



RVAAP Restoration Program Update

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Ohio Army National Guard (OHARNG)

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Background

- 13 years in the environmental field – 4 years in consulting and 9 years with the OHARNG
- B.S. in Environmental Studies from Youngstown State University
- Serve as the Restoration Representative for the OHARNG; Also conduct compliance duties at Camp Ravenna and across the State of Ohio
- Work at Camp Ravenna in the Environmental Office



Presentation Agenda

- Brief summary of the history, prior restoration activities, and current and future actions for the following Areas of Concern (AOCs):
 - ▶ Ramsdell Quarry Landfill
 - ▶ Building 1200
 - ▶ Anchor Test Area
 - ▶ Winklepeck Burning Grounds



History of Ramsdell Quarry Landfill



- Approximately 14 acres
- Stone quarry during facility construction activities until 1941 – excavated 30-40 feet below grade – stone utilized onsite
- Quarry bottom used to burn explosive waste – 1946 – 1950s
- Between 1941 and 1989 western and southern sections used for landfill operations
 - ▶ No information on landfill operations from 1941 – 1976
 - ▶ Nonhazardous solid waste deposited from 1976 until closure in 1989
- Sanitary landfill closed in 1990 – clay cap placed over the former permitted landfill (4 acres)



Brief Summary of Prior Restoration Activities at Ramsdell Quarry Landfill AOC

- Groundwater wells installed in 1988, 1998 and 2003 for landfill – Groundwater monitored under facility-wide groundwater monitoring program
- Phase I Remedial Investigations (RI) (2003 and 2005) documenting sampling activities
- Feasibility Study (FS) documenting cleanup alternatives for soil and dry sediment - 2006
- Proposed Plan (PP) documenting the soil excavation alternative - 2007
- Record of Decision (ROD) completed in 2009 documenting the chosen alternative of excavation for soil and dry sediment – removal of PAH-contaminated soil in quarry bottom.

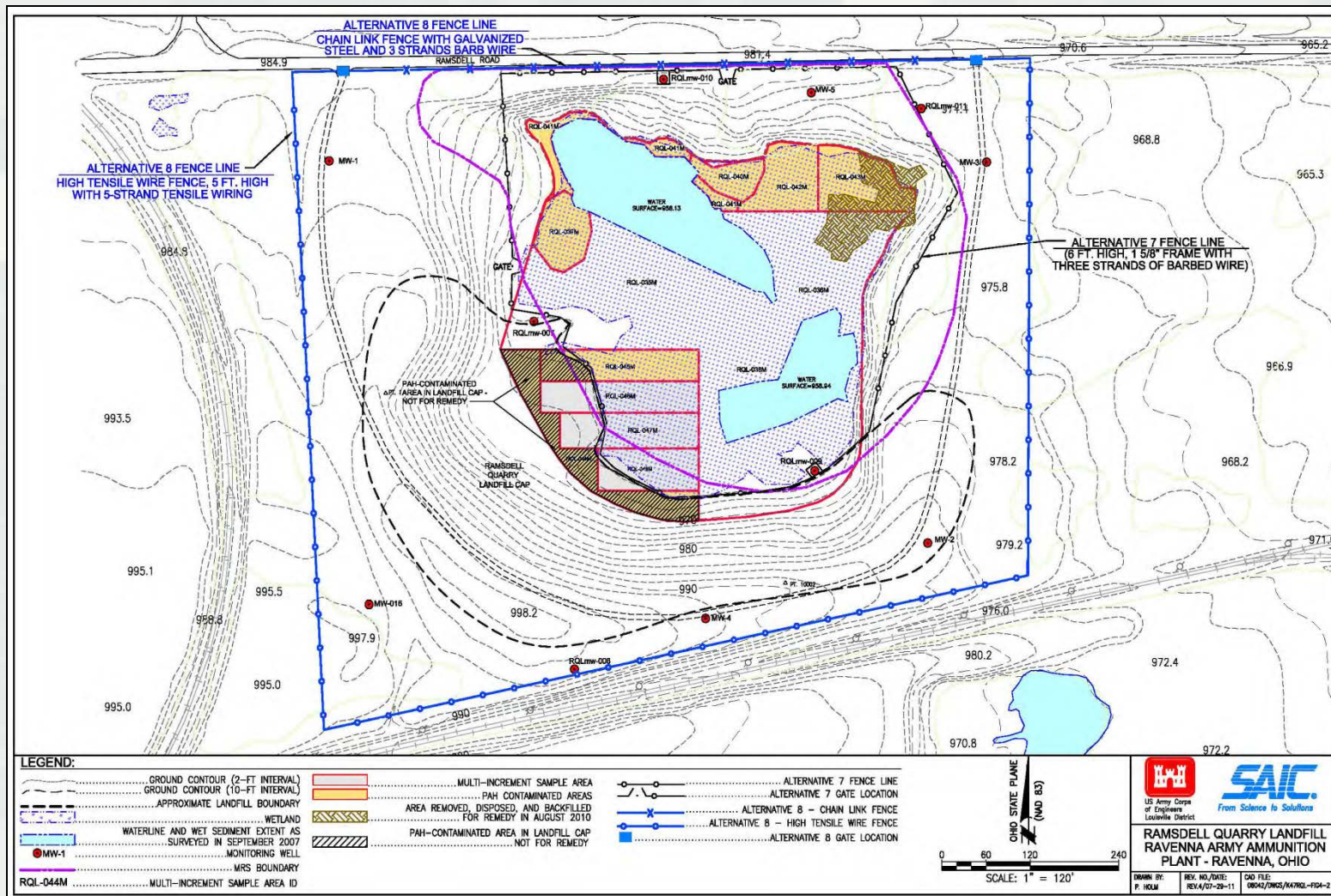


Brief Summary of Prior Restoration Activities at Ramsdell Quarry Landfill (cont)

- Remediation began and was stopped in July 2010 due to discovery of buried asbestos-containing transite. All visible unearthed transite was removed in August 2010 and project was halted.
- Due to this unexpected circumstance, an engineering evaluation was completed in September 2011 to evaluate additional remedial alternatives.
- A ROD Amendment documenting the new chosen alternative (fencing) was completed in August 2013.
- A Final Remedial Design setting forth the construction activity details for the fencing alternative (fencing, surface removal of transite, and land use controls (LUCs)) was completed in April 2014.



Ramsdell Quarry Landfill-AOC Map





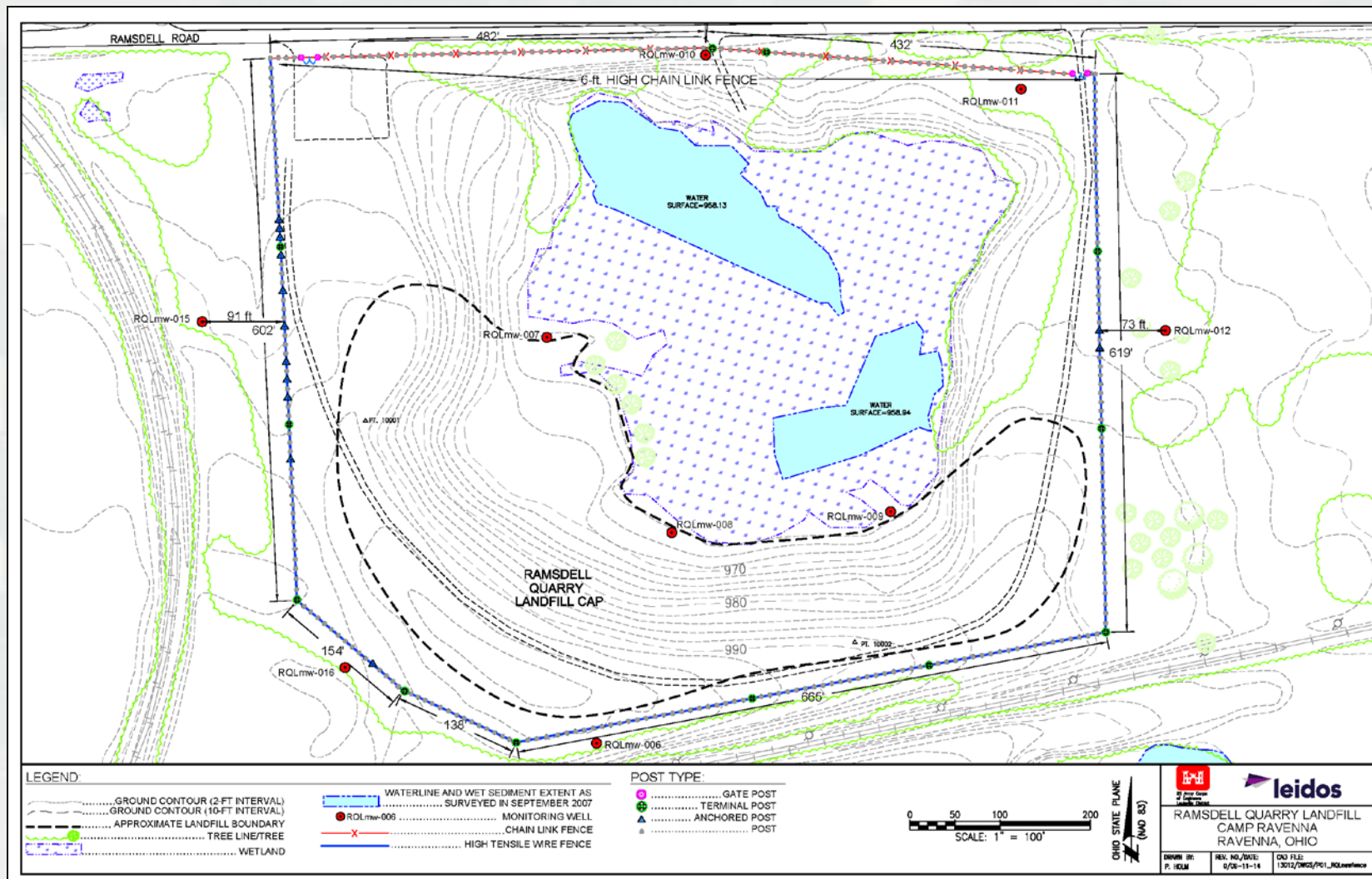
Summary of Current Activities at Ramsdell Quarry Landfill

- The fencing Remedial Action began in August 2014 and was completed in September 2014.





Ramsdell Quarry Landfill Fence As Built





Future Activities at Ramsdell Quarry Landfill

- Address groundwater under the Facility-wide Groundwater Monitoring Program.
- Address sediment and surface water under current contract with Leidos.
- Finalize Remedial Action Completion Report for the Remedial Action that was recently completed for soil.
- Document LUCs for soil in Property Management Plan (PMP). Conduct and document 5 year reviews and LUC monitoring activities as required.
- Continue landfill closure inspections and reporting.



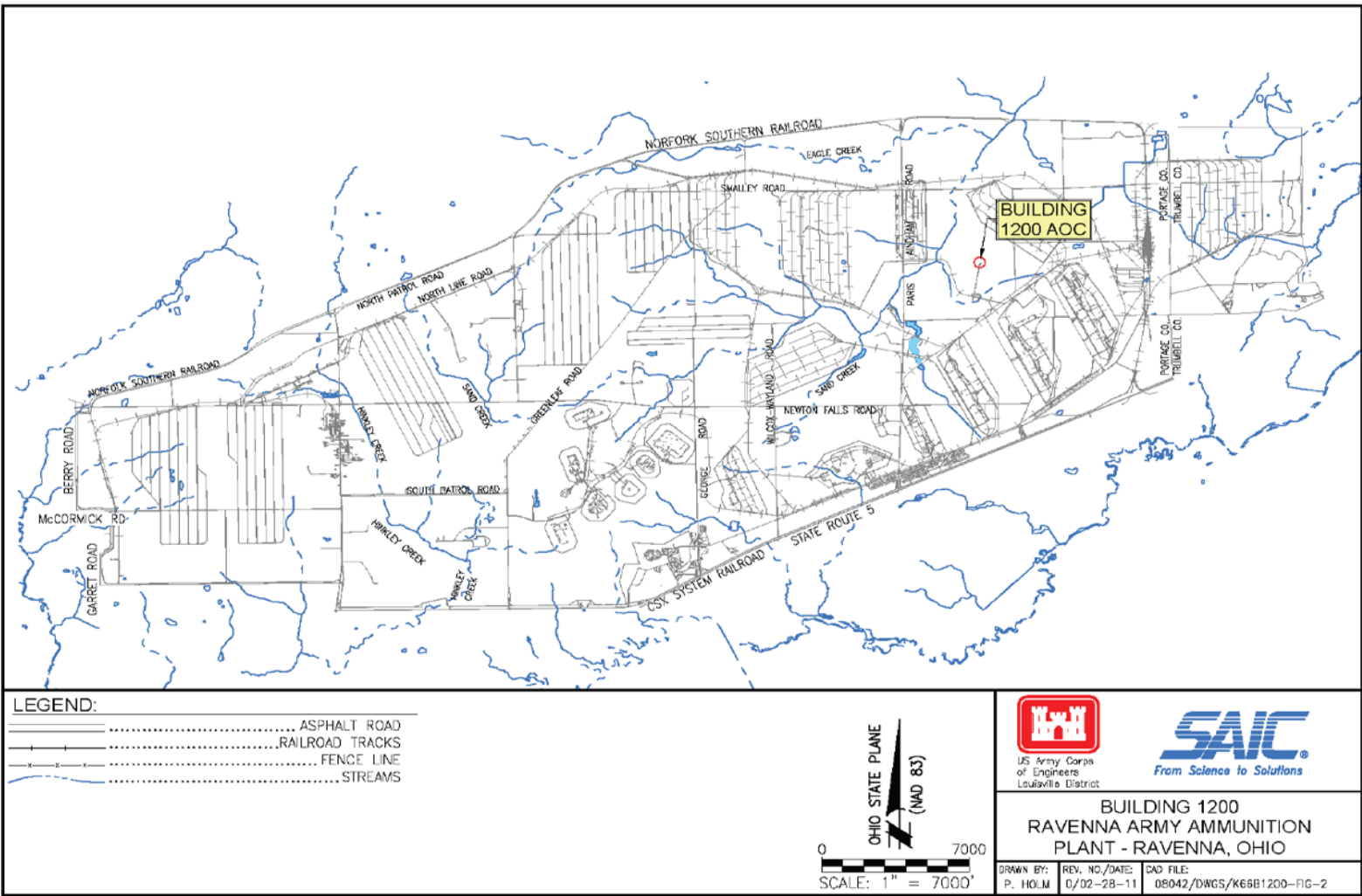
History of Building 1200 AOC



- Approximate 8 acre site; Consisted of several buildings, ditch, and pond
- 1941 – 1971 – Quality assurance inspection station for munitions
 - ▶ Disassembly of production line munitions items from melt-pour operations
 - ▶ Removal of explosives via a steam melt-out process
 - ▶ Discharge of explosives-contaminated wastewater from a pipe through a crushed gravel bed and into a ditch which led to an unlined settling pond.
- Buildings demolished in 2004/2005; Ditch and pond remain.

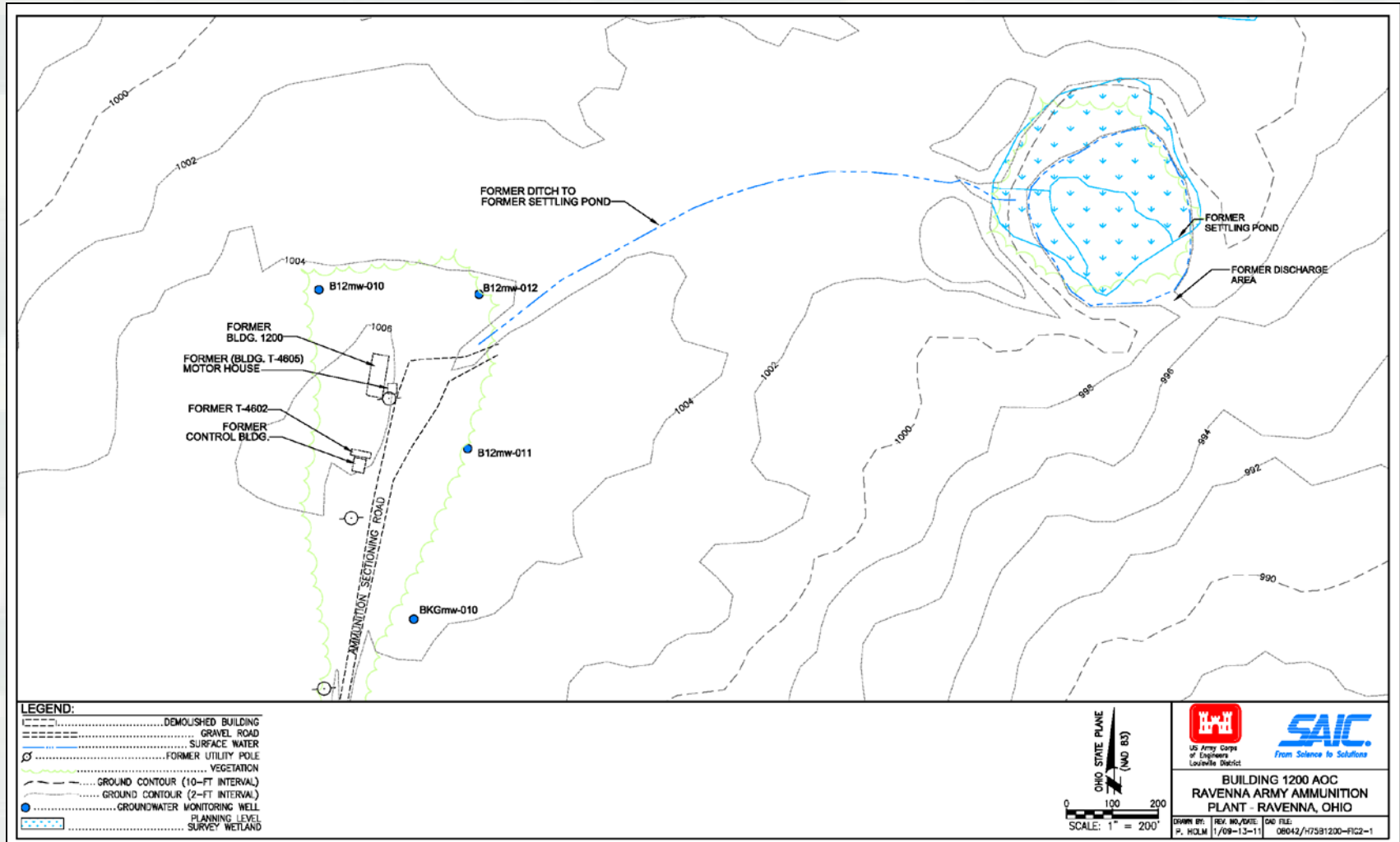


Building 1200 – General Map





Building 1200 – Site Features Map



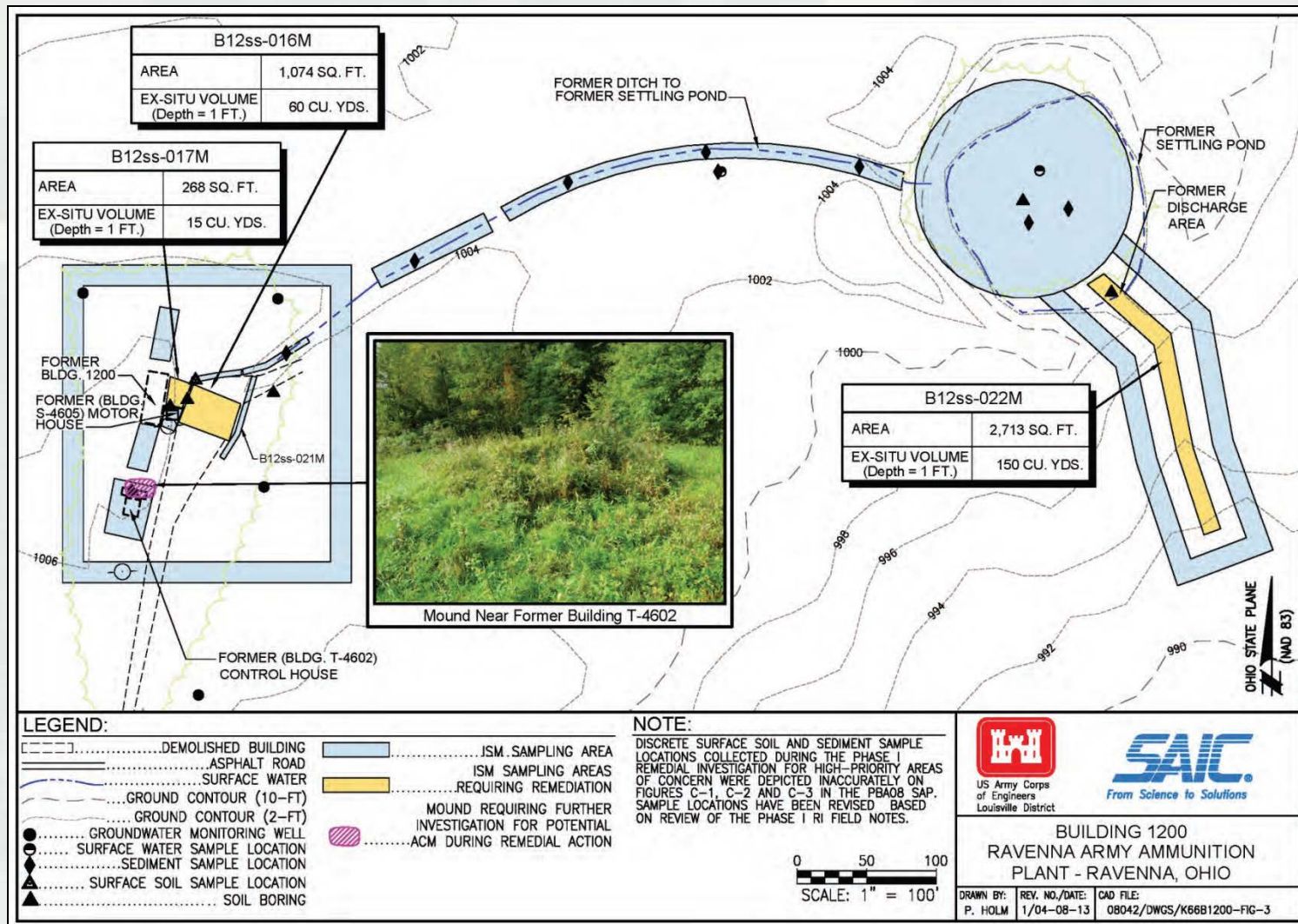


Brief Summary of Prior Restoration Activities at Building 1200

- Prior assessments completed in 1989, 1996, 1998, 2007, 2012
- RI/FS completed in 2012
 - ▶ Manganese in surface soil was only human health contaminant of concern (COC) identified above cleanup-goals (residential). No COCs identified for subsurface soil, sediment or surface water.
- Proposed Plan completed in 2013
- Record of Decision and Remedial Design completed in 2014.
- Groundwater monitored under facility-wide groundwater monitoring program



Building 1200 – Sampling/Remediation Area Map





Future Activities at Building 1200

- Conduct Remedial Action (RA) to address Manganese in surface soil above cleanup goal for the unrestricted/residential receptor.
 - ▶ Excavate 225 cubic yards (cy) of soil – start in November 2014
- Assemble and finalize Remedial Action Completion Report after excavation complete
- No LUCs or long term monitoring required as unrestricted/residential use will be achieved – No Further Action
- Address groundwater under the Facility-wide Groundwater Monitoring Program.

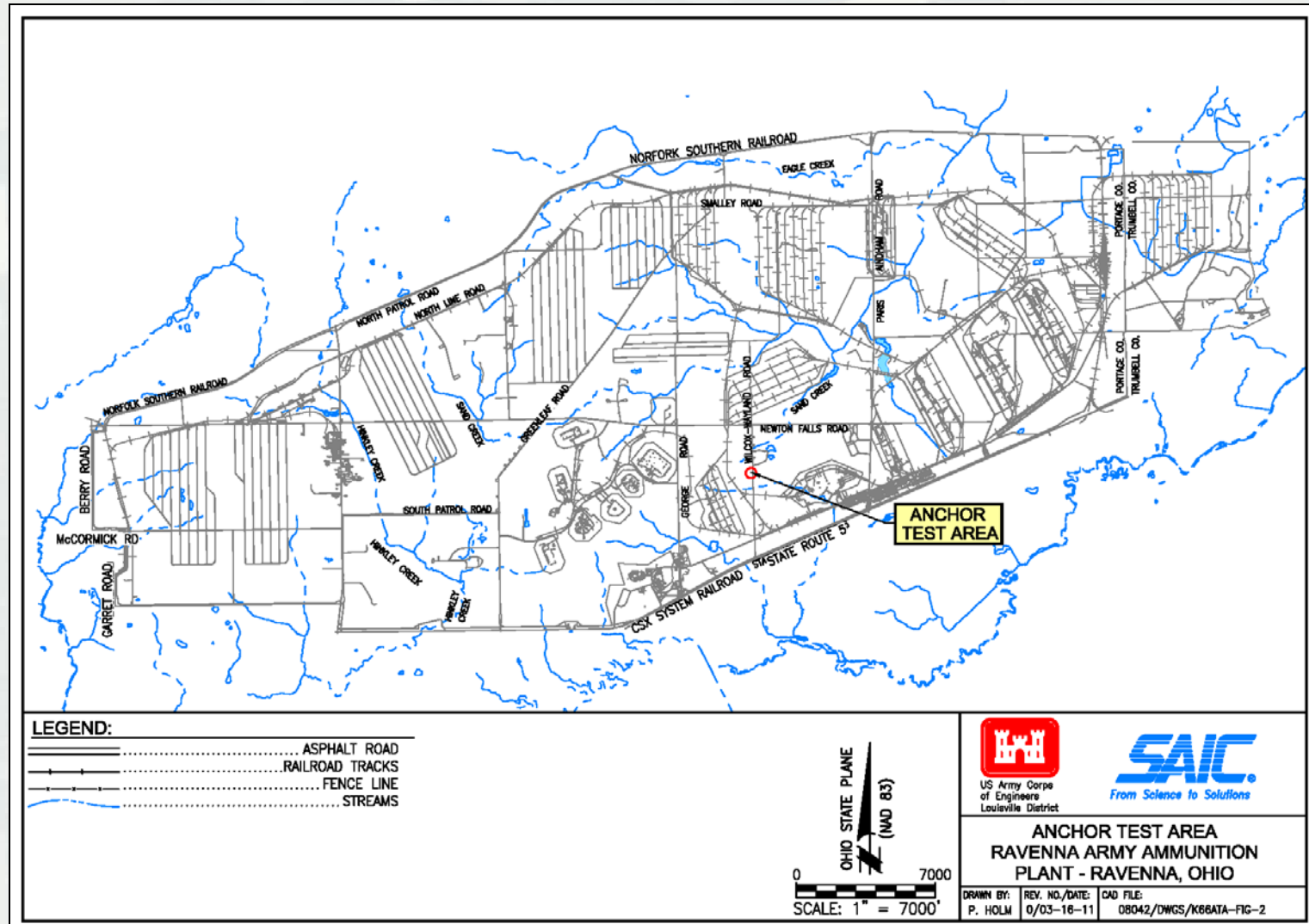


History of Anchor Test Area

- Operational information is limited
- Used for research, development, and testing of explosively driven anchoring devices by the Firestone Tire and Rubber Company Defense Research Division
 - ▶ Metal rods (anchors) attached to cables were driven into ground
- Dates of use unknown but believed testing did not occur until after 1961
- According to a former Firestone employee, testing operations occurred for less than a month due to the cable snapping on the crane which was performing the operation
- Former operational testing area is approximately 0.5 acres
- Former blast walls and nearby sandpit remain onsite



Anchor Test Area – General Map



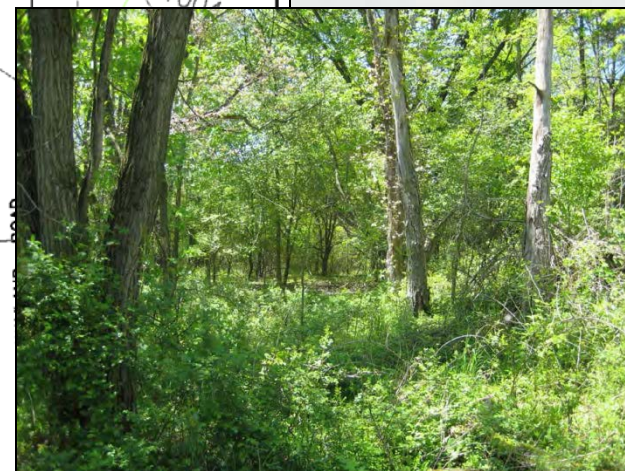
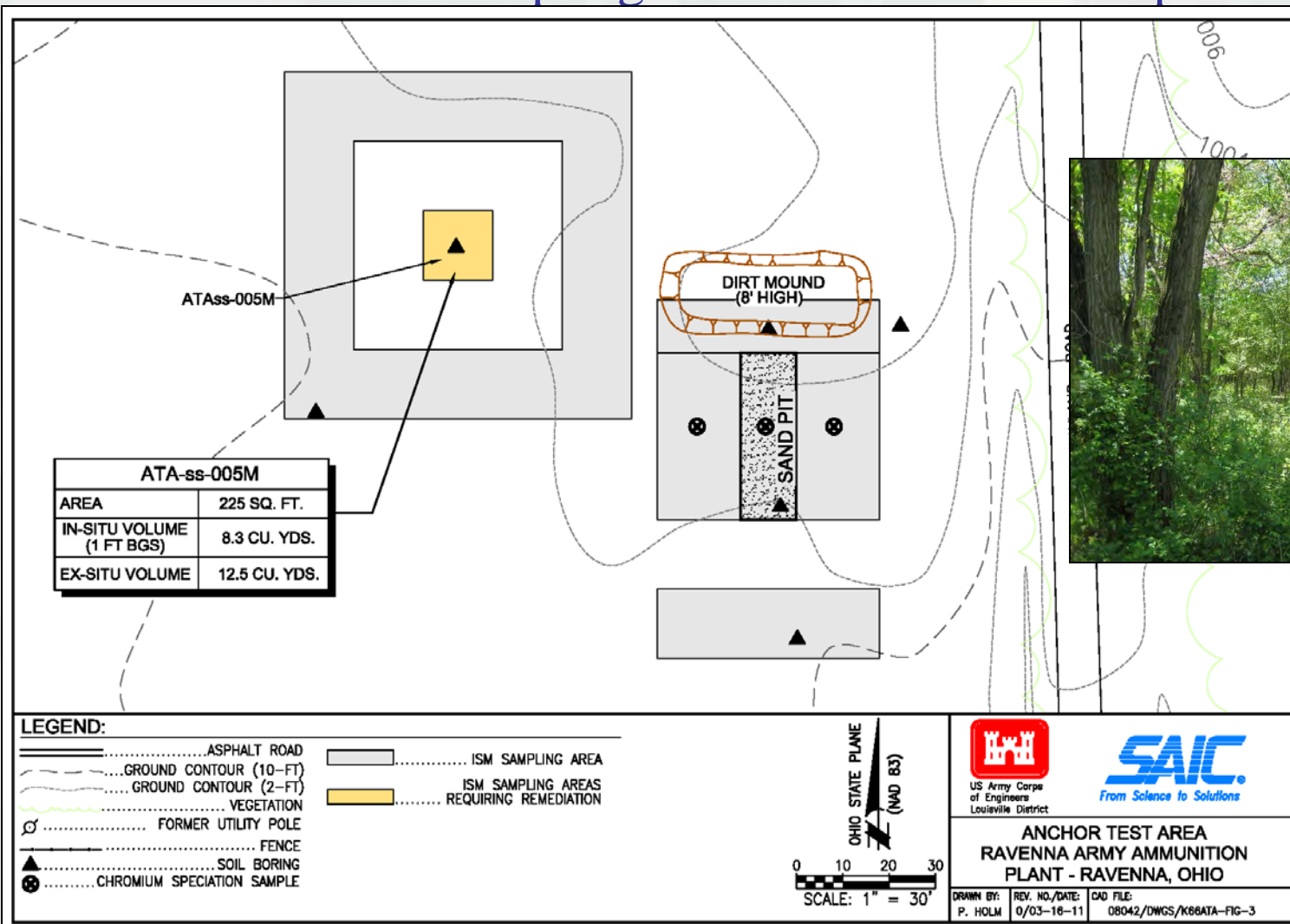


Brief Summary of Prior Restoration Activities at Anchor Test Area

- Prior assessments completed in 1998, 2007, 2012
- RI/FS completed in 2012
 - ▶ Arsenic in surface soil was only human health COC identified above cleanup goals (residential). No COCs identified for subsurface soil, sediment or surface water. Groundwater is being addressed under the facility-wide groundwater monitoring program.
- Proposed Plan completed in 2013
- Record of Decision and Remedial Design describing the soil excavation alternative was completed in 2014.



Anchor Test Area- Sampling/Remediation Area Map





Future Activities at Anchor Test Area

- Conduct Remedial Action to address Arsenic in surface soil
 - ▶ Excavate 12.5 cubic yards of soil – will start in November 2014
- Assemble/finalize Remedial Action Completion Report
- No LUCs or long term monitoring required as unrestricted/residential use will be achieved – No Further Action
- Address groundwater under the Facility-wide Groundwater Monitoring Program.



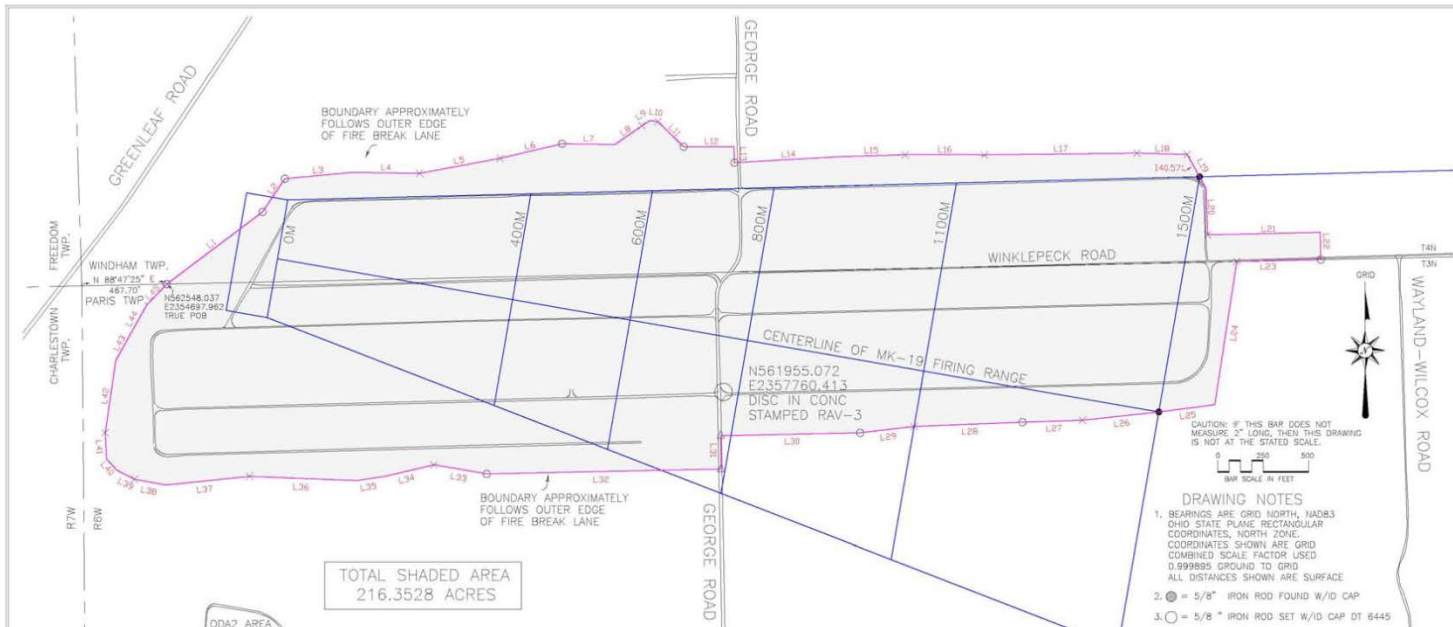
History of Winklepeck Burning Grounds



- Open burning of explosives in munitions, bulk explosives, propellants, and explosives-contaminated combustible material was conducted
- Waste oil and small amounts of lab chemicals were also burned.
- Prior to 1980, burning was conducted on gravel or bare soil on several burn pads and sometimes on roads.
- After 1980, burns were conducted in two metal refractory lined trays on a bed of slag at Pad 37. Burning ceased in the early 1990s and the burn pad was closed in 1999.



Winklepeck Burning Grounds AOC Map



- DRAWING NOTES**
1. BEARINGS ARE GRID NORTH, NAD83
OHIO STATE PLANE RECTANGULAR
COORDINATES, NORTH ZONE.
COORDINATES SHOWN ARE GRID
COMBINED SCALE FACTOR USED
0.999895 GROUND TO GRID
ALL DISTANCES SHOWN ARE SURFACE
 2. = 5/8" IRON ROD FOUND W/D CAP
 3. = 5/8" IRON ROD SET W/D CAP DT 6445
 4. = RAILROAD SPIKE SET
 5. = MAG NAIL SET

CAMP RAVENNA AUGUST 2012

SURVEY TO ESTABLISH THE BOUNDARY OF LANDS KNOWN AS
RVAAP-05 WINKLEPECK BURNING GROUNDS

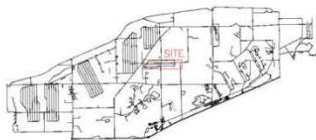
SITUATED PARTLY IN THE TOWNSHIPS OF WINDHAM AND PARIS, COUNTY OF PORTAGE AND STATE OF OHIO

CAMP RAVENNA AREA MAP

AUGUST 13, 2012



Bureau of Surveying
6413 State Route 5
Building 1017
Cincinnati OH 45261
Buckeye
Registered Surveyor #4455
#1946-1947
BuckeyeSurveying.com



FKA THE RAVENNA ARMY AMMUNITION PLANT



PRODUCED FOR:
THE USACE
LOUISVILLE DISTRICT
600 DR. MARTIN LUTHER KING PL.
LOUISVILLE, KY 40202

Line#	BEARING	DISTANCE	Line#	BEARING	DISTANCE
L1	N 52°59'21" E	659.49'	L25	S 82°37'22" W	310.68'
L2	N 34°06'02" E	219.80'	L26	S 83°47'31" W	421.73'
L3	N 84°36'02" E	371.33'	L27	S 88°08'36" W	330.78'
L4	S 89°13'26" E	371.33'	L28	S 87°45'36" W	596.41'
L5	N 79°24'59" E	451.59'	L29	S 83°20'17" W	299.17'
L6	N 76°46'29" E	349.56'	L30	S 88°45'17" W	767.00'
L7	S 89°10'58" E	291.09'	L31	S 00°39'03" E	182.36'
L8	N 55°18'29" E	180.65'	L32	S 88°47'08" W	1289.73'
L9	N 56°59'42" E	52.70'	L33	N 80°07'59" W	294.32'
L10	S 81°48'09" E	44.08'	L34	S 76°37'59" W	270.37'
L11	S 45°34'23" E	197.45'	L35	S 81°24'50" W	163.93'
L12	N 89°58'50" E	276.97'	L36	N 87°46'01" W	590.54'
Line#	BEARING	DISTANCE	Line#	BEARING	DISTANCE
L13	S 01°50'55" E	87.54'	L37	S 84°05'16" W	463.28'
L14	N 86°44'52" E	568.89'	L38	N 79°35'28" W	175.10'
L15	N 88°13'22" E	371.25'	L39	N 62°42'00" W	109.80'
L16	S 89°54'52" E	436.37'	L40	N 42°23'51" W	84.01'
L17	N 89°22'53" E	839.76'	L41	N 02°41'22" W	143.84'
L18	S 88°55'40" E	275.63'	L42	N 08°17'11" E	400.09'
L19	S 29°03'23" E	212.85'	L43	N 28°55'47" E	189.17'
L20	S 02°01'00" E	255.87'	L44	N 29°19'06" E	160.50'
L21	N 88°47'25" E	619.42'	L45	N 43°45'06" E	160.50'
L22	S 01°12'35" E	150.00'			
L23	S 88°47'25" E	461.86'			
L24	S 08°45'19" W	796.83'			



Brief Summary of Prior Restoration Activities at Winklepeck Burning Grounds

- RIs (1996 – 2003), MEC density survey (2004), MEC removal (2005), ROD (2008), RA Work Plan (2008), RA and Completion Report (2009) have been completed for Winklepeck
 - ▶ This prior work achieved use of the AOC for a MK19 grenade machinegun range
 - ▶ Due to residual contamination and munitions and explosives of concern (MEC) at the AOC, LUCs were implemented.
 - ▶ LUCs were too restrictive on future development of the AOC as a MPMG Range so additional study was warranted
- Final RI/FS Supplement completed in 2014
- Draft Explanation of Significant Differences (ESD) issued in 2014 – Documents additional removal action required and changes to LUCs to construct MPMG range
- Groundwater being monitored under facility-wide groundwater monitoring program.



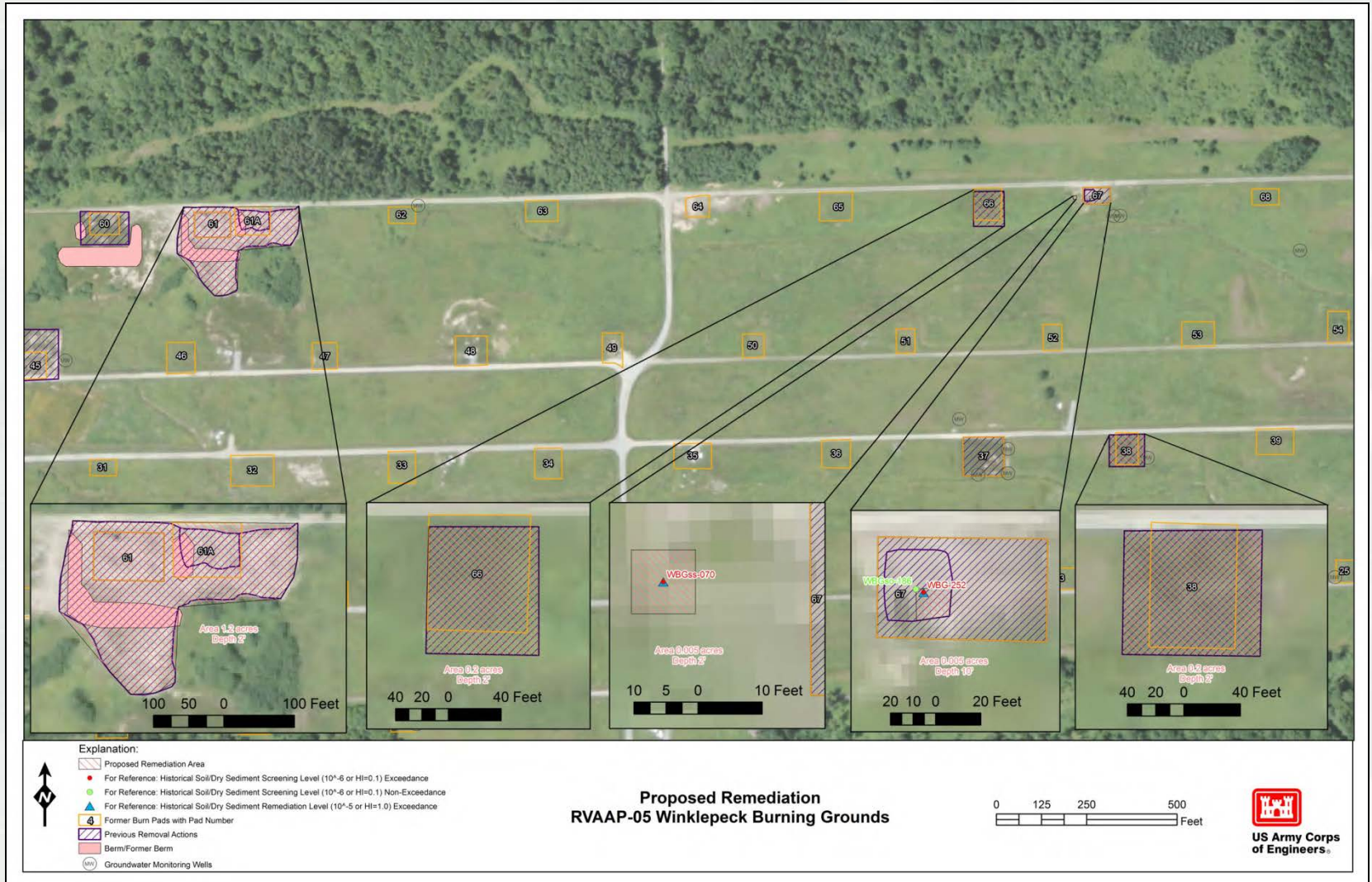
Future Activities at Winklepeck



- Finalize ESD
- Conduct Remedial Action – 3 COCs identified and 5 areas of soil removal (excavation of 5,250 cy)
- Assemble and finalize Remedial Action Completion Report
- Revise Property Management Plan (PMP) to delete former LUCs and document new LUCs. Conduct 5 year reviews and long term monitoring.
- Groundwater will be addressed under the facility-wide groundwater monitoring program.
- Construct MPMG Range (OHARNG project)



Winklepeck Burning Grounds Removal Map





Questions???

