



MIAMISBURG CLOSURE PROJECT RISK BASED END STATE VISION



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ACRONYMNS

ARAR	Applicable Relevant and Appropriate Requirements
BVA	Buried Valley Aquifer
CERCLA	Comprehensive Environmental Response, Compensation and Liabilities Act
CSM	Conceptual Site Model
D&D	Decontamination and Decommissioning
DOE	Department of Energy
FFA	Federal Facilities Agreement
HI	Hazard Index
MCL	Maximum Contaminant Level
MCP	[DOE] Miamisburg Closure Project
MMCIC	Miamisburg Mound Community Improvement Corporation
MNA	Monitored Natural Attenuation
MRC	Monsanto Research Corporation
NCP	National Contingency Plan
NPL	National Priorities List
OEPA	Ohio Environmental Protection Agency
ODH	Ohio Department of Health
OU	Operable Unit
PRS	Potential Release Site
RAGS	Risk Assessment Guidance for Superfund
RBES	Risk Based End State
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SM/PP	Special Metallurgical/Plutonium Processing
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This document presents a regional, site vicinity, and hazard area level description of the existing risk-based Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA) Program for the Mound site and a discussion of the End State.

Miamisburg Closure Project (MCP) currently has a regulator approved, stakeholder endorsed, end state program under CERCLA. The current closure baseline is consistent with this approach, thus, there is no variance between the RBES Vision and the current baseline. This document presents the United States Department of Energy's (DOE's) estimated End State vision and was prepared in accordance with DOE Policy 455.1, which clearly states that the RBES is not intended to be a decision document. DOE P 455.1 recognizes that remedy decisions must be made within the existing decision-making framework. Actual site remediation decisions will continue to be based on compliance with CERCLA, the site Federal Facilities Agreement (FFA), and the Mound 2000 Work Plan as approved by regulators and endorsed by stakeholders in 1997 (references 3, 4, 9).

Three Hazard Areas have been identified – 1) Volatile Organic Compound (VOC) contamination in soil and groundwater; 2) Residual radionuclide contamination in soil; and 3) Tritium in the bedrock aquifer (e.g. seeps) above Maximum Contaminant Levels (MCL's). A summary table of the current and RBES End States for the three hazard areas follows:

Hazard Area	Current End State	RBES Vision
VOC Contamination in Soil & Groundwater	-Collection, treatment & disposal of contaminated groundwater and reduced infiltration leading to monitored natural attenuation (MNA) inside the compliance boundary; -Institutional Controls to maintain requirements of the 1995 OU1 ROD; -MNA for two wells and a seep in Phase 1 parcel. -Prohibition against the use of groundwater.	Same as Current End State
Residual Radionuclide Contamination in Soil	-All soils above acceptable risk range (10^{-4} - 10^{-6}) excavated and shipped offsite. -Implementation of surface controls; -Deed restriction prohibiting removal of soil from the original 306 acre site. -Prohibition against the use of groundwater.	Same as Current End State
Tritium in the Bedrock Aquifer (e.g. Seeps)	-Source term removal pre-2006 closure; -Performance monitoring of remedy post-2006 closure.	Same as Current End State

Industrial/commercial use was agreed upon by the Federal and State regulators, the Miamisburg Mound Community Improvement Corporation (MMCIC), and the City of Miamisburg as the cleanup scenario with respect to the risk of a commercial worker and a construction worker. In accordance with the Mound 2000 Residual Risk Evaluation Methodology, two scenarios are evaluated: commercial worker and construction worker (reference 8). In order to maintain industrial/commercial land use and maintain compliance with the existing Records of Decision (RODs), deed restrictions will be in effect at closure across the entire site. Federal and State agencies will also maintain site access for purposes of sampling and monitoring.

The current Conceptual Site Model (CSM) for the Mound Plant was developed in the early phases of the CERCLA Program and has been approved by the regulators and reviewed by the public. The CSM identifies the potential route of exposure to contaminants. The PRS's and buildings are the potential sources of contamination. The identified exposure media in the conceptual site model for populations of interest (receptors) are soil, air, ground water, and surface water/sediments.

Ecological evaluations completed to date (references 1, 2, 5, 11, 12) have not identified any sensitive environments or ecologically important resources and have not observed any threatened or endangered species. The conclusion of these investigations is that a detailed assessment of ecological risk is not warranted.

As sections of the site are cleaned up, ownership will be transferred from the DOE to the Miamisburg Mound Community Improvement Corporation (MMCIC), a nonprofit corporation formed by the City of Miamisburg to develop the site into an industrial park. At completion of the CERCLA Program, the entire site will be available for transfer to the MMCIC per the 1998 Sales Contract between DOE and the MMCIC. The current baseline, DOE Draft RBES Vision, and the previous version of the MMCIC Comprehensive Reuse Plan (CRP) is consistent with all site regulatory requirements. However, the MMCIC's recent revision to the CRP, dated December 2003, is inconsistent with requirements of the 1995 OU1 ROD prohibiting filling, grading, excavating, building, drilling or mining on the OU1 landfill.

Through implementation of the Mound cleanup approach, the DOE has completed actions for approximately 50% of the potential release sites (PRS's) and 70% of the buildings. In addition, approximately 40% of the property has been transferred to the MMCIC with an additional 20% expected to be available for transfer in FY 2004. The projected closure date for the cleanup project is no later than March 31, 2006.

1.0 INTRODUCTION

This document presents the Risk-Based End State (RBES) vision for the Miamisburg Closure Project (MCP), formerly the Mound site, and was prepared in accordance with the United States Department of Energy (DOE) Policy 455.1 and the DOE/EM "Guidance for Developing a Risk-Based, Site-Specific End State Vision." This document presents DOE's estimated End State at Mound and is not intended to be a decision document.

The Mound site began operations in 1948 in support of the early atomic weapons programs. Mound grew into an integrated research, development, and production facility performing work in support of U.S.DOE weapons and energy programs, with emphasis on explosives and nuclear technology.

The current Environmental Restoration Program was initiated in 1984 and was formalized as a CERCLA Program in 1990 with the signing of a Federal Facilities Agreement. The cleanup program was modified in 1999. The Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach (reference 9) dated February 1999 documents the integrated process of individual remedy evaluation and selection consistent with the post remediation future. The work plan formalizes the regulatory and stakeholder agreement with the integrated process and the current CERCLA FFA (reference 4). Site specific risk-based criteria were developed in the early 1990's and have been utilized to guide the cleanup efforts. The site is currently operating under this modified approach (Mound 2000) and expects to achieve closure on or before March 31, 2006.

1.1 Organization of the report

This document presents a description of the existing risk-based CERCLA Program for the Mound site and a discussion of the End State that will exist when the cleanup program is completed. This analysis is provided on a regional, site vicinity, and hazard area level in Sections 2, 3, and 4, respectively. Appendix A contains map(s) and Appendix B contains conceptual site models reflecting the current and anticipated End State as described in Sections 2-4. Appendix C contains a summary of regulatory and stakeholder interactions as well as a brief description of obstacles to implementation of the End State that were illuminated during regulator and stakeholder interactions. Lastly, Appendix D provides a lesson learned regarding the need for comprehensive alternative analyses in support of CERCLA remedy selection processes in order to implement risk-based end states.

1.2 Site Mission

In 1943, the Monsanto Research Corporation (MRC) accepted the mission to determine the chemical and metallurgical properties of polonium. MRC performed this work for the Manhattan Engineer District at a number of sites that are collectively referred to now as the Dayton Units. In 1946, 182 acres in Miamisburg were purchased for the permanent Mound Plant location. In 1948, the work being performed at the Dayton Units was moved to the Mound site. In January of 1949, the Mound Plant began research operations involving other radionuclides.

Mound grew into an integrated research, development, and production facility performing work in support of U.S.DOE weapons and energy programs, with emphasis on explosives and nuclear technology.

The energy programs included the development and fabrication of components for a variety of radioisotopic heat sources fueled with ^{238}Pu having thermal outputs ranging from 0.2 watt to several thousand watts, assembling and testing radioisotopic thermoelectric generators, and acting as lead laboratory for heat source programs supporting the national space programs.

The weapons program missions included process development, production engineering, manufacturing and surveillance of detonators, explosive timers, explosive actuated transducers, explosive pellets, nuclear components, and specific testing equipment.

The main function at Mound was to manufacture non-nuclear components and tritium-containing components for nuclear weapons. Its major objectives were:

- Manufacture detonators, explosive timers, explosive-actuated transducers and switches, explosive pellets for the nuclear weapons program, firesets, and pyrotechnic actuators.
- Develop and manufacture small heat sources for the national defense program.
- Manufacture tritium components for nuclear weapons applications.
- Perform surveillance and quality assurance on explosive detonators and radioactive components received from other U.S.DOE sites.

- Develop materials and processes for potential future manufacturing of components and explosive-actuated mechanisms containing chemical explosives.
- Develop tritium processes and materials for possible future production.
- Recover and purify tritium generated by tritium operations at various U.S.DOE sites.
- Manage procurement of ordinance materials for weapons programs.
- Conduct investigations on chemical explosives and pyrotechnics; plastics, elastomers and adhesives of interest to the nuclear weapons program; fuel systems for thermonuclear energy research programs; joining of exotic metals; instrumentation for the nuclear safeguards program; separation techniques and gas dynamics relating to stable isotopes; energy conversion systems; and management of radioactive wastes.
- Develop and implement technologies to decommission and decontaminate radioactive facilities.

Mound activities also included programs to separate, purify, and market stable (nonradioactive) isotopes including the noble gases, sulfur, chlorine, and bromine, and market the isotopes of carbon, nitrogen, and oxygen.

In the early 1970's, as national concerns about the environment and the conservation of resources mounted, the Mound Plant expanded its programs in environmental control, waste management, and energy conservation.

Comprehensive chemical and radionuclide characterizations have been performed at various locations throughout the plant. Contamination has been found in four different media (soil, groundwater, surface water, and buildings/structures) at the Mound Plant. The majority is low-level radioactivity in soil.

In 1984, the Environmental Restoration Program at Mound was established to collect and assess environmental data in order to evaluate both the nature and extent of contamination and to identify potential exposure pathways and potential human and environmental receptors (i.e., develop a conceptual site model).

In November of 1989, the USEPA placed Mound on the National Priorities List (NPL) because of VOC contamination present in the site groundwater and the site's proximity to the Buried Valley Aquifer, a designated sole source aquifer. DOE, USEPA, and OEPA developed a procedural framework for the assessment and remediation of the site under CERCLA that was documented in the Federal Facility Agreements of 1990 (6) and 1993 (8).

Initially, the remediation of the Mound Plant was organized around nine Operable Units (OU's):

- OU1: Included volatile organic compound (VOC) contamination in the Buried Valley Aquifer originating from a presently buried landfill area. (Note: this is the reason for inclusion of Mound on the NPL.)
- OU2: Included the main hill and the main hill seeps where contaminated groundwater perched on the bedrock.
- OU3: Included 22 miscellaneous areas at Mound that required limited field investigations since little or no data were available.
- OU4: Included the Miami-Erie Canal; an area adjacent to the Mound Plant that had soils and/or sediments contaminated with plutonium-238 and tritium but no history of chemical contamination.
- OU5: Included most of the SM/PP hill and South Property (124 acres added in 1981 to the original 182 acres) that contains numerous areas of concern contaminated principally with thorium and plutonium.
- OU6: Included 12 areas of radioactive contamination that were part of the Decontamination and Decommissioning (D&D) program. The D&D program restored surplus facilities for reuse (decontamination) and dismantled and removed surplus contaminated facilities, utilities, equipment, and soil (decommissioning). The first D&D project at Mound addressed the Dayton units. The D&D program has been in continuous operation since 1978. Originally, the D&D and CERCLA programs were separate and distinct. After DOE decided to move production operations from Mound and exit the site, the differences between the programs started to dissolve and the D&D Program was combined with the CERCLA Program.
- OU7: Included 35 sites identified by the Resource Conservation and Recovery Act (RCRA) Facilities Assessment as requiring "No Further Action" per the assessment.

OU8: Included six underground storage tanks (later expanded to 108 tanks).

OU9: Included site-wide investigations designed to collect information about the site on a comprehensive basis and focused on media and contaminants with the potential to be transported off-site.

1.3 Status of Cleanup Program

The DOE and its regulators had originally planned to address the plant's environmental restoration issues under this set of OU's, each of which would include a number of Potential Release Sites (PRS's). For each OU, the site would follow the traditional CERCLA process: a Remedial Investigation/Feasibility Study (RI/FS) followed by a Record of Decision (ROD) followed by Remedial Design/Remedial Action (RD/RA). After initiating remedial investigations for several OU's, the DOE and its regulators realized during a strategic review in 1995 that, for Mound, the OU approach was inefficient. The DOE and its regulators agreed that it would be more appropriate to evaluate each PRS or building separately and use removal action authority to remediate them as needed. In accordance with the Mound 2000 Work Plan, the DOE and its regulators plan to complete all remaining remedial actions utilizing removal action authority pursuant to 40 CFR 300.415. After completing all necessary removal actions for a specific area or parcel, a Residual Risk Evaluation is performed prior to issuance of a Record of Decision (ROD) for that parcel. The ROD will allow the site to be de-listed from the NPL and will contain institutional/engineering controls, i.e., deed restrictions. Although the process is different from RI/FS, it is, by design consistent with CERCLA and the National Contingency Plan (NCP).

The Sales Contract between DOE and the Miamisburg Mound Community Improvement Corporation (MMCIC) (reference 9) dated January 23, 1998, establishes that DOE will convey the entire Premises by discrete parcels, subject to the CERCLA §120(h). Once regulatory approval is received with either an operating properly and successfully determination, or a covenant that all remedial action necessary has been taken before the date of transfer and any additional remedial action found to be necessary will be taken by DOE, each parcel of land is transferred via a quitclaim deed. The quitclaim deed contains or refers to restrictions required under CERCLA to ensure that the parcel being transferred is protective of human health and the environment (i.e., as addressed in the Record of Decision). The preparation of the quitclaim deed, consequently, requires input from the CERCLA process. The quitclaim deed transfers ownership of the land and establishes that MMCIC will take the land "as is" and "where is." Although the deed does not contain a warranty for the land,

DOE maintains responsibility for cleanup if contamination resulting from previous DOE activities (that pose a risk to human health and the environment) is discovered in the future (reference 10).

DOE, the regulators and the MMCIC have agreed on “industrial use” as the future land use for the site and have evaluated two scenarios: commercial worker and construction worker. At closure, the following deed restrictions will be in effect across the entire site: 1) Maintenance of industrial/commercial land use, 2) Prohibition against residential use, 3) Prohibition against the use of groundwater, 4) Site access for federal and state agencies for the purpose of sampling and monitoring, and 5) Prohibition against the removal of soils from the DOE property (as owned in 1998) without approval from the USEPA, the OEPA and the ODH. Since other scenarios (e.g. - residential or agricultural) could be more restrictive than the selected industrial scenario, these deed restrictions are necessary to ensure that the residual conditions remain protective after site closure.

A “core team” was formed consisting of representatives of DOE, USEPA, and OEPA with decision-making authority. This core team has the responsibility to reach consensus on whether or not certain areas of concern are protective of human health and the environment, and what subsequent action needs to be taken. In order to make these decisions, the core team works with and receives input from the project team. The project team is composed of technical experts from both the contractor and DOE. The members of the project team have in-depth knowledge of process history, regulations, and technologies appropriate for identifying environmental concerns and addressing concerns. The involvement of the project team is important not only to provide input to the core team, but also because the project team is responsible for implementing the core team’s decisions and therefore needs to understand the core team’s objectives. The core team receives input from stakeholders to ensure that the concerns of the local community and future site users are considered during decision making. The stakeholders provide comments on key environmental concerns, selecting response actions, and ensuring that the overall goal of protecting human health and the environment is achieved as expediently as practicable. The teaming approach and the processes developed to implement Mound’s innovative cleanup strategy together comprise “Mound 2000.”

The core team’s mission under “Mound 2000” is to ensure that environmental restoration activities achieve protection of human health and the environment (10^{-4} to 10^{-6} excess cancer risk and a Hazard Index of less than 1 for non-carcinogens) for the anticipated future land use. DOE and the MMCIC have agreed on “industrial use” as the future land use for the site. It is the core team’s responsibility to evaluate the risk

from exposure to residual contamination and to ensure that the property will be protective when released to the community for industrial/commercial reuse. The core team has identified the appropriate exposure pathways, parameters, and equations for performing the Residual Risk Evaluation for an industrial future land use. *The Risk Assessment Guidance for Superfund (RAGS)*, Part A (reference 2) recommends the evaluation of exposures based on a reasonable maximum exposure. The core team used this national guidance to produce "*Mound 2000 Residual Risk Evaluation Methodology*" (reference 8). This document provides a basis for evaluating site conditions and ensuring that the release of portions of the site to the community for industrial use is protective. This document also lists the exposure parameters for the two scenarios to be evaluated: commercial worker and construction worker.

The above process has been applied consistently across the site with the exception of the removal action at PRS 66. A discussion of PRS 66 is provided in Appendix D as a lesson learned regarding the need for comprehensive alternative analyses in support of CERCLA remedy selection processes in order to implement risk-based end states.

Through implementation of the Mound 2000 approach, the DOE has completed actions for approximately 50 % of the PRS's and 70 % of the buildings. In addition, approximately 40 % of the property has been transferred to MMCIC with an additional 20 % expected to be available for transfer in FY 2004. The projected closure date for the cleanup project is March 31, 2006. See Parcel Map (Figure 1.3).

2.0 REGIONAL CONTEXT RISK-BASED END STATE DESCRIPTION

The Mound Plant is located in southwestern Ohio approximately ten miles south-southwest of Dayton and 35 miles north-northeast of Cincinnati.

2.1 Physical and Surface Interface

The Mound Plant initially occupied a total of approximately 182 acres within the southern city limits of Miamisburg, Ohio, located ten miles southwest of Dayton (Figure 2.1b). The northern boundary of the site is approximately 0.1 mile south of Mound Avenue in Miamisburg. Mound Avenue curves south, becomes Mound Road, and runs along the eastern boundary of the plant. Benner Road forms the southern boundary of Mound Plant. Finally, the Norfolk Southern Railroad, formerly Penn-Central, roughly parallels the western boundary. A railroad spur enters the plant from the west and terminates in the lower plant valley.

Residential/recreational properties and agricultural areas surround the Mound Plant.

The predominant geographical feature in the region surrounding the Mound Plant is the Great Miami River, which flows from northeast to southwest through Miamisburg. Mound Plant sits atop an elevated area overlooking Miamisburg, the Great Miami River, and the river plain area to the west. Also to the west of the plant is an abandoned section of the Miami-Erie Canal that parallels the river. An intermittent stream runs through the plant valley and drains to the river. The Buried Valley Aquifer (a sole source aquifer) roughly parallels the river and extends underneath the western edge of the site.

In 1981, DOE purchased an additional 124 acres of land south of the original 182 acres as an environmental buffer. However, the property remained undeveloped due to the lack of additional work scope.

2.2 Human and Ecological Land Use

Miamisburg is mostly a residential community, with some supportive commercial facilities and limited industrial development. Most of the residential, commercial, and industrial development within a 5-mile radius of the site is concentrated on the Great Miami River flood plain. The adjacent upland areas are used primarily for residences and agriculture. Agricultural land within a 5-mile radial area around the site is used primarily for corn and soybean production and for livestock grazing. Most of the residential development on the upland areas is relatively new in comparison with development on the flood plain. It is likely that most future development in the area will occur on the upland areas.

Miamisburg has 13 parks and 4 playgrounds. Mound Golf Course and Miamisburg Mound State Memorial Park, directly east of the facility across Mound Road, are heavily used during favorable weather. The park is the site of the 68-ft high Indian mound (Miamisburg Mound), which is located 380-ft east-southeast of the site boundary. The Miamisburg Mound is the only historic landmark in the immediate vicinity of Mound.

The major body of water in the Mound vicinity is the Great Miami River, which is approximately 150-200 ft wide. The Great Miami River is not used for commercial barge traffic or commercial fishing, but some pleasure boating and sport fishing do occur, usually during the summer.

Figure 2.2b shows the human and ecological land use on a regional basis.

3.0 SITE SPECIFIC RISK-BASED END STATE DESCRIPTION

Mound is situated on a high area overlooking Miamisburg, the Great Miami River, and the river plain area to the west. The property is characterized by two high areas divided by a minor northeast-southwest trending valley (the original Mound site), and the more recently acquired property to the south. Most of the buildings are located on the northwest high area. A smaller group of buildings is located on the southeast high area, and several buildings are located in the valley and on the valley slopes.

Four maps illustrate the end state description of the key physical and surface features, the human and ecological land use, the legal ownership, and the site demographics. Since this is a vision document and some final CERCLA decisions have not yet been made, the boundaries of the areas of concern and the number and location of monitoring wells shown on these maps are only an estimate.

3.1 Physical and Surface Interface

The original Mound buildings were constructed primarily on the northern and eastern portions of the original 182-acre site. The “Miamisburg Mound Comprehensive Reuse Plan”, developed by MMCIC, reflects the eventual development of most of the total 306 acre site into an industrial park. However most of the development on previously undeveloped land is expected to occur after closure and is not reflected in the RBES map (Figure 3.1b). This map does not reflect any building construction by MMCIC that is expected to occur prior to closure.

3.2 Human and Ecological Land Use

The Mound Plant is located in the Eastern Deciduous Forest Province in the transition zone between the beech-maple forest and oak-hickory forest plant associations. Much of the original farm property has been altered through construction and use; however, small tracts of forest and scrub-shrub vegetative communities occur on the slope of the SM/PP Hill and in the valley separating the two hills. Land use in the areas north, east, and west of the Mound Plant is largely residential with relatively low population density. In 1981, DOE purchased the undeveloped tract of land to the south, now known as the South Property. Since that time, access to the 124-acre South Property has been restricted. For nearly two decades, the only notable disturbances in this area were periodic mowing of the grasslands by facilities maintenance and occasional field training exercises by the Mound Plant.

Since the site will remain zoned industrial after remediation is completed, the future human and ecological land use (Figure 3.2b) is not expected to be different from the current conditions.

3.3 Site Context Legal Ownership

As sections of the site are cleaned up, ownership will be transferred from the DOE to the Miamisburg Mound Community Improvement Corporation (MMCIC), a nonprofit corporation formed by the City of Miamisburg to develop the site into an industrial park. This transfer is governed by a 1998 sales contract between DOE and MMCIC. At completion of the CERCLA Program, the entire site will be available for transfer to the MMCIC (Figure 3.3b).

3.4 Site Context Demographics

As the DOE continues to complete cleanup operations and reduce no longer needed workforce, the MMCIC will be receiving ownership of sections of the site and it is expected that they will attract new industrial operations. Thus the demographics across the site are not expected to change significantly, although there may be periodic fluctuations in the total workforce on site. The end state demographics are shown in Figure 3.4b.

4.0 HAZARD SPECIFIC DISCUSSION

As identified in the RBES Guidance, three Hazard Areas have been identified – 1) VOC contamination in soil and groundwater; 2) Residual radionuclide contamination in soil; and 3) Tritium in the bedrock aquifer above MCL's. These areas are shown in Figure 4.0a (current) and 4.0b (RBES).

The VOC Hazard area is located on the western part of the site and includes OU-1 soil and groundwater contamination, additional elevated levels of VOC's in both the BVA and the bedrock aquifer to the south of and outside of OU-1, and two small areas of elevated VOC's in soil north and east of OU-1.

The residual radiological contaminated soil Hazard Area focuses on known levels of residual radionuclides that are at numerous locations across the site. The primary radionuclides are Pu-238 and Th-232.

The third hazard area is represented by MCL exceedances for tritium in the bedrock aquifer and some offsite seeps. It is anticipated that the planned removal of the source term in 2005 (contaminated soil moisture under R/SW Buildings) will remedy this issue prior to closure. If the levels still exceed MCL's at closure, it is expected that performance monitoring will be necessary as post closure actions to assure that the source term removal is effective until the seeps are

below MCL's. Local officials and the MMCIC have expressed an expectation for the seeps to meet MCLs by the 2006 closure date and object to long term performance monitoring.

Figure 4.0a2 shows the current Conceptual Site Model (CSM) for the Mound Plant. This CSM was developed in the early phases of the CERCLA Program and has been approved by the regulators and reviewed by the public. The CSM identifies the potential route of exposure to contaminants. The PRS's and buildings are the potential sources of contamination. The identified exposure points in the conceptual site model for populations of interest (receptors) are soil, air, ground water, and surface water/sediments. This conceptual site model was developed from the general concept that there are five types of primary sources from which contaminants have entered or may enter the environment. These are:

- Drums, tanks, and waste lines;
- Landfills, the old cave, and other covered disposal sites;
- Retention basins/wastewater treatment system;
- Surface disposal sites; and
- Operations or buildings.

Each of these primary sources may have contaminated surrounding soils through primary release mechanisms that include spills or leaks, leaching, infiltration, overflow and runoff. Contaminated soil represents a potential direct route to exposure to humans and biota through incidental ingestion, dermal contact, and direct radiation. Secondary routes of exposure may occur due to uptake by plants, re-suspension of dust, vapor transfer into the air, and surface and groundwater contamination.

4.1 Hazard Area 1 – VOC Contamination in Soil and Groundwater

The map shown in Figure 4.1a1 presents the current conditions and Figure 4.1b1 presents the end state conditions for hazard area 1. Figures 4.1a2 and 4.1b2 present the current and End State CSM for hazard area 1.

The major area of VOC contamination in both soil and groundwater is the OU-1 area. Levels in both soil and groundwater exceeded the site risk-based criteria as well as MCL's. A ROD approved remedy is in place consisting of pump & treat for containment and source term reduction. A post ROD enhancement has been added consisting of air sparge/soil vapor extraction for source term reduction in both the soil and groundwater. Although levels in some wells and in the soil remain above the site cleanup criteria, VOC concentrations have been reduced to below federal Maximum Contaminant Levels (MCLs) in many of the monitoring wells in the OU1 area. The treatment system is currently suspended to conduct a rebound test. The results of this test will be used by the Core Team to determine whether when to turn the system back on,

modify/optimize the system, or terminate use of the system permanently. It is anticipated that modification options, such as directed groundwater source term reduction and removal of source term areas, will continue until such time that the current remedy will be replaced with monitored natural attenuation (MNA). However, the timing at which an MNA end state is achievable remains uncertain and will likely be sometime after mission completion in calendar year 2006. Regulators, local officials, MMCIC and community members have not endorsed MNA. DOE will continue to evaluate data against USEPA MNA guidance and will propose to the Core Team via the CERCLA/ Mound 2000 decision-making processes once lines of evidence have been successfully demonstrated.

In addition there are wells south of and outside of the OU-1 area that also exceeds the site criteria and MCL's for VOC's. These exceedances exist in both the buried valley aquifer (BVA) and the nearby bedrock aquifer. There are also two small areas of elevated VOC's in soil (PRS 76 and 87) north and east of OU-1.

The End State vision for OU-1 reflects the attainment of Mound's risk based criteria in soil and groundwater outside the compliance boundary and the eventual conversion from pumping to monitored natural attenuation for the areas inside the compliance boundary. It is expected that the existing landfill will be left in place, which will lead to access controls for the area inside the compliance boundary. Restrictions to prohibit filling, grading, excavating, building, drilling, or mining without prior authorization from the Director of the Ohio EPA will be required to maintain compliance with the Applicable Relevant and Appropriate Requirement (ARAR) identified in the 1995 OU1 ROD. There will also remain a need for continued long term monitoring of selected wells for VOC's. Existing wells will be utilized as a barrier to prevent migration of the VOC's until such time as the soil and groundwater levels are in compliance with the site criteria. The current baseline, DOE Draft RBES Vision, and the previous version of the MMCIC Comprehensive Reuse Plan (CRP) is consistent with all site regulatory requirements. However, the MMCIC's Final Revised CRP dated December 2003 is inconsistent with requirements of the 1995 OU1 ROD in that it shows redevelopment over the landfill.

The appropriateness of the closure baseline plan and RBES Vision has also been challenged by local officials and the MMCIC (references 14, 15, 16, 17, 18). As a result, a technical working group was formed in August 2003 to re-evaluate the data and to identify any concerns that may exist related to the end state conditions and residual risk at closure. This group has representatives from the DOE, USEPA, OEPA, MMCIC, MESH, and the City of Miamisburg. DOE recognized the importance of this issue to the community and initiated the OU1 Technical Team discussions above

and beyond the previously established Mound 2000 stakeholder opportunities for expressing opinions or suggestions. Upon completion of the work of the OU1 Technical Team, which is anticipated in February 2004, the Core Team (comprised of USDOE, USEPA, and OEPA) will begin evaluation of the OU1 Technical Team recommendations and determine the appropriate response in accordance with CERCLA/Mound 2000. The Core Team evaluation will consider all data to ensure that the overall protection of the human health and the environment is maintained. DOE will continue to solicit stakeholder concerns and information needs throughout the decision-making process in accordance with the CERCLA/Mound 2000 process. Differing interpretations of industrial use in the context of intended future development present obstacles to implementation of the OU1 End State. These issues are discussed in more detail in Appendix C.

The End State vision for VOC areas outside of and to the south of OU-1 (including PRS 414) reflects the elimination of some of the wells from further evaluation, MNA for two wells (411,443) and a seep (617) in Phase 1 at the southern end of Hazard area 1, and the reduction of the effected area being monitored for VOC contamination.

The End State vision for the areas to the north and east of OU-1 reflects the removal of the source term (PRS 76 and 87) followed by monitoring to verify the effectiveness of the removal.

4.2 Hazard Area 2 – Residual Radionuclide Soil Contamination

The map shown in Figure 4.2a1 presents the current conditions and 4.2b1 presents the end state conditions for hazard area 2. Figures 4.2a2 and 4.2b2 present the Current and End State CSM for hazard area 2.

This hazard area represents a number of areas of residual radionuclide contamination (above action levels) in soils that are scattered across the site. The primary isotopes are Pu-238 and Th-232. Other isotopes that have been detected above background include Th-228 and 230, Pu-239, Am-241, Ac-227, Ra-226 and 228, tritium, Cs-137, Pb-210 and Co-60. The majority of these contaminated areas had been remediated prior to development of this document.

At closure it is expected that all soil levels above of the CERCLA risk range of 10^{-4} to 10^{-6} will have been excavated and shipped offsite. The End State CSM for this hazard area reflects no known remaining source term above of the CERCLA risk range of 10^{-4} to 10^{-6} . As an added precaution there will be a deed restriction that prohibits removal of soil from the site.

4.3 Hazard Area 3 - Tritium in the Bedrock Aquifer

The map shown in Figure 4.3a1 presents the current conditions and 4.3b1 presents the end state conditions for hazard area 3. Figures 4.3a2 and 4.3b2 present the current and End State CSM for hazard area 3.

This third hazard area is represented by MCL exceedances for tritium in the bedrock aquifer and some offsite seeps. It is anticipated that the planned removal of the source term (contaminated soil moisture under R/SW Buildings) will remedy this issue prior to closure. If the levels still exceed MCL's at closure, it is expected that performance monitoring will be necessary as post closure actions to assure that the source term removal is effective until the seeps are below MCL's. Local officials and the MMCIC have expressed an expectation for the seeps to meet MCLs by the 2006 closure date and object to long term performance monitoring (reference 20). Core Team evaluations will consider all data to ensure that the overall protection of the human health and the environment is maintained. DOE will continue to solicit stakeholder concerns and information needs throughout the decision-making process in accordance with the CERCLA/Mound 2000 process.

REFERENCES

1. Final Environmental Impact Statement, Mound Facility dated June 1979.
2. Risk Assessment Guidance for Superfund, Volume 1, Human Health Manual, Part A, Interim Final, EPA dated 1989.
3. Mound Plant Federal Facility Agreement dated 1990.
4. Mound Plant Federal Facility Agreement dated July 1993.
5. OU-9 Ecological Characterization Report dated March 1994.
6. Environmental Assessment for Commercialization of the Mound Plant dated October 1994.
7. Operable Unit 1 Record of Decision dated June 1995.
8. Mound 2000 Residual Risk Evaluation Methodology dated January, 1997.
9. Work Plan for the Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach dated February 1999.
10. DOE Mound's Land Transfer Process dated December 1999.
11. Screening Level Ecological Risk Assessment for Parcel 4 dated February 2001.
12. Phase I Ecological Scoping Report dated March 2003.
13. Sales Contract by and between USDOE and the MMCIC dated January 1998.
14. Ohio EPA letter from Graham Mitchell to Richard Provencher (USDOE) dated June 20, 2003.
15. MMCIC letter from Michael Grauwelman to Jessie Roberson (USDOE) dated July 8, 2003.
16. Miamisburg City Council Letter to Jessie Roberson (USDOE) dated August 20, 2003.
17. City of Miamisburg letter from John Weithofer to Robert Warther (USDOE) dated November 19, 2003.
18. Miamisburg Mound Community Improvement Corporation letter from Mike Grauwelman to Robert Warther (USDOE) dated December 9, 2003.
19. Memorandum of Agreement by and between USDOE and MMCIC dated January 23, 1998.
20. City of Miamisburg letter from Mayor Dick Church, Jr. to Jessie Roberson dated January 14, 2004.

APPENDIX A

Figures/Maps

Projection:
NAD 1983 Ohio South

Mound Closure Project

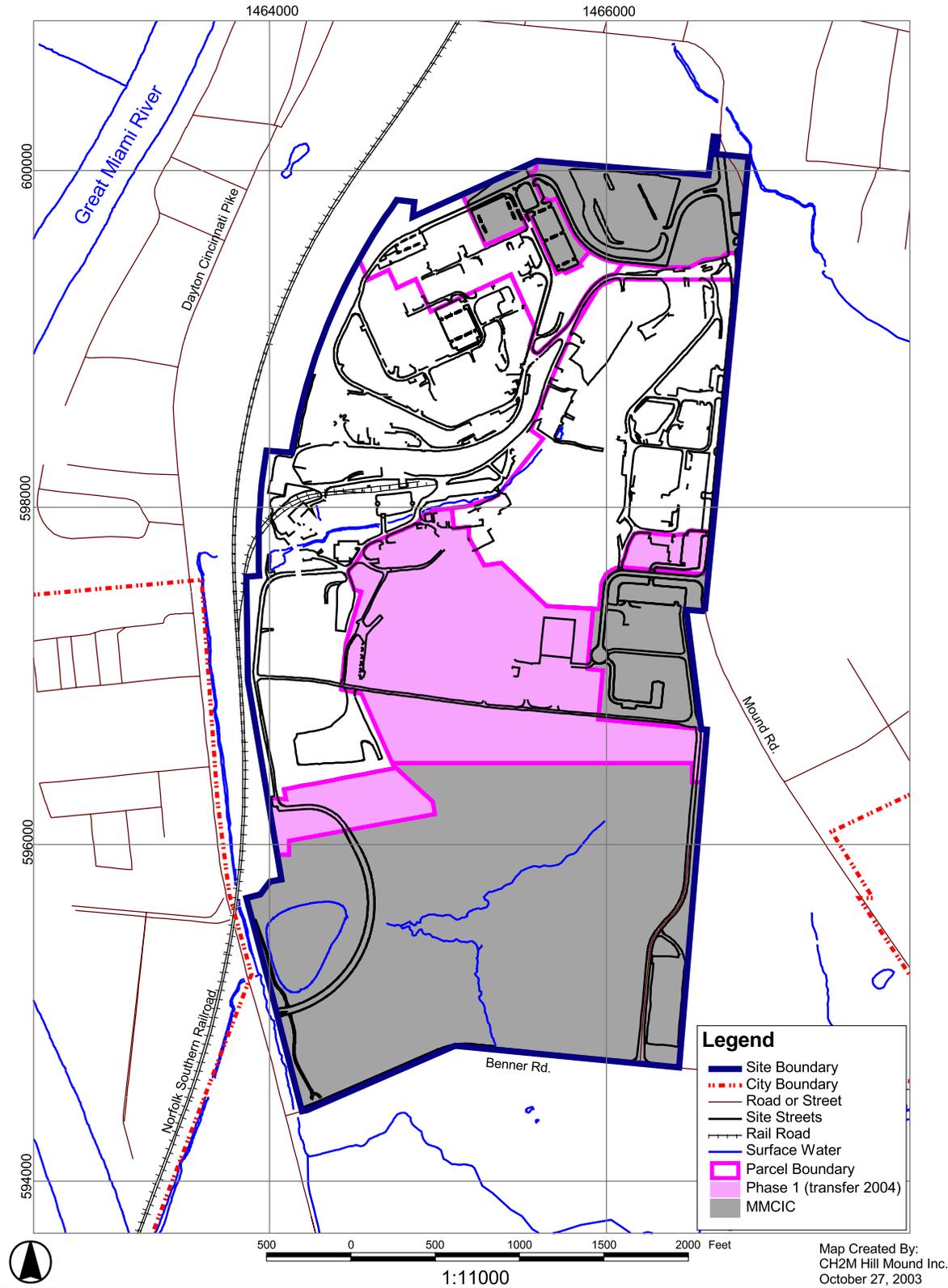
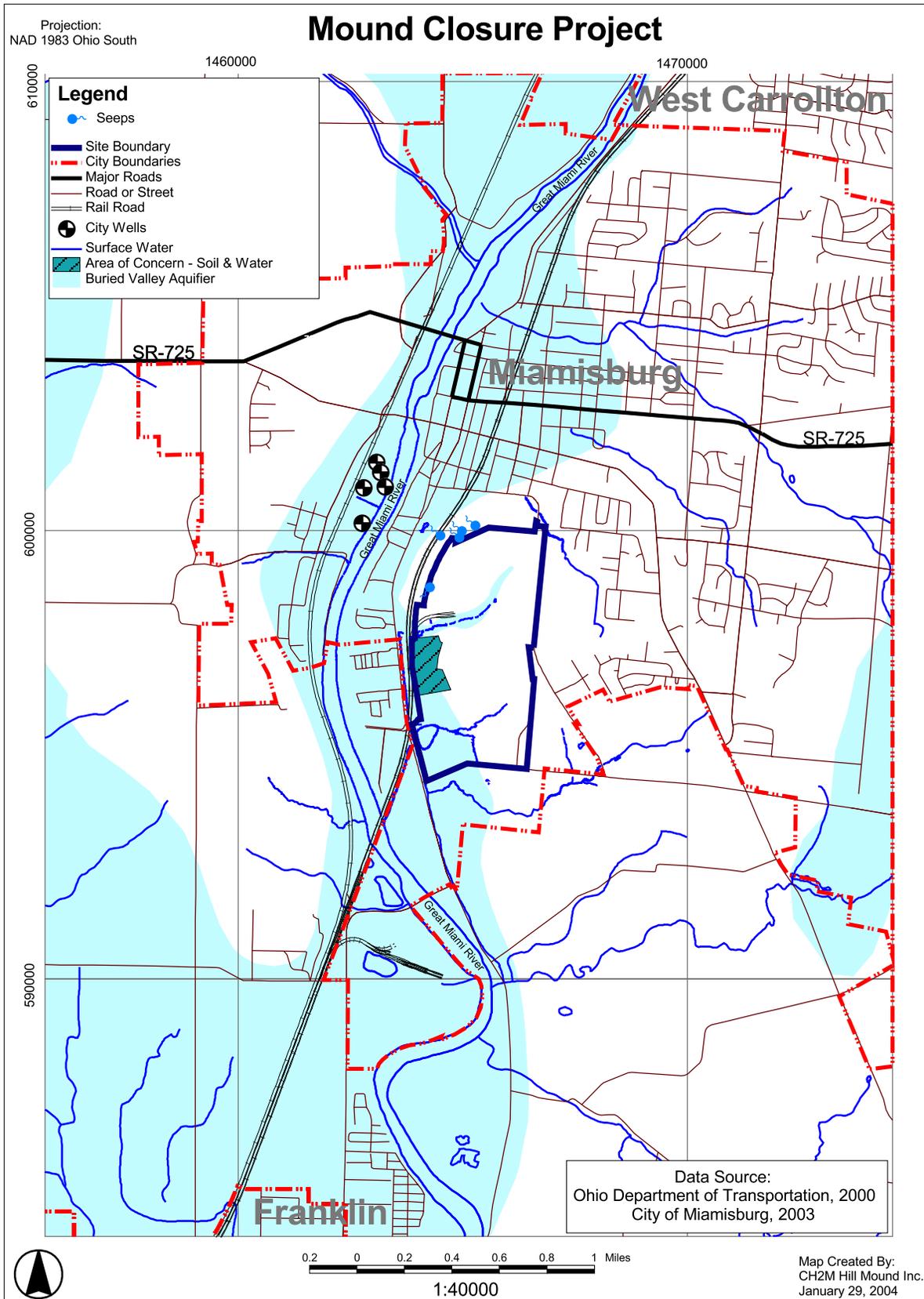


Figure 1.3 Site Parcel Map - current state



Data Source:
Ohio Department of Transportation, 2000
City of Miamisburg, 2003

1:40000

0.2 0 0.2 0.4 0.6 0.8 1 Miles

Map Created By:
CH2M Hill Mound Inc.
January 29, 2004

Figure 2.1b Regional physical and surface interface - RBES

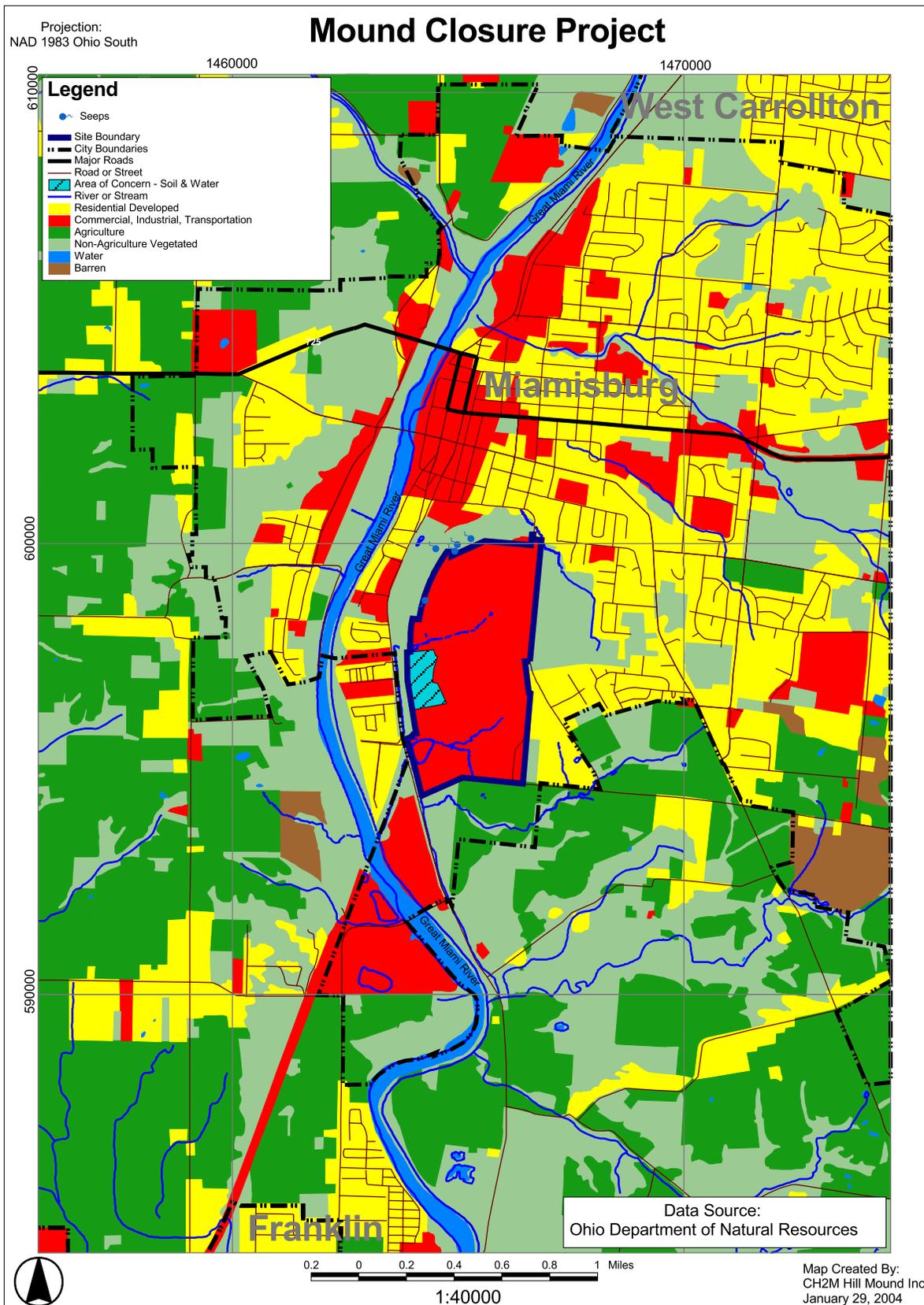


Figure 2.2b Regional human and ecological land use - RBES

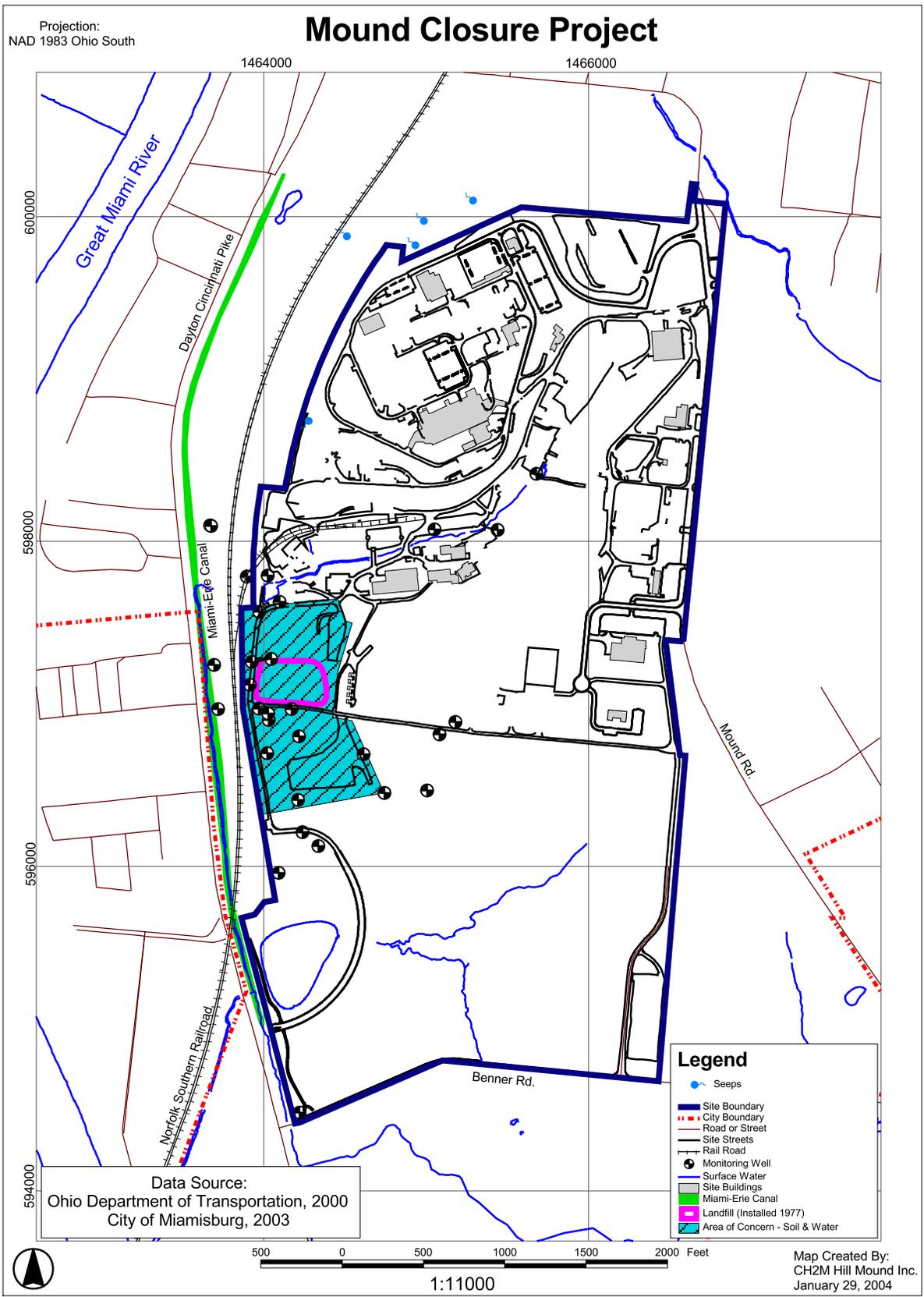


Figure 3.1b Site physical and surface interface - RBES

Projection:
NAD 1983 Ohio South

Mound Closure Project

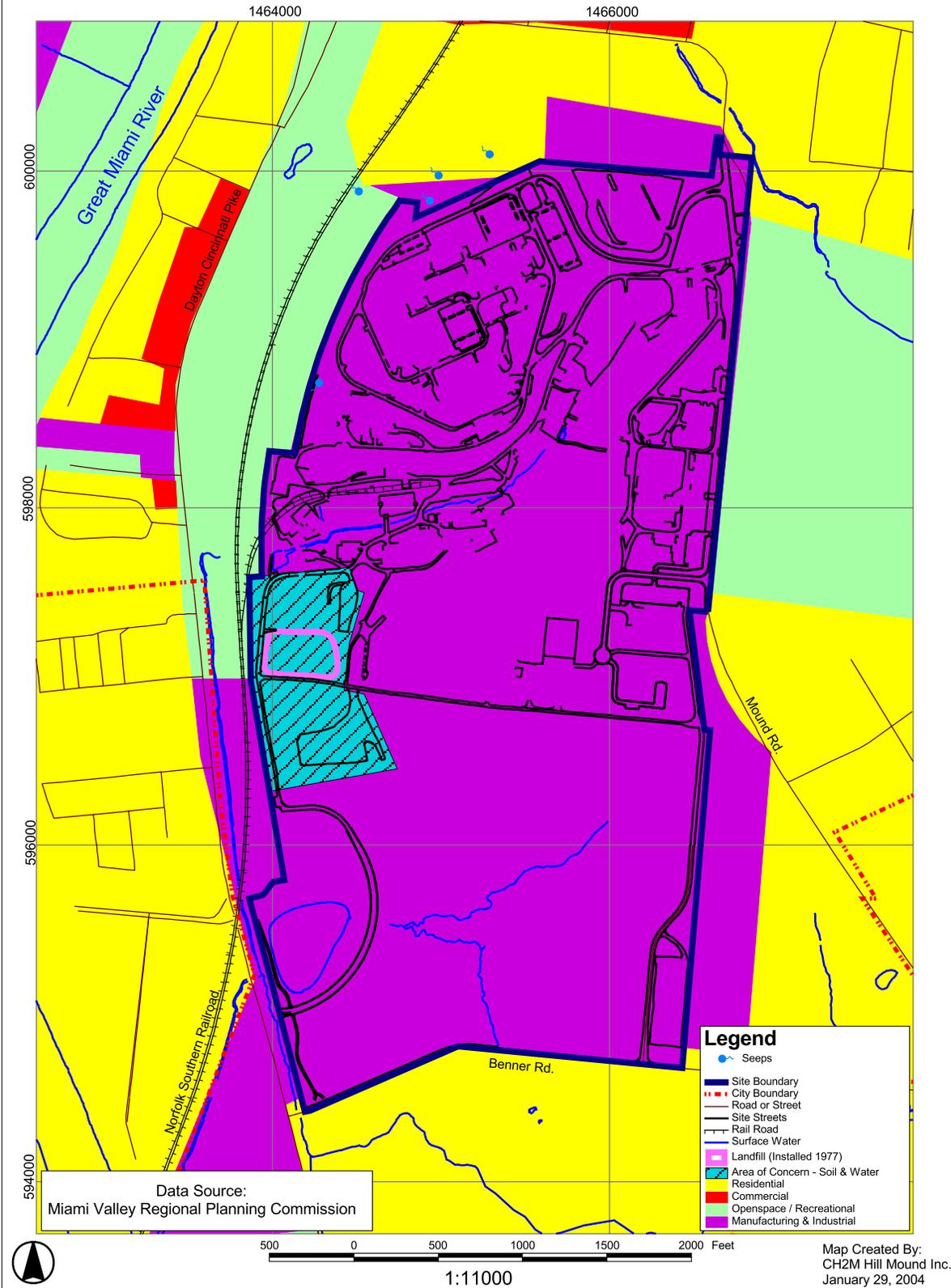


Figure 3.2b Site human and ecological land use - RBES

Projection:
NAD 1983 Ohio South

Mound Closure Project

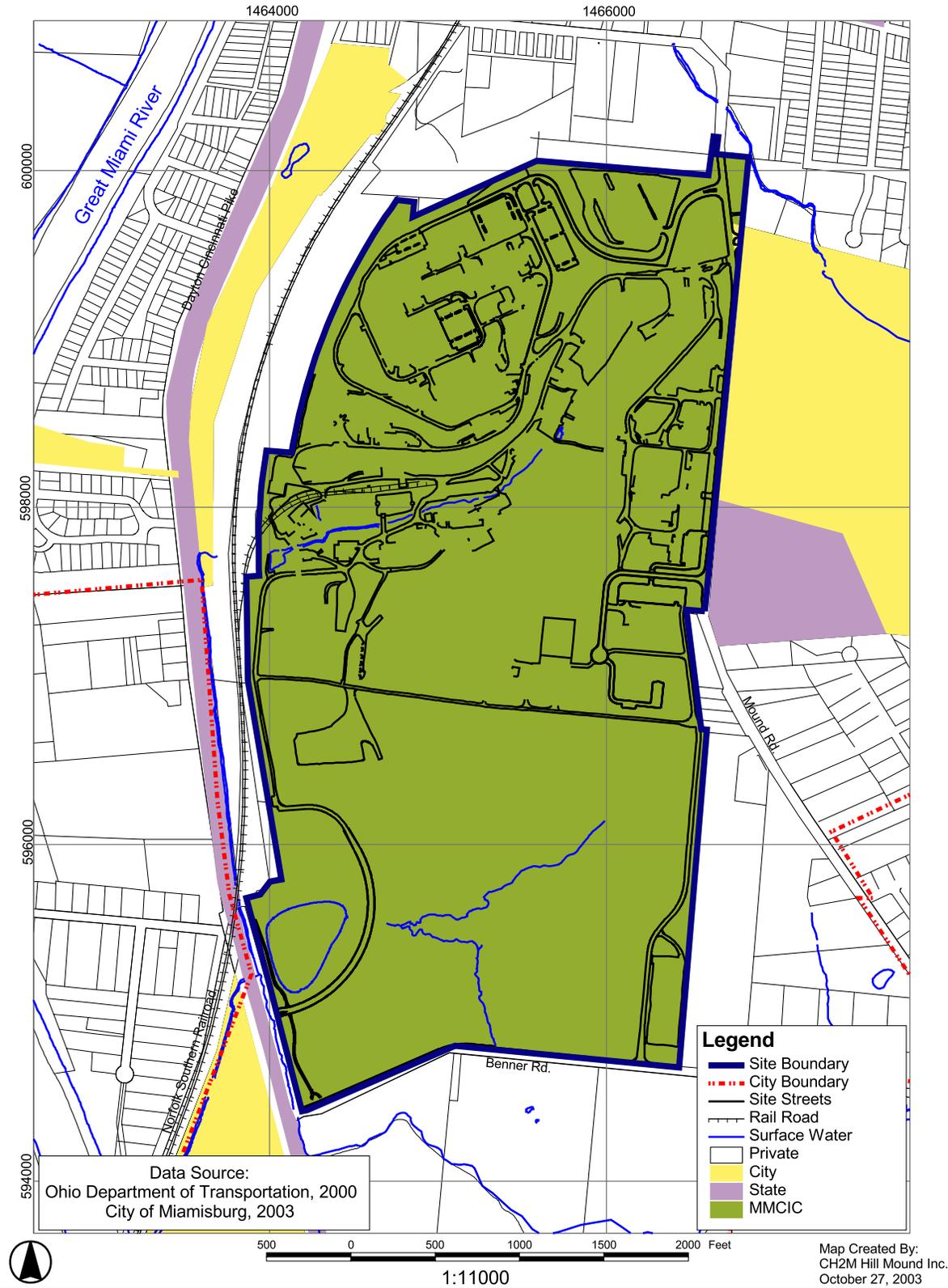


Figure 3.3b Site legal ownership - RBES

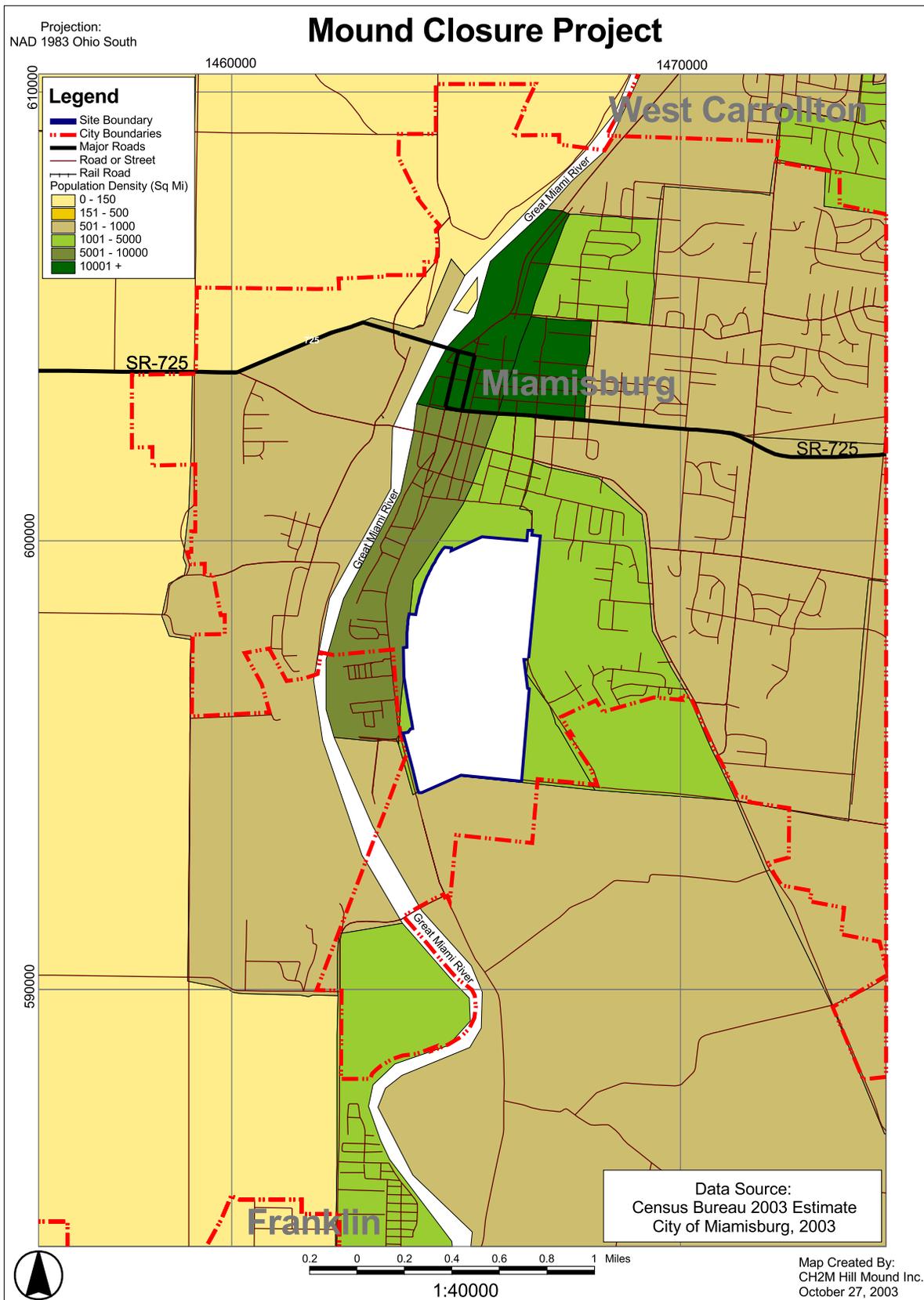


Figure 3.4b Site Demographics - RBES

Projection:
NAD 1983 Ohio South

Mound Closure Project

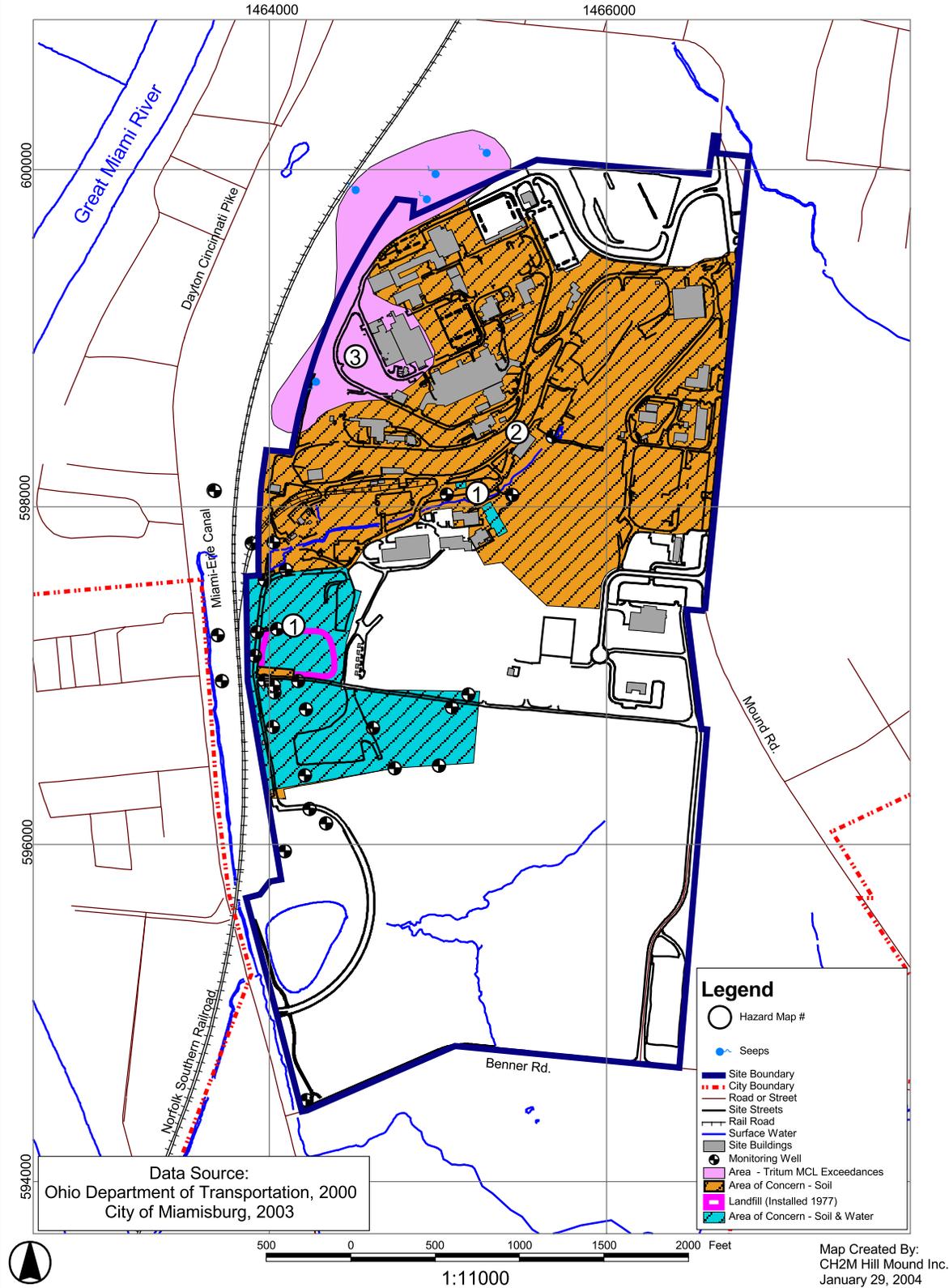


Figure 4.0a Site-wide hazard map - current status

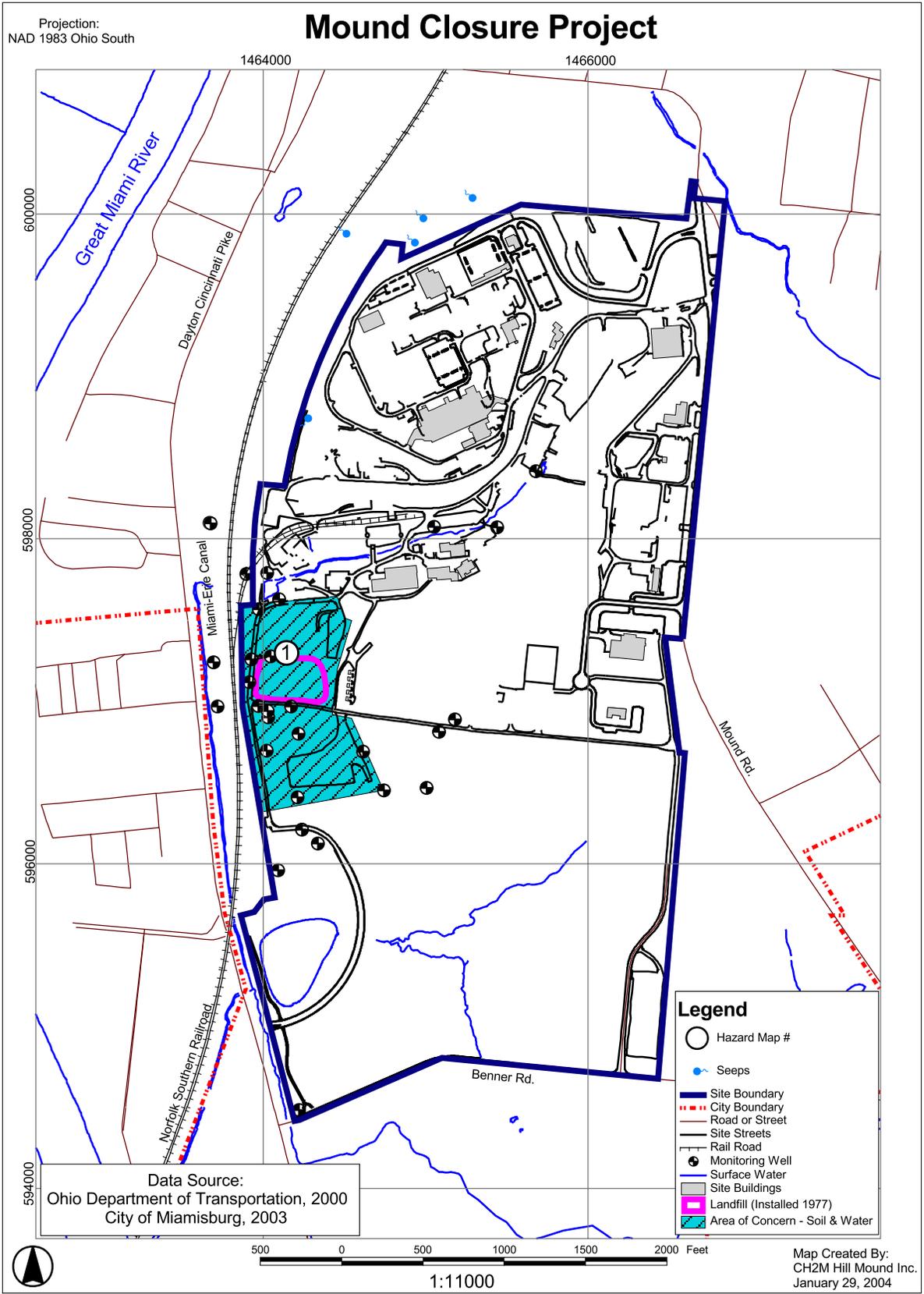


Figure 4.0b Site-wide hazard map - RBES

Projection:
NAD 1983 Ohio South

Mound Closure Project

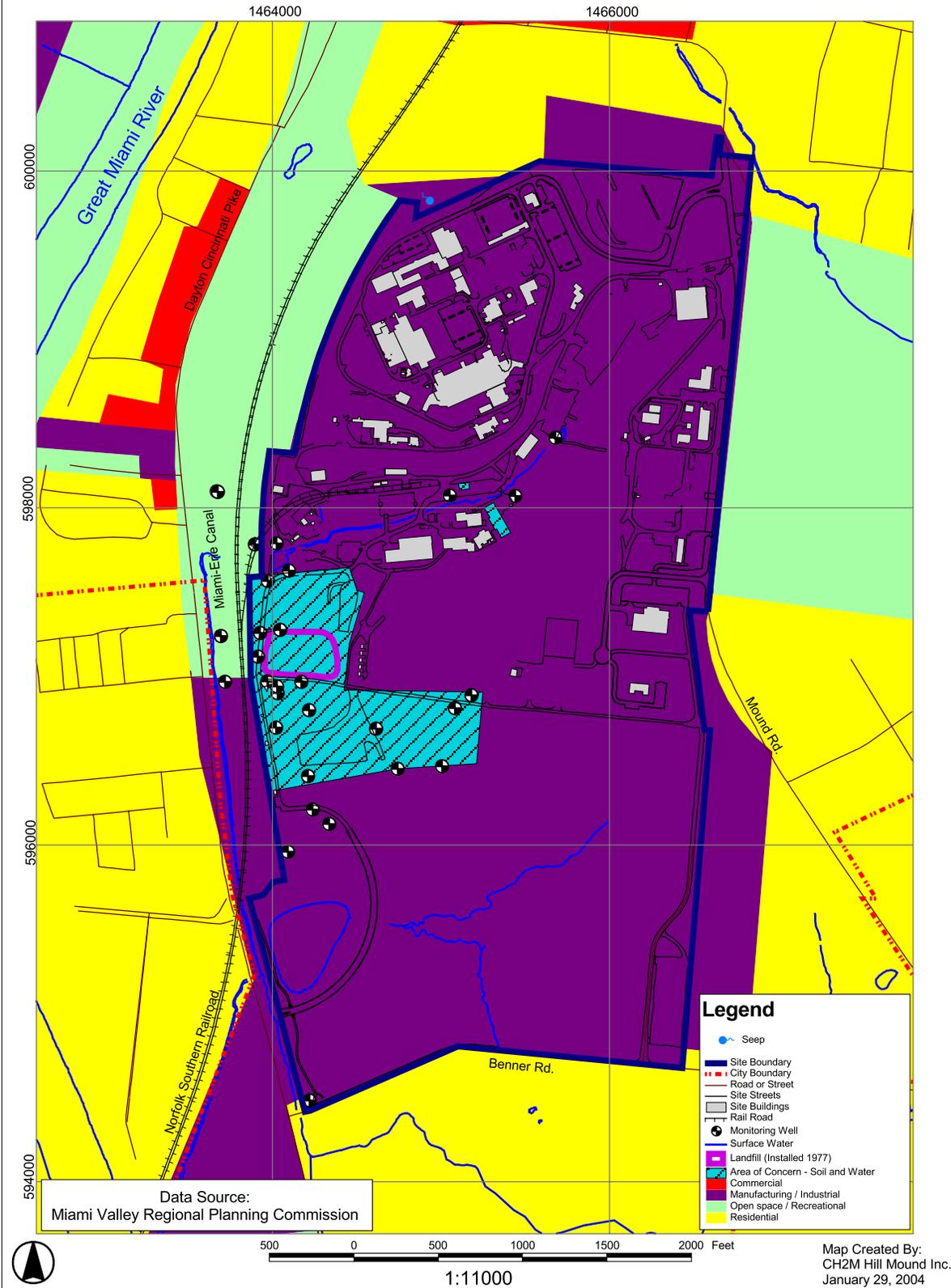


Figure 4.1a1 Hazard Area 1 - current state

Projection:
NAD 1983 Ohio South

Mound Closure Project

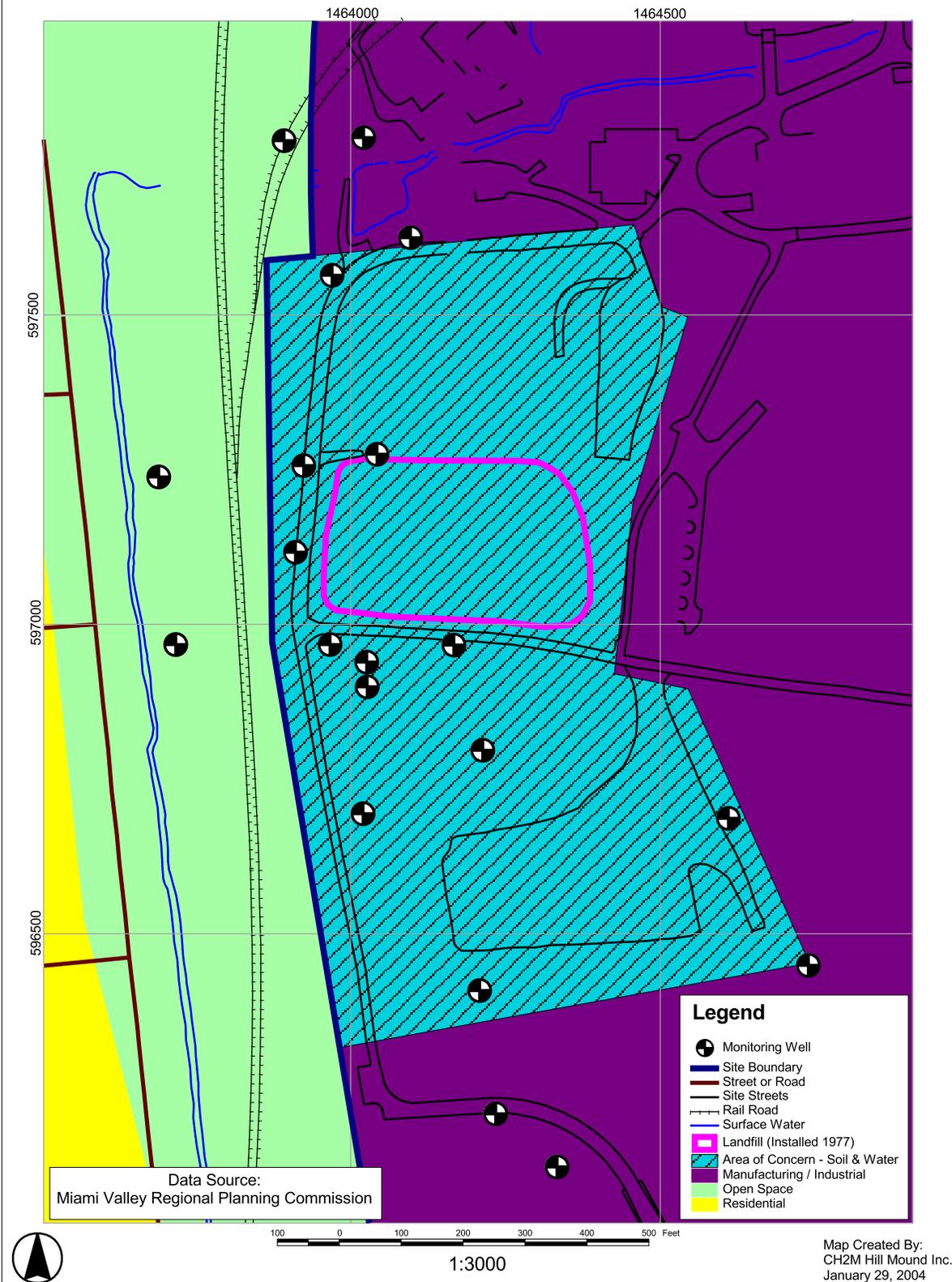


Figure 4.1b1 Hazard Area 1 map - RBES

Projection:
NAD 1983 Ohio South

Mound Closure Project

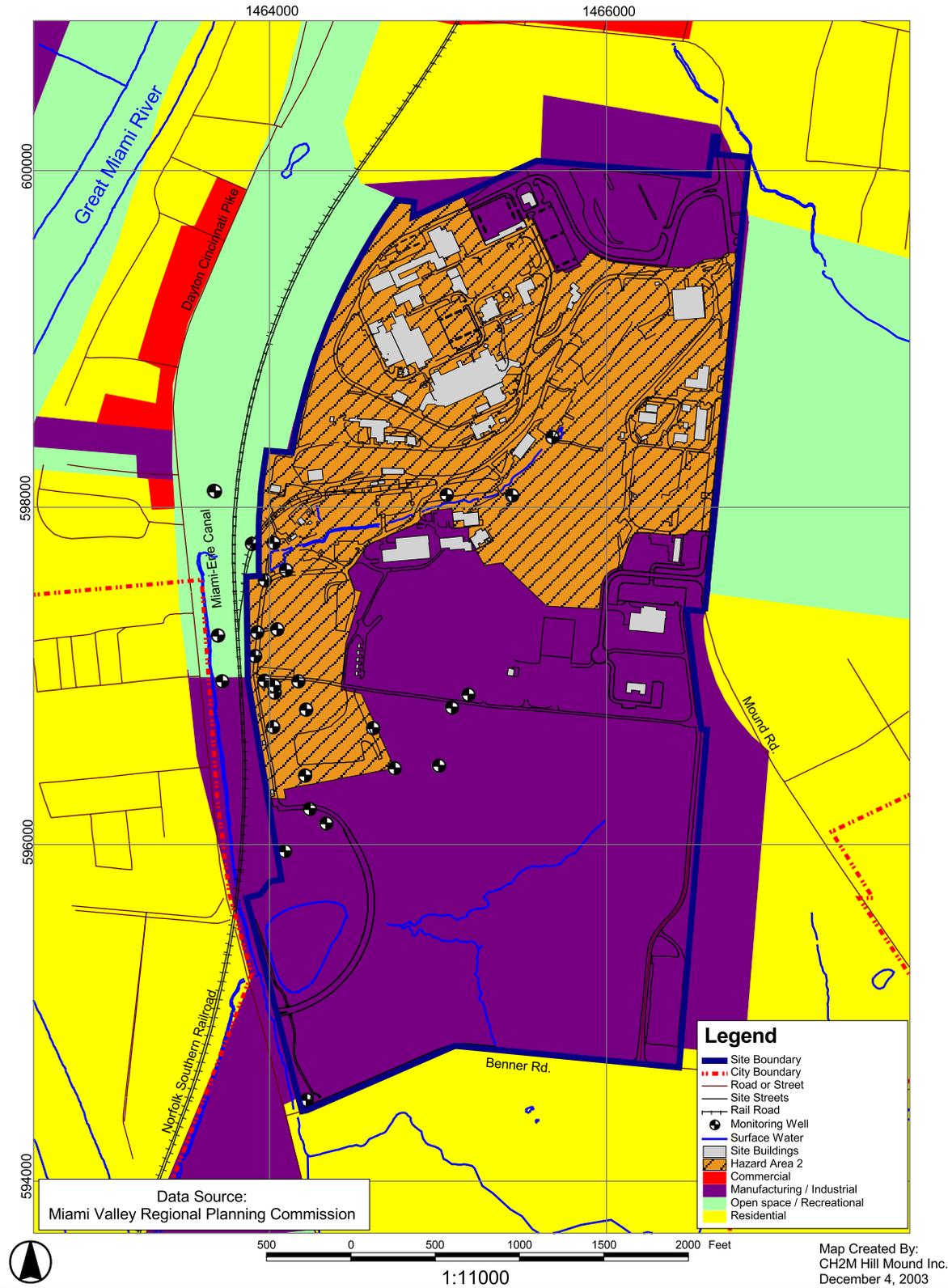


Figure 4.2a1 Hazard Area 2 - Current State

Projection:
NAD 1983 Ohio South

Mound Closure Project

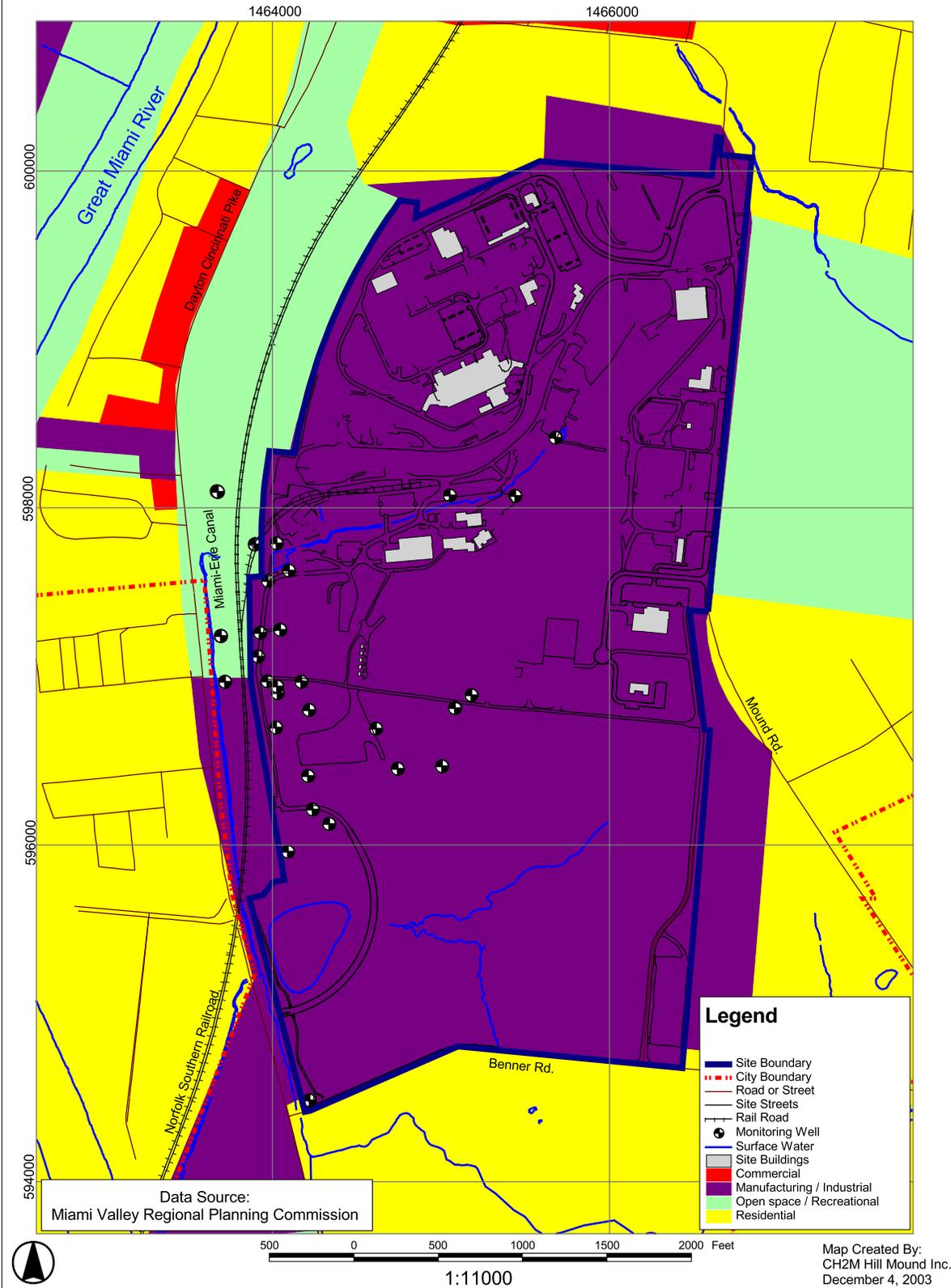


Figure 4.2b1 Hazard Area 2 - RBES

Projection:
NAD 1983 Ohio South

Mound Closure Project

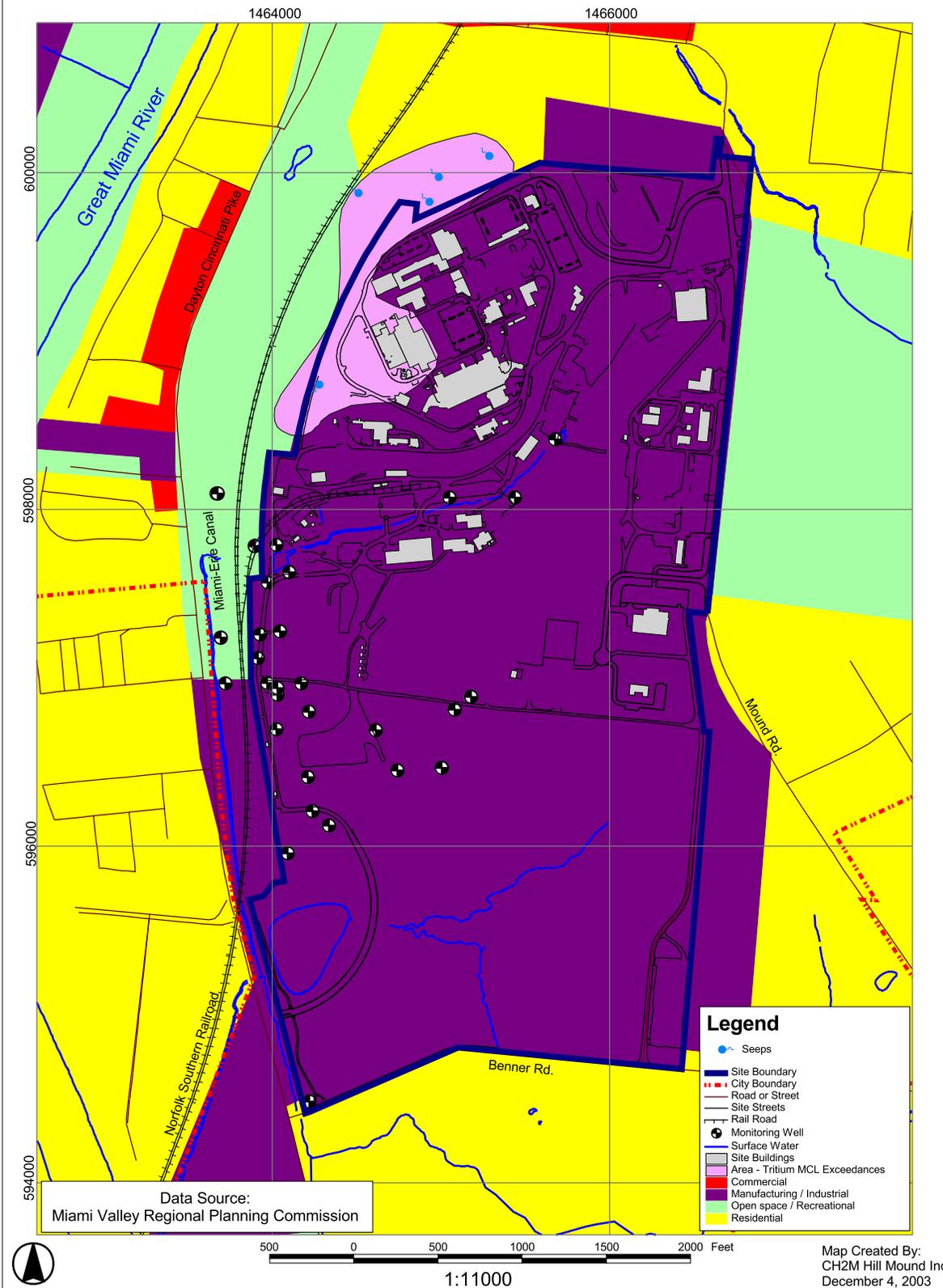


Figure 4.3a1 Hazard Area 3 - Current State

Projection:
NAD 1983 Ohio South

Mound Closure Project

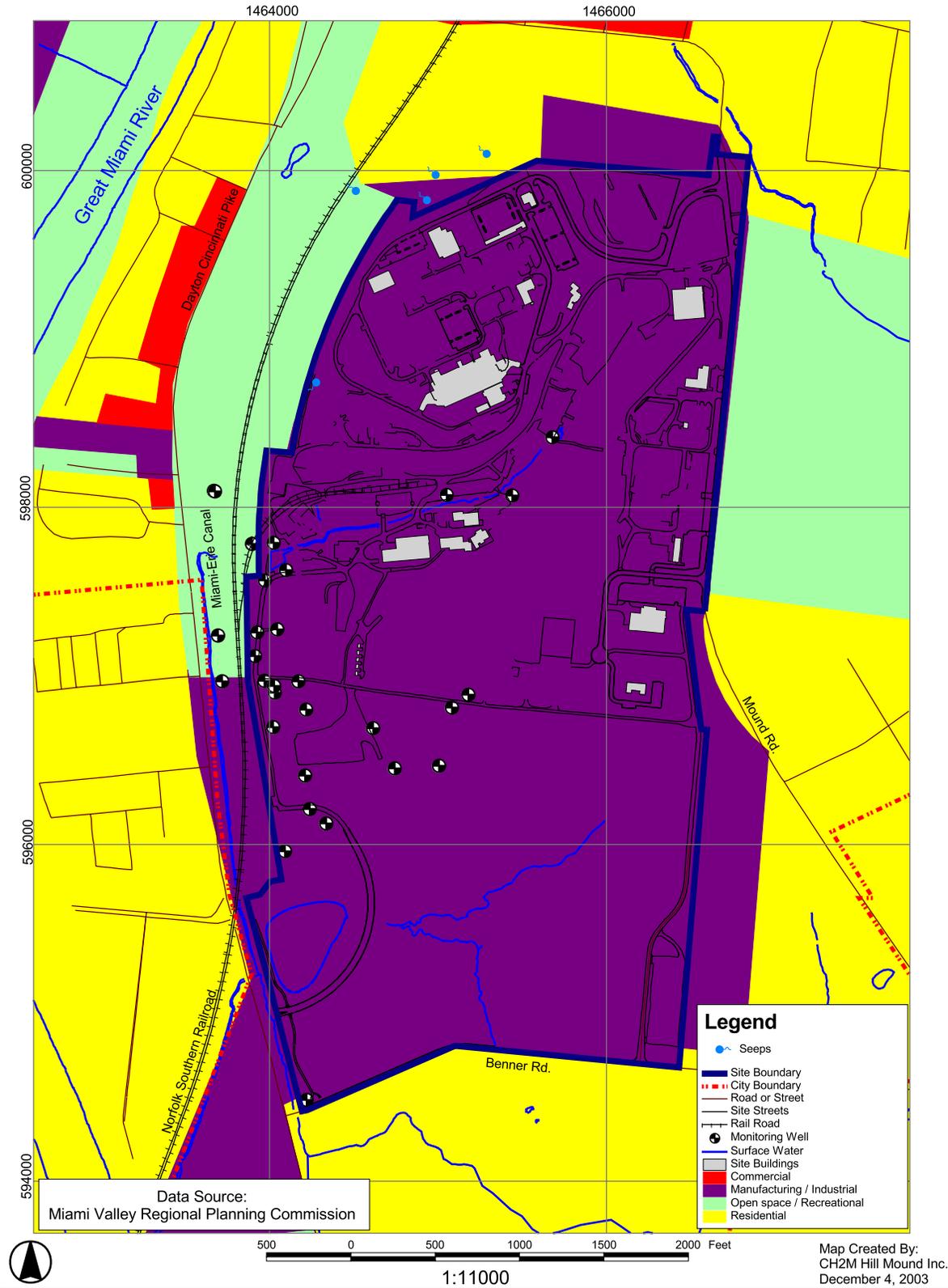
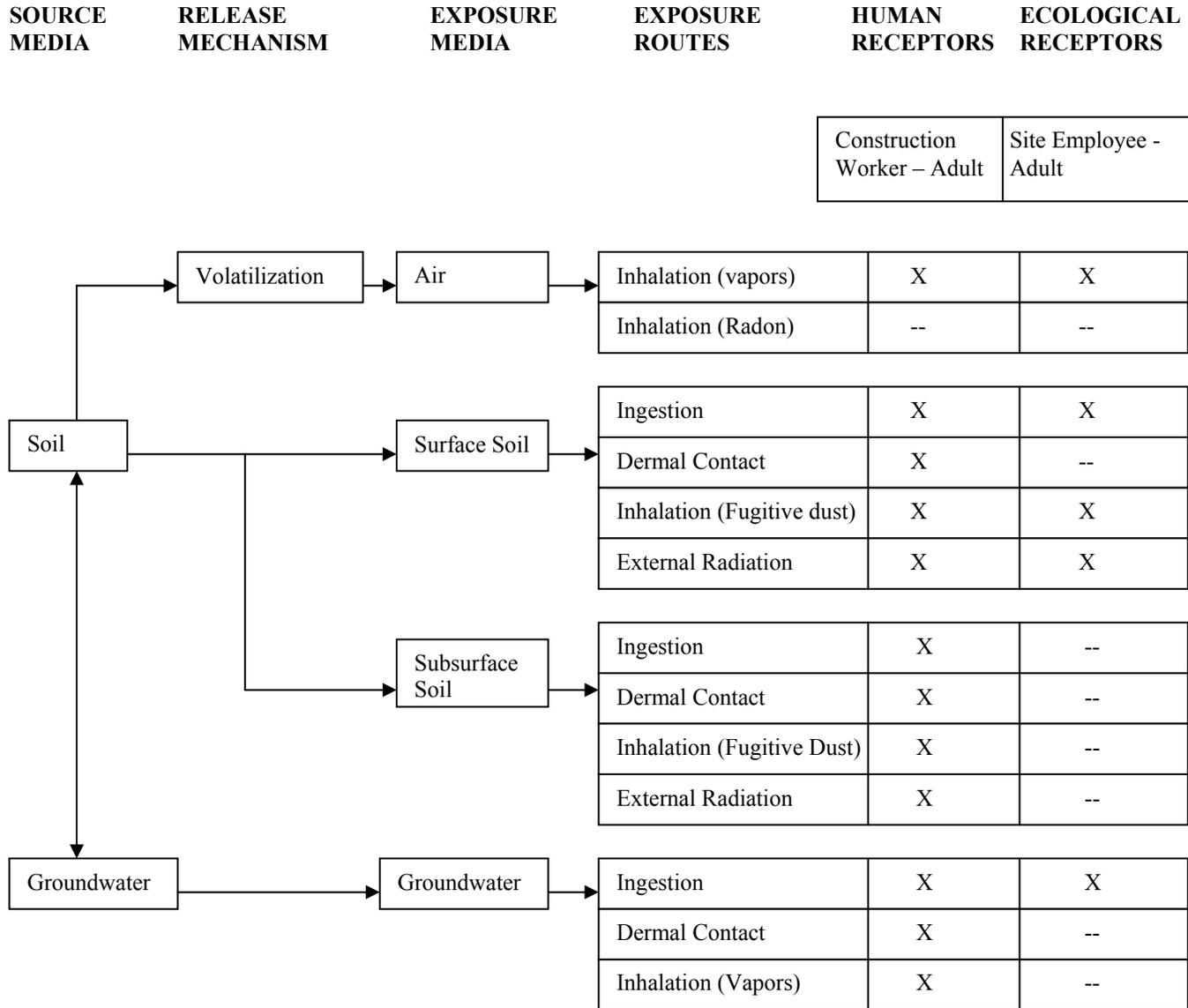


Figure 4.3b1 Hazard Area 3 - RBES

APPENDIX B

Conceptual Site Models

Figure 4.0a2 Conceptual Site Model



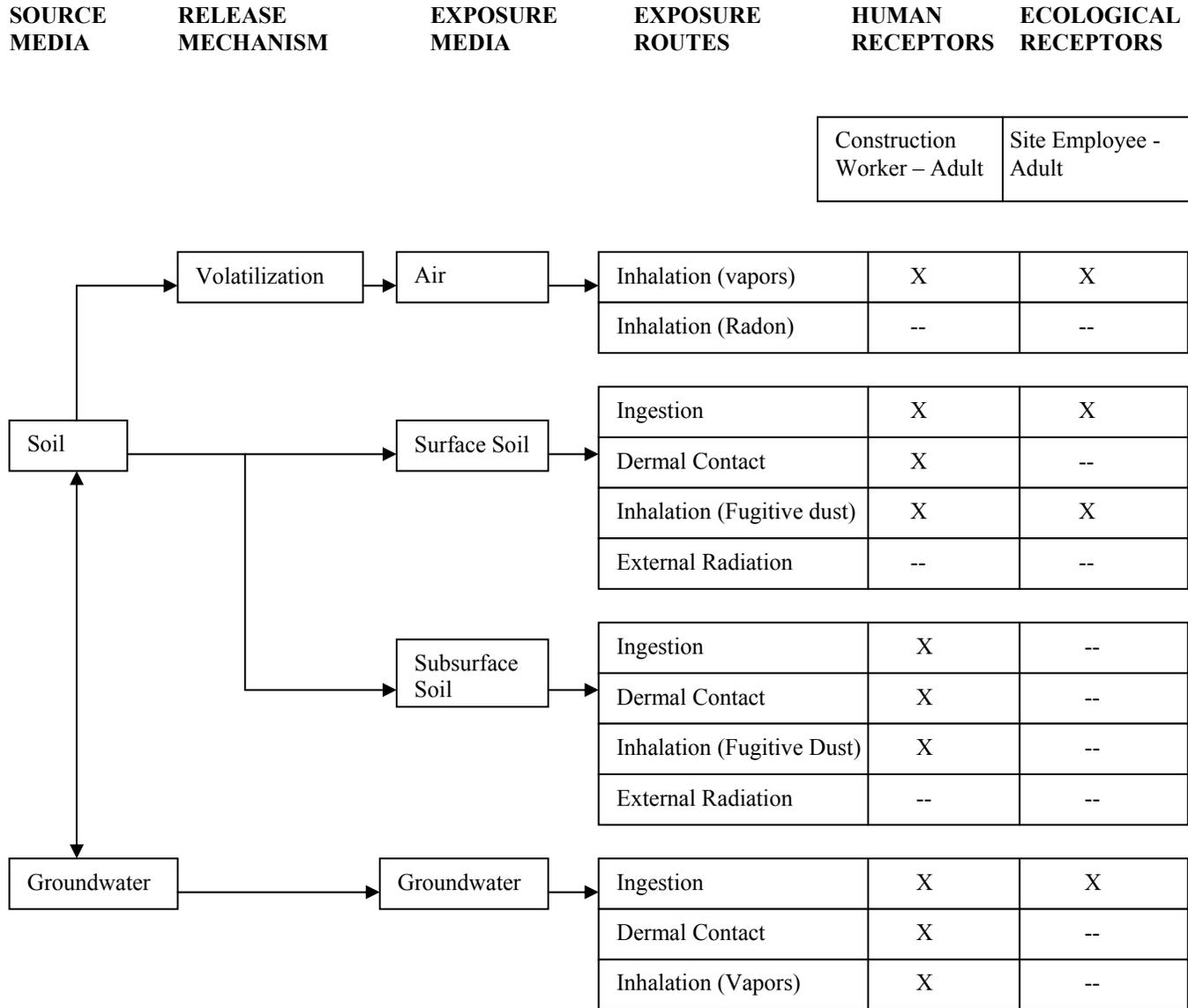
Construction Worker – Adult	Site Employee - Adult
-----------------------------	-----------------------

See note 1

X Complete pathway, evaluated quantitatively
 -- Incomplete pathway, not evaluated

Note 1: Ecological evaluations completed to date (ref) have not identified any sensitive environments or ecological important resources and have not observed any threatened or endangered species. The conclusion of these investigations is that a detailed assessment of ecological risk is not warranted.

Figure 4.1a2 Current Conceptual Site Model for Hazard Area 1



Construction Worker – Adult	Site Employee - Adult
-----------------------------	-----------------------

See note 1

X Complete pathway, evaluated quantitatively
 -- Incomplete pathway, not evaluated

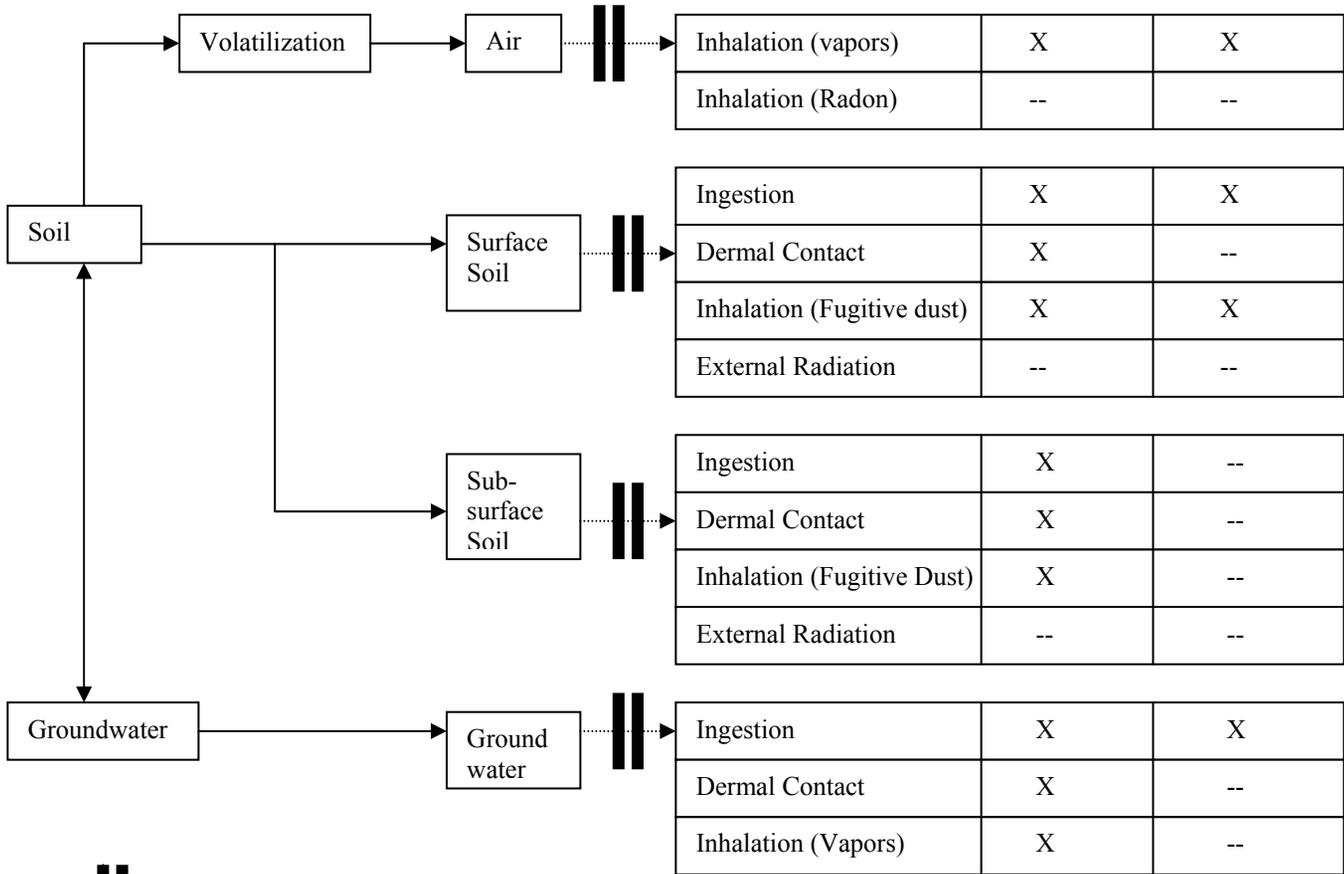
Note 1: Ecological evaluations completed to date (ref) have not identified any sensitive environments or ecological important resources and have not observed any threatened or endangered species. The conclusion of these investigations is that a detailed assessment of ecological risk is not warranted.

Figure 4.1b2 End State Conceptual Site Model for Hazard Area 1

SOURCE MEDIA RELEASE MECHANISM EXPOSURE MEDIA EXPOSURE ROUTES HUMAN RECEPTORS ECOLOGICAL RECEPTORS

Construction Worker – Adult	Site Employee - Adult
-----------------------------	-----------------------

See note 1



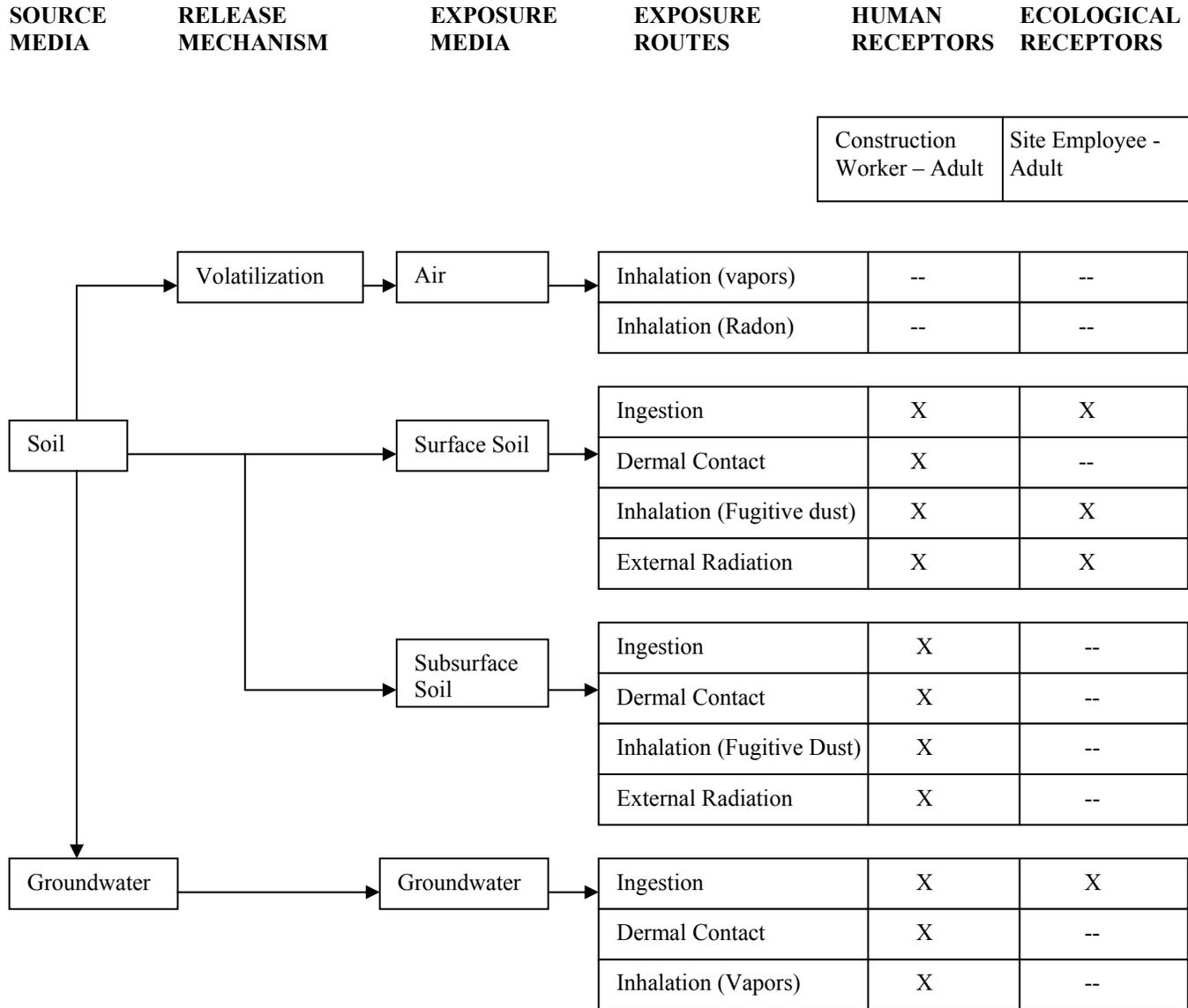
|| Pathway Blocked via Institutional Controls

X Complete pathway, evaluated quantitatively

-- Incomplete pathway, not evaluated

Note 1: Ecological evaluations completed to date (ref) have not identified any sensitive environments or ecological important resources and have not observed any threatened or endangered species. The conclusion of these investigations is that a detailed assessment of ecological risk is not warranted.

Figure 4.2a2 Current Conceptual Site Model for Hazard Area 2



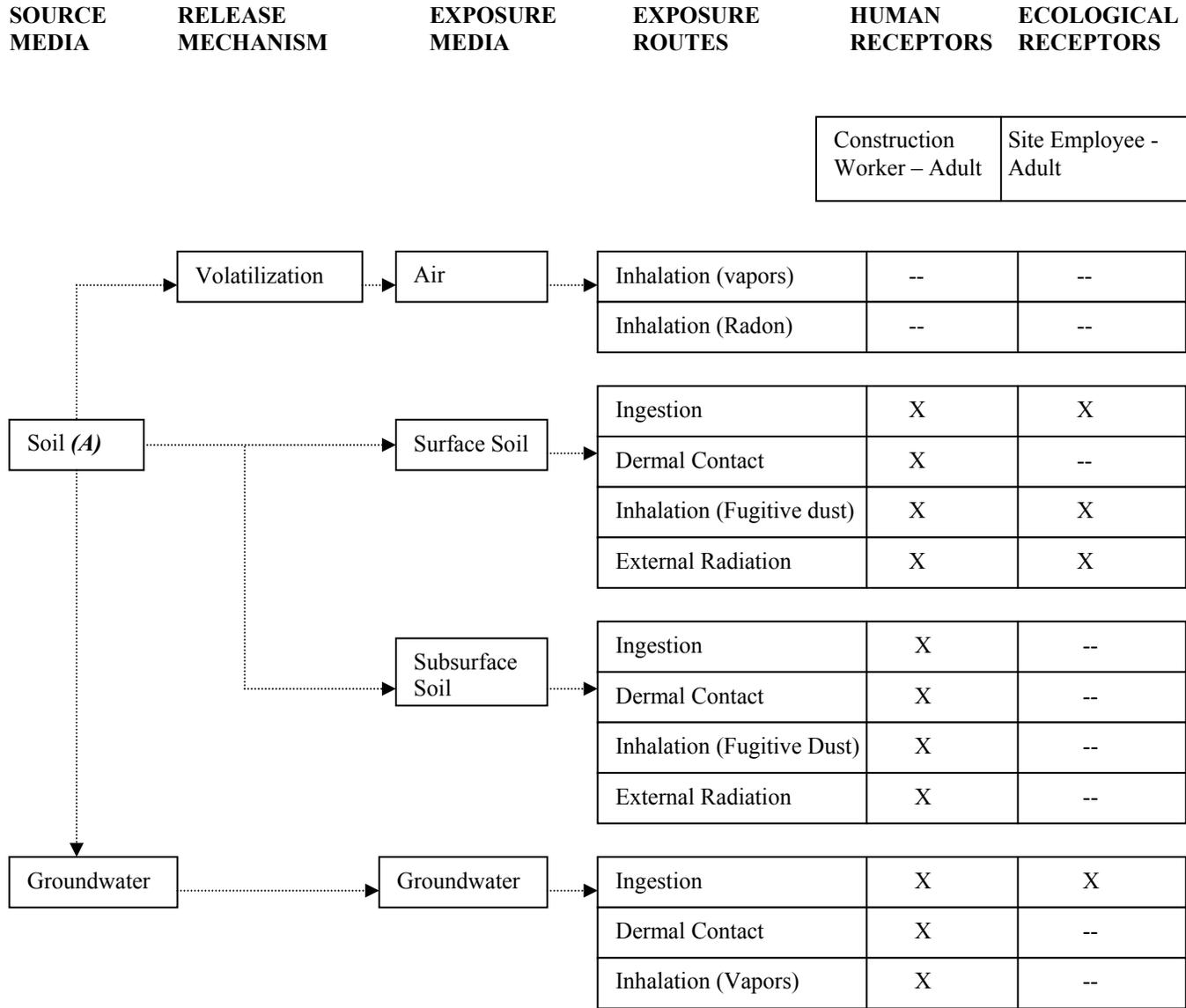
Construction Worker – Adult	Site Employee - Adult
-----------------------------	-----------------------

See note 1

X Complete pathway, evaluated quantitatively
 -- Incomplete pathway, not evaluated

Note 1: Ecological evaluations completed to date (ref) have not identified any sensitive environments or ecological important resources and have not observed any threatened or endangered species. The conclusion of these investigations is that a detailed assessment of ecological risk is not warranted.

Figure 4.2b2 End State Conceptual Site Model for Hazard Area 2



Construction Worker – Adult	Site Employee - Adult
-----------------------------	-----------------------

See note 1

A Source Term Removed
 X Complete pathway, evaluated quantitatively
 -- Incomplete pathway, not evaluated

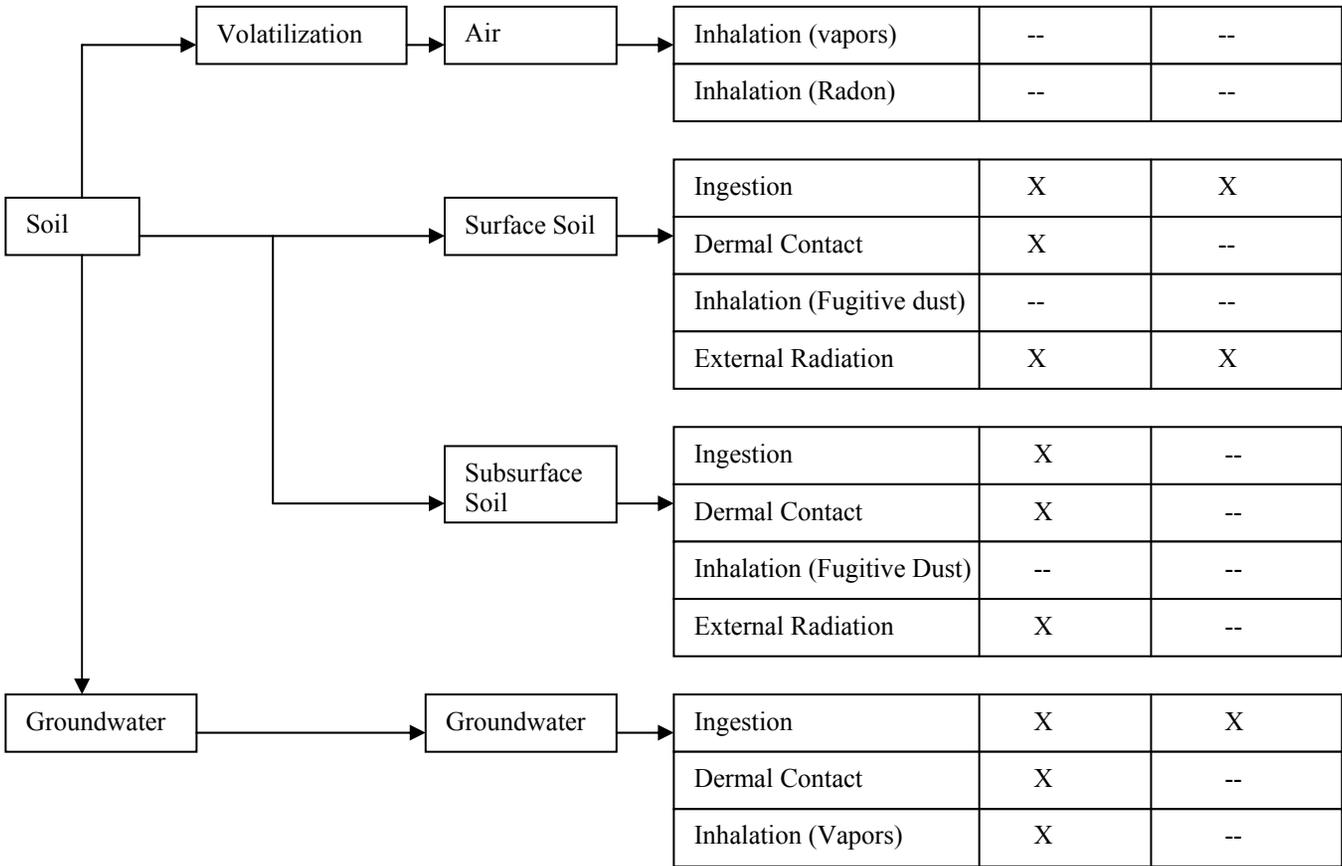
Note 1: Ecological evaluations completed to date (ref) have not identified any sensitive environments or ecological important resources and have not observed any threatened or endangered species. The conclusion of these investigations is that a detailed assessment of ecological risk is not warranted.

Figure 4.3a2 Current Conceptual Site Model for Hazard Area 3

SOURCE MEDIA RELEASE MECHANISM EXPOSURE MEDIA EXPOSURE ROUTES HUMAN RECEPTORS ECOLOGICAL RECEPTORS

Construction Worker – Adult	Site Employee - Adult
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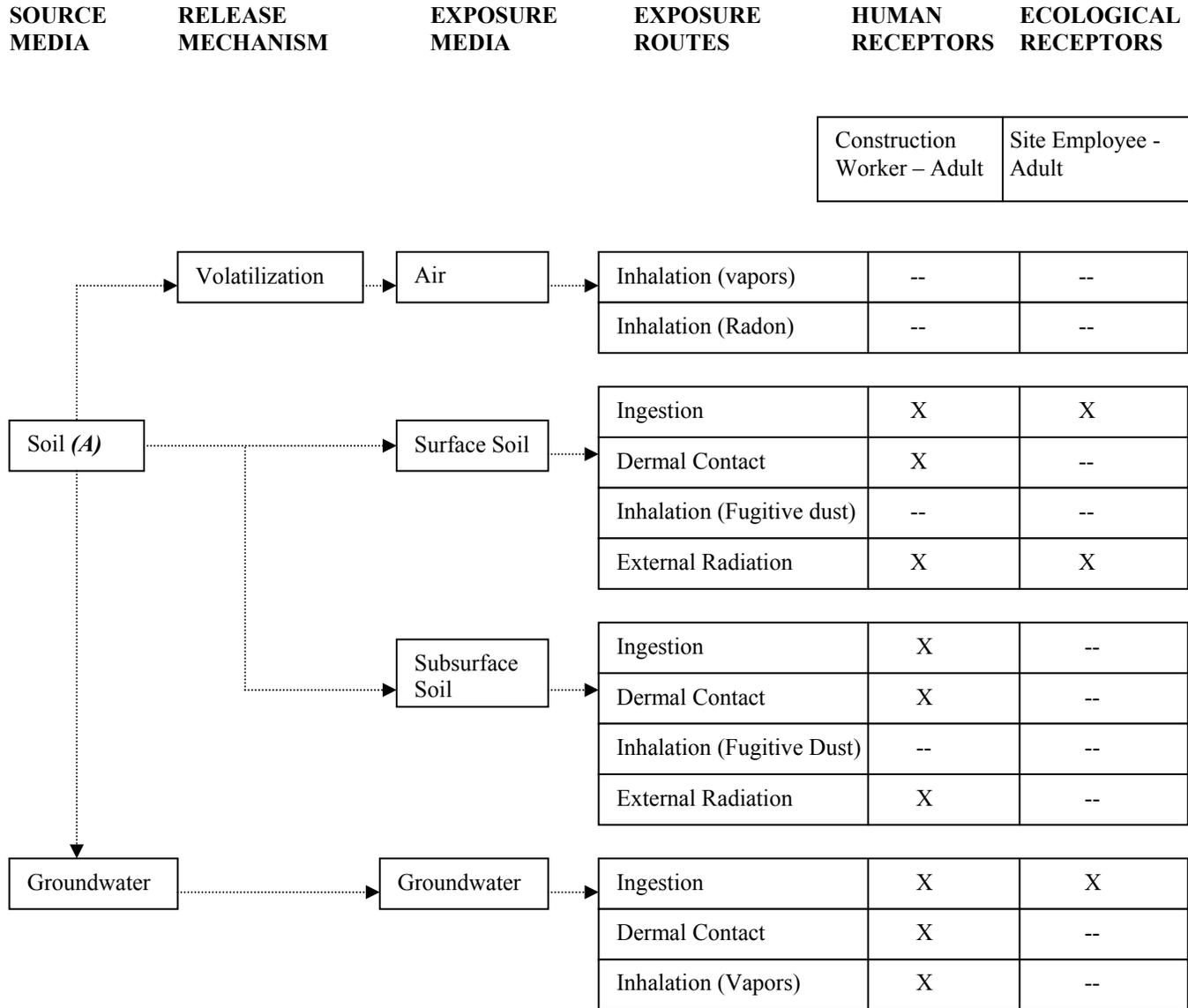
See note 1



X Complete pathway, evaluated quantitatively
 -- Incomplete pathway, not evaluated

Note 1: Ecological evaluations completed to date (ref) have not identified any sensitive environments or ecological important resources and have not observed any threatened or endangered species. The conclusion of these investigations is that a detailed assessment of ecological risk is not warranted.

Figure 4.3b2 End State Conceptual Site Model for Hazard Area 3



Construction Worker – Adult	Site Employee - Adult
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See note 1

A Source Term Removed
 X Complete pathway, evaluated quantitatively
 -- Incomplete pathway, not evaluated

Note 1: Ecological evaluations completed to date (ref) have not identified any sensitive environments or ecological important resources and have not observed any threatened or endangered species. The conclusion of these investigations is that a detailed assessment of ecological risk is not warranted.

APPENDIX C: Regulator and Stakeholder Involvement

Regulator and Stakeholder Involvement

For sites within the jurisdiction of the Ohio Field Office (OH), various formal and informal interactions, including public meetings, have been held in an attempt to obtain public input on site Draft Risk Based End State (RBES) Vision documents. Interactions regarding MCP RBES were conducted as follows:

- September 23, 2003: RBES policy overview at Long Term Stewardship (LTS) working group meeting.
- October 14, 2003: Briefing to Core Team (USEPA, OEPA, and ODH).
- October 22, 2003: Distributed draft Long Term Stewardship (LTS) working group
- November 14, 2003: Briefed Mound Reuse Committee (MRC)
- November 25, 2003: RBES meeting with members of the city officials, the public & OEPA.
- December 19, 2003: RBES meeting with members of the city officials, the public & OEPA.
- January 9, 2004: RBES discussion with members of the city officials, the public & during MRC meeting. Document placed on the DOE-OH webpage for increased availability for stakeholder review and comment (www.ohio.doe.gov/rbes.asp)

The two most significant meetings relative to the Miamisburg Closure Project (MCP) were November 25 and December 19, 2003. During a November 25, 2003 public meeting on RBES, stakeholders requested that the MCP RBES draft vision, submitted to you on November 19, 2003, be rescinded in order to allow for more meaningful stakeholder involvement in development of the draft vision. The DOE-OH and DOE-HQ RBES Review Team subsequently agreed to rescind submission of the original draft until the February 2004 deliverable. The February 2004 submittal is intended to document DOE's consideration of all input received to date, which can be found in its entirety in this appendix as follows:

11/19/03	City of Miamisburg, Office of the City Manager Comments on October Draft of Mound RBES Vision
12/19/03	DOE Responses to City of Miamisburg Comments Issued with December 19, 2003 Revised Draft RBES Vision
11/21/03	Ohio Environmental Protection Agency Comments on October Draft of Mound RBES Vision
12/19/03	DOE Responses to OEPA Comments Issued with December 19, 2003 Revised Draft RBES Vision
11/29/03	Miamisburg Environmental Safety and Health (MESH) Comments on October Draft of Mound RBES Vision
12/19/03	DOE Responses to MESH Comments Issued with December 19, 2003 Revised Draft RBES Vision
12/09/03	Miamisburg Mound Community Improvement Corporation Comments on October Draft of Mound RBES Vision

12/19/03	DOE Responses to MMCIC Comments Issued with December 19, 2003 Revised Draft RBES Vision
01/16/04	City of Miamisburg, Office of the City Manager Comments on December Draft of Mound RBES Vision
01/19/04	Miamisburg Mound Community Improvement Corporation Comments on December Draft of Mound RBES Vision
01/20/04	United States Environmental Protection Agency Comments on December Draft of Mound RBES Vision
01/20/04	Ohio Environmental Protection Agency Comments on December Draft of Mound RBES Vision

The Draft Risk Based End State (RBES) Vision, Revision 9, was issued to regulators and stakeholders on Friday, December 19, 2003. This version incorporated revisions as a result of stakeholder comments received on the November 25, 2003 Mound RBES Vision. Comment responses to Miamisburg Mound Community Improvement Corporation (MMCIC), Ohio Environmental Protection Agency (OEPA), City of Miamisburg, and Miamisburg Environmental Safety and Health (MESH) were also issued at that time.

During the December 19, 2003 meeting, DOE reiterated that the RBES document was a vision document; not a decision document. Therefore, agreement did not have to be reached by all parties for the February 1, 2004 submission to DOE-EM-1. DOE also requested that parties provide a listing of key areas of concern with their comments in order for DOE to consider additional participation processes subsequent to the DOE-EM-1 RBES Vision document submission.

DOE initiated significant revisions to the Executive Summary of the attached draft vision. Revisions were also made to the RBES Vision as a result of the latest regulator and stakeholder comments received on January 20, 2004. Please note that the MCP regulators and stakeholders will not have been given an opportunity to review the February 2004 version prior its submission to DOE-EM-1. DOE-MCP will continue to evaluate input and make revisions, as appropriate, for the final document submission by March 30, 2004. In general, regulators and stakeholders feel that the development of the RBES Vision document detracts from the focus of all parties on the remediation process. As a result, the MMCIC and City of Miamisburg have requested that DOE abandon efforts toward revising a document. There is also regulator and stakeholder concern that the RBES vision will be used to circumvent the Mound 2000/CERCLA decision-making process. DOE-MCP will continue to conduct regulator and stakeholder involvement in accordance with the Mound 2000/CERCLA decision-making process while implementing the closure baseline.

DOE review of comments indicated significant variations in interpretation among the parties. As a result, DOE-MCP has identified five areas that create obstacles to implementation of the end state vision.

1. Definition of “industrial land use” in the context of MMCIC’s intended future development.
 - Mound 2000 Residual Risk Evaluation exposure scenario assumptions.
 - MMCIC and City’s objection of the potential for “no dig” restrictions in OU1 area to maintain protectiveness.
 - Applicability of City Zoning Ordinance(s) with respect to the OU1 landfill that existed prior to adoption of the city ordinance(s).
 - MMCIC’s 2003 Comprehensive Reuse Plan (CRP) which plans for subsequent development in the OU1 area and the adoption of the plan as part of the City’s comprehensive land use plan for Miamisburg.

2. Degree to which the community acceptance criteria under CERCLA, and property improvements envisioned in the MMCIC’s Comprehensive Reuse Plan (CRP), determine CERCLA remedy selection and end state.
 - CERCLA Evaluation Criteria # 9, Community Acceptance balancing criteria to reflect community preferences among or concerns about alternatives.
 - MMCIC’s 2003 Comprehensive Reuse Plan (CRP) which plans for subsequent development in the OU1 area and the adoption of the plan by the City of Miamisburg.
 - DOE P 455.1 requirement to integrate reuse plans in the end state vision.

3. Interpretation of requirements of the 1998 Sales Contract between DOE and the Miamisburg Mound Community Improvement Corporation (MMCIC).
 - CERCLA 120(h) allows for two scenarios for property transfer (1) a covenant that says all remedial action necessary has been taken or (2) an Operating Properly and Successfully (OPS) determination for the remedy.
 - Reference to limitation of buyers and sellers obligations (e.g. in the event that the remediation of all portion of the Mound facility is extended beyond Feb 1, 2008, the buyer [may] be relieved from any further performance under [the contract])

4. Perception that DOE is pre-determining remedies for OU1, seeps, and the Community Park in an attempt to circumvent the CERCLA process and/or "do less."
5. Degree to which MMCIC and City of Miamisburg participate in Core Team negotiations pursuant to CERCLA/Mound 2000 remedy selection.

DOE recognizes that additional discussion and resolution of the above issues will be necessary, however, these issues may not be resolved prior to DOE's submission of a final RBES Vision by March 30, 2004.

Correspondence that was received external to the RBES comment process on issues relating to End States have also been included at the end of the Appendix as follows:

- 06/20/03 Ohio Environmental Protection Agency
Operable Unit 1
- 07/11/03 U.S. Department of Energy, Ohio Field Office
Response to OEPA 6/20/03 letter
- 07/08/03 Miamisburg Mound Community Improvement Corporation
Operable Unit 1
- 07/23/03 U.S. Department of Energy, Ohio Field Office
Response to MMCIC 7/08/03 letter
- 08/20/03 City of Miamisburg, City Council
Operable Unit 1
- 11/25/03 U.S. Department of Energy, EM-1
Response to City of Miamisburg City Council 6/20/03 letter
- 01/14/04 City of Miamisburg, Office of the Mayor
Contamination at Community Park and Tritium Seeps
- 01/27/04 Miamisburg Mound Community Improvement Corporation
Response to DOE's 12/12/03 Letter to US & Ohio Environmental
Protection Agencies
- 01/28/04 City of Miamisburg, Office of the City Manager
Request for Mound Site Exemption to RBES Vision
development

**REGULATOR AND STAKEHOLDER REVIEW COMMENTS AND DOE RESPONSES
TO COMMENTS ON OCTOBER 2003 DRAFT MOUND RBES VISION**



Send 11/21

Bob —
Sue —
Dustin ✓

November 19, 2003

U.S. Department of Energy
Mr. Robert F. Warther
Ohio Field Office Manager
175 Tri-County Parkway
Springdale, Ohio 45246-3222

MIAMISBURG
LOG H-00194
CODE 5084

12-03-03 P02:21 IN

Dear Bob:

The City of Miamisburg appreciates the opportunity to review and comment on the draft "MCP Risk-Based End State Vision" document. The City of Miamisburg recognizes that per DOE Policy 455.1, this document is to be formulated in cooperation with the affected government. The City has serious concerns that this draft document contains major incorrect or premature assumptions which are utilized to minimize significant environmental concerns that exist at this time. The City would like these assumptions corrected so that an accurate depiction of the true environmental and risk conditions is represented in the document.

Specific comments are noted on the attached pages. General comments are listed below. Additionally, the City would appreciate written responses to all general and specific comments.

- 1) This document clearly ignores the existence of the OU-1 Technical Team. It is apparent by the references in this document to extra access controls, natural attenuation and capping, that DOE has already selected a remedy for OU-1. Additionally, it is an insult to all of the people putting forth significant efforts to perform a thorough objective technical evaluation of the OU-1 area.
- 2) This document clearly ignores the MMCIC's recent Comprehensive Reuse Plan. DOE Policy 455.1 specifically states that such plans should be integrated into the Risk-Based End State Vision. The Comprehensive Reuse Plan for the site is based on the entire property having the same set of minimal deed restrictions (industrial use, no soil removal and no groundwater removal). This allows for continuity in the development of an industrial park and reintegration of the site back into the community. If DOE intends on placing additional institutional controls or access controls on certain parcels due to a lack of effort to properly remediate all parcels, it is unlikely that the MMCIC would accept transfer of the parcels with extra controls.
- 3) The references to the quitclaim deed ("the quitclaim deed transfers ownership of the land and establishes that MMCIC will take the land as is and where is") are not clarified in the document. Before any parcel can be transferred to MMCIC, it must be demonstrated that the remedy is operating properly and that the remedy is protective. The document

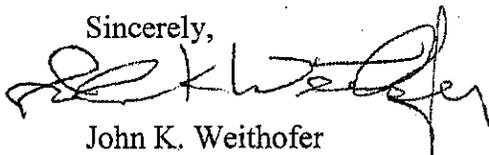
Office of the City Manager
10 North First Street
Miamisburg, Ohio 45342
Phone: 937 847-6456
Fax: 937 866-0891
E-mail: mburg@mvcc.net

implies that MMCIC will automatically accept transfer of all parcels irregardless of DOE's preferred remedy. This is not correct.

- 4) Documented groundwater contamination exists off-site, including areas of the Miami Erie Canal and the City of Miamisburg Community Park. Monitoring wells and hillside seeps have yet to be addressed by a remedy.
- 5) Two hazard areas are insufficient to correctly document the existing site hazard areas. Hazard Area #1 does not have the correct boundaries nor does it identify the complete list of contaminants. Hazard Area #2 does not have the correct boundaries.
- 6) There needs to be two sets of maps, one depicting current conditions and one depicting the end state.
- 7) Monitored Natural Attenuation (MNA) would be a change in the selected remedy for OU-1. Currently the OU-1 area does not meet the EPA qualifications for MNA nor has MNA been approved by the regulators as a change in remedy for this area.

The contents of this document reflect a substantial divergence in the community's versus DOE's vision for the end state. As we move through the final stages of remediation at the site, we recognize that it is in the City's and DOE's best interests to minimize future long term stewardship obligations by addressing any known and obvious areas of contamination and performing the most appropriate remediation action. Because this document fails to address some time critical remediation matters, the City requests to meet with DOE as soon as possible to discuss these issues. We look forward to working with you through this process to achieve an environmentally clean, economically viable site.

Sincerely,



John K. Weithofer
City Manager

Cc: Paul Lucas – DOE – MCP
Sue Smiley – DOE – OFFO
Mike Grauwelman – MMCIC
Dann Bird – MMCIC
Brian Nickel – Ohio EPA
David Seely – U.S. EPA
Bob Faulkner – City Council
Tom Nicholas – City Council
Beth Moore – City Environmental

City of Miamisburg Specific Comments on the MCP Risk-Based End State Vision

1. Page 1, Paragraph 2, Sentences 5-6. The language that the quitclaim deed means MMCIC will take the land "as is and where is" needs to be clarified as described in the general comments.
2. Page 2, Paragraph 5, Sentence 2. The entire site may not be owned by the MMCIC in the end, if DOE is unwilling to properly address the outstanding concerns in the OU-1 area. Neither the City nor MMCIC is interested in owning the historic landfill dump or the 1976 engineered mixed waste landfill.
3. Page 2, Paragraph 6, Sentence 2. Please justify the statement that "...no additional remedial action is necessary for any area off-property" in light of the fact that groundwater monitoring wells in Community Park show detected contaminants and the surface hillside seeps show detected contaminants.
4. Page 3, Paragraph 2, Sentence 1. Identification of only two hazard areas is insufficient to accurately characterize the site. The area currently described as Hazard Area 1 is not accurately mapped nor are the contaminants solely VOCs. The area currently described as Hazard Area 2 is not accurately mapped.
5. Page 3, Paragraph 3. It is not clear from the map whether or not the defined area includes the VOC soil areas that are north and east of OU-1. In addition, defining this area as solely VOC contamination is incorrect. There currently exist many other known hazards in the area – PRSs 69, 409, 410 and 414 which are yet to be remediated. Also, the Core Team has determined that PRSs 8-12 need to be revisited. These PRSs have contaminants of concern other than chlorinated solvents. Contaminants include PAHs and radionuclide.
6. Page 3, Paragraph 4. Please provide the justification that the OU-1 area meets all of EPA's criteria for monitored natural attenuation (MNA). The City does not believe that OU-1 currently meets all of the criteria for MNA. MNA is not the ROD approved remedy.
7. Page 3, Paragraph 5. If the change in remedy for OU-1 from the pump & treat / air sparge / soil vapor extraction to MNA were to be approved by the regulators, please explain what specific access controls would be needed. Are access controls restrictions on the property beyond the deed control restrictions? Neither the City nor MMCIC would be interested in owning property that has access controls.
8. Page 3, Paragraph 6. Please provide the justification that the area outside and south of OU-1 meets all of EPA's criteria for monitored natural attenuation (MNA). The City does not believe this is the case. MNA has not been approved by the regulators as a remedy for this area. Please provide the seep # and monitoring well # for the referenced items.
9. Page 3, Paragraph 7. Should the areas north and east of OU-1 be a separate hazard area? Please provide more specific details as to exactly where this area is located and what source term was removed.

10. Page 4, Paragraph 2. The assumption that removal of the suspected source term will immediately translate into the seeps becoming "clean" is incorrect. The RBESV should plan for the fact that there are tritium exceedances in this area. It is not acceptable for DOE to leave the seeps in a condition where MCLs are exceeded. The seeps are at ground surface and pose a risk to potential receptors. It is impossible at this point to say that the remedy for this area is MNA. Additionally, tritium is not a typical contaminant addressed by MNA and this site does not meet EPA criteria for the use of MNA.
11. Page 5, Paragraph 1. The current map should be included as it would provide an accurate picture of the risks that exist today. DOE has assumed that the historic landfill and the 1976 engineered mixed waste landfill will remain; therefore DOE does not envision a significant delta from the current state to the end state. Unfortunately, DOE has ignored the work of the OU-1 technical team and the fact that the Core Team agreed to revisit PRSs 8-12 again. The community and DOE have two very different visions for the end state of the OU-1 area. If this area were to be transferred to MMCIC today (with the current standard site deed restrictions); it would not be protective.
12. Page 8, Section 1.3, Paragraph 2, Sentence 2. The language that the quitclaim deed means MMCIC will take the land "as is and where is" needs to be clarified as described in the general comments.
13. Page 10, Paragraph 2. It should be noted that a different approach was used at PRS 66 because DOE turned a 45-foot deep ravine into a radioactive dump.
14. Page 12, Section 3.1, Paragraph 1, Sentence 3. MMCIC has a current CRP. This should be referenced and incorporated into this document. MMCIC has new development (spec building) occurring on the south property right now.
15. Page 13, Section 4.0, Paragraph 1, Sentence 3. It is hard to tell from this written description if the Phase I elevated groundwater VOCs and the south groundwater plume are included in Hazard Area 1. The written description should include more details or reference PRS numbers. There are multiple other known hazards in the "VOC hazard area". PRSs 69, 409, 410, and 414 have a variety of contaminants (radiological and PAHs) and are yet to be remediated. This also assumes that the Core Team re-evaluation of PRSs 8-12 is not happening.
16. Page 13, Section 4.0, Paragraph 2, Sentence 1. The off-site tritium seeps are a valid separate hazard area and cannot be assumed to immediately disappear once the suspected source terms are removed. This hazard area should be included in the current map set.
17. Page 13, Section 4.0, Paragraph 2, Sentence 3. It doesn't matter if the bedrock aquifer is a drinking water source. These seeps are contaminated groundwater exposed at the ground surface. Additionally, these seeps are located off-site where there are no deed restrictions and exposure to the seep water is a possibility.
18. Page 13, Section 4.0, Paragraph 2, Sentence 4. Monitored Natural Attenuation (MNA) is not an approved remedy for the seeps area. Currently, the seeps area does not meet the EPA qualifications for MNA.
19. Page 14, Section 4.1. Hazard area 1 also contains known radiological contamination (i.e. thorium drums, Dayton units).

20. Page 14, Section 4.1, Paragraph 2, Last Sentence. Monitored Natural Attenuation (MNA) would constitute a change in the remedy for OU-1. Currently, the OU-1 area does not meet the EPA qualifications for MNA.
21. Page 14, Section 4.1, Paragraph 3. If the pump & treat and air sparge / soil vapor extraction only treats the groundwater within the compliance boundary, what is being done to remediate the contaminated groundwater outside the compliance boundary. Why doesn't the compliance boundary include the entire groundwater contamination area?
22. Page 14, Section 4.1, Paragraph 4, Sentence 2. This clearly ignores the existence of the OU-1 Technical Team. It is apparent that DOE has already selected a remedy for OU-1. Additionally, it is an insult to all of the people putting forth significant efforts to perform a thorough technical evaluation of the OU-1 area. Neither the City nor MMCIC has agreed to access controls. Remediation activities should clean up to the degree necessary so that no additional controls are needed. It does not make sense to carve out an area in the middle of the site with an expanded institutional control list. This would not only be a deed restriction enforcement nightmare, but a site marketing plague as well.
23. Page 14, Section 4.1, Paragraph 5, Sentence 1. Monitored Natural Attenuation (MNA) is not an approved remedy for the areas outside of and to the south of OU-1. Currently, this area does not meet the EPA qualifications for MNA.
24. Page 15, Section 4.2, Paragraph 1, Sentence 2. Why isn't the entire 306 acres included in this hazard area? Since the entire area is subject to deed restrictions, the hazard area boundaries should be consistent with the deeds.
25. Page 15, Section 4.2, Paragraph 3, Sentence 3. If DOE intends on leaving the historic landfill and the 1976 engineered mixed waste landfill, uncharacterized sources will remain on the site. By the nature of the activities in the OU-1 area (open burning, dumping, landfill operations), sources above the clean-up criteria are likely to remain.
26. Figure 2.1b. 1) Correction, there are five city production wells. 2) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.
27. Figure 2.2b. The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.
28. Figure 3.1b. 1) Legend clarification – change landfill to mixed waste landfill. 2) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.
29. Figure 3.2b. 1) Legend clarification – change landfill to mixed waste landfill. 2) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.
30. Figure 4.0a. 1) Legend clarification – change landfill to mixed waste landfill. 2) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map. 3) Two hazard areas are insufficient to characterize the site.
31. Figure 4.0b. 1) Legend clarification – change landfill to mixed waste landfill. 2) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.

City of Miamisburg Comments and DOE Responses
Issued with Draft Mound RBES Vision, Rev. 9 dated 12/19/03

General Comments

1. This document clearly ignores the existence of the OU-1 Technical Team. It is apparent by the references in this document to extra access controls, natural attenuation and capping, that DOE has already selected a remedy for OU-1. Additionally, it is an insult to all of the people putting forth significant efforts to perform a thorough objective technical evaluation of the OU-1 area.

Response: New text has been added on (pages 2,5,14) to emphasize that this is a vision document, not a decision document. There is a current remedy selected for the OU1 area (e.g. 1995 Record of Decision) that discusses the need for appropriate deed restrictions to be obtained at the time of transfer. With the execution of the 1998 Sales Contract between DOE and the MMCIC, MMCIC agreed to accept the Mound property with whatever restrictions were placed upon that property due to CERCLA 120(h) compliance.

DOE recognizes that any remedy decisions must be made within the existing decision-making framework. The decision regarding the outcome of the OU1 area will not be made through the Risk Based End State (RBES) vision document, but rather through the Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA)/Mound 2000 process.

In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. New text was previously added to recognize the issues raised by the OU-1 working group (pg#). DOE recognizes the importance of this issue to the community and initiated the OU1 Technical Team discussions above and beyond the previously established Mound 2000 stakeholder opportunities for expressing opinions or suggestions. Upon completion of the work of the OU1 Technical Team, the Core Team (comprised of USDOE, USEPA, and OEPA) will evaluate the recommendations and determine the appropriate response in accordance with CERCLA/Mound 2000. The Core Team evaluation will consider all data, including the recommendations of the OU1 Technical Team, to ensure that the overall protection of the human health and the environment is maintained. DOE will continue to solicit stakeholder concerns and information needs throughout the decision-making process in accordance with the CERCLA/Mound 2000 process.

2. This document clearly ignores the MMCIC's recent Comprehensive Reuse Plan. DOE Policy 445.1 specifically states that such plans should be integrated into the Risk-Based End State Vision. The Comprehensive Reuse Plan for the site is based on the entire property having the same set of minimal deed restrictions (industrial use, no soil removal and no groundwater removal). This allows for continuity in the development of an industrial park and reintegration of the site back into the community. If DOE intends on placing additional institutional controls or access controls on certain parcels due to a lack of effort to properly remediate all parcels, it is unlikely that the MMCIC would accept transfer of the parcels with extra controls.

Response: The Core Team determines proper remediation in accordance with the expectations of 40 CFR 300.430 for the parcels via the CERCLA/Mound 2000 decision-making process; not the Comprehensive Reuse Plan (CRP). The alternatives selected through the process for CERCLA remedy selection determine the extent to which hazardous constituents remain at the site, and therefore directly affect subsequent available land and groundwater uses. Deed restrictions and/or institutional controls may be appropriate as a component of the completed CERCLA remedy. DOE will continue

long-term surveillance and monitoring activities to ensure the permanence of the selected remedy for protection of human health and the environment.

EPAs expectations for developing appropriate remedial alternatives in 40 CFR 300.430(a)(iii)(B) are treatment of principal threats for high concentrations of toxic compounds and highly mobile materials. Engineering controls such as containment should be used for waste that poses a relatively low long-term threat or where treatment is impracticable. A combination of methods using engineered controls such as containment, and institutional controls for residuals and untreated waste, is appropriate to achieve protection of human health of the environment. DOE's RBES vision is consistent with these EPA expectations.

With the execution of the 1998 Sales Contract between DOE and the MMCIC, MMCIC agreed to accept the Mound property with whatever restrictions were placed upon that property due to CERCLA 120(h) compliance. DOE has no reason to believe that MMCIC would not comply with this contractual requirement. The 1999 "DOE-Mound's Land Transfer Process" developed in coordination with the USEPA, OEPA, and MMCIC acknowledges that "restrictions required under CERCLA to ensure the release block is protective of human health and the environment (i.e. as addressed in the Record of Decision)" will be included in the Quit Claim Deed. Additionally, DOE executed a grant with the MMCIC in September 2002 for the development of the Comprehensive Reuse Plan (CRP). The requirements were for the CRP to (1) be consistent with the DOE-Validated Baseline, (2) be consistent with requirements imposed on DOE by CERCLA statute and/or the FFA, and (3) ensure expectations do not place unnecessary financial burden on the government. The current MMCIC CRP prepared under the above referenced grant does not comply with the 1995 OU1 ROD. It is not incumbent on the USDOE to modify a legally binding remedy on the basis of the MMCIC CRP.

3. The references to the quitclaim deed ("the quitclaim deed transfers ownership of the land and establishes that MMCIC will take the land as is and where is") are not clarified in the document. Before any parcel can be transferred to MMCIC, it must be demonstrated that the remedy is operating properly and that the remedy is protective. The document implies that MMCIC will automatically accept transfer of all parcels irregardless of DOE's preferred remedy. This is not correct.

Response: *The decision regarding the outcome of the OU1 area will not be made through the Risk Based End State (RBES) vision document, but rather through the CERCLA and Mound 2000 process. As discussed above, The Core Team will determine proper remediation of the parcels in accordance with CERCLA and Mound 2000 decision-making processes.*

The 1998 Sales Contract between DOE and MMCIC states that DOE will convey the entire Premises by discrete parcels, subject to the CERCLA §120(h). Each discrete parcel is conveyed when appropriate regulatory agency approval for deed transfer is received. Regulatory approval is received with either an operating properly and successfully determination, or a covenant that all remedial action necessary has been taken before the date of transfer and any additional remedial action found to be necessary will be taken by DOE. The Sales Contract requires that MMCIC accept the parcel in a timely manner, not to exceed thirty (30) calendar days from receipt of the notice of readiness to convey from DOE.

In the "Condition of Premises" section of the Sales Contract, it was understood and agreed that the Premises would be cleaned to an "industrial use" standard. The property is to be transferred in 'as is' and 'where is' condition as at the signing of the contract, except for the effects of DOE's activities concerning compliance with CERCLA,

reasonable wear and tear, etc. The failure of the MMCIC to inspect fully the Premises, or to be fully informed as to the condition thereof, does not constitute grounds for any noncompliance with the terms of the Sales Contract.

Lastly, the 'as is, where is' language in the RBES document was copied verbatim from the DOE Mound's Land Transfer Process dated December 1999. This document was developed by the DOE Miamisburg Closure Project, in coordination with the USEPA, OEPA, and the MMCIC.

4. Documented groundwater contamination exists off-site, including areas of the Miami Erie Canal and the City of Miamisburg Community Park. Monitoring wells and hillside seeps have yet to be addressed by a remedy.

Response: *The tritium soil moisture/seep area has been added as Hazard Area 3 (pages 5,15,18). There are currently no other areas of MCL exceedances that are known to require a response action. If other off-site areas of contamination attributable to DOE operations are identified, they will be addressed through the CERCLA/Mound 2000 process.*

5. Two hazard areas are insufficient to correctly document the existing site hazard areas. Hazard Area #1 does not have the correct boundaries nor does it identify the complete list of contaminants. Hazard Area #2 does not have the correct boundaries.

Response: *The tritium soil moisture/seep area has been added as Hazard Area 3 (pages 5,15,18). The boundaries shown on the maps for Hazard Areas 1 and 2 have been corrected. The thorium drum area (PRS 11) has been added to Hazard Area 2.*

6. There needs to be two sets of maps, one depicting current conditions and one depicting the end state.

Response: *Two sets of maps are provided, current and end state for each Hazard Area.*

7. Monitored Natural Attenuation (MNA) would be a change in the selected remedy for OU-1. Currently the OU-1 area does not meet the EPA qualifications for MNA nor has MNA been approved by the regulators as a change in remedy for this area.

Response: *As stated in the new text on pages 2, 5 and 14, this is a vision document, not a decision document. MNA is one of several options under consideration for OU-1 (pages 4,17). DOE's end state vision does reflect MNA as the expected eventual remedy, but acknowledges that the evaluation is not complete. At closure it is expected that the current remedy will have been replaced with monitored natural attenuation. However, other modification options being evaluated include directed groundwater source term reduction and removal of source term areas. Should the Core Team determine that MNA is an appropriate remedy for OU1, that would result in a fundamental change to the existing remedy and an amendment to the OU1 Record of Decision (ROD) in accordance with 40 CFR 300.435(c)(2) will be prepared. Should a ROD amendment be determined, a notice of availability will be issued in the local newspaper, a public meeting will be held, and a thirty (30) day public comment period will be provided.*

Assuming that MNA will be determined to be an appropriate remedy for OU1, it would also allow for the removal of the pump and treat system upon implementation of the ROD Amendment. If the Core Team determines that an MNA remedy is not appropriate for the OU1 area, the pump and treat system will remain until the remedy is completed post 2006. However, a parcel can be transferred per the 1998 Sales Contract once regulatory approval that the remedy (pump and treat or MNA) is operating properly and successfully in accordance with CERCLA 120(h).

Specific Comments

1. Page 1, Paragraph 2, Sentence 5-6. The language that the quitclaim deed means MMCIC will take the land "as is and where is" needs to be clarified as described in the general comments.

Response: Refer to General Comments #3

2. Page 2, Paragraph 5, Sentence 2. The entire site may not be owned by the MMCIC in the end, it DOE is unwilling to properly address the outstanding concerns in the OU-1 area. Neither the City nor MMCIC is interested in owning the historic landfill dump or the 1976 engineered mixed waste landfill.

Response: The end state vision is that MMCIC will own the entire site. The 1998 Sales Contract between DOE and MMCIC states that DOE will convey the entire Premises by discrete parcels, subject to the CERCLA §120(h). Each discrete parcel is conveyed when appropriate regulatory agency approval for deed transfer is received. Regulatory approval is received with either an operating properly and successfully determination, or a covenant that all remedial action necessary has been taken before the date of transfer and any additional remedial action found to be necessary will be taken by DOE. The 1999 "DOE-Mound's Land Transfer Process" developed in coordination with the USEPA, OEPA, and MMCIC acknowledges that "restrictions required under CERCLA to ensure the release block is protective of human health and the environment (i.e. as addressed in the Record of Decision)" will be included in the Quit Claim Deed. The Sales Contract requires that MMCIC accept the parcel in a timely manner, not to exceed thirty (30) calendar days from receipt of the notice of readiness to convey.

3. Page 2, Paragraph 6, Sentence 2. Please justify the statement that "...no additional remedial action is necessary for any area off-property" in light of the fact that groundwater monitoring wells in Community Park show detected contaminants and the surface hillside seeps show detected contaminants.

Response: The tritium soil moisture/seep area has been added as Hazard Area 3 (pages 5,15,18). There are currently no other areas of MCL exceedances that are known to require a response action. If other off-site areas of contamination attributable to DOE operations are identified, they will be addressed through the CERCLA/Mound 2000 decision making process.

4. Page 3, Paragraph 2, Sentence 1. Identification of only two hazard areas is insufficient to accurately characterize the site. The area currently described as Hazard Area 1 is not accurately mapped not are the contaminants solely VOCs. The area currently described as Hazard Area 2 is not accurately mapped.

Response: The tritium soil moisture/seep area has been added as Hazard Area 3 (pages 5,15,18). The boundaries shown on the maps for Hazard Areas 1 and 2 have been revised. The thorium drum area (PRS 11) has been added to Hazard Area 2.

5. Page 3, Paragraph 3. It is not clear from the map whether or not the defined area includes the VOC soil areas that are north and east of OU-1. In addition, defining this area as solely VOC contamination is incorrect. There currently exist many other known hazards in the area - PRSs 69, 409, 410 and 414 which are yet to be remediated. Also, the Core Team has determined that PRSs 8-12 need to be revisited. These PRSs have contaminants of concern other than chlorinated solvents. Contaminants include PAHs and radionuclide.

Response: The defined areas include areas (PRS 76 and 87) north and east of OU-1. Hazard Area 1 is defined as a VOC area. Any radionuclides in the OU-1 area that are determined to require a response action will be addressed as part of Hazard Area 2. PRS 409 (Stoddard solvent) and PRS 410 (fuel oil) are currently scheduled for removal actions. Neither of these two PRS's is considered large enough in size or complexity to be considered a "Hazard Area" for the RBES vision.

The Core Team will revisit PRSs 8-12 following completion of the OU1 Technical Team efforts as described in the response to General Comments #1.

6. Page 3, Paragraph 4. Please provide the justification that the OU-1 area meets all of EPA's criteria for monitored natural attenuation (MNA). The City does not believe that OU-1 currently meets all of the criteria for MNA. MNA is not the ROD approved remedy.

Response: As stated in the new text on pages 2 and 5, this is a vision document, not a decision document. MNA is one of several options under consideration for OU-1 (pages 4,17}. DOE's end state vision does reflect MNA as the expected eventual remedy, but acknowledges that the evaluation is not complete. At closure it is expected that the current remedy will have been replaced with monitored natural attenuation. However, other modification options being evaluated include directed groundwater source term reduction and removal of source term areas. Should the Core Team determine that MNA is an appropriate remedy for OU1, it would result in a fundamental change to the existing remedy and an amendment to the OU1 Record of Decision (ROD) in accordance with 40 CFR 300.435(c)(2) will be prepared. Should a ROD amendment be determined, a notice of availability will be issued in the local newspaper, a public meeting will be held, and a thirty (30) day public comment period will be provided.

7. Page 3, Paragraph 5. If the change in remedy for OU-1 from the pump & treat / air sparge/ soil vapor extraction to MNA were to be approved by the regulators, please explain what specific access controls would be needed. Are access controls restrictions on the property beyond the deed control restrictions? Neither the City nor the MMCIC would be interested in owning property that has access controls.

Response: If the remedy were to be changed, the Core Team would determine necessary access controls as part of the ROD amendment process. However, access controls could include fencing, warning signs, or other site control precautions.

8. Page 3, Paragraph 6. Please provide the justification that the area outside and south of OU-1 meets all of EPA's criteria for monitored natural attenuation (MNA). The City does not believe this is the case. MNA has not been approved by the regulators as a remedy for this area. Please provide the seep # and monitoring well # for the referenced items.

Response: The area referred to is Seep 617, and Wells 411 and 443, which are in Phase 1. The Phase 1 ROD includes MNA as the selected remedy for the TCE exceedances in this area. Page 20 of the Phase I ROD states, "...it has been determined that Monitored Natural Attenuation is an appropriate remedy for the TCE in the groundwater in Phase I."

9. Page 3, Paragraph 7. Should the areas north and east of OU-1 be a separate hazard area? Please provide more specific details as to exactly where this area is located and what source term was removed.

Response: The maps have been changed to illustrate this area (PRS 76 and 87). VOC's are the contaminant in both of these PRS's and both are scheduled for a removal action. Hazard Area 1 is intended to include all VOC issues.

10. Page 4, Paragraph 2. The assumption that removal of the suspected source term will

immediately translate into the seeps becoming "clean" is incorrect. The RBESV should plan for the fact that there are tritium exceedances in this area. It is not acceptable for DOE to leave the seeps in a condition where MCLs are exceeded. The seeps are at ground surface and pose a risk to potential receptors. It is impossible at this point to say that the remedy for this area is MNA. Additionally, tritium is not a typical contaminant addressed by MNA and this site does not meet EPA criteria for the use of MNA.

Response: *The R/SW tritium soil moisture/seep area has been added as a separate hazard area. The reference to MNA was in error. The text has been changed to identify monitoring to assure the effectiveness of source term removal as the expected post closure activity (pages 5,16,19).*

11. Page 5, Paragraph 1. The current map should be included as it would provide an accurate picture of the risks that exist today. DOE has assumed that the historic landfill and the 1976 engineered mixed waste landfill will remain; therefore DOE does not envision a significant delta from the current state to the end state. Unfortunately, DOE has ignored the work of the OU-1 technical team and the fact that the Core Team agreed to revisit the work of the OU-1 area. The community and DOE have two very different visions for the end state of the OU-1 area. If this area were to be transferred to MMCIC today (with the current standard site deed restrictions); it would not be protective.

Response: *Current maps have been provided for each Hazard Area. As stated in the new text on pages 2 and 5, this is a vision document, not a decision document. MNA is one of several options under consideration for OU-1 (pages 4,17). DOE's end state vision does reflect MNA as the expected eventual remedy, but acknowledges that the evaluation is not complete. The initial release of the RBES Vision has continued to evolve while concurrent stakeholder review was occurring. New text had been added to recognize the issues raised by the OU-1 working group (pages 4,17).*

Refer also to responses to General Comments #1 and #2 for additional explanation of inclusion of OU1 Technical Team efforts into the CERCLA/Mound 2000 decision making process and the use of additional controls as part of the remedy selection process.

12. Page 8, Section 1.3, Paragraph 2, Sentence 2. The language that the quitclaim deed means MMCIC will take the land "as is and where is" needs to be clarified as described in the general comments.

Response: *Refer to General Comments #3*

13. Page 10, Paragraph 2. It should be noted that a different approach was used at PRS 66 because DOE turned a 45-foot deep ravine into a radioactive dump.

Response: *The national program goal of the remedy selection process in 40 CFR 300.430 is to select remedies that are protective of human health and the environment, maintain protection over time, and that minimize untreated waste. The EPAs expectations for developing appropriate remedial alternatives in 40 CFR 300.430(a)(iii)(B) are treatment of principal threats for high concentrations of toxic compounds and highly mobile materials. Engineering controls such as containment should be used for waste that poses a relatively low long-term threat or where treatment is impracticable. A combination of methods using engineered controls such as containment, and institutional controls for residuals and untreated waste, is appropriate to achieve protection of human health of the environment.*

PRS 66 is an example of a relatively low long-term threat that could have been protective of human health and the environment using a combination of excavation, containment, and institutional controls. This approach would have been consistent with the industrial

use standard, reduced the extraordinary volume of excavation, and minimized the environmental impact of such a large-scale operation. The different approach for PRS 66 was not tied technically to the method of deposition. The method of deposition was accounted for when determining the sampling grid spacing for characterization of PRS 66.

14. Page 12, Section 3.1, Paragraph 1, Sentence 3. MMCIC has a current CRP. This should be referenced and incorporated into this document. MMCIC has new development (spec building) occurring on the south property right now.

Response: *Refer to General Comments #2*

15. Page 13, Section 4.0, Paragraph 1, Sentence 3. It is hard to tell from this written description if the Phase I elevated groundwater VOCs and the south groundwater plume are included in Hazard Area 1. The written description should include more details or reference PRS numbers. There are multiple other known hazards in the "VOC hazard area". PRSs 69, 409, 410, and 414 have a variety of contaminants (radiological and PAHs) and are yet to be remediated. This also assumes that the Core Team re-evaluation of PRSs 8-12 is not happening.

Response: *The text has been modified (pages 3,18) to clarify that the Phase 1 VOC's and the south plume are included in Hazard Area 1. Well identification and PRS numbers have been added to the text. Any radioactive material issues in this area that require a response action (e.g. - PRS 11) will be addressed as part of Hazard Area 2. Text has been added to emphasize that this is a vision document and that final decisions will continue to be made by the Core Team through application of the CERCLA/Mound 2000 process (pages 2,5).*

16. Page 13, Section 4.0, Paragraph 2, Sentence 1. The off-site tritium seeps are a valid separate hazard area and cannot be assumed to immediately disappear once the suspected source terms are removed. This hazard area should be included in the current map set.

Response: *The R/SW tritium soil moisture/seep area has been added as a separate hazard area (pages 5,15,18). Current and RBES maps are provided. The Core Team, under the CERCLA/Mound 2000 decision-making process, will address any residual contamination remaining after source term removal.*

17. Page 13, Section 4.0, Paragraph 2, Sentence 3. It doesn't matter if the bedrock aquifer is a drinking water source. These seeps are contaminated groundwater exposed at the ground surface. Additionally, these seeps are located off-site where there are no deed restrictions and exposure to the seep water is a possibility.

Response: *The R/SW tritium soil moisture/seep area has been added as a separate hazard area. The Core Team, under the CERCLA/Mound 2000 decision-making process, will address any residual contamination remaining after source term removal.*

18. Page 13, Section 4.0, Paragraph 2, Sentence 4. Monitored Natural Attenuation (MNA) is not an approved remedy for the seeps area. Currently, the seeps area does not meet the EPA qualifications for MNA.

Response: *The reference to MNA was in error. The text has been changed to identify monitoring to assure the effectiveness of source term removal as the expected post closure activity (pages 5,16,19).*

19. Page 14, Section 4.1, Hazard area 1 also contains known radiological contamination (i.e. thorium drums, Dayton units).

Response: *The thorium drum area (PRS 11) has been added to Hazard Area 2. Should additional areas be determined to require a response action, they will be addressed through the CERCLA/Mound 2000 decision-making process.*

20. Page 14, Section 4.1, Paragraph 2, Last Sentence. Monitored Natural Attenuation (MNA) would constitute a change in the remedy for OU-1. Currently, the OU-1 area does not meet the EPA qualifications for MNA.

Response: *As stated in the new text on pages 2 and 5, this is a vision document, not a decision document. MNA is one of several options under consideration for OU-1 (pages 4,17). DOE's end state vision does reflect MNA as the assumed eventual remedy, but acknowledges that the evaluation is not complete. Refer also to the response to General Comments #7.*

21. Page 14, Section 4.1, Paragraph 3. If the pump & treat and air sparge / soil vapor extraction only treats the groundwater within the compliance boundary, what is being done to remediate the contaminated groundwater outside the compliance boundary. Why doesn't the compliance boundary include the entire groundwater contamination area?

Response: *The area inside the OU-1 compliance boundary is believed to be the primary source of the VOC contamination. Separate actions have been and will continue to be utilized to address areas outside the compliance boundary, as appropriate, based on future Core Team decisions under the CERCLA/Mound 2000 process.*

22. Page 14, Section 4.1, Paragraph 4, Sentence 2. This clearly ignores the existence of the OU-1 Technical Team. It is apparent that DOE has already selected a remedy for OU-1. Additionally, it is an insult to all of the people putting forth significant efforts to perform a thorough technical evaluation of the OU-1 area. Neither the City nor MMCIC has agreed to access controls. Remediation activities should clean up to the degree necessary so that no additional controls are needed. It does not make sense to carve out an area in the middle of the site with an expanded institutional control list. This would not only be a deed restriction enforcement nightmare, but a site marketing plague as well.

Response: *As stated in the new text on pages 2 and 5, this is a vision document, not a decision document. In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. New text was previously added to a subsequent version from initial release to recognize the issues raised by the OU-1 working group (pages 4,17).*

Refer also to responses to General Comments #1 and #2 for additional explanation of inclusion of OU1 Technical Team efforts into the CERCLA/Mound 2000 decision making process and the use of additional controls as part of the remedy selection process.

23. Page 14, Section 4.1, Paragraph 5, Sentence 1. Monitored Natural Attenuation (MNA) is not an approved remedy for the areas outside of and to the south of OU-1. Currently, this area does not meet the EPA qualifications for MNA.

Response: *The area referred to is Seep 617, and Wells 411 and 443, which are in Phase 1. The Phase 1 ROD includes MNA as the selected remedy for the TCE exceedances in this area. Page 20 of the Phase I ROD states, "...it has been determined that Monitored Natural Attenuation is an appropriate remedy for the TCE in the groundwater in Phase I."*

24. Page 15, Section 4.2, Paragraph 1, Sentence 2. Why isn't the entire 306 acres included in

this hazard area? Since the entire area is subject to deed restrictions, the hazard area boundaries should be consistent with the deeds.

Response: *This Hazard area is defined as the area that is believed to still have residual soil contamination that will require a response action. Thus, areas that have already been remediated have not been included as part of Hazard Area 2.*

25. Page 15, Section 4.2, Paragraph 3, Sentence 3. If DOE intends on leaving the historic landfill and the 1976 engineered mixed waste landfill, uncharacterized sources will remain on the site. By the nature of the activities in the OU-1 area (open burning, dumping, landfill operations), sources above the clean-up criteria are likely to remain.

Response: *In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. New text had been added to a subsequent version from initial release to recognize the issues/concerns raised by the OU-1 working group (pages 4,17). If other areas are determined to require a response action they will be addressed through the CERCLA/Mound 2000 process.*

26. Figure 2.1b. 1) Correction, there are five city production wells. 2) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.

Response: *1) The information provided by the city engineer is that the fifth well has not been developed; 2) The map shows the site fenceline as the western boundary of Hazard Area 1 since there are currently no known VOC MCL exceedances in offsite wells adjacent to this area. If additional groundwater issues requiring a response action are identified in this area, it will be addressed through the Core Team application of the CERCLA/Mound 2000 process.*

27. Figure 2.2b. 1) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.

Response: *The map shows the site fenceline as the western boundary of Hazard Area 1 since there are currently no known VOC MCL exceedances in offsite wells adjacent to this area. If additional groundwater issues requiring a response action are identified in this area, it will be addressed through the Core Team application of the CERCLA/Mound 2000 process.*

28. Figure 3.1b. 1) Legend clarification – change landfill to mixed waste landfill. 2) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.

Response: *1) The term "mixed waste landfill" has a specific definition under RCRA which may not be applicable to this landfill; 2) The map shows the site fenceline as the western boundary of Hazard Area 1 since there are currently no known VOC MCL exceedances in offsite wells adjacent to this area. If additional groundwater issues requiring a response action are identified in this area, it will be addressed through the Core Team application of the CERCLA/Mound 2000 process.*

29. Figure 3.2b. 1) Legend clarification – change landfill to mixed waste landfill. 2) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.

Response: *See response to Specific Comment #28.*

30. Figure 4.0a. 1) Legend clarification – change landfill to mixed waste landfill. 2) The area of

groundwater concern extends the site boundary. This should be corrected on the map. 3) Two hazard areas are insufficient to characterize the site.

Response: 1) and 2) See response to Specific Comment #28; 3) A third Hazard Area has been added to address the tritium soil moisture/ seep contamination.

31. Figure 4.0b. 1) Legend clarification – change landfill to mixed waste landfill. 2) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.

Response: See response to Specific Comment #28.

32. Figure 4.0a2. 1) Should surface water be a potential exposure media? There are surface water (ponds) and the seeps.

Response: This is a valid point. Surface water should be added to the CSM as a potential exposure media. Surface water is not currently included in the Mound 2000 CSM, therefore, the issue will be brought to the attention of the Core Team for concurrence prior to implementation of the change.

33. Figure 3.1b. 1) Legend clarification-change landfill to mixed waste landfill. 2) The area of groundwater concern extends beyond the site boundary. This should be corrected on the map.

Response: See response to Specific Comment #28.

34. Figure 4.1a2. 1) Should surface water be a potential exposure media? There are surface water (ponds) and the seeps.

Response: Surface water is not an applicable media of concern for the VOC's (Hazard Area 1).

35. Figure 4.1b2. 1) The surface soil and subsurface soil pathways are not blocked. If the engineered landfill and all the hazardous and radiological waste below it and the pond remain and this area is transferred to MMCIC for development, the current remedy is not protective. There is an exposure pathway for the construction worker. 2) Should surface water be a potential exposure media? There are surface water (ponds) and the seeps.

Response: 1) These exposure pathways are considered blocked due to deed restrictions including access controls; 2) Surface water is not an applicable media of concern for the VOC's (Hazard Area 1).

36. Figure 4.2a1. 1) Define "institutional control" as used in the legend. 2) Shouldn't hazard area 2 include the entire 306 acres?

Response: 1) The term "institutional control" has been removed from the map legends since some form of institutional controls will apply to the entire site; 2) This Hazard area is defined as the area that is believed to have residual soil contamination that will still require a response action. Thus, areas that have already been remediated have not been included as part of Hazard Area 2.

37. Figure 4.2b1. 1) Define "institutional control" as used in the legend.

Response: The term "institutional control" has been removed from the map legends since some form of institutional controls will apply to the entire site.

38. Figure 4.2b2. 1) DOE's plan to leave behind the historical landfill and the 1976 mixed waste engineered landfill does not remove the source term as indicated on this drawing. Please correct.

Response: *Based on current sampling information, the only known additional contamination requiring a response action in the historic landfill or the 1976 landfill is the thorium drum area (PRS 11). After removal of PRS 11 there will no longer be an exposure pathway since all known radioactive material source term requiring a response action will have been removed. If additional contamination requiring a response action is identified in this area, it will be addressed through the Core Team application of the CERCLA/ Mound 2000 process.*

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RISK-BASED END STATE VISION
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COMMENTS
NOVEMBER 21, 2003

GENERAL COMMENTS

1. Within the Executive Summary, the Introduction and any other applicable section, it should be noted that the final plan for ground water monitoring has not been determined. Therefore any depiction of monitoring well locations, numbers, contaminants, etc. is merely an estimate and will be finalized within a post closure ground water monitoring plan.
2. Explain the boundaries of the Hazard Area 1. What process was used to determine if all VOC areas in soil or ground water have been considered?
3. Regarding Hazard Area 1 –RBES - This document does not recognize the decision made in the October 17, 2001, Core Team meeting regarding the OU-1 area. Notes from the meeting state: "PRSs 8-12 were binned NFA on October 19, 1995. Because of information obtained since that time, the Core Team wants to reconsider that decision. DOE/MEMP will direct BWXTO to prepare an addendum for the original PRS package to submit to the Core Team for rebinning. The additional information mentioned during the meeting included the discovery of crushed thorium drums during the installation of the OU-1 remedy, amounts of contamination collected by the OU-1 remedy, site reuse plans." Any discussion regarding OU-1 within this document should reflect the re-evaluation of this system and the surrounding area encompassing OU-1. In addition, recognize and include the objective of the OU-1 Technical Working Group as providing recommendations on how to handle the uncertainties and related PRSs within OU1.
4. This document must recognize as a current and RBES hazard area, seep and ground water areas above MCLs as (or as will be in the future) prescribed by the remedy within the RODs for the applicable parcels. As a prerequisite for the transfer of a parcel, the area must meet CERCLA 121(d) which requires that remedial actions at CERCLA sites attain legally applicable or relevant and appropriate requirements (ARARs) unless waived. MCLs exceedances or any other non-compliant ARARs must have a remedy. CERCLA recognizes that non-compliant ARARs are a risk to public health and the environment. Therefore, a third hazard area should be added to incorporate the MCL exceedance areas or any non-compliant ARAR.

SPECIFIC COMMENTS

5. **Page 1, Second paragraph, first sentence** – Remove the wording in the parentheses from this sentence. Follow the first sentence with "In the National Oil and Hazardous Substances Pollution Contingency Plan, the United States Environmental Protection Agency defines the acceptable risk range as 10^{-4} (increased human cancer incidence of 1 person in 10,000) to 10^{-6} (increased human cancer incidence of 1 person in 1,000,000) and a Hazard Index of one as the acceptable threshold for non-cancer effects".
6. **Page 1, Third paragraph, fifth bullet** – Add the USEPA as an approval agency for the removal of soils from the DOE property. Also add USEPA to the soil removal deed restriction listed on page 9 in the first paragraph.
7. **Page 1, Third paragraph, last sentence** – The scenarios listed as examples are not more restrictive as stated in the sentence. In fact, they are much less restrictive due to more intensive clean up levels. The sentence could be change to: Since other scenarios (e.g. – residential or agricultural) require a more intensive cleanup than the selected industrial/commercial scenario, these deed restrictions"

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8. **Page 3, First paragraph, last sentence** – Change the term “exposure paths” to exposure media.
9. **Page 3, Third paragraph, first sentence** – the word “well” in the second line seems to be out of place.
10. **Page 3, Fourth paragraph, last sentence** – Remove the term “to monitored natural attenuation” at the end of the sentence. This implies that an agreement has been reached if the remedy needs to be changed.
11. **Page 3, Fifth paragraph, first sentence** – Same comment as above regarding the removal of “to monitored natural attenuation”.
12. **Page 3, Fifth paragraph, last sentence** – In addition to access controls, there will be additional institutional controls and engineering controls placed on this area as presently defined.
13. **Page 3, Sixth paragraph** – Please provide a better description of the areas discussed in this paragraph. In addition, provide models or assumptions used to support the elimination and reduction of wells or monitoring as discussed in the paragraph.
14. **Page 3, Seventh paragraph** – Add the PRS references (PRS 76 and 87) as was indicated on page 15.
15. **Page 3, Last paragraph, second sentence** – This sentence needs to be reworded. The wording implies that a hazard area is any area with contamination above background. If this is the case, then the entire 306 acres of Mound should be listed as a hazard area.
16. **Page 3, Last paragraph, third sentence** – Add to the list of primary isotopes, tritium on the main hill. This sentence is repeated on page 15 in section 4.2, second paragraph.
17. **Page 4 First full paragraph** – Tritium areas with MCL and guideline value exceedances should be included in the requested Hazard Area 3. This would include both onsite and off-property exceedances. As a clarification, the bedrock aquifer on the Mound site is not being used as a drinking water source. In addition, making the assumption in terms of responding to residual tritium concentrations as “the only post closure action necessary is expected to be monitored natural attenuation” is premature. Please remove this wording.
18. **Page 5, First paragraph, first full sentence** – Current maps for the hazard areas are included in this document. Does this sentence apply?
19. **Page 7, OU-1 Bullet** – Please clarify the wording in parenthesis. This area triggered the inclusion and concluded the investigation due to the discovery.
20. **Page 8, First paragraph of Section 1.3, second to last sentence** – Include in this sentence that the ROD will call for any engineering controls and any post closure monitoring requirements.
21. **Page 9, First partial paragraph** – Please copy verbatim the language from the Phase I ROD when referencing the deed restrictions.

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22. **Page 9, Last paragraph, third sentence** - Change the sentence to: It is the Core Team's responsibility to evaluate the risk from exposure to residual contamination, to ensure the property is protective for industrial/commercial use and to release the property to the community.
23. **Page 10, First partial paragraph** – Change the first full sentence to read: “This document provides a basis for evaluating site conditions and quantifying human health risk to ensure the release of property is protective for the community and the intended land use.”
24. **Page 10, Second paragraph** – Please explain the relevance of this paragraph to this document. Since PRS 66 is not a RBES, why is this paragraph included?
25. **Page 13, Second paragraph in Section 4.0** – Please include the tritium exceedances within the requested Hazard Area 3.
26. **Page 14, All of Section 4.1** – See comments 2, 3, 10, 12 and 13
27. **Page 15, Second paragraph of Section 4.2, first sentence** - This sentence needs to be reworded. The wording implies that a hazard area is any area with contamination above background. If this is the case, then the entire 306 acres of Mound should be listed as a hazard area
28. **Page 15, Third paragraph of Section 4.2** – Since there will be residual soil concentration levels above the risk-based cleanup levels (D&D efforts) the first sentence is not accurate.
29. **Page 15, Third paragraph of Section 4.2** – Remove the second sentence due to lack of relevance.
30. **Page 15, Third paragraph of Section 4.2** – Change the sentence to reflect how we measure when a parcel is ready to be transferred. A suggestion would be: The End State for this hazard area assumes an acceptable risk range as prescribed in the NCP.
31. **Figure 3.1b** – In the legend under Monitoring Wells, place the following “(estimated)”.
32. **Figure 3.3b** – The figure indicates that MMCIC is the legal owner of the entire site. If the landfill remains, will MMCIC assume ownership of this area?
33. **Figure 4.0a** – Incorporate well 411, 443 and seep 617 as Hazard 1 areas. Remove the Phase I b area from the Hazard 2 area. Place Parcel 6 in the Hazard 2 area. The current Hazard 1 area should reflect radioactive contamination in soil.
34. **Figure 4.0a2** – The CSM used in this figure should reflect the most recent RRE version. Please change the current/future site employee surface soil dermal contact to be an incomplete pathway. This pathway is not assessed for the site employee within the RREs. As indicated in the RREs, this pathway is assumed to be minimal if not non-existent.
35. **Figure 4.1a2** – This CSM used to reflect the current Hazard Area 1 should include surface soil dermal contact and external radiation and subsurface external radiation for the construction worker receptor. In addition, the site employee should have a complete pathway for surface soil external radiation.

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36. **Figure 4.1b2** – The changes requested in comment 35 apply to this figure. Please explain how the surface and subsurface soil pathways will be blocked.
37. **Figure 4.2a1** - Remove the Phase I b area from the Hazard 2 area. Place Parcel 6 in the Hazard 2 area.
38. **Figure 4.2b1** – The use designations need to be lined up with the site boundary. There is an area designated as open space/recreational within the site boundary along the canal. The area should be manufacturing/industrial use. There is also an area of residential use within the boundary along Benner Road. This should be manufacturing/industrial use.
39. **Figure 4.2b2** – Given that residual levels of contamination will remain on the Mound site, this figure is misleading. The soil pathway is not an incomplete pathway unless the entire site is paved or access to soil is restricted. In addition, an explanation on why the air and ground water pathways are incomplete should be made in the text under Section 4.2.

**Ohio Environmental Protection Agency (OEPA) Comments and DOE Responses
Issued with Draft Mound RBES Vision, Rev. 9 dated 12/19/03**

GENERAL COMMENTS

1. Within the Executive Summary, the Introduction and any other applicable section, it should be noted that the final plan for ground water monitoring has not been determined. Therefore any depiction of monitoring well locations, numbers, contaminants, etc. is merely an estimate and will be finalized within a post closure ground water monitoring plan.

***Response:** New text has been added on (pages 2,5,14) to emphasize that this is a vision document, not a decision document. DOE recognizes that any remedy decisions must be made within the existing decision-making framework. The decision regarding the outcome of the OU1 area will not be made through the Risk Based End State (RBES) vision document, but rather through the Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA)/Mound 2000 process.*

2. Explain the boundaries of the Hazard Area 1. What process was used to determine if all VOC areas in soil or ground water have been considered?

***Response:** The Hazard Area 1 boundary is intended to include the "OU1 Technical Team" definition of the OU-1 area as well as the Phase 1 well/seep exceedances and the PRS 76/87 area. There are currently no other VOC areas that are known to require a response action.*

3. Regarding Hazard Area 1 –RBES - This document does not recognize the decision made in the October 17, 2001, Core Team meeting regarding the OU-1 area. Notes from the meeting state: "PRSs 8-12 were binned NFA on October 19, 1995. Because of information obtained since that time, the Core Team wants to reconsider that decision. DOE/MEMP will direct BWXTO to prepare an addendum for the original PRS package to submit to the Core Team for rebinning. The additional information mentioned during the meeting included the discovery of crushed thorium drums during the installation of the OU-1 remedy, amounts of contamination collected by the OU-1 remedy, site reuse plans." Any discussion regarding OU-1 within this document should reflect the re-evaluation of this system and the surrounding area encompassing OU-1. In addition, recognize and include the objective of the OU-1 Technical Working Group as providing recommendations on how to handle the uncertainties and related PRSs within OU1.

***Response:** In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. The PRS drum area had previously been added to the Hazard Area 2 maps in a subsequent version from initial release. New text was also previously added to recognize the issues raised by the OU-1 working group (pages 4,17). New text has been added in the most recent revision to clarify that this is not a decision document and that remedial decisions are still to be made by the Core Team (pages 2,5).*

4. This document must recognize as a current and RBES hazard area, seep and ground water areas above MCLs as (or as will be in the future) prescribed by the remedy within the RODs for the applicable parcels. As a prerequisite for the transfer of a parcel, the area must meet CERCLA 121(d) which requires that remedial actions at CERCLA sites attain legally applicable or relevant and appropriate requirements (ARARs) unless waived. MCLs exceedances or any other non-compliant ARARs must have a remedy. CERCLA recognizes that non-compliant ARARs are a risk to public health and the environment. Therefore, a third hazard area should be added to incorporate the MCL exceedance areas or any non-compliant ARAR.

Response: The tritium soil moisture/seep area has been added as Hazard Area 3. There are currently no other areas of MCL exceedances that are known to require a response action. If other areas are determined to require a response action they will be addressed through the CERCLA/ Mound 2000 process.

The 1998 Sales Contract between DOE and MMCIC states that DOE will convey the entire Premises by discrete parcels, subject to the CERCLA §120(h). CERCLA §120(h) allows for transfer of property when appropriate regulatory agency approval for deed transfer is received. Regulatory approval is received with either an operating properly and successfully determination, or a covenant that all remedial action necessary has been taken before the date of transfer and any additional remedial action found to be necessary will be taken by DOE. The RBES Vision assumes that an operating properly and successfully determination will be received for areas exceeding MCLs (e.g. OU1) at the time of transfer.

SPECIFIC COMMENTS

5. **Page 1, Second paragraph, first sentence** – Remove the wording in the parentheses from this sentence. Follow the first sentence with “In the National Oil and Hazardous Substances Pollution Contingency Plan, the United States Environmental Protection Agency defines the acceptable risk range as 10^{-4} (increased human cancer incidence of 1 person in 10,000) to 10^{-6} (increased human cancer incidence of 1 person in 1,000,000) and a Hazard Index of one as the acceptable threshold for non-cancer effects”.

Response: In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. This paragraph had previously been removed from the Executive Summary.

6. **Page 1, Third paragraph, fifth bullet** – Add the USEPA as an approval agency for the removal of soils from the DOE property. Also add USEPA to the soil removal deed restriction listed on page 9 in the first paragraph.

Response: The correction has been made.

7. **Page 1, Third paragraph, last sentence** – The scenarios listed as examples are not more restrictive as stated in the sentence. In fact, they are much less restrictive due to more intensive clean up levels. The sentence could be change to: Since other scenarios (e.g. – residential or agricultural) require a more intensive cleanup than the selected industrial/commercial scenario, these deed restrictions

Response: The residential/agricultural scenarios are considered more restrictive since they would require a lower cleanup level. A parenthetical statement has been added to the text on page 2 to clarify.

8. **Page 3, First paragraph, last sentence** – Change the term “exposure paths” to exposure media.

Response: The correction has been made.

9. **Page 3, Third paragraph, first sentence** – the word “well” in the second line seems to be out of place.

Response: In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. This sentence had previously been corrected.

10. **Page 3, Fourth paragraph, last sentence** – Remove the term “to monitored natural attenuation” at the end of the sentence. This implies that an agreement has been reached if the remedy needs to be changed.

Response: As stated in the new text on pages 2 and 5, this is a vision document, not a decision document. MNA is one of several options under consideration for OU-1 (page 4). DOE's end state vision does reflect MNA as the expected eventual remedy, but acknowledges that the evaluation is not complete. Should the Core Team determine that MNA is an appropriate remedy for OU1, that would result in a fundamental change to the existing remedy and an amendment to the OU1 Record of Decision (ROD) in accordance with 40 CFR 300.435(c)(2) will be prepared. Should a ROD amendment be determined, a notice of availability will be issued in the local newspaper, a public meeting will be held, and a thirty (30) day public comment period will be provided.

Assuming that MNA will be determined to be an appropriate remedy for OU1, it would also allow for the removal of the pump and treat system upon implementation of the ROD Amendment. If the Core Team determines that an MNA remedy is not appropriate for the OU1 area, the pump and treat system will remain until the remedy is completed post 2006. However, a parcel can be transferred per the 1998 Sales Contract once regulatory approval that the remedy (pump and treat or MNA) is operating properly and successfully in accordance with CERCLA 120(h).

11. **Page 3, Fifth paragraph, first sentence** – Same comment as above regarding the removal of “to monitored natural attenuation”.

Response: See response to 10.

12. **Page 3, Fifth paragraph, last sentence** – In addition to access controls, there will be additional institutional controls and engineering controls placed on this area as presently defined.

Response: The phrase “institutional/engineering controls” has been added on page 4.

13. **Page 3, Sixth paragraph** – Please provide a better description of the areas discussed in this paragraph. In addition, provide models or assumptions used to support the elimination and reduction of wells or monitoring as discussed in the paragraph.

Response: Text has been added to identify the Phase 1 well/seep (page 18) and PRS 414 (pages 3,18). Bear in mind this is a vision document. Any models or assumptions developed will be through the CERCLA/Mound 2000 decision-making process. Decisions regarding which wells will require additional remediation and which will be utilized for long term monitoring will be made by the Core Team as future data becomes available.

14. **Page 3, Seventh paragraph** – Add the PRS references (PRS 76 and 87) as was indicated on page 15.

Response: The PRS references have been added on pages 3 and 18.

15. **Page 3, Last paragraph, second sentence** – This sentence needs to be reworded. The wording implies that a hazard area is any area with contamination above background. If this is the case, then the entire 306 acres of Mound should be listed as a hazard area.

Response: The sentence has been reworded.

16. **Page 3, Last paragraph, third sentence** – Add to the list of primary isotopes, tritium on the main hill. This sentence is repeated on page 15 in section 4.2, second paragraph.

Response: The R/SW tritium soil moisture/seep area has been added as a separate hazard area (pages 5,15,18).

17. **Page 4 First full paragraph** – Tritium areas with MCL and guideline value exceedances should be included in the requested Hazard Area 3. This would include both onsite and off-property exceedances. As a clarification, the bedrock aquifer on the Mound site is not being used as a drinking water source. In addition, making the assumption in terms of responding to residual tritium concentrations as “the only post closure action necessary is expected to be monitored natural attenuation” is premature. Please remove this wording.

Response: The R/SW tritium soil moisture/seep area has been added as a separate hazard area. No additional areas are currently known that are expected to require a response action. The reference to MNA was in error. The text has been changed to identify monitoring to assure the effectiveness of source term removal as the expected post closure activity (pages 5,16,19).

18. **Page 5, First paragraph, first full sentence** – Current maps for the hazard areas are included in this document. Does this sentence apply?

Response: The sentence has been deleted.

19. **Page 7, OU-1 Bullet** – Please clarify the wording in parenthesis. This area triggered the inclusion and concluded the investigation due to the discovery.

Response: The wording is a verbatim listing of the OU descriptions from the Mound 2000 Work Plan.

20. **Page 8, First paragraph of Section 1.3, second to last sentence** – Include in this sentence that the ROD will call for any engineering controls and any post closure monitoring requirements.

Response: Since Mound will continue to follow the CERCLA FFA/Mound 2000 process, the ROD will continue to specify any necessary actions associated with the remedy – regardless of pre or post closure.

21. **Page 9, First partial paragraph** – Please copy verbatim the language from the Phase I ROD when referencing the deed restrictions.

Response: USEPA has been added to the soil removal deed restriction (pages 2,10).

22. **Page 9, Last paragraph, third sentence** - Change the sentence to: It is the Core Team's responsibility to evaluate the risk from exposure to residual contamination, to ensure the property is protective for industrial/commercial use and to release the property to the community.

Response: This sentence has been modified.

23. **Page 10, First partial paragraph** – Change the first full sentence to read: “This document provides a basis for evaluating site conditions and quantifying human health risk to ensure the release of property is protective for the community and the intended land use.”

Response: This sentence has been modified.

24. **Page 10, Second paragraph** – Please explain the relevance of this paragraph to this document. Since PRS 66 is not a RBES, why is this paragraph included?

Response: Per DOE guidance, the purpose of this reference to PRS 66 is to show that Mound has a risk based cleanup program with few exceptions. The national program goal of the remedy selection process in 40 CFR 300.430 is to select remedies that are protective of human health and the environment, maintain protection over time, and that minimize untreated waste. The EPAs expectations for developing appropriate remedial alternatives in 40 CFR 300.430(a)(iii)(B) are treatment of principal threats for high concentrations of

toxic compounds and highly mobile materials. Engineering controls such as containment should be used for waste that poses a relatively low long-term threat or where treatment is impracticable. A combination of methods using engineered controls such as containment, and institutional controls for residuals and untreated waste, is appropriate to achieve protection of human health of the environment.

PRS 66 is an example of a relatively low long-term threat that could have been protective of human health and the environment using a combination of excavation, containment, and institutional controls. This approach would have been consistent with the industrial use standard, reduced the extraordinary volume of excavation, and minimized the environmental impact of such a large-scale operation.

- 25. Page 13, Second paragraph in Section 4.0** – Please include the tritium exceedances within the requested Hazard Area 3.

Response: Hazard Area 3 is identified as the tritium soil moisture/seeps area (pages 5, 15, 18).

- 26. Page 14, All of Section 4.1** – See comments 2, 3, 10, 12 and 13

Response: See responses to 2, 3, 10, 12 and 13.

- 27. Page 15, Second paragraph of Section 4.2, first sentence** - This sentence needs to be reworded. The wording implies that a hazard area is any area with contamination above background. If this is the case, then the entire 306 acres of Mound should be listed as a hazard area

Response: The sentence has been reworded.

- 28. Page 15, Third paragraph of Section 4.2** – Since there will be residual soil concentration levels above the risk-based cleanup levels (D&D efforts) the first sentence is not accurate.

Response: The sentence has been reworded to reflect that residual levels of radioactive material contamination will not be outside of the acceptable CERCLA risk range.

- 29. Page 15, Third paragraph of Section 4.2** – Remove the second sentence due to lack of relevance.

Response: The second sentence has been removed.

- 30. Page 15, Third paragraph of Section 4.2** – Change the sentence to reflect how we measure when a parcel is ready to be transferred. A suggestion would be: The End State for this hazard area assumes an acceptable risk range as prescribed in the NCP.

Response: See response to 28.

- 31. Figure 3.1b** – In the legend under Monitoring Wells, place the following “(estimated)”.

Response: A statement has been placed in the text (page 14) applying to all RBES maps that all final CERCLA decisions have not yet been made, therefore the boundaries of the areas of concern and the number and location of monitoring wells is estimated.

- 32. Figure 3.3b** – The figure indicates that MMCIC is the legal owner of the entire site. If the landfill remains, will MMCIC assume ownership of this area?

Response: The end state vision is that MMCIC will own the entire site. The 1998 Sales Contract between DOE and MMCIC states that DOE will convey the entire Premises by discrete parcels, subject to the CERCLA §120(h). Each discrete parcel is conveyed when appropriate regulatory agency approval for deed transfer is received. Regulatory approval is received with either an operating properly and successfully determination, or a covenant that all remedial action necessary has been taken before the date of transfer and any additional remedial action found to be necessary will be taken by DOE. The Sales Contract requires that MMCIC accept the parcel in a timely manner, not to exceed thirty (30) calendar days from receipt of the notice of readiness to convey from DOE.

In the "Condition of Premises" section of the Sales Contract, it was understood and agreed that the Premises would be cleaned to an "industrial use" standard. The property is to be transferred in 'as is' and 'where is' condition as at the signing of the contract, except for the effects of DOE's activities concerning compliance with CERCLA, reasonable wear and tear, etc. The failure of the MMCIC to inspect fully the Premises, or to be fully informed as to the condition thereof, does not constitute grounds for any noncompliance with the terms of the Sales Contract. The OU1 ROD was in place at the time of the signing of the Sales Contract.

33. **Figure 4.0a** – Incorporate well 411, 443 and seep 617 as Hazard 1 areas. Remove the Phase I b area from the Hazard 2 area. Place Parcel 6 in the Hazard 2 area. The current Hazard 1 area should reflect radioactive contamination in soil.

Response: In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. Hazard Area 1 map has been extended to the east to include the referenced wells/seep. Phase 1b had previously been removed from the map. Parcel 6 had previously been added to the map. The thorium drum area (PRS 11) had previously been added to Hazard Area 2.

34. **Figure 4.0a2** – The CSM used in this figure should reflect the most recent RRE version. Please change the current/future site employee surface soil dermal contact to be an incomplete pathway. This pathway is not assessed for the site employee within the RREs. As indicated in the RREs, this pathway is assumed to be minimal if not non-existent.

Response: In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. This pathway had previously been changed to an incomplete pathway.

35. **Figure 4.1a2** – This CSM used to reflect the current Hazard Area 1 should include surface soil dermal contact and external radiation and subsurface external radiation for the construction worker receptor. In addition, the site employee should have a complete pathway for surface soil external radiation.

Response: In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. The surface soil dermal contact for the construction worker had previously been added in a subsequent version from initial release. The pathways for external radiation for both construction worker and site employee have not been added since this CSM is for VOC's in soil and groundwater.

36. **Figure 4.1b2** – The changes requested in comment 35 apply to this figure. Please explain how the surface and subsurface soil pathways will be blocked.

Response: See comment 35 response. The surface and subsurface soil pathways are blocked by access controls and/or source term reduction.

37. **Figure 4.2a1** - Remove the Phase I b area from the Hazard 2 area. Place Parcel 6 in the Hazard 2 area.

Response: In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. These changes had previously been incorporated.

38. **Figure 4.2b1** – The use designations need to be lined up with the site boundary. There is an area designated as open space/recreational within the site boundary along the canal. The area should be manufacturing/industrial use. There is also an area of residential use within the boundary along Benner Road. This should be manufacturing/industrial use.

Response: The map is being corrected.

39. **Figure 4.2b2** –Given that residual levels of contamination will remain on the Mound site, this figure is misleading. The soil pathway is not an incomplete pathway unless the entire site is paved or access to soil is restricted. In addition, an explanation on why the air and ground water pathways are incomplete should be made in the text under Section 4.2.

Response: The RBES vision is that residual risk levels from radioactive contamination in soil will be below the CERCLA upper risk level (10^{-4}). This removal of source term to “protective” levels renders all pathways incomplete.

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29 November 2003

To: US Department of Energy, Ohio Field Office
Paul Lucas, Mound Closure Project

From: MESH (Miamisburg Environmental Safety and Health)

Re: Comments on DOE's Draft MCP Risk-Based End State Vision (Revision 5)

General Comments

1. Why are the OU-1 boundary lines represented on the maps different from the boundaries of OU-1 which were agreed upon by the OU-1 Technical Team?
2. The decision to assume an End State of Monitored Natural Attenuation for the OU-1 area is unfounded. VOC source term(s) have not been characterized or even investigated. For example, there is an unexplained magnetic anomaly in the area that was historically used as a chemical / hazardous drum staging area (PRS 12). This magnetic anomaly is consistent with buried drums. Given the nature of past activities in the area of the magnetic anomaly, these drums are one possible source for the VOCs in groundwater in the OU-1 area.
3. Hazard Area definitions. The labels on the hazard area maps currently read:
 - (1) *Area of Concern - Soil & Water*
 - (2) *Area of Concern - Soil*However, if you refer to the text for the scope of the hazard areas it reads:
"Two Hazard Areas have been identified - 1) VOC contamination in soil and groundwater, and 2) residual radionuclide contamination in soil."
The maps are misleading with the current labeling, as the labels do not specify certain contaminants of concern, simply media of concern, while the text further specifies the contaminants of concern within a given media.
4. Why is the OU-1 area specified as an area of concern ONLY for VOCs in groundwater? Residual radionuclide contamination in soil should also be expressed for this area (Especially in light of the crushed thorium drum disposal area within OU-1).

Specific Comments (revision 5 text & page numbers)

5. Page 1, Paragraph 1: Description of existing risk-based CERCLA & discussion of End State that will exist when the cleanup program is completed. The End State depicted in the maps shows OU-1 as a constant Area of Concern for VOCs in soil and groundwater. How is this being resolved? Does this End State Vision get revised with the conclusions of the core team based on the OU-1 Technical Team recommendations / Uncertainty Matrix?
6. Page 2, Paragraph 5: Statement that at the end of the CERCLA program the entire site will be owned by MMCIC. Has this been agreed to? Should this be a statement of fact? Especially in light of the current OU-1 area concerns?

7. Page 2, Paragraph 6: “...it is assumed that no additional remedial action is necessary for any area off-property as a result of this evaluation.”

MESH has a serious concern that there is a TCE Plume arriving at well 0046 at the southern boundary of OU-1, some of the preliminary OU-1 rebound test data indicates elevating levels of TCE in the groundwater. Currently this area of OU-1 is unaffected by the existing remedy (if it were turned on), therefore the TCE plume is unimpeded in its migration off-site.

8. Page 3, Paragraph 4: “...ROD approved remedy is in place for the OU-1 area...”

The remedy in place for OU-1 only addresses VOCs in groundwater. Also, the OU-1 area is currently under reevaluation by the OU-1 Technical Team. The ROD is not a comprehensive remedy for the soils in the area, in fact, the soils are unaddressed by the ROD which only deals with VOCs in groundwater. In addition, the current remedy does not address movement of ‘free phase’ sources for the VOCs in groundwater. Most of the VOCs which have been found in the OU-1 groundwater are the dissolved phase of a grouping of chemicals known as Dense Non-Aqueous Phase Liquids (DNAPLs). The sources for the dissolved phases of these chemicals (the VOC contamination in the groundwater) usually are ‘pools’ of ‘free product’ which are heavier than water, so they sink to the bottom of the aquifer or until they rest upon a lens of till within the aquifer. Once they have moved to the lower resting area they very slowly dissolve from the edges of the ‘pool’ into the groundwater flowing past, creating a plume that can exist for decades or much longer if its ‘source pool’ is not removed. The bedrock which underlies portions of the OU-1 area is a gently sloping erosional surface which dips toward the Great Miami River and the regional sole-source aquifer. This slope could allow the ‘source pools’ to slowly migrate towards and into the Great Miami River and regional sole-source aquifer. This sort of off-site migration is unacceptable. The following diagram from page 480 of Dense Chlorinated Solvents and other DNAPLs in Groundwater (Pankow & Cherry, 1996) *Chapter 14: Concepts for the Remediation of Sites Contaminated with Dense Non-Aqueous Phase Liquids (DNAPLs) Section 2: Characteristics of DNAPL Sites*, illustrates the concept of DNAPL migration. Currently there has not been a study of the OU-1 area to determine if this is occurring. The rebound test is not designed to address this issue, nor are we aware of any such study to be conducted which would address the issue of DNAPL off-site migration.

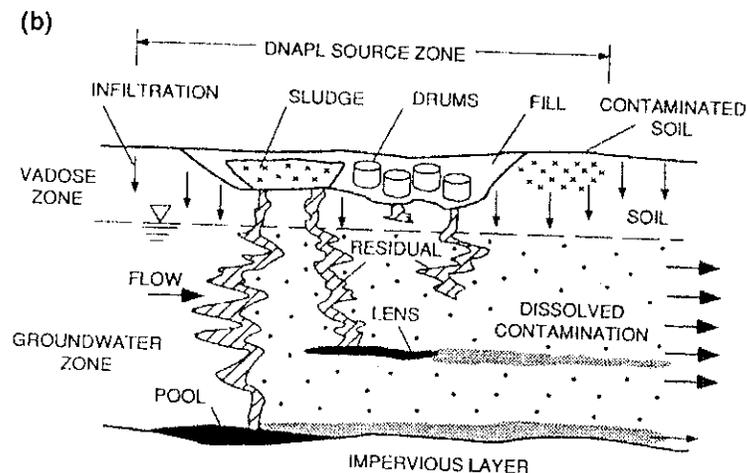


Figure 14.3 Anatomy of a DNAPL site on unconsolidated deposits: a) plan view; and b) cross-sectional view.

9. Page 3, Paragraph 5: *“End State OU-1 reflects attainment of Mound’s Risk Based criteria in soils and groundwater outside the compliance boundary and the conversion from pumping to monitored natural attenuation for areas inside the compliance boundary.”*
How will compliance / attainment be met? How will that be determined? Current sampling has NOT been comprehensive to show that this is even a possible end-state, let alone a probable one. How will the soils data gaps be filled in? Will they? What about the groundwater data gaps?
10. Page 3, Paragraph 5: *“This is expected to lead to access controls for the area inside the compliance boundary?”*
What is meant by *access controls*? How are they defined? How will this affect transfer? Are access controls defined as deed restrictions or are they something physical, such as a fence?
11. Page 3, Paragraph 6: *“The End State for VOC areas outside of and to the south of OU-1 reflects the elimination of some of the wells from further evaluation, monitored natural attenuation for a well and seep at the southern area of Hazard Area 1, the reduction of the effected area being monitored for VOC contamination.”*
- The current remedy ONLY addresses VOCs in Groundwater, not soil. Hazard Area 1 is defined above in page 3, paragraph 2 as being *“VOC contamination in SOIL and groundwater.”* How can you make statements about the End State of VOC soils when the current remedy does not address VOC contaminated soils and there are gaps in the existing soils data? How can you make statements about VOCs in groundwater without doing an investigation of the areas most likely to have DNAPL pooling?
 - Currently there is inadequate characterization of the OU-1 area to make these statements.
 - Elimination of which wells? Could we have a map?
 - Monitored Natural Attenuation for what well and seep at the southern edge of hazard area one? Why this particular well and seep, what about others? What is the plan for the other wells and seeps in the area? Locations of specifically mentioned wells and seeps should be shown on a map, as well as verbally described in the text, also the well ID should be noted.
 - Monitored Natural Attenuation for the southern edge of Hazard Area 1? With a TCE plume just arriving there? The well with the TCE plume that is showing up is only one well, how can you use Monitored Natural Attenuation on a well that has a growing plume in its vicinity? That does not qualify as Monitored Natural Attenuation, that is a plume, a growing mass of contaminant in dissolved phase, this indicates that there is a source that still has significant levels of contaminant that is not being remediated, that DOE plans to leave behind uncharacterized, untreated and uncontrolled?
12. Page 3, paragraph 7: How will DOE ensure removal of source term(s)? Right now there is no indication of any source term(s) removal in the documents. Current OU-1 exceedances of Maximum Contaminant Levels (MCLs) in wells indicate that there are still source term(s) in place.
13. Page 3, paragraph 2 & figures depicting Hazard Area Maps:
Why does OU-1 area on hazard area map NOT indicate residual radionuclide contamination in soils in addition to the VOC contamination in soils and groundwater? Why is there no inclusion of OU-1 Area in the Hazard Area Maps for “residual radionuclide contamination in soil”? OU-1 should have “residual radionuclide contamination in soil” included as a hazard, especially in light of the core team’s rebinning of PRS 11 (which was redefined in area to

include not just the crushed Thorium drums, but also the buried remains of the Dayton units in the next trench) as FA! This is a MAJOR oversight.

14. Page 7, Paragraph describing OU-1: The statement of the Contaminants of Concern needs to include the RAD concerns from the OU-1 Technical Team.
15. Page 13, Paragraph 2, Section 4.0: Hazard Area ID, again, why is OU-1 not included in Hazard Area 2 (residual RAD soils) as well as Hazard Area 1 (residual VOC soils and ground water). OU-1 has RAD soils – including, but not limited to, PRS 11 (buried thorium drums and remains from Dayton Units fire).

**MESH (Miamisburg Environmental Safety and Health) Comments and DOE Responses
Issued with Draft Mound RBES Vision, Rev. 9 dated 12/19/03**

General Comments

1. Why are the OU-1 boundary lines represented on the maps different from the boundaries of OU-1 which were agreed upon by the OU-1 Technical Team?

***Response:** The "current" maps are not intended to be different and have been corrected. The "RBES" maps are different because they are intended to reflect the anticipated end state at closure in March 2006.*

2. The decision to assume an End State of Monitored Natural Attenuation for the OU-1 area is unfounded. VOC source term(s) have not been characterized or even investigated. For example, there is an unexplained magnetic anomaly in the area that was historically used as a chemical / hazardous drum staging area (PRS 12). This magnetic anomaly is consistent with buried drums. Given the nature of past activities in the area of the magnetic anomaly, these drums are one possible source for the VOCs in groundwater in the OU-1 area.

Response: As stated in the new text on pages 2 and 5, this is a vision document, not a decision document. MNA is one of several options under consideration for OU-1 (pages 4,17). DOE's end state vision does reflect MNA as the expected eventual remedy, but acknowledges that the evaluation is not complete. At closure it is expected that the current remedy will have been replaced with monitored natural attenuation. However, other modification options being evaluated include directed groundwater source term reduction and removal of source term areas. Should the Core Team determine that MNA is an appropriate remedy for OU1, it would result in a fundamental change to the existing remedy and an amendment to the OU1 Record of Decision (ROD) in accordance with 40 CFR 300.435(c)(2) will be prepared. Should a ROD amendment be determined, a notice of availability will be issued in the local newspaper, a public meeting will be held, and a thirty (30) day public comment period will be provided.

The concern regarding the magnetic anomaly has been raised during the OU1 Technical Team meetings. Upon completion of the work of the OU1 Technical Team, the Core Team (comprised of USDOE, USEPA, and OEPA) will evaluate the OU1 Technical Team recommendations and determine the appropriate response in accordance with CERCLA/Mound 2000. The Core Team evaluation will consider all data to ensure that the overall protection of the human health and the environment is maintained. DOE will continue to solicit stakeholder concerns and information needs throughout the decision-making process in accordance with the Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA)/Mound 2000 process.

3. Hazard Area definitions. The labels on the hazard area maps currently read:
 - (1) Area of Concern - Soil & Water
 - (2) Area of Concern – Soil

However, if you refer to the text for the scope of the hazard areas it reads:

"Two Hazard Areas have been identified – 1) VOC contamination in soil and groundwater, and 2) residual radionuclide contamination in soil."

The maps are misleading with the current labeling, as the labels do not specify certain contaminants of concern, simply media of concern, while the text further specifies the contaminants of concern within a given media.

***Response:** In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent*

stakeholder review was occurring. Labels to tie to the specific Hazard Areas were changed in a subsequent version from the initial release.

4. Why is the OU-1 area specified as an area of concern ONLY for VOCs in groundwater? Residual radionuclide contamination in soil should also be expressed for this area (Especially in light of the crushed thorium drum disposal area within OU-1).

Response: In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. Hazard Area 2 was changed to include the thorium drums in a subsequent version from the initial release.

Specific Comments (revision 5 text & page numbers)

5. Page 1, Paragraph 1: Description of existing risk-based CERCLA & discussion of End State that will exist when the cleanup program is completed. The End State depicted in the maps shows OU-1 as a constant Area of Concern for VOCs in soil and groundwater. How is this being resolved? Does this End State Vision get revised with the conclusions of the core team based on the OU-1 Technical Team recommendations / Uncertainty Matrix?

Response: The end state vision is reflective of closure in March, 2006. The OU-1 remedy is not expected to be completed in 2006, therefore the DOE Long Term Stewardship Program will continue the remedy as a long term response action (LTRA) until the OU1 remedy is completed.

The decision regarding the outcome of the OU1 area will not be made through the Risk Based End State (RBES) vision document, but rather through the CERCLA/Mound 2000 process. Upon completion of the work of the OU1 Technical Team, the Core Team will evaluate the recommendations and determine the appropriate response in accordance with CERCLA/Mound 2000. The Core Team evaluation will consider all data, including the recommendations of the OU1 Technical Team, to ensure that the overall protection of human health and the environment is maintained. DOE will continue to solicit stakeholder concerns and information needs throughout the decision-making process in accordance with the CERCLA/Mound 2000 process.

6. Page 2, Paragraph 5: Statement that at the end of the CERCLA program the entire site will be owned by MMCIC. Has this been agreed to? Should this be a statement of fact? Especially in light of the current OU-1 area concerns?

Response: The 1998 Sales Contract between DOE and MMCIC states that DOE will convey the entire Premises by discrete parcels, subject to the CERCLA §120(h). Each discrete parcel is conveyed when appropriate regulatory agency approval for deed transfer is received. Regulatory approval is received with either an operating properly and successfully determination, or a covenant that all remedial action necessary has been taken before the date of transfer and any additional remedial action found to be necessary will be taken by DOE. In the case of OU1, an operating properly and successfully determination could be sought for either the pump and treat or MNA remedy to support transfer of the parcel in accordance with the Sales Contract between DOE and the MMCIC.

7. Page 2, Paragraph 6: "...it is assumed that no additional remedial action is necessary for any area off-property as a result of this evaluation."
MESH has a serious concern that there is a TCE Plume arriving at well 0046 at the southern boundary of OU-1, some of the preliminary OU-1 rebound test data indicates elevating levels

of TCE in the groundwater. Currently this area of OU-1 is unaffected by the existing remedy (if it were turned on), therefore the TCE plume is unimpeded in its migration off-site.

Response: *This is an accurate statement of DOE's expected end state. Text has been added to clarify that this is a vision document, not a decision document (pages 2,5), and that the Federal Facilities Agreement (FFA), CERCLA, and Mound 2000 will guide decisions on actual future activities (pg#).*

DOE will continue discussions with your technical review staff concerning the technical issues associated with well 0046 as discussed in your comment.

8. Page 3, Paragraph 4: "...ROD approved remedy is in place for the OU-1 area..." The remedy in place for OU-1 only addresses VOCs in groundwater. Also, the OU-1 area is currently under reevaluation by the OU-1 Technical Team. The ROD is not a comprehensive remedy for the soils in the area, in fact, the soils are unaddressed by the ROD which only deals with VOCs in groundwater. In addition, the current remedy does not address movement of 'free phase' sources for the VOCs in groundwater. Most of the VOCs which have been found in the OU-1 groundwater are the dissolved phase of a grouping of chemicals known as Dense Non-Aqueous Phase Liquids (DNAPLs). The sources for the dissolved phases of these chemicals (the VOC contamination in the groundwater) usually are 'pools' of 'free product' which are heavier than water, so they sink to the bottom of the aquifer or until they rest upon a lens of till within the aquifer. Once they have moved to the lower resting area they very slowly dissolve from the edges of the 'pool' into the groundwater flowing past, creating a plume that can exist for decades or much longer if its 'source pool' is not removed. The bedrock which underlies portions of the OU-1 area is a gently sloping erosional surface which dips toward the Great Miami River and the regional sole-source aquifer. This slope could allow the 'source pools' to slowly migrate towards and into the Great Miami River and regional sole-source aquifer. This sort of off-site migration is unacceptable. The following diagram from page 480 of Dense Chlorinated Solvents and other DNAPLs in Groundwater (Pankow & Cherry, 1996) *Chapter 14: Concepts for the Remediation of Sites Contaminated with Dense Non-Aqueous Phase Liquids (DNAPLs) Section 2: Characteristics of DNAPL Sites*, illustrates the concept of DNAPL migration. Currently there has not been a study of the OU-1 area to determine if this is occurring. The rebound test is not designed to address this issue, nor are we aware of any such study to be conducted which would address the issue of DNAPL off-site migration.

Response: *The OU1 ROD included a soil remedial action objective for prevention or reduction of infiltration and migration of contaminant which would result in groundwater contamination in excess of remediation goals. Some consideration had been given to large-scale excavation and removal of the site sanitary landfill but was not determined efficient due to the diverse source term. An estimate of environmental impact caused from the large-scale operation and anticipated costs were considered. Costs were an order of magnitude greater than other options found to be protective of human health and the environment. Therefore, it was determined that it would not be efficient to pursue removal nor necessary to assure protectiveness.*

DOE will continue discussions with your technical review staff concerning the technical issues associated with DNAPL contamination as discussed in your comment.

9. Page 3, Paragraph 5: "End State OU-1 reflects attainment of Mound's Risk Based criteria in soils and groundwater outside the compliance boundary and the conversion from pumping to monitored natural attenuation for areas inside the compliance boundary." How will compliance / attainment be met? How will that be determined? Current sampling has NOT been comprehensive to show that this is even a possible end-state, let alone a probable one. How will the soils data gaps be filled in? Will they? What about the groundwater data gaps?

Response: The decision regarding the outcome of the OU1 area will not be made through the Risk Based End State (RBES) vision document, but rather through the CERCLA/Mound 2000 process. As stated on pages 2 and 5, actual cleanup decisions will be made by the Core Team under the CERCLA/Mound 2000 process. Upon completion of the work of the OU1 Technical Team, the Core Team (comprised of USDOE, USEPA, and OEPA) will evaluate the recommendations and determine the appropriate response in accordance with CERCLA/Mound 2000. The Core Team evaluation will ensure that the overall protection of the human health and the environment is maintained. DOE will continue to solicit stakeholder concerns and information needs throughout the decision-making process in accordance with the CERCLA/Mound 2000 process.

10. Page 3, Paragraph 5: "This is expected to lead to access controls for the area inside the compliance boundary?"

What is meant by access controls? How are they defined? How will this affect transfer? Are access controls defined as deed restrictions or are they something physical, such as a fence?

Response: Access controls could include fencing, warning signs, or other site control precautions. It is not anticipated that access controls will affect transfer.

11. Page 3, Paragraph 6: "The End State for VOC areas outside of and to the south of OU-1 reflects the elimination of some of the wells from further evaluation, monitored natural attenuation for a well and seep at the southern area of Hazard Area 1, the reduction of the effected area being monitored for VOC contamination."

- a) The current remedy ONLY addresses VOCs in Groundwater, not soil. Hazard Area 1 is defined above in page 3, paragraph 2 as being "VOC contamination in SOIL and groundwater." How can you make statements about the End State of VOC soils when the current remedy does not address VOC contaminated soils and there are gaps in the existing soils data? How can you make statements about VOCs in groundwater without doing an investigation of the areas most likely to have DNAPL pooling?

Response: See comment 8 response.

- b) Currently there is inadequate characterization of the OU-1 area to make these statements.

Response: See comment 8 response.

- c) Elimination of which wells? Could we have a map?

Response: See response to d below.

- d) Monitored Natural Attenuation for what well and seep at the southern edge of hazard area one? Why this particular well and seep, what about others? What is the plan for the other wells and seeps in the area? Locations of specifically mentioned wells and seeps should be shown on a map, as well as verbally described in the text, also the well ID should be noted.

Response: The wells and seep referred to (411, 443 and 617) are within the Phase 1 parcel. The Phase 1 ROD includes MNA as the selected remedy for the TCE exceedances in this area. Page 20 of the Phase I ROD states, "...it has been determined that Monitored Natural Attenuation is an appropriate remedy for the TCE in the groundwater in Phase I."

Identifying numbers have been added to the text (page 18). The decision on which wells will require additional remediation and which will be utilized for long term monitoring will be made by the Core Team as future data becomes available.

- e) Monitored Natural Attenuation for the southern edge of Hazard Area 1? With a TCE plume just arriving there? The well with the TCE plume that is showing up is only one well, how can you use Monitored Natural Attenuation on a well that has a growing plume in its vicinity? That does not qualify as Monitored Natural Attenuation, that is a plume, a growing mass of contaminant in dissolved phase, this indicates that there is a source that still has significant levels of contaminant that is not being remediated, that DOE plans to leave behind uncharacterized, untreated and uncontrolled?

***Response:** As stated on pages 2 and 5, actual cleanup decisions will be made by the Core Team under the CERCLA/ Mound 2000 process.*

12. Page 3, paragraph 7: How will DOE ensure removal of source term(s)? Right now there is no indication of any source term(s) removal in the documents. Current OU-1 exceedances of Maximum Contaminant Levels (MCLs) in wells indicate that there are still source term(s) in place.

***Response:** Upon completion of the work of the OU1 Technical Team, the Core Team will evaluate the recommendations and determine the appropriate response in accordance with CERCLA/Mound 2000. The Core Team evaluation will ensure that the overall protection of the human health and the environment is maintained. DOE will continue to solicit stakeholder concerns and information needs throughout the decision-making process in accordance with the CERCLA/Mound 2000 process.*

13. Page 3, paragraph 2 & figures depicting Hazard Area Maps:

Why does OU-1 area on hazard area map NOT indicate residual radionuclide contamination in soils in addition to the VOC contamination in soils and groundwater? Why is there no inclusion of OU-1 Area in the Hazard Area Maps for "residual radionuclide contamination in soil"? OU-1 should have "residual radionuclide contamination in soil" included as a hazard, especially in light of the core team's rebinning of PRS 11 (which was redefined in area to include not just the crushed Thorium drums, but also the buried remains of the Dayton units in the next trench) as FA! This is a MAJOR oversight.

***Response:** In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. The Hazard Area 2 maps were previously changed in a subsequent version from the initial release.*

14. Page 7, Paragraph describing OU-1: The statement of the Contaminants of Concern needs to include the RAD concerns from the OU-1 Technical Team.

***Response:** In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. The initial release of the RBES Vision has continued to evolve while concurrent stakeholder review was occurring. The Hazard Area 2 maps have been previously changed to include the thorium drums.*

15. Page 13, Paragraph 2, Section 4.0: Hazard Area ID, again, why is OU-1 not included in Hazard Area 2 (residual RAD soils) as well as Hazard Area 1 (residual VOC soils and

ground water). OU-1 has RAD soils – including, but not limited to, PRS 11 (buried thorium drums and remains from Dayton Units fire).

Response: *In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. The Hazard Area 2 maps were previously changed in a subsequent version from the initial release.*

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IMPROVEMENT
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P.O. Box 232

Miamisburg, Ohio

45343-0232

December 9, 2003

Mr. Robert Warther, Manager
Ohio Field Office
U.S. Department of Energy
175 Tri-County Parkway
Springdale, Ohio 45246-3222

720 Mound Road
COS Bldg., Suite 480
Miamisburg, Ohio
45342-6714

Re: Comments on MCP Risk Based End State Vision

Dear Mr. Warther:

937-865-4462
800-708-1643
fax 937-865-4431
mmcic@aol.com
www.mound.com

MMCIC would like to thank you for the opportunity to review and comment on the MCP Risk-Based End State Vision, version V. MMCIC understands that this document was required per DOE policy 455.1 and that it is a draft document. Although the end state may change from the visions outlined in this document, MMCIC is concerned that the current extent of contamination at the site is not fully developed and that options or alternatives for the end state vision are not included as part of this draft document.

Our general comments are outlined below:

Board of Trustees

- John K. Weithofer, *Chairman*
- James H. Van Tassel, *Vice Chairman*
- George S. Perrine, *Secretary*
- Robert Bell
- Richard C. Church, Jr.
- Donald L. Kolfer
- Robert A. Lowden

1. The document states that the parcel transfer will take place through a quit claim deed, by which MMCIC will accept the property "as is" and "where is." Before a parcel can be transferred to MMCIC, it must be demonstrated that the remedy was effective and protective for the area. It is not correct to assume that MMCIC will accept the property "as is."
2. The End State Vision does not appear to have considered the Comprehensive Reuse Plan as prepared by MMCIC. DOE policy 455.1 states that the reuse plan should be integrated into the End State Vision. However, this End State Vision repeatedly references leaving the landfill in place and institutional controls that are not part of the Comprehensive Reuse Plan. MMCIC would request further coordination so that the Comprehensive Reuse Plan is incorporated into this document.
3. We do not believe the environmental conditions in the OU-1 area are adequately or appropriately described in this document. This area includes both VOC and radionuclide contamination. The Core Team has rebinned PRS 8-12 from NFA to additional investigation. In addition, PRS 11 - thorium contaminated drum disposal area is scheduled for a removal action. The document states on page 15 that "all soil levels

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above the site risk-based cleanup criteria will have been excavated and shipped offsite. At the same time, it states that the landfill will remain on-site with institutional controls. By allowing the landfill to remain, the potential sources of contamination and contaminated soils will also remain, which is in contradiction to the removal of all source terms for hazard area 2. Finally, the vision repeatedly states that natural attenuation will be the final remedy for the soil and groundwater contamination in the OU-1 area. This area does not meet the regulatory requirements for natural attenuation. In addition, the DOE has developed a OU-1 Technical Team to determine the required approach for the OU-1 area. This document appears to presuppose the decision of the OU-1 Technical Team.

4. The document presupposes the final action for groundwater contamination. Until the rebound test is completed, and additional groundwater contaminate information is known, this determination cannot be made.
5. MMCIC does not believe that the boundaries for the hazard areas and the groundwater contamination are accurately represented on the maps. MMCIC would request these maps be revised to include off-site contamination and larger areas for the Hazard Areas.
6. This vision allows for sources/areas to remain on-site and untreated although they exceed MCLs and ARARs. Per CERCLA regulations, all parcels must meet MCLs or ARARs (or have a waiver) prior to transfer, or a remedial action must be in place. Some areas, including the seeps, are being represented as untreated although they do not meet MCLs. Although it may be that removal of the source term will eliminate the contamination in the seeps, verification is necessary before this assumption can be made. They should be included in the end state vision until verification sampling demonstrates that they can be eliminated.

Again, we appreciate the opportunity to work with you to reach an End State appropriate for all parties.

Sincerely,



Michael J. Grauwelman
President

Cc: MMCIC Board of Directors
John Weithofer, City of Miamisburg
Beth Moore, City of Miamisburg
David Sealy, US EPA
Tom Winston, Ohio EPA
Graham Mitchell, Ohio EPA
Brian Nickel, Ohio EPA
Frank Bullock, MMCIC
Dann Bird, MMCIC

Miamisburg Mound Community Improvement Corporation (MMCIC) Comments and DOE Responses
Issued with Draft Mound RBES Vision, Rev. 9 dated 12/19/03

1. The document states that the parcel transfer will take place through a quit claim deed, by which MMCIC will accept the property "as is" and "where is." Before a parcel can be transferred to MMCIC, it must be demonstrated that the remedy was effective and protective for the area. It is not correct to assume that MMCIC will accept the property "as is."

***Response:** New text has been added (pages 2,5,14) to emphasize that this is a vision document, not a decision document. DOE recognizes that any remedy decisions must be made within the existing decision-making framework. The decision regarding the outcome of the OU1 area will not be made through the Risk Based End State (RBES) vision document, but rather through the Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA)/Mound 2000 process. The Core Team will determine proper remediation of the parcels in accordance with CERCLA and Mound 2000 decision-making processes.*

The 1998 Sales Contract between DOE and MMCIC states that DOE will convey the entire Premises by discrete parcels, subject to the CERCLA §120(h). Each discrete parcel is conveyed when appropriate regulatory agency approval for deed transfer is received. Regulatory approval is received with either an operating properly and successfully determination, or a covenant that all remedial action necessary has been taken before the date of transfer and any additional remedial action found to be necessary will be taken by DOE. The Sales Contract requires that MMCIC accept the parcel in a timely manner, not to exceed thirty (30) calendar days from receipt of the notice of readiness to convey from DOE.

In the "Condition of Premises" section of the Sales Contract, it was understood and agreed that the Premises would be cleaned to an "industrial use" standard. The property is to be transferred in 'as is' and 'where is' condition as at the signing of the contract, except for the effects of DOE's activities concerning compliance with CERCLA, reasonable wear and tear, etc. The failure of the MMCIC to inspect fully the Premises, or to be fully informed as to the condition thereof, does not constitute grounds for any noncompliance with the terms of the Sales Contract. The OU1 ROD was in place at the time of the signing of the Sales Contract.

Lastly, the 'as is, where is' language in the RBES document was copied verbatim from the DOE Mound's Land Transfer Process dated December 1999. This document was developed by the DOE Miamisburg Closure Project, in coordination with the USEPA, OEPA, and the MMCIC.

2. The End State Vision does not appear to have considered the Comprehensive Reuse Plan as prepared by MMCIC. DOE Policy 455.1 states that the reuse plan should be integrated into the End State Vision. However, this End State Vision repeatedly references leaving the landfill in place and institutional controls that are not part of the Comprehensive Reuse Plan. MMCIC would request further coordination so that the Comprehensive Reuse Plan is incorporated into this document.

***Response:** With the execution of the 1998 Sales Contract between DOE and the MMCIC, MMCIC agreed to accept the Mound property with whatever restrictions were placed upon that property due to CERCLA 120(h) compliance. The 1999 "DOE-Mound's Land Transfer Process" developed in coordination with the USEPA, OEPA, and MMCIC acknowledges that "restrictions required under CERCLA to ensure the release block is protective of human health and the environment (i.e. as addressed in the Record of*

Decision)" will be included in the Quit Claim Deed. Additionally, DOE executed a grant with the MMCIC in September 2002 for the development of the Comprehensive Reuse Plan (CRP). The requirements were for the CRP to (1) be consistent with the DOE-Validated Baseline, (2) be consistent with requirements imposed on DOE by CERCLA statute and/or the FFA, and (3) ensure expectations do not place unnecessary financial burden on the government. The current MMCIC CRP prepared under the above referenced grant does not comply with the 1995 OU1 ROD. It is not incumbent on the USDOE to modify a legally binding remedy on the basis of the MMCIC CRP.

The Core Team determines proper remediation in accordance with the expectations of 40 CFR 300.430 for the parcels via the CERCLA/Mound 2000 decision-making process; not the Comprehensive Reuse Plan (CRP). The alternatives selected through the process for CERCLA remedy selection determine the extent to which hazardous constituents remain at the site, and therefore directly affect subsequent available land and groundwater uses. Deed restrictions and/or institutional controls may be appropriate as a component of the completed CERCLA remedy. DOE will continue long-term surveillance and monitoring activities to ensure the permanence of the selected remedy for protection of human health and the environment.

EPAs expectations for developing appropriate remedial alternatives in 40 CFR 300.430(a)(iii)(B) are treatment of principal threats for high concentrations of toxic compounds and highly mobile materials. Engineering controls such as containment should be used for waste that poses a relatively low long-term threat or where treatment is impracticable. A combination of methods using engineered controls such as containment, and institutional controls for residuals and untreated waste, is appropriate to achieve protection of human health of the environment. DOE's RBES vision is consistent with these EPA expectations.

3. We do not believe the environmental conditions in the OU-1 area are adequately or appropriately described in this document. This area includes both VOC and radionuclide contamination. The Core Team has rebinned PRS 8-12 from NFA to additional investigation. In addition, PRS 11 – thorium contaminated drum disposal area is scheduled for a removal action. The document states on page 15 that "all soil levels above the site risk-based cleanup criteria will have been excavated and shipped offsite. At the same time, it states that the landfill will remain on-site with institutional controls. By allowing the landfill to remain, the potential sources of contamination and contaminated soils will also remain, which is a contradiction to the removal of all source terms for hazard area 2. Finally, the vision repeatedly states that natural attenuation will be the final remedy for the soil and groundwater contamination in the OU-1 area. This area does not meet the regulatory requirements for natural attenuation. In addition, the DOE has developed the OU1 Technical Team to determine the required approach for the OU1-area. This document appears to presuppose the decision of the OU-1 Technical Team.

Response: *New text has been added on (pages 2,5,14) to emphasize that this is a vision document, not a decision document. DOE recognizes that any remedy decisions must be made within the existing decision-making framework. The decision regarding the outcome of the OU1 area will not made through the Risk Based End State (RBES) vision document, but rather through the Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA)/Mound 2000 process.*

PRS's 8, 9, 10, and 12 have not yet been rebinned – but additional review of information relative to the OU-1 area may result in rebinning. PRS 11 has been rebinned as a removal action.

The referenced statement on page 15 applies to Hazard Area 2, radiological contamination in soil, not the non rad component of the contamination in OU-1. The

wording has been revised (pages 5,18) to " all soil levels above the CERCLA risk range (10^{-4} to 10^{-6}) will have been excavated and shipped offsite".

In order to allow maximum stakeholder review time, the initial release of the RBES Vision was an early draft. The document has continued to evolve while concurrent stakeholder review was occurring. New text was previously added to recognize the issues raised by the OU-1 working group (pages 4,17). DOE recognizes the importance of this issue to the community and initiated the OU1 Technical Team discussions above and beyond the previously established Mound 2000 stakeholder opportunities for expressing opinions or suggestions. Upon completion of the work of the OU1 Technical Team, the Core Team (comprised of USDOE, USEPA, and OEPA) will evaluate the recommendations and determine the appropriate response in accordance with CERCLA/Mound 2000. The Core Team evaluation will consider all data, including the recommendations of the OU1 Technical Team, to ensure that the overall protection of the human health and the environment is maintained. DOE will continue to solicit stakeholder concerns and information needs throughout the decision-making process in accordance with the CERCLA/Mound 2000 process.

4. The document presupposes the final action for groundwater contamination. Until the rebound test is completed, and additional groundwater contaminate information is known, this determination cannot be made.

Response: *New text has been added (pages 2,5,14) to emphasize that this is a vision document, not a decision document. DOE recognizes that any remedy decisions must be made within the existing decision-making framework. The decision regarding the outcome of the OU1 area, including decisions at completion of the rebound test, will not be made through the Risk Based End State (RBES) vision document, but rather through the Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA)/Mound 2000 process. At closure it is expected that the current remedy will have been replaced with monitored natural attenuation. However, other modification options being evaluated include directed groundwater source term reduction and removal of source term areas.*

5. MMCIC does not believe that the boundaries for the hazard areas and the groundwater contamination are accurately represented on the maps. MMCIC would request these maps be revised to include off-site contamination and larger areas for the Hazard Areas.

Response: *Hazard Area 1 map has been extended to the east to include the wells/seep area. Phase 1b had previously been removed from the map. Parcel 6 had previously been added to the map. The thorium drum area (PRS 11) had previously been added to Hazard Area 2. . There are currently no other areas of MCL exceedances that are known to require a response action. If other areas are determined to require a response action they will be addressed through the CERCLA/ Mound 2000 process.*

6. The vision allows for sources/areas to remain on-site and untreated although they exceed MCLs and ARARs. Per CERCLA regulations, all parcels must meet MCLs or ARARs (or have a waiver) prior to transfer, or a remedial action must be in place. Some areas, including the seeps, are being represented as untreated although they do not meet MCLs. Although it may be that removal of the source term will eliminate the contamination in the seeps, verification is necessary before this assumption can be made. They should be included in the end state vision until verification sampling demonstrates that they can be eliminated.

Response: *New text has been added (pages 2,5,14) to emphasize that this is a vision document, not a decision document. DOE recognizes that any remedy decisions must be made within the existing decision-making framework. The decision regarding the outcome of site remediation will not be made through the Risk Based End State (RBES)*

vision document, but rather through the CERCLA/Mound 2000 process. The Core Team will determine proper remediation of the parcels in accordance with CERCLA and Mound 2000 decision-making processes.

The 1998 Sales Contract between DOE and MMCIC states that DOE will convey the entire Premises by discrete parcels, subject to the CERCLA §120(h). CERCLA §120(h) allows for transfer of property when appropriate regulatory agency approval for deed transfer is received. Regulatory approval is received with either an operating properly and successfully determination, or a covenant that all remedial action necessary has been taken before the date of transfer and any additional remedial action found to be necessary will be taken by DOE. The RBES Vision assumes that an operating properly and successfully determination will be received for any areas exceeding MCLs at the time of transfer, therefore an ARAR waiver would not be required prior to transfer.

**REGULATOR AND STAKEHOLDER REVIEW COMMENTS
ON DECEMBER 2003 DRAFT MOUND RBES VISION**



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marks*

MIAMISBURG

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January 16, 2004

U.S. Department of Energy
Mr. Robert F. Warther
Ohio Field Office Manager
175 Tri-County Parkway
Springdale, Ohio 45246-3222

Dear Bob:

The City of Miamisburg appreciates the opportunity to review and comment on the December 2003 draft "MCP Risk-Based End State Vision" document. This is the second draft of this document that the City has commented on. Although changes were made to reflect a few of our first round comments, significant incorrect and premature assumptions remain in the draft document. We find that the document itself is fundamentally flawed, as is the process by which it has been developed. Additionally, we urge the DOE to abandon its efforts toward revising a document that has no added value to achieving cleanup, closure and transfer.

From discussions with your staff, it is our understanding that no further meetings are scheduled to resolve the differences of opinion regarding the assumptions in the document. Additionally, we understand that the OU-1 decision criteria and the definition of industrial land use are to be decided through the CERCLA process by the Core Team. This is not acceptable to the City. These are critical decisions that affect the future of not only the Mound site and the City, but the entire region. We urge you to meet with the City and MMCIC to discuss these very important issues as soon as possible.

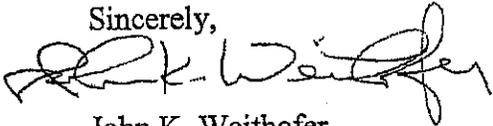
Per DOE Policy 455.1, this document was to be formulated in cooperation with the affected government. Merely attaching our comments as a reference to the document does not fulfill the intent of the RBES vision policy guidance to formulate a joint vision. We reject the DOE end state vision presented in the document. Secondly, the DOE "December 2003 Clarification Addendum to Guidance for Developing a Site-Specific Risk-Based End State Vision" states: "...local planning documents should be evaluated to determine projected changes in the areas that bound the sites in terms of projected population growth, potential rezoning of areas near the site boundaries, and potential improvements to infrastructures (new or improved roads, new sewage and water lines, new schools, etc.)." MMCIC's current Comprehensive Reuse Plan (CRP) clearly identifies the future land use and the new development to take place at the Mound. New roadways, utilities and buildings have and will continue to be constructed throughout the site. Disregarding the CRP is a direct deviation from the DOE guidance.

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The contents of this document continue to reflect a substantial divergence in the community's verses DOE's "vision" for the end state. Recognizing the fact that DOE is unwilling to resolve the fundamental differences of opinion regarding the end state in this document, the City will not accept nor endorse the Risk Based End State Vision document in any way. As such, we will not provide any further written comments on the document as it detracts from achieving the 2006 closure goal.

However, if DOE does decide to finalize this document, our specific comments are noted on the attached pages. Additionally, the City would appreciate written responses to all comments. I want to reiterate that the City continues to be willing to engage in discussions to resolve the outstanding issues. These unresolved issues are seriously affecting the level of trust the community has in DOE. The City's goal is to achieve and environmentally clean, economically viable site by 2006. We trust that DOE is working toward that same end.

Sincerely,



John K. Weithofer
City Manager

Cc: Jessie Roberson - DOE-HQ
Paul Lucas - DOE - MCP
Sue Smiley - DOE - OFFO
Mike Grauwelman - MMCIC
Dann Bird - MMCIC
Brian Nickel - Ohio EPA
David Seely - U.S. EPA
John Fulton - CH2M HILL
Mayor & City Council
Beth Moore - City Environmental Manager

City of Miamisburg Specific Comments on the December 2003 MCP Risk-Based End State Vision

1. Page 2, Paragraph 2, Sentence 1. Please do not use the agreement for industrial land use as a justification for leaving the OU-1 landfills in place. Industrial land use is defined by the City of Miamisburg codified ordinances. If DOE has a different definition of industrial land use, please provide the definition and the justification for why DOE thinks it would be applicable to the site in the future.
2. Page 2, Paragraph 2, Last Sentence. The statement that "...the alternatives selected through the process for CERCLA remedy selection determine the extent to which hazardous constituents remain at the site, and therefore directly affect subsequent available land and groundwater uses" is misleading. Per the USEPA OSWER Directive #9355.7-04 (Land Use in the CERCLA Remedy Selection Process), "reasonably anticipated future use of the land at NPL sites is an important consideration in determining the appropriate extent of remediation. Future use of the land will affect the types of exposure and the frequency of exposures that may occur from any residual contamination remaining on the site, which in turn affect the nature of the remedy chosen." Read the CRP so that you are completely familiar with the anticipated future land use and can plan appropriate remedial activities.
3. Page 3, Paragraph 3, Sentence 2. The statement that "...no additional remedial action is necessary for any area off-property" is incorrect in light of the fact that groundwater monitoring wells in Community Park show detected contaminants and the surface hillside seeps show detected contaminants. The City will not accept an indefinite schedule for groundwater restoration in these areas as these areas are located on City property. Please provide a range of options (beyond monitoring and natural attenuation) which include active remediation to achieve compliance with MCLs and RBGVs prior to 2006 closure.
4. Page 4, Paragraph 1. Please provide the justification how the OU-1 area meets all of EPA's criteria for monitored natural attenuation (MNA) in the OSWER Directive 9200.4-17P. The City does not believe that OU-1 currently meets all of the criteria for MNA. MNA is not the ROD approved remedy.
5. Page 4, Paragraph 2, Sentence 1. As identified by the Ou-1 Technical Team, there are serious gaps in soil characterization in the OU-1 area. How will compliance with soil risk based criteria be determined without further soil characterization?
6. Page 4, Paragraph 3, Sentence 1. The VOC hazard area needs to include seep #605. DOE data as recent as 2003 shows trichloroethylene MCL exceedances.
7. Page 5, Paragraph 2. The assumption that removal of the suspected source term will immediately translate into the seeps becoming "clean" is incorrect. According to the CH2M HILL accelerated schedule, the R/SW remediation should be complete by December 2004. That leaves a little over a year for the seeps to meet MCLs by natural attenuation. The City is concerned that this short time frame will not lead to compliance with MCLs by 2006. It is not acceptable for DOE to leave behind contamination above MCLs on City property. Continued monitoring (MNA) is not an acceptable remedy. What alternative remedial actions could be taken to address off-site tritium exceedances so that tritium is below MCLs by 2006? Additionally, removal of RS/W does not

address the VOC MCL exceedances for the seeps area. The RBESV does not reference any type of remedial activity for the seeps' VOC exceedances. The seeps are at ground surface and pose a risk to potential receptors. The City will not accept any deed restrictions, engineering or institutional controls on City property.

8. Page 5, Paragraph 3, Last Sentence. Do not make the claim that "The End State vision is based on the planned future land use." This is incorrect. Please refer to and incorporate the MMCIC's CRP.
9. Page 11, Paragraph 3. Suggest removal of this paragraph (PRS 66). It adds confusion to the document.
10. Page 12, Paragraph 1. With regards to PRS66, the future use of the Mound site is a privately owned industrial technology park, not a DOE TSD (treatment, storage & disposal) facility. Thus, it would never have been appropriate to leave hazardous and radioactive waste dumped into a ravine and only partially covered by a parking lot.
11. Page 12, Paragraph 2. This paragraph (demolition of buildings) seems out of place or needs more clarification.
12. Page 14, Paragraph 2. MMCIC has a current CRP. This should be referenced and incorporated into this document. MMCIC has new development (flex building) occurring on the south property right now. It would seem appropriate to include the new building, as it is reflective of the current conditions.
13. Page 15, Section 4.0, Paragraph 2. The VOC hazard area needs to include seep #605. DOE data as recent as 2003 shows trichloroethylene MCL exceedances.
14. Page 15, Section 4.0, Paragraph 2. Suggest making the discussion regarding the radiological hazard area a separate paragraph.
15. Page 15, Section 4.0, Paragraph 3, Sentence 1. The assumption that removal of the suspected source term will immediately translate into the seeps becoming "clean" is incorrect. According to the CH2M HILL accelerated schedule, the R/SW remediation should be complete by December 2004. That leaves a little over a year for the seeps to meet MCLs by natural attenuation. The City is concerned that this short time frame will not lead to compliance with MCLs by 2006. It is not acceptable for DOE to leave behind contamination above MCLs on City property. Continued monitoring (MNA) is not an acceptable remedy. What alternative remedial actions could be taken to address off-site tritium exceedances so that tritium is below MCLs by 2006?
16. Page 16, Section 4.1, Paragraph 3. If the pump & treat and air sparge / soil vapor extraction only treats the groundwater within the compliance boundary, what is being done to remediate the contaminated groundwater outside the compliance boundary? From the document, it appears that VOC contamination areas outside the OU-1 boundary area will receive no remedial action. Please describe any planned remedial actions to address VOC groundwater concerns outside the OU-1 compliance boundary.
17. Page 16, Section 4.1, Paragraph 4, Sentence 1. Isn't it rather presumptive to assume that all soil and groundwater risk based criteria will be achieved outside the OU-1 compliance boundary, when no remedial activity is planned for this area? Please describe the soil and groundwater sampling plan and risk evaluations that will be done to verify that all risk based criteria are met.

18. Page 16, Section 4.1, Paragraph 4, Sentence 2. Remediation activities should clean up to the degree necessary so that no additional controls are needed. It does not make sense to carve out an area in the middle of the site with an expanded institutional control list. This would not only be a deed restriction enforcement nightmare, but a site marketing plague as well. Refer also to comment # 2.
19. Page 17, Paragraph 2. This paragraph is highly inappropriate to be included in a vision document. It should be removed. Additionally, if DOE feels that MMCIC is not in compliance with a grant requirement, DOE should speak directly with MMCIC and not use the RBESV document to transfer this type of information. Additionally, it appears that that requirements stated for the CRP in this paragraph are being used out of context in the RBESV document. The requirements for compliance with CERCLA, the FFA and unnecessary financial burden are taken directly from page 2, item (2) of the grant and refer to the expectations for the CERCLA public reading room.
20. Page 17, Section 4.1, Paragraph 4, Sentence 1. Per USPEA OSWER Directive 9200.4-17P for Monitored Natural Attenuation (MNA) "EPA expects that MNA will be most appropriate when used in conjunction with other remediation measures." No "other" remediation measures have been implemented for the south VOC plum (PRS 414). Please provide a groundwater model calculated rate by which natural attenuation will lead to MCL compliance for PRS 414.
21. Page 18, Section 4.2, Paragraph 3. If DOE intends on leaving the historic landfill and the 1976 engineered mixed waste landfill, uncharacterized sources will remain on the site. By the nature of the activities in the OU-1 area (open burning, dumping, landfill operations), sources above the clean-up criteria are likely to remain.
22. Page 18, Section 4.3, Paragraph 2, Sentence 3. Please provide a groundwater model calculated rate by which natural attenuation will lead to MCL compliance for tritium and VOCs in the seeps. Refer also to comment #7.
23. Page 19. It would be helpful in fully comprehending the document to have all of the references.
24. Figure 2.1b. 1) Correction, there are five city production wells.
25. Figure 3.1b. 1) Legend clarification – change landfill to mixed waste landfill. Landfill is too generic of a term. We suggested "mixed waste" as a clarification based on Bob Warther's \$50 million cost estimate to remove the landfill which he said was based on the landfill containing mixed waste. If DOE intends on leaving a landfill, the public has a right to know what type of waste is contained in it. Has the landfill waste ever been characterized?
26. Figure 4.0a. What is the basis for the orange colored strip along the western portion of OU-1? This is an extension of the radiation area of concern. What PRSs does this correspond to?
27. Figure 4.0b. The site wide hazard map should reflect the off-site groundwater areas that are anticipated to remain above MCLs in 2006. This should include the seeps.
28. Figure 4.1b2. The surface soil and subsurface soil pathways are not blocked. If the engineered landfill and all the hazardous and radiological waste below it and the pond remain and this area is transferred to MMCIC for development, the current remedy is not

protective. There is an exposure pathway for the construction worker. Current deed restrictions are not protective of the construction worker.

29. Figure 4.2a1. This figure acknowledges that the entire OU-1 area is a radioactive hazard area, yet the OU-1 remedy only treats for VOCs in groundwater. Will these monitoring wells be monitored for radioactive pollutants of concern?
30. Figure 4.2b2. 1) DOE's plan to leave behind the historical landfill and the 1976 mixed waste engineered landfill does not remove the source term as indicated on this drawing. Please correct. 2) Current sampling data for the OU-1 area has huge data gaps as identified by the OU-1 Technical Team.
31. Figure 4.3b1. It is unrealistic to suppose that tritium off-site will be below MCLs by 2006.
32. Figure 4.3b2. All pathways are open. Receptors could be exposed to tritium greater than MCLs.

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MIAMISBURG
Mound
 COMMUNITY
 IMPROVEMENT
 GROUP

Handwritten notes: 1/19/04, 1/19/04

PO. Box 232 January 19, 2004

Miamisburg, Ohio

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720 Mound Road

COS Bldg., Suite 480

Miamisburg, Ohio

45342-6714

Mr. Robert Warther
 Ohio Field Office Manager
 U.S. Department of Energy
 175 Tri-County Parkway
 Springdale, Ohio 45246-3222

Re: Comments on MCP Risk Based End State Vision, December 2003 Draft

Dear Mr. Warther:

MMCIC has again reviewed the MCP Risk-Based End State Vision, December 2003 draft and provides these comments. Although we understand that this document was required per DOE policy 455.1 and that it is a draft, we are disturbed that the Department is attempting to define an end state prior to the collection and interpretation of data, has taken license in interpreting agreements with MMCIC, and utilized the document as a means to editorialize. This approach has created a document that is factually unsupported in some respects, misrepresents the facts in some respects and misleads the reader. Although there is a significant need to establish a vision for this site in conjunction with the regulators and community, the decision making and the data collection process established at Mound do not lend themselves to the RBES plan. The development of the plan has detracted from the focus of the parties involved in the remediation process, caused divisiveness, expended huge amounts of our collective resources and undermined the credibility of the Department's commitment to a cleanup that will permit the productive reuse of the site. After years of effort and a year of significant progress, we find this a tragedy.

It is our understanding that DOE Policy 455.1 requires that the following steps be completed:

- Prepare the Risk Based End State Vision, including the incorporation of public and regulator comments and submit to DOE headquarters by March 30, 2004
- Develop a site risk based end state implementation strategy, including current cleanup strategies with respect to the end state vision. The purpose of this document is to assess the ability to implement the RBES recommendations. The implementation strategy is expected to be complete in the spring or 2004.

The requirements of the policy, and particularly the development of the implementation strategy, lead us to believe that the end states indicated in the vision statement will be used as a best case to investigate alternative cleanup actions and worst case as new standards for the cleanup objectives. At this date in the cleanup process, and in order to complete the cleanup objectives by 2006, it does not seem constructive to be revisiting cleanup objectives and procedures already being implemented. With that, MMCIC has concerns with the appropriateness and value of the RBES Vision Document for this site, and therefore MMCIC objects to the document in its entirety.

In the response to our previous comments (dated November 26, 2003), the point is repeatedly made that this is a vision document, not a decision document. MMCIC understands that the ultimate decision for the end state of the site will follow the CERCLA process. MMCIC remains concerned,

Board of Trustees

John K. Weithofer
Chairman

James H. Van Tassel,
Vice Chairman

George S. Perrine,
Secretary

Robert Bell

Richard C. Church, Jr.

Donald L. Koller

Robert A. Lowden

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however, that the RBES Vision document does not express a feasible end state in light of the extent and nature of contamination remaining and suggested remedies. We are not convinced that this is a vision document and evidence indicates it may be used to modify current cleanup objectives and procedures.

In addition, the Risk Based End State Vision does not appear to have considered the Comprehensive Reuse Plan that is currently in place. DOE policy 455.1 states that the reuse plan should be integrated into the End State Vision; however, it does not appear that this plan was considered.

Additional comments are outlined below:

1. Page 2, paragraph 2: The term "industrial use" can have different interpretations, as evidenced during the OU-1 Technical Working Group Meetings. While "industrial use" was agreed upon for the cleanup scenario with respect to the risk of a commercial worker and a construction worker, further reaching implications, such as industrial use versus local zoning ordinances and the implications of selected remedies on the viability of the intended use have not been evaluated and agreed upon. Therefore, the first sentence of the second paragraph in the Executive Summary is misleading.
2. Page 2, paragraph 2 and page 10, paragraph 2: DOE asserts that the CERCLA remedy selection process "determines the extent to which hazardous substances remain at the site, and therefore directly affect subsequent available land and groundwater use." This totally ignores the important role that future land use plays in the CERCLA remedy selection process and the CERCLA § 120(h) transfer process. Consideration of future land use is contemplated under the CERCLA remedial criterion of "community acceptance." 40 C.F.R. § 300.430(e)(9)(iii)(1). Thus, federal policy requires consideration of future land use in Remedial Investigations and other site characterizations, and further requires the development of remedial action alternatives that would achieve cleanup levels associated with the reasonably anticipated future land use over as much of the site as possible. This is further contemplated by DOE's commitment in the Sales Contract to remediate the Mound Facility to an "industrial use" standard. It would be ironic (and contrary to the Sales Contract) if, after the expenditure of millions of federal dollars to remediate areas of the Mound Facility to an "industrial use" standard, those areas are utterly unusable for industrial use at the conclusion of the remediation. MMCIC has no desire to assume long-term potential liabilities associated with useless property.
3. Page 3, paragraph 2: The sentence states that "the entire site will be available for transfer to the MMCIC". Available for transfer and suitable for transfer are very different. If cleanup remains on-going (as in the case of natural attenuation) or if significant levels of monitoring are required, CERCLA § 120(h) may bar such transfer. MMCIC has not agreed to receive title to property with contamination, on-going environmental concerns or on-going cleanup activities. The Sales Contract specifically relieves MMCIC from further performance under the Sales Contract if remediation of any portion of the Mound Facility extends beyond February of 2008.
4. Page 3, paragraph 3: This paragraph states that there will be no additional remedial action on off-property areas. It is appropriate then that all off-property areas be free from

contamination and that all sources of contamination (including those on-site) be remediated to eliminate transfer off-site. This would indicate that monitored natural attenuation is not a viable option for off-property areas. This is not what is indicated throughout the remainder of this document.

5. Page 4, paragraph 1: DOE states that the rebound test will "determine whether to turn the system back on, modify the system and turn on, or modify the remedy." (See also page 16, paragraph 4). The rebound test itself will not make that determination. Rather, it will provide data to assist the Core Team in making that determination.

The document also states that the expected remedy for OU-1 is monitored natural attenuation. Please provide information that would indicate monitored natural attenuation is a viable option (i.e. feasibility studies outlining the time frame before cleanup is complete); how monitored natural attenuation will achieve compliance with requirements (i.e. removal of source term); and how is monitored natural attenuation will be protective to the general public, especially on property that will be accessible to the general public or public lands.

Finally, in this paragraph and other places throughout the RBESV draft, DOE states that "it is expected" that certain decisions will be made or certain end states will result. The term "it is expected" should be replaced by, "DOE expects."

6. Page 5, paragraph 2: Although the removal of the source term may eventually result in the removal of contaminants from the off-site seeps, it is unlikely to occur prior to 2006. MMCIC is concerned about leaving contaminants after the completion of the cleanup, particularly on off-site property with public access.

Page 5: The Executive Summary for this RBES Vision document includes three hazard areas for the site. For two of these three areas, monitored natural attenuation is the remediation selection. The DOE Policy 455.1 states, "End states should be based on an integrated site-wide perspective (including the current and future use of surrounding land), rather than on isolated operable units or release sites. This is not a license to do less at individual release sites, but rather to better link narrowly considered decisions to a larger perspective." If the site is considered as a whole, it is not appropriate for natural attenuation for these significant contamination sources.

7. Page 5, paragraph 3: DOE's End State vision is not, as DOE asserts, "based on the planned future land use." As these comments illustrate, the End State Vision contemplates remedial shortcuts and institutional controls that will leave portions of the Mound Facility unusable.
8. Page 10, paragraph 1: Again, the document states that the quit claim deed "establishes that MMCIC will take the land "as is" and "where is". It is the sales contract, and not the quit claim deed, that includes the language of "as is" and "where is." Given that the Sales Contract provides for cleanup of the Mound Facility to an "industrial use" standard, the end use of the facility must be suitable for industrial use—not restricted and encumbered to the point of uselessness. Furthermore, the "as is" language was never intended to indicate that the property must be transferred or accepted if contamination or on-going remediation activity remains on the site. Certainly the Sales Contract does not substitute for CERCLA § 120(h), which requires cleanup to a standard protective of human health and the environment

prior to transfer. Many areas of the Mound facility are currently not suitable for transfer "as is" under CERCLA § 120(h). Furthermore, MMCIC reiterates that it has the ability to refuse ownership of parcels requiring remediation beyond February of 2008.

9. Page 12, paragraph 1: This description of the PRS 66 cleanup is not pertinent or factual. Why is only the PRS 66 cleanup described in detail when the cleanup approach for the other approximately 400 PRS are not described or evaluated within the context of this document?
10. Page 12, paragraph 2: The DOE described additional building demolition that was performed outside the CERCLA process for compliance. The document states that DOE and MMCIC agreed to "work collaboratively ... to transition the site to MMCIC" with respect to removal of buildings that would have been below the site action levels. If this joint collaborative effort has been established between the DOE and MMCIC, it should extend to all parts of the site, including the OU-1 area. It also should be stated that the demolition of these buildings was less costly and a safer alternative than transfer.
11. Page 14, paragraph 2: There is development ongoing by MMCIC on the southern site property. All development, as outlined in the Comprehensive Reuse Plan, should be considered and reflected in this RBES vision statement.
12. Page 16, paragraph 3: There are areas of contamination in the soil and groundwater outside the OU-1 compliance boundary. How will these areas of contamination be addressed?
13. Page 16, paragraph 5: It is unclear how the need for continued long term monitoring and wells to provide a barrier for migration will be effective in both removal and cost. Please provide studies and costs justifying this selection.
14. Page 17, paragraph 2: This paragraph describes a grant between DOE and MMCIC for the development of the Comprehensive Reuse Plan. This paragraph describes requirements for the CRP; however, a review of the grant agreement does not state these same requirements. The vision document states that the "CRP be consistent with the DOE-validated baseline". However, the grant states that the "CRP will include plans/schedules that are consistent with the DOE-Validated baseline". In addition, the vision statement says "the CRP be consistent with requirements imposed on DOE by CERCLA statute and/or FFA". The grant agreement says that the CRP should not conflict with the requirements imposed on DOE by the CERCLA statute and /or the FFA requirements relative to DOE's CERCLA Public Reading Room. This is not represented correctly in the vision statement. Finally, this paragraph is not relevant to the vision statement as it represents a separate agreement between DOE and MMCIC, and should not be included as part of this document. MMCIC objects to DOE's mischaracterization of these issues in this public forum without any prior attempt to resolve DOE's concerns directly with MMCIC.
15. Page 19 includes a list of references that are also noted throughout the document. These documents referenced include letters between individuals that are not part of the public records. These documents should be attached so that the reader may understand in what context the reference is made.

16. Per the DOE Guidance Document, a discussion of the variances between the RBES Vision and current baseline as well as the variances between the RBES Vision and Regulatory requirements needs to be included.
17. Life Cycle costs associated with both the current baseline and RBES Vision are not provided.

We hope that these comments will help clarify our position with you and aid in reaching an End State appropriate for all parties.

Sincerely,

A handwritten signature in black ink that reads "Mike Grauwelman". The signature is written in a cursive, slightly slanted style.

Mike Grauwelman

Cc: Frank Bullock, MMCIC
Dann Bird, MMCIC
Ellen Stanifer, EHS Technology
Beth Moore, City of Miamisburg
John Weithofer, City of Miamisburg
MMCIC Board of Directors

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JAN 20 2004

REPLY TO THE ATTENTION OF:

SR-6J

Mr. Robert Warther
United States Department of Energy
Ohio Field Office-Springdale
175 Tri-County Parkway
Cincinnati, Ohio 45246

RE: RBES: Fernald and Mound

Dear Mr. Warther:

The United States Environmental Protection Agency has reviewed the United States Department of Energy (U.S. DOE) January 9, 2004, letters requesting comments on the Risk-Based End State vision (RBES) document for the Mound site and the RBES vision document for the Fernald site. U.S. EPA understands the need for the Sites to proceed with the RBES process, as it is required by a U.S. DOE policy issued in July 2003.

On November 26, 2003, I submitted a letter to you expressing U.S. EPA's position on the RBES for the Fernald site. Since that time there have been several discussions between U.S. DOE and U.S. EPA regarding the RBES document and process for the Fernald site. However, U.S. EPA's position has not changed, as U.S. EPA does not support any of the proposed items in the RBES vision document. Tremendous progress has been made at the Fernald site, and the path forward to closure of this site is clear. 2004 represents the largest and most complicated construction season, to date, for the Fernald site. U.S. EPA would like to continue to assist U.S. DOE in meeting the 2006 site closure date, and believes it is best that all resources are focused on achieving that goal rather than the RBES process.

The U.S. DOE Mound site is in a similar position as that of Fernald in that much progress has been made at the site, and it is also on track for a 2006 closure. Also, the city of Miamisburg is involved in acquiring much of the property, which impacts future land use decisions. Although no remedy decisions or changes can be made without U.S. EPA approval, there is a concern that the RBES document for the Mound site may be pre-judging remedies and indirectly circumventing the CERCLA process. The recommendations, particularly for groundwater, suggest Monitored Natural Attenuation (MNA) as a preferred path forward. We believe that these recommendations are premature at this point. U.S. EPA can not support MNA at the Mound site without further analysis pursuant to the CERCLA process. Further, in regards to Operable Unit 1, U.S. EPA wants the technical team to complete its analysis before any future decisions are made. The RBES appears to be presenting remedy decisions before work is

completed. Therefore, U.S. EPA does not support the recommendations presented in the RBES document for Mound. U.S. EPA requests that all efforts be focused on jointly achieving the 2006 closure date and following the CERCLA process.

If you have any questions regarding this matter, please contact James Saric of my staff at (312) 886-0992.

Sincerely,



Gary Schafer
Chief
Federal Facilities Section
SFD Remedial Response Branch #2

cc: Jim Woolford, U.S. EPA-FFRRO
Jessie Roberson, U.S. DOE
Johnny Reising, U.S. DOE-Fernald
Tom Schneider, OEPA-SWDO
Graham Mitchell, OEPA-SWDO
Brian Nickel, OEPA-SWDO
Margaret L. Marks, U.S. DOE-Mound
William J. Taylor, U.S. DOE-Fernald

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MCP
RISK-BASED END STATE VISION
RECEIVED 12/19/03
OHIO ENVIRONMENTAL PROTECTION AGENCY
COMMENTS
JANUARY 20, 2004

GENERAL COMMENTS

1. What process was used to determine if all VOC areas in soil or ground water have been considered? According to the Hazard Area 1 description, there are no other wells, seeps or capture pits with MCL exceedances for VOCs. Is this accurate?
2. Was the entire ground water data set reviewed for any MCL exceedance?
3. In Hazard Area 1, the RBES vision indicates that the OU1 area remains and should be identified as a variance. This is inconsistent with how all the other Hazard Areas are displayed. For example, the tritium levels in Hazard Area 3 will more than likely remain above MCLs at the time of the site closure. This vision document assumes the remedy will be determined to be operating properly and successfully and does not show a RBES for Hazard Area 3. Why is this any different from Hazard Area 1?
4. This document assumes the remedy for the OU1 ground water issue is monitored natural attenuation. The Ohio EPA does not concur with this assumption and has not been presented with any data or evaluation to support this assumption.

SPECIFIC COMMENTS

5. **Page 2, Second paragraph** – The sentence that reads “Since other scenarios (e.g. residential or agricultural) could be more restrictive (i.e. require a lower clean up level) than the selected industrial scenario, these deed restrictions are necessary to ensure that the residual conditions remain protective after site closure” could be improved. A recommendation would be “Since other scenarios (e.g. residential or agricultural) require a lower clean up level than the selected industrial scenario, these deed restrictions are necessary to ensure that the residual conditions remain protective after site closure.”
6. **Page 5, First paragraph, second full sentence** - Follow this sentence with “In the National Oil and Hazardous Substances Pollution Contingency Plan, the United States Environmental Protection Agency defines the acceptable risk range as 10^{-4} (increased human cancer incidence of 1 person in 10,000) to 10^{-6} (increased human cancer incidence of 1 person in 1,000,000) and a Hazard Index of one as the acceptable threshold for non-cancer effects”.

MCP
RISK-BASED END STATE VISION
RECEIVED 12/19/03
OHIO ENVIRONMENTAL PROTECTION AGENCY
COMMENTS
JANUARY 20, 2004

7. **Page 5, Second paragraph, first sentence** - Add capture pits into the sentence describing where tritium exceedances occur.
8. **Page 11, Last paragraph** – Please add the following to the paragraph: The Mound 2000 process and CERCLA guidance were followed for the removal action at PRS 66. The Nine CERCLA criteria were followed which includes stakeholder acceptance.

The heterogeneity associated with PRS66, a low-level rad waste landfill, necessitated removal of most soils. A segregation plan was developed that allows for suspect excavated soils that meet clean up objectives to be returned to PRS66 as backfill. This segregation plan will reduce the amount of soils shipped as contaminated, when the soils actually meet the clean-up criteria.

Many contaminated areas have been discovered through excavation that were not identified during characterization. The near-term costs associated with the current PRS66 approach should lead to long-term cost savings by minimizing LTS requirements.

9. **Page 16, Section 4.1, Second and fourth paragraphs** – See general comment 4.
10. **Page 18, Second paragraph, first sentence** – Define “action levels”.
11. **Page 18, Last paragraph** – See specific comment 7.
12. **Figure 3.3b** – Since this is a vision document, two figures should be used to show site ownership. One as is, with MMCIC owning the site and one with MMCIC owning all of the site except the RBES Hazard Area 1.
13. **Figure 4.0a** – Incorporate well 411, 443 and seep 617 as Hazard 1 areas.
14. **Figure 4.1b2** – Source term reduction is not a mechanism to block an exposure pathway. The exposure is still there, just at an acceptable level, in this case. Remove all references to blocked pathways that do not apply.
15. **Figure 4.2b2** – Given that residual levels of contamination will remain on the Mound site, this figure is misleading. The soil pathway is not an incomplete pathway unless the entire site is paved or access to soil is restricted. In addition, an explanation on why the air and ground water pathways are incomplete should be made in the text under Section 4.2.

ADDITIONAL CORRESPONDENCE ON RELATED ISSUES



State of Ohio Environmental Protection Agency
Southwest District

401 East Fifth Street
Dayton, Ohio 45402-2911

COPY

duplicate

1/12/03

TELE: (937) 285-6357
FAX: (937) 285-6249

June 20, 2003

Richard Provencher, Director
U. S. Department of Energy
Miamiisburg Closure Project
P.O. Box 66
Miamiisburg, Ohio 45343-0066

MIAMISBURG
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Dear Mr. Provencher:

We understand that the Department of Energy (DOE) has been recently discussing key issues relating to the successful site closure of the Mound by calendar year 2006. The Ohio EPA has been approached not only by DOE concerning these issues, but has also been approached by other effected parties, most notably the Miamiisburg Mound Community Improvement Corporation (MMIC). Due to these recent discussions, Ohio EPA believes the status of Mound Operable Unit 1 (OU-1) is among the most critical of issues at this time.

The Operable Unit 1 ground water rebound test commenced Monday, May 12, 2003. As you are aware, the test is to determine the effectiveness of the ground water treatment and containment system within the operable unit, identified as the historic landfill and the accompanying ground water contamination. The Ohio EPA Office of Federal Facilities Oversight (OFFO) takes this opportunity to outline for the DOE Miamiisburg Closure Project (MCP) the issues that it views as important in considering the future of this operable unit.

Based upon information contained in DOE documents, trenches and areas used for disposal purposes located under the landfill may still contain contaminated debris that was not removed during excavation for the overflow pond and landfill construction. If DOE documents are accurate, solvents, reactive substances, laboratory waste, radionuclides, and general trash are most likely present beneath the landfill and a portion of the overflow pond.

Since the June 1995 signing of the Record of Decision (ROD) for OU-1 and the installation and implementation of the selected remedy, the following information and situations have been identified:



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Bob Taft, Governor
Jennette Bradley, Lt. Governor
Christopher Jones, Director

- During installation of the pump and treat system, an area of empty, crushed thorium drums with elevated levels of thorium contamination in the soils was found. Historic documents estimate up to 2,500 crushed drums in the OU-1 area;
- Much more volatile organic compounds (VOC) contamination has been recovered and treated from the ground water than expected: over 4,000 pounds. The VOC contamination still remains above the ROD compliance levels of maximum contaminant levels (MCLs) in three wells within the compliance boundary. There also continues to be levels of VOC contamination above MCLs in the wells down gradient of the compliance boundary. The exact location of the source of the contamination has not been determined, nor can it be unquestionably stated at this time that the source is disperse.
- Removal of the thorium drums, Potential Release Site (PRS) 11, will require dismantling of the OU-1 soil vapor extraction and air sparging systems. Whether excavation of the drums will identify additional contamination cannot be determined at this time. A second area, PRS 409, requires removal of Stoddard Solvent-contaminated soils and possibly crushed drums, and a third, PRS 410 requires removal of fuel oil-contaminated soils. These efforts may result in discovery of additional contamination and removal of soils, debris, etc. from around the current landfill. Also, the extent of these excavations cannot be exactly determined.
- Burned debris from the historic Dayton Units that could not be released due to polonium-210 contamination was buried along side the east-west trending road bordering the landfill. Therefore, lead-210 associated with the polonium-210 process may still be present in soils at unknown levels.
- The OU-1 ROD preceded the full development of the plan to reuse the Mound site for commercial/industrial development and did not consider some of the complex issues associated with transferring a disposal area.

Due to the above items, questions arise as to whether the current remedy of ground water treatment and containment will continue to demonstrate proper and successful operation in order to receive the CERCLA 120(h)(3) covenant to transfer the property to the city of Miamisburg. Questions also arise as to whether sufficient information and data are available to determine the best approach to addressing those known areas (the PRSs) that will be excavated.

Richard Provencher, Director

June 20, 2003

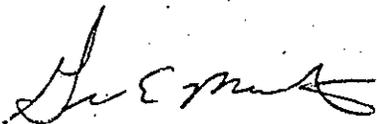
Page 3 of 3

It has become apparent to Ohio EPA OFFO that circumstances surrounding OU-1 have changed considerably since 1995. At this time, Ohio EPA cannot determine if the landfill within OU-1 poses, or does not pose, a risk to human health and the environment. Additional information will be needed to make such a determination, and Ohio EPA would like to initiate discussions identifying data and information gaps (e.g., magnetic surveys, schedule adjustments such as removal of PRS 409 prior to PRS 11 and 410, additional sampling if determined necessary, etc.). Long-term stewardship issues (implementability and cost) need to be considered in this evaluation, since the City of Miamisburg has verbally stated that it does not want to conduct landfill management activities on property it owns.

The site closure is scheduled for year 2006. Therefore, Ohio EPA OFFO respectfully requests that DOE Miamisburg Closure Project, DOE Ohio Field Office, US EPA Region V, and the City of Miamisburg join with Ohio EPA in a focused evaluation of the physical and legal issues facing both DOE's and the City of Miamisburg's efforts to transition the site in the context of the OU-1 issues. The above list does not encompass all the problems facing this effort, and Ohio EPA requests all parties to identify additional concerns that will need to be discussed in order to transfer this portion of the site to the MMCIC.

Please let us know if you agree with this approach. We look forward to working with you to resolve these issues in the immediate future.

Sincerely,



Graham Mitchell
Chief
Office of Federal Facilities Oversight

cc: Robert Warther, Ohio Field Office
Jack Craig, Ohio Field Office
Joe Legare, Ohio Field Office
David Seely, US EPA Region 5
Dick Church, Mayor, City of Miamisburg
John Weithofer, City of Miamisburg
Mike Grauwelman, MMCIC
Sharon Cowdery, MESH
Tom Winston, OEPA
Brian Nickel, OEPA



Department of Energy

**Ohio Field Office
Miamisburg Closure Project
P.O. Box 66
Miamisburg, Ohio 45343-0066**

JUL 11 2003

MB-0372-03

Mr. Graham Mitchell, Chief
Office of Federal Facilities Oversight
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, OH 45402

Dear Mr. Mitchell:

Thank you for your letter of June 29, 2003, regarding issues related to the accelerated closure of the Department of Energy's (DOE) Mound Site. In particular, you raised issues associated with residual contamination that will be left on site, post-transition. Let me assure you that the Department is committed to a complete cleanup and transition of the Mound Site such that the DOE meets all regulatory commitments, and the site is safe for future users.

Regarding site characterization, I am committed to ensuring that the remedy will be protective of the future land user (the office worker) as well as the surrounding community. The DOE-Ohio Field Office (OH) and the Miamisburg Closure Project (MCP) staff will continue to share data with your staff real time to ensure protectiveness is demonstrated.

Regarding your specific comments related to OU1:

As you pointed out in your letter, during installation of the pump and treat system, an area of empty, crushed thorium drums with elevated levels of thorium contamination in the soils was found, and historic documents estimate up to 2,500 crushed drums in the OU-1 area. The closure project baseline, approved by the Department earlier this year, includes an activity to remove these Thorium drums. Since removal of the thorium drums will likely require dismantling of the OU-1 soil vapor extraction and air sparging systems, the Department will closely coordinate this activity with the Ohio EPA to ensure public health and regulatory compliance are maintained.

You also pointed out in your letter that over 4000 pounds of Volatile Organic Compound (VOC) contaminants have been recovered and treated from the ground water and that this is more than was initially anticipated. We will continue to operate the remedy as long as is necessary to ensure risks associated with groundwater are mitigated and that regulatory compliance is maintained. The OU-1 rebound test was commenced during May 2003 and I will keep you and your staff fully informed of new information about the nature and extent of VOC contamination.

The OU-1 ROD and the Mound 2000 process preceded the full development of the Community Reuse Plan. As a consequence remedial decision-making has considered protectiveness of the industrial reuse scenario even though all of the details of the reuse plan have not been finalized. DOE agrees that some uncertainties exist and it is important that the Site and the Regulators work together now to ensure that transition from the Department to the MMCIC is effected only once we are confident that the public and the environment are protected.

G. Mitchell

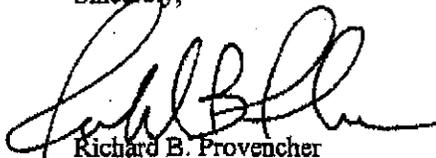
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JUL 11 2003

Therefore, I welcome the opportunity to participate in a "focused evaluation" of the issues associated with transition of a Site that will be cleaned up to industrial use criteria. In particular I am interested in reviewing the human health risks associated with this transition. I would like to explore with you further, the benefits of jointly sponsoring an independent risk evaluation of residual contamination left on site as a means of providing greater assurance that the cleanup is protective.

Please contact me at (397) 847-8350, extension 309 should you have any questions.

Sincerely,



Richard B. Provencher
Director

cc:

R. Warther, OH
J. Craig, OH
D. Seeley, USEPA
R. Church, Mayor
J. Weithofer, City Manager
M. Grauwelman, MMCIC
S. Cowdery, MESH
T. Winston, OBPA
B. Nickel, OEPA

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MIAMISBURG
Mound
 COMMUNITY
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Copy to:
 Paul Weas
 Jack Zimmerman
 Dewain Eckman
 Derrick Franklin
 Sue Smiley
 Debbie White.
 FYI

07-09-03 11:03:37 IN
 MIAMISBURG

LOG 6-01087
 CODE 6441.1

P.O. Box 232

July 8, 2003

Miamisburg, Ohio

Ms. Jessie H. Roberson
 Assistant Secretary for Environmental Management
 U.S. Department of Energy / EM-1
 1000 Independence Ave., S.W.
 Washington, DC 20585

45343-0232

720 Mound Road

COS Bldg., Suite 480

Miamisburg, Ohio

45342-6714

Dear Ms. Roberson:

I am writing to alert you to a matter that jeopardizes the 2006 closure deadline for the Mound Facility.

937-865-4462

I have previously related to you MMCIC's concerns about remediation of Operable Unit 1 (OU-1). OU-1 encompasses an area utilized extensively for disposal of laboratory wastes, solvents, and radionuclides. The CERCLA remedial decision documents for OU-1 focused solely on groundwater remedies. Since the issuance of the OU-1 ROD in 1995, DOE has implemented a remedial system consisting of groundwater extraction, treatment, and air sparging. As you know, MMCIC has objected to the plan to leave the OU-1 waste units intact, citing concerns about public health, environmental protection, and compatibility with community reuse priorities.

800-708-1643

937-865-4431

mmcic@aol.com

www.mound.com

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Given our concerns, we have begun a review of the OU-1 remedy, including new data generated after issuance of the 1995 ROD. Our preliminary review has identified a host of concerns about the adequacy of the limited remedy currently in place. Our concerns include the following:

- Groundwater contaminant levels remain above remediation goals, and the volume of contaminant removal to date is far greater (10 times) than originally estimated. This suggests that a significant source of contamination remains within OU-1.
- OU-1 has not been fully characterized. For example, little or no sampling and analysis has been done of areas under the sedimentation pond and under the north side of the landfill, both of which are within the boundary of OU-1.
- Given our current understanding of site conditions, soil conditions may not meet CERCLA risk-based acceptable exposure limits.

Located Within

The Mound

Advanced

Technology Center

Ms. Jessie H. Roberson
Assistant Secretary for EM
June 8, 2003
Page 2

- The current remedy does not ensure continued integrity of the landfill cap and liner.

Based on our preliminary review, MMCIC believes the present remedy is inadequate to protect human health and the environment. Although we are continuing our review, the data we have seen to date strongly indicates that removal of buried wastes within OU-1 is warranted, as was the case with PRS-66.

U.S. EPA and Ohio EPA also believe that reassessment of the OU-1 remedy is warranted. Ohio EPA has expressed its concerns to Rick Provencher in a letter dated June 20, 2003, a copy of which is enclosed. U.S. EPA concurs with Ohio EPA's view that questions regarding the adequacy of the OU-1 remedy threaten the closure schedule and that this matter warrants prompt attention. A letter from U.S. EPA to this effect should be forthcoming shortly.

Under the present remediation schedule, the ROD for Parcel 8 (which includes OU-1) will not be undertaken until the end of 2005 – far too late for a serious evaluation of the adequacy of the OU-1 remedy. This matter also calls into questions the transferability of the OU-1, and thus presents long-term stewardship issues for DOE. For all of these reasons, this matter warrants your immediate attention in order to avert significant delays in closure and parcel transfer.

Because of the important environmental and public health issues presented, as well as the risks to the closure and transfer schedule, we would like to meet with you in the near future to discuss our concerns and appropriate responses. I will contact your office by telephone in the next few days to arrange a meeting.

We recognize and appreciate your important contribution to the renewed progress that we are seeing in closure activities at the Mound. It is our hope that we can continue to work with you and your staff in a collaborative effort to address this obstacle to our mutual goal of site closure by 2006.

Sincerely,



Michael J. Grauwelman

Cc: MMCIC Board of Directors
Bob Warther, DOE/OFO
Rick Provencher, DOE/MCP



Department of Energy

Washington, DC 20585

July 23, 2003

Mr. Michael J. Grauwelman, President
Miamisburg Mound Community Improvement Corporation
Post Office Box 232
Miamisburg, Ohio 45343-0232

Dear Mr. ^{Mike} Grauwelman:

Thank you for your letter of July 8, 2003, in which you expressed your concerns regarding Operable Unit 1 (OU-1) at the Miamisburg Closure Project Mound site. I want to assure you that the Department of Energy (DOE) is committed to a complete cleanup and transition of the site such that it meets all regulatory commitments and is protective of human health and the environment.

The OU-1 Record of Decision (ROD) signed in 1995 by the U.S. Environmental Protection Agency, Ohio Environmental Protection Agency, and the DOE preceded the development of the community's Comprehensive Reuse Plan. The remedial decision-making considered protectiveness of the industrial reuse scenario. In 2001 the five-year review of the remedy was performed. The regulators confirmed that the remediation systems in OU-1 were functioning as intended and as designed. In addition, the regulators confirmed that the clean-up criteria set forth by the OU-1 ROD are still appropriate for the site.

We are aware that some uncertainties exist. The OU-1 remedy will be operated as long as necessary to ensure risks associated with groundwater are mitigated and that regulatory compliance is maintained. With approval of the regulators in May 2003, an OU-1 rebound test commenced. The DOE Ohio staff will keep you and your staff informed of new information resulting from the test.

It is important that the regulators, the future landowner, work closely with DOE to ensure that the transition of the property from the federal government to the Miamisburg Mound Community Improvement Corporation is effected only after we can demonstrate that the public and the environment are protected.

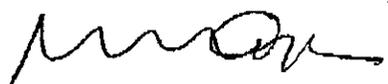
During a visit by Representative David Hobson to the Mound site in March 2003, he made a suggestion about how we might make the OU-1 area more visually attractive. Based on his suggestion we prepared a conceptual design showing how it could look in 2006 when the site is transferred to the community. We have made a preliminary decision to work toward leaving the OU-1 area as depicted in the design. I understand that you have a copy of the conceptual design.



I have discussed your letter with Mr. Bob Warther, Manager, Ohio Field Office. I encourage you to work with him and his staff on any concerns you have with OU-1 or other matters related to the Mound site.

If you have any further questions, please call me at (202) 586-7709 or Mr. Bob Warther at (513) 246-0021.

Sincerely,



Jessie Hill Roberson
Assistant Secretary for
Environmental Management



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August 20, 2003

Ms. Jessie Roberson
Asst. Secretary for Environmental Mgmt.
U.S. Dept. of Energy
1000 Independence Ave., S.W.
Washington D.C. 20585

Dear Jessie:

As elected representatives of the Miamisburg community who have worked diligently on issues related to the Mound site closure, we want to communicate very strongly the position of the City of Miamisburg regarding the remediation of Operable Unit 1 (OU-1) at Mound.

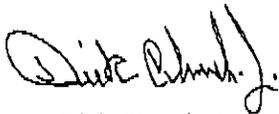
We strongly support the viewpoints expressed to you on this matter in separate letters recently by the Ohio EPA and the Miamisburg Mound Community Improvement Corp. (MMCIC). Since the initial ROD was signed, circumstances have occurred which call into question the adequacy of that remedy. Quite simply, a review of existing data, newly discovered contamination and the history of soil remediation activities on site raise serious questions. Based on our review, the current remedy is not protective of human health and the environment, and the data strongly indicates that removal of buried wastes within OU-1 is warranted.

We appreciate your initial response to the specific concerns about OU-1 detailed by MMCIC President Mike Grauwelman in a July 8 letter. In particular, we value the assurance that DOE "is committed to a complete cleanup and transition of the site such that it meets all regulatory commitments and is protective of human health and the environment." Just as importantly, you also acknowledge that some uncertainties exist. However, your focus solely on the aesthetics of OU-1 is somewhat worrisome. Please understand that aesthetics is not the primary concern. We are focused clearly on safety and reuse, as well as the issues associated with long-term stewardship. It is crucial that DOE reevaluate the appropriateness of the current OU-1 remedy at this time and avoid possibly jeopardizing the 2006 closure schedule that is so important to the Miamisburg community and DOE.

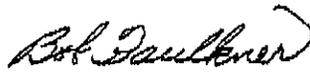
- more -

Thank you for your consideration in this matter.

Sincerely,



Dick Church, Jr.
Mayor



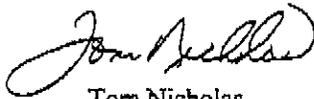
Bob Faulkner
Vice Mayor



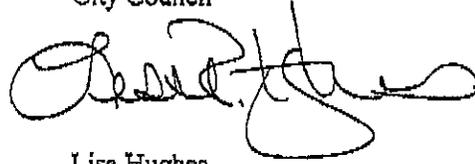
Dr. Jane Chance
City Council



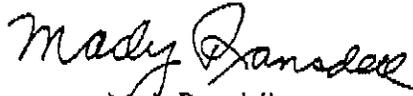
Hazel Eisele
City Council



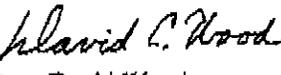
Tom Nicholas
City Council



Lisa Hughes
City Council



Mady Ransdell
City Council



David Wood
City Council

cc: Bob Warther, DOE/OPD
Dave Seely, USEPA, Region V
Brian Nickel, OEPA
Graham Mitchell, OEPA

Tom Winston, OEPA
Mike Grauwelman, MMCIC
Rick Provencher, DOE
John Weithofer, Miamisburg City Manager



Department of Energy

Washington, DC 20585

November 25, 2003

The Honorable Dick Church, Jr.
Mayor of Miamisburg
600 N. Main Street
Miamisburg, Ohio 45342

Dear Mayor Church:

This is in response to your August 20, 2003, letter in which you and selected members of the Miamisburg community expressed concerns regarding Operable Unit 1 (OU1) at the Miamisburg Closure Project (MCP) Mound site. As stated in my July 23, 2003, letter to the Miamisburg Mound Community Improvement Corporation (MMCIC), the Department of Energy (DOE) is committed to a complete cleanup and transition of the site such that it meets all regulatory commitments and is protective of human health and the environment.

While DOE acknowledges that some uncertainties exist, we believe the combination of the existing remedy, completion of currently planned removal actions in the OU1 area, and institutional controls that protect the City and MMCIC will result in a parcel that is fully protective for the future use scenario. In response to your concerns regarding technical uncertainties that may exist with respect to the remedy currently being implemented, DOE has convened a series of meetings, using the CERCLA-compliant Mound 2000 principles and processes. As you are aware, the Mound 2000 process utilizes a Core Team consisting of representatives of the DOE Miamisburg Closure Project (MCP), U.S. Environmental Protection Agency (USEPA), and Ohio Environmental Protection Agency (OEPA) who evaluate each of the potential site contamination problems and recommend the appropriate response. The Core Team also receives input from technical experts as well as the general public and/or public interest groups. Thus, all stakeholders have the opportunity to express their opinions or suggestions involving each potential problem area in the process.

In the case of OU1, DOE formed a Technical Team in August 2003 to allow stakeholders an opportunity to identify technical uncertainties associated with the OU1 area and develop recommendations and strategies for managing identified uncertainties prior to the Core Team decision-making. DOE recognizes the importance of this issue to the community and has initiated these discussions above and beyond the previously established Mound 2000 stakeholder opportunities for expressing opinions or suggestions. The OU1 Technical Team includes participants from DOE, USEPA, OEPA, Ohio Department of Health (ODH), MMCIC, City of Miamisburg, and Mound Environmental Safety and Health (MESH) and is expected to complete by the end of the calendar year. Be assured that DOE is committed to this process.



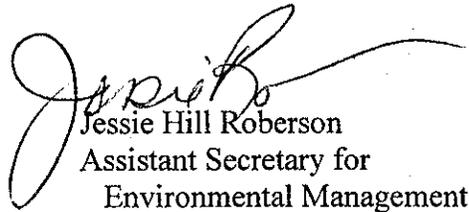
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Upon completion of the work of the OU1 Technical Team, the Core Team will evaluate the recommendations and determine the appropriate response in accordance with CERCLA. The Core Team evaluation will consider all data, including the new data you referenced, to ensure that the overall protection of the human health and the environment is maintained.

I have discussed your August 20, 2003, letter with Mr. Bob Warther, Manager of DOE's Ohio Field Office. I encourage you to work directly with Mr. Warther and his staff on any concerns you have with OU1 or other matters related to the Mound site.

Thank you for sharing your concerns with me. If you have further questions, please call me at (202) 586-7709 or Mr. Bob Warther at (513) 246-0018.

Sincerely,



Jessie Hill Roberson
Assistant Secretary for
Environmental Management

cc:

Bob Faulkner, Vice Mayor
Jane Chance, City Council
Tom Nicholas, City Council
Hazel Eisele, City Council
Lisa Hughes, City Council
Mady Ransdell, City Council
Bob Warther, Manager, DOE Ohio Field Office
David Seely, USEPA Region V
Brian Nickel, OEPA
Graham Mitchell, OEPA
Tom Winston, OEPA
Mike Grauwelman, MMCIC
Rick Provencher, DOE-MCP
John Weithoffer, City of Miamisburg

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January 14, 2004

Ms. Jessie Hill Roberson
Assistant Secretary of Environmental Management
U.S. Department of Energy
1000 Independence Avenue SW
Room 5A01
Washington, D.C. 20585

Dear Ms. Roberson:

I am writing to inform you that the Miamisburg community has grave concerns regarding DOE's lack of planned remedial activity for two significant areas of environmental contamination associated with the Mound facility: 1) groundwater contamination affecting the City's Community Park and 2) groundwater contamination emanating from seeps on City property adjacent to the Mound facility.

According to DOE data, groundwater under the City of Miamisburg's Community Park is contaminated with metals and radionuclides in excess of U.S. EPA Maximum Contaminant Levels (MCLs) and Risk-Based Guideline Values (RBGVs). DOE data also indicates that tritium, tetrachloroethene, and trichloroethene contamination exceeds MCLs in groundwater emanating from the hillside seeps on the City's property.

The City of Miamisburg has repeatedly expressed its concerns about the Community Park groundwater contamination and the hillside seeps contamination via written comments regarding DOE - MCP's Annual Site Environmental Report". Until recently, it was the community's understanding and expectation that DOE would undertake and complete active environmental remediation of these two areas of concern prior to the 2006 Mound site closure deadline. However, in light of DOE's recently-released Risk-Based End State Vision for the Mound facility, it appears that DOE does not intend to complete the cleanup of these areas of concern by 2006. For example:

- DOE has stated that it believes the planned removal of contaminated soil under R and SW Buildings will remedy the MCL exceedances for tritium in groundwater and the seeps on the City of Miamisburg property: According to the CH2M Hill baseline schedule, however, removal of those buildings will not be complete until February of 2005. Even assuming the removal of R and SW Buildings will address the source of tritium in groundwater, it is inconceivable that the groundwater seeps will meet MCLs by

Office Of The Mayor

10 North First Street
Miamisburg, Ohio 45342
Phone: 937 847-6458
Fax: 937 866-0891
dick.church@cityofmiamisburg.org

the 2006 closure date. Furthermore, it has not been demonstrated that removal of R and SW Buildings will address the sources of PCE and TCE found in the seeps.

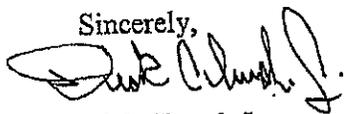
- DOE has stated its intention to implement a groundwater monitoring plan for Community Park. The RBESV document is silent as to DOE's plans to address MCL and RBGV exceedances for metals and radionuclides in Community Park. This leads the City of Miamisburg to conclude that DOE intends simply to rely upon monitored natural attenuation (MNA) with regard to the Community Park contamination.

We are gravely concerned that DOE does not intend to restore Community Park groundwater and the hillside seeps to a protective condition by 2006. The City of Miamisburg will not accept an indefinite schedule for restoration of groundwater in these areas, nor will the City agree to monitoring or maintenance obligations or use restrictions (i.e., institutional controls) pertaining to its properties. DOE must come forward immediately with a viable plan for complete and expeditious remediation of these areas by the 2006 closure deadline. Without expeditious action to begin active remediation of these areas, DOE's 2006 closure target for the Mound facility is in jeopardy.

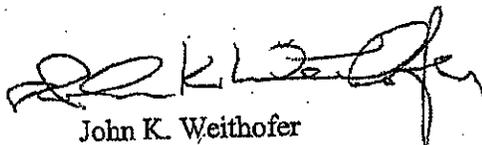
In light of these issues, the City of Miamisburg requests that DOE provide the City with any existing remedial action plans (whether in draft or final form) for the seeps and the groundwater in Community Park. If DOE's plans for these areas include reliance on monitored natural attenuation, the City also requests a written explanation of how DOE's plans comply with the requirements of U.S. EPA's OSWER Directive 9200.4-17P "Use of Monitored Natural Attenuation at Superfund, RCRA Correction Action, and Underground Storage Tank Sites".

The foremost concern of the City of Miamisburg is the health, safety and welfare of the community. It is imperative that DOE commit to a credible plan to complete the Mound cleanup by the 2006 deadline. The City looks forward to the opportunity to work with DOE to obtain a successful resolution of these issues.

Sincerely,



Dick Church Jr.
Mayor



John K. Weithofer
City Manager

cc: Beth Moore – City Environmental Manager
Chris Walker – Attorney for City
Michael Owen – DOE – Office of Legacy Management
~~Bob Weather – DOE – Ohio Field Office~~
Mike Grauwelman – MMCIC
John Fulton – CH2M-HILL
Brian Nickel – Ohio EPA
David Seely – U.S. EPA

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MIAMISBURG
Mound
COMMUNITY
IMPROVEMENT
CORPORATION

P.O. Box 232

January 27, 2004

Miamisburg, Ohio

45343-0232

720 Mound Road

COS Bldg., Suite 480

Miamisburg, Ohio

45342-6714

937-865-4462

800-708-1643

fax 937-865-4431

mmcic@aol.com

www.mound.com

Mr. Robert F. Warther
U.S. Department of Energy
Ohio Field Office
175 Tri County Parkway
Springdale, OH 45246

Dear Mr. Warther:

I am writing in response to the attached letter under your signature dated December 12, 2003 to Messer's Gary Schafer (USEPA) and Graham Mitchell (OEPA). The letter was also copied to several U.S. and Ohio Environmental Protection Agency and DOE personnel involved in the cleanup of the Mound. The topic of the letter was OU-1. MMCIC was recently provided a copy of the letter due to our involvement and interest in OU-1 by one of the recipients. The letter makes several references to MMCIC, establishes certain positions and makes interpretations that require a response from MMCIC. These issues are found in the first full paragraph of Page 3 cited below. Footnotes have been included for reference to the paragraph, which states:

Board of Trustees

John K. Weithofer,
Chairman

James H. Van Tassel,
Vice Chairman

George S. Perrine,
Secretary

Robert Bell

Richard C. Church, Jr.

Donald L. Koller

Robert A. Lowden

Located Within

The Mound

Advanced

Technology Center

¹"There have also been many discussions regarding the definition of "intended future use" in support of property transfer, with particular emphasis on the OUI area. The Mound 2000 Work Plan dated February 1999, documents the agreement between USDOE and MMCIC that industrial use is the intended future land use for the site. ²The OUI ROD was already in place when the Sales Contract between DOE and the MMCIC was signed in 1998. The Sales Contract requires that DOE convey the entire Premises by discrete parcels, "as is," following completion of the CERCLA§120(h)/Mound 2000 process for property transfer. ³As you know, deed restrictions or institutional controls needed to maintain the OUI remedy, or any CERCLA remedy at the site, can directly affect subsequent land use. There is not a Federal or State of Ohio requirement for a more specific definition of the types of industrial land use for a discrete parcel. ⁴Additionally, DOE executed a grant with the MMCIC in September 2002 for an update to the MMCIC's Comprehensive Reuse Plan (CRP). A requirement of the grant was for the CRP to be consistent with requirements imposed on DOE by the CERCLA statute and/or the Federal Facilities Agreement (FFA). The current CRP prepared by the MMCIC does not comply with the 1995 OUI ROD, in that the CRP envisions property improvements to OUI that would be in direct violation of ARARs in the 1995 ROD. It is not incumbent on the USDOE to modify a legally binding remedy in the OUI ROD on the basis of the MMCIC's CRP."

The first point (see footnote 1) made in the paragraph establishes the "intended future use" for the site as industrial. This has been MMCIC's and the community's vision for the site since becoming actively involved in the project. The vision adopted by the community is for an "economically viable, privately owned technology and industrial park." The establishment of this intended use was instrumental in determining a cleanup standard for the site, thereby eliminating the need and cost of studies and analysis evaluating alternative use scenarios, which were ongoing at the time. The community took its role in establishing the use and cleanup standard very seriously. The community decision to support the industrial cleanup levels contemplated that the remedies and intended future use, as defined by the reuse plan, would be aligned. Unfortunately, your letter suggests that the intended future use is only important in establishing a cleanup level. Although insuring the health and safety of the community through the use of risk-based remedies is a critical part of the selection process, the selection must also consider future use and the utility of the property upon the execution of the remedy. Without the alignment of these decisions in the cleanup process, the potential exists that millions of dollars will have been spent only to leave a useless environmental relic on the landscape with no future potential reuse as an industrial, technology park.

The third point (see footnote 3) made in the paragraph involves the use of restrictions and institutional controls to maintain the remedy and their ability to "directly affect subsequent land use." It is our opinion that these controls can affect *how* a property can be used, not *if* the property can be used. The thought that controls can be used to bandage a poor remediation plan by encumbering a property to a point that it no longer has the potential for its "intended future use" is simply outrageous. It is poor implementation of public law and policy. Based upon this position, it would appear that it is the intent of DOE to expend funds to "clean up a site" to a level regardless if it allows for its reuse.

The second point (see footnote 2) made is that "OU-1 ROD was already in place" at the signing of the DOE/MMCIC Mound Sales Contract, and parcels were to be transferred according to the CERCLA and Mound 2000 process. It is important to recognize that the remedy and ROD were developed prior to the community's adoption of the site reuse plan. The regulators therefore, did not have the benefit of an "intended future use" and were basing their decisions solely upon health and safety standards for groundwater contamination. I would also like to point out that the cost estimate in the ROD to exhume the landfill was \$70-120M. This estimate has little credibility and likely influenced the selection of the remedy. In retrospect exhumation of the source may have been the preferred remedy had the data and a land use plan been available.

Finally, the fourth point (see footnote 4) made in the paragraph appears to be the selective use of a sentence from an MMCIC grant agreement. The letter states that: "*a requirement of the grant was for the CRP to be consistent with requirements imposed on DOE by the CERCLA statute and/or the Federal Facilities Agreement (FFA).*" Be advised that the grant requirement states:

"The CRP should define the MMCIC's expectations, relative to DOE's CERCLA Public Reading Room. The MMCIC's expectations cannot conflict with requirements imposed on DOE by the CERCLA statute and/or Federal Facilities Agreement (FFA) between DOE, USEPA and Ohio EPA. Nor should the MMCIC's expectations place an unnecessary financial burden on the Government, or result in placement of a reading room that is not responsive to the needs of the majority of stakeholders/users of the reading room. MMCIC's expectations..."

This is the only reference that can be found which bears any similarity to the provision, which was cited in your letter. There is obviously no relationship between the expectations for the reading room and the intended future use of OU-1. It is also troubling that during the entire CRP process that MMCIC was never notified directly by DOE of its apparent failure to comply with the provisions of the grant. It is even more troubling that DOE would use this provision as a basis of an argument involving the OU-1 landfill issue.

In closing, I am disappointed that certain of these issues were contained in your letter without any prior discussion with the CIC. However, I am of the hope that this information can provide a basis of understanding between us, which will lead to the resolution of the issues, and the success of the project.

Sincerely,



Michael J. Grauwelman
President

Attachments (1)

C: Gary Schafer, USEPA
Graham Mitchell, OEPA
Dave Seely, USEPA
Tom Winston, OEPA
Brian Nickel, OEPA
Kathy Lee Fox, OEPA
Tom Adams, DOE EM
Margaret Marks, DOE-MCP



January 28, 2004

Ms. Jessie Hill Roberson
Assistant Secretary of Environmental Management
U.S. Department of Energy
1000 Independence Avenue SW
Room 5A01
Washington, D.C. 20585

Dear Ms. Roberson:

This letter serves to follow up on a December 19, 2003 letter to you regarding the U.S. DOE Risk Based End State Vision (RBESV) document for the Mound site. The Mound Reuse Committee and the City respectfully request that you exempt the Mound site from the RBESV requirement. After lengthy discussions between City staff and Mound Closure Project / Ohio Field Office staff and multiple rounds of comments, the City of Miamisburg has decided to officially reject DOE's RBESV and to ask for an exemption from the plan requirement. This decision has been endorsed by a motion of the Mound Reuse Committee. Due to the fact that the Mound site has already been employing risk based cleanup standards and the fact that the site is only two years from closure, this document is not appropriate for the Mound site.

The document does not present a vision for the site that is acceptable to the community and the future site owners; and it formulates unsupported cleanup decisions and risk conclusions. In many cases the document presents a DOE preferred remedial alternative. The City questions how DOE could arrive at a preferred option prior to: adequate characterization, stakeholder and regulator input and the Mound 2000 process. The community interprets this as an attempt to deviate from the CERCLA process and pressure the regulators and the community into accepting DOE's preferred alternative. The document does not present a range of remedial options, but rather DOE's preferred option which appears to be the lowest cost alternative irregardless of the remaining residual risk impact on redevelopment efforts or the achievement of complete cleanup by 2006. Only a comprehensive characterization of each area of concern, detailed feasibility studies and a thorough risk assessment will allow for understanding all of the remedial options and the associated risks.

Years ago, the City compromised by agreeing to an industrial reuse scenario for the Mound site. This concession by the community has saved the DOE billions of dollars. Additionally, the City's innovative strategy to initiate redevelopment and reuse simultaneously with the cleanup process has also saved the DOE money by lowering overhead operating costs for the site. The City expects DOE to complete the cleanup to the level necessary so that the entire site is available for reuse as an industrial technology park.

Office of the City Manager

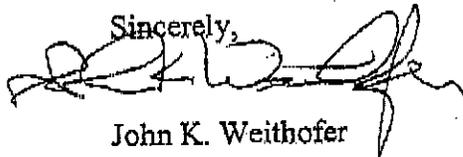
10 North First Street
Miamisburg, Ohio 45342
Phone: 937 847-6456
Fax: 937 866-0891

DOE's development of the RBESV has brought to light serious issues that have the community gravely concerned about future remediation plans, or the lack thereof. I would like to take this opportunity to reaffirm the community's expectations.

- "Industrial use" was agreed upon by all parties with respect to the development of risk based cleanup standards that considered the commercial office worker and the construction worker in an industrial use scenario. This agreement was based on the fact that the entire site would be available for industrial development. Local zoning ordinances define what is acceptable in various industrial zones. DOE is not at liberty to take the risk interpretation of "industrial use" and utilize it to justify the selection of a particular remedy that renders a portion of the site completely unusable and incompatible with local zoning.
- All off-site property must be free from contamination resulting from Mound operations prior to DOE's planned 2006 departure. This means that all off-site contamination and any on-site source(s) contributing to off-site contamination must be fully remediated so that all affected off-site properties meet free release standards. The City will not agree to any remedies with a remediation schedule that extends beyond closure, any engineering or institutional controls or use restrictions on any of its properties.

We appreciate your consideration of our request and look forward to hearing from you. Please feel free to contact me to discuss the situation further.

Sincerely,



John K. Weithofer
City Manager

Cc: Beth Moore - City Environmental Manager
Bob Warther - DOE - OFFO
Mike Grauwelman - MMCIC
John Fulton - CH2M-HILL
Brian Nickel - Ohio EPA
David Seely - U.S. EPA

APPENDIX D: RBES IMPLEMENTATION LESSON LEARNED

RBES IMPLEMENTATION LESSON LEARNED

The CERCLA/Mound 2000 process described in Section 1.3 has been applied consistently across the site with the exception of the removal action at PRS 66. A brief discussion is being provided as a lesson learned for future remedy selection processes.

In the case of PRS 66, a more conservative method was utilized that does not take into account the minimum volume or area of contaminated soil that would be necessary to support the selected exposure scenarios. Instead the risk based cleanup values were used as a "not to exceed" value rather than a statistical average as referenced in CERCLA guidance. This results in more soil being removed than is necessary to meet the industrial scenario. This more conservative approach was implemented as a response to stakeholder concerns. However, a segregation plan was developed that allowed for suspect excavated soils that meet clean up objectives to be returned to PRS 66 as backfill. This segregation plan will reduce the amount of soils shipped as contaminated, when the soils actually meet the clean-up criteria.

PRS 66 is an example of a relatively low long-term threat that could have been protective of human health and the environment using a combination of excavation, containment, and institutional controls. This approach could have been consistent with the national program goals for CERCLA and the industrial use standard at Mound, while reducing the volume of excavation and minimizing the environmental impact of such a large-scale operation. However, this approach was excluded from detailed analysis against the nine CERCLA evaluation criteria because of "conflict with current site mission, stakeholder inputs, and anticipated future land uses."

CERCLA Criteria # 9, Community Acceptance, is considered balancing criteria to reflect the community's apparent preferences among or concerns about alternatives. Exclusion of the above alternative prior to detailed analysis against CERCLA evaluation criteria #1-8 results in improper timing and prioritization of the community acceptance criteria during alternatives analysis prior to CERCLA remedy selection.

PRS 66 removal action is nearly complete but is presented as a lesson learned for future remedy selection processes.