



State of Ohio Environmental Protection Agency

FILE 10/17/02

Central District Office

STREET ADDRESS:

3232 Alum Creek Drive
Columbus, OH 43207-3417

TELE: (614) 728-3778 FAX: (614) 728-3898

MAILING ADDRESS:

P.O. Box 1049
Columbus, OH 43216-1049

July 24, 2002

Re: Westerville Landfill
Pre-CERCLIS Screening Assessment
Franklin County
Ohio ID: 125-1441

Laura Ripley (SE-4J)
Early Action Project Manager
U.S. EPA, Region 5
77 West Jackson Blvd
Chicago, Illinois 60604 - 3507

Laura:

Attached is the Pre-CERCLIS Screening Assessment package for the Westerville Landfill. The package includes the Pre-CERCLIS Screening/Assessment Checklist/Decision Form and the Assessment Report.

Based on the findings in this assessment, Ohio EPA recommends that the Westerville Landfill should not be placed in CERCLIS.

If you have any questions, please contact me at (614) 728-3830.

Sincerely,

Fred Myers
Division of Emergency and Remedial Response
Central District Office

FM/sb
westervillesubmitletter wpd

cc: Ray Beaumier, DERR-CO, w/out attachments
CDO file copy

PRE-CERCLIS SCREENING ASSESSMENT CHECKLIST/DECISION FORM

This checklist can assist the site investigator during the Pre-CERCLIS screening. It will be used to determine whether further steps in the site investigation process are required under CERCLA. Use additional sheets, if necessary.

Checklist Preparer: Fred Myers 7/24/2002
(Name/Title) (Date)
Ohio EPA, CDO 3232 Alum Creek Drive, Columbus, Ohio 43207 614-728-3830
(Address) (Phone)
FRED.MYERS@EPA.STATE.OH.US
(E-Mail Address)

Site Name: Westerville Landfill

Previous Names (if any): Park Meadow Road Landfill

Site Location: 350 Park Meadow Road
(Street)
Westerville Ohio 43081
(City) (ST) (Zip)

Latitude: 40° 06' 50" **Longitude:** 82° 56' 11"

Complete the following checklist. If "yes" is marked, please explain below.

	YES	NO
1. Does the site already appear in CERCLIS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Is the release from products that are part of the structure of, and result in exposure within, residential buildings or businesses or community structures?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Does the site consist of a release of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Is the release into a public or private drinking water supply due to deterioration of the system through ordinary use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Is some other program actively involved with the site (i.e., another Federal, State, or Tribal program)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Are the hazardous substances potentially released at the site regulated under a statutory exclusion (i.e., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Are the hazardous substances potentially released at the site excluded by policy considerations (e.g., deferral to RCRA Corrective Action)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Is there sufficient documentation that clearly demonstrates that there is no potential for a release that could cause adverse environmental or human health impacts (e.g., comprehensive remedial investigation equivalent data showing no release above ARARs, completed removal action, documentation showing that no hazardous substance releases have occurred, EPA approved risk assessment completed)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please explain all "yes" answer(s), attach additional sheets if necessary: _____

Site Determination:

Enter the site into CERCLIS. Further assessment is recommended (explain below).

The site is not recommended for placement into CERCLIS (explain below).

DECISION/DISCUSSION/RATIONALE:

Ohio EPA's Division of Emergency and Remedial Response (DERR) reviewed all file information, interviewed Westerville officials, and visited the site. Based on this assessment, DERR determined a potential release to ground water exists that could cause human health or environmental impacts.

In 2000, Westerville voluntarily re-capped 26 acres of the landfill so that it meets the substantive requirements of the 1976 Solid Waste Rules (OAC 3745-27-10). Based on the file information and site investigations, DERR has determined that the cap was constructed in accordance with the design specifications. Cap reconstruction has eliminated all potential migration pathways except ground water, which has not been characterized. There are very few remaining water wells within 1 mile of the site. A public water supply system, which uses ground water, is located 2 miles south and serves 7000 residents. The ground water to surface water pathway is possible. Human exposure pathways to surface water (Alum Creek) are limited to direct contact with water and sediment and food chain. The only identified potential environmental targets are scattered wetlands that occur adjacent to Alum Creek. No federal or state endangered species were identified in Alum Creek.

It is the professional judgement of the state investigator that the Westerville Landfill should not be placed in CERCLIS.

Regional EPA Reviewer: _____

Print Name/Signature

Date

State Agency/Tribe: _____

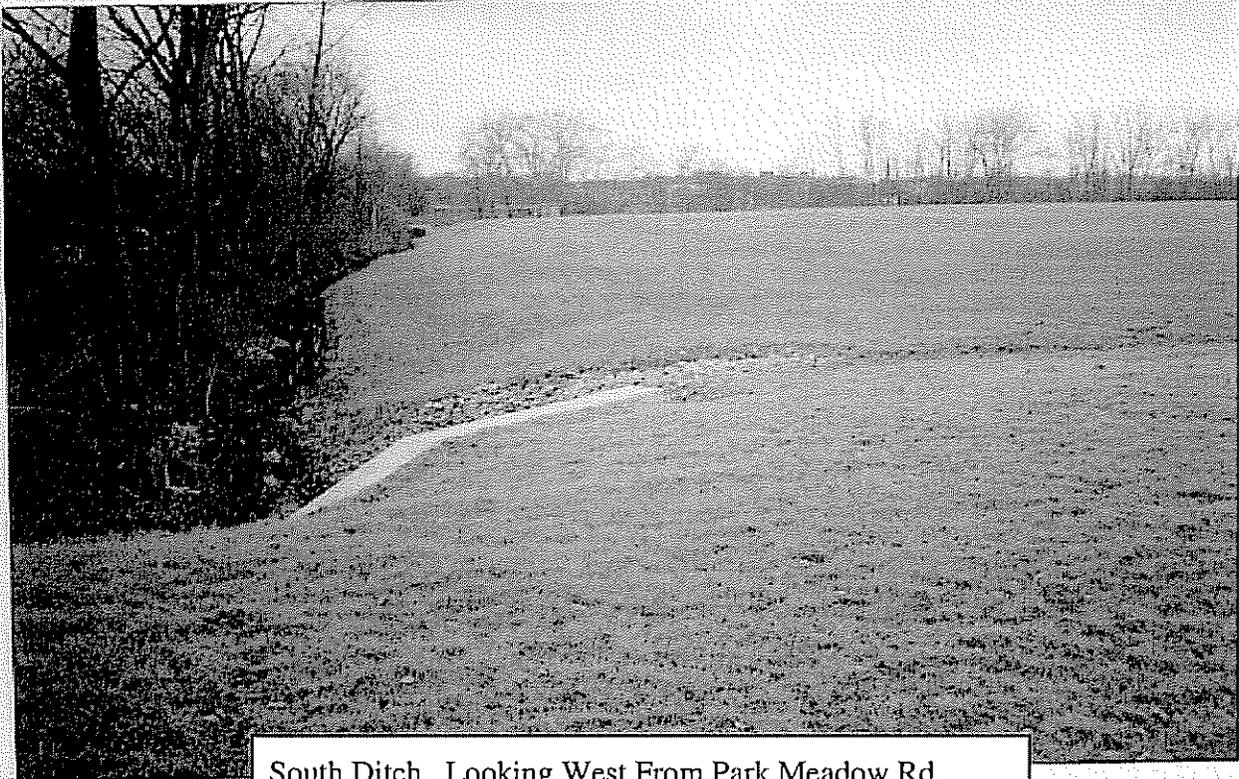
Print Name/Signature

Date

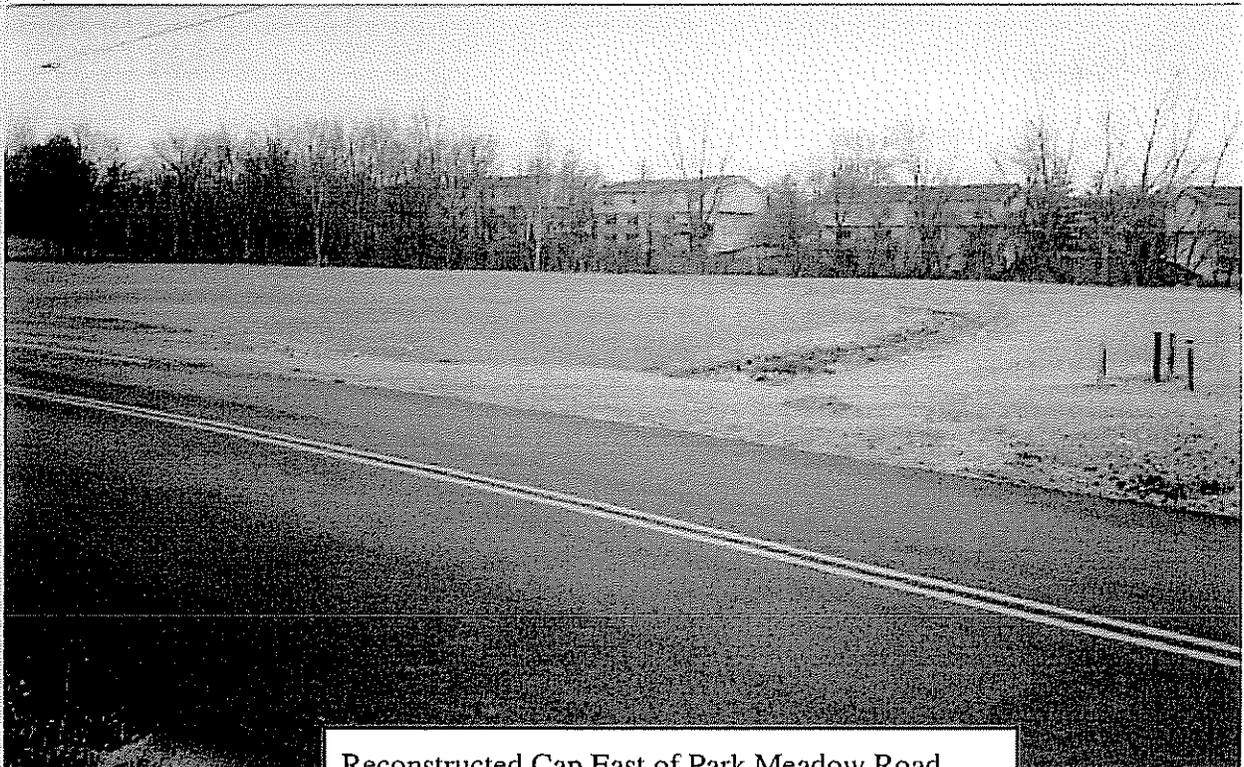
FRED MYERS / Fred Myers

7/24/02

Westerville Landfill. Photos Taken 2/22/02



South Ditch. Looking West From Park Meadow Rd.



Reconstructed Cap East of Park Meadow Road

Pre-CERCLIS Screening Assessment Report
for the
Westerville Landfill

Franklin County, Ohio

Prepared by :



Fred Myers
Division of Emergency and Remedial Response
Ohio EPA, Central District Office

Date: 7/24/02

Approved by:



Ken Schultz
Division of Emergency and Remedial Response
Ohio EPA, Central District Office

Date: 7/24/02



Deborah Strayton
Division of Emergency and Remedial Response
Ohio EPA, Central District Office

Date: 7/24/02

Pre-CERCLIS Screening Assessment Report
for the
Westerville Landfill

Executive Summary

In 2001, the Ohio Environmental Protection Agency (Ohio EPA) completed a Phase I Geographic Initiative of Lower Alum Creek (GI). Three landfills were identified in the GI that were not assessed for listing in the federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). Westerville Landfill is one of these sites. The purpose of the Pre-CERCLIS screening is to determine whether Westerville Landfill should be entered into CERCLIS. Ohio EPA completed this Pre-CERCLIS Screening Assessment under a grant from the United States Environmental Protection Agency, Region 5.

Westerville Landfill (a.k.a . Park Meadow Road Landfill) is located in the city of Westerville in a mixed residential-commercial area. Westerville operated the landfill from the 1930s until 1978. Ohio EPA completed a state preliminary assessment (PA) for the site in 1993 and detected polynuclear aromatic hydrocarbons (PAHs) in surface soil and on-site ditch sediment. In 2000, Westerville voluntarily reconstructed the cap on 26 acres of the landfill. The cap reconstruction was conducted under limited regulatory oversight by Ohio EPA, Franklin County Board of Health, and U.S. Army Corps of Engineers.

The cap reconstruction eliminated all potential migration pathways except ground water, which was not characterized. The ground water pathway target population within 4 miles of the site is estimated at 7060. Most of the target population is due to the Huber Ridge public water supply (located 2 miles south of the site), which serves approximately 7000 residents. Very few private wells remain because of land use changes and the availability of Westerville and Columbus municipal water. The ground water to surface water migration pathway is also possible. No surface water drinking water intakes are located downstream from the site. Human and exposure pathways are limited to direct contact and the food chain. No significant sensitive environments or endangered or threatened species were identified within 15 miles downstream from the site.

Site Description and History

Westerville Landfill is a 33-acre site, owned by the city of Westerville, which named the site the Park Meadow Road Landfill. The site is located within the Westerville city limits on Park Meadow Road (Longitude: -82° 56' 11"; Latitude: 40° 06' 50"). It is bordered by residential developments to the north and east, commercial businesses to the south; and Alum Creek to the west. A city service center, metal pole barn, road salt storage, and parks and recreation building are located at the northern end of the landfill (Figures 1 and 2).

Westerville owned and operated the landfill from its inception. Refuse disposal may have begun as early as the 1930s on a 7-acre tract of land. The size of the landfill increased in 1951 with the purchase of 5 acres of land and increased again in 1963 with the purchase of another 20 acres of land. Westerville quit accepting refuse at the site in 1978. The landfill was never licensed and had no operating or closure plans. Specific information on the type and quantity of the waste is not available because records were not kept. According to operator accounts, waste was dumped in excavations and then spread out and compacted with a bulldozer. The depth of the excavations were from 3 to 8 feet and was governed by the ground water table.

The landfill was covered with approximately one foot of fill dirt when it closed. During the 1980s, soil from excavation projects was placed over the original cap. By 1990, the average soil thickness over the waste was estimated to be 3 feet. Vegetation was not planted on the cap as cover.

In 1989, Ohio EPA required Westerville to monitor for explosive gases in accordance with Ohio Administrative Code (OAC) 3745-27-12. In 1992, unacceptably high concentrations of explosive gases were detected in eight (8) gas monitoring wells. Ohio EPA issued Findings and Orders in 1993, which required Westerville to abate the gas problem. Subsequently, Westerville installed a passive gas collection system.

In 1993, Westerville informed Ohio EPA of plans to build a park at the site. In December of 1993, Ohio EPA completed a state Preliminary Assessment (PA). Ohio EPA sampled surface soil, ditch sediment, and surface water. The sample results indicated polynuclear aromatic hydrocarbons (PAHs) present in the surface soil and ditch sediment. The maximum total PAH concentrations were 17.2 mg/kg in surface soil and 11.62 mg/kg in ditch sediment. Based on the sampling results, Ohio EPA recommended that Westerville cap the landfill.

In March of 1993, the Franklin County Board of Health sampled two (2) leachate seeps at the southern ditch. Several inorganic substances were detected including arsenic, barium, cadmium, chromium, copper, lead, manganese, nickel, silver, and zinc. Franklin County Board of Health recommended Westerville restrict access, require personnel to wear protective equipment, and control dust.

In 1995, Westerville withdrew the request to build a park. Instead, Westerville informed Ohio EPA that it planned to reconstruct 26 acres of the cap and alter the surface water drainage. In 1998, Westerville requested authorization from the Director of the Ohio EPA under OAC 3745-27-13 to add soil and to excavate portions of the landfill. Westerville also requested authorization from Ohio EPA and the U.S. Army Corps of Engineers under the Clean Water Act Sections 401 and 404 to relocate a stream that ran through the middle of the landfill. In 1999, the Director of the Ohio EPA authorized Westerville to excavate, fill, grade, and build on the Westerville Landfill in accordance with OAC 3745-27-13 and issued the Section 401 certification for the stream relocation. In 2000, the Army Corps of Engineer authorized Westerville to place fill material in the unnamed tributary to Alum Creek under Section 404. Westerville began the cap reconstruction during June of 2000 and completed construction in November of 2000. Reconstruction of the cap consisted of the items described below. Refer to Figure 2 for the construction details.

- Soil Overburden Excavation Area (Phase I Excavation). This area is referred to as the "Phase I Excavation" in the engineering reports. This is a 5.2-acre rectangular cell, located at the southwest portion of the landfill, where 5-10 feet of soil overburden was excavated. The soil was excavated to the top of the waste and was used for structural fill and general fill. The cavity was filled in with waste exhumed from other areas of the site. After the cavity was filled in with waste, the area was capped with at least 18 inches of recompacted soil, 6 inches of top soil, and grass.
- Storm Water Retention Basin. A storm-water retention basin was constructed where the "Middle Ditch" entered the site at its eastern end. Soil and waste were excavated from the area to create the retention basin. The excavated soil was used for structural fill and general fill. The waste was placed in the Phase I Excavation. A 24-inch thick low permeability clay liner was placed in the basin. The water flow in the Middle Ditch was diverted to the South Ditch.
- Structural Berms. Structural berms were constructed along the west and south perimeter of the landfill. Waste was exhumed in the areas where the berm construction took place and put in the Phase I Excavation. Structural fill was placed in the excavated areas to a height of between 3 to 10 feet, depending on the depth of the exhumed waste. The base of the west berm is approximately 20 feet wide, and the base of the south berm is approximately 32 feet wide.
- Northwest Corner. Waste was excavated from a 0.7 acre area located at the northwest corner of the site. The waste was placed in the Phase I Excavation. After the waste was removed, the area was capped with 18 inches of recompacted soil and 6 inches of top soil.
- Final Cap. The entire landfill was brought to capping grades per the design. Most of the soil used for the cap was imported from an off-site excavation

project. An estimated 80,000 cubic yards of soil was imported. The average elevation of the landfill was raised approximately 2 feet. A 6-inch lift of top soil was placed over the cap after final grading. The cap was then seeded and mulched.

- Erosion Controls. Erosion control matting was placed on the steep slopes adjacent to the South Ditch. Stone was used to protect channel slopes and drainage structure outlets and inlets.
- Miscellaneous Items. Westerville also installed several culverts; built a concrete bike path bridge over the South Ditch; installed a water line along Park Meadow Road; and improved Park Meadow Road. Any visual waste and debris outside of the waste fill limits was hauled to the Phase I Excavation.

Reconnaissance Activities

Ohio EPA-DERR personal visited the site on February 22, 2002. The site visit consisted of walking around the perimeter of the landfill to document the general effectiveness of the reconstructed cap. Ohio EPA did not observe any leachate seeps or visible waste at the site. Erosion controls appeared to be effective. The slope of the cap appeared fairly flat but with positive drainage. There were no visible adverse environmental impacts, and there were no indications of a release to Alum Creek or the drainage ditches. Photos of the site are attached.

Pathway Analysis

The site is located in a mixed residential/commercial area in urban Westerville. Residential housing borders the eastern part of the site and commercial office buildings border the southern part of the site. Westerville city employees work in buildings that were built on the north end of the site. According to Year 2000 census data, the estimated residential population is 5,715 within a one mile radius and 49,831 within a 4 mile radius of the site (Figure 3).

According to soil boring logs and trench data, the maximum thickness of the waste is 12 feet. The descriptions of the waste indicate that it is mostly solid waste and demolition debris. The waste is described as consisting of plastic, sand, cinders, glass, brick, concrete, paper, and trash. In most borings, waste was observed at the ground water table or just above it.

Potential migration pathways prior to cap reconstruction included leaching to ground water, leaching to ditches and Alum Creek, overland flow to ditches and Alum Creek, flooding, soil erosion, soil particulates, and landfill gas. Cap reconstruction has eliminated all of these potential migration pathways except ground water because it was

not characterized. The ground water to surface water pathway is also possible.

Ground Water Pathway

The site is located over a buried valley that was incised into Devonian age bedrock. The depth of the valley is approximately 100 feet in the vicinity of the site (ODNR, 1958). The buried valley sediments consist of glacial till with interbedded sand and gravel deposits. Stream alluvium deposited overlies the glacial sediments. The uppermost aquifer is the Alum Creek Alluvial Aquifer. This aquifer has a thickness of 25 -100 feet and can yield up to 100 gallons per minute of water. The underlying glacial sand and gravel can also yield ground water and is the principal aquifer south of the site. According to soil borehole logs drilled at the site in 1996, ground water was encountered sporadically in sand and gravel lenses 9-14 feet below ground surface. Based on the elevation of the ground water table in comparison to the elevation of Alum Creek, they are likely hydraulically connected. The borehole logs indicate waste was disposed of at the water table; therefore, hazardous substances have the potential to be released to ground water.

The human target population for the ground water pathway is estimated at 7060. A public water supply, Citizens Utility of Huber Ridge, is located 2 miles south of the site and serves 7000 residents (Figure 4). The well logs for 10 residences were identified within ½ mile of the site. The nearest wells were drilled approximately 900 feet southwest of the site. Most of these wells were drilled during the 1950s and 1960s; the most recent well drilled was in 1981. The depth of the wells range from 16 to 78 feet below the ground surface. Land-use has changed from residential to commercial in this area. It is not known how many of these wells are still in existence or are being used.

If the ground water is contaminated, the contaminants would likely leach into Alum Creek. The ground water to surface water pathway is therefore a potential pathway.

Surface Water Pathway

The nearest major surface water body is Alum Creek, which is adjacent to the western boundary of the site. Alum Creek is a major perennial stream in Central Ohio. According to United States Geological Survey stream flow observations, Alum Creek has an average flow rate of 114 cubic feet per second in the Westerville area. It is classified as a warm water habitat and its use designation is primary contact recreation, public water supply, industrial water supply, and agricultural water supply.

An observed release to Alum Creek has not been documented. There are no surface water intakes downstream from the site; therefore, potential human target populations are limited to the food chain pathway and direct contact with surface water/sediment. The only identified sensitive environment are small scattered wetland areas adjacent to

Alum Creek (Figure 5). No state or federal endangered species have been found in Alum Creek in recent years. Therefore, the only potential environmental targets are local aquatic organisms and food chain organisms.

References

Banbury, Susan, 2002. City Engineer. Personal Communications, March-April, 2002.

Ohio Department of Natural Resources, 1958. *Map Illustrating The Ground Water Resources of Franklin County, Ohio.*

Ohio EPA, 1993. *Preliminary Assessment for the Westerville Landfill*, December 3, 1993.

Ohio EPA, 2001. *Phase I Geographic Initiative, Lower Alum Creek Watershed*, September, 2001.

Ohio EPA, 2002. Information on file at the Central District Office of the Ohio EPA.

Ohio EPA 2002. Geographical Information System Data

RD Zande and Associates, 2001. *Construction Certification Report, Park Meadow Road Landfill*, January 31, 2001.

Year 2000 Census Data. www.factfinder.census.gov

Figures

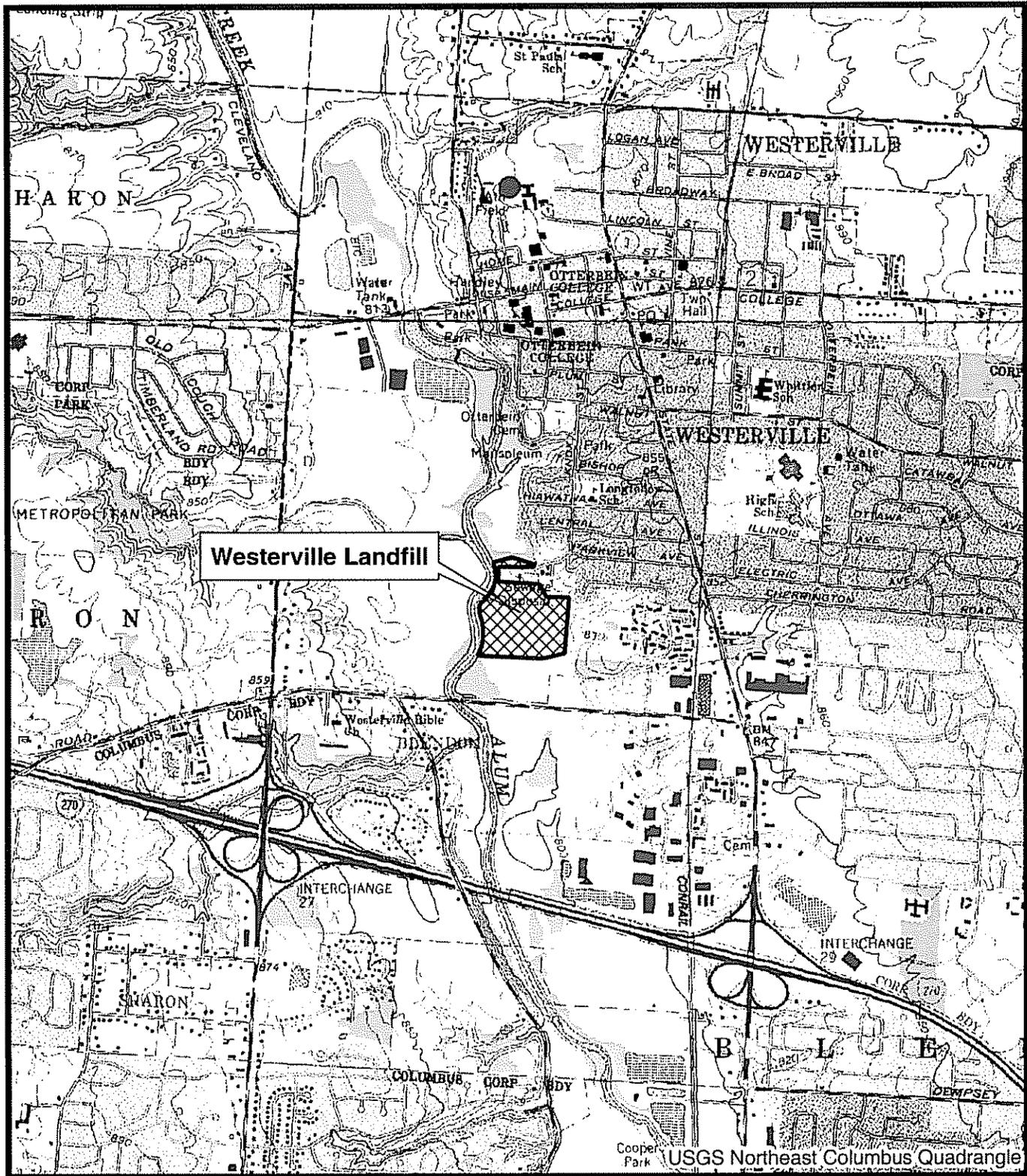
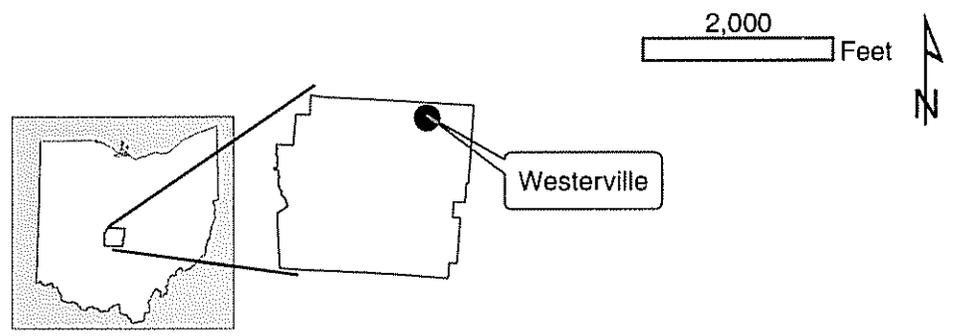


Figure 1
 Site Location
 Westerville Landfill
 Franklin County, Ohio



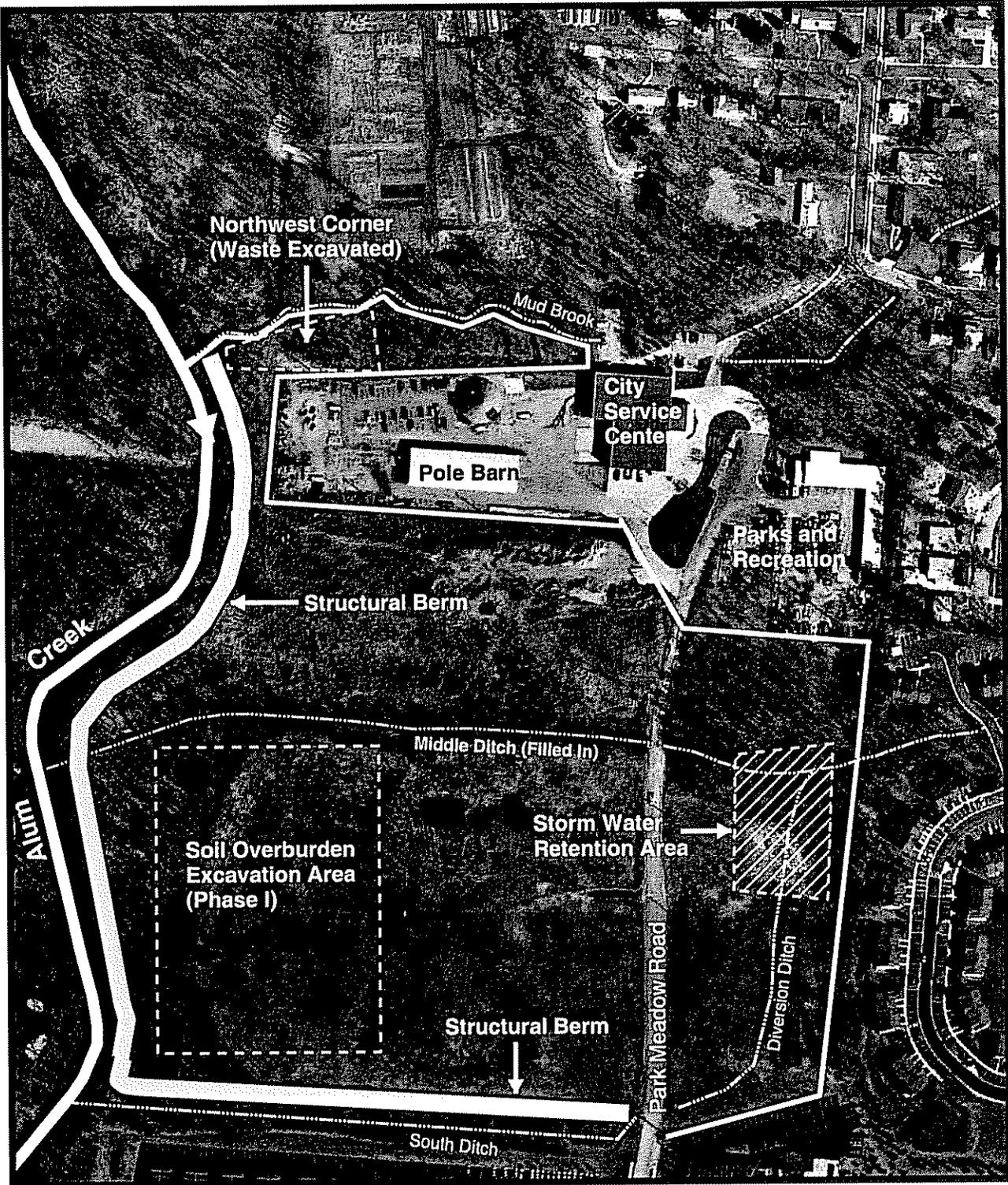
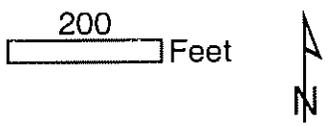


Figure 2
 Westerville Landfill
 Site Features
 Major Cap Reconstruction Details
 (Photograph Taken Prior to Construction)



Legend

VALUE

-  Agriculture/Open Urban
-  Scrub/Shrub
-  Wooded
-  Open Water
-  NonForested Wetlands
-  Barren
-  roads_major
-  roads_local
-  roads_municipal

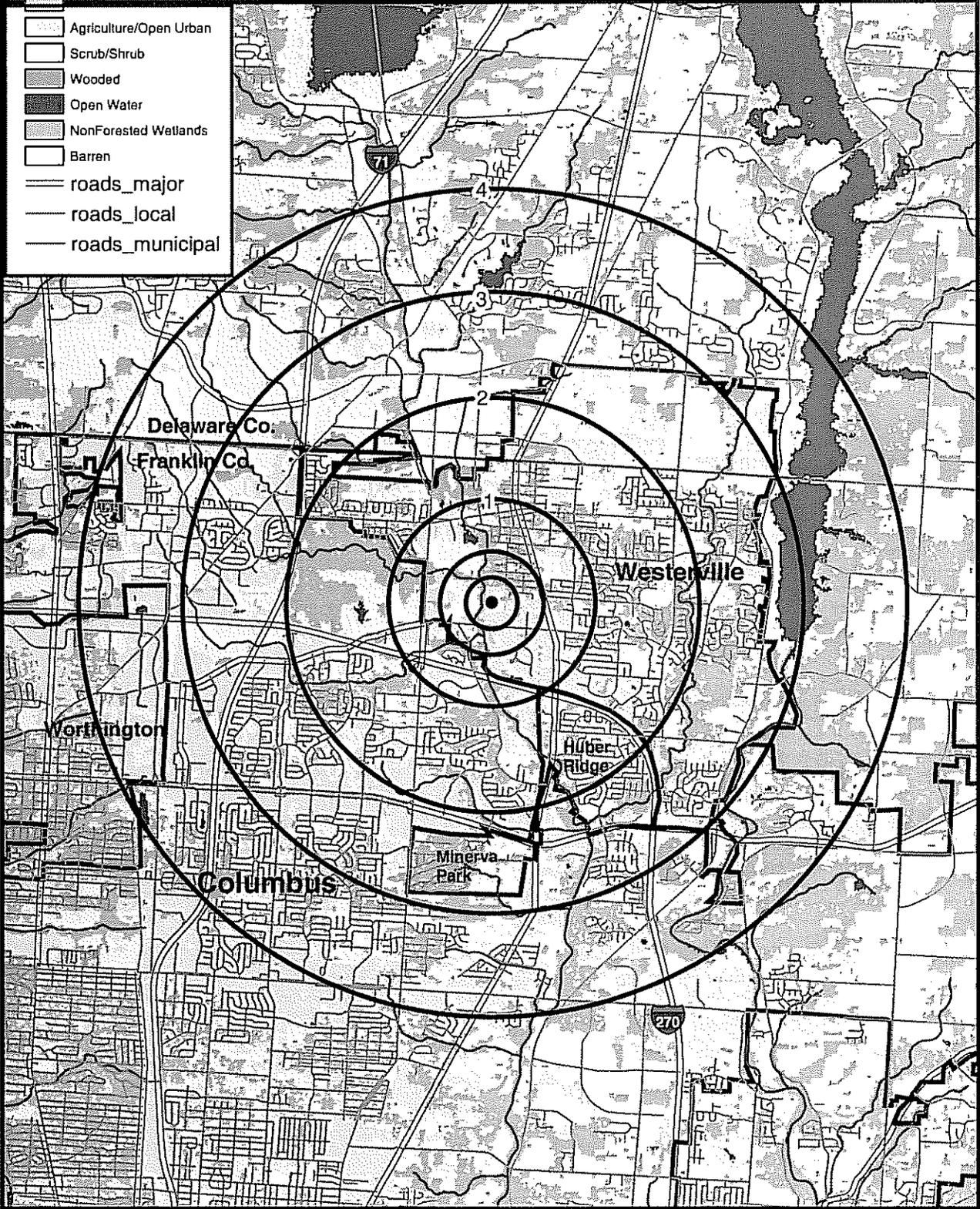


Figure 3
Westerville Landfill
Distance Rings
General Land Use

Radius	Population
0.25	440
0.5	1,764
1.0	7,479
2.0	39,626
3.0	88,578
4.0	138,409

5,000 Feet



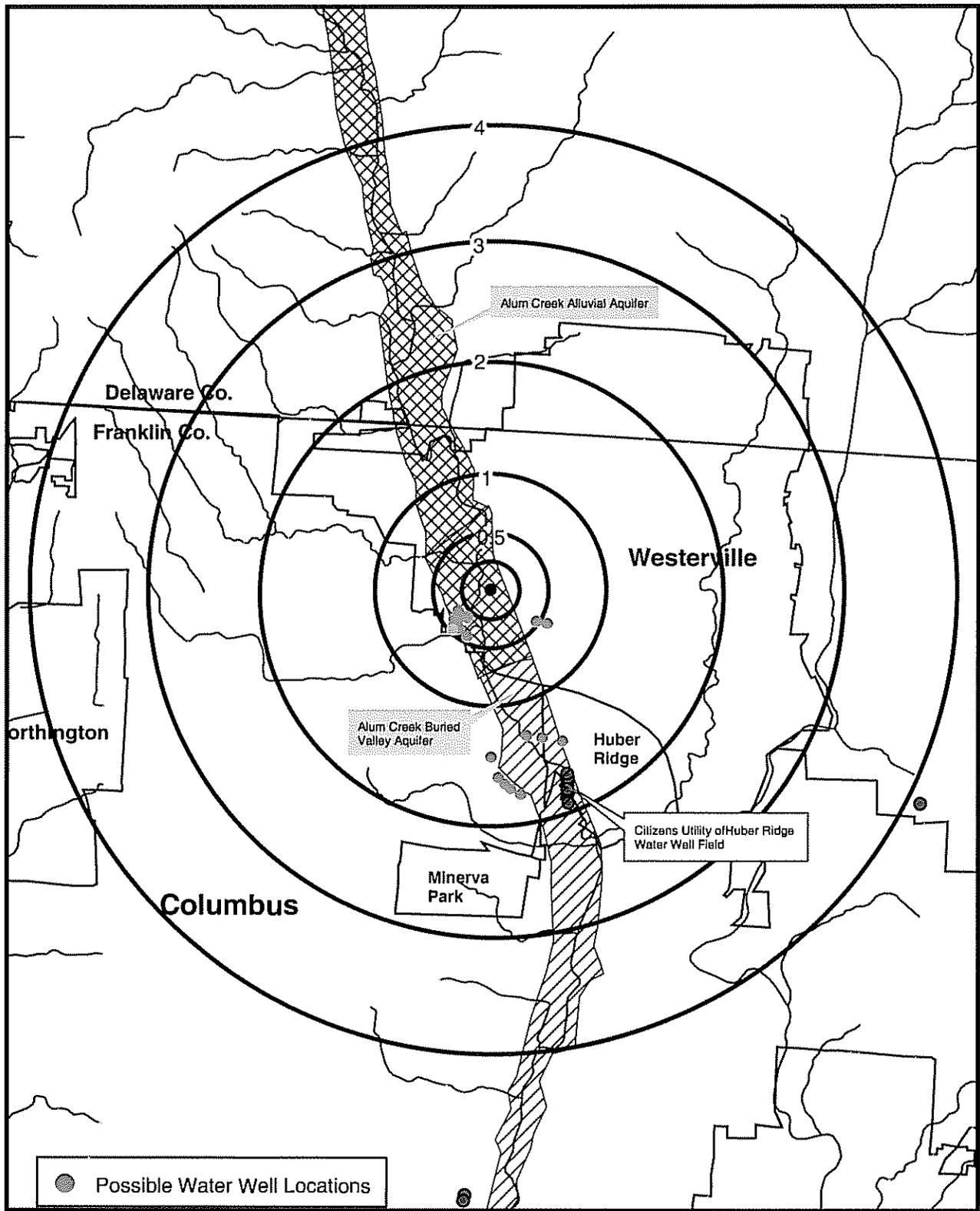


Figure 4
 Westerville Landfill
 Potential Ground Water Targets

5,000 Feet



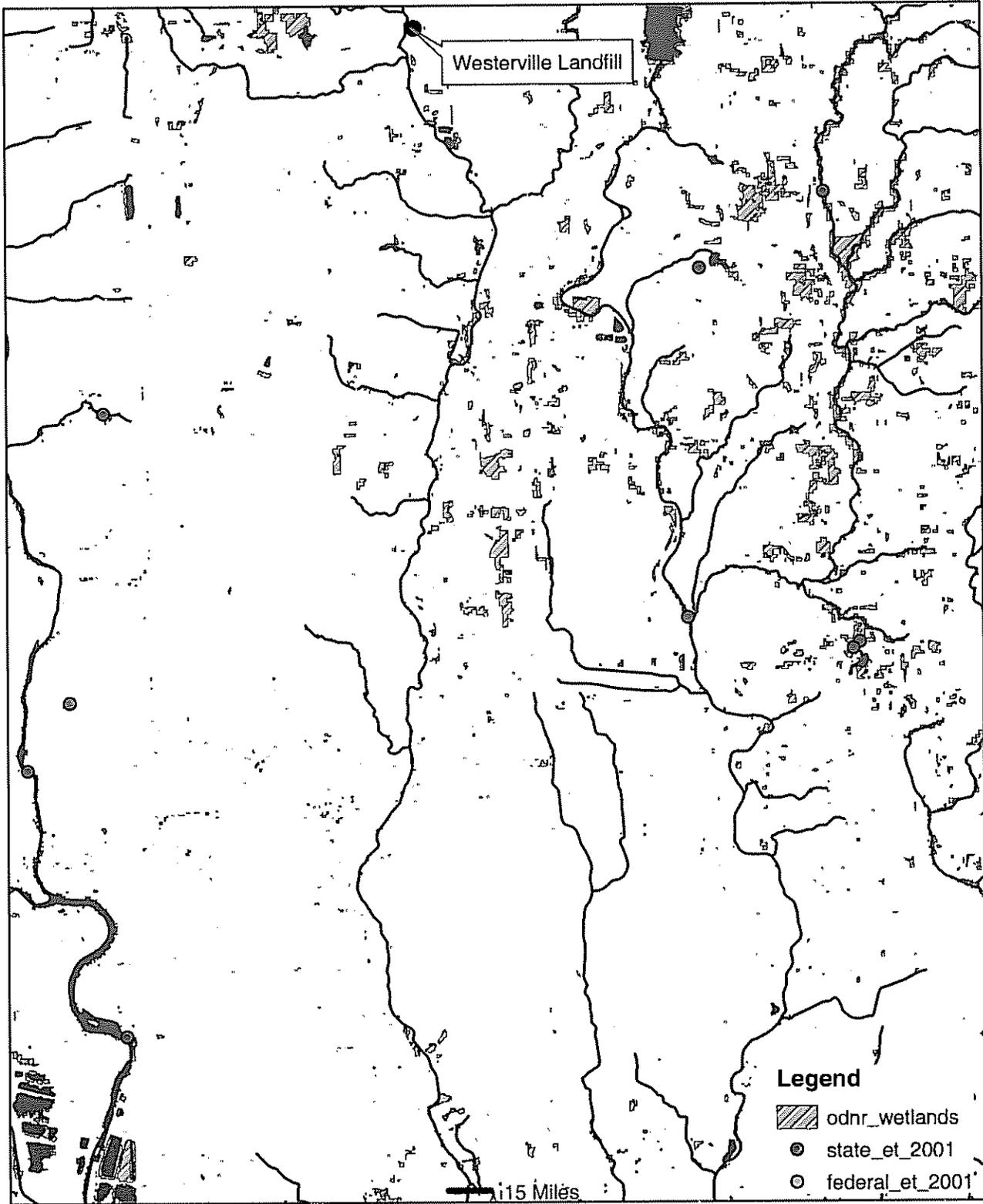


Figure 5
 Westerville Landfill
 Environmental Targets

10,000 Feet

