue and Carroll Creek areas, the primary discharge

area for Area B groundwater; some surface water samples will be collected and other evaluation performed along Carroll Creek, as well as installing new wells offsite in that area and comprehensive sampling of the new wells and the piezometers (small diameter wells) in that area. He stated the work will likely be performed this fall, and the results will feed into the Remedial Investigation Report, including the human health risk assessment for all of Area B groundwater.

Mr. Craig stated there are questions on the two dye trace studies, and it is possible a third dye trace study might be performed. He questioned how the human health risk assessment could be finalized without the conceptual site model being approved; he asked whether the risk assessment would be an interim report. Mr. Cherry agreed there are outstanding questions, and the report may be interim report. Mr. Craig asked if an ecological risk assessment will be prepared, and Mr. Cherry advised an ecological risk assessment will be prepared.

Mr. Cherry next discussed the quarterly monitoring conducted at Area B. He explained while the Remedial Investigation was being conducted and realizing it was going to take some time to complete, the Army began a quarterly groundwater monitoring program. Mr. Cherry said 15 monitoring wells on-post and one off-post spring are sampled; EPA and MDE concurred with the chosen sampling locations. Mr. Gortva noted samples had been collected quarterly prior to the Arcadis contract. Mr. Cherry said the sampling over the last four to five years indicates a consistent pattern of volatile organic compound detections across the Area B study area with generally stable concentrations; the levels fluctuate from quarter to quarter at some locations, but there is no discernable trends to indicate overall increasing or decreasing concentrations. Mr. Cherry displayed an aerial photograph showing the network of sampling points used for the quarterly monitoring.

Mr. Cherry reviewed the data from the last few rounds of sampling, focusing on the maximum contaminant levels (MCL) exceedances. He said the key point is there are high concentrations of volatile organic compounds in the groundwater around B11, which significantly exceeds drinking water standards as has been discussed for many years. Mr. Cherry stated it is important to remember no one is drinking the groundwater is this area. Ms. Hahn expressed her appreciation for the helpfulness of the data clearly presented on the aerial photographs. Ms. Hahn asked for confirmation that there is no risk for inhalation of the groundwater as some of the documents she had read indicated there could be a risk. Mr. Gortva responded that the only time the potential for inhalation hazards is assessed is if vapor intrusion is suspected; vapors from volatile organic compounds in groundwater can work their way into a building structure sitting on top of the contaminated area. Mr. Gortva explained that there is substantial mixing in the outside air so there would not be an inhalation hazard and possibly no detections in the outside air.

Ms. Green asked if there was a place where those interested could get the screen depths of the sampling locations, and Mr. Cherry said the report will be in the Administrative Record. Ms. Green said it was important to note that the concentrations of volatile organic compounds are not being detected at the top of the groundwater, and Mr. Cherry said that was correct and gave an example of a well with the highest concentrations that was screened at 148 to 155 feet below

ground surface. Ms. Hahn asked what the shallowest and deepest well depths are, and Mr. Cherry said they range from 30 feet to more than 325 feet.

Ms. Hahn referred to the earlier roadway discussion and asked if there is a risk that during construction groundwater could be encountered at a depth of seven to nine feet. Ms. Green said groundwater tends to be deeper on the western side of Area B so groundwater is not going to be encountered at 10 feet or less. Mr. Gortva said there is a very low probability, but as part of the health and safety plan there could be provision for what the worker would do if they encounter something. Mr. Thomson said a photoionization detection (PID) could be used to ensure there are no vapors in the air around a drilling site.

In response to a question from Mr. Rudy about independent sampling, Mr. Craig said there needs to be a discussion of whether the work is strictly a geotechnical investigation or would the Army also collect samples for chemical analysis.

Mr. Cherry advised quarterly sampling had been conducted in April and earlier in the week. Mr. Gortva said the reports have been provided to EPA and MDE for review and comment, and the data will be added to the Remedial Investigation which will feed into the Feasibility Study. Ms. Hahn asked if the reports are being shared with the City and Fox and Associates and Fox's subcontractors. Mr. Cherry said the reports look at deep groundwater in the area where the road will be constructed; Mr. Gortva said the data can certainly be shared but would not be relevant. Ms. Green asked if the quarterly reports are being added to the Administrative Record, and Ms. Morris said they are added as they become final.

Mr. Gortva said the Army is in the beginning stages of setting up a series of meeting with EPA and MDE to look at possible pilot-scale projects to treat the contamination in areas of the highest concentrations. Mr. Pauly stated the Army has been monitoring for 20 or 30 years, and everything seems to points to B11 as the source of 99 percent of the groundwater contamination; it seems the levels are constant, not getting worse or better so we can continue to ride out the situation for another 50 years or try some active remediation. Mr. Pauly said active remediation would seem to make sense immediately downgradient of B11 which is where the proposed roadway would be constructed. He asked if there are any concerns over how the roadway could impact future remediation. Mr. Cherry said he does not see the roadway as an obstacle as often there are roads which are just factored into the design of a remediation system. Mr. Craig stated he would envision the treatment occurring at the source, B11, not downgradient.

Mr. Cherry next discussed the Area B Landfill Cap Monitoring Work Plan which addresses eight different capped areas at Area B. He stated the Army had a meeting with EPA and MDE in May to look at the area and the existing monitoring well network and reached a consensus on which existing and new wells would be needed to monitor the landfills. He advised a work plan was then prepared which is now being reviewed by EPA and MDE.

Mr. Cherry said the purpose of the monitoring plan is to collect data through physical inspections to ensure the caps remain intact and to identify changes in shallow groundwater quality that may indicate potential problems with cap integrity or leaking or infiltration is occurring in some areas. He noted any problems identified would be repaired as caps can show wear over time.

Mr. Rudy asked about gas vents and whether there is a requirement for permits for the gas vents. Mr. Gortva said gas vents were installed to code. He said gas vents are typically installed because of methane production; however, these landfills are so old there was no anticipated methane production, but it was cheaper to incorporate landfill vents in the design than to spend more money to prove they were not needed.

Mr. Cherry said 48 groundwater monitoring wells were selected, 32 existing wells and 16 new wells that EPA requested and the Army included in the work plan to be installed in the future. He noted the groundwater will be tested for volatile organic compounds, semi-volatile organic compounds, metals, pesticides, PCBs, herbicides, dioxins and radiochemistry. Mr. Gortva noted this is not the first time the existing wells have been tested for these contaminants; the new wells will be tested for the same type of compounds as the existing wells have been for some time. Mr. Cherry advised 12 additional points will be installed for monitoring soil moisture/percolation at each capped area. Mr. Craig asked if the points would penetrate the cap, and Mr. Cherry said nothing will penetrate the cap; they will be adjacent to the cap.

Mr. Cherry displayed an aerial photograph showing the proposed locations of the new wells. Mr. Gortva advised one well may be shifted to keep it out of the road now that the location of the roadway is known.

8. Kemp Lane Residents - Public Water Connection Update presented by Mr. John Buck, Baltimore District, Corps of Engineers

Mr. John Buck stated this project is under contract to Watermark ECC. He advised the Army has been planning to hook up five residences along Kemp Lane to a potable water supply which is now running down the middle of Kemp Lane and to abandon the current private wells they use for drinking water. Mr. Buck said the Army has been providing these residents with bottled water.

Mr. Buck advised a work plan was developed and approved by the regulatory agencies. He noted many permits are required as well as a traffic control plan, along with much coordination with the City and County. Mr. Buck said the work is scheduled to start in September and completed in early October

9. RAB Member Open Discussion and General Community Comments

Mr. Gortva invited open discussion from the RAB members.

Mr. Pauly stated that the operating procedures need to be finalized by the RAB. He stated as soon as they are finalized, the procedures call for a formal election of a community co-chair, and he suggested these actions occur at the next meeting.

Ms. Hahn asked if it was standard procedure that a road is planned before new Site Inspections are completed. Mr. Thomson said it depends on the ownership of the property; Federal agencies control their own property, and EPA does not have much say.

Ms. Green stated there are other sites where there has been major construction projects at the same time as environmental restoration, for example, Fort Meade.

Ms. Coleman said the planning for this road has been going on for quite some time, before 2014. She noted the exact alignment of the road can be moved, although an estimated alignment had been agreed upon some time ago by the Commander at the time and the City of Frederick contingent upon appropriate approvals being obtained. She stated these approvals included EPA and MDE, as well as final approval by Fort Detrick. Ms. Coleman said the planning has taken quite some time and will take more time as the project will not move forward until the City has all the necessary approvals for the road.

Mr. Craig thanked Ms. Coleman and Mr. Ceci for coming to the meeting and sharing information. Mr. Craig said he believed everyone learned more than they knew before about the project, and in his mind, the roadway is just another cap on part of Area B which is protective of human health. He said he does not see any exposure pathway, and he appreciate the City's willingness to realign the roadway away from the capped areas.

Mr. Craig announced COL Brian Barthelme is about to retire. Mr. Craig thanked him for all he has done and noted he would be greatly missed by the Environmental Office. Mr. Zolyak added that COL Barthelme is retiring after 30 years of service. The Board expressed their appreciation to COL Barthelme.

Mr. Gortva invited comments for the community members in the audience; none were offered.

10. Future Meeting Dates

Mr. Gortva said proposed future meeting dates are November 9, March 8, 2017 and July 12, 2017. He asked if anyone had a conflict with November 9 to let him know as soon as possible before room arrangements were confirmed.

The meeting adjourned at approximately 9:05 p.m.

Reviewed by:

Approved/Disapproved

Enclosures:
Christopher's Crossing Proposed Roadway
Area B Environmental Projects Update
Kemp Lane Residents – Public Water Connection
Meeting Sign-In Sheet

DISTRIBUTION:
Each RAB Member (w/o enclosure)
Each Meeting Attendee (w/o enclosure)

FORT DETRICK RESTORATION ADVISORY BOARD
LIST OF TOPICS FOR FUTURE MEETINGS

Proposed at April 2016 RAB Meeting

- City road proposed to go through Area B (presentation at August 2016 meeting)
- Presentation on current incinerators (not a RAB meeting topic)

Proposed at November 2014 RAB Meeting

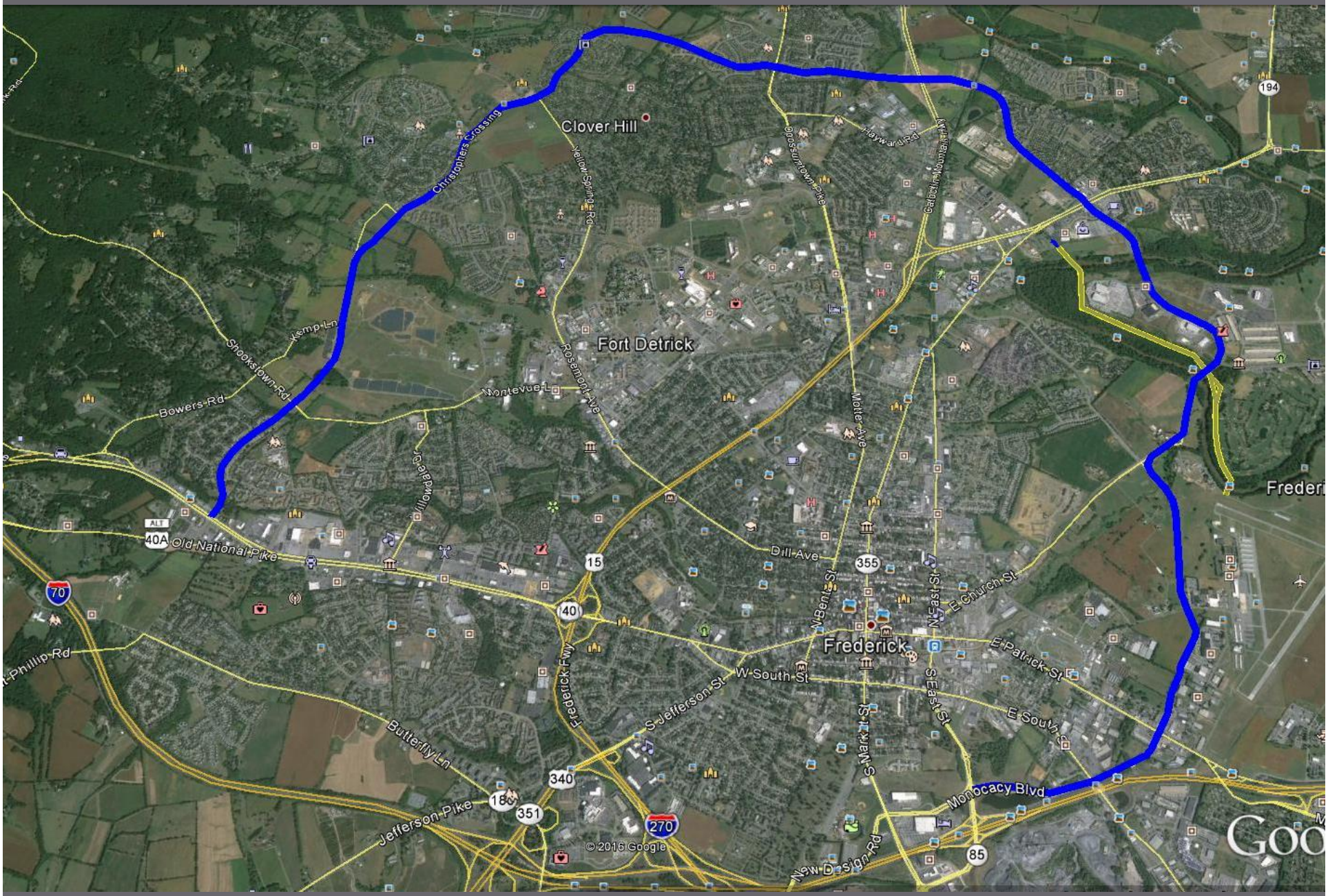
- City road proposed to go through Area B (presentation at August 2016 meeting)
- Surface water detections
- Archive search report presentation (completed at February 2015 meeting)

CITY OF FREDERICK
CHRISTOPHER'S CROSSING
KEMP LANE TO OLD CAMP ROAD
THROUGH FT. DETRICK AREA 'B'

PRESENTED TO THE
RESTORATION ADVISORY BOARD
AUGUST 10, 2016

The City of Frederick Maryland

FOX & ASSOCIATES INC. Est. 1966
ENGINEERS
SURVEYORS
PLANNERS
LANDSCAPE ARCHITECTS



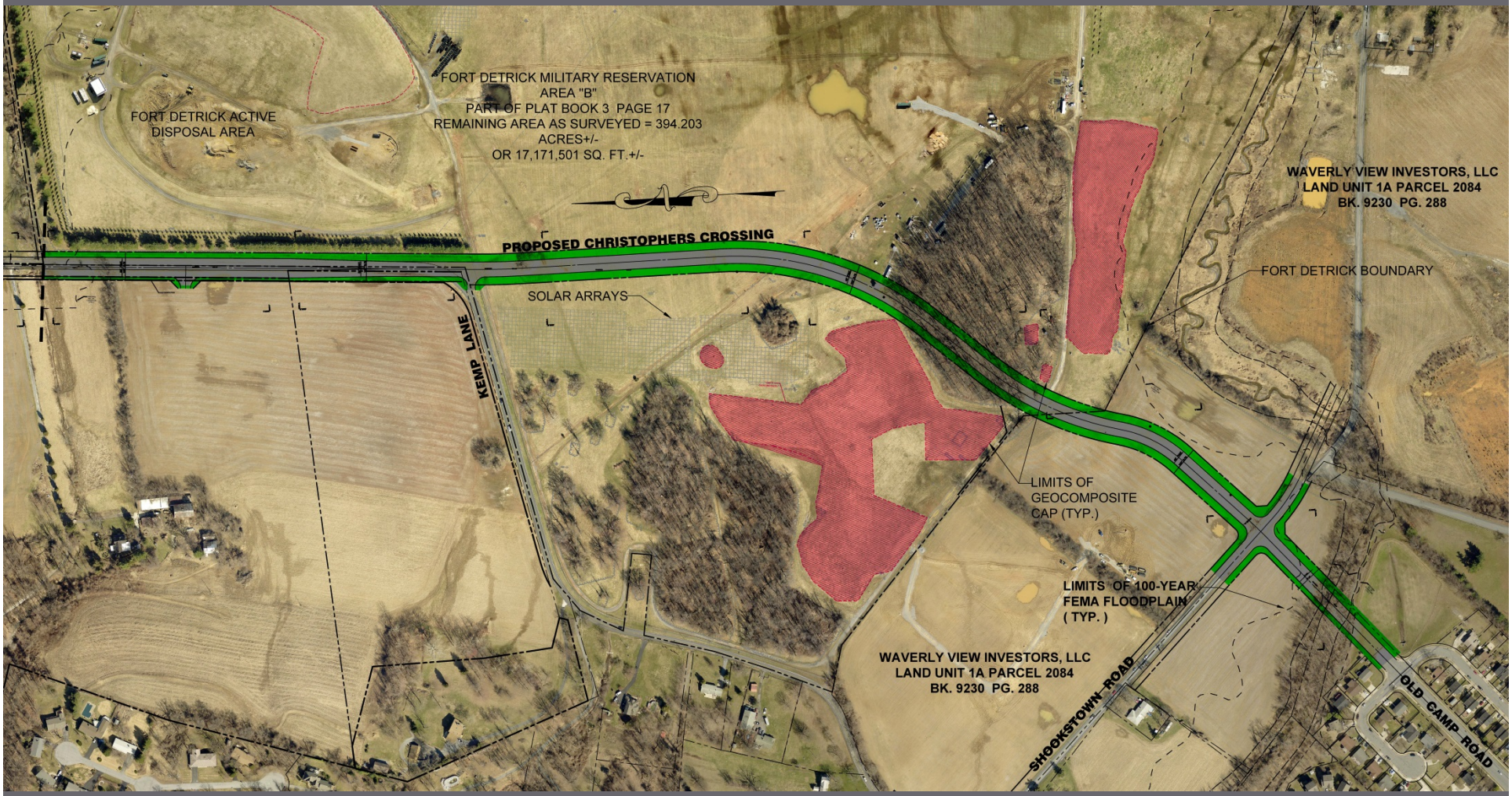
MONOCACY BOULEVARD / CHRISTOPHER'S CROSSING

CHRISTOPHER'S CROSSING / MONOCACY BOULEVARD

- Christopher's Crossing / Monocacy Blvd. on the City of Frederick Master plan for over 20 years.

- Once completed Christopher's Crossing / Monocacy Blvd will be approximately 11 miles and provide a bypass around Frederick to the north beginning at MD 85/ I-70 to MD 40 W. Patrick St.

- Only the Sanner property and Rocky Springs Road to Old Camp Road through Fort Detrick remain to be built.



PROPOSED CHRISTOPHER'S CROSSING ALIGNMENT THROUGH FORT DETRICK

PROJECT BACKGROUND

Two factors have had a major influence on the project as currently proposed.

1. The roadway has been included on the City of Frederick Master Plan for over 20 years.

2. Private development interests in the area have supported the project north of Area 'B'.

- The Mayor and Board of Alderman approved roadway design funding for FY2014.

PROPOSED ROADWAY DESIGN

- National Environmental Policy Act (NEPA) requires an Environmental Assessment to assess the environmental impacts and evaluate their significance.
- 2010 Environmental Assessment for Area 'B' included Christopher's Crossing.
- EA to be updated for Christopher's Crossing.
- Working with Fort staff to design roadway to avoid landfill caps and wells.
- Minimize land disturbance to Area 'B'
- Smaller road cross section – 48 ft. wide.
- Conduct electromagnetic survey of roadway area to identify any previously excavated areas within alignment.

PROPOSED ROADWAY DESIGN

- Avoid installing excavated utilities within Area ‘B’.
- Avoid ponding water and maintain natural drainage paths.
- All roadway constructed with clean imported fill on existing ground.

PROPOSED ROADWAY IMPACTS

- Minimal impacts to geology and soils – mitigated by engineering controls.
- Minimal impacts to water resources – mitigated by adherence to stormwater regulations.
- Negligible impacts to human health and safety.
- No wetland impacts on Fort property.
- No disposal area/liner or well impacts.
- Minimal impacts to forest cover. Lost area to be replanted 2:1
- Negligible impacts to air quality.
- Minor impacts from lighting.

LOOKING AHEAD

- Finalize draft Environmental Assessment.
- Submit draft EA to EPA, U.S. Army, Ft. Detrick Environmental Management Office and MDE.
- Public comment period.
- Prepare Final EA.
- Geotechnical / EM testing.

PIKA

ARCADIS

a joint venture

ENVIRONMENTAL RESTORATION SERVICES FORT DETRICK, FREDERICK MD

Progress Report for the RAB

August 10, 2016

John Cherry
Arcadis

Overview of Topics

- Site Inspections (SI) Status – Area A / Area B
- Area B Groundwater Remedial Investigation (RI) Status
- Area B Groundwater Monitoring
- Area B Landfill Cap Monitoring

PIKA

ARCADIS

a joint venture

SITE INSPECTION (SI) STATUS – AREA A / AREA B

Background on Archive Records Review

2010: US Army Corps of Engineers (USACE) completed a review of archive records for Fort Detrick (including Areas A, B, and C)

Objective:

Identification of any past activities that had the potential to impact the environment

2012 – 2014: Findings detailed in two separate Archive Search Reports (ASRs)

Outcome:

Army identified a list of sites for follow-up environmental testing under EPA/MDE oversight to assess actual impacts and current conditions

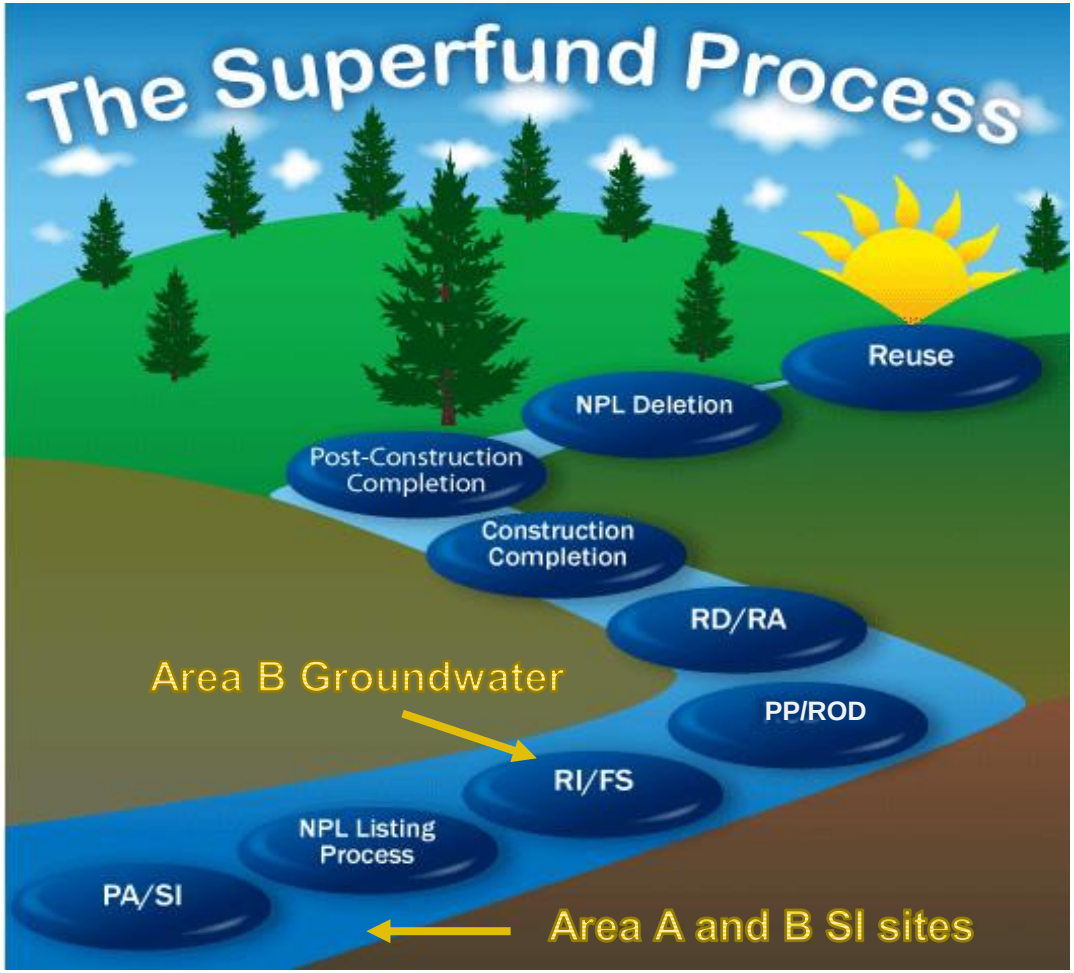
See US Army Corps of Engineers (USACE) February 2015 RAB update for more information on ASR

Identifying Historical Activities of Potential Concern

- Herbicide test plots
- Incinerators
- TCE sites (facilities where TCE was used for refrigeration purposes)
- Petroleum, oil, and lubricant facilities
- Dispersion test areas (for testing dispersion of simulants)
- Vehicle maintenance areas
- Areas used for disposal, storage, or other purposes

SI Scope includes sampling for soil and/or groundwater with analyses tailored to historical activities and uses in these areas

What is a CERCLA SI?



Remedial Action (RA)-Implement selected remedy

Remedial Design (RD)- Work plan and design of selected remedy

Record of Decision (ROD)- Final legal document selecting remedy

Proposed Plan (PP)- public document to solicit input on preferred remedy

Feasibility Study (FS)- Assessment of possible remedies

Remedial Investigation (RI)- Thorough investigation; develop conceptual site model, complete risk assessment

Site Inspection (SI)- Initial sampling to test for a release of hazardous substances to the environment

Preliminary Assessment (PA)- Initial review to identify sites that may pose a threat to the environment

The SI reports will make recommendations to EPA/MDE for the next steps (if any) at each site

Status of SI Field Investigations

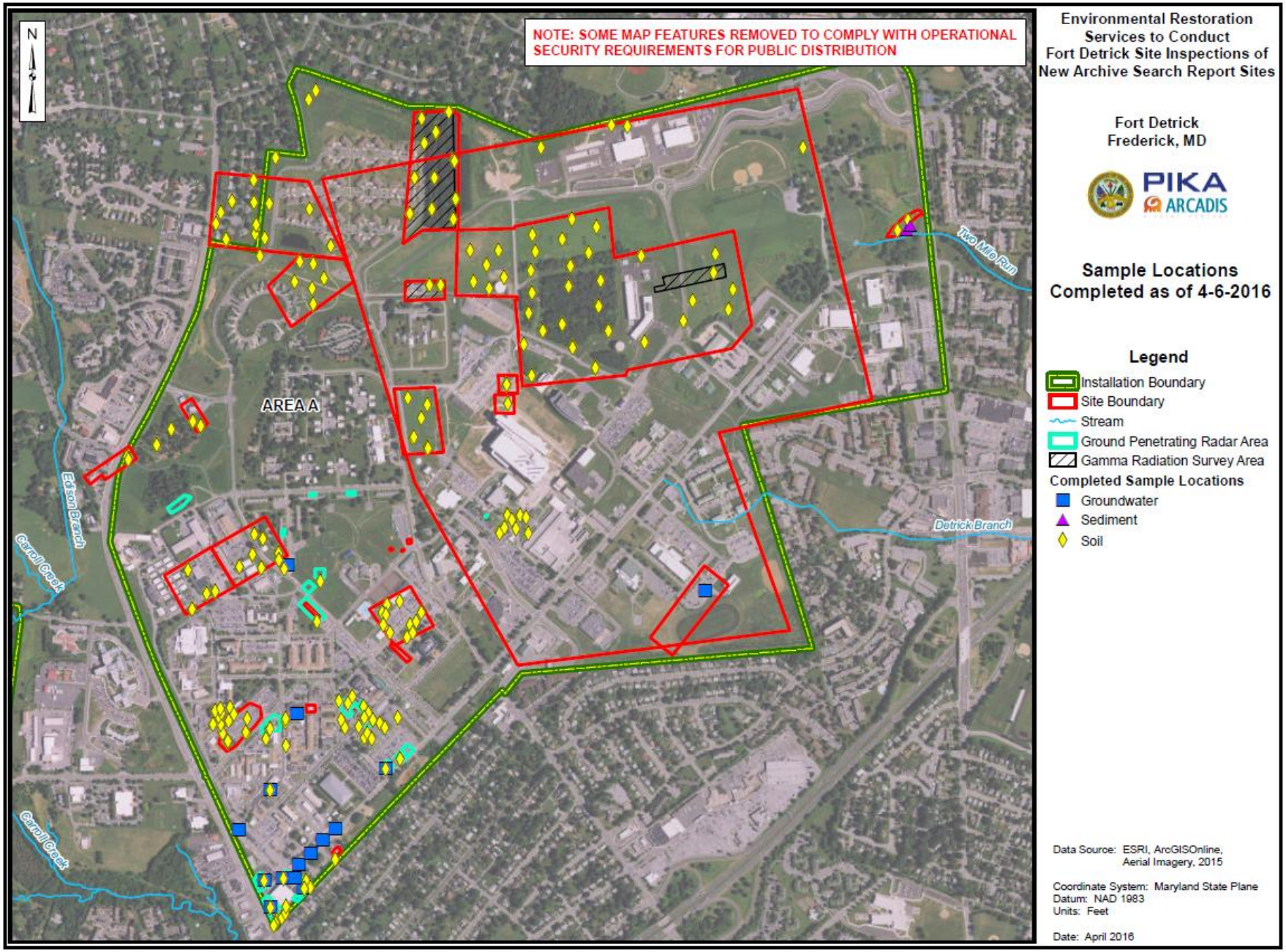
Area A

- Two field mobilizations
  - January 2016
    - Approximately 285 samples were collected from 196 locations
  - July 2016
    - 23 samples from 16 locations

Area B

- One field mobilization
  - July 2016
    - 33 samples from 18 locations

Field investigations are complete. Next → Reporting Phase



Distribution of SI Sites Across Area A

Distribution of SI Sites Across Area B

Environmental Restoration Services to Conduct Fort Detrick Site Inspections of New Archive Search Report Sites

Fort Detrick
Frederick, MD

PIKA ARCADIS

Sample Locations Completed as of Aug. 2016

Legend

- Installation Boundary
- Site Boundary
- Site Location (Point)
- Stream
- Completed Soil Sample Location

Data Source: ESRI, ArcGIS Online, Aerial Imagery, 2013

Coordinate System: Maryland State Plane
Datum: NAD 1983
Units: Feet

Date: August 2016

General Observations from Field Activities

- Waiting on analytical results from second mobilization so a comprehensive evaluation can be completed
- Once data evaluation is complete, recommendations for no further action or further investigation are suggested

An SI is not intended to be a complete evaluation of the nature and extent of contamination, nor a risk assessment

Next Steps: Fall 2016/Winter 2017

- SI reports for both Area A and Area B will be submitted for regulatory review
- Based on all available information, recommendations for each site will be evaluated regarding future investigations (if any)

All SI site recommendations will be subject to review and concurrence by EPA and MDE

AREA B GROUNDWATER REMEDIAL INVESTIGATION STATUS

Area B Groundwater RI Status

- RI Supplemental Work Plan for additional off-post investigation activities:
  - Plan under comment resolution; EPA and MDE approval is anticipated this summer or early fall.
  - Scope includes additional off-post surface water and groundwater quality testing.
  - Schedule hinges on work plan approval, but aiming to complete the work in Fall 2016.
  - Results will be incorporated into the Remedial Investigation (RI) report for EPA/MDE review.
    - The RI report will include the Human Health Risk Assessment.

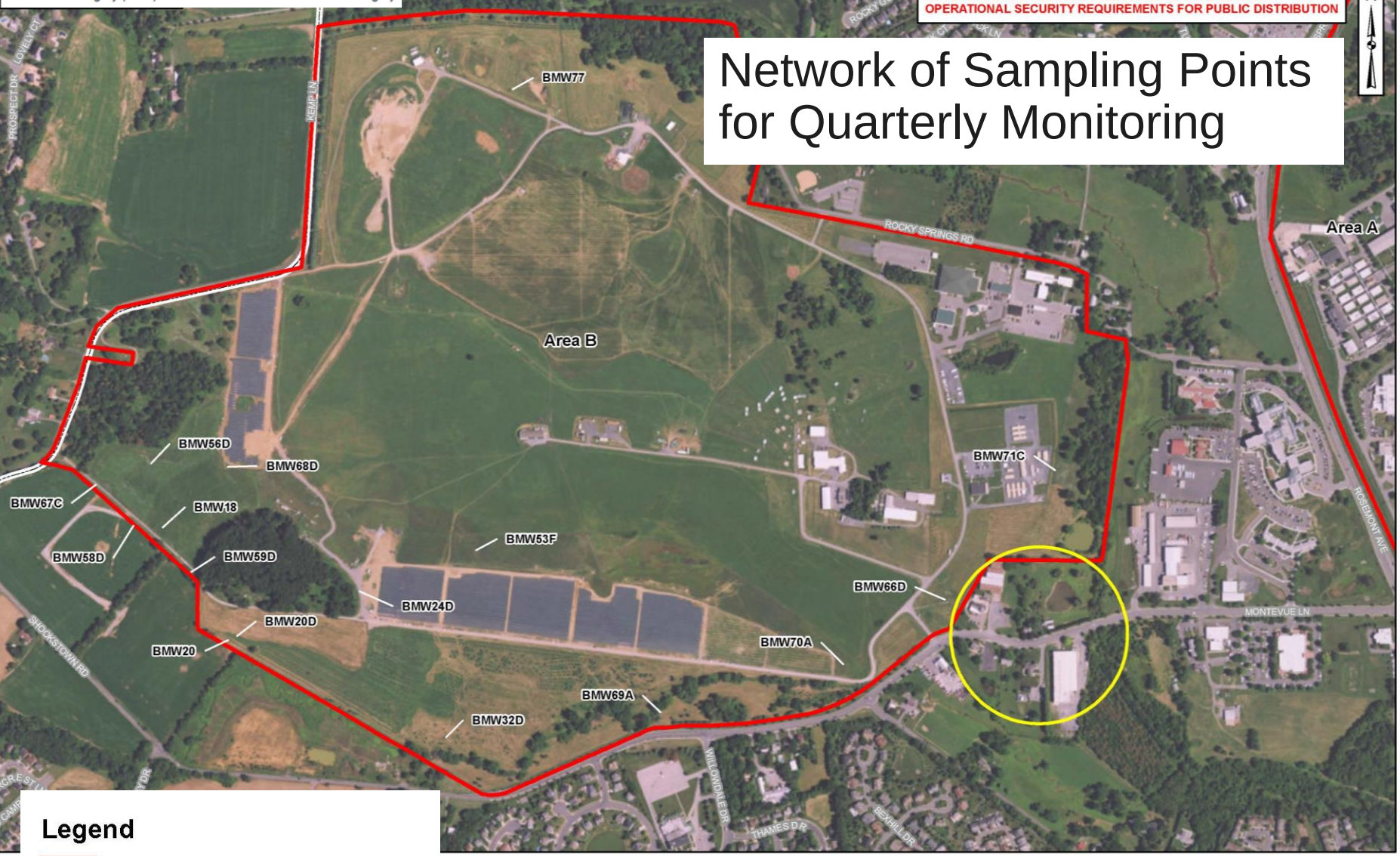
AREA B QUARTERLY GROUNDWATER MONITORING

Area B Quarterly Groundwater Monitoring

- 15 monitoring points and 1 off-post spring have been sampled on a quarterly basis since 2012.
- The sample locations were selected in collaboration with EPA and MDE.
- Each location is tested for volatile organic compounds (VOCs)
- The quarterly program enables the Army, EPA, and MDE to monitor groundwater quality trends over time as the Remedial Investigation activities are on-going.
- Summary:
  - Testing over the last 4-5 years indicates a consistent pattern of VOC detections across the Area B study area with generally stable concentrations.
  - VOC levels fluctuate from quarter to quarter at some locations but no discernable trends to indicate overall increasing or decreasing concentrations.

OPERATIONAL SECURITY REQUIREMENTS FOR PUBLIC DISTRIBUTION

Network of Sampling Points for Quarterly Monitoring



Legend

- Fort Detrick Boundary
- Frederick City Boundary
- Spring Location

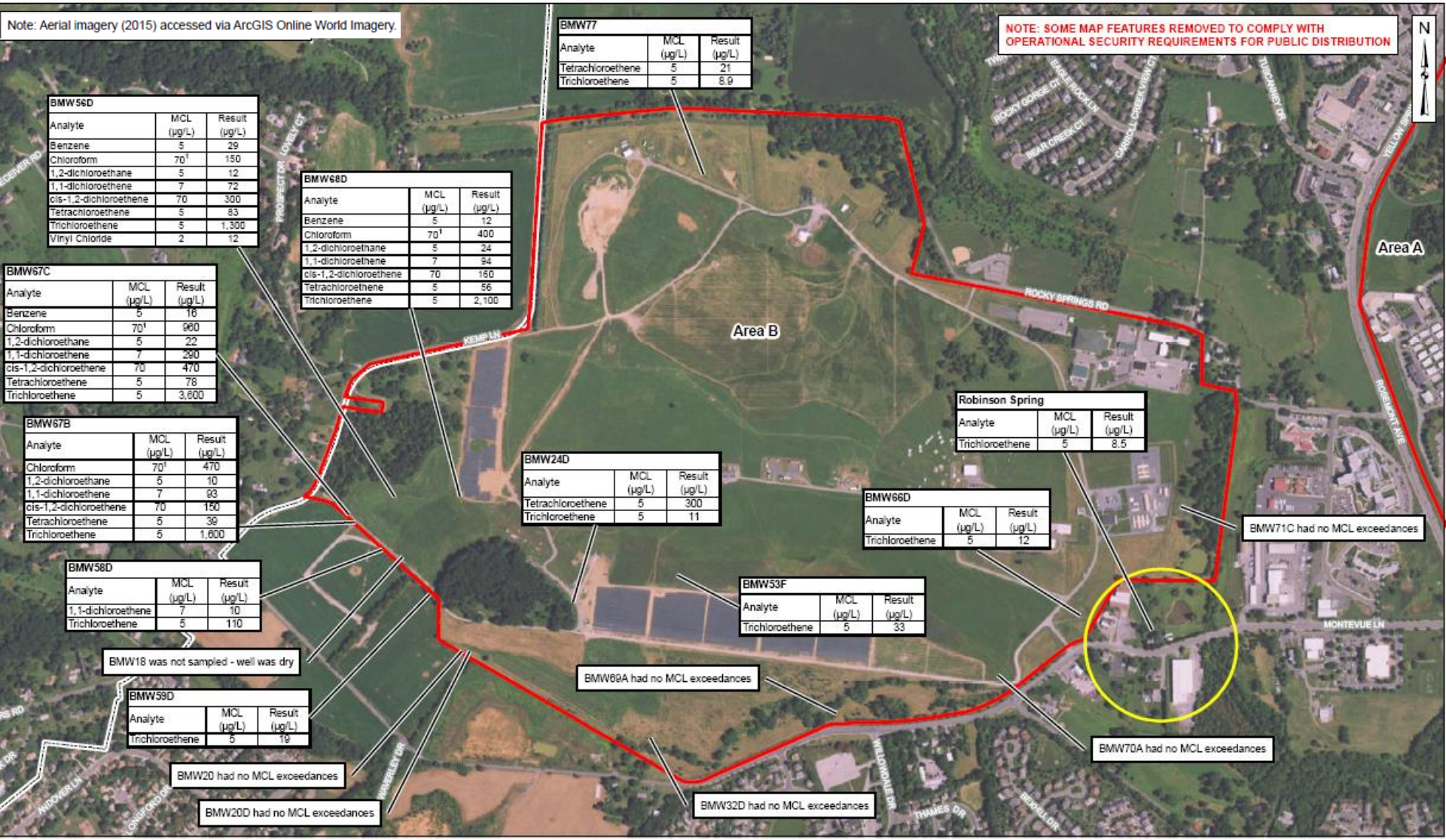
BMSW56D Monitoring Point ID

Quarterly Groundwater Monitoring Report
Fourth Quarter 2015
Fort Detrick Area B Groundwater
Fort Detrick, Maryland

Area B Monitoring Network

ARCADIS

FIGURE 2



Legend

- Fort Detrick Boundary
- Frederick City Boundary
- Spring Location

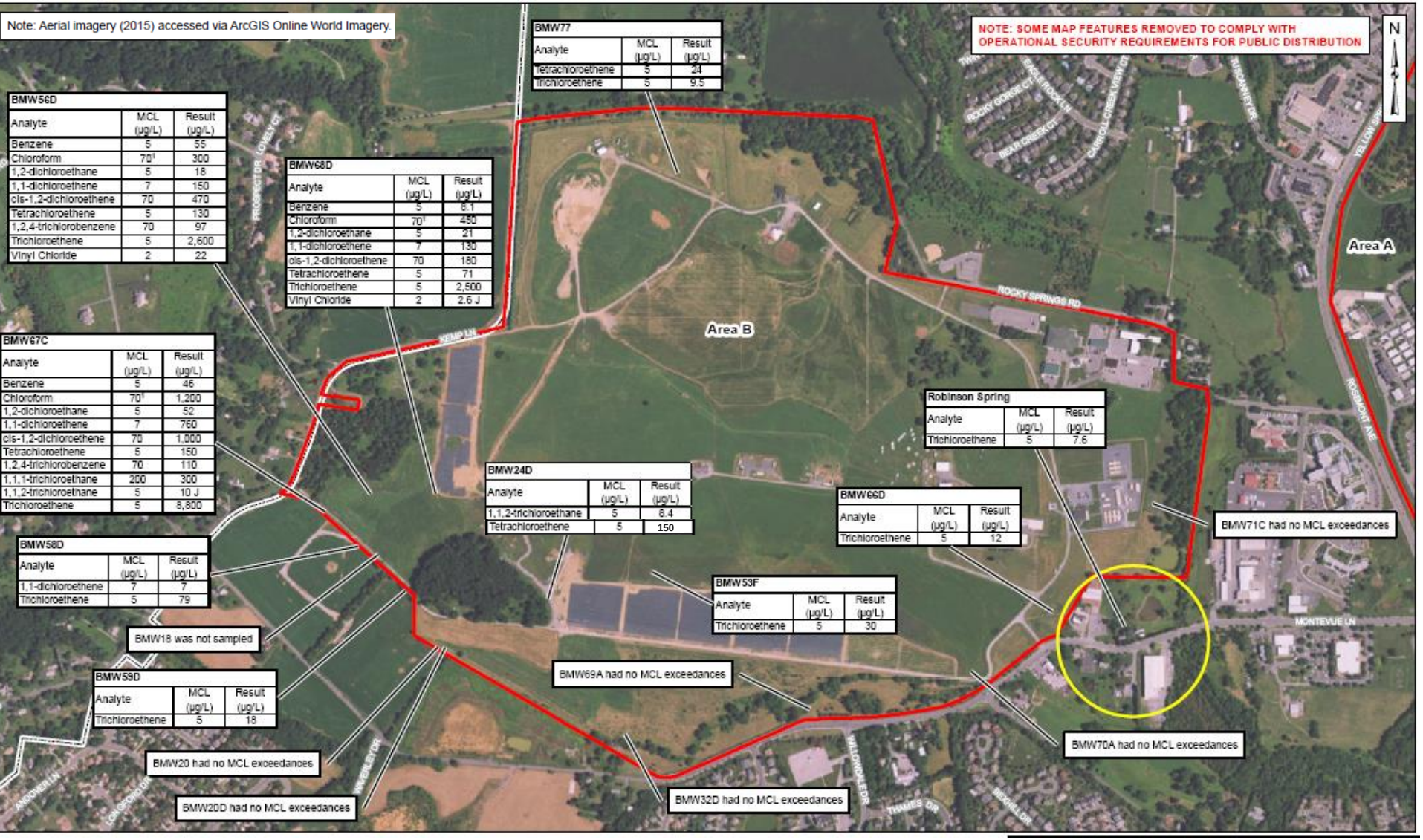
BMW56D Monitoring Point ID

Notes:

1. No MCL exists for Chloroform; thus, the MCL goal is presented.
2. µg/L - micrograms per liter
3. MCL - Maximum Contaminant Level

March 2015

(MCL Exceedances)



Legend

- Fort Detrick Boundary
- Frederick City Boundary
- Spring Location

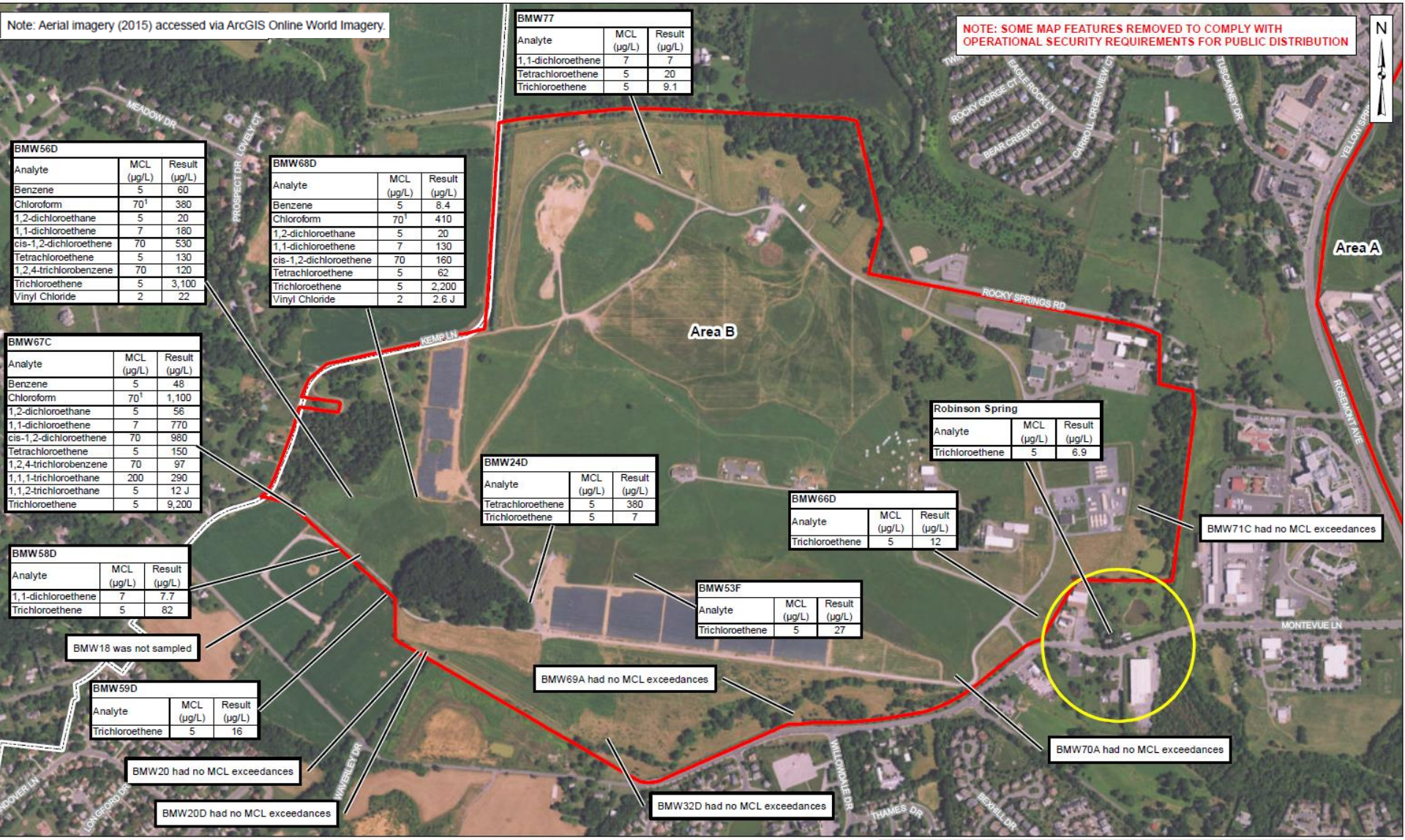
BMW56D Monitoring Point ID

Notes:

1. No MCL exists for Chloroform; thus, the MCL goal is presented.
2. µg/L - micrograms per liter
3. MCL - Maximum Contaminant Level

June 2015

(MCL Exceedances)



Legend

- Fort Detrick Boundary
- Frederick City Boundary
- Spring Location

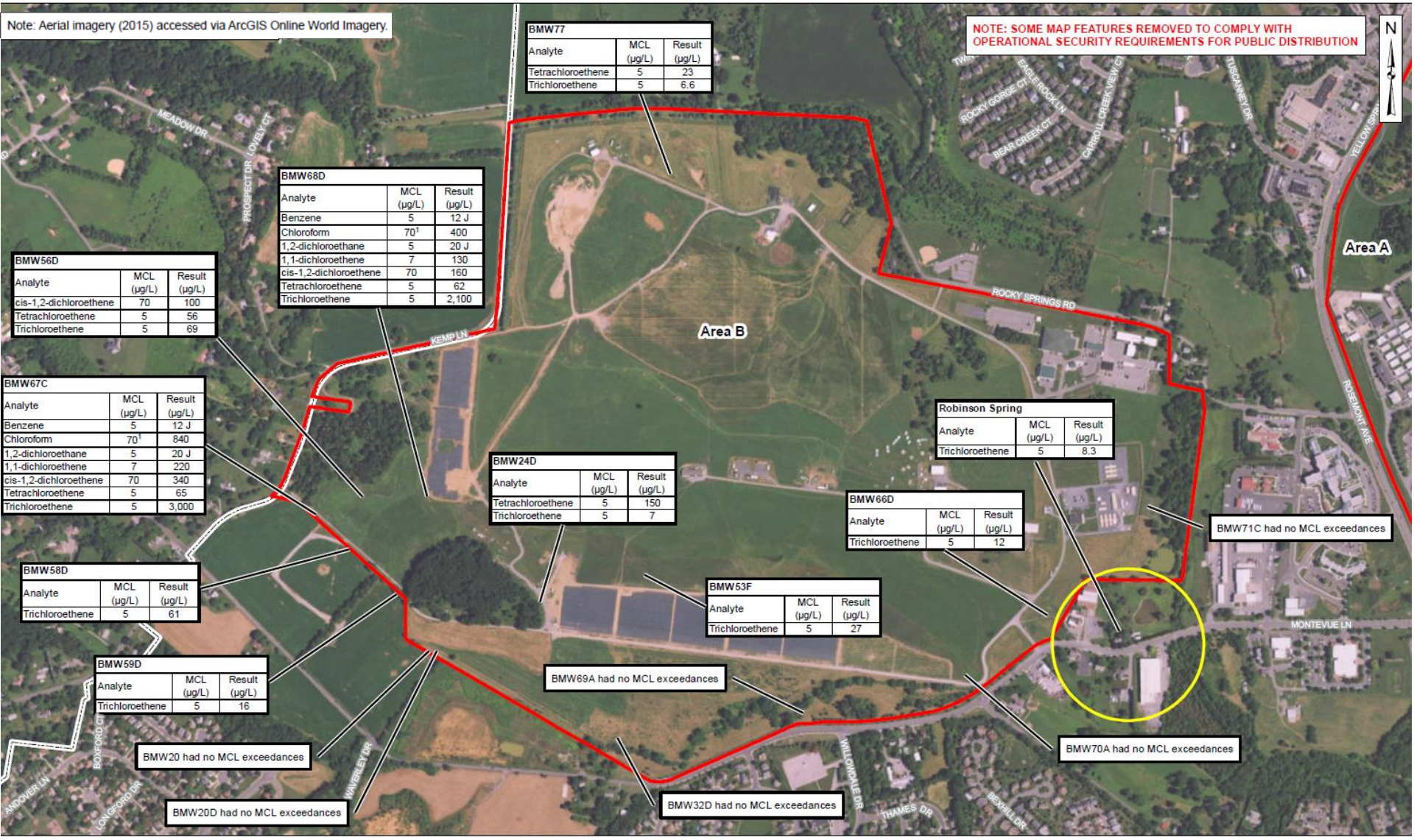
BMW56D Monitoring Point ID

Notes:

1. No MCL exists for Chloroform; thus, the MCL goal is presented.
2. µg/L - micrograms per liter
3. MCL - Maximum Contaminant Level

September 2015

(MCL Exceedances)



Legend

- Fort Detrick Boundary
- Frederick City Boundary
- Spring Location

BMW56D Monitoring Point ID

Notes:

1. No MCL exists for Chloroform; thus, the MCL goal is presented.
2. µg/L - micrograms per liter
3. MCL - Maximum Contaminant Level

Jan/Feb 2016

(MCL Exceedances)

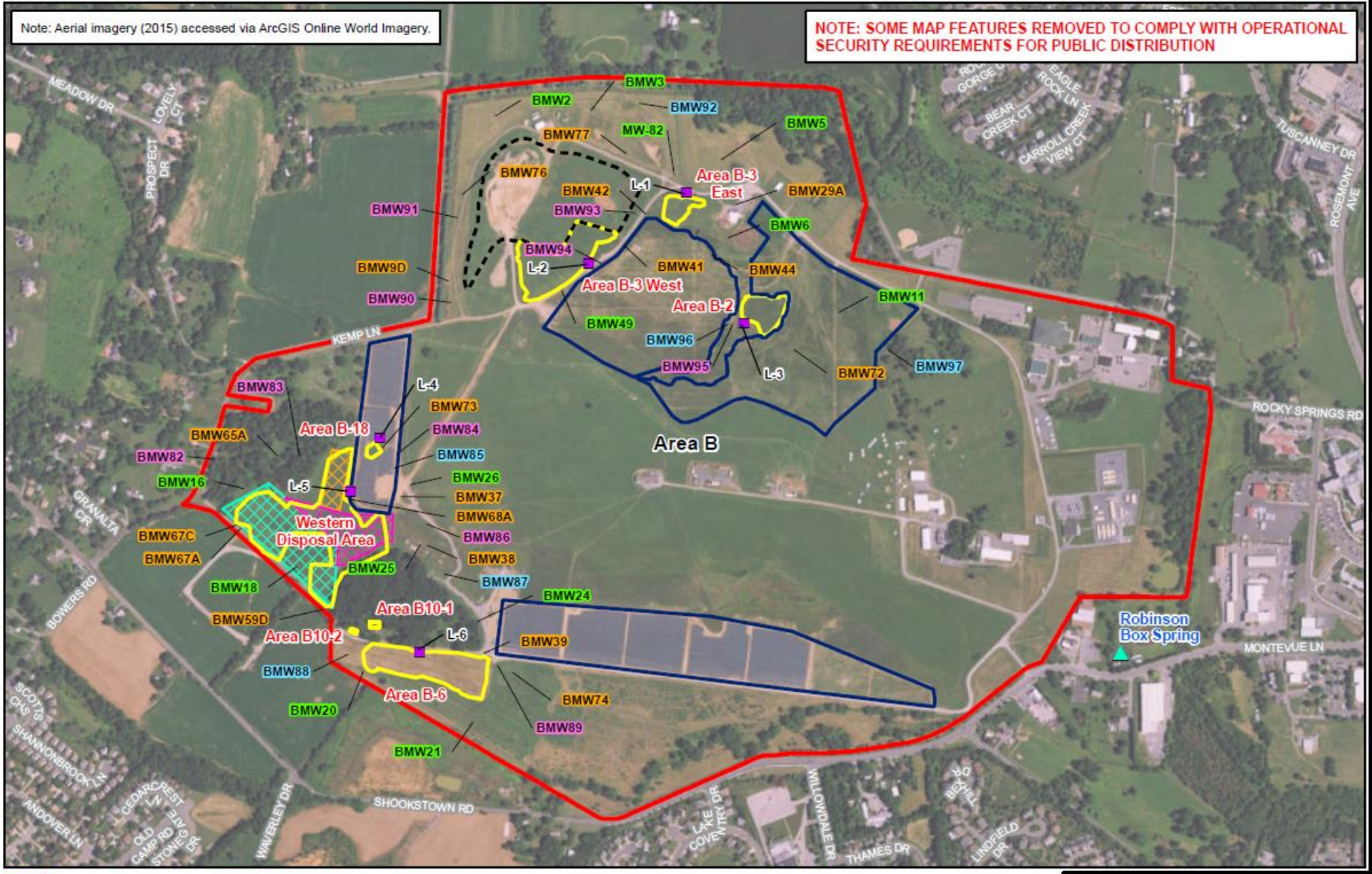
AREA B LANDFILL CAP MONITORING WORK PLAN

Area B Landfill Cap Monitoring Work Plan

- In 2009-2010, landfill caps were constructed at 8 former disposal areas on Area B.
- The landfill cap monitoring plan was designed to:
  1) Collect data that will be used to determine whether the caps remain intact overtime and,
  2) Identify changes in shallow groundwater quality that may indicate potential problems with the cap integrity.
- Scope includes:
  1) Physical Inspections: vegetative cover, cap integrity, gas vents, and signage
  2) Monitoring program: monitoring new & existing points for groundwater and soil moisture.

Landfill Monitoring Network

- The Army, EPA, and MDE met in May 2016 to identify new and existing points for monitoring shallow groundwater around each capped area.
- 48 groundwater monitoring points were selected.
  - This includes 32 existing points and 16 new points the Army will install at EPA's request.
  - Groundwater will be tested for VOCs, SVOCs, metals, pesticides, PCBs, herbicides, dioxins, radiochemistry
- 12 additional points will be installed for monitoring soil moisture/percolation at each capped area



Fort Detrick Area B Landfill Cap Monitoring Work Plan
Fort Detrick, Maryland

Area B Former Disposal Areas and Groundwater Monitoring Well Locations

ARCADIS

FIGURE 2