# U.S. EPA Proposes Cleanup Plan for Contaminated Soil

**North Alcoa Site**
East St. Louis, Illinois
November 2019

*Placement of cover.*

*Completed vegetative cover.*

The U.S. Environmental Protection Agency, working with the Illinois EPA, is proposing a cleanup plan for soil contamination in Operable Unit 2, or OU2, at the North Alcoa site (*see site map on page 3*). U.S. EPA often divides complex cleanup sites such as North Alcoa into smaller units, called OUs. OU2 addresses surface and subsurface soil contamination not covered under the previously selected remedy for OU1 at the site. These actions are necessary to address soil contamination and manage stormwater on-site within the OU2 area.

The federal Agency is issuing this proposed cleanup plan as part of its public participation responsibilities under federal law.[1] U.S. EPA will not select a final cleanup plan until after it reviews comments received during a public hearing and comment period. U.S. EPA may modify the proposed cleanup plan or select another alternative based on public comments, so your input is important.

U.S. EPA's recommended cleanup involves removing about 40,000 cubic yards of near-surface bauxite residue to a depth of at least 2 feet from six impacted areas within OU2. The removed bauxite residue would then be taken to an area within OU1 and covered with a minimum of two feet of clean soil and vegetation. Excavated areas in OU2 would also be covered with a barrier layer and a minimum of 2 feet of clean soil and vegetation. This alternative includes institutional controls such as land-use, access, and deed restrictions to limit the exposure of future landowners or users of the property. It also provides enhancement and control of surface stormwater by maintaining controls currently in place and assessing the need for any additional measures to contain stormwater within the site.

[1] *Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA, requires publication of a notice and a proposed plan for the site cleanup. The proposed plan must also be made available to the public for comment. This fact sheet is a summary of information contained in the proposed plan, remedial investigation, feasibility study, and other documents in the Administrative Record for the North Alcoa site. Please consult those documents for more detailed information.*

## Share your opinion

U.S. EPA encourages you to comment on the proposed plan. The federal Agency will only select a final cleanup plan after reviewing comments received during the public comment period, which runs from **Dec. 2, 2019 – Jan. 5, 2020.**

There are several ways to submit written comments:

- Fill out and mail the enclosed comment sheet.
- Provide a comment orally or in writing at the public meeting.
- Send an email to Ruth Muhtsun at muhtsun.ruth@epa.gov.
- Visit www.epa.gov/superfund/alcoa-properties.

## Meetings planned

U.S. EPA will hold an Open House followed by a public meeting. An Open House is an informal meeting where people can talk to agencies on a one-to-one basis. U.S. EPA will then hold a public meeting and give a brief presentation about the proposed cleanup plan. After the presentation, there will be a formal public hearing to accept comments on the proposed cleanup plan. A court reporter will record the meeting and all comments. A transcript of the hearing will be placed on the web.

**December 12**
St. Matthew Baptist Church
2908 Louisiana Blvd.
East St. Louis, IL
**Open House: 2 - 4 p.m.**
**Public Meeting/Hearing: 6 – 8 p.m.**

## Contact U.S. EPA

See the back page for information on contacting U.S. EPA team members.

## Proposed cleanup alternatives

**Common elements to all alternatives**
U.S. EPA examined several alternatives for cleaning up OU2 before recommending its preferred option. Common elements for Alternatives 2, 3, 4, and 5 include implementing institutional controls such as fencing and land-use, access, and deed restrictions, to limit the exposure of future landowners or users of the property. Alternatives 2, 3, 4 and 5 would also involve enhancing existing surface stormwater controls to divert stormwater from the installed soil covers and nearby residential properties, as necessary. In IB-5a, a pre-design investigation would be completed to determine how much additional bauxite can be safely removed with the goal of complete removal from this area.

**Alternative 0 – No-action**
Under the no-action alternative, U.S. EPA would take no further actions to clean up the contaminated soil in OU2. The no-action alternative is used as a baseline for comparison to the other cleanup alternatives.
**Estimated cost: $0**

**Alternative 1 – Restricted Access**
Under Alternative 1, deed restrictions would be placed on the property to restrict access to the bauxite disposal areas, preventing land uses that would be inconsistent with the cleanup. A fence would also be constructed around the OU2 disposal areas.
**Estimated cost: $137,000**

**Alternative 2 – Excavation and Containment with Placement of Soil Cover and On-Site Stormwater Management: Off-Site Disposal of Bauxite Residue**
Alternative 2 would involve removing about 40,000 cubic yards of near-surface soil and bauxite residue to a depth of two feet from areas IB-3a, IB-3b, IB-4c, IB-4e, IB-5a, and IB-6a within OU2. Excavated bauxite would be transported off-site for disposal at a permitted solid waste landfill. All excavated areas would be covered with a barrier layer and a minimum of 2 feet of clean soil and vegetation.
**Estimated cost: $9.4 million**

*Earth-moving equipment clearing vegetation from the site.*

**Alternative 3 – Excavation and Containment with Placement of Soil Cover and On-Site Stormwater Management: – On-Site Consolidation of Bauxite Residue in OU1 Area**

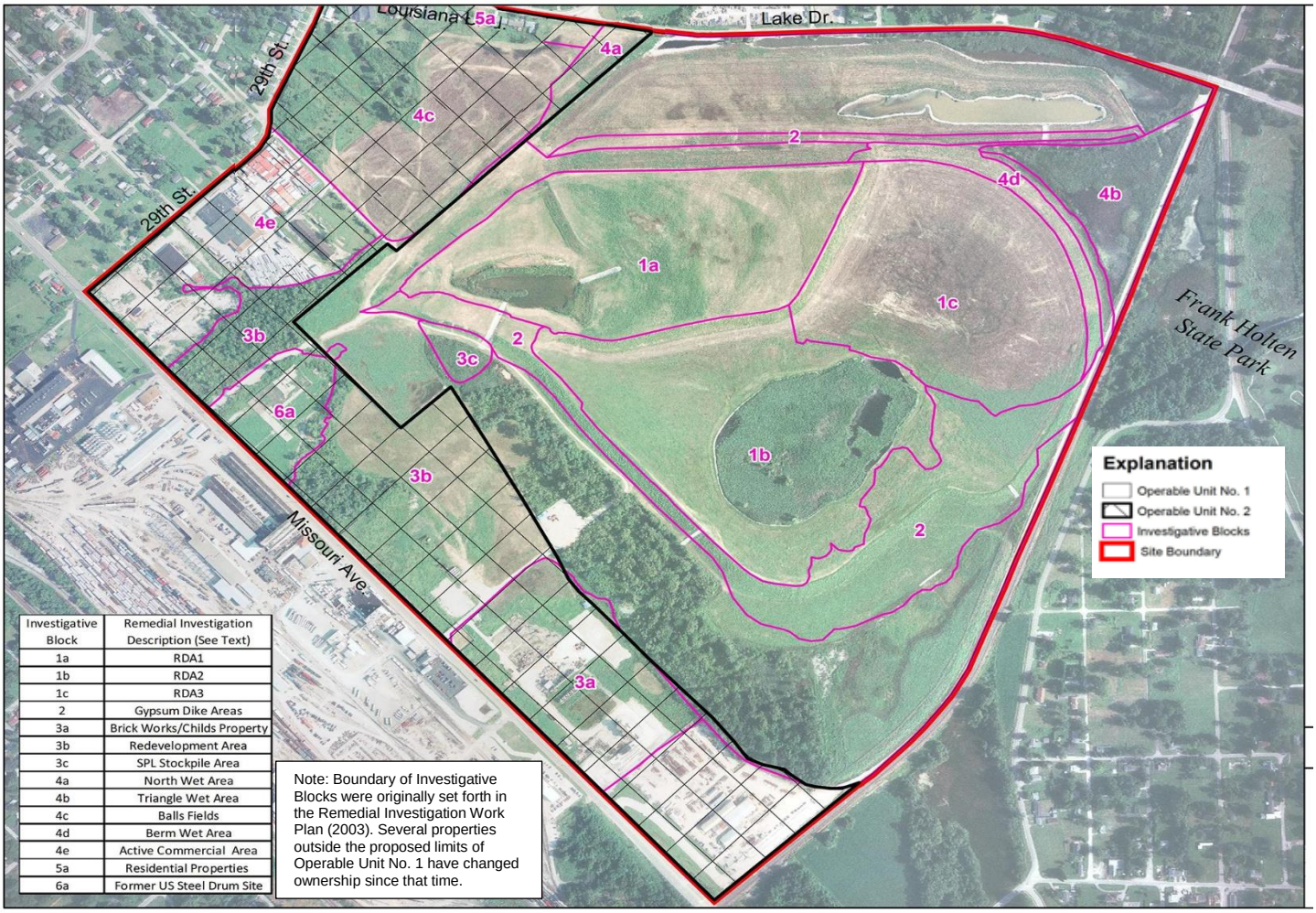
***U.S. EPA's recommended alternative***

Alternative 3 would involve removing about 40,000 cubic yards of near-surface bauxite residue to a depth of two feet from areas IB-3a, IB-3b, IB-4c, IB-4e, IB-5a, and IB-6a within OU2. The bauxite would then be taken to an area within OU1 and covered with a minimum of two feet of clean soil and vegetation. Excavated areas in OU2 would also be covered with a barrier layer and a minimum of two feet of clean soil and vegetation.
**Estimated cost: $4.1 million**

**Alternative 4 – Excavation and Containment with Placement of Soil Cover and On-Site Stormwater Management: – Capping of Two OU2 Areas (IB-3b/IB-6a) and On-Site Consolidation of Bauxite Residue in OU2 Area**
Alternative 4 involves removing about 20,000 cubic yards of near-surface soil containing bauxite to a depth of two feet from areas IB-3a, IB-4c, IB-4e and IB-5a within OU2. The excavated bauxite would be consolidated in an area within OU2 and covered with a barrier layer and a minimum of two feet of clean soil and vegetation. This alternative also involves placing a barrier layer and a minimum of two feet of clean soil and vegetation over all excavated areas and areas IB-3b and IB-6a in OU2, where near-surface bauxite residue is located.
**Estimated cost: $5 million**

**Alternative 5 – Excavation and Containment with Placement of Soil Cover and On-Site Stormwater Management: – Capping of Two OU2 Areas (IB-3b/IB-6a) and On-Site Consolidation of Bauxite Residue in OU1 Area**
Alternative 5 involves removing about 20,000 cubic yards of near-surface soil containing bauxite to a depth of at least two feet from areas IB-3a, IB-4c, IB-4e and IB-5a within OU2. Excavated bauxite would be taken to an area within OU1 and covered with a minimum of two feet of clean soil and vegetation. Excavated areas in OU2 would be covered with a barrier layer and a minimum of two feet of clean soil and vegetation. This alternative also incorporates placement of clean soil over IB-3b and IB-6a in OU2 where near-surface bauxite residue is located.
**Estimated cost: $3.7 million**

## NORTH ALCOA SITE MAP




| Investigative Block | Remedial Investigation Description (See Text) |
|---|---|
| 1a | RDA1 |
| 1b | RDA2 |
| 1c | RDA3 |
| 2 | Gypsum Dike Areas |
| 3a | Brick Works/Childs Property |
| 3b | Redevelopment Area |
| 3c | SPL Stockpile Area |
| 4a | North Wet Area |
| 4b | Triangle Wet Area |
| 4c | Balls Fields |
| 4d | Berm Wet Area |
| 4e | Active Commercial Area |
| 5a | Residential Properties |
| 6a | Former US Steel Drum Site |

As identified on the map above, the site contains the following six main disposal areas, each with several sub-areas, called Investigative Blocks, or IB areas:

IB-1 Residue Disposal Areas **(OU1)**
- IB-1a RDA 1 (The Old Pond)
- IB-1b RDA 2 (The Brown Mud Pond)
- IB-1c RDA 3 (The Red Mud Pond)

IB-2 Gypsum Dike Areas **(OU1)**

IB-3 Other Areas of Alcoa Activities **(OU1 and OU2)**
- IB-3a Brick Works/Childs Property
- IB-3b Redevelopment Area
- IB-3c SPL Stockpiling Area

IB-4 Areas of No Known Alcoa Activities **(OU1 and OU2)**
- IB-4a North Wet Area
- IB-4b Triangle Wet Area
- IB-4c Ball Fields
- IB-4d Berm Wet Area
- IB-4e Active Commercial Area

IB-5a – Residential Area **(OU2)**

IB-6a – Former US Steel Drum Area **(OU2)**

## Evaluation of alternatives

U.S. EPA is required by law to evaluate remedial options against nine criteria (*see below).* These criteria are used to help compare how the alternatives will meet cleanup goals. The table below compares each alternative against the nine criteria.

U.S. EPA's recommended cleanup plan is Alternative 3. This alternative protects people and the environment by removing access to impacted soil by capping the impacted soils left in place to reduce contamination, and by restricting access through institutional controls to protect the cap and reduce the risk of possible future exposure to the contamination. It is effective in both the short- and long-term, is easy to implement, and is cost-effective.

| Evaluation Criteria | Alternative 0 | Alternative 1 | Alternative 2 | Alternative 3** | Alternative 4 | Alternative 5 |
|---|---|---|---|---|---|---|
| **Overall Protection of Human Health and the Environment** | ☐ | ☐ | ■ | ■ | ■ | ■ |
| **Compliance with ARARs** | ☐ | ☐ | ■ | ■ | ■ | ■ |
| **Long-Term Effectiveness and Permanence** | ☐ | ☐ | ■ | ■ | ■ | ■ |
| **Reduction of Toxicity, Mobility, or Volume through Treatment** | ☐ | ☐ | ❖ | ❖ | ❖ | ❖ |
| **Short-Term Effectiveness** | ☐ | ■ | ☐ | ■ | ❖ | ❖ |
| **Implementability** | ■ | ■ | ■ | ■ | ■ | ■ |
| **Cost** | $0 | $137,000 | $9.4 million | $4.1 million | $5 million | $3.7 million |
| **State Acceptance** | The State of Illinois' support of the recommended Alternative 3 is pending | | | | | |
| **Community Acceptance** | Will be evaluated after the comment period | | | | | |

** U.S. EPA's recommended cleanup option

■ – Meets criteria ☐ – Does not meet criteria ❖ – Partially meets criteria

**Explanation of evaluation criteria**
EPA compares each cleanup option or alternative with these nine criteria established by federal law:

1. **Overall protection of human health and the environment** examines whether an option protects living things. This standard can be met by reducing or removing pollution or by reducing exposure to it.
2. **Compliance with applicable or relevant and appropriate requirements, or ARARs,** ensures options comply with federal, state and tribal laws.
3. **Long-term effectiveness and permanence** evaluates how well an option will work over the long-term, including how safely remaining contamination can be managed.
4. **Reduction of toxicity, mobility or volume through treatment** determines how well the option reduces the toxicity, movement and amount of pollution.
5. **Short-term effectiveness** compares how quickly an option can help the situation and how much risk exists while the option is under construction.
6. **Implementability** evaluates how feasible the option is and whether materials and services are available in the area.
7. **Cost** includes not only buildings, equipment, materials and labor but also the cost of maintaining the option for the life of the cleanup.
8. **State acceptance** determines whether the state environmental agency accepts an option. EPA evaluates this criterion after receiving public comments.
9. **Community acceptance** considers the opinions of nearby residents and other stakeholders about the proposed cleanup plan. EPA evaluates this standard after a public comment period.

# Public Comment Sheet

## Use this space to write your comments

U.S. EPA is interested in your comments on the proposed cleanup plan for soil contamination in Operable Unit 2 at the North Alcoa site. You may use the space below to write your comments and detach, fold, stamp and mail to U.S. EPA Community Involvement Coordinator Ruth Muhtsun. Comments must be postmarked by **January 5, 2020.** If you have questions, contact Ruth at 312-886-6595. Comments may also be sent via the web at www.epa.gov/superfund/alcoa-properties.

Name: _____

Affiliation: _____

Address: _____

City: _____

State: _____ Zip: _____

# North Alcoa Site – Comment Sheet

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Detach this page, fold on dashed lines, staple, stamp, and mail

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Name _____
Address _____
City _____
State _____ Zip _____

Ruth Muhtsun
Community Involvement Coordinator
U.S. EPA Region 5
Community Involvement and Outreach Section (RE-19J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

## Background

The 400-acre North Alcoa site is in a mixed-use area of East St. Louis, Ill. Alcoa began aluminum production on the property in 1902, and plant operations continued until the late 1950s. By the mid-1960s, most production facilities had been demolished and the property sold. Site investigations began in 2001 and are ongoing. The site is not listed on the National Priorities List, but U.S. EPA considers it an NPL-caliber site and therefore is managing the Site through the Superfund Alternative Approach.

At the beginning of the 20th century, Alcoa disposed of bauxite residue in a place referred to as Pittsburg Lake. Later, Alcoa stored bauxite residue in disposal areas, or RDAs. The RDAs were contained within gypsum berms, which were a byproduct of Alcoa's manufacturing operations. Bauxite residue and gypsum are the primary waste products remaining at the site.

Plant operations resulted in soil and groundwater contamination. Operations occurred mostly on the south side of Missouri Avenue, where alumina and aluminum fluoride were produced from bauxite ore. The bauxite refining process used hot sodium hydroxide in a pressurized digester to separate material from the insoluble bauxite residue known as "red mud." During World War II, red mud was mixed in rotary kilns with limestone and soda ash. The residue from this process is "brown mud." Alcoa disposed of both forms of bauxite residue north of Missouri Avenue in the area now known as the North Alcoa site.

## Past cleanup activities

U.S. EPA selected the final cleanup plan for OU1 in a Record of Decision dated July 26, 2012. Construction of the OU1 cleanup plan began in March 2014 and was completed in September 2016. The OU1 cleanup included consolidation of waste, regrading, drainage controls and construction of a cover in an area in the middle of the site. A rail line construction project was built over the far eastern portion of the OU1 installed remedy cover and is currently operational.

*Cleanup work: before and after aerial photos of the site.*

## Next steps

Before making a final decision, U.S. EPA will review comments received during the public comment period. If new information is presented, the federal Agency may modify its proposed plan or select another option.

U.S. EPA encourages you to review and comment on all proposed cleanup plan options. More detailed information on cleanup options is available at the information repositories or U.S. EPA's website, listed in the box to the right.

U.S. EPA will respond to the comments in a document called a "Responsiveness Summary." This will be part of another document called the "Record of Decision" that describes the final cleanup plan for OU2. The federal Agency will announce the selected cleanup plan in a local newspaper, place a copy in the information repositories, and post it on the web.

## Contact information

For more information contact one of these team members:

**Ruth Muhtsun**
Community Involvement Coordinator
312-886-6595
muhtsun.ruth@epa.gov

**Dion Novak**
Remedial Project Manager
312-886-4737
novak.dion@epa.gov

You may call U.S. EPA's Chicago office toll-free at 800-621-8431,
8:30 a.m. – 4:30 p.m. weekdays.

## For more information

You may review site-related documents at:

East St. Louis City Clerk's Office
301 River Park Drive
East St. Louis, IL

East St. Louis Public Library
5300 State St.
East St. Louis, IL

St. Matthew Baptist Church
2908 Louisiana Blvd.
East St. Louis, IL

On the Web:
www.epa.gov/superfund/alcoa-properties

An Administrative Record, which contains detailed information that will be used in the selection of the cleanup plan, is also located at the East St. Louis Public Library.



# NORTH ALCOA SITE: U.S. EPA Proposes Cleanup Plan for Contaminated Soil at OU2

United States
Environmental Protection
Agency

Region 5
Community Involvement and
Outreach Section (RE-19J)
77 W. Jackson Blvd.
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