United States
Environmental
Protection Agency

Office of Public Affairs
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

Illinois, Indiana,
Michigan, Minnesota,
Ohio, Wisconsin

Proposed Plan for Remedial Action Fields Brook Superfund Site Floodplain/Wetland Area

November 1996 **Ashtabula, Ohio**

Public Comment Period

U.S. EPA will accept written comments on the Proposed Plan and Feasibility Study during a public comment period:

Date: November 13 to
December 13, 1996

Public Meeting

U.S. EPA will hold a public meeting to explain the Proposed Plan and all alternatives presented in the Feasibility Study. Oral and written comments will also be accepted at the meeting:

Date: November 21, 1996

Time: 7:00 to 9:00 p.m.

Place: Kent State-Ashtabula Campus
Blue and Gold Room
3325 West 13th Street
Ashtabula, OH

Introduction

This Proposed Plan describes the considered alternatives and the Recommended Alternative for proposed remediation of the Floodplain/Wetland Area (FWA) at the Fields Brook Superfund Site (Site) in Ashtabula, Ohio (Figure 1). The Proposed Plan summarizes the alternatives that have been considered for the Site by the U.S. Environmental Protection Agency (U.S. EPA).

The remedial alternatives summarized in this Proposed Plan are more fully described in the **Feasibility Study (FS)** report. The FS report, as well as any other pertinent documents in the Administrative Record and Information Repository, should be consulted for in-depth details on the development and evaluation of the alternatives considered.

Public comment on the remedial alternatives and the information that supports these alternatives is an important contribution to the cleanup remedy selection process. Based on new information or public comment, U.S. EPA may modify the recommended alternative or select another alternative presented in this plan and/or the FS report. The public is encouraged to review and comment on all technologies and alternatives considered for the Fields Brook FWA remediation.

Site Location and Features

Fields Brook is located in the city, township, and county of Ashtabula, in northeastern Ohio. A map showing the general location of the Fields Brook watershed is presented in Figure 1.

Fields Brook drains a 6-square-mile area. The eastern portion of the watershed drains Ashtabula Township, and the western portion drains the eastern portion of the city of Ashtabula. The main channel is 3.9 miles in length and begins at Cook Road, just south of the Penn Central Railroad tracks. From this point, Fields Brook flows northwest to Middle Road, then west to its confluence with the Ashtabula River. From Cook Road downstream to State Highway 11, Fields Brook flows through an industrialized area. Downstream of State Highway 11 to near its confluence with the Ashtabula River, Fields Brook flows through a residential area within the city of Ashtabula. Fields Brook empties into the Ashtabula River, approximately 8,000 feet (ft) upstream from Lake Erie.

The city of Ashtabula, with a population of approximately 23,000, is the only urban area in the Fields Brook watershed. The industrial zone of Ashtabula is concentrated around Fields Brook and contains several chemical industries and waste disposal sites.

Site Background and History

The FWA soils are contaminated with **PCB's, hexachlorobenzene (HCB),** and other hazardous substances, both organic and inorganic, resulting from industrial discharges to Fields Brook. The Fields Brook Site was placed on the National Priorities List (NPL) of uncontrolled hazardous waste sites under the

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) on September 8, 1983.

U.S. EPA divided the Fields Brook Site into four areas of concern, three of which are considered "operable units" associated with the Fields Brook Superfund Site. Figure 1 shows the different study areas of the Site. The Sediment Operable Unit involves the cleanup of contaminated sediment in the Fields Brook channel and its tributaries. The Source Control Operable Unit will locate sources of contamination to the Brook and identify ways to prevent future contamination. The FWA Operable Unit involves the cleanup of contaminated soils and sediments in floodplain areas surrounding Fields Brook, and is the focus of this Proposed Plan. To prevent recontamination of Fields Brook and the Ashtabula River, work on the Source Control Operable Unit will precede or coincide with work on the Sediment and Floodplains Area Operable Units. The Ashtabula River Area of Concern is being addressed in part by the Ashtabula Public/Private Partnership and through separate Superfund investigations.

In order to facilitate locating features and sampling points along Fields Brook and its tributaries, the stream and FWA have been divided into segments identified by a numbering system involving stream reaches. Figure 2 depicts the watershed area and stream reach numbers. The FWA areas along Fields Brook were divided by sections of the Brook into floodplain exposure units (EU), as indicated on Figure 2. Each of these EUs are approximately 2,000 feet in length along the Brook, and are located behind residential homes and industrial areas. The EUs correspond to areas where exposure to FWA soils would occur by distinct populations of people on a regular basis (e.g., residents and industrial workers) on each side of the Brook.

A **remedial investigation (RI)** was performed in 1985 by U.S. EPA on Fields Brook sediments and surface water. Detected compounds included chlorinated benzene compounds, **polynuclear aromatic hydrocarbons (PAHs),** hexachlorobutadiene and PCBs. These data indicated the types of hazardous substances which could be in the FWA.

In late 1986, U.S. EPA began negotiating with a number of companies thought to be responsible for contaminating Fields Brook to conduct response activities under the Source Control and Sediment Operable Units. It is U.S. EPA's policy to have these companies, known as **potentially responsible parties (PRPs),** pay for the cleanup rather than using funds from the Superfund program. The PRPs are comprised of the companies who are considered the owners and operators of the chemical industries and waste disposal sites surrounding Fields Brook. The PRPs also include the companies who, by contract, agreement, or other means, either accepted, or arranged for transport, disposal or treatment of, hazardous substances within the Fields Brook Site. In 1989, the PRPs agreed to design the Fields Brook remedy, identify the contamination sources, and develop potential remedial alternatives for those sources.

In August 1994, the PRPs agreed to voluntarily evaluate the FWA portion of the Fields Brook Site, and conducted and submitted a Feasibility Study report and Integrated Human and Ecological Baseline **Risk Assessment** report for the FWA. Additional reports, including a Remedial Investigation report, and Ecological Assessment and Human Risk Assessment reports on the FWA, were completed by the U.S. EPA in fall 1996. These FWA documents present findings of data collected from the FWA, assess human and ecological risks in these areas and discuss remedial cleanup alternatives to address the risks found, and form the basis for this proposed remediation plan for the FWA. These reports have been sent to the information repositories noted on this fact sheet, and can be found in the Site's Administrative Record.

Floodplain Area Field Studies and Sampling

A total of 211 soil samples were taken from the FWA, with generally 40 samples collected within each of the five EUs which were investigated in this study: EU2, EU3, EU4, EU6 and EU8. The sampling locations were spread fairly evenly along each length of the FWA, with an equal number of samples (twenty) on the north and south sides of the main channel of Fields Brook within each EU.

EUs 2 and 3 are considered residential based upon the presence of homes on the property (see Figures 3, 4 and 5). The industrial EUs are upstream of the residential EUs. EU4, EU6 and EU8 are considered to have industrial usage for the following reasons: a) the area east of Route 11 currently does not have residential development; b) the properties that fall within EU4 and EU6 primarily belong to industry or the City of Ashtabula, and do not belong to private land owners; and c) the properties would be permanently restricted from residential development through deed restrictions (see Figures 6, 7 and 8). The other five EUs were eliminated from further consideration within the U.S. EPA risk assessment. EUs 1, 5 and 7 do not have a floodplain area (i.e., the Brook, during a 100 year storm, stays within the brook channel and does not overflow the banks in these EUs). In EUs 9 and 10, sampling results indicated no exceedances in the FWA above Cleanup Goals.

Soil samples were analyzed for approximately 130 different chemicals and selected chemicals of concern. Soil sampling showed 95 hazardous substances which were detected in some or all portions of the FWA. As would be expected based on the Site's history, volatile and semi-volatile organic chemicals, pesticides, PCBs, and inorganic chemicals were detected in the FWA soils.

The chemicals of concern concentrations vary from background and non-detect to several hundred parts per

FWA Soil Sampling Results

	Average Concentration mg/kg		Maximum Concentration mg/kg	
Exposure Unit	**PCB**	**HCB**	**PCB**	**HCB**
EU-2	24.1	17.9	360	97
EU-3	38.6	10.9	530	99
EU-4	68.1	36.0	560	300
EU-6	87.1	45.6	610	540
EU-8	38.0	14.9	270	480

million (ppm or mg/kg). Maximum concentrations for some of the semivolatile organics were: 610 mg/kg for total PCBs (EU 6), 480 mg/kg for HCB (EU 8), 170 mg/kg for hexachlorobutadiene (EU 4); for some of the volatile organics were: 56 mg/kg for trichloroethene (EU 6), 89 mg/kg for tetrachloroethene (EU 6), and 8.5 mg/kg for vinyl chloride (EU 6); for some of the trace metals were: 43 mg/kg for arsenic (EU 8) and 57.7 mg/kg for mercury and for total PCBs: 610 mg/kg in EU6. Average concentrations for two widespread chemicals (HCB and PCBs) in soil are summarized in the table above.

Tissue samples were also collected from mice, shrews, earthworms, voles, insects, and vegetation and analyzed for the 130 parameters. PCBs were observed in the FWA biota. A maximum concentration of 11 ppm total PCBs was detected in a single shrew composite sample, however, most concentrations were well below this level ranging from 0.029 to 4.8 ppm in other samples. Arsenic, cadmium, chromium, lead, and hexachlorobenzene were observed in all tissue matrices throughout the floodplain/wetland area. Barium, vanadium, and hexachlorobutadiene were observed in several but not all matrices. Various chemicals of concern, including several trace metals (lead, cadmium, chromium, vanadium, and barium), were considered in the ecological risk assessment. PCBs, hexachlorobenzene, and hexachlorobutadiene were the organics that were fully assessed in the ecological risk assessment; others were eliminated because their levels were not high enough in the FWA to be of concern to organisms.

Summary of Site Risks

An Integrated Baseline Risk Assessment for the FWA was conducted by the PRPs, which considered both a human health risk assessment and an ecological risk assessment. U.S. EPA has also prepared a risk assessment. The potential risks to people exposed to the FWA include risks from ingestion of soils in the FWA, inhalation of dusts from the area, dermal exposure to the soils, and gardening in the FWA. The greatest potential risks to people are from ingestion of soils in the FWA. EPA's review of these risks indicate that if risks from ingestion of soil are addressed, the other risks to humans and potentially to the environment would also be addressed. Copies of these risk assessments are available for review in the Information Repositories.

Exposure assessments were conducted as part of the human health and ecological risk assessments. The U.S. EPA considered a variety of information to determine what would be the appropriate length of floodplain along each side of the Brook which would adequately represent the geographic area to which a person would be exposed. These lengths formed the basis and size of the FWA exposure units. The information reviewed as part of this effort included review of survey data, discussions with local citizens, inspection of all floodplain areas, investigations of plants and animals along the FWA, and evidence of use along the floodplain. The exposure unit lengths also considered potential exposures by plants and animals in the floodplain area. U.S. EPA has reviewed these lengths and concluded that if, after cleanup activities occurred, contamination levels were on average at or below the Cleanup Goals (CUGs) for each exposure unit, the remedy would be protective of human health and the environment. The FWA sampling confirmed prior results and was the basis of the U.S. EPA CUG calculation performed in October of 1994. These CUGs indicate the concentration for each contaminant found within the FWA at which exposure by people, plants and animals would be protective. Copies of U.S. EPA's 10/20/94 letter which includes these CUGs, and copies of U.S. EPA's 1/31/94 letter which indicates Radionuclide Contamination CUGs, are included in separate reports which have been sent to the information repositories.

U.S. EPA's October 1996 Fields Brook FWA human health and ecological risk assessments focused on 11 chemicals of concern (COC) that were found in the Sediment Operable Unit; these COC's included arsenic, benzo(a)-pyrene, beryllium, hexachlorobenzene, hexachlorobutadiene, PCBs, 1,1,2,2,-

tetrachloroethane, tetrachloroethene, trichloro-ethene, hexachloroethane, and vinyl chloride. Hexachloroethane and vinyl chloride were screened out as COCs in the U.S. EPA 1996 FWA human health risk assessment.

U.S. EPA's evaluation of risks and the chemical sampling data indicates that PCBs and HCB were the two compounds causing the majority of human health risk, and that if the cleanup activities removed the elevated areas of PCB and HCB soil contamination, then the cleanup would also remove other COCs in the floodplain area. This is because the other COCs exist where elevated levels of PCBs and HCB exist.

Radionuclide detections were also indicated on the RMI Extrusion property floodplain area within the Fields Brook floodplain area. U.S. EPA reviewed all of the radionuclide data taken on the RMI Extrusion facility and floodplain area. 74 FWA samples were taken within floodplain areas behind RMI-Extrusion for U-234, U-235, and Technetium-99; 132 FWA samples were taken behind RMI-Extrusion for U-238. Of the 74 U-234, U-235, and Technetium-99 FWA samples, there were no U-234 and Technetium-99 radionuclide cleanup goal (RCUG) exceedences, and there were 2 U-235 RCUG exceedences (these two U-235 RCUG exceedences were within the fenced-in areas behind RMI). Of the 132 U-238 FWA samples behind the RMI-Extrusion facility, there were 10 U-238 RCUG exceedences, with seven exceedences within the previously existing fenced-in area behind RMI, and three RCUG exceedences outside of the previously existing fenced-in areas.

U.S. EPA's review of the data indicate that radionuclides, and in particular Uranium, are not considered a chemical of concern within the floodplain areas of the Fields Brook Site because the levels of U-235 and U-238 indicated in the FWA area were relatively low. These levels are below the RCUGs established for U-235 and U-238 by the Nuclear Regulatory Commission and the U.S. EPA (i.e., the soil levels within the FWA are below the $1x10^{-6}$ risk levels) on average within each floodplain area residential and industrial EU, including EU6 which includes the RMI Extrusion facility.

Also, to be protective, RMI-Extrusion has recently fenced in all areas of RCUG exceedences on the property, installed silt fences in the downgradient areas of the detected radionuclides to catch suspended silt which may run off the property during rainstorms, and is also planning to excavate/remove the contaminated soils in their backyard, including the RCUG exceedance FWA soil areas, and ship the soil to an approved storage facility in either Utah or Nevada. The excavation activities are planned to occur in 1998, and will be conducted in coordination with the ongoing facility decontamination and decommissioning actions being conducted under supervision of the U.S. Department of Energy. The excavation actions will also include delineation sampling in 1997 prior to the beginning of excavation to ensure that the RCUG exceedance areas have been defined.

Based on a review of the data, U.S. EPA has found that if a remedial cleanup to certain concentrations of HCB and PCB within each exposure unit occurs, the low levels of contamination remaining in the FWA after cleanup is completed would be protective of human health and the environment for each exposure unit.

The following is a summary of remedial response actions which would need to occur in each exposure unit to achieve such a protective cleanup: 1) excavate or cover all soil areas with PCB contamination above 6 ppm and HCB above 80 ppm in the residential area (leaving a residual PCB concentration of 1 ppm on average in each residential exposure unit); and 2) excavate all soil areas above 50 ppm PCBs and over 200 ppm HCBs in the industrial area (leaving a residual PCB concentration of between 6 to 8 ppm on average in each industrial exposure unit). The areas of the floodplain where remedial response actions would occur, for the above described excavation and cover activity, are termed "Response Areas" in the alternatives described below. These areas are indicated for Alternative 7 in Figures 3 through 8 provided within this Proposed Plan.

Response actions which meet the above criteria would be protective because remaining levels of each contaminant would be, on average, at or below the CUGs (i.e., would be at $1x10^{-6}$ risk) in floodplain areas on each side of the Brook in each residential exposure unit, and within the acceptable risk range for PCBs (i.e., would be at or below $3x10^{-6}$ risk), for each CUG compound in floodplain areas on each side of the Brook within each industrial exposure unit.

EPA believes these response actions would also protect the various populations of plants and animals which exist or may exist within the floodplain area for this site. These response actions would reduce the short- and long-term risks to these ecological populations and would provide for their future health and viability by reducing these population's potential uptake of contamination via soil and food to acceptable levels of exposure.

Summary of Alternatives

The FS identified and evaluated alternatives that addressed threats and potential threats to human health and the environment posed by the chemicals of concern in the FWA. These remedial alternatives have several common components including site preparation, institutional controls such as fencing and deed restrictions to prevent residential development within the floodplain, and surface controls such as soil erosion control and revegetation of excavation and cover areas and areas of disturbance.

All of the following remedial alternatives except the no action alternative would involve excavation or cover of each exposure unit's soil areas which are at or greater than the concentra-

tions noted in the previous section of this Proposed Plan. Alternatives 5, 6 and 7 involve a greater degree of excavation and removal of floodplain soils than the other alternatives. Over the long term, these alternatives would be more protective, effective and permanent. Also, to help demonstrate that the response areas are properly defined, all of the following remedial alternatives except no action would have delineation sampling conducted in each FWA exposure unit prior to the beginning of construction to ensure that PCB (and HCB where necessary) soil sampling data have been provided for every fifty foot increment along north-south and east-west directions of the floodplain.

The alternatives evaluated in the FS are presented below:

Alternative 1 - No Action

- Estimated Present Worth Cost: $0
- Estimated Construction Time: Immediate

The inclusion of the no action alternative is required by law and gives U.S. EPA a basis for comparison. This alternative will not reduce any potential public health or environmental risks currently associated with the Site. This alternative does not include any institutional controls over the use of ground water or surface water.

Alternative 2 - Containment-Hydric-Compatible Soil Cover

- Estimated Present Worth Cost: $4,600,000
- Estimated Construction Time: 12 months

This alternative consists of site preparation, institutional controls, revegetation, and the placement of a **hydric-compatible soil** cover and erosion mat over the Response Areas. The soil cover thickness would vary from 6 to 12 inches. Physical inspections and chemical sampling would be part of long-term monitoring. Wetlands mitigation at off-Site locations is also considered.

Alternative 3A - Hydric-Compatible Soil Cover, Excavation, Backfill and Off-Site Disposal

- Estimated Present Worth Cost: $8,900,000
- Estimated Construction Time: 12 months

This alternative consists of site preparation, institutional controls, revegetation, and the placement of a hydric-compatible soil cover and erosion mat over the Response Areas. Excavation would be limited to 12 inches. Excavated soil would be disposed of at an off-Site landfill. Physical inspections and chemical sampling would be part of long-term monitoring. Wetlands mitigation at off-Site locations is also considered. Approximately 8,000 cubic yards will be excavated and removed from the FWA under this alternative, and brought to an off-site disposal facility.

Alternative 3B- Hydric-Compatible Soil Cover, Excavation, Backfill and Off-Site Disposal

- Estimated Present Worth Cost: $9,500,000
- Estimated Construction Time: 12 months

This alternative is similar to Alternative 3A except the Response Areas were adjusted to require excavation near residential areas. Excavation would be limited to 12 inches. Excavated soil would be disposed of at an off-Site landfill. Physical inspections and chemical sampling would be part of long-term monitoring. Wetlands mitigation at off-Site locations is also considered. Approximately 9,300 cubic yards will be excavated and removed from the FWA under this alternative, and brought to an off-site disposal facility.

Alternative 4 - Hydric-Compatible Soil Cover

- Estimated Present Worth Cost: $5,800,000
- Estimated Construction Time: 12 months

This alternative is similar to Alternative 2, except the soil cover and erosion protection mat would be placed over a larger Response Area than Alternative 2. Physical inspections and chemical sampling would be part of long-term monitoring. Wetlands mitigation at off-Site locations is also considered.

Alternative 5 - Excavation, Backfill, and Off-Site Disposal

- Estimated Present Worth Cost: $19,000,000
- Estimated Constriction Time: 12 months

This alternative consists of site preparation, institutional controls, revegetation, excavating, and backfilling with hydric-compatible soils over Response Areas. Excavation would be limited to 12 inches. Physical inspection and chemical sampling would be part of long-term monitoring. Wetlands mitigation at off-Site locations is also considered. Approximately 28,500 cubic yards will be excavated and removed from the FWA under this alternative, and brought to an off-site disposal facility.

Alternative 6 - Excavation, Backfill, Thermal Treatment of PCB-Contaminated Soil, and Off-Site Disposal

- Estimated Present Worth Cost: $21,300,000
- Estimated Construction Time: 12 months

This alternative is similar to Alternative 5, except that, in lieu of off-Site landfilling, excavated material exceeding 500 mg/kg PCBs would be transported off-Site for thermal treatment. Physical inspections and chemical sampling would be part of long-term monitoring. Wetlands mitigation at off-Site locations is also considered. Approximately 28,500 cubic yards will be excavated and removed from the FWA under this alternative, and brought to an off-site disposal facility.

Evaluation Table

Evaluation Criteria	*Alt 1.*	*Alt 2.*	*Alt. 3A*	*Alt. 3B*	*Alt. 4*	*Alt. 5*	*Alt. 6*	*Alt. 7*
Overall Protection of Health and Environment	❍	◗	◗	◗	◗	●	●	●
Compliance with ARARs	NA	◗	◗	◗	◗	●	●	●
Long-term Effectiveness and Permanence	❍	◗	◗	◗	◗	●	●	●
Reduction of Toxicity, Mobility, or Volume through Treatment	❍	❍	❍	❍	❍	❍	❍	❍
Short-term Effectiveness	❍	●	●	●	●	◗	◗	◗
Implementability	NA	●	●	●	●	●	●	●
Present Worth Cost (millions)	0	4.6	8.9	9.5	5.8	19.0	21.3	6.9
State Agency Acceptance								
Community Acceptance	Community acceptance of the recommended alternative will be evaluated after the public comment period.							

● Fully meets criteria ◗ Partially meets criteria ❍ Does not meet criteria NA Not applicable

Alternative 7 - Hydric-Compatible Soil Cover, Excavation, Backfill, and On-Site Disposal

- Estimated Present Worth Cost: $6,900,000
- Estimated Construction Time: 12 months

This alternative consists of site preparation, institutional controls, revegetation, excavation and backfill, and the placement of a hydric-compatible soil cover and erosion mat over Response Areas. Excavation would be limited to 12 inches. Excavated soil would be disposed of at an on-Site consolidation area located at a selected industrial facility within the Fields Brook Site. Wetlands mitigation at off-Site locations is also considered. In addition to excavation and backfill activities, a 6-inch soil cover would be placed over all soil areas with PCB contamination of 6 ppm to 30 ppm in EU2 and EU3. Physical inspections and chemical sampling will be conducted as a part of long-term monitoring to help ensure that the cleanup activities in both of these areas remain protective of human health and the environment. Approximately 15,300 cubic yards will be excavated and removed from the FWA under this alternative, and brought to an on-site consolidation area.

Evaluation of Alternatives

U.S. EPA used nine criteria described below to evaluate all of the alternatives. An evaluation table comparing each alternative against these criteria is provided. The evaluation criteria are summarized below.

Overall Protection of Human Health and the Environment addresses whether a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) addresses whether a remedy will meet all other Federal and State environmental statutes and/or provide grounds for issuing a waiver.

Long-Term Effectiveness and Permanence refers to the amount of risk to maintain reliable protection of human health and the environment over time once cleanup goals have been met.

Reduction of Toxicity, Mobility, or Volume through Treatment is the anticipated performance of treatment technologies that may be employed in a remedy.

Short-Term Effectiveness refers to the speed with which the remedy achieves protection, as well as the remedy's potential to create adverse impacts on human health and the environment during the construction and implementation period.

Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement the chosen solution.

Cost addresses the estimated capital and operation and maintenance costs,

evaluated as the present worth cost. Present worth is the present value of the capital and future O&M costs of an alternative based on the time value of money.

Support Agency Acceptance indicates whether, based on its review of the FS and the Proposed Plan, the support agency (in this case, the Ohio EPA) concurs with, opposes, or has no comment on the recommended alternative.

Community Acceptance will be assessed in the Record of Decision (ROD) (the document that outlines the selected cleanup plan) following a review of the public comments received on the FS report and the Proposed Plan.

The Evaluation Table above shows that the recommended alternative is Alternative 7. It would provide the most long-term effectiveness and permanence at the lowest overall costs.

Recommended Alternative

The recommended alternative is Alternative 7—hydric-compatible soil cover, excavation, backfill, and on-Site disposal. Specific requirements of this Recommended Alternative are provided below.

The Evaluation Table indicates that Alternative 7 provides the overall best tradeoffs with respect to the nine evaluation criteria. Alternative 7 is the most cost effective alternative which reduces exposure to contaminants by removing the soil with the most elevated concentrations of contaminants from the FWA environment via excavation and on-Site consolidation, and by covering areas of relatively low level contamination. This alternative provides for increased protectiveness, long-term effectiveness, and permanence over the alternatives which primarily consider use of cover (Alternatives 2, 3-A, 3-B, and 4) because it includes the removal of soil from areas of highest contamination concentration in the FWA.

A) Excavation, Cover, and Disposal Requirements:

1) excavate all soil in residential areas with PCB contamination above 30 ppm and HCB above 80 ppm, and excavate all soil in industrial areas above 50 ppm PCBs and over 200 ppm HCBs;

2) cover all soil in residential areas with between 6-30 ppm PCBs with 6 inches of hydric-compatible soil, and revegetate using erosion mats and native vegetation

3) transport excavated soils, construction debris, and roadways to a containment cell (landfill) to be built on one of the industrial properties located within the Fields Brook watershed;

4) removal of all trees in excavation areas, and all trees below 12-inch diameter in cover areas; and

5) backfill all excavation areas with hydric-compatible soils and revegetate using erosion mats and native vegetation.

B) Landfill Requirements

The on-Site landfill to be constructed would be located on one of the industrial properties. It would have a bottom liner and would be covered with a plastic liner, clean soil and vegetation. It would be surrounded by a fence, and would have future monitoring and sampling to ensure it remains protective. To assure long- term effectiveness and protectiveness, the landfill would be constructed to meet the following minimum requirements:

1) Bottom Liner (from bottom to top):

- choose area where underlying clay is expected to be continuous, sand lenses not known to exist, and ground water not known to be contaminated if possible; grade to level; 5 feet above ground water
- 6-inch thick compacted in-situ clay
- 60-mil flexible synthetic membrane liner (FML) which has a permeability equivalent or less than $1x10^{-14}$ cm/sec
- 6-inch thick sand/gravel with leachate detection system
- 60-mil FML liner
- 6-inch thick sand/gravel with leachate collection system
- dewatered contaminated soils/sediment (no rocks/sharp materials near bottom)

2) Cover (from bottom to top):

- grade
- 12-inch thick clean soil/gravel (consider need for soil gas collection or vents)
- 40-mil FML liner, keyed in
- 1/4-inch thick geonet liner
- 24-inch thick topsoil
- revegetate
- downgradient wells, one upgradient minimum, for monitoring purposes

C) Post-Cleanup Sampling Requirements

Post-remediation sampling would be initiated in the FWA to evaluate the remedial action in both the residential and industrial EUs. The sampling program would involve the following components:

1) Residential EUs (EUs 2 and 3):

- samples are planned to be taken each year
- analyze for PCBs year 1 through 4
- analyze for nine chemicals of concern in year 5 (i.e., arsenic, benzo(a)pyrene, beryllium, hexachlorobenzene, hexachlorobutadiene, PCBs, 1,1,2,2,-tetrachloroethane, tetrachloroethene, and trichloroethene)
- review results each year, evaluate data to assess the need for further sampling and potential changes in sampling locations, and evaluate the need for remedy repairs, in accordance with the Superfund Program's National Contingency Plan regulation (40 CFR Section 300)

2) Industrial EUs (EUs 4, 6, and 8):

- samples are planned to be taken each year
- analyze for PCBs in year 1 through 4
- analyze for nine chemicals of concern in year 5 (i.e., arsenic, benzo(a)pyrene, beryllium, hexachlorobenzene, hexachlorobutadiene, PCBs, 1,1,2,2,-tetrachloroethane, tetrachloroethene, and trichloroethene)
- review results each year, evaluate data to assess the need for further

sampling and potential changes in sampling locations, and evaluate the need for remedy repairs, in accordance with the Superfund Program's National Contingency Plan regulation

D) Remedial Activity Locations

Figures 3, 4, 5, 6, 7, and 8 indicate the proposed floodplain areas in the residential areas (EU2 and EU3) located between East 16th Street and Route 11, and in the industrial areas (EU4, EU6, and EU8) located between Route 11 and about 2,000 feet east of State Road, where remedial activities would take place under Alternative 7.

To construct this FWA remedy, delineation sampling would be conducted in each FWA exposure unit prior to the beginning of construction to ensure that PCB (and HCB where necessary) soil sampling data have been collected every fifty feet on the floodplain. A temporary access road would be installed along most of the floodplain area. This temporary road would be made of crushed stone and would have periodic access points to existing roadways. It would be removed after construction and disposed of properly.

The Next Step

U.S. EPA will consider public comments received during the public comment period before choosing a final action for the FWA. The final action will be described in the ROD.

After a final action is chosen, U.S. EPA will meet with the PRPs believed responsible for the Site contamination and request that they conduct Site cleanup activities. Following negotiations, the final action will be designed and implemented. If these PRPs are unable to negotiate an agreement with U.S. EPA or unwilling to conduct the cleanup activities, the PRPs may be ordered to conduct the cleanup, or Superfund monies may be used to pay for the final action. U.S. EPA will try to recover those costs from the PRPs in federal court in the event Superfund is used to pay for the cleanup.

Public Involvement

The U.S. EPA encourages the public to comment on all the alternatives discussed as potential remedies for the Fields Brook Site. If an individual is interested in the exact locations of work to be performed in the FWA under the recommended alternative, those individuals may contact the EPA individuals noted below in this Fact Sheet. These comments will be addressed and evaluated in the selection process of the remedy. Enclosed is a comment sheet for your convenience. A summary of all comments received and U.S. EPA's responses will be contained in the Responsiveness Summary, which will be attached to the ROD (which is a document outlining the final choice for a remedy). Comments may be presented orally or in writing at the public meeting (see page 1 of this fact sheet for date, time, and place). Comments may also be mailed to:

Ginny Narsete, P-19J
U.S. Environmental Protection Agency
77 West Jackson Blvd.
Chicago, IL 60604

Mailed comments must be postmarked by December 13, 1996.

The Superfund Process

Superfund was enacted by Congress in 1980 to investigate and clean up actual and potential releases of hazardous chemicals and other substances at sits throughout the United States.

The Superfund process involves several steps after a site is initially identified. After a preliminary inspection of the site is conducted by the U.S. EPA or a state agency such as the Ohio EPA, the site is evaluated for its impact on human health and the environment. If the site poses a serious enough threat to the community, it is placed on the National Priorities List (NPL), a roster of the nation's worst hazardous waste sites.

After the site is placed on the NPL, the U.S. EPA plans and conducts a remedial investigation and feasibility study (RI/FS). The RI is a long-term study to identify the nature and extent of contamination at the site. The FS evaluates alternatives for cleaning up the site.

The people or businesses that may have contaminated the site are referred to as potentially responsible parties (PRPs). If PRPs can be identified and are willing to cooperate with the U.S. EPA, one or more of the PRPs may conduct the RI/FS. All work conducted by the PRPs is closely monitored by state and federal agencies.

After the FS is completed, the U.S. EPA summarizes the cleanup alternatives in the Proposed Plan. The Proposed Plan also explains which alternative the U.S. EPA thinks is the best cleanup remedy. The U.S. EPA then provides the public an opportunity to comment on the alternatives presented in the Proposed Plan. After the public comment period, the U.S. EPA chooses the most appropriate alternative as a final remedy to clean up the site. The chosen remedy is then designed and implemented.

At any time during this process, the U.S. EPA may conduct an emergency response action if the site becomes an immediate threat to public health or the environment.

Comment Sheet

The U.S. EPA would like your comments on all of the cleanup alternatives presented in this Proposed Plan. The U.S. EPA considers public comments before selecting a cleanup remedy for the Fields Brook Site. Please use the space below to write your comments, then detach, fold and mail this form. Comments must be postmarked by December 13, 1996. If you have questions about the comment period, please contact Ginny Narsete at 312-886-4359 or at the U.S. EPA's toll free number: 1-800-621-8431 (10 a.m. to 5:30 p.m. eastern time).

Name _____

Address _____

City _____ State _____

Zip _____

Public Comment Period

The public comment period runs from November 13 to December 13, 1996.
You may send written comments to:

Virginia Narsete
Community Involvement Coordinator
Office of Public Affairs (P-19J)
U.S. EPA
77 W. Jackson Blvd.
Chicago, IL 60604

After the public comment period ends. The U.S. EPA will review and consider submitted comments when making its final decision of the cleanup remedy for the Fields Brook Site. The remedy chosen for the Fields Brook Site may, therefore, be different than the recommended alternative in this Proposed Plan.

Fold on dashed lines, tape, stamp, and mail

Name _____

Address _____

City _____ State _____

Zip _____

Place Stamp Here

Ginny Narsete
Community Involvement Coordinator
Office of Public Affairs (P-19J)
U.S. EPA
77 W. Jackson Blvd.
Chicago, IL 60604

Glossary

Hexachlorobenzene (HCB):
A chlorinated organic compound commonly used as a fungicide and wood preservative.

Hydric-compatible soils:
Contain seeds, organics and other properties necessary for regrowth in the wet environment.

Polychlorinated Biphenyls (PCBs):
A family of compounds commonly used in electric transformers as insulators and coolants, in lubricants, adhesives, and caulking compounds. PCBs are extremely persistent in the environment because they do not readily break down into less harmful chemicals.

Polynuclear Aromatic Hydrocarbons (PAHs):
A group of organic compounds related by their basic chemical structure. These compounds are normally associated with petroleum products, and some are suspected to cause cancer. PAHs are commonly components of petroleum products such as tars and oils that are generated during incomplete combustion of petroleum and coal fuel.

Potentially Responsible Party (PRP):
The PRPs are comprised of the companies who are considered the owners and operators of the chemical industries and waste disposal sites surrounding Fields Brook. The PRPs also include the companies who, by contract, agreement, or other means, either accepted, or arranged for transport, disposal or treatment of, hazardous substances within the Fields Brook Site.

Record of Decision (ROD):
A legal document signed by the U.S. EPA that describes the final cleanup remedy for a Superfund site, why the remedial actions were chosen, how much they will cost, and how the public responded.

Remedial Investigation/Feasibility Study (RI/FS):
A two-part study that is completed before any remedial cleanup can begin. The first part is the Remedial Investigation, which studies the nature and extent of the problem. The second part is the Feasibility Study, which evaluates different methods of dealing with the problem and selects a method that will effectively protect public health and the environment.

Risk Assessment:
The part of the remedial investigation report that discusses the potential for human and ecological exposure to site contaminants.

Volitale Organic Compounds (VOCs):
Compounds of primarily carbon, oxygen, and hydrogen characterized by their tendency to evaporate easily and quickly. Examples of VOCs include trichloroethene, tetra-chloroethene, and vinyl chloride which may be chemicals within such liquids as dry cleaning fluid, lighter fluid, paint thinners, and components of gasoline.

Additional Information

Anyone interested in learning more about the investigation, the Proposed Plan for controlling contamination at the Fields Brook FWA Site, or the Superfund process is encouraged to review the Information Repositories maintained for the Fields Brook Site. They contain copies of the FS, the Risk Assessment, the Proposed Plan, and other materials related to the Site. The Information Repositories are located at the following locations:

1) Ashtabula County District Library
335 West 44th Street
Ashtabula, OH

2) U.S. Environmental Protection Agency
Waste Management Division
Records Center, 7th Floor
77 West Jackson Blvd.
Chicago, IL

For further information on the Fields Brook Site, please contact:

Ginny Narsete
U.S. EPA Region 5
Community Involvement Coordinator
(312) 886-4359

Edward J. Hanlon
U.S. EPA Region 5
Remedial Project Manager
(312) 353-9228

U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604
Toll Free: 1-800-621-8431
(10 a.m. - 5:30 p.m., Eastern Time)

Regan S. Williams, Project Manager
Ohio EPA
Northeast District Office
2110 E. Aurora Avenue
Twinsburg, OH 44087

EPA

U.S. Environmental Protection Agency
Region 5
Office of Public Affairs
77 West Jackson Boulevard
Chicago, Illinois 60604

ADDRESS CORRECTION REQUESTED