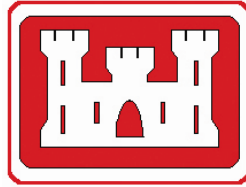


**Public Meeting
for CC RVAAP-73 Facility-Wide Coal Storage
and CC RVAAP-76 Depot Area
Ravenna Army Ammunition Plant Restoration Program
Camp Ravenna, Portage and Trumbull Counties, Ohio**

Public Meeting Date: February 28, 2018

**Contract No.: W912QR-12-D-0002
Delivery Order: 0003**

Prepared for:



**U.S. Army Corps of Engineers,
Louisville District
600 Dr. Martin Luther King Jr. Place
Louisville, Kentucky 40202-2267**

Prepared by:

PARSONS
401 Diamond Drive NW
Huntsville, AL 35806
256-837-5200

PUBLIC NOTICE

Camp Ravenna Joint Military Training Center
Camp Ravenna Environmental Office
1438 State Route 534 SW-Newton Falls, Ohio 44444
614-336-6136

Public Meeting to be held 28 February 2018 for Army National Guard
Release of Proposed Plans for two sites:
Facility-Wide Coal Storage
Depot Area

Ravenna- The Army National Guard, in consultation with the Ohio Environmental Protection Agency, submits for review and comment two (2) Proposed Plans for sites at the Ravenna Army Ammunition Plant (RVAAP) in Portage and Trumbull counties, Ohio.

The Facility-Wide Coal Storage and Depot Area are within the former RVAAP (now known as Camp Ravenna) in Portage and Trumbull Counties, Ohio. These sites are being addressed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Proposed Plans present the current status and information regarding the sites. The Proposed Plans detail the recommendations for each site and provide the rationale for these recommendations. On 28 February 2018, a public meeting will be held at the Ravenna High School Community Room, 6589 North Chestnut Street, Ravenna Ohio beginning at 6:00 p.m. with an informal open house when technical staff will be available to answer questions. At 6:30 pm, the Army National Guard will briefly describe the site assessments, present the recommendations for each site, and then request verbal comments from the public. Written comments regarding the recommendations may be submitted to the Army National Guard during the 30-day comment period from 16 February 2018 to 17 March 2018. All written comments should be addressed to Camp Ravenna Environmental Office; 1438 State Route 534 SW, Newton Falls, Ohio, 44444 or sent via email to Kathryn.s.tait.nfg@mail.mil.

In accordance with CERCLA, the recommendation presented in the Proposed Plans is also presented in earlier remedial investigation reports. All reports are available for public review at the RVAAP Restoration Program Information Repository at the Reed Memorial Library (167 East Main Street, Ravenna) and the Newton Falls Public Library (204 South Canal Street, Newton Falls). The reports are also available online at www.rvaap.org.

The final remedy for each site will be selected based, in part, on public comments. In coordination with the Ohio Environmental Protection Agency, the Army National Guard will select a final remedy after reviewing and considering all public comments received during the 30-day public comment period from 16 February 2018 to 17 March 2018. The Army National Guard encourages the public to review and comment on the recommendations presented in the Proposed Plans.

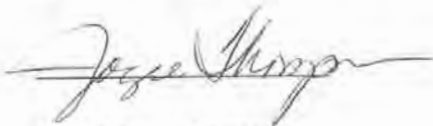
For more information or to participate in the review, please visit the RVAAP Restoration website (www.rvaap.org) or call Katie Tait at 614-336-6136.

Proof of Publication

Record Publishing Company
1050 W. Main Street,
Kent, OH 44240
Phone (330) 541-9400
Fax (330) 673-6363

L. Thompson being first duly sworn depose and say that I am Advertising Clerk of
Record Publishing Company

30 Record-Courier a newspaper printed and published in the city of Kent, and of General Circulation County of Portage, State of Ohio, and personal knowledge of the facts herein stated and that the no annexed was Published in said newspapers for 2 insertions on the same day of the week from and a day of February, 2018 and that the fees charged are legal.



Name of Account: Parsons
Ad Number: 12415272
No. of Lines: 78

Day(s) Published: 02/11, 02/18.
Printers Fee: \$126.55

Sworn to and subscribed before this 20th day of March, 2018.
Elizabeth McDaniel
Elizabeth McDaniel
Notary Public
Commission Expires June 19, 2021

PUBLIC NOTICE
Camp Ravenna Joint Military Training Center
Camp Ravenna
Environmental Office
1438 State Route 534 SW
Newton Falls, Ohio 44444
614-336-6136
Public Meeting to be held:
28 February 2018 for
Army National Guard Release
of Proposed Plans for two sites:
Facility-Wide Coal Storage
Depot Area
Ravenna: The Army National Guard, in consultation with the Ohio Environmental Protection Agency, submits for review and comment two (2) Proposed Plans for sites at the Ravenna Army Ammunition Plant (RVAAP) in Portage and Trumbull counties, Ohio.
The Facility-Wide Coal Storage and Depot Area are within the former RVAAP (now known as Camp Ravenna) in Portage and Trumbull Counties, Ohio. These sites are being addressed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Proposed Plans present the current status and information regarding the sites. The Proposed Plans detail the recommendations for each site and provide the rationale for these recommendations. On 28 February 2018, a public meeting will be held at the Ravenna High School Community Room, 6589 North Chestnut Street, Ravenna, Ohio beginning at 6:00 p.m. with an informal open house when technical staff will be available to answer questions. At 8:30 pm, the Army National Guard will briefly describe the site assessments, present the recommendations for each site, and then request verbal comments from the public. Written comments regarding the recommendations may be submitted to the Army National Guard during the 30-day comment period from 16 February 2018 to 17 March 2018. All written comments should be addressed to Camp Ravenna Environmental Office, 1438 State Route 534 SW, Newton Falls, Ohio, 44444 or sent via email to Kathryn.s.tal.nfg@mail.mil.
In accordance with CERCLA, the recommendation presented in the Proposed Plans is also presented in earlier remedial investigation reports. All reports are available for public review at the RVAAP Restoration Program Information Repository at the Reed Memorial Library (167 East Main Street, Ravenna) and the Newton Falls Public Library (204 South Canal Street, Newton Falls). The reports are also available online at WWW.DVRAD.ORG.
The final remedy for each site will be selected based, in part, on public comments. In coordination with the Ohio Environmental Protection Agency, the Army National Guard will select a final remedy after reviewing and considering all public comments received during the 30-day public comment period from 16 February 2018 to 17 March 2018. The Army National Guard encourages the public to review and comment on the recommendations presented in the Proposed Plans.
For more information or to participate in the review, please visit the RVAAP Restoration website (www.rvaap.org) or call Katie Tait at 614-336-6136.
RC, Feb 11, 18, 2018, 12415272

Public Meeting
 February 28, 2018
 Camp Ravenna
 Joint Military Training Center

	Name	Mailing Address	Phone Number	Affiliation (e.g., USACE, Resident)
1.	Ed Heyse	[REDACTED]	[REDACTED]	PARSONS
2.	Lauri Roche			Parsons
3.	Bob Princi			Ohio EPA
4.	Ed D'Amato			Ohio EPA
5.	Kevin Sienkowski			NRPA
6.	Kevin MIECZKOWSKI			USACE
7.	Kate Tait			OHARNG
8.	Zoo Beals			Ohio EPA
9.	Charles + George Trigueros	[REDACTED]	[REDACTED]	Resident
10.				
11.				
12.				
13.				
14.				
15.				

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

RAVENNA, OHIO
PUBLIC MEETING

IN RE:)
)
CAMP RAVENNA)
) TRANSCRIPT OF PROCEEDINGS
)

Transcript of Proceedings, on behalf of the US
Army Corps of Engineers, Camp Ravenna, taken by the
undersigned, Shannon Roberts, a Registered
Professional Reporter and Notary Public in and for the
State of Ohio, at Ravenna High School, 6589 North
Chestnut Street, Ravenna, Ohio, on Wednesday, the 28th
day of February, 2018, at 6:30 p.m.

Premier Court Reporting
Canton 330.492.4221 Akron 330.928.1418
www.premierreporters.com

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

APPEARANCES:

Edward Heyse, Ph.D., P.E.,
Parsons

Edward D'Amato,
Ohio Environmental Protection Agency

- - - - -

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I N D E X

EXHIBITS (Marked)

None

- - - - -

1 MR. HEYSE: All right. Everybody, it's
2 6:30. So let's go ahead and get started.
3 Welcome. My name is Ed Heyse. I'm an
4 environmental engineer with Parsons. And our
5 company was hired to do some of the
6 investigations at the former Ravenna Army
7 ammunition plant, now Camp Ravenna.

8 We are here tonight to talk about two
9 areas of concern; facility-wide coal storage
10 and the depot area. These areas have been
11 investigated, and the Army is ready to
12 propose what they want to do about these
13 sites. Before a final decision is made, we
14 are soliciting comments from the public on
15 this, and those comments will be incorporated
16 into the final decision.

17 Before I take off and talk about this,
18 though, Mr. Ed D'Amato from the Ohio EPA, if
19 you wanted to say anything.

20 MR. D'AMATO: At this point, other than
21 we concur with the remedy.

22 MR. HEYSE: Thank you. All right.
23 Before I go into the two sites, I want to go
24 over a few acronyms. We use a lot of
25 acronyms in this business. And we try to

1 keep them to a minimum, but there are a few.
2 First one is area of concern. That's an area
3 within the facility where there could be
4 contamination that needs to be looked at and
5 decided what to do with.

6 Comprehensive Environmental Response,
7 Compensation and Liability Act, or CERCLA, is
8 the law that gives us the process, the steps
9 that we go through to investigate and make
10 decisions on cleaning up hazardous waste
11 sites. Interestingly enough, the CERCLA law
12 has no standards of its own. It borrows them
13 from other laws and regulations. We call
14 those ARARs or applicable or relevant and
15 appropriate requirements. So any time we
16 need to do something at a site to clean it
17 up, we need to figure out what those
18 requirements are, and to make sure the remedy
19 follows them.

20 COC is a chemical of concern. When we do
21 an investigation, we sample the soil, the
22 water for various chemicals. If the
23 concentration of those chemicals is high
24 enough that it creates an unacceptable risk,
25 that chemical is identified as a chemical of

1 concern. Conversely, if the site has no
2 chemical of concern, the levels are low
3 enough that we think that it's safe.

4 Finally, PAH, polyaromatic hydrocarbons
5 are a class of chemicals. They are found
6 very commonly throughout the environment.
7 They may come from exhaust from automobiles.
8 They come from ash from forest fires. They
9 are commonly found in most fossil fuels. And
10 they are present at several of the sites at
11 Camp Ravenna.

12 Just a map showing former Ravenna Army
13 ammunition plant, Camp Ravenna, just to the
14 east of here. A little bit closer in, the
15 sites that we are talking about tonight,
16 there are three different areas in the
17 facility-wide coal storage that were looked
18 at; two up here in the northwest part of the
19 installation, and a third one a little bit
20 farther east. And then the depot area is a
21 little bit larger area here at the eastern
22 end -- or at the western end of the facility.

23 Diving right in, the first area of
24 concern we'd like to talk about is the
25 facility-wide coal storage. And when they

1 started looking at facility-wide coal
2 storage, they identified 17 different areas
3 where coal was stored on the facility. By
4 looking at these areas in more detail, they
5 recommended three needed further
6 investigation.

7 Those three are the North Line Road and
8 Sand Creek coal tipple. These are areas
9 where both coal came into the facility and
10 was stored pending its distribution to where
11 it was needed. And the third one is the
12 building U-16 boiler house. That was the
13 plant that generated steam, and so coal was
14 used to fire the boiler.

15 We've got a series of maps here showing
16 different sites. The first one, North Line
17 Road coal tipple. The shaded orange area
18 here is the extent of the area. It's about a
19 little over an acre. Surface soil was
20 sampled in here. What they do is they go in
21 and they take soil throughout this area, the
22 surface, and blend it together to get one
23 overall average concentration of any
24 contamination in the surface soil.

25 They also looked at the potential for

1 contaminants to migrate deeper into the soil,
2 and so they brought in a drill rig and they
3 drilled down about 7 feet and took samples of
4 the subsurface soil. There is also a surface
5 drainage and a small stream along here, and
6 there were samples that were collected of the
7 surface water and sediment at this site.

8 The Sand Creek coal tipple, very similar,
9 a little bit smaller, but you have an area
10 where surface soil samplings were collected,
11 five borings to collect subsurface soil, and
12 a nearby creek where sediment and surface
13 water samples were collected.

14 Finally, the boiler house site is a
15 little bit odd shaped, but basically the
16 boiler building was here in the middle. And
17 so the soil sampling was in the soil
18 surrounding the former building. There is no
19 creek nearby, so it was only soil sampling at
20 this area.

21 What they look like today, they are
22 undeveloped. There are no buildings at any
23 of these areas. There is no pavement. Most
24 of them have shrubs growing on them. The two
25 here, as we showed on the map, have little

1 creeks not too far away; not actually on the
2 site, but just off the site.

3 This is the North Line Road coal tipple.
4 The picture was taken five years ago, but you
5 can see there is a little bit of coal still
6 left on the ground there. The other two
7 sites in the photographs, there was no
8 indication of -- there may have been coal on
9 the ground, but you couldn't see it in the
10 photographs. I'm skipping slides.

11 Okay. Sorry. Back up just a second.
12 The investigations that went on at these
13 three areas are documented in two documents;
14 one is a historical records review. The
15 second is a remedial investigation report.
16 The historical records review, what they did
17 was to look through old records, look through
18 historical photographs, historical aerial
19 photographs, talk to people who worked there,
20 and actually went out and walked the sites.

21 The aerial photograph showed that coal
22 was stored at these areas in the '50s and
23 '60s, but by '79, it was mostly gone. There
24 were no reports of any spills or releases of
25 hazardous chemicals at any of these areas.

1 There were coal fragments present on the
2 ground. And they recommended investigation
3 at three of the seventeen coal storage areas
4 on the installation.

5 The remedial investigation report
6 contains the information where the sampling
7 actually occurred. And there were a total of
8 27 soil samples, both surface and subsurface,
9 and seven samples of sediment and seven
10 samples of surface water from the nearby
11 streams.

12 That information was then compared to
13 what are called facility-wide clean-up goals.
14 These are risk-based levels that had been
15 established for across the entire Camp
16 Ravenna, based on different people who might
17 work there, even now, or live there in the
18 future, how much soil or water they might
19 come into contact during the time that they
20 would spend on the site, or if the site was
21 released and it was redeveloped as
22 residences, how much time people might be
23 exposed to those soils.

24 And then they back calculate based on the
25 toxicity of the chemicals, what are safe

1 levels of each of the types of chemicals.
2 And so if a concentration exceeds that safe
3 level, then it becomes a chemical of concern.

4 So results of that investigation, there
5 are no chemicals of concern at either Sand
6 Creek coal tipple or the building U-16 boiler
7 house. There are no contaminants of concern
8 at the North Line Road coal tipple either.

9 There were three chemicals that were
10 detected in surface soil; manganese, arsenic,
11 and benzopyrene. These chemicals are
12 constituents of coal. And they were not
13 found in the deeper soil. They were not
14 found in the sediment. They were not found
15 in the surface water. They were only found
16 in the surface soil, and the interpretation
17 is that small coal fragments were included in
18 the soil sample, and that's why these things
19 were contaminated.

20 The sites are very small. There is no
21 ecological risk. And based on these
22 evaluations, the sites are deemed to be safe.
23 No further action is recommended at any of
24 the three areas.

25 The proposed response to these sites must

1 be protective of people who might come into
2 contact with them, the receptors, both who's
3 there now and who might be there in the
4 future. The current land use is for military
5 training, so the current receptor is the
6 national guardsman who is doing his training
7 out at the area.

8 To make sure that the area is safe in the
9 future, we also considered what would happen
10 if the installation were to close and the
11 land would be redeveloped. And worse case
12 scenario, this would be redevelopment for
13 residential purposes. So also evaluated was
14 exposure by people who might be living on the
15 site.

16 The results of the remedial investigation
17 for these facility-wide coal storage support
18 that no further action is appropriate for
19 both the current and the future receptors at
20 these areas.

21 The second area we'd like to talk about
22 is the depot area. The depot area is an area
23 of the installation, back when it was an Army
24 ammunition plant, used for various
25 maintenance and other activities. There were

1 a total of 31 different locations within the
2 depot area that were considered in the
3 historical records review. Eight of them
4 were carried forward for sampling.

5 The types of things that went on here was
6 maintenance, both on locomotives and on
7 automobiles or motor vehicles. There were
8 storage of petroleum products. There was a
9 solid waste incinerator. There was munitions
10 demilitarization.

11 Here is a map of the area. It's kind of
12 hard to see it, but the boundary of the area
13 is purple along here. It's about 170 acres.
14 Inside the area, it's grass and buildings,
15 and with woods surrounding it. Some of the
16 buildings have been demolished. Some are
17 still standing. And the orange areas and
18 blue areas here are locations where samples
19 were taken.

20 Some of the types of -- a little more
21 detail and some of the types of things that
22 went on at the depot area. Building U-10
23 demilitarization activities were
24 reconditioning fin assemblies, the AN-M106A1
25 track vehicle, and the F/250-pound bomb.

1 There was an area called "paint can" area
2 back in 1991. Twelve paint cans were
3 discovered there. They were removed, but
4 there was no indication that the soil that
5 these paint cans were sitting on was ever
6 sampled. And so that was included in the
7 investigation, to look at that area to see if
8 there was any release associated with these
9 cans.

10 We talked about there was various vehicle
11 maintenance that went on at a number of
12 buildings. In looking at historical records,
13 there was no record of any spills or releases
14 occurring there.

15 There were eleven underground storage
16 tanks in the area. These were investigated,
17 but they were investigated under a different
18 investigation, a different category of site.

19 Building U-5 was used to repair
20 locomotives, and as such, there are quite a
21 variety of different chemicals that would
22 have been used in that building.

23 Right now, as I said, it's 170 acres.
24 It's mowed grass. There are no more
25 maintenance activities that occur here. Ohio

1 Army National Guard continues to use these
2 buildings for storage and for military
3 training. There are a couple of pictures of
4 some of the buildings. The stake would be
5 where they brought in a drill rig and drilled
6 down to grab some surface samples --
7 subsurface soil samples.

8 There are three documents that include
9 the results of all the investigations that
10 have gone on here; 1996 preliminary
11 assessment, 2011 historical records review,
12 and 2016 remedial investigation, feasibility
13 study report.

14 The remedial investigation included
15 sampling of environmental media. There are
16 78 soil samples, four sediment samples, two
17 water surface samples. And sampling the soil
18 was done at the -- the buildings that housed
19 these maintenance activities and were thought
20 to possibly have contamination. Looked at
21 the soil and, like, a 30-foot apron in and
22 around each of the buildings. Some of that
23 would be surface soil sampling, and then they
24 would also drill down to collect samples of
25 soil below the surface. There are several

1 drainages around the area, and sediments and
2 surface water were collected from those
3 drainages.

4 And the environmental media was analyzed
5 for metals, volatile organic compounds,
6 polychlorinated biphenyls, or PCB, and
7 explosives or propellants. And then the --
8 results in concentrations were compared to
9 the facility-wide clean-up goals.

10 The remedial investigation concluded that
11 for six of the eight areas investigated,
12 there were no chemicals of concern, no -- no
13 unacceptable levels of risk. For the current
14 land use, military training, there are no
15 chemicals of concern. The area is safe as is
16 for its current use.

17 However, when we looked at the future
18 residential receptor, there were contaminants
19 in surface soil at building U-4 and U-5,
20 polyaromatic hydrocarbons, that raised the
21 level of risk to unacceptable levels for --
22 if that land was to be redeveloped as
23 residences. There is no ecological risk.

24 Because the risk level for the future
25 residential receptor rose to the levels that

1 it did, they did -- next what was done was
2 the feasibility study, to evaluate
3 alternatives of what to do about these
4 chemicals of concern. There are three
5 alternatives that were evaluated; no action,
6 land use controls, excavation and off-site
7 disposal.

8 Alternative one was a no action
9 alternative. This alternative is required to
10 be evaluated under the National Contingency
11 Plan, and it provides a baseline by which the
12 other alternatives can be evaluated. In this
13 case, no action would be taken, and the
14 hazards would remain on site.

15 The second alternative is land use
16 controls. This would be to take various
17 administrative actions to prevent people from
18 being exposed to the contaminants. They
19 would regulate who could dig, when you could
20 dig into the soil, and, therefore, be exposed
21 to it. There would be restrictions placed in
22 the deed, so if the property was sold in the
23 future, the new owners would be aware of the
24 hazards and could take precautions. And
25 every five years, there would be a review to

1 make sure that the land use controls were
2 protective and that people were not being
3 exposed. Because -- and this would continue
4 as long as waste would remain in place.

5 The third alternative is excavation and
6 off-site disposal. In this case, the
7 contaminated surface soil would be excavated.
8 It would be hauled off site to a landfill
9 that is licensed to accept those types of
10 waste, and the excavation would be filled
11 with clean backfill material.

12 These three alternatives were evaluated
13 according to the CERCLA criteria, and based
14 on the criteria evaluated thus far, the
15 preferred alternative that was proposed for
16 this area of concern is the third
17 alternative, excavation and off-site
18 disposal. It was selected, as it provides
19 the best overall protection for human health
20 and the environment. It allows for
21 unrestricted land use in the future. We
22 don't -- the Army would not have to put
23 restrictions on the deed for the property or
24 take any precautions in the future. And it
25 would comply with all applicable and relative

1 requirements.

2 The close-up of the two buildings; we
3 talked about a 30-foot apron around each of
4 the buildings. The contaminated soil is in
5 the top foot. So the top foot of soil would
6 be scraped off in this area, and it would be
7 hauled off site. It's a little over 1,000
8 cubic yards that would be removed and
9 replaced with clean backfill.

10 Again, recommendations must be protective
11 of receptors associated with the current land
12 use and the future land use. The current
13 land use is military training. The receptor
14 is a national guardsman doing his training.
15 In the future, also look towards unrestricted
16 use of the land, in which case, it could be
17 redeveloped for residential purposes. And
18 the receptor would be residential -- someone
19 who built their house in the area.

20 And the results of the remedial
21 investigation, feasibility study for the
22 depot area support the excavation and
23 off-site disposal as the preferred remedy.

24 That's my presentation. We'll be happy
25 to take any questions or comments. If you'd

1 like to make comments now, you are welcome
2 to. The court reporter can record them.
3 They will be incorporated into the decision
4 document. If you'd like to make comments
5 later, there are comment cards; you can write
6 it down, e-mail it in, mail it in. There are
7 addresses on the comment card.

8 The public comment period runs from the
9 16th of February to the 17th of March, and
10 we'll take comments up to the 17th of March.

11 MR. D'AMATO: I want to say something
12 real quick. Again, my name is Ed D'Amato,
13 site coordinator at the Ohio Environmental
14 Protection Agency, in the Twinsburg office.
15 Just to explain my role with this, my role
16 was to oversee the work that was done. I
17 kind of came in a little bit in the middle.
18 I didn't see the sampling, but I did review
19 the remedial investigation report, along
20 with -- in each case, along with two other
21 people at our agency; a ground water
22 geologist and one being a risk assessor.

23 And we reviewed the reports, and we
24 provided comments, letters. We had some back
25 and forth comments that's -- those letters

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

will be available in our public record. And our comments were designed to kind of tighten up the document and make sure the arguments were sound and that the remedies they were proposing were adequate. And our conclusion was that we concurred with both the remedies proposed here.

MR. HEYSE: Anyone else?

Thank you for your attention. There are still some cookies left.

- - - - -

(This proceeding concluded at 7:01 p.m.)

- - - - -

PROPOSED PLANS

CC RVAAP-73 Facility Wide Coal Storage

CC RVAAP-76 Depot Area

Camp Ravenna, Ohio

Presented by:

PARSONS

28 February 2018

"The views, opinions and findings contained in this report are
Those of the author(s) and should not be construed as an
Official Department of the Army position, policy or decision,
Unless so designated by other official documentation."



US Army Corps
of Engineers®



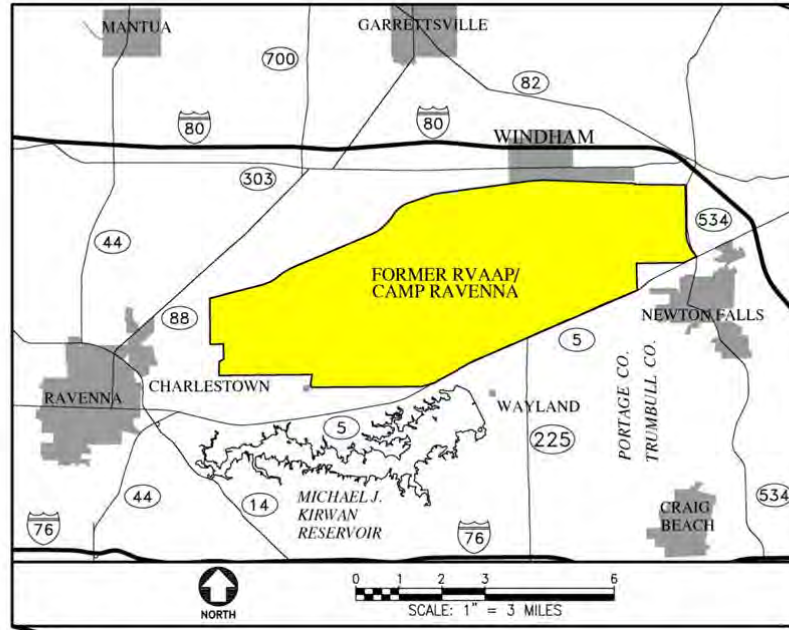
Acronym Cheat Sheet

AOC	Area of Concern
ARARs	Applicable or Relevant and Appropriate Requirements
Camp Ravenna	Camp Ravenna Joint Military Training Center
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	Chemical of Concern
PAH	polyaromatic hydrocarbon
RVAAP	Ravenna Army Ammunition Plant



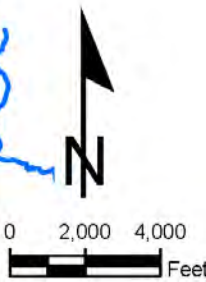
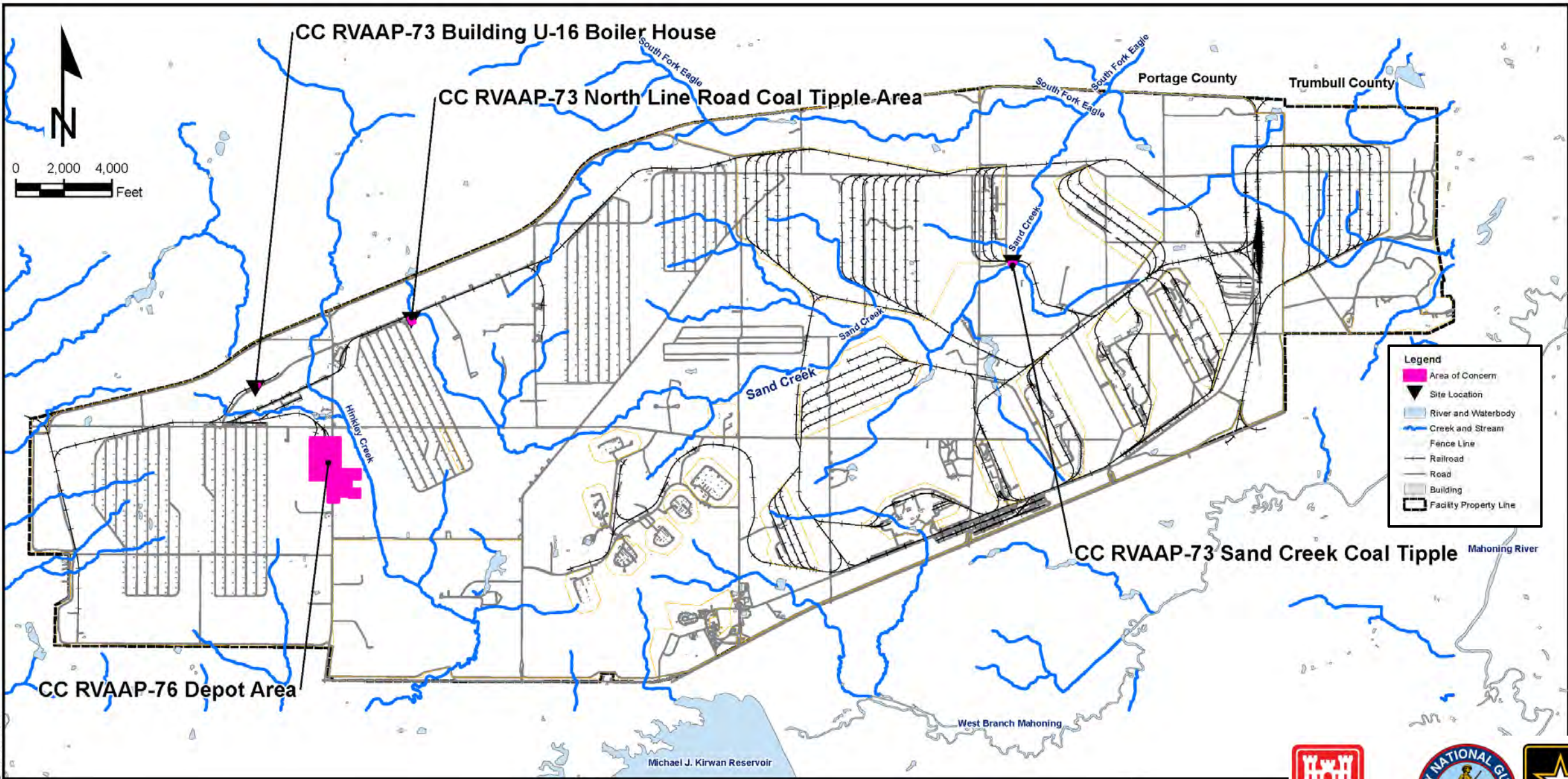
US Army Corps
of Engineers®





US Army Corps of Engineers.





Legend	
	Area of Concern
	Site Location
	River and Waterbody
	Creek and Stream
	Fence Line
	Railroad
	Road
	Building
	Facility Property Line

I:\Ravena\2014\Map.mxd



CC RVAAP-73

Facility-Wide Coal Storage



US Army Corps
of Engineers®



Historical Background

17 coal storage areas identified in Historical Records Review.

Three areas recommended for investigation:

- North Line Road Coal Tipple – Bulk coal receiving, storage, and distribution area
- Sand Creek Coal Tipple – Bulk coal receiving, storage, and distribution area
- Building U-16 Boiler House – Storage of coal for boiler supply/steam generation



US Army Corps
of Engineers®



Historical Investigations

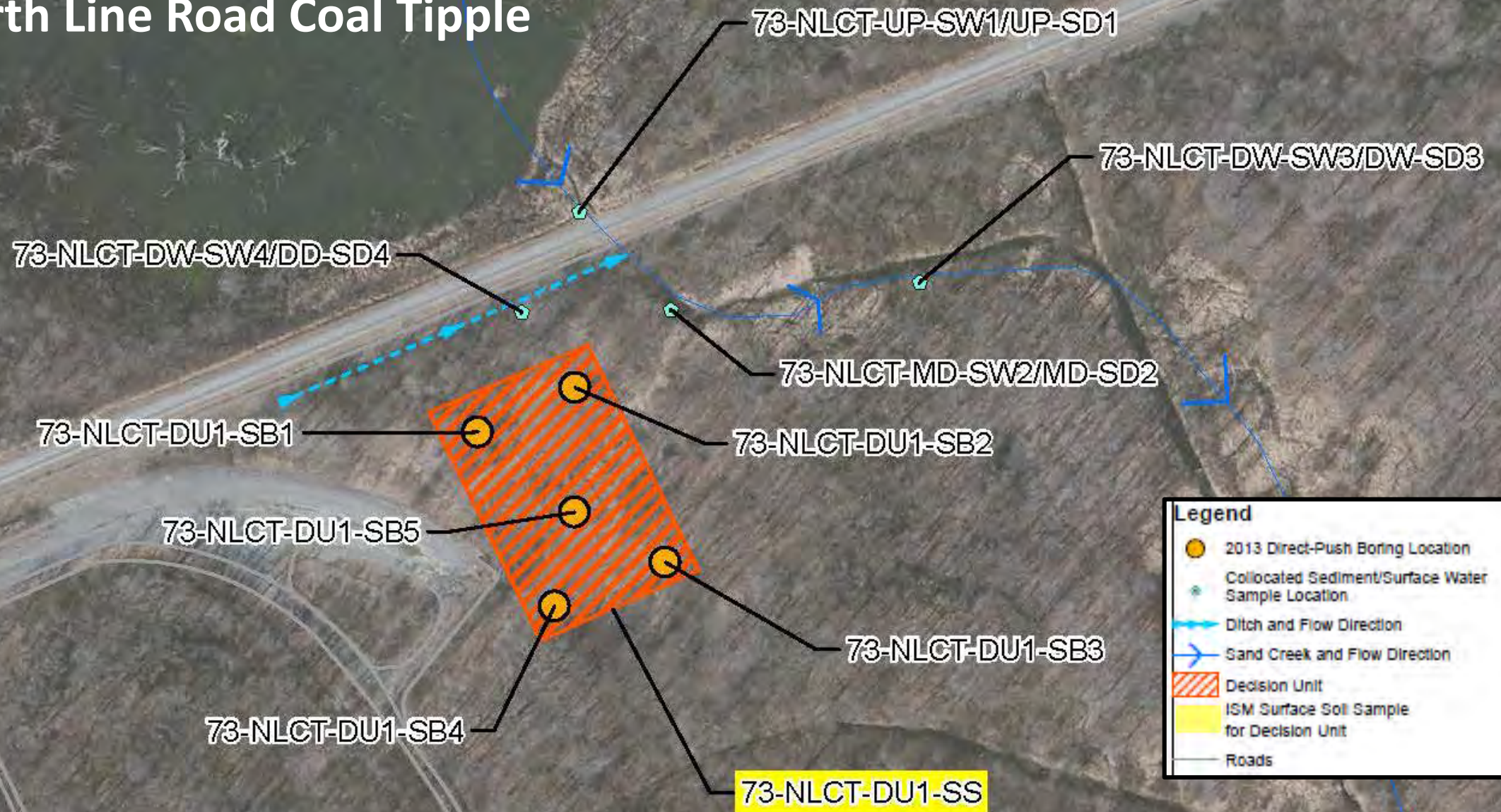
- 2010 Historical Records Review –
 - Aerial photographs show coal storage between 1952 and 1966; most of coal removed by 1979
 - No reports of spills
 - Coal fragments present on the ground
 - Recommended investigation at three areas
- 2017 Remedial Investigation Report –
 - Sampled surface and subsurface soil (27), and nearby sediment (7) and surface water (7)
 - Risk assessment



US Army Corps
of Engineers®



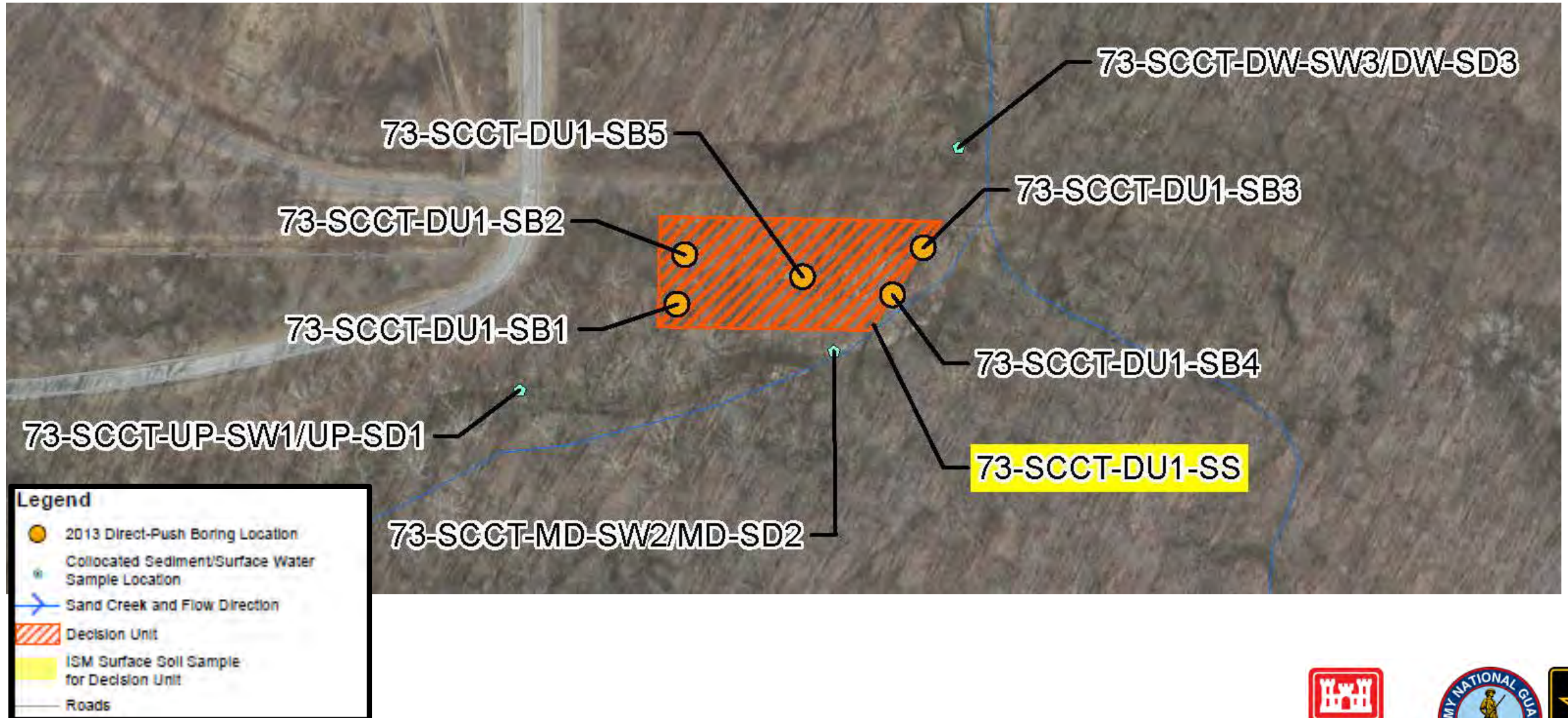
North Line Road Coal Tipple



Legend

- 2013 Direct-Push Boring Location
- ★ Collocated Sediment/Surface Water Sample Location
- Ditch and Flow Direction
- Sand Creek and Flow Direction
- Decision Unit
- ISM Surface Soil Sample for Decision Unit
- Roads

Sand Creek Coal Tipple



US Army Corps of Engineers



Building U-16 Boiler House



Current Conditions

North Line Road Coal Tipple – 1.22 acres, flat, unpaved, partially vegetated with low shrubs, no buildings, no surface water within area, but Sand Creek ~400 feet away

Sand Creek Coal Tipple – 0.65 acres, flat, covered by woody/shrub-type vegetation, no surface water within area, but Sand Creek ~50 feet away

Building U-16 Boiler House – 0.138 acres, flat, no structures, covered with grasses and small shrubs, no water bodies within area



US Army Corps
of Engineers®



Remedial Investigation Conclusions

- No chemicals of concern (COCs) for Sand Creek Coal Tipple or Building U-16 Boiler House
- All COCs eliminated at North Line Road Coal Tipple based on Weight-of-Evidence evaluation
 - Manganese, arsenic and benzo(a)pyrene in surface soil are consistent with coal fragments
- No ecological risks
- No further action was recommended for North Line Road Coal Tipple, Sand Creek Coal Tipple, and Building U-16 Boiler House for surface soil, subsurface soil, sediment, and surface water



US Army Corps
of Engineers®



Recommendations

Preferred remedy must be protective of receptors associated with current and future Land Use

Current Land Use: Military Training

Current Receptor: National Guard Trainee

Future Land Use: Unrestricted/Residential

Future Receptor: Unrestricted/Residential

Results of Remedial Investigation for Facility-Wide Coal Storage support No Further Action as the preferred remedy



US Army Corps
of Engineers®



CC RVAAP-76

Depot Area



US Army Corps
of Engineers®



Historical Background

31 Depot Area locations identified in Historical Records Review. 8 recommended for investigation:

- Building A-2
- Building A-3
- Building U-4
- Building U-5
- Building U-10
- Building U-20
- Paint Can Area
- Bolton Barn

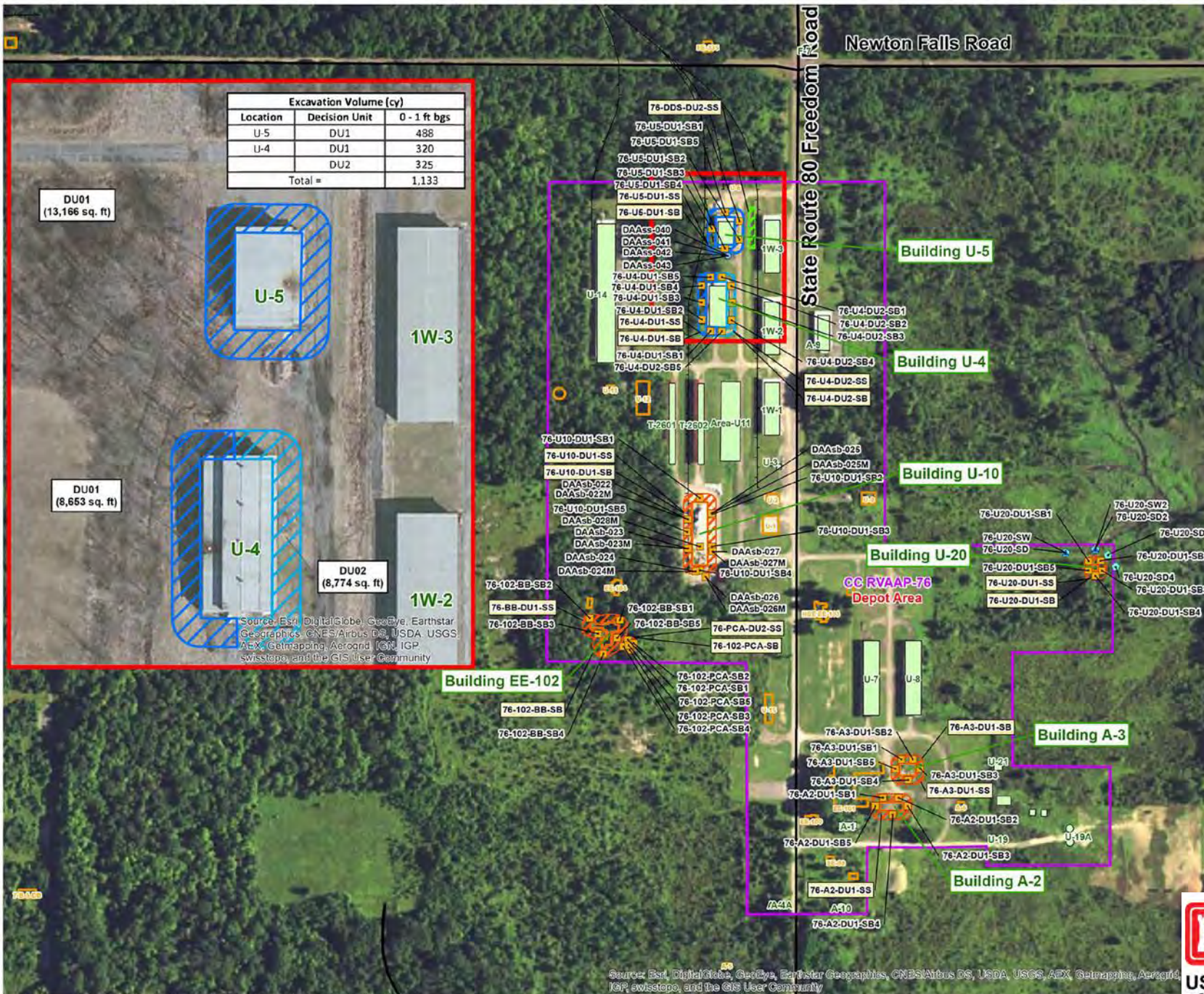
Historical operations:

- Fueling operations
- Locomotive repair
- Petroleum, oil, and lubricant storage
- Solid waste incinerator activities
- Vehicle repair and maintenance
- Munitions demilitarization (Building U-10)



US Army Corps
of Engineers®





Historical Activities / Records

- Building U-10 demilitarization activities were reconditioning fin assemblies, the AN-M106A1 track vehicle, and the F/250-pound bomb
- 12 “paint cans” discovered and removed in 1991. No documentation of soil sampling during 1991 removal.
- Various maintenance activities occurred at multiple locations; no documentation of spills or releases.
- Eleven underground storage tanks are evaluated as part of CC RVAAP-72
- Building U-5 (equipment repair shop) was used to repair locomotives; typical products used may have included engine washing chemicals, valve oil, electrolytes, paint, solvents, lubrication oil, metals, preservatives, carbolineum, creosote, and cold patch asphalt.



US Army Corps
of Engineers®



Current Conditions

- 170 acres
- Mowed grass, shrubland, and forest edge habitat
- Area currently used by OHARNG for storage and military training



US Army Corps
of Engineers®



Environmental Investigations

- 1996 Preliminary Assessment
- 2011 Historical Records Review
- 2016 Remedial Investigation / Feasibility Study Report



US Army Corps
of Engineers®



Remedial Investigation

- Sampling: 78 soil, 4 sediment, 2 surface water
 - Soil sampled in 30-foot “apron” around buildings
 - Surface and subsurface soil samples
 - Sediment and surface water sampled in surrounding drainages
 - Analyzed for metals, volatile organic compounds, semi-volatile organic compounds, polychlorinated biphenyls, and explosives/propellants
- Risk assessment



US Army Corps
of Engineers®



Remedial Investigation Conclusions

- No COCs for Building A-2, Building A-3, Building U-10, Building U-20, Bolton Barn, or Paint Can Area
- No COCs in surface or subsurface soil for Military Training Land Use
- Risks to future Resident Receptor in surface soil at Building U-4 and Building U-5 due to four polycyclic aromatic hydrocarbons (PAHs):
 - Dibenzo(a,h)anthracene, benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene
- No ecological risk



US Army Corps
of Engineers®



Feasibility Study

Three Remedial Alternatives evaluated

- No Action
- Land Use Controls
- Excavation and Off-site Disposal



US Army Corps
of Engineers®



Alternative 1 - No Action Alternative

- National Contingency Plan requires evaluation of No Action alternative
- No action taken to reduce hazards



US Army Corps
of Engineers®



Alternative 2 – Land Use Controls

- Regulate intrusive activities in areas containing potentially contaminated soil
- Implement Land Use Restrictions for the Resident Receptor (Adult and Child)
- Five Year Reviews



US Army Corps
of Engineers®



Alternative 3 – Excavation and Off-site Disposal

- Excavate discrete areas of surface soil
- Dispose of soil at a Subtitle D non-hazardous landfill
- Replace excavated material with compacted clean backfill



US Army Corps
of Engineers®



Evaluation of Alternatives

- Alternatives evaluated relative to CERCLA criteria
- Preferred Alternative = Excavation and Off-site Disposal
 - Provides overall protection of human health and the environment
 - Allows for Unrestricted Land Use for the National Guard Trainee Receptor and Resident Receptor
 - Complies with Applicable or Relevant and Appropriate Requirements (ARARs)



US Army Corps
of Engineers®



Excavation Volume (cy)		
Location	Decision Unit	0 - 1 ft bgs
U-5	DU1	488
U-4	DU1	320
	DU2	325
Total =		1,133

DU01
(13,166 sq. ft)



1W-3

DU01
(8,653 sq. ft)



DU02
(8,774 sq. ft)

1W-2

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



US Army Corps of Engineers



Recommendations

Preferred remedy must be protective of receptors associated with current and future Land Use

Current Land Use: Military Training
Current Receptor: National Guard Trainee
Future Land Use: Unrestricted/Residential
Future Receptor: Unrestricted/Residential

Results of Remedial Investigation/Feasibility Study for Depot Area support excavation and off-site disposal as the preferred remedy



US Army Corps
of Engineers®



Questions?

Questions can be submitted several ways:

- In writing on the public comment form provided to you
- By email (email address shown on public comment form)
- By mail (mailing address shown on the public comment form)
- Asked in person at the public meeting

The public comment period begins 16 February 2018 and continues through 17 March 2018.



US Army Corps
of Engineers®

