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BWX Technologies, Inc.

Babcock & Wilcox, a McDermott company

3005-9805050008

Babcock & Wilcox of Ohio, Inc.

1 Mound Road
P.O. Box 3030
Miamisburg, Ohio 45343-3030
(937) 865-4020

ESC-106/98

April 21, 1998

Mr. Tim Fischer
U.S. Environmental Protection Agency
Region 5
77 W. Jackson Blvd.
Chicago, IL 60604-3590

Mr. Brian Nickel
Ohio Environmental Protection Agency
Southwest District Office
401 E. Fifth Street
Dayton, Ohio 45402-2911

SUBJECT: Contract No. DE-AC24-97OH20044
**MAGAZINE 8: RELEASE OF BUILDING DATA PACKAGE FOR
REGULATOR REVIEW**

REFERENCE: Statement of Work Requirement C 7.1 -- Regulator Data Requests

Dear Mr. Fischer and Mr. Nickel:

The attached Building Data Package for Magazine 8 has been authorized for release to US EPA, OEPA, and ODH by Sam Cheng of MEMP. In review of 40CFR300.415(b)(2), the demolition of this building has been determined to be a non-CERCLA event. Also attached is a copy of the newspaper ad announcing the availability of this Building Data Package at the Public Reading Room. Unless otherwise directed before April 27, 1998, this ad will be published on April 29, 1998 and BWO will distribute copies of this Building Data Package to the Public Reading Room and MMCIC.

**Page 2 MAGAZINE 8: RELEASE OF BUILDING DATA PACKAGE FOR REGULATOR
REVIEW**

If you require further information, please contact Dave Rakel at extension 4203.

Sincerely,

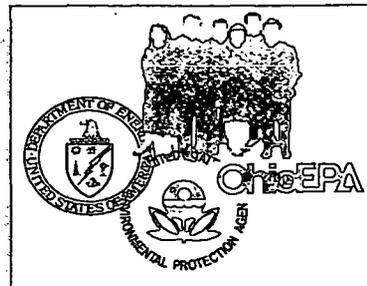


Linda R. Bauer, Ph.D.
Department Manager, Environmental Safeguards & Compliance

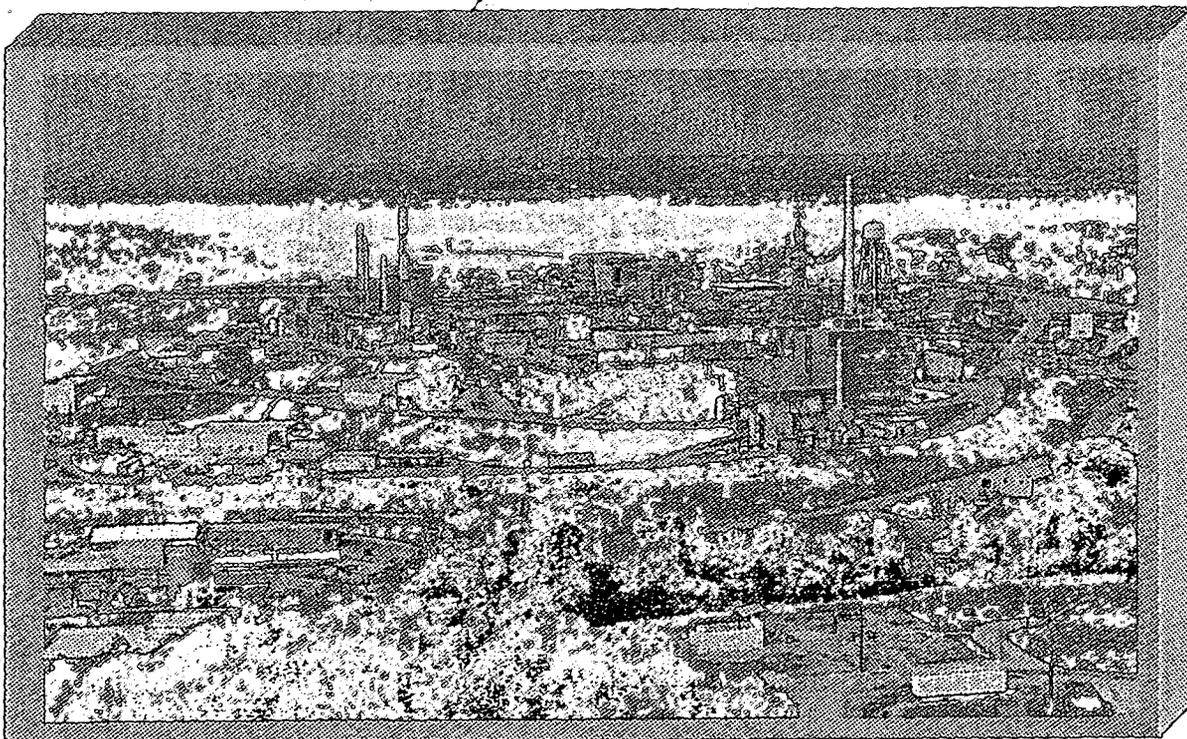
LRB/nmg

Enclosures as stated

cc: Kathy Lee Fox, OEPA, (1) w/attachments
Ray Beaumier, OEPA, (1) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Dann Bird, MMCIC, (1) w/attachments
Administrative Record, (1) w/attachments
Public Reading Room, (5) w/attachments
DCC



MOUND PLANT
Building Data Package
Magazine 8
Located within Release Block C



MOUND



Environmental
Restoration
Program



**MOUND PLANT
BUILDING DATA PACKAGE**
Information Notice

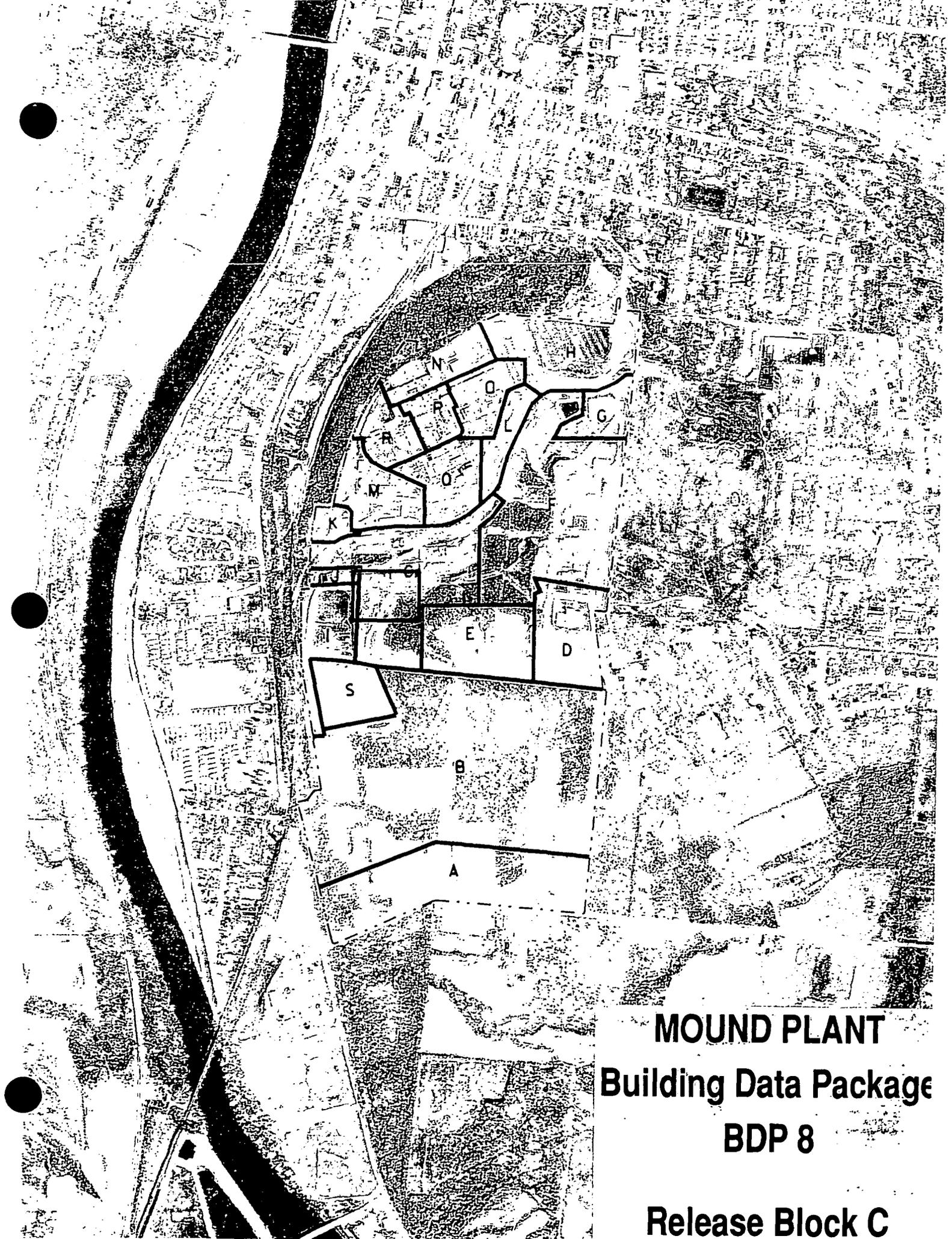
Magazine 8 will soon be dismantled. A Building Data Package describing Magazine 8 and its dismantlement is available in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio.

Questions can be referred to DOE Office of Public Affairs at (937) 865-3116

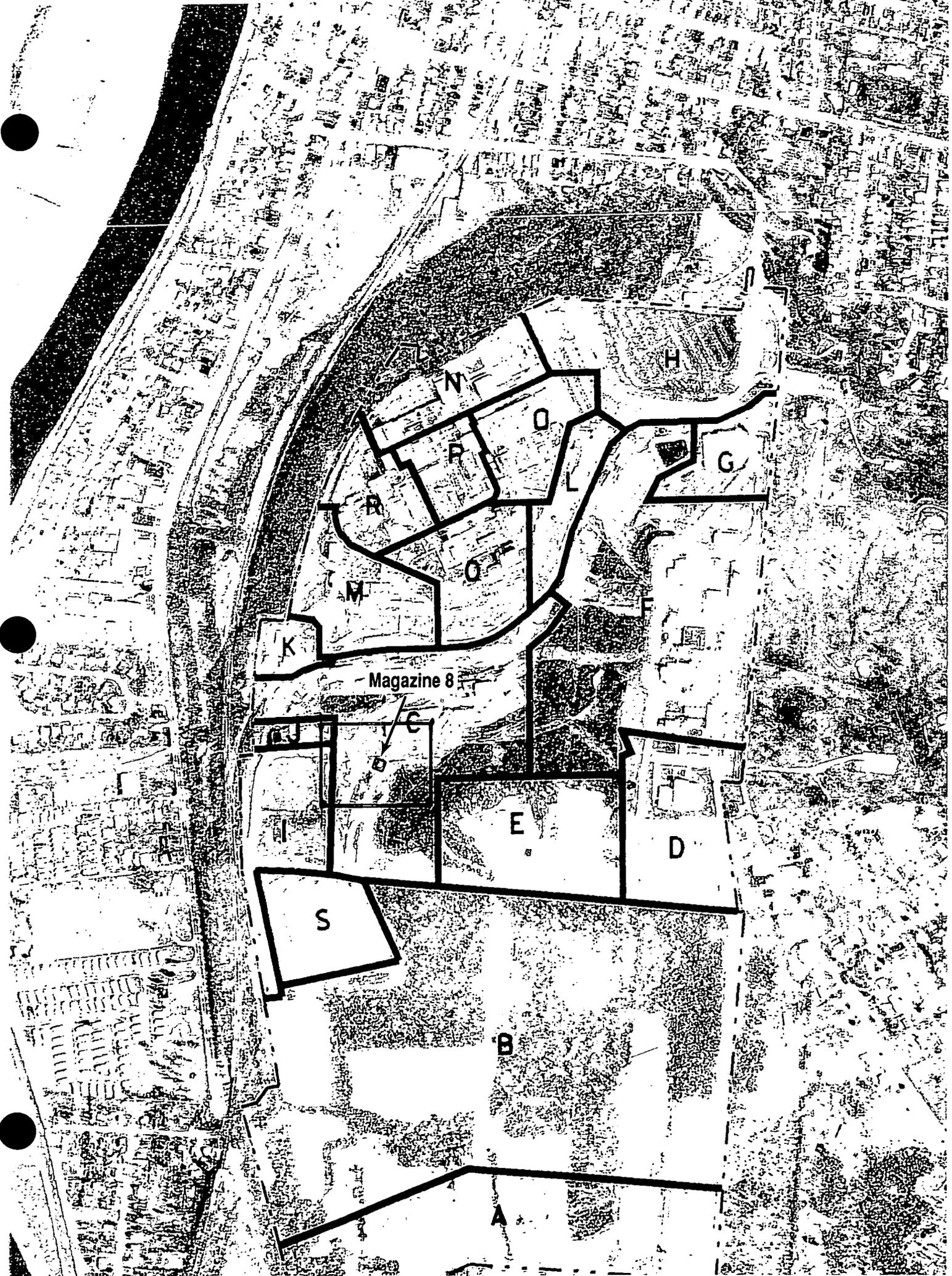
BDP Magazine 8

REV 0

REV	DESCRIPTION	DATE
DRAFT		Apr. 7, 1998
PUBLIC INFORMATION RELEASE 0		Apr. 21, 1998
1		



MOUND PLANT
Building Data Package
BDP 8
Release Block C



Magazine 8

S

B

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Mound Plant

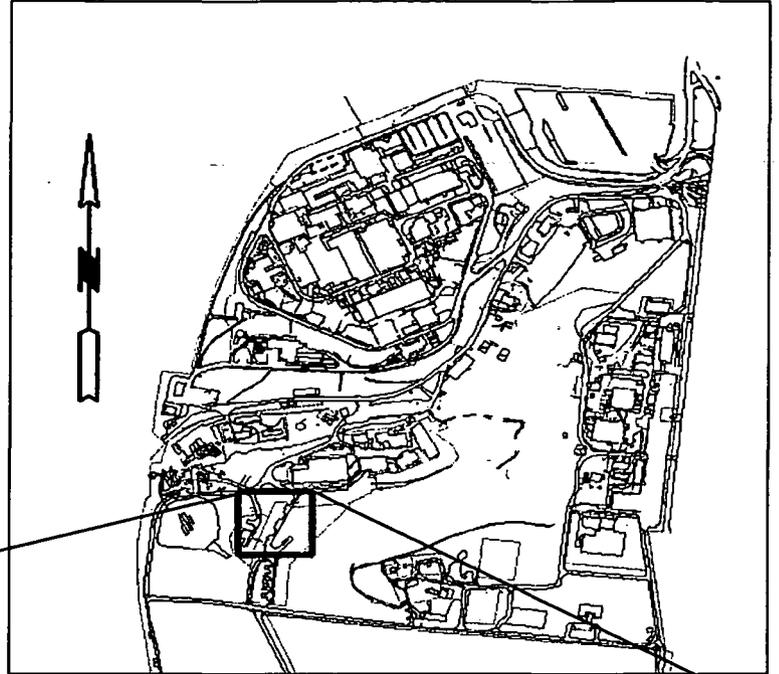
Magazine 8

Materials Storage

Release Block C

On the map below:

- Building number and location shown in black
- PRS locations and numbers shown in blue
- Surrounding buildings shown in green
- Fencing shown in red
- Elevation contours shown in brown





Mound Plant Magazine 8

9.120-65

BUILDING DATA PACKAGE (BDP)

MAGAZINE 8

(Non-CERCLA Demolition)

DOE MOUND PLANT

MIAMISBURG, OHIO 45343

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1.0 General Overview

1.1 Introduction

The purpose of this Building Data Package is to identify, if possible, any recognized environmental conditions (defined below) that may affect the subject property.

Recognized Environmental Condition – The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a likely release, a past release, or a material threat of a release of any hazardous substances or petroleum into structures or into the ground, ground water, or surface water near the building.

1.2 Scope

This document has been prepared in response to an agreement between the Department of Energy (DOE), the U.S. Environmental Protection Agency, and the Ohio Environmental Protection Agency. It is a Building Data Package of Magazine 8 located at the DOE Mound Plant in Miamisburg, Ohio. This investigation was performed to support procedures as found in ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (Designation E 1527-94).

The scope of the investigation included the Magazine, the soil beneath, and a 15-foot wide perimeter border around the Magazine. This perimeter includes roadways, sidewalks, pavement, and grass covered areas. The investigation of Magazine 8 included the following.

- 1) A building and perimeter inspection.
- 2) An examination of historical aerial photographs and maps.
- 3) A review of federal and state regulatory agency records.
- 4) Personnel interviews.
- 5) A review of Mound Plant records for:
 - A) History of spills and releases
 - B) Past sampling data
 - Radiological survey
 - Lead paint
 - Asbestos
 - Radon

The building investigation was conducted by BWO personnel on 3/4/98.

This report used a variety of previous assessments completed by B&W of Ohio and/or its subcontractors. The reports used were as follows:

- OU-9 Site Scoping Report, Volumes 1-12
- Mound Facility Physical Characterization, December 1992
- Active Underground Storage Plan, November 1994.
- EDR Report - Radius Map
- Building Prints
- MD-222153, Mound Site Radionuclides By Location, July 1995
- Contaminant Surveys
- Environmental Appraisal of the Mound Plant, March 1996
- Appropriate Potential Release Site (PRS) Documents
- Title Search
- Mound Plant Building Data Package: Magazines 5, 6, 7, 10, 11, 20, 53, 54, dated Nov. 4, 1997

2.0 Building Specific Overview

Mound Plant is located in the southern portion of the corporation limits of Miamisburg, Ohio. The entire Mound Plant facility is situated on 305 acres of land and contains more than 132 buildings. The subject property consists of Mound Plant Magazine 8, the soil beneath, and a 15-foot wide perimeter around the Magazine. Magazine 8 contains 100 square feet. It was constructed in 1949.

2.1 Current Uses of Magazine 8

Magazine 8 was used for the purpose of storing quantities of containerized explosives. Detonators, high explosive powders, detonator cords, pyrotechnic powders, hexanitrostilbene, and primary explosives were stored in drums on the floor or on shelves. The building has been used for only this purpose since construction. Appendix L notes soil contamination around the building.

No operations are being conducted in Magazine 8 and the magazine is empty. All of the explosive containers were removed from the magazine by September 30, 1995. All ammunition (used by the Protective Force) was removed by the end of June, 1997.

2.3 Summary of Environmental Concerns and Findings

DESCRIPTION	COMMENT	RESOLUTION
Asbestos	Explosion proof lighting in and around the magazine is known to have ACM gasket materials for sealing the fixtures.	The fixtures will be removed intact and placed in double bags and disposed of as directed by waste management. This will be done prior to demolition of the structure
Lead	NA	
Lead Paint	No visible paint.	If paint is noticed, stop and sample.
HVAC	NA	
Mercury	NA	
Chemicals	Explosives were stored in the magazine. All explosive materials were stored in sealed containers. Bulk storage of powders was never permitted.	If visible residue is observed, all work will stop and sampling will be conducted.
Radiological	Sampling within release limits.	Demolition debris to landfill.
Radon	NA	
Fluorescent Lamps	NA	
Septic Systems	NA	
Drains & Sumps	NA	
Waste Water	NA	
Stains & Corrosion	NA	
Space	NA	
Storage Tanks	NA	
Solid Waste Disposal	Building Debris	Will be monitored prior to disposal.
Migratory Hazards	NA	

2.4 Radiological Characterization Summary For Magazine 8

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm ²)	5400.5 Guidelines for Groups 1, 3, 4 (fixed + loose) (dpm/100 cm ²)	NUREG 1500 Guidelines (loose) (dpm/100 cm ²)	Attachment 1 Limit (fixed + loose) (See Note 2.) (dpm/100 cm ²)	COMMENTS
Highest Alpha Smearable Activity	98-TF-267	North Wall	5	20	211	20	No Action Necessary
Highest Alpha Fixed Activity	98-TF-267	All	<100	100	Note 1	100	No Action Necessary
Highest Beta Smearable Activity	98-TF-267	West Ceiling	7	1,000	9940	1,000	No Action Necessary
Highest Beta Fixed Activity	98-TF-267	All	<5,000	5,000	Note 1	5,000	No Action Necessary
Highest Tritium Smearable Activity	98-TF-267	West Wall	10	1,000	Note 1	1,000	No Action Necessary
<p>Note 1: NUREG-1500 gives guidelines for loose beta and alpha only.</p> <p>Note 2: The limits referenced above are based on MD-80043, Radiological work Requirements Procedure 400 "Transfer of Radioactive Material and Unrestricted Release of Property/Waste," Attachment 1.</p>							

3.0 Site Description

3.1 Site/Vicinity Location and Characteristics

Magazine 8 is located at the U.S. Department of Energy Facility known as Mound Plant. Mound is situated in the city of Miamisburg, Miami Township, Montgomery County, state of Ohio.

The Mound facility is situated on 305 acres of land and contains approximately 130 magazines with a total of approximately 1.4 million square feet of floor space (the number of magazines is constantly diminishing as magazines are decommissioned and either sold or demolished). The original 182-acre site, purchased by the Manhattan Engineering District in 1946, consists of two hills and an intervening valley that runs approximately east and west. Magazine 8 is located in the lower southwest of the Mound site. The 124-acre tract, acquired in 1981, is an undeveloped mixture of fields and woods that undulates and slopes downward to the west, away from the main site. This area was acquired to serve as a buffer and has been used as a staging area and parking area for contractors working on-site.

To the west lies a Conrail Railroad line and the north south trending Miami-Erie Canal. The northern boundaries of the site abuts the historic residential area of Miamisburg, Ohio. Mound Road marks the northern half of the eastern perimeter of the facility then veers east, away from the southern half of the eastern boundary. A public golf course (belonging to the City of Miamisburg), the Miamisburg Mound Memorial Park, old agricultural fields, residential lots, and vacant wooded lots border against the facility along Mound Road. Benner Road forms the southern property line of the Mound Plant, with agricultural fields and farms occupying the lands beyond.

3.2 Description of Structures, Roads, Other Improvements Related to Magazine 8

The subject property consists of the Mound Plant Magazine 8 footprint, the soil beneath, and a 15-foot wide perimeter around the magazine. Magazine 8 contains 100 square feet. It was constructed in 1949. The magazine has been used for the same purpose since construction. Currently, the magazine is not in use. Magazines 5 and 10 are adjacent to Magazine 8. A Building Data Package exists for Magazines 5, 6, 7, 10, 11, 20, 53, and 54. The binning result for this package was NFA.

There are no other structures, roads, or improvements that would impact the environmental condition of the magazine.

3.3 Current and Past Uses of Buildings Adjacent To Magazine 8

Proximity to Magazine 8	Building Area (Sq. Ft.)	Current Use	Past Use	Direction From Building
Magazines 5, 10, 20	680	Vacant	Explosive Storage	South
Bldg. 85	3,161	Vacant	Never Used	East

4.0 Records Review

4.1 General/Historical CERCLA Information

The Mound Plant site was identified as a contaminated site on the National Priority List under CERCLA (Superfund) in 1989. The Mound Plant site was originally listed as a consequence of historic disposal practices including use of a commercial/industrial landfill, various spills, and the use of underground storage tanks, resulting in the contamination of soils and drinking water. The original contaminants of concern were calcium cyanide, copper cyanide, plutonium and its isotopes and compounds, specifically plutonium-238, and uranium, its isotopes and compounds. The clean-up of the Mound Site was originally to be accomplished under the CERCLA mandated procedures for regulating Superfund Sites using the operable unit (OU) system to define and characterize clean-up areas. As the clean-up effort went forward, it became apparent that the Mound Site did not fit the profile for a clean-up strategy based on the operable units. The Department of Energy (DOE), the United States Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA) designed a new decision making process for the clean-up of Mound. The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 process." The Mound 2000 process system divided Mound in 19 Release Blocks containing over 400 Potential Release Sites (PRSs) with approximately 200 concerned with potentially contaminated soils, and the balance with potential contamination in buildings.

In compliance with permit requirements under RCRA, the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), and the Clean Air Act (CAA), Mound Plant has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. Mound Plant has submitted both RCRA Part A and Part B permit applications and operates as a RCRA hazardous waste treatment and storage facility under an interim status. Mound Plant also maintains a NPDES surface water discharge permit with Facility I.D. number OH 009857. Permits for the open burning of wastes involving explosives and other fuels have been issued by the Regional Air Pollution Control Agency (RAPCA). Other operations that produce particulate or vaporous emissions are registered with RAPCA and OEPA. Mound Plant also submits annual Emergency and Hazardous Chemical Inventory forms to the OEPA, pursuant to SARA, Title III, the Emergency Planning and Community Right-to-Know Act. The 1995 version of this report indicated that no chemicals are stored in Magazine 8 in quantities above the regulatory thresholds.

4.2 Specific Record Sources

4.2.1 Occurrence Reports

There are no occurrence reports associated with Magazine 8.

4.2.2 Spills and Releases

No spills or releases of the magnitude that would require an occurrence report are associated with Magazine 8.

4.2.3 Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the FFA/DOE ER program, DOE and EG&G Mound Applied Technologies have tabulated all the Potential Release Sites (PRSs) identified under the various regulatory programs in effect at the site. Many additional contaminants of concern and types of operations were identified beyond the original NPL listing of site activities. Of these 413 PRSs, none are attributed to or impact Magazine 8.

4.3 Review of Building Prints

Building prints were reviewed and are included in Appendix D.

4.4 Aerial Photographs

Aerial photographs from 1994, 1983, 1973, 1968, 1965, 1959, and 1949 were reviewed and copies are found in Appendix E.

4.5 Interviews

The Building Manager, Robert Ward, was interviewed using a building manager questionnaire. See Appendix F.

Appendix A

Acronyms

AEA	Atomic Energy Act of 1954
AEC	Atomic Energy Commission
ACM	Asbestos Containing Materials
AL	Action Level
ASTM	American Society for Testing and Materials
BUSTR	Bureau of Underground Storage Tank Regulations
CAA	Clean Air Act
CEG	Conditionally Exempt Generator
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
COD	Chemical Oxygen Demand
CWA	Clean Water Act
COD	Chemical Oxygen Demand
CWA	Clean Water Act
D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
DPM	Disintegrations Per Minute
EMF	Electromagnetic Field
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration (Program)
ERDA	Energy Research and Development Administration
ERNS	Emergency Response Notification System
FFA	Federal Facility Agreement
FINDS	Facility Index System
FS	Feasibility Study
GSA	General Services Administration
HEPA	High Efficiency Particulate Air
LQG	Large Quantity Generator
LUST	Leaking Underground Storage Tank
M&O	Maintenance and Operations
MAT	Mound Applied Technologies
MCC	Monsanto Chemical Company
MEMP	Mound Environmental Management Project
MMCIC	Miamisburg Mound Community Improvement Corporation
MRC	Monsanto Research Corporation
NPDES	National Pollutant Discharge Elimination System

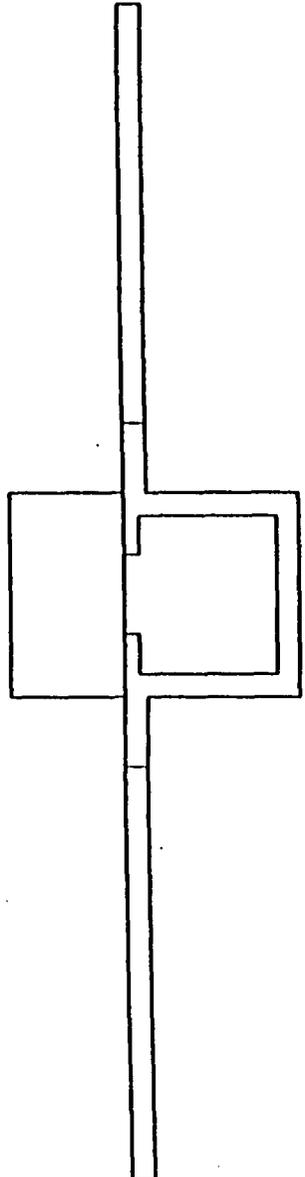
OEPA	Ohio Environmental Protection Agency
ORPS	Occurrence Reporting and Processing System
PADS	PCB Activity Database
PCB	Polychlorinated Biphenyls
PRS	Potential Release Site
RAPCA	Regional Air Pollution Control Agency
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RI	Remedial Investigation
RSDS	Radiological Survey Data Sheet
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SQG	Small Quantity Generator
SWMU	Solid Waste Management Unit
TRIS	Toxic Chemical Release Inventory System
TSD	Treatment, Storage, & Disposal Facility
UST	Underground Storage Tank
VOC	Volatile Organic Compound

Appendix B
Map of Montgomery County

Appendix C
Site Plan and PRS Release Blocks

Appendix D
Building Drawings

ISS	DATE	REVISION	BY	CHK	APP'D	BY
8	12/12/91	ASBUILT ISSUE				



DERIVATIVE CLASSIFIER

R. D. Meyer

S. Class Anal 2/20/96
(Title) (Date)



TYPICAL FLOOR PLAN MAGAZINES 8 & 10

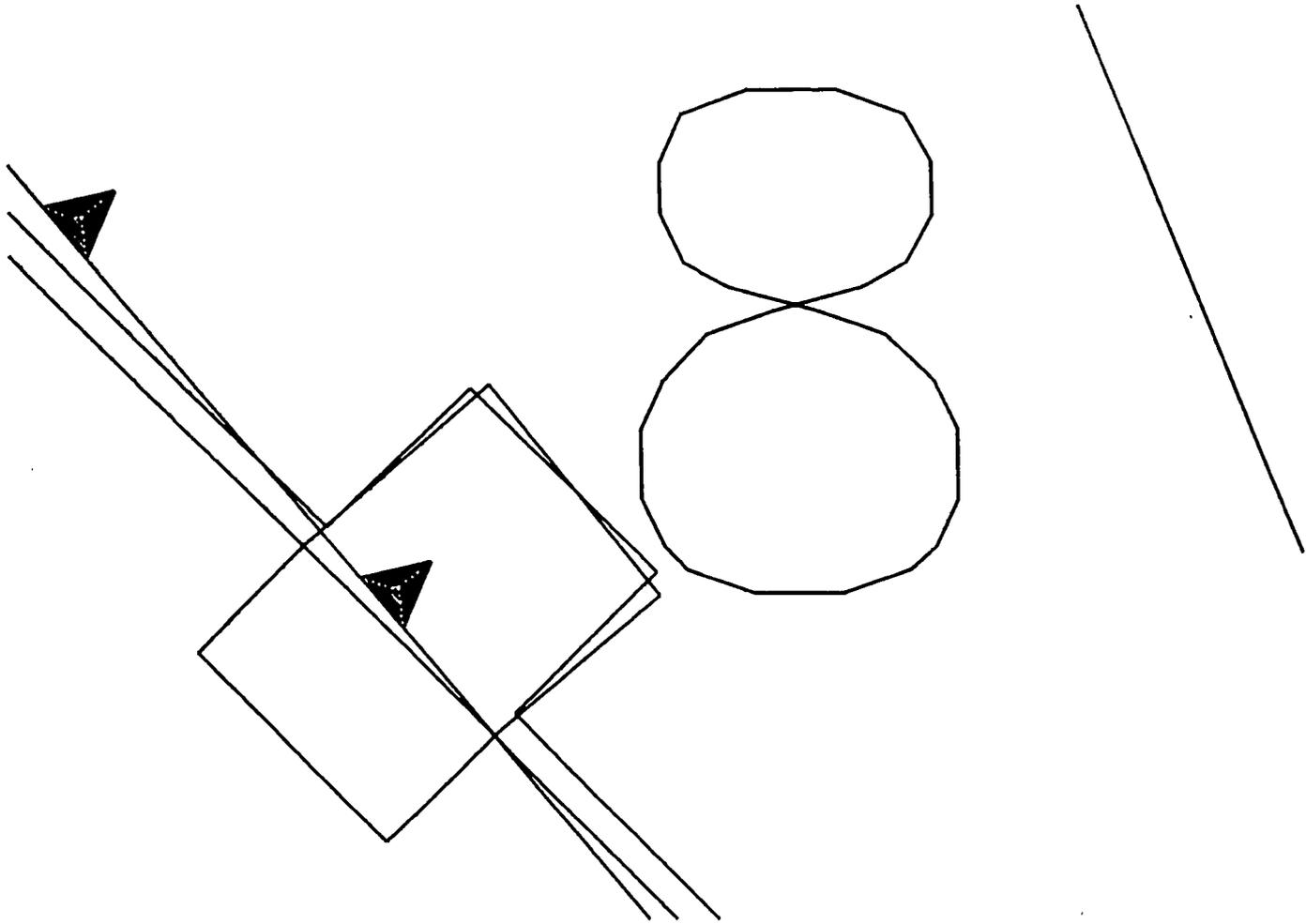
APPROVALS:	DATE:
SAFETY COMMITTEE REQUIRED:	
____ HSE	____ TRACOC
____ TROC	____ DROC
TECH. REP.	
DR. NO.	
TRACOC	
TROC	
DROC	

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 198 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

DESIGNER	PROJECT
DATE	

SHEET	1	2	3	4	5	6	TITLE	CLASSIFICATION	
NO.	8						MAGAZINE #8 FLOOR PLANS		
PART CLASSIFICATION							CLASSIFICATION	DATE	SCALE
							UCNI	C	FSC911331
DRAWING NUMBER							12335		
DATE	SFP	FROM	HAQ	#8	CASE	14865	SCALE AS NOTED	SHEET 1 OF 1	
DATE	NO-FEL-12/12/91	ORIGIN	NO-BR3-V3.0						



- FIRE
- POTABLE
- RAW
- SANITARY
- STORM
- RADIOLOGICAL



E.G. & G. - MOUND

UNDERGROUND WATER & WASTE LINES
MAGAZINE 8

DATE: 3-19-96

UNCLASSIFIED

Appendix E
Aerial Photographs

Appendix F

Environmental Appraisal Report of the Mound Plant (Extract)

Environmental Appraisal of the Mound Plant

9.120 MAGAZINE 8

9.120.1 Scope of Magazine 8 Report

In late 1995 and the early months of 1996, EG&G MAT performed a review of environmental conditions at the Mound Plant. The purpose was to develop a performance baseline, and to identify areas for improvement on a building and a sitewide basis. EG&G MAT did not perform a "due diligence" or Phase I Environmental Site Assessment as specified by ASTM 1527 or ASTM 1528. The scope of the appraisal effort and a discussion of the appraisal methodology are detailed in Sections 2.0 and 5.0, found in Volume 1 of this report.

The appraisal team performed a walk-through of Magazine 8 on the morning of January 29, 1996. The Environmental Appraisal Checklist (EAC) was used to record findings. The EAC is presented in Attachment 1 (Section 9.120.6.1). The appraisers were accompanied by the building manager. Other information was supplied by the building manager and recorded on the Building Manager's Questionnaire (BMQ), included as Attachment 2 (Section 9.120.6.2).

9.120.2 Description of Magazine 120

Magazine 8, a storage magazine, is a one-story, 66-square-foot, reinforced concrete structure. The roof is also of reinforced concrete covered with earth. Location is shown in Attachment 3 (Section 9.120.6.3). Building 85 is adjacent. Floor plans are presented as Attachment 4 (Section 9.120.6.4). The building is serviced with electrical service of 240V (*Mound Facility Physical Characterization*, 12-1-93).

Magazine 8 was constructed in 1949 (Md-10391, *Asbestos Program Manual*, 9-14-95). The building has been used for the same purpose since construction. Storage of energetic materials has occurred in the building (*Mound Facility Physical Characterization*, 12-1-93).

9.120.3 Summary of Findings

Energetic materials are stored in sealed containers in Magazine 8. There were no issues of environmental concern identified during the walk-through or during review of reference materials.

9.120.4 Observations

9.120.4.1 Air Emissions

There are no fumehoods within the building. There are no fuel-burning units in the building. There is no evidence of fugitive dust. No air emission permit applications have been submitted to the Regional Air Pollution Control Agency (RAPCA) for activities in the building.

Environmental Appraisal of the Mound Plant

9.120.4.2 Wastewater Emissions

The Mound Facility has three wastewater collection systems: a sanitary wastewater system; a storm water system; and a radioactively contaminated process wastewater system. Sanitary wastewater is treated at an onsite tertiary treatment plant and subsequently discharged by hard pipe to the Great Miami River. Storm water and any non-process wastewater, single pass cooling water, and softener backwash may be discharged directly to the Great Miami River, via the Miami-Erie Canal, or may be diverted to a 3.1-million-gallon holding pond for settling prior to discharge. Radioactively contaminated wastewater is treated in Building WD by physical-chemical treatment. If appropriate, wastewater may be discharged by hard pipe to the Great Miami River. If concentrations of radioactive contaminants cannot be reduced to acceptable levels, wastewater is solidified and shipped to the Nevada Test Site or Envirocare for disposal. All outfalls are permitted under an active NPDES permit. Routine monitoring activities are in place. Based on NPDES monitoring report data reviewed, it appears that the facility is in compliance with qualitative and quantitative conditions of the permit.

9.120.4.2.1 Sanitary Wastewater

The building has no sanitary services, as confirmed by the diagram of underground utility lines, presented as Attachment 5 (Section 9.120.6.5).

9.120.4.2.2 Storm Wastewater

The building is not directly serviced by storm drains, according to Attachment 5 (Section 9.120.6.5). Storm water becomes part of the surface water and is either absorbed into the ground or flows to the nearest storm drain inlet.

9.120.4.2.3 Chemicals

No chemicals are stored in the building other than energetic materials which are stored in sealed containers. As there is no connection to wastewater collection systems, no chemicals have entered the drainage system.

9.120.4.3 Potable and Service Water

Potable and service water are not supplied to the building.

9.120.4.4 Chemical Storage and Hazardous Material

Energetic and inert materials are stored in this building, properly segregated. An earlier report, *Mound Facility Physical Characterization*, 12-1-93, indicated that Magazine 8 is contaminated with energetic materials. Based upon discussions with its author, there does not appear to be any supporting documentation for this statement. At the time of the walk-through, there was no energetic material contamination observed. Department of Energy (DOE) and Mound energetic materials policies require that all energetic materials in magazines be in containers. Additionally,

Environmental Appraisal of the Mound Plant

it is forbidden to open the containers in the magazine. Interviews with operating personnel and subject matter experts in Industrial Safety and on the Energetic Materials Safety Oversight Committee (EMSOC) indicate that the rules were followed. As containers were not opened, no contamination should have occurred. However, no tests for contamination have been conducted.

There are no aboveground storage tanks in or around the building. There are no sumps, separators, or catch basins, in or around the building, and there are no underground storage tanks are associated with this building.

The building was tested and does not contain asbestos-containing building material (MD-10391, *Asbestos Program Manual*, 9-14-95).

There are no capacitors or transformers containing polychlorinated biphenyls (PCB's) located in the building. There is no record of past presence. (PCB Annual Document Log)

9.120.4.5 Solid, Hazardous, and Radioactive Wastes

Solid waste previously generated was primarily wood scraps from damaged pallets. At Mound there is paper and aluminum can recycling to minimize solid waste. Solid wastes are removed by janitorial personnel to a site collection point, then shipped off-site to a local landfill by a contractor. The disposal permit is maintained by the Waste Management Group.

The Building Manager indicated that there was no evidence that hazardous materials or wastes were mixed with solid waste streams when the building was in service. According to information presented in the BMQ and the Mound hazardous waste inventory, there is no record of hazardous waste collection from this magazine.

9.120.4.6 Waste Minimization and Pollution Prevention

At Mound there is an active program to minimize waste streams in accordance with state and federal requirements and Executive Order 12856.

9.120.5 Findings and Recommendations

Photographs were taken to document the environmental appraisal. They are included as Attachment 6 (Section 9.120.6.6).

The environmental appraisal of Magazine 8 indicates that no action items are necessary for this building.

ENVIRONMENTAL APPRAISAL CHECKLIST

Building Name 8 (Storage Magazine)

Appraisers:
Team #4

Mark Gilliat
Name Discipline

Marcia Vannet
Name Discipline

Myron Smith
Name Discipline

Name Discipline

Building Manager:

Bob Ward

Process Manager:

Security

Date: 1-29-96 + 1-31-96

**ENVIRONMENTAL APPRAISAL
CHECKLIST**

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Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Clean Water Act (CWA) Screening Checklist

Question	Response	Comments
Does the outside drain spouting of the building discharge directly to a storm sewer/sanitary system?	Y / <input checked="" type="radio"/> N	If the answer to any of these questions is yes, proceed with the following checklist.
Are there sinks, toilets and floor drains in the building?	Y / <input checked="" type="radio"/> N	
Are chemicals being used in the building?	Y / <input checked="" type="radio"/> N	
Is there a process which discharges to the storm or sanitary system?	Y / <input checked="" type="radio"/> N	

CWA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 122 Appendix D Table V	If chemicals are used/stored in the building, are they on the attached list?	Y / N	
	Are they properly contained?	Y / N	
	Is the building in operation? What are the processes and where do they discharge to?	Y / N _____ _____	
	Do the floor drains, sinks & toilets appear to be draining properly?	Y / N	
OAC 3745-33	Do the floor drains and sinks drain to a sanitary or storm sewer?	Sanitary Storm	
	Is there a sump/pit in the building? If so, what does it contain? How often is it pumped out? Does water collect in sump? Does sump have secondary containment?	Y / N _____ _____ Y / N Y / N	
	Are there any manholes, catch basins, drains, or fill pipes in or around the building? If so, are there any unusual appearances, colors, and/or odors? Describe in comment section. Can chemicals flow into the drain?	Y / N Y / N Y / N	

9.120-9

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Clean Air Act (CAA) Screening Checklist

Regulatory Guideline	Question	Response	Comments
	Are there any rooms that have air emissions sources that vent to the outside of the building, e.g., fumehoods, equipment? If so, note the rooms.	Y (N)	
OAC 3745-35	Using the air emissions inventory reference for this building, are there any sources in the building that are not documented?	Y (N)	
	Is there evidence of fugitive dust emissions inside or outside of the building	Y (N)	

CAA Checklist

Regulatory Guideline	Question	Response	Comments
	Are there existing air permits or applications applicable to the building?	Y / N	
OAC 3745-31,35	If yes, are the terms and conditions of the permit or the information included on the application (see air emissions database) being followed? Note any differences and update the air emissions database.	Y / N	
OAC 3745-31	Are there any sources that are not included in the air emissions database? If so, note the room, hood number, active or not, POC, and applicable air emission database information on Table B.	Y / N	
OAC 3745-31-03	Are there sources which are lab equipment of lab fumeheads used exclusively for chemical or physical analyses and bench scale lab equipment? These sources do not require a permit. However, the air emissions database should be updated.	Y / N	
	Has there been any release of air contaminants from this building?	Y / N	

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

CAA Checklist

Comments: Note the number of sources/hoods per room, the number that are active, and the POC on the reference document.

TABLE A									
Process Source	Room Number	Hood Number	In Database	Active	Chemicals Used	Quantity Used	Quantity to Waste Management	Hours/Yr. Operation	Air Emissions
			Y/N	Y/N					
			Y/N	Y/N					
			Y/N	Y/N					
			Y/N	Y/N					
			Y/N	Y/N					

BLANKS

Source: _____

9.120-12

Environmental Assessment Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Hazardous Materials (HM) Screening Checklist

Question	Response	Comments
Are any chemicals used or stored in this building, now or in the past?	Y <input checked="" type="radio"/> N <input type="radio"/> *	If the answer is yes, proceed with the following checklist.

HM Checklist

Regulatory Guideline	Question	Response	Comments
29 CFR 1910.1200(b,f)	All containers of hazardous chemicals shall be labeled as to the identity of the chemical and the appropriate hazard warnings.	Y / N	
29 CFR 1910.1200(g)	MSDS shall be available to the employees in close proximity to the work area.	Y / N	
29 CFR 1910.22, 1910.106, 1910.176	All places of employment, passageways, storerooms and service areas shall be kept clean and orderly and in a sanitary manner. Aisles shall be unobstructed. Drums and containers are not leaking and are tightly sealed.	Y / N	
29 CFR 1910.106	Storage cabinets for flammable materials are constantly kept closed, are fire resistant and are labeled "FLAMMABLE - Keep Fire Away". Containers inside should be labeled and closed. No spills inside cabinet.	Y / N	
29 CFR 1910.106(d)(7)	Incompatible chemicals are not stored together.	Y / N	
29 CFR 1910.106(d)(4)	Inside Flammable/combustible storage rooms must meet the following: 4 in. raised sill or trench that drains to a safe area, liquid tight wall/floor joints, self-closing doors, gravity or mechanical exhaust providing 6 room changes/hr., exhaust switch located outside room, at least one 3 ft. aisle; no cracks in secondary containment.	Y / N	

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team H4

Date: 1-29-96

HM Checklist

Regulatory Guideline	Question	Response	Comments
29 CFR 1910.106(d)(7)	All flammable/combustible storage locations have at least one 12-B portable fire extinguisher located outside and within 10 ft. of a door opening into any room for storage. No smoking signs are posted.	Y / N	
29 CFR 1910.151	Eyewashes/showers shall be provided within the work area. Ensure unit is operational.	Y / N	
CGA P-1 3.3 & 3.3.10	All gas cylinders (full or empty) shall carry a legible label or marking identifying the contents.	Y / N	
CGA P-1 3.5.3	Full and empty containers should be stored separately with the storage layout planned so that containers comprising of old stock can be removed first with a minimum handling of other containers.	Y / N	
CGA P-1 3.5.8	All compressed gas containers in service or in storage shall be stored standing upright and the container shall be secured.	Y / N	
CGA P-1 4.2.2	Oxygen cylinders shall be separated from flammable gas containers or combustible materials a minimum of 20 ft. or a noncombustible barrier 5 ft. high.	Y / N	
29 CFR 1910.104(2)(10)	Oxygen stored as a liquid shall be on a noncombustible surface. Asphalt is considered combustible. Wood and long dry grass shall be cut back 15 ft. from the container.	Y / N	
29 CFR 1910.104	Bulk oxygen storage shall be permanently placarded "OXYGEN - NO SMOKING - NO OPEN FLAMES".	Y / N	
	Is there a sign posted in each work area regarding emergency egress and emergency response action?	Y / N	
	Is there an emergency response plan available?	Y / N	

9.120-13

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

HM Checklist

9.120-14

Regulatory Guideline	Question	Response	Comments
	Is there a process area?	Y/N	
	Does it have proper containment?	Y/N	
	Is there a liquid bulk transfer area?	Y/N	
	Is there proper containment?	Y/N	
	Is there an above ground storage tank? If so, complete Table B.	Y/N	

Above Ground Storage Tanks Inventory

TABLE B—Above Ground Storage Tanks Inventory

Building	Capacity (Gal.)	Contents	Estimated Volume	In Service	Containment	Visual Stains/ Contamination	If Empty, Flushed
				Y/N	Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N	Y/N

Source: _____

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Safe Drinking Water Act (SDWA) Screening Checklist

Does this facility have potable water?	Y (N)	If yes, conduct the following survey.
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SDWA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745 95-02 (A)	Do actual or potential cross-connections exist between potable (light green) and service water (dark green)?	Y / N	
OAC 3745 95-04 (B)(C)	Are backflow prevention devices installed where cross connections (hoses connected to faucets, hot water tank vented directly to a drain) exist?	Y / N	
	Are sources of service water (janitorial and laboratory faucets, or outdoor spigots) posted as non-potable water sources?	Y / N	
	Does the facility contain any water coolers or fountains that are not lead free? Complete Table C.	Y / N	

TABLE C—Water Fountain Survey

Building	Location	Model #	Comments / Date of Analysis for Lead

Source: _____

9.120-15

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team H4

Date: 1-29-96

RCRA Screening Checklist

Does this facility generate waste or use chemicals?	Y / N	If yes, conduct the following survey.
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RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745 52-11	Has any material generated been characterized RCRA hazardous? Was characterization by analysis or by process knowledge? Are lab results or documentation of process knowledge readily available? Note any uncharacterized material in comment section. Is it waste? If yes, proceed with next section.	Y / N analysis / process Y / N Y / N	
OAC 3745 52-11	Are any of the materials noted RCRA hazardous waste? If no, note and stop here. If yes, note the location of the management unit, and the method of management, and proceed with the appropriate section below.	Y / N	

9.120-16

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
<u>I. HAZARDOUS WASTE STORED IN CONTAINERS</u>			
	Is there an area in the building that could qualify as a Satellite Accumulation Area? Is it treated as such?	Y / N Y / N	
OAC 3475-52-34 (C)	Has any of the RCRA hazardous waste in this building been managed in Satellite Accumulation Areas? If no, proceed to the next section. If yes, answer the following.	Y / N	<i>BLANK</i>
	Are the containers marked with the words hazardous waste, or other words denoting the hazard?	Y / N	
	Are the containers in good condition?	Y / N	
	Are the waste compatible with the containers?	Y / N	
	Are containers managing ignitable hazardous waste stored at least 50 feet from the plant site boundary?	Y / N	
	Are containers kept closed and locked except during filling?	Y / N	
	Are containers moved within 3 days of being filled?	Y / N	

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team # 4

Date: 1-29-96

RCRA Checklist

9.120-18

Regulatory Guideline	Question	Response	Comments
OAC 3745-52-11 (A)	If a Satellite accumulation area has been abandoned and/or if waste left in place, and the containers may be subject to the 90-day-storage exclusion. If this exclusion does not apply, go to the next section. If the containers have been in storage under this exclusion, answer the following:		
	Are the containers in good condition?	Y/N	
	Are the waste compatible with the containers?	Y/N	
	Are the containers kept closed except during filling?	Y/N	
	Are the containers managed in such a way, that they are not ruptured, or leaks caused?	Y/N	
	Is the area inspected at least once weekly?	Y/N	
	Is the inspection recorded?	Y/N	
	Where is the log?		
	Is it properly completed, dated, and signed?	Y/N	
	Are containers managing ignitable hazardous waste stored at least 50 feet from the facility boundary?	Y/N	
	Are incompatible wastes managed in such a way that they will not react with another incompatible waste?	Y/N	
OAC 3745-52-34(B)	Has any of the waste (except in Building 23, Building 72 and the Burn Area) been managed in excess of 90-days?	Y/N	
	If no go to next section.		
	If yes, note.		
	For Building 23, Building 72 & Burn Area use special checklist.		

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team H4

Date: 1-29-96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments	
II. HAZARDOUS WASTE STORED IN TANKS				
OAC 3745-52-32 (B)	Has any chemical waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N		
	If the answer was no, then proceed with the following:		Y / N	
	Has the tank or piece of equipment had an integrity assessment?	Y / N		
	Is there a sump?	Y / N		
	Is it dry?	Y / N		
	Does the tank or equipment have secondary containment?	Y / N		
	Does the tank or equipment have leak detection device(s)?	Y / N		
	Has spill control prevention been enacted?	Y / N		
	Has any hazardous waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N		
	If the answer was no, then proceed with the following:			
	Has the tank or piece of equipment had an integrity assessment?	Y / N		
	Does the tank or equipment have secondary containment?	Y / N		
	Does the tank or equipment have leak detection device(s)?	Y / N		
	Has spill control prevention been enacted?	Y / N		
	Is there a closure plan?	Y / N		
	If yes, then note.			
	OAC 3745-67	Has any of the waste been managed in a surface impoundment? If yes, then note. Go to the next section.	Y / N	

BLANK

9.120-19

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

RCRA Checklist

9.120-20

Regulatory Guideline	Question	Response	Comments
OAC 3745-68	Has any of the waste been managed in a Landfill? If yes, then note. Go to the next section.	Y/N	
OAC 3745-68	Has any of the waste been managed in an Incinerator (other than Burn area units)? If yes, then note. Go to the next section.	Y/N	
OAC 3745-68	Has any of the waste been managed in a Thermal treatment Unit (other than Burn area units)? If yes, then note. Go to the next section.	Y/N	
OAC 3745-69	Has any of the waste been managed in a Miscellaneous Treatment Unit (other than Burn area units)? If yes, then note. Go to the next section.	Y/N	
OAC 3745-56	Has any of the waste been managed in a Waste Pile? If yes, then note. Go to the next section.	Y/N	

General Comments:

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Asbestos Screening Checklist

Does this facility contain ACBM?	Y (N)	If yes, conduct the following survey.
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Asbestos Checklist

Note: Routinely, the asbestos standard for ACBM in schools has been applied to facilities for purpose of cleanup. In addition to AEHERA, there are additional standards in the NESHAPS that may be of importance.

Regulatory Guideline	Question	Response	Comments
ADAPTED FROM TSCA ACBM IN SCHOOLS:			
	Has this building been characterized either through process knowledge, by analyses, or by inspection to determine if it contains asbestos? If no for this building or area note this conclusion in the comment section.	Y / N	
	Is there any evidence of friable asbestos?	Y / N	
	Is the asbestos removal properly managed? (See questions listed below)	Y / N	If there is no asbestos removal, do not complete the following section.
NESHAPS FOR ASBESTOS FOR ANY ONGOING ASBESTOS REMOVAL:			
40 CFR 61.156	There are no discharges of visible emissions to the outside air from collection, processing, packaging, transporting, or deposition of ACBM during the removal.	Y / N	
40 CFR 61.152(b) (1)	ACBM is treated with water in accordance with 40 CFR 152(b)?	Y / N	
40 CFR 61.154	Is friable asbestos adequately wetted during stripping? Or, has an adequate ventilation and collection system been installed?	Y / N	
40 CFR 61.152	Is wetting continued until the waste friable asbestos is collected for disposal?	Y / N	

9.120-21

Environmental Appraisal Checklist

Building Name: 8.

Appraisers: Team #4

Date: 1-29-96

Toxic Substances and Control Act (TSCA) PCB's Screening Checklist

Does this facility potentially contain any PCB's or PCB contaminated equipment?	Y (N)	If yes, are transformers labeled (Blue or Yellow stickers)? If yes, conduct the following survey.
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TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761	Has any waste generated in, or from, this building been characterized either through process knowledge or by analyses to determine if it contains PCB's ? If the answer is no, note . If the answer is yes, proceed with next section.	Y / N	
	Based on an inspection, are any of the materials or equipment potentially PCB contaminated? If no, note and stop here. If yes, note the location of the management unit, and the method of management, and proceed.	Y / N	
40 CFR 761.65 (c) (5)	Are PCB articles or containers stored in this building checked for leaks at least once every 30 days?	Y / N	
	If yes, are auditable records maintained.	Y / N	
40 CFR.30 (a) (1) (ix)	Are any PCB transformers in use, or stored for possible reuse, that contain PCB's at concentrations of 500 ppm or greater?	Y / N	
	Are they visually inspected quarterly? If yes, are auditable records maintained?	Y / N	

9.120-22

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761.30 (a) 1,viii	Are all combustible materials (i.e., paints, solvents, plastics, paper, sawn wood, etc.) cleared from areas containing PCB transformers to a distance of five meters?	Y / N	
40 CFR 761.65 (b) (8)	Are all PCB articles and containers labeled with the date they were placed in storage?	Y / N	
	Are labeled PCB articles and containers stored so that the labels can be referenced?	Y / N	
40 CFR 761.65 (a)	Are all PCB's and PCB contaminated items at concentrations above 50 PPM, that are stored for disposal, stored no longer than one year from the date they were placed in storage?	Y / N	
40 CFR 761.62 (b) (1) (i)	Do all PCB storage areas have an adequate roof and walls to prevent rainwater from reaching the stored items?	Y / N	
40 CFR 761.62 (b) (1) (iv)	Are storage area floors curbed and constructed of continuous smooth and impervious materials?	Y / N	
40 CFR 761.62 (b) (1) (i)	Are the curbs at least 6 inches high?	Y / N	
40 CFR 761.62 (b) (1) (iii)	No drains are allowed in storage areas. Are there drains in the storage areas?	Y / N	

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761.65 (c) (2)	Only non-leaking and undamaged large high voltage PCB's capacitors and PCB-containing electrical equipment are allowed to be stored outside of PCB storage areas, on pallets if stored outside, with containment for 10 percent of the volume of the equipment. Do all PCB's stored in this configuration conform with this requirement?	Y / N	
40 CFR 761.45 and .65	Are all PCB storage areas marked with a large PCB mark as described in 40 CFR 761.45 (a)?	Y / N	
40 CFR 761.65 (c) (5)	Have all leaking PCB articles and containers been transferred to non-leaking containers?	Y / N	
40 CFR 761.65 (c) (6)	Do all PCB storage containers for the storage of liquid and non-liquid PCB's comply with DOT shipping container specifications?	Y / N	

BLANK

GENERAL COMMENTS:

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Low-Level Waste and Transuranic Waste Screening Checklist

Does this facility contain radioactive waste ?	Y / (N)	If yes, conduct the following survey.
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Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
Low-Level Waste			
DOE Order 5820.2A Chapter III	<p>Can any waste generated in, or from, this building be characterized either through process knowledge or by analyses to determine if it is LLW ?</p> <p>If the answer is no, note.</p> <p>If the answer is yes, proceed with next section.</p>	Y / N	
DOE Order 5820.2A Chapter III.	<p>Are any of the materials noted by inspection LLW?</p> <p>If no, The audit would stop here, because there are no LLW.</p> <p>If yes, note the location of the management unit, and the method of management, and proceed with the section below.</p>	Y / N	
DOE Order 5820.2A Chapter III, 3.a.	<p>Have the storage configurations in use in this area been taken into account for keeping external exposures to the general public below 25 mrem/yr?</p>	Y / N	
	<p>Is the waste stored in a configuration that protects ground-water resources?</p>	Y / N	
DOE Order 5820.2A Chapter III, 3.b.	<p>Has monitoring been conducted in this area in accordance with DOE Order 5820.2A in order to evaluate the area against the performance standard?</p>	Y / N	
	<p>Based on field data, does the monitoring conducted in this area conform to the performance standard?</p>	Y / N	

9.120-25

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Low-Level Waste and Transuranic Waste Checklist

9.120-26

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A Chapter III, 3.d.	Based on field data, is the characterization of the materials in this area sufficient to assure proper segregation to assure proper segregation, treatment, storage, and disposal?	Y/N	
	Based on field data does the characterization as documented at the time of generation of the waste ensure that the actual physical and chemical characteristics, and major radionuclide content of this material are recorded and known at all stages of the waste management process?	Y/N	
	Do characterization data include the following:		
	Physical and chemical characteristics of the waste?	Y/N	
	Volume of the waste (including solidification and absorbent material)?	Y/N	
	Weight of the waste (including solidification and absorbent material)?	Y/N	
	Major radionuclides and their concentrations?	Y/N	
	Packaging date, package weight, external volume?	Y/N	
	How were the concentration of radionuclides determined? Direct methods?	_____	
	How were the concentrations of radionuclides determined? Indirect methods?	_____	
DOE Order 5820.2A Chapter III, 3.h	Is the storage configuration in long term storage sufficient to meet the performance standard?	Y/N	
	Are records maintained at the facility enabling this waste to be traced from its origin?	Y/N	

BLANK

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team H4

Date: 1-29-96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
TRU WASTE			
	<p>Can any waste generated in, or from this building be characterized either through process knowledge or by analyses to determine if it is TRU waste?</p> <p>If no, note and stop.</p> <p>If yes, proceed with the next section.</p>	Y / N	
	<p>Are any of the materials noted as being TRU waste during an inspection?</p> <p>If no, note and stop.</p> <p>If the answer is yes, note the location of the management unit, and the method of management and proceed with the appropriate section below.</p>	Y / N	
DOE Order 5820.2A, Chapter II, 3.a	<p>Was this material evaluated as soon as possible in the generating process, to determine if it is TRU (>100nCi/g), if it is recoverable, or if it is waste?</p> <p>(Note if the activity level is less than 100nCi/g, the waste is not TRU, and can be managed as LLW.)</p>	Y / N	
	<p>Did the determination of TRU radionuclide concentration include the mass of the container, including shielding? These should be included in calculating the specific activity of the waste.</p>	Y / N	

BLANK

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Low-Level and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A, Chapter II, 3.b	Has the TRU waste been assayed or otherwise evaluated to determine its radioactive content prior to storage?	Y / N	
	Has the TRU waste been characterized or otherwise evaluated to determine if hazardous waste is present?	Y / N	
	Has classified TRU waste been treated to destroy the classified characteristics?	Y / N	
DOE Order 5820.2A, Chapter II 3.d	Has all newly generated TRU waste been packaged in non-combustible packaging that meets DOT requirements?	Y / N	
	Have all Type A TRU waste packages been equipped with a method to prevent pressure buildup?	Y / N	
	Have all TRU packages been marked, labeled and sealed in accordance with 40 CFR 261 Subpart C and 49 CFR 172 Subparts D, E and 49 CFR 173 Subpart I?	Y / N	

9.120-28

Environmental Appraisal Checklist

Building Name: §

Appraisers: Team #4

Date: 1-29-96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A, Chapter II 3.e	Has the TRU waste been segregated in manner that will not permit commingling of TRU waste with LLW or high-level waste?	Y / N	
	Has the TRU waste been protected from unauthorized access?	Y / N	
	Has the TRU waste been monitored periodically to ensure that it is not releasing its radioactive and/or hazardous constituents?	Y / N	
	Has this TRU waste storage area been designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or accidental release of its radioactive and/or hazardous constituents?	Y / N	
	Does the facility have a contingency plan designed to minimize the adverse impacts of fire, explosion, or accidental release of its radioactive and/or hazardous constituents?	Y / N	

GENERAL COMMENTS:

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team H4

Date: 1-29-96

Waste Minimization/Pollution Prevention Activities Screening Checklist

Does this facility generate waste or use chemicals?	Y/N	If yes, conduct the following survey.
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Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Based on available information and a walk through, are there any apparent opportunities to curtail the consumption of raw materials (including but not limited to paper, chemicals, electricity, and etc.). If yes, list candidate areas in the comment section.	Y / N	
	Are there solvent wastes?	Y / N	
	Is vehicle maintenance performed?	Y / N	
	Are oils used ?	Y / N	
	Are these corrosive wastes?	Y / N	
	Are there sludges?	Y / N	
	Are there halogenated organic (nonsolvent) wastes?	Y / N	
	Are metals recovered from wastewater?	Y / N	
	Is waste sludge generated?	Y / N	
	Are any waste minimization practices used that reduce the generation of sludge?	Y / N	
	Ion exchange process?	Y / N	
	Lead in gasoline lowered to reduce tank sludge toxicity?	Y / N	
	Storage tank agitators installed?	Y / N	
	Corrosive resistant materials used?	Y / N	
	Prevention of crude oil oxidation ?	Y / N	
	Drying?	Y / N	

9.120-30

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
<u>HALOGENATED ORGANIC (NONSOLVENT) WASTES</u>			
	Are halogenated organic wastes used as fuel in cement kilns?	Y / N	
	Are baghouse filters used to collect pesticides and pesticide intermediates?	Y / N	
	Are solid wastes generated from the collection of baghouse dust?	Y / N	
	Wet instead of dry grinding used?	Y / N	
	The output spray dried?	Y / N	
	Has baghouse emptying and recycling of baghouse fines been scheduled?	Y / N	
	Have operations been evaluated to improve procedures such as handling, storage and spill prevention for increased efficiency?	Y / N	
<u>METAL WASTES</u>			
	Are any technologies for the recovering of metals from waste rinsewater used?	Y / N	
	Evaporation of waste rinsewater?	Y / N	
	Reverse osmosis?	Y / N	
	Ion exchange?	Y / N	
	Electrolysis?	Y / N	
	Agglomeration?	Y / N	
<u>CORROSIVE WASTES</u>			
	Are acidic or basic cleaning solutions used as treatment for pH adjustment chemicals?	Y / N	

9.120-31

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Waste Minimization/Pollution Prevention Activities Checklist

9.120-32

Regulatory Guideline	Question	Response	Comments
	Are ion exchange resins used to remove heavy metals and cyanides from acid and base solutions?	Y / N	
	Is crystallization used to remove corrosives from solution by cooling?	Y / N	
	Is the process of evaporation of liquid wastes by heating used to leave behind a more concentrated solution?	Y / N	
<u>CYANIDE AND REACTIVE WASTES</u>			
	Has non-cyanide or low concentration of cyanide process replaced zinc cyanide bath ?	Y / N	
	Are any of these processes used to recycle cyanide wastes?	Y / N	
	Refrigeration/crystallization?	Y / N	
	Evaporation?	Y / N	
	Ion exchange?	Y / N	
	Membrane separation which includes reverse osmosis or electro dialysis?	Y / N	
<u>VEHICLE MAINTENANCE</u>			
	How are auto parts cleaned?	Y / N	
	Solvent sink?	Y / N	
	Solvent dunk bucket?	Y / N	
	Solvent dip tank?	Y / N	
	Are parts cleaning solvents used for anything else besides cleaning parts?	Y / N	
	Are spills reduced by locating sinks or dunk buckets near auto service bays?	Y / N	

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Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are cleaned parts drained on the sink to minimize solvent spills?	Y / N	
	Are drip tanks used to capture losses?	Y / N	
	Is a solvent sink used for mineral solvents rather than a dunk bucket or dip tank?	Y / N	
	Does a waste hauler collect solvent waste for recycling or treatment?	Y / N	
<u>OILS</u>			
	What kind of oils are used?		
	Hydraulic oil?	Y / N	
	Transformer oil?	Y / N	
	Metal working fluids?	Y / N	
	Spent lubricating oils?	Y / N	
	Can the process be modified or changed to use water-based fluids?	Y / N	
	Are these good housekeeping and operation practices used to minimize oil waste production?		
	Use oils not contaminated with other liquids?	Y / N	
	Oil spills prevented?	Y / N	
	Drip pans installed?	Y / N	
	Oil soaked rags laundered?	Y / N	
	Rags and absorbants used to their limit?	Y / N	

BLANK

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Waste Minimization/Pollution Prevention Activities Checklist

9.120-34

Regulatory Guideline	Question	Response	Comments
	Are these treatment techniques used to promote separation of oil/water wastes?		
	Reclaiming process to remove water and solvents by heat?	Y / N	
	Gravity setting?	Y / N	
	Screening?	Y / N	
	Centrifugation?	Y / N	
	Filtration?	Y / N	
<u>SOLVENT WASTES</u>			
	Has there been an attempt to reduce volume or toxicity by:		
	Eliminating solvents?	Y / N	
	Reducing the use of solvents?	Y / N	
	Reducing the loss of solvents?	Y / N	
	Increasing recyclability?	Y / N	
	Are solvents segregated?	Y / N	
	Are waste solvents free from water and garbage?	Y / N	
	Are recycled solvent containers labeled as such?	Y / N	
	Are containers kept closed?	Y / N	
	Free and sheltered from the elements?	Y / N	
	Are solvent tanks kept as free from contaminations as possible so that the waste can be recycled?	Y / N	
	Is a method used to minimize the use of new materials such as a countercurrent process?	Y / N	

Environmental Appraisal Checklist

Building Name: 8

Appraisers: Team #4

Date: 1-29-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	If there is a recycling program, what technique is used?	Y/N	
	Distillation?	Y/N	
	Solids removal?	Y/N	
	Dispersion breaking?	Y/N	
	Dissolved and emulsified organics recovery?	Y/N	
	Are any of these housekeeping procedures used to minimize the production of solvent wastes?	Y/N	
	Separators cleaned and checked?	Y/N	
	Parts not allowed to enter the degreaser while wet?	Y/N	
	Sludge from the bottom of the tank not allowed to accumulate?	Y/N	
	Lids kept on tanks?	Y/N	
	Freeboard space on tanks increased?	Y/N	
	Are better operating practices used to reduce waste?	Y/N	
	How long is solvent waste stored and where?	_____ _____	

Building Managers Questionnaire

Building Name: 8 Building Manager: R.A. Ward Phone: 3821 Date: 12-07-95
Alternate: K. KOEHLER Phone: 48810

1. What are the access requirements (training, clearance, etc.)?

NONE

2. What protective equipment is required to enter the building?

NONE

3. Are there any restricted areas? Yes No
Where are they?

LIMITED NUMBER OF PERSONNEL (SIZE)

4. Provide a physical description of the building.

Building is 66-ft², single story with reinforced concrete construction and reinforced concrete with earth-covered roof. There is no HVAC service. Building is contaminated with energetic materials.*

*No visible evidence. see report.

Source: Mound Facility Physical Characterization 12-1-93

5. Provide a drawing of the building.

Attached.

6. What is the current building use?

Ammunition storage for security. INERT STORAGE small caliber ammunition, WITHAMOUNT STORED NOT CONTRIBUTING TO LIMITATION of 4.531 MCE

Source: Mound Building, 5-9-95

7. What is the history of building use other than that described in #6?

Source: Mound Buildings, 5-9-95

Building Managers Questionnaire

Building Name: 8 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

8. What are ongoing operations or processes? What are the raw materials and waste streams from each process? Who is the best contact for each process?

Process(es) Housed: Magazine

How Wastes Are Generated:

No wastes generated.

Contact:
Phone #:

Source: Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, (8-15-90).

Building Managers Questionnaire

Building Name: 8 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
 Alternate: _____ Phone: _____

11. Describe air pollution control equipment used to reduce emissions for each source.

Process Source	Emissions	Control Equipment	Functioning
			Y / N
			Y / N
			Y / N

Source: Air Permits 2/4/95

12. For existing permits are emissions monitored? At what frequency? Where are the records maintained?

Process Source	Permit	Log	Permit Conditions & Frequency of Monitoring
		Y / N	
		Y / N	
		Y / N	
		Y / N	
		Y / N	

Source: Air Permits 2/4/95

13. Does the building have domestic water service? Yes No
 Is there bottled water? Yes No

14. Does the building discharge to the storm sewer? Yes No
 Where?

15. Does the building discharge to the sanitary sewer? Yes No
 Where?

16. Has an asbestos survey been conducted? Yes *NONE*
 What are the results? No

Source: Technical Manual MD-10391, Issue 3 Asbestos Program Manual 9/6/95

Building Managers Questionnaire

Building Name: 8 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

17. Does the building contain transformers or capacitors? No

Source: PCB ANNUAL DOCUMENT LOG

18. Has the building been identified as containing PCBs? No

Source: PCB ANNUAL DOCUMENT LOG

19. What chemicals are used or stored inside or outside of the building? Include compressed gasses not in large tanks.

Chemical Name	State	Amount(MAX)
NONE		

Source: Chemical Inventory 1994

Building Managers Questionnaire

Building Name: 8 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
 Alternate: _____ Phone: _____

20. Has there been a reported spill, leak, or other release of any chemical? Yes No
 What, how much, and what clean-up measures were followed?

Chemical	Amount	Clean-up Measures
	N/A	

Source: _____

21. Where do waste chemicals go?

N/A

22. What janitorial supplies are stored inside or outside of the building?

N/A

23. Where do excess janitorial supplies go?

N/A

Source: _____

24. Are pesticides or herbicides stored or used in or around the building? Yes No

Chemical	Amount	Chemical	Amount
	NONE		

Source: _____

Building Managers Questionnaire

Building Name: 8 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
 Alternate: _____ Phone: _____

25. Does the building contain active or inactive above ground storage tanks? Yes No
 For each tank, list the content, quantity, last inspection, registration number.

NONE

26. Is there a sump or pit or underground tank in or around the building?
 Yes No Unknown
 Is it double-walled? What does it contain? How many days per year is it filled?
 Is there an emergency overflow tank? Have there been previous overflows?

Double-Walled	Contents	Days/Year in Use	Overflow Tank	Previous Overflows
Y / N			Y / N	Y / N

Source: _____

27. Does the building generate, store, or dispose of hazardous waste? Yes No

Materials	Amount

Source: _____

Building Managers Questionnaire

Building Name: 8 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
 Alternate: _____ Phone: _____

28. Does the building have abandoned process equipment such as tanks, piping, containers, etc.? Yes No
29. Is waste material stored in or around the building for more than 90 days? Yes No
30. Has the building been identified as a 90 day waste accumulation area? Yes No
31. Has any area in the building been identified as a satellite accumulation area? Yes No
32. Is mixed waste generated, stored, or disposed of from the building? Yes No
 Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

Building Managers Questionnaire

Building Name: 8 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
 Alternate: _____ Phone: _____

33. Is TRU radioactive waste generated, stored, or disposed of from the building?

Yes No

Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

Source: _____

Building Managers Questionnaire

Building Name: 8 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

34. Is low-level radioactive waste generated, stored, or disposed of from the building? Yes No
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

Source: _____

35. Identify all administrative orders, temporary or permanent injunctions, civil administrative penalties, or criminal activities issued against the building.

Building Managers Questionnaire

Building Name: 8 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

36. Is there a waste minimization program in the building?
Discuss your ideas about how to minimize waste.

Yes

No

37. Has a pollution prevention program been developed for the building? Yes

No

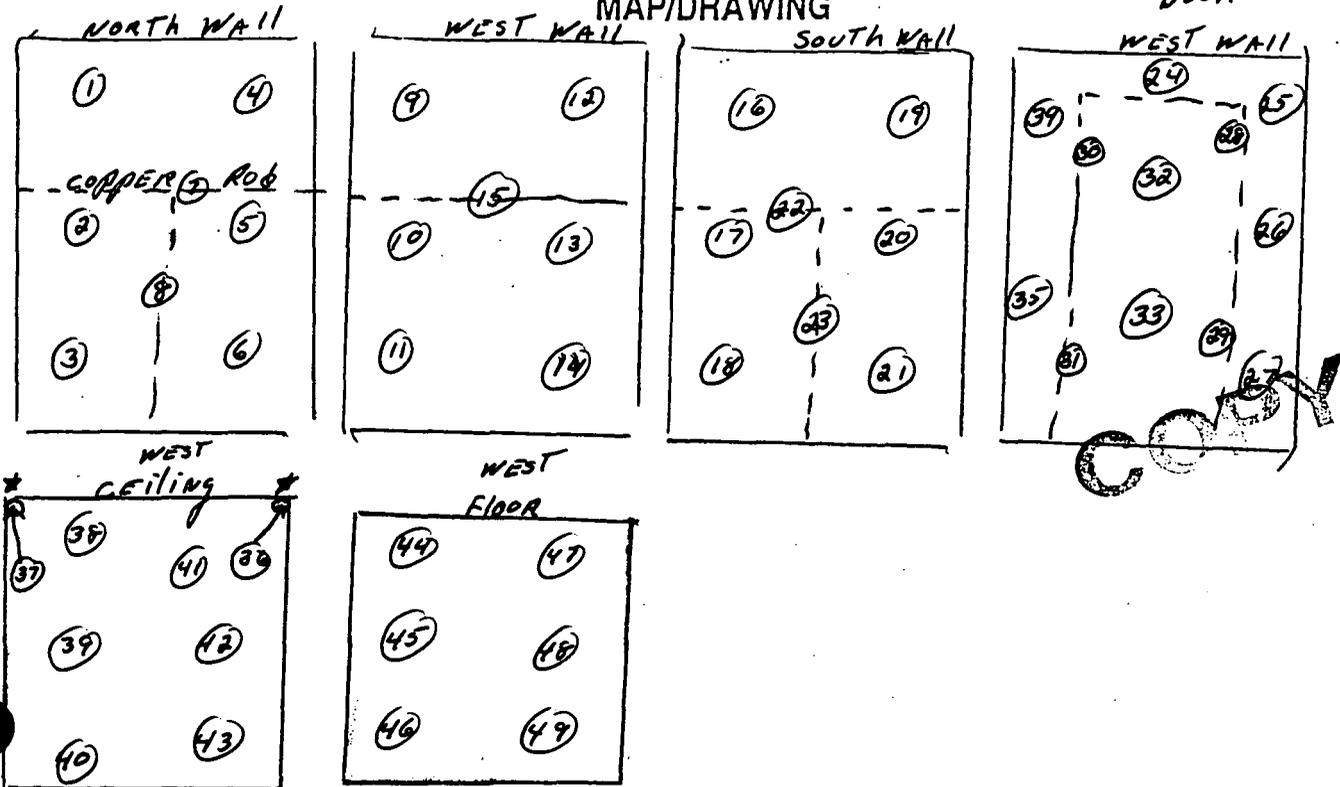
Appendix G
Radiological Summary/Information

RADIOLOGICAL SURVEY DATA SHEET

PA 430-10 140

LOCATION: (BLDG./AREA/ROOM) <i>South West of Test Fire - Magazine 8</i>	SURVEY NO. <i>98-TF-267</i>
PURPOSE: <i>Radiological Survey of Magazine 8 and Material Inside</i>	RWP NO. <i>N/A</i>
	DATE: <i>3-12-98</i>
	TIME: <i>10:00</i>

MAP/DRAWING



* DOOR HAS SOME GLUED MATERIAL ON IT (DID NOT REMOVE)
 * OPEN 2 1/2" PIPE GOES OUTSIDE

TOOK DIRECT READINGS WITH NE AT OR NEAR EACH SWIPE
 RESULTS = α - L 100 dpm/100cm²
 β - L 5K dpm/100cm²

TOOK GAMMA READINGS OF AREA WITH MICRO R
 RESULTS - ALL READINGS < .025 MICROREM

LEGEND: # = mrem/hr (γ) whole body # = mrem/hr neutron # = swipe number
 # E = mrem/hr ($\beta + \eta + \gamma$) extremity on contact # = air sample number #/α or β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE	5431/5432	8-9-98
RO R	3864	7-6-98

Reviewed/Approved by: (Signature/HP#) 	P#) <i>5524</i> Date: <i>3/12/98</i>
	P#) <i>5269</i> Date: <i>3/12/98</i>
	Date: <i>3/19/98</i>

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Charge Authorization No. J00035

<input type="checkbox"/> Removable Contamination <input type="checkbox"/> Airborne Activity (check one)				
Swipes (dpm/100cm ²) or Airborne (μCi/cc)				
Sample #	β/γ	Alpha	Tritium	Comments
64				CABINET INSIDE
65				
66				
67				
68				
69				
70				
71				
72				
73				SMALL BOARD
74				
75				CARD BOARD
76				
77				Big BOARD
78				
79				
80				
NO FURTHER ENTRIES				

<input type="checkbox"/> Removable Contamination <input type="checkbox"/> Airborne Activity (check one)				
Swipes (dpm/100cm ²) or Airborne (μCi/cc)				
Sample #	β/γ	Alpha	Tritium	Comments
COPY				
N/A				

COMMENTS:

Max Activity on Large Area Wipe (dpm)	Tritium Airborne Activity (μCi/m ³)

- NOTES:**
- LSC results #3 corresponds to Sample #1 on this RSDS.
 - See MD-80036 10002 for calculations of WB, extremity and skin dose rates
 - To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
 - Annotate special sample type (e.g. soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

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 R505
 98-TF-267

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Blue
 Data file name: SMEAR122
 Batch Ended: 3/12/98 12:52
 Cal. Due Date: 4/1/98
 Serial Number: 26966-3

Alpha activity action level (DPM): 20
 Beta activity action level (DPM): 200

Batch ID: T 98-TF-267 WILLIAMS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	5.29	3.55	<AL	2.00	2.70	<MDA
A2	2	0.00	2.06	<MDA	0.00	1.54	<MDA
A3	3	0.00	1.99	<MDA	1.62	2.27	<MDA
A4	4	0.00	2.07	<MDA	0.11	1.86	<MDA
B1	5	0.00	2.13	<MDA	0.00	1.43	<MDA
B2	6	0.00	2.03	<MDA	0.00	1.38	<MDA
B3	7	0.00	1.94	<MDA	0.00	1.41	<MDA
B4	8	0.00	2.01	<MDA	0.00	1.35	<MDA
C1	9	0.00	2.03	<MDA	0.00	1.46	<MDA
C2	10	0.00	1.98	<MDA	1.82	2.33	<MDA
C3	11	0.00	1.87	<MDA	0.27	1.86	<MDA
C4	12	3.41	2.55	<AL	0.00	1.40	<MDA
D1	13	0.00	2.10	<MDA	1.76	2.40	<MDA
D2	14	0.00	2.07	<MDA	0.59	1.99	<MDA
D3	15	0.00	1.90	<MDA	0.00	1.42	<MDA
D4	16	1.61	1.93	<AL	0.00	1.40	<MDA
A1	17	0.00	2.10	<MDA	3.75	3.00	<AL
A2	18	1.63	2.07	<MDA	0.25	2.02	<MDA
A3	19	0.00	1.98	<MDA	0.00	1.43	<MDA
A4	20	5.12	3.51	<AL	0.00	1.86	<MDA
B1	21	0.00	2.14	<MDA	0.00	1.93	<MDA
B2	22	0.00	2.04	<MDA	0.31	1.90	<MDA
B3	23	0.00	1.96	<MDA	1.52	2.23	<MDA
B4	24	1.47	2.03	<MDA	2.47	2.53	<MDA
C1	25	3.70	2.86	<AL	2.85	2.71	<MDA
C2	26	0.00	1.98	<MDA	3.11	2.66	<AL
C3	27	3.24	2.63	<AL	4.92	3.07	<AL

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 ASDS
 98-TF-267

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Blue
 Data file name: SMEAR122
 Batch Ended: 3/12/98 12:52
 Cal. Due Date: 4/1/98
 Serial Number: 26966-3

Alpha activity action level (DPM): 20
 Beta activity action level (DPM): 200

Batch ID: T 98-TF-267 WILLIAMS

Detector ID	Sample ID
C4	28
D1	29
D2	30
D3	31
D4	32
A1	33
A2	34
A3	35
A4	36
B1	37
B2	38
B3	39
B4	40
C1	41
C2	42
C3	43
C4	44
D1	45
D2	46
D3	47
D4	48
A1	49
A2	50
A3	51
A4	52
B1	53
B2	54
B3	55
B4	56

Alpha Activity		
DPM	σ	flags
0.00	1.84	<MDA
0.00	2.10	<MDA
0.00	2.07	<MDA
0.00	1.90	<MDA
0.00	1.95	<MDA
0.00	2.08	<MDA
0.00	2.07	<MDA
0.00	1.98	<MDA
0.00	2.08	<MDA
1.17	2.13	<MDA
0.00	2.09	<MDA
1.62	1.96	<AL
1.47	2.02	<MDA
0.00	2.04	<MDA
0.00	1.97	<MDA
1.48	1.87	<AL
1.63	1.82	<AL
0.00	2.09	<MDA
0.00	2.06	<MDA
0.00	1.91	<MDA
0.00	1.93	<MDA
0.00	2.09	<MDA
1.63	2.06	<AL
0.00	1.98	<MDA
1.13	2.06	<MDA
1.15	2.17	<MDA
0.00	2.03	<MDA
1.62	1.96	<AL
0.00	2.02	<MDA

Beta Activity		
DPM	σ	flags
0.84	2.15	<MDA
1.76	2.40	<MDA
0.59	1.99	<MDA
0.53	1.91	<MDA
2.95	2.56	<AL
1.13	2.36	<MDA
0.39	2.02	<MDA
0.00	1.43	<MDA
1.35	2.24	<MDA
0.00	1.43	<MDA
6.83	3.48	<AL
2.64	2.55	<MDA
0.00	1.83	<MDA
1.77	2.37	<MDA
0.52	1.93	<MDA
0.16	1.86	<MDA
0.00	1.40	<MDA
0.00	1.50	<MDA
0.00	1.47	<MDA
1.81	2.29	<MDA
0.47	1.87	<MDA
2.44	2.70	<MDA
0.00	1.54	<MDA
0.00	1.43	<MDA
0.00	1.38	<MDA
4.39	3.22	<AL
0.00	1.38	<MDA
1.41	2.23	<MDA
1.37	2.21	<MDA

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Blue
 Data file name: SMEAR122
 Batch Ended: 3/12/98 12:52
 Cal. Due Date: 4/1/98
 Serial Number: 26966-3

Alpha activity action level (DPM): 20
 Beta activity action level (DPM): 200

Batch ID: T 98-TF-267 WILLIAMS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
C1	57	0.00	2.03	<MDA	0.00	1.46	<MDA
C2	58	0.00	1.96	<MDA	0.00	1.43	<MDA
C3	59	1.48	1.87	<AL	0.16	1.86	<MDA
C4	60	0.00	1.82	<MDA	0.00	1.40	<MDA
D1	61	0.00	2.11	<MDA	3.09	2.74	<AL
D2	62	0.00	2.08	<MDA	1.93	2.40	<MDA
D3	63	0.00	1.90	<MDA	0.53	1.91	<MDA
D4	64	0.00	1.93	<MDA	0.47	1.87	<MDA
A1	65	0.00	2.06	<MDA	0.00	1.47	<MDA
A2	66	0.00	2.08	<MDA	1.70	2.41	<MDA
A3	67	0.00	1.99	<MDA	1.62	2.27	<MDA
A4	68	0.00	2.06	<MDA	0.00	1.38	<MDA
B1	69	0.00	2.15	<MDA	0.66	2.32	<MDA
B2	70	0.00	2.07	<MDA	4.22	2.95	<AL
B3	71	0.00	1.94	<MDA	0.00	1.41	<MDA
B4	72	0.00	2.01	<MDA	0.00	1.35	<MDA
C1	73	0.00	2.04	<MDA	1.77	2.37	<MDA
C2	74	0.00	1.96	<MDA	0.00	1.43	<MDA
C3	75	3.27	2.62	<AL	2.48	2.54	<MDA
C4	76	0.00	1.87	<MDA	5.45	3.16	<AL
D1	77	0.00	2.09	<MDA	0.43	2.00	<MDA
D2	78	0.00	2.07	<MDA	0.59	1.99	<MDA
D3	79	0.00	1.90	<MDA	0.00	1.42	<MDA
D4	80	0.00	1.93	<MDA	0.00	1.40	<MDA

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12 Mar 98 14:23

ALPHA/BETA - 1.01

Page #1

Protocol #: 4

Pw H3 20cc #405828

User : 5268

RSDS
98-TF-267

Time: 2.00

Data Mode: DPM

Nuclide: SMVIAL

Quench Set: SMVIAL

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 - 18.6		0	0.0	6.90
Region B:	2.0 - 18.6		0	0.0	6.40
Region C:	20.0 - 2000		0	0.0	15.20

Quench Indicator: tSIE/AEC

Ext Std Terminator: Count

98-TF-267-WILLIAMS(30-10 1-80)

Luminescence Correction On

Coincidence Time(ns): 18

Delay Before Burst(ns): Normal

Protocol Data Filename: c:\data\PROT1.DAT

Count Data Filename: c:\data\SDATA4.DAT

Spectrum Data Drive & Path: c:\data

COPY

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	8.90	6.40	1	B	605.36		0.00	15.20
0	2.00	1664.10	1534.60	0		640.27	3818.69	302.41	10.80
1	2.00	2.10	2.60	0		611.49	4.68	10.15	0.00
2	2.00	0.00	0.00	0		626.46	0.00	0.00	0.00
3	2.00	1.60	2.10	0		636.10	3.49	9.70	0.00
4	2.00	0.00	0.00	0		609.88	0.00	0.00	0.00
5	2.00	0.00	0.10	0		544.48	0.00	0.00	2.30
6	2.00	2.10	1.60	0		560.96	4.92	10.67	1.30
7	2.00	0.00	0.00	0		599.29	0.00	0.00	0.00
8	2.00	0.00	0.00	9		608.09	0.00	0.00	0.00
9	2.00	0.00	0.00	0		623.75	0.00	0.00	2.30
10	2.00	0.00	0.00	0		570.67	0.00	0.00	0.00
11	2.00	3.10	3.10	0		607.88	6.93	10.68	0.00
12	2.00	0.00	0.00	0		591.40	0.00	0.00	0.00
13	2.00	0.00	0.00	0		626.75	0.00	0.00	0.00
14	2.00	0.00	0.00	0		515.59	0.00	0.00	0.00
15	2.00	2.10	2.10	0		613.05	4.67	10.15	0.00
16	2.00	2.10	1.10	0		590.40	4.77	10.36	1.30
17	2.00	0.00	0.00	36		606.26	0.00	0.00	0.30
18	2.00	0.10	0.10	0		636.85	0.22	6.92	0.00
19	2.00	1.10	0.60	0		572.31	2.55	10.03	0.30
20	2.00	0.60	1.10	0		611.40	1.34	9.39	0.00
21	2.00	0.60	1.10	0		542.97	1.43	10.04	0.00
22	2.00	0.00	0.00	0		583.50	0.00	0.00	0.00
23	2.00	0.00	0.00	0		585.74	0.00	0.00	0.00
24	2.00	0.00	0.00	0		585.79	0.00	0.00	1.80
25	2.00	0.00	0.00	0		593.99	0.00	0.00	0.00
26	2.00	0.00	0.10	0		564.52	0.00	0.00	0.00
27	2.00	4.10	3.60	0		584.92	9.56	11.63	0.00
28	2.00	0.00	0.00	0		567.53	0.00	0.00	0.00
29	2.00	3.10	2.50	9		587.80	7.06	10.88	0.00
30	2.00	3.10	3.10	25		601.08	6.97	12.49	0.00
31	2.00	1.60	1.60	0		594.11	3.62	10.07	0.00
32	2.00	0.00	0.10	0		600.23	0.00	0.00	0.00
33	2.00	0.00	0.00	0		599.56	0.00	0.00	0.00
34	2.00	1.10	0.10	13		610.61	2.45	9.66	0.00

12 Mar 85 16:01
Protocol #: 4

ALPHA/BETA - 1.01
Pw H3 20cc #405828

98-TF-26

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	0.00	0.00	0		644.84	0.00	0.00	0.00
36	2.00	0.00	0.00	85		614.96	0.00	0.00	0.00
37	2.00	0.00	0.00	0		616.60	0.00	0.00	0.00
38	2.00	0.60	1.10	0		591.21	1.36	9.57	3.30
39	2.00	0.00	0.00	0		582.96	0.00	0.00	0.80
40	2.00	2.60	3.10	0		550.71	6.15	11.04	0.30
41	2.00	0.60	0.60	7		631.42	1.31	9.23	0.00
42	2.00	0.10	0.00	0		627.41	0.22	9.00	0.00
43	2.00	0.60	0.10	0		614.52	1.33	9.37	0.30
44	2.00	0.00	0.00	13		547.77	0.00	0.00	0.00
45	2.00	0.00	0.00	0		494.54	0.00	0.00	0.00
46	2.00	0.00	0.00	0		552.74	0.00	0.00	0.00
47	2.00	3.10	2.10	0		582.43	7.10	10.94	0.00
48	2.00	0.00	0.00	0		576.18	0.00	0.00	0.00
49	2.00	0.00	0.10	0		565.60	0.00	0.00	0.00
50	2.00	0.00	0.00	92		454.20	0.00	0.00	0.00
51	2.00	0.00	0.00	0		436.09	0.00	0.00	0.30
52	2.00	0.10	0.60	0		599.86	0.23	9.22	0.00
53	2.00	0.00	0.00	0		583.36	0.00	0.00	0.00
54	2.00	0.10	0.10	7		596.65	0.23	9.25	0.00
55	2.00	0.00	0.00	0		591.32	0.00	0.00	0.00
56	2.00	0.00	0.00	0		600.42	0.00	0.00	0.00
57	2.00	0.10	0.00	0		609.81	0.22	9.14	0.00
58	2.00	2.10	1.60	0		590.43	4.77	10.36	0.00
59	2.00	0.60	0.60	0		584.89	1.44	10.13	0.00
60	2.00	0.60	1.10	0		599.88	1.35	9.49	0.00
61	2.00	0.10	0.60	0		582.51	0.23	9.37	0.00
62	2.00	0.00	0.00	0		542.44	0.00	0.00	0.00
63	2.00	0.60	1.10	0		601.58	1.35	9.48	0.00
64	2.00	2.10	2.60	0		596.47	4.74	10.28	0.00
65	2.00	0.00	0.00	0		575.87	0.00	0.00	0.00
66	2.00	0.10	0.10	0		599.38	0.23	9.22	0.00
67	2.00	0.00	0.00	0		406.61	0.00	0.00	0.00
68	2.00	3.10	3.10	0		553.50	7.31	11.26	0.00
69	2.00	0.00	0.00	0		556.75	0.00	0.00	0.00
70	2.00	1.60	1.10	0		606.23	3.58	9.96	0.00
71	2.00	0.00	0.00	0		556.51	0.00	0.00	0.00
72	2.00	0.00	0.00	0		647.63	0.00	0.00	0.00
73	2.00	0.00	0.00	0		564.08	0.00	0.00	0.00
74	2.00	0.00	0.00	0		600.07	0.00	0.00	0.00
75	2.00	0.00	0.00	0		570.92	0.00	0.00	0.00
76	2.00	0.60	1.10	0		617.22	1.33	9.35	0.00
77	2.00	0.10	0.10	0		616.65	0.22	9.08	0.00
78	2.00	0.00	0.00	0		589.31	0.00	0.00	0.00
79	2.00	0.00	0.00	0		565.28	0.00	0.00	0.00
80	2.00	0.00	0.10	0		545.70	0.00	0.00	1.80

COPY

Appendix H
Radon Survey/Information
(None)

Appendix I
Asbestos Summary/Information



ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

*MWU Received 4/2/98
ETK*

MATT UELLEN
BABCOCK & WILCOX OF OHIO, INC.
P.O. BOX 3000, BLDG OSW-3
MIAMISBURG, OH 45343

Page 1
Lab Number: SL17567-1
Report Date: 04/01/98
DLZ Project Number: 8667-01

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
98032601	Bulk	CLIENT	26 MAR 98	31 MAR 98
				RESULT (%)

ASBESTOS

Asbestos N/D

NON-ASBESTOS FIBERS

Cellulose 02

NON-FIBROUS

Non-Fibrous 98

This report of analytical results relates only to the specific items tested,
and cannot be used as a claim of product endorsement by NVLAP or any other
U.S. Government Agency

NVLAP Number 1060

Method Number: EPA-600/M4-82-020

N/D - None Detected





ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

MATT VELEN
BABCOCK & WILCOX OF OHIO, INC.
P.O. BOX 3000, BLDG OSW-3
MIAMISBURG, OH 45343

Page 2
Lab Number: SL17567-2
Report Date: 04/01/98
DLZ Project Number: 8667-01

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
98032602	Bulk	CLIENT	26 MAR 98	31 MAR 98
				RESULT (%)

ASBESTOS

Asbestos N/D

NON-ASBESTOS FIBERS

Cellulose 02

NON-FIBROUS

Non-Fibrous 98

This report of analytical results relates only to the specific items tested,
and cannot be used as a claim of product endorsement by NVLAP or any other
U.S. Government Agency

NVLAP Number 1060

Method Number: EPA-600/M4-82-020

N/D = None Detected

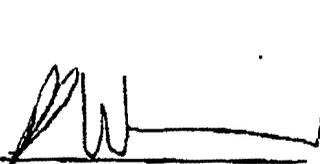


ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

MATT UELEN
BABCOCK & WILCOX OF OHIO, INC.
P.O. BOX 3000, BLDG OSW-3
MIAMISBURG, OH 45343

Page 3
Lab Number: SL17567
Report Date: 04/01/98
DLZ Project Number: 8667-01

I certify that the data presented as part of this report meets the minimum quality assurance standards specified in the referenced analytical method(s). Based on my review of the data, I believe that the submitted information is true, accurate, complete and meets the minimum standards specified in 40 CFR 136, 40 CFR 763, and/or SW-846. Any exceptions encountered in the analysis of samples contained within this report have been noted and an assessment of the quality of the data is presented. I am aware that there are significant penalties for submitting with knowledge, false information, including the possibility of fines and/or imprisonment.



Microscopist

DLZ Laboratories, Inc.



Quality Control Manager

Appendix J

Lead Summary/Information

(None)

Appendix K

Chemical Summary/Information

MOUND

INTEROFFICE CORRESPONDENCE

TO: John Schneider
FROM: Brady Barnhart
DATE: April 15, 1998

SUBJECT: Magazine 8 Energetic Materials Decontamination Level

I have rated Magazine 8 as EM Decontamination Level 0. The DOE Explosive Safety Manual and Mound Explosive Safety Manual mandate that all energetic materials stored in magazines be containerized. Additionally, it is forbidden to open or handle exposed energetic materials in a magazine. Personal knowledge of previous operations and a physical inspection of the magazine confirmed that these rules were strictly adhered to.

For housekeeping purposes, the magazine was cleaned per Mound EM Decontamination Procedure, SOA-950066, General Sanitization/Cleaning Standard Operating Procedure for Safe Shutdown of Non-Static Energetic Materials Areas.



Brady V. Barnhart
Technically Responsible Individual (TRI)
Transition, EM Safe Shutdown

cc: Gary Coons
Joe Bartee

Appendix L
Noted Soil Contamination, Vicinity

Soil Contamination Survey around Mag-8

Legend

- Highlight
- RedLine
- Default
- Walls
- Soil Sample w/Hit
- Soil Sample
- Site Boundary - Current
- Primary Roads
- Paved Drives_parking
- River
- Pond
- Creek_Stream
- Building Label
- Building Outline
- Hidden Building Outline
- Building

Mag-8

Mag-5

S0793

07N20



Soil Contamination Survey Mag-8

Location_name	Location_type	Collection_date	Media	Value_name	Measured_value	Value_unit	Detection_limit	Chem_class	Start_depth	End_depth	Depth_unit
07N20	Surface locator	19940927	Soil	Total Aromatic Hydrocarbons	513849	IC		GENERA	0	1.5	FT
07N20	Surface locator	19940927	Soil	Total C5 TO C11 Petroleum Hydrocarbons	795431	IC		GENERA	0	1.5	FT
S0793	Surface locator	19831001	Soil	Plutonium-238	18.4	PCI/G	0.01	RAD	0	0	FT

Appendix M

Work Plan

WORK PLAN

FOR

REMOVAL OF MAGAZINES 5,8,10 AND 20

TEST FIRE VALLEY PROJECT

FINAL

Revision 0

April 14, 1998

Work plan Sign-off Sheet
(signature and date required)

The following Test Fire Valley Project team members have reviewed this Work Scope for use in the Field.

Gary L. Coons/Proj Engr	<u><i>Gary L. Coons</i></u>	<u>4/15/98</u>
John Schneider/ IS&H	<u><i>John M. Schneider</i></u>	<u>4/15/98</u>
Bob Johnson /Rad Protection	<u><i>Karen J. Kent</i></u>	<u>4/15/98</u>
Dave Adkins/Waste Mgmt	<u><i>Dave A. Adkins</i></u>	<u>4/15/98</u>
Ron Paulick/Envir Compliance	<u><i>Ron Paulick</i></u>	<u>4-15-98</u>
Chet Smith/Superintendent	<u><i>Chet Smith</i></u>	<u>4/15/98</u>
Bob Ward/Bldg Coord	<u><i>Bob Ward</i></u>	<u>4/15/98</u>
Joe Bartee/Project Mgr	<u><i>Joe Bartee</i></u>	<u>4/15/98</u>

1. PURPOSE

The purpose of this effort is to demolish the explosive magazines 5, 8, 10 & 20, remove the debris and restore the area. This is to be accomplished by demolishing earth covered concrete structures and sending the debris to an off-site landfill and/or to the Mound site spoils area for staging and eventual size reduction.

2. GENERAL SCOPE OF WORK

The scope of work for this effort is to perform demolition of four earth covered concrete structures located at the lower south west corner of the Mound site (see attached sketch). These structures were used for the storage of explosive devices and powders. Utilities associated with each magazine consist of electrical power (480 volts) which is fed from Building 2 and CTF. Signal wiring is fed to Magazine 5 from CTF and phone lines are fed to Magazines 5 and 20. There is no water or steam supply to the magazines. Each magazine is serviced with electrical power (underground) from Building 2. This work includes disconnecting the power and removing conduit at each magazine. A specific description of each magazine is as follows:

Magazine 8 & 10 - These magazines are single cell (6 ft 8 in x 6 ft x 7 ft 6 in each). They consist of poured in-place reinforced concrete. The sidewalls are 1 foot thick with ½ inch dia steel rebar. The floor is 10 inches thick with ½ inch dia. steel rebar. The roof is 6 inches thick with 5/8 dia. thick steel rebar. A 1 foot thick retaining wall extends parallel and 21 feet beyond each side of the front entrance. The retaining wall is also reinforced concrete with ½ inch dia rebar. A small canopy extends over the entrance, which is also reinforced concrete, (see attached sketches of original construction drawings). Each magazine contains 110-volt electrical power. All conduit and fixtures are explosion proof. The light fixtures contain asbestos gaskets. All electrical conduit and fixtures will be removed prior to concrete demolition. The exterior of all concrete is covered with membrane water proofing and the entire structure is covered with earth which will require removal. All soils will remain at the site. (see sketch of floor plan and photo attached)

Magazine 5 - This magazine is a two-cell structure (15 ft x 8 ft x 7 ft 6 in). It consists of poured in-place reinforced concrete with steel rebar, the same as magazines 8 & 10 (see the attached sketches of construction drawings). It also has a retaining wall with earth covering. Utilities are the same as magazines 8 & 10, 110 volt electrical power. No other underground utilities exist. (see sketch of floor plan and photo attached). Magazine has two refrigerant units that will require an activity to recover the refrigerant using a pump down procedure.

Magazine 20 - This magazine is a three cell magazine (34 ft x 8 ft x 7 ft 6 in). It also consists of poured in-place reinforced concrete and is also the same as magazines 5,8 & 10 (see the attached sketches of construction drawings). A retaining wall, earth cover, and electrical power exits. (see floor plan and photo attached)

The demolition will consist of removing all electrical conduit (including light fixtures), removing an electrical grounding system, removing the steel entrance doors, scraping all soil from around and above the structures, and breaking apart the concrete using heavy duty equipment equipped with hydraulic hammers and shears. Some underground electrical conduit will be removed just below the surface at each magazine.

Site restoration will consist of grading the area using soil that covered the magazines. Seeding of the area is also planned. The access road will remain since it is needed to access Magazines 80 through 84.

3. SITE INFORMATION

All work is within the Test Fire Valley Project. The Magazines are located to the east of Building 85. Building 85 is currently empty and not in use. Magazines 80 through 84 are located to the south. They are currently leased by EG&G OPTO Electronics. During demolition activities, access to Magazines 80 through 84 must be maintained. The work zone will be identified using standard construction barricades and is shown on the attached sketch.

Currently magazines 80 and 84 are being used for the storage of energetic materials. The demolition work zone is within the designated explosive zone and all operational procedures will be followed when performing work. Coordination with MMCIC will be conducted prior to activities beginning.

There is no history of radioactive or chemical contamination associated with the magazines or in the vicinity of the magazines. Previous sampling activities (site radioactive soil sampling and volatile organic soil gas sampling) did not reveal any detection in the area of this demolition project.

This demolition effort will be considered a standard construction demolition and will not be considered a removal under CERCLA and will not be designated as a HAZWOPER site.

4. INDUSTRIAL SAFETY AND HEALTH REQUIREMENTS

A Job Specific Hazards Analysis (JSHA) is required for this demolition using a hoe mounted hydraulic hammer, shears, bucket and grapple. The work zone, as defined in the JSHA, will identify construction boundaries, evacuation routes, and staging areas.

Debris will be cleared from the immediate demolition zone as required to provide safe equipment activity. The debris will be disposed of in accordance with Waste Management. Water and/or amended water shall be used as needed for dust control during activities which have the potential for generating dust.

Underground electrical utilities will be identified and field located prior to any activities beginning. Lock-out-tag-out procedures will be followed and electrical energy detection will be performed prior to any electrical demolition activities.

An excavation permit will be required prior to demolition activities.

Monitoring for Crystalline Silica (concrete dust) will be performed as determined by previous monitoring results and IS&H staff.

Whole body vibration will be administratively controlled.

Monitoring of noise levels will be performed as determined by previous monitoring results and the IS&H staff.

5. RADIOLOGICAL PROTECTION REQUIREMENTS

No radiological controls will be required during work associated with the demolition of the magazines. An excavation/digging permit is required for any subsurface work which requires Health Physics approval, and soil will not be removed from the site under this work package. Prior to disposition of concrete at a local landfill or to the on-site concrete crusher, removable and fixed contamination surveys must be performed as required in Section 9.

6. ENVIRONMENTAL COMPLIANCE REQUIREMENTS

A NEPA checklist is required for this demolition project since it is occurring outside the CERCLA process. The categorical exclusion for building demolition projects was approved by DOE/MEMP on March 23, 1998.

Permit to Install/Permits to Operated (PTI/PTO) are not required for temporary projects (project duration < 18 months). Dust mitigation techniques will be employed for diffuse dust sources (e.g., soil excavation, dumping, storage piles, concrete demolition).

Proper control of water runoff and sediment control will be maintained at all times using straw bales or temporary trenches. Contained water must be analyzed by Environmental Monitoring to ensure it is one-half the appropriate DOE derived concentration guideline (DCG) prior to discharging the water to the storm sewer.

Based on the best available radiological data and removal assumptions for the magazine demolition, the estimated NESHAP radiological dose calculation from air emissions was calculated to be less than the 0.1 mrem dose threshold for EPA approval.

A "Notification of Demolition" form will be filed with the Regional Air Pollution Control Agency (RAPCA) two weeks prior to the beginning of demolition. No RACM is present or being removed from the magazines or the air handling unit.

7. WASTE MANAGEMENT REQUIREMENTS

All miscellaneous metal (electrical conduit, steel doors etc.) will be staged for recycle. All concrete (except footers) will be sized reduced at the work zone and transported either to the Mound spoils area where it will be staged for future processing at the concrete crushing unit or it will be disposed of at a local landfill. All soil will remain at the demolition site to be used for site restoration. Movement of soil/debris will be performed using hoe mounted grapple or bucket and heavy duty equipment haulers.

Asbestos gaskets associated with the explosion proof light fixtures will be disposed of as directed by Waste Management.

If refrigerant material is present at the air units at magazine 5, it will be recycled.

8. SECURITY REQUIREMENTS

The work zone for this scope of work does not cause a concern with the plant outer security fence. No special security requirements are necessary. Construction barricades will be used to control pedestrian and vehicle traffic.

Coordination of access to the magazine area will be conducted with EG&G OPTO Electronics to ensure proper personnel movement to and from magazines 80 through 84.

9. FIELD SAMPLING AND VERIFICATION

All concrete leaving the area will be screened using field instruments for removable and fixed contamination. Samples will be done on a random basis providing representative analysis on contamination levels. Surveys will be analyzed using field instruments at the demolition site. All concrete meeting release criteria (Identified in MD-80043 Operation Manual) can be taken to the Mound spoils area

Field verification of the final graded soil for contaminants will not be performed unless contamination is detected during field tests.

10. QUALITY ASSURANCE

The purpose of Quality Assurance for this project is to ensure that activities associated with this work plan are performed in accordance with the applicable regulations and requirements, and to ensure that the project objectives stated are accomplished in an orderly and verifiable manner with the highest level of quality assurance possible. This plan will meet the requirements of MD-100043, Environmental Restoration Quality Assurance Plan and the applicable requirements of DOE Order 5700.6c, Quality Assurance. Quality control shall be established and maintained with an effective quality control system.

The quality control system consists of plans, procedures, and organization necessary to produce an end product that complies with the project requirements. The requirements of this plan are applicable to the individuals, functions, and operations within or directed by the Test Fire Valley Project Team and are to be applied to all phases of this project work plan. This quality assurance effort is consistent with and in support of MD-10334, Mound Quality Policy and Responsibilities.

This Project does not meet the definition of a nuclear facility. Therefore, the requirements of 10 CFR 8830.120, Quality Assurance Requirements do not apply.

11. SEQUENCE OF WORK/SCHEDULE

The following is the current planned execution of the work. The sequence may vary depending on availability of equipment and the economics of utilizing equipment attachments (i.e. grapple, shear, bucket) during each operation.

Phase I - SITE PREPARATION

1. Project Engineer will meet with EG&G OPTO Electronics' representative to review final demolition activities.
2. Meet with Mound's Fire Department to review road barricade plan.
3. Project superintendent will obtain Excavation/Digging permit
4. Project superintendent will hold pre-job briefing
5. Project superintendent will set-up barricades and post signs
6. Electricians will verify that all power is off, including lock-out/tag-out procedures.
7. Project superintendent will verify that a supply of water is available and ready.
8. Project superintendent will verify that all heavy duty equipment is available and ready.
9. Project superintendent will arrange, with HVAC maintenance, the recovery of refrigerant (using pump down methods) from the units associated with magazine 5.
10. Project superintendent will verify that controls are in place to control water runoff from the demolition site.

Phase II ELECTRICAL DEMOLITION

1. Perform lock-out/tag-out procedures for electrical circuits 109 and 111 located in Building 2, Panel 100 (see attached sketches).
2. Remove electrical conduit/fixtures from the face of the magazines (see attached photos)
3. Locate underground electrical conduit/wiring and sever below grade at each magazine (see attached photos and site utility sketch).
4. Remove all air handling equipment associated with Magazine 5 and stage for excess as directed by Waste Management (see attached photo of Magazine 5).
5. Stage all metal for recycle (Waste Management direction)

Phase III MAGAZINE DEMOLITION

1. Remove steel doors and frame from each magazine and stage for recycle waste as directed by waste management. (see attached photos).
2. Excavate soil around and above magazines and stage near each magazine.
3. Break apart concrete canopies and place in hauler for movement to Mound's spoils area or to an off-site landfill.
4. Break apart concrete walls of each magazine and place in hauler for movement to the Mound's spoils area or to an off-site landfill.
5. Break apart the slab of each magazine, perform radiological screening and place in hauler for movement to the Mound's spoils area or to an off-site landfill.

Phase IV SITE RESTORATION/DEMOBLIZATION

1. Spread staged soils and grade to match surrounding area
2. Distribute grass seed and cover with straw
3. Remove all barricades, miscellaneous items and trash.
4. Verification sampling if screenings are positive.

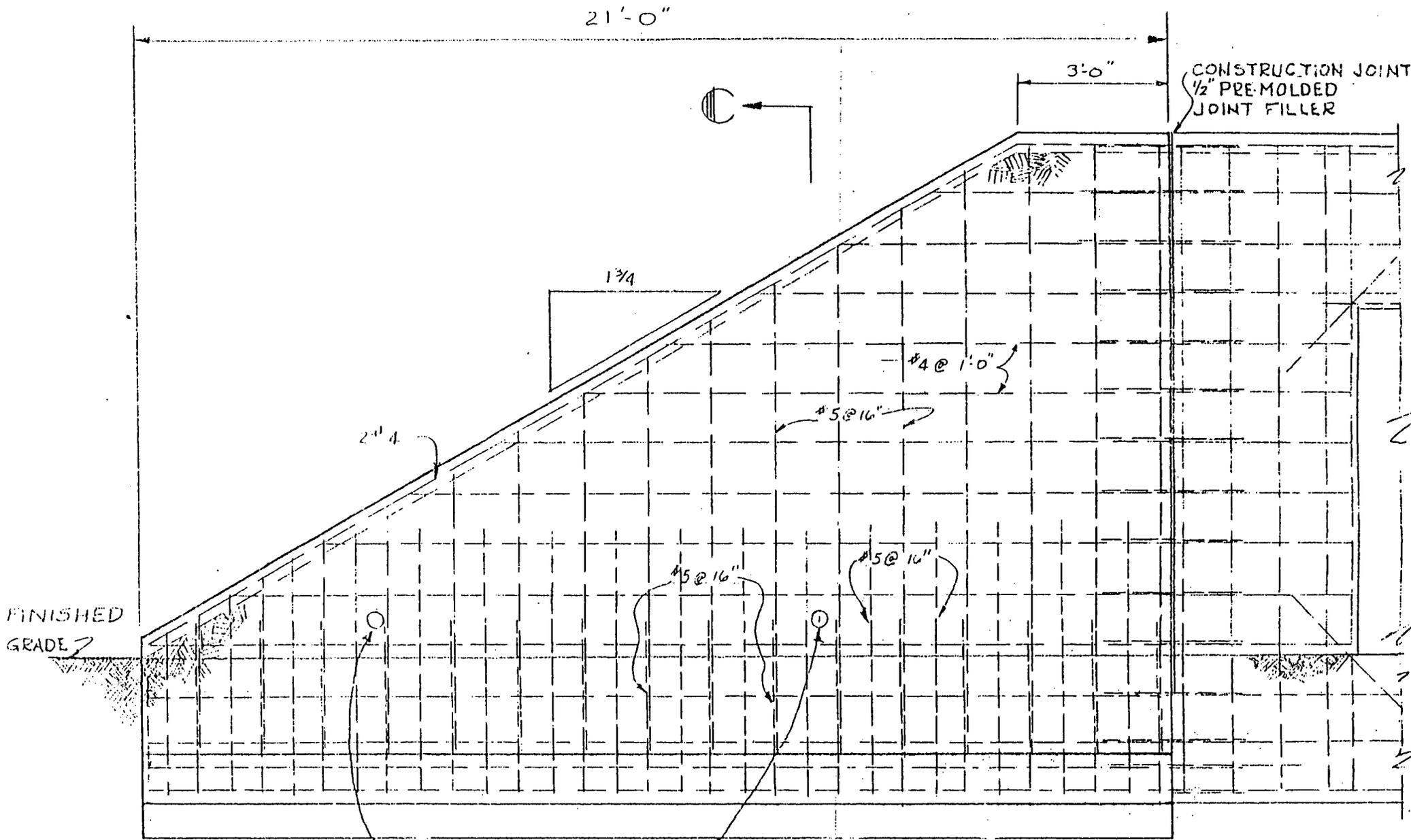
Phase V CLOSE OUT

1. Prepare close out report and submit to DOE.



**MAGAZINES
5, 8, 10 & 20**

SOURCE: Operable Unit 9, Site Scoping Report: Volume 7-Waste Management Mound Plant, 7-92
O 121-52



21'-0"

3'-0"

CONSTRUCTION JOINT
1/2" PRE-MOLDED
JOINT FILLER

1 3/4

#4 @ 1'-0"

#5 @ 16"

2' 4"

#5 @ 16"

#5 @ 16"

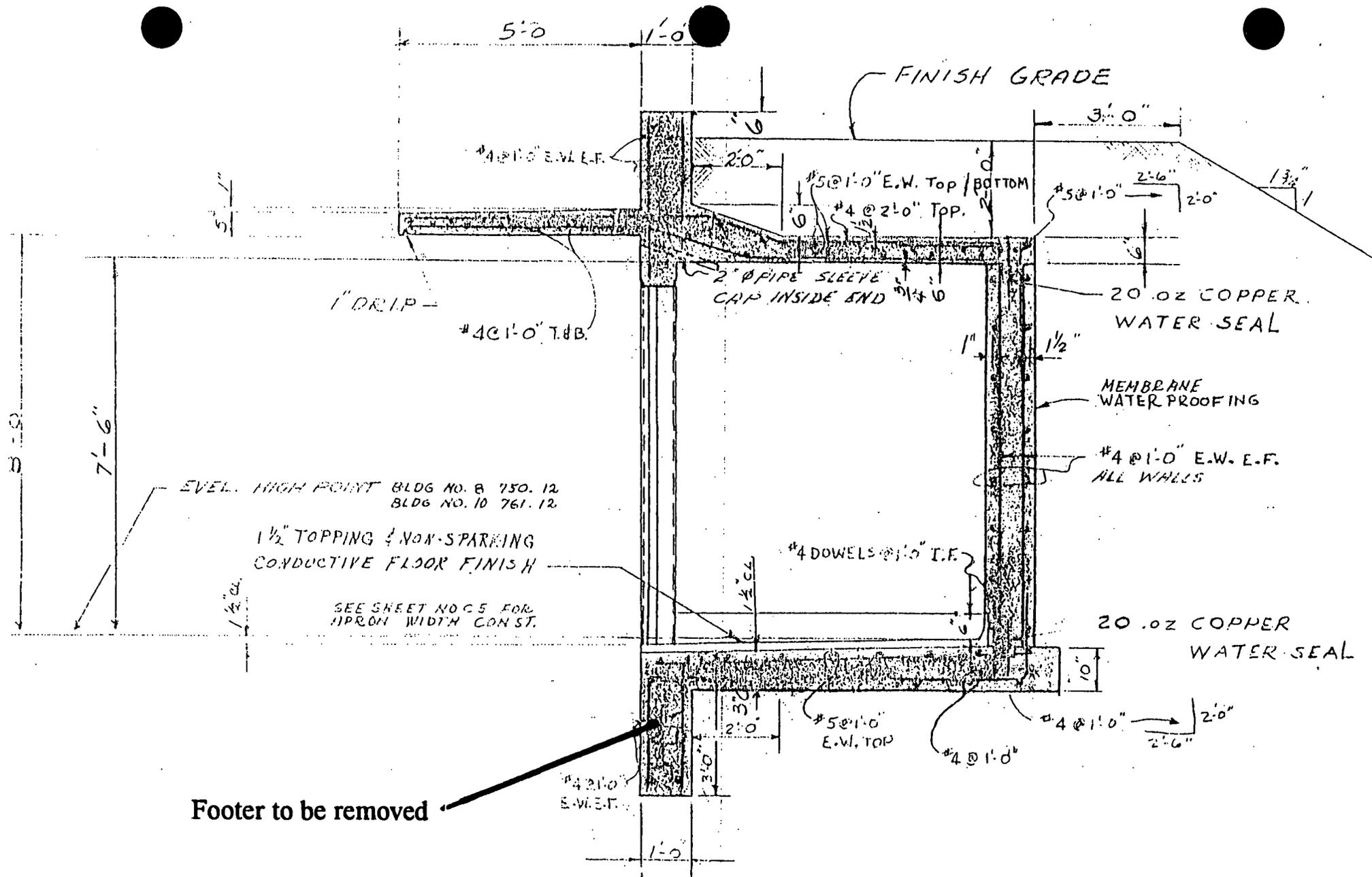
FINISHED
GRADE

4" TILE WEEP HOLES
AT 9'-0" O.C.

**RETAINING WALL
TYPICAL**

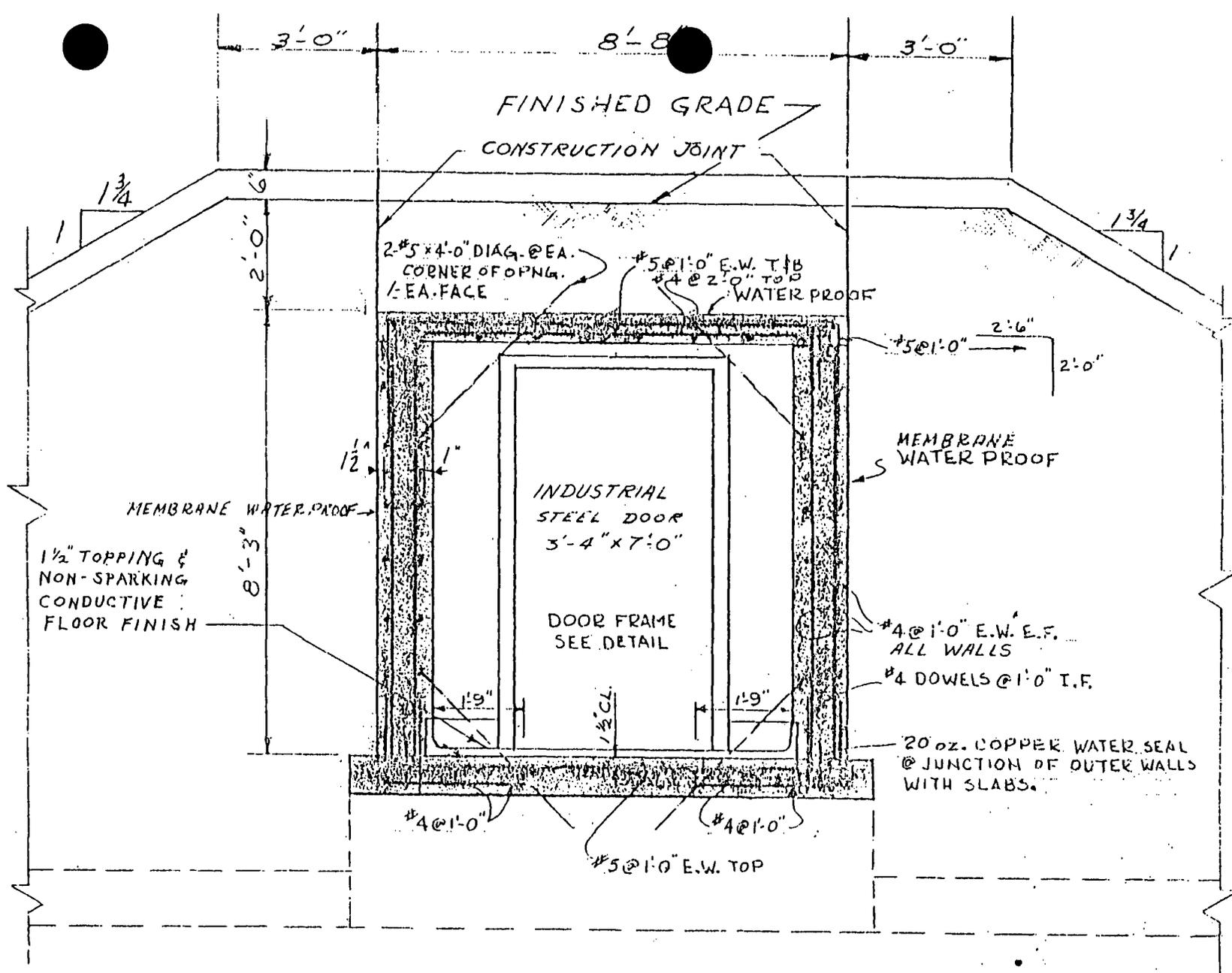
ELEVATION of RETAINING WALL (TYPICAL)

S C A L E - 3/8" = 1'-0"



SIDE VIEW CROSS SECTION

**TYPICAL
MAGAZINES 8 & 10**



REAR VIEW CROSS SECTION

TYPICAL
MAGAZINES 8 & 10

Canopy to be removed
(typical)

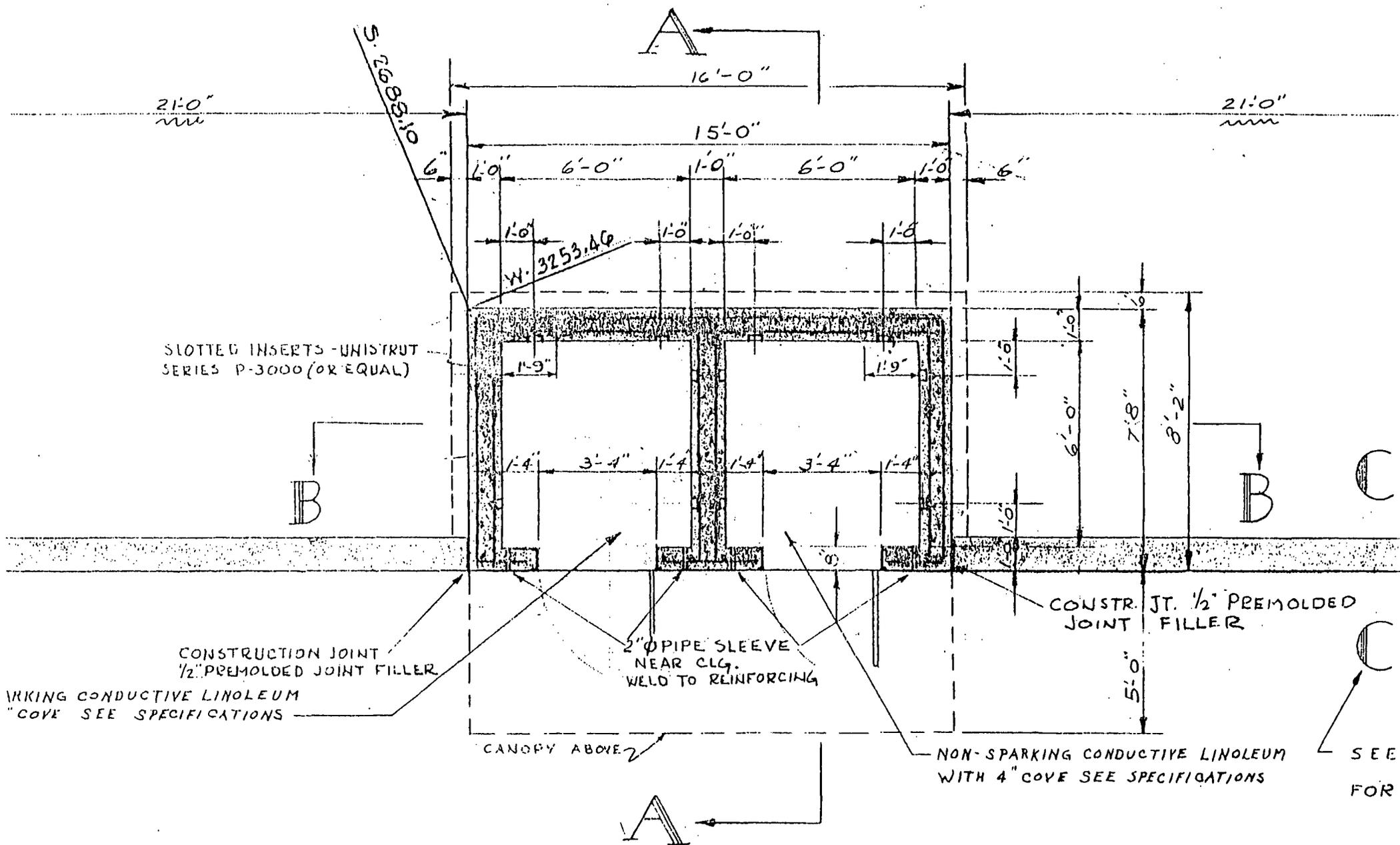
Steel Door to be
removed

Electrical conduit &
Fixtures to be
Removed

**TYPICAL
MAGAZINES 8 & 10**

Mound Plant Magazine 8

9.120-65



→ TOP CROSS SECTION ←

MAGAZINE 5

**STEEL DOORS TO
BE REMOVED**

**CANOPY TO BE
REMOVED**

Mound Plant Magazine 5



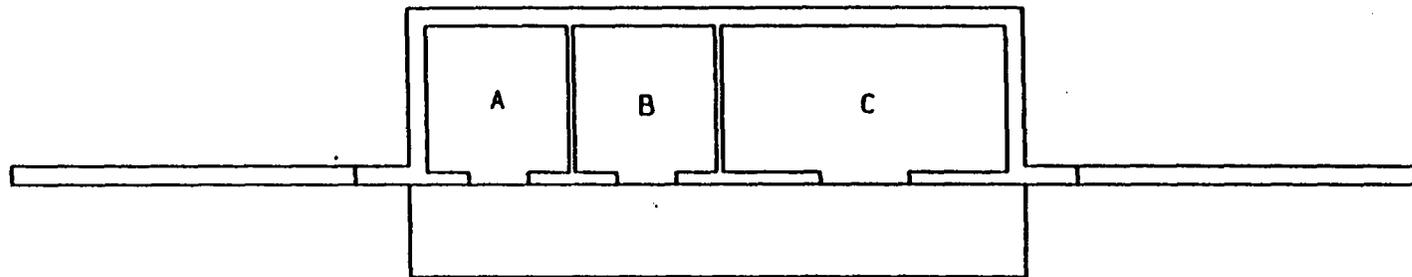
**ELECTRICAL CONDUIT &
FIXTURES TO BE REMOVED**

**AIR HANDLING UNITS
TO BE REMOVED**

9.117-65

MAGAZINE 5

NO	DATE	REVISION	BY	CHKD	APPROV	BY
8	12/12/91	ASBUILT ISSUE				



DERIVATIVE CLASSIFIER

K. Doniger
S. Class. Pres. 2/29/96
 (Title) (Date)

UNCLASSIFIED



MAGAZINE 20

APPROVALS:	DATE:
SAFETY COMMITTEE REVIEWED:	
TECH. REV.	
DRG. REV.	
RELEASE	
REUSE	
DISC	

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

SHEET	1	2	3	4	5	6	TITLE	U.S. TITLE CLASSIFICATION
NO. 8							MAGAZINE #28 FLOOR PLANS	
DATE							UCNE	
DRG. TYPE	SFP	FROM	HAO #28	CASE	14865	SCALE	AS NOTED	SHEET 1 OF 1
STATUS	FD-REL-12/12/91	ORIGIN	FD-BRJ-VJ.8					

9.123-57

79'-8"

34'-8"

6" 1'-0" 8'-0" 4" 8'-0" 4" 16'-0" 1'-0" 6"

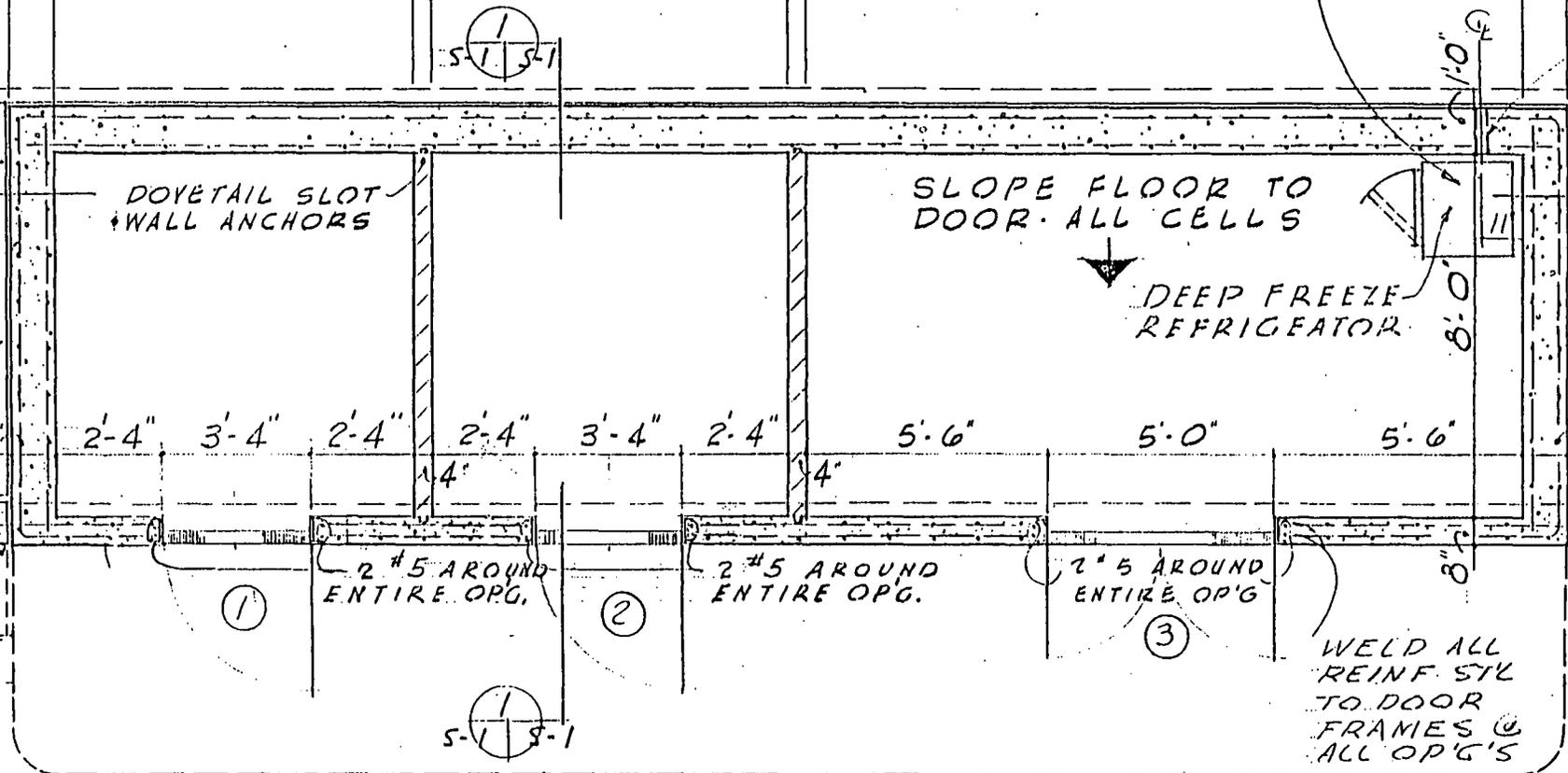
2" G SLEE

WATER WALLS

2" EW-EP WALLS

NTAL

OLDED JOINT



CANOPY OVERHANG

TOP CROSS SECTION

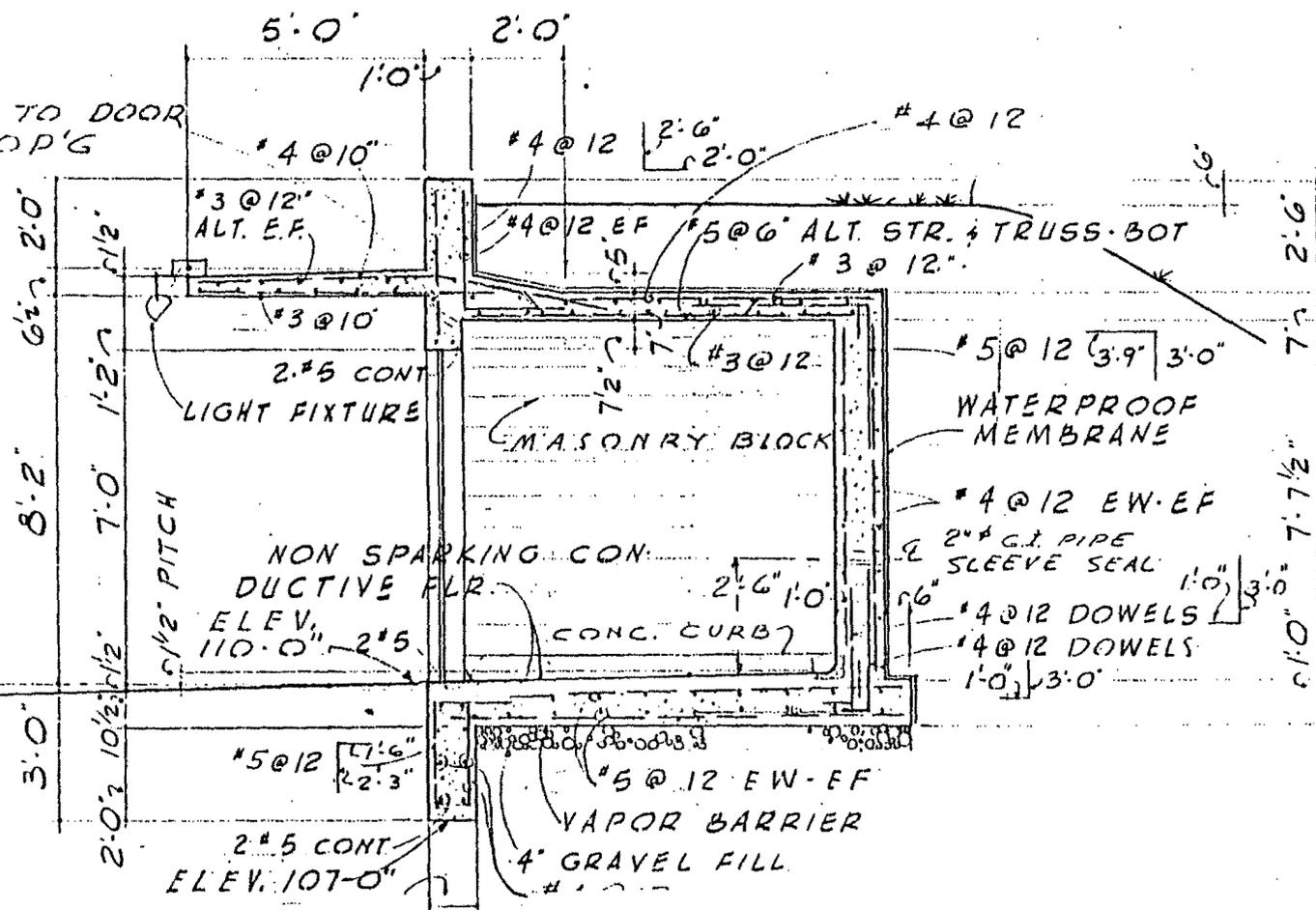
FLOOR PLAN

MAGAZINE 20

SCALE

1/4" = 1'-0"

WELD REINF. TO DOOR
FRAME @ EA. OP'G



SIDE CROSS SECTION

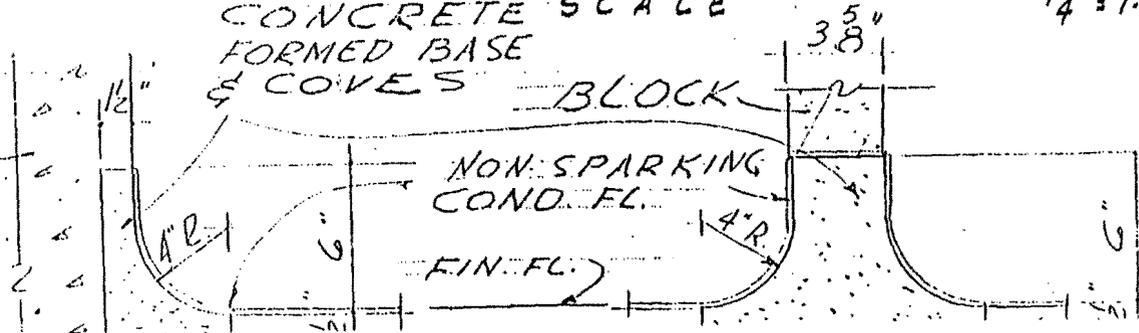
S E C T I O N



CONCRETE SCALE
FORMED BASE
& COVES

1/4" = 1'-0"

WALL

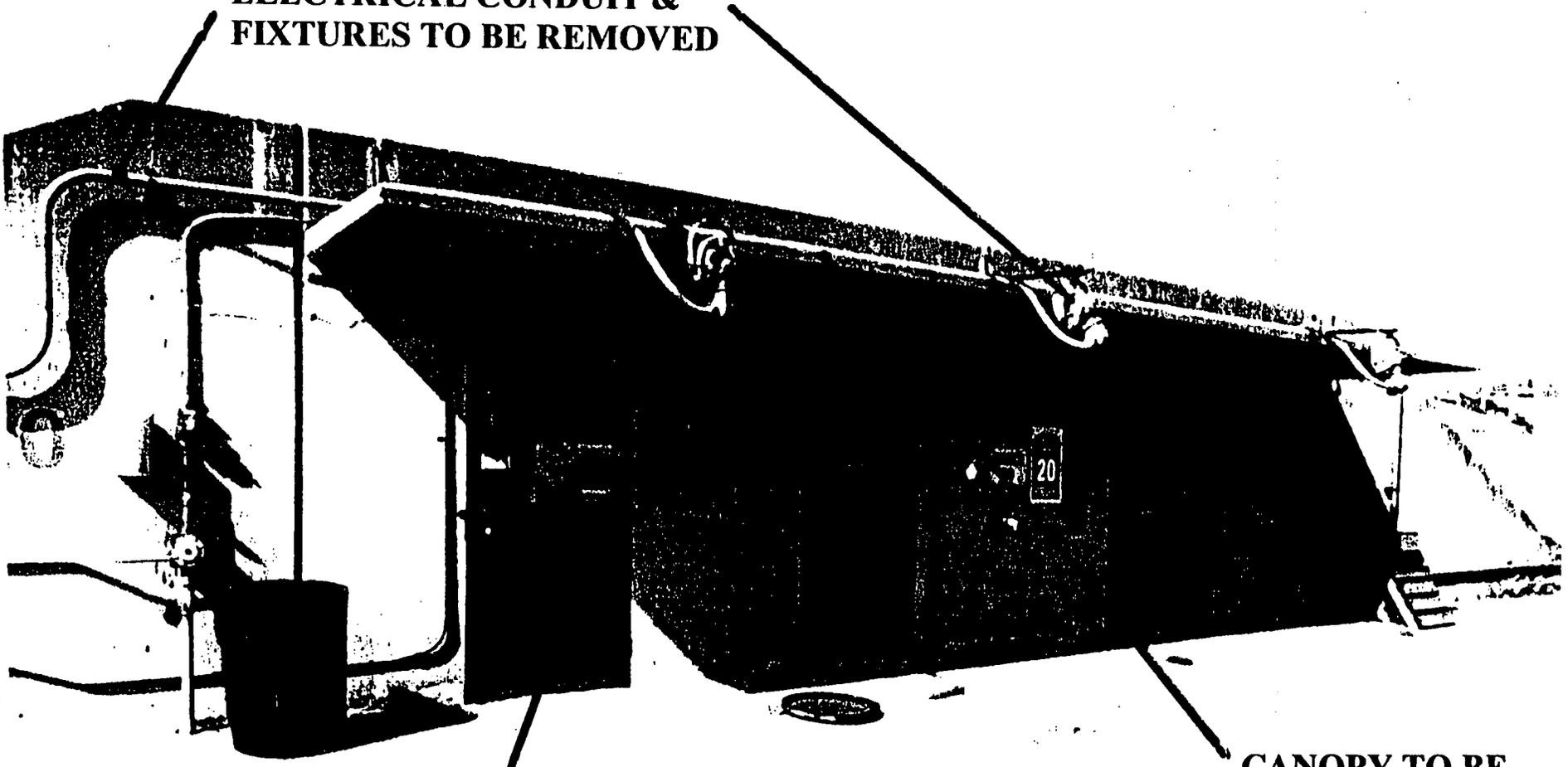


MAGAZINE 20

BASE &
COVE
DETAILS
SCALE 1/2" = 1'-0"

**ELECTRICAL CONDUIT &
FIXTURES TO BE REMOVED**

Mound Plant Magazine 20



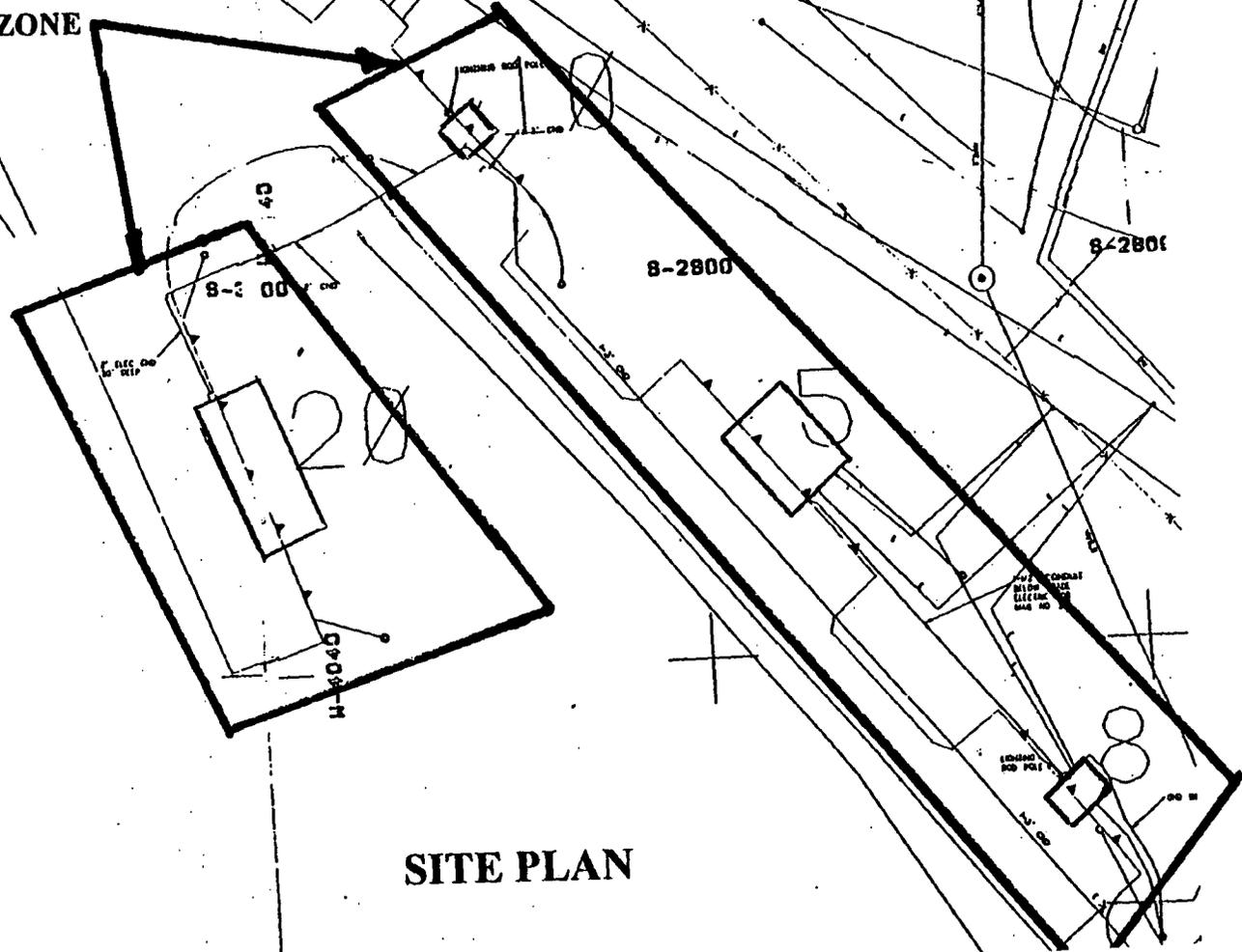
**STEEL DOORS TO
BE REMOVED**

**CANOPY TO BE
REMOVED**

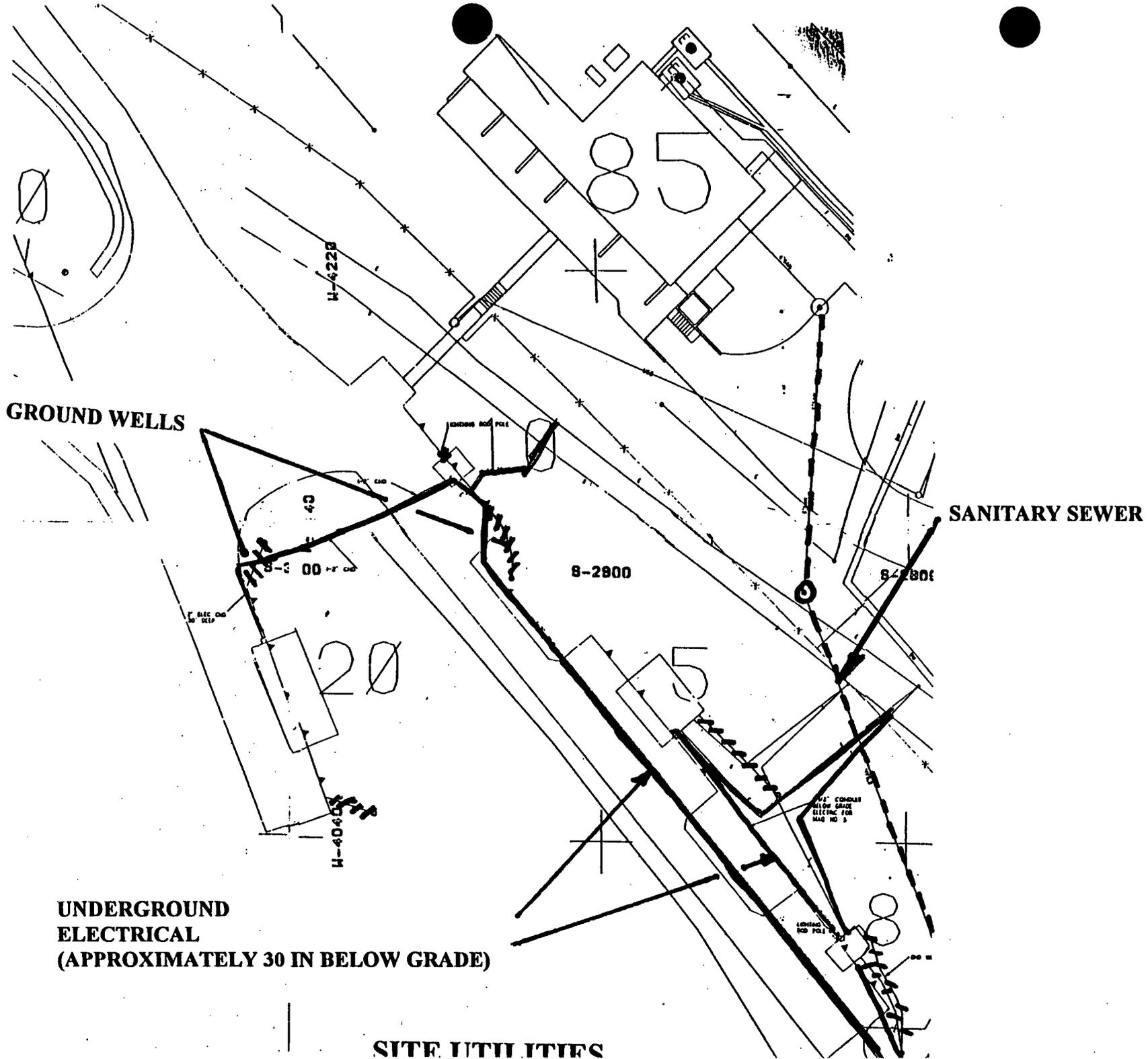
9.123-65

MAGAZINE 20

CONSTRUCTION ZONE



SITE PLAN



GROUND WELLS

SANITARY SEWER

**UNDERGROUND
ELECTRICAL
(APPROXIMATELY 30 IN BELOW GRADE)**

SITE UTILITIES

(A) RUN TEMPORARY PORTABLE CABLE BETWEEN MANHOLES TO MAINTAIN POWER TO REFRIGERATION EQUIPMENT AT MAGAZINE #5. 2-#6, 1-#8 GND. TYPE-W (OR OTHER SUITABLE TYPE)

RM. - 327 MODIFY TO PROVIDE 60A 480V, 3Ø SERVICE. (SEE EAST WALL RM. 327, DWG #4)

1-2/C #6 (EXIST.)
3-#6, 1-#8 GND (NEW)

6-#16 TWIS
1-#10 (PULL)
3-#6, 1-#8 GND, 3
1-#10, 3" C (SPARE)

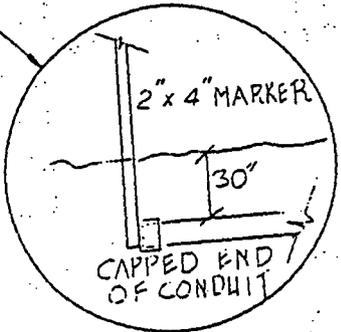
EXISTING 3-2/C #6

EXIST. 2-2/C #6

PROPOSED COMPONENT TEST FACILITY

FUTURE BY OTHERS

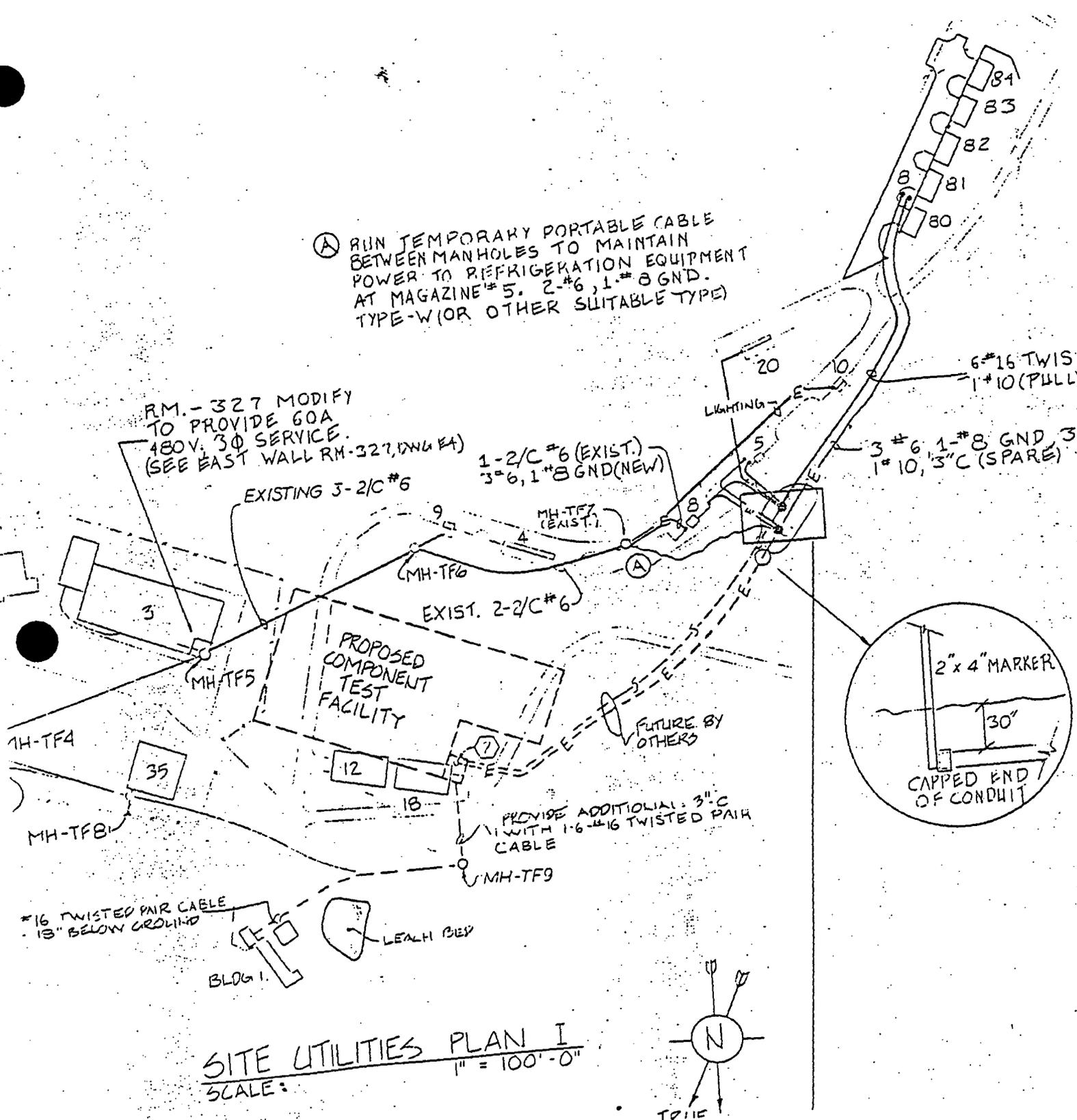
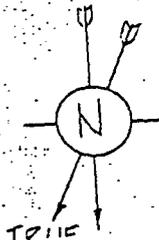
PROVIDE ADDITIONAL 3" C WITH 1-6-#16 TWISTED PAIR CABLE



#16 TWISTED PAIR CABLE
13" BELOW GROUND

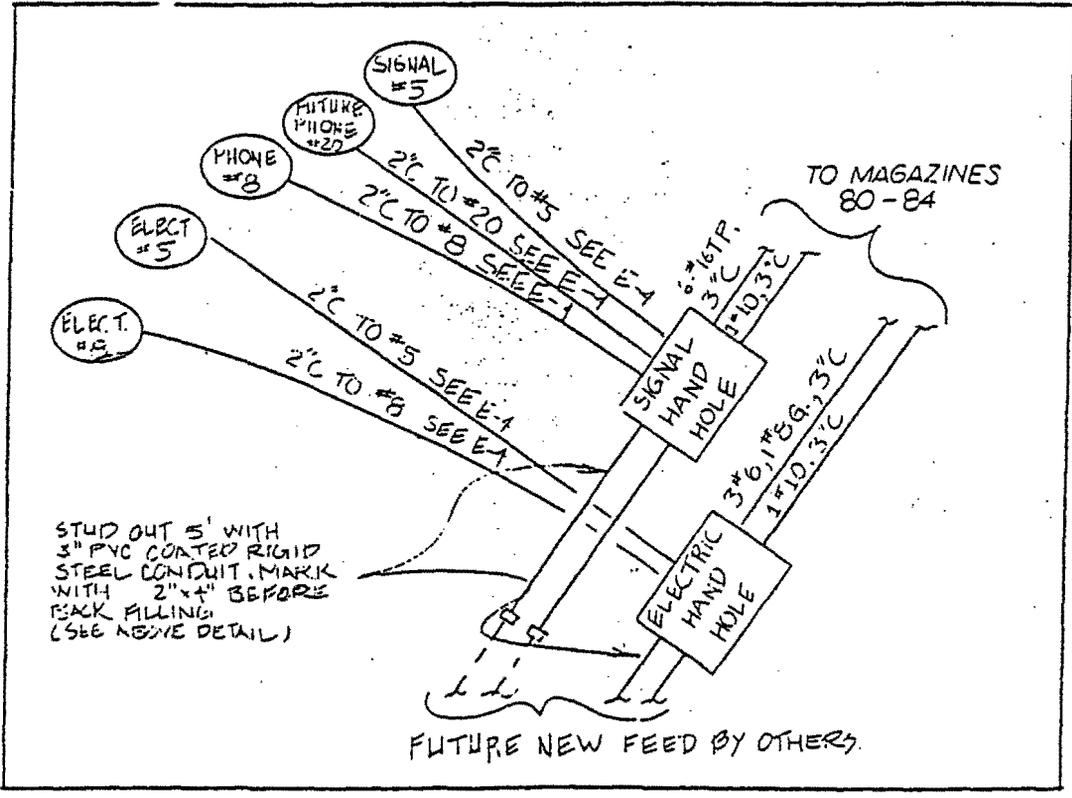


SITE UTILITIES PLAN I
SCALE: 1" = 100'-0"



SITE UTILITIES PLAN I

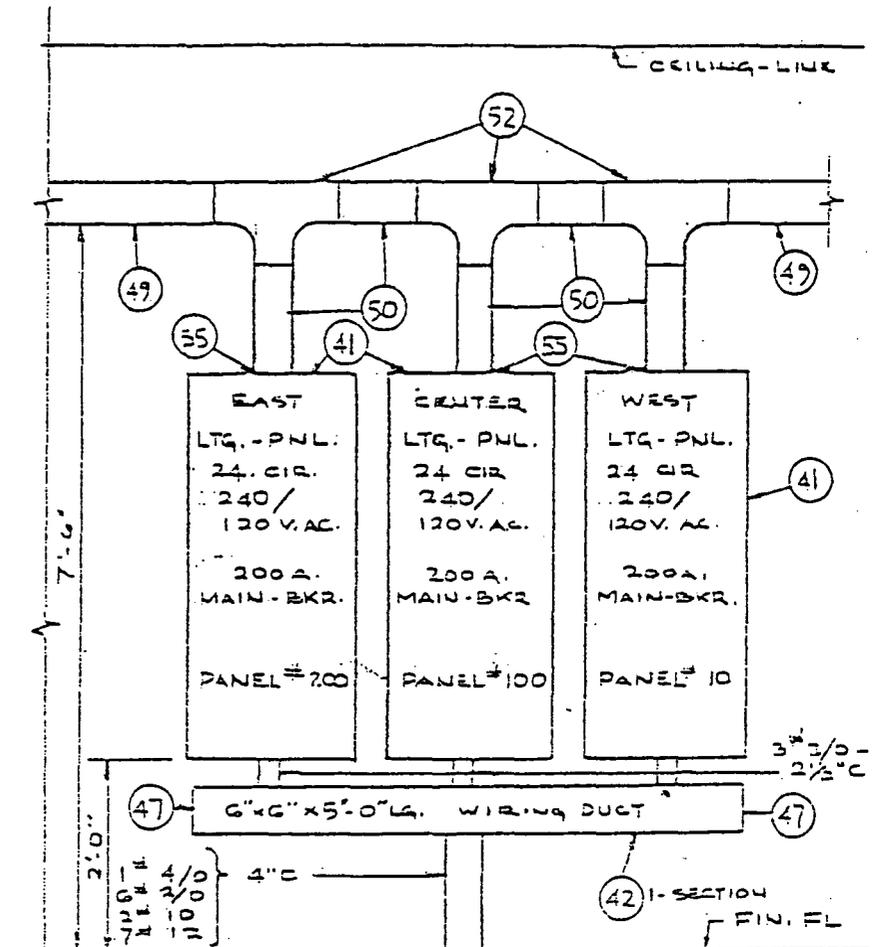
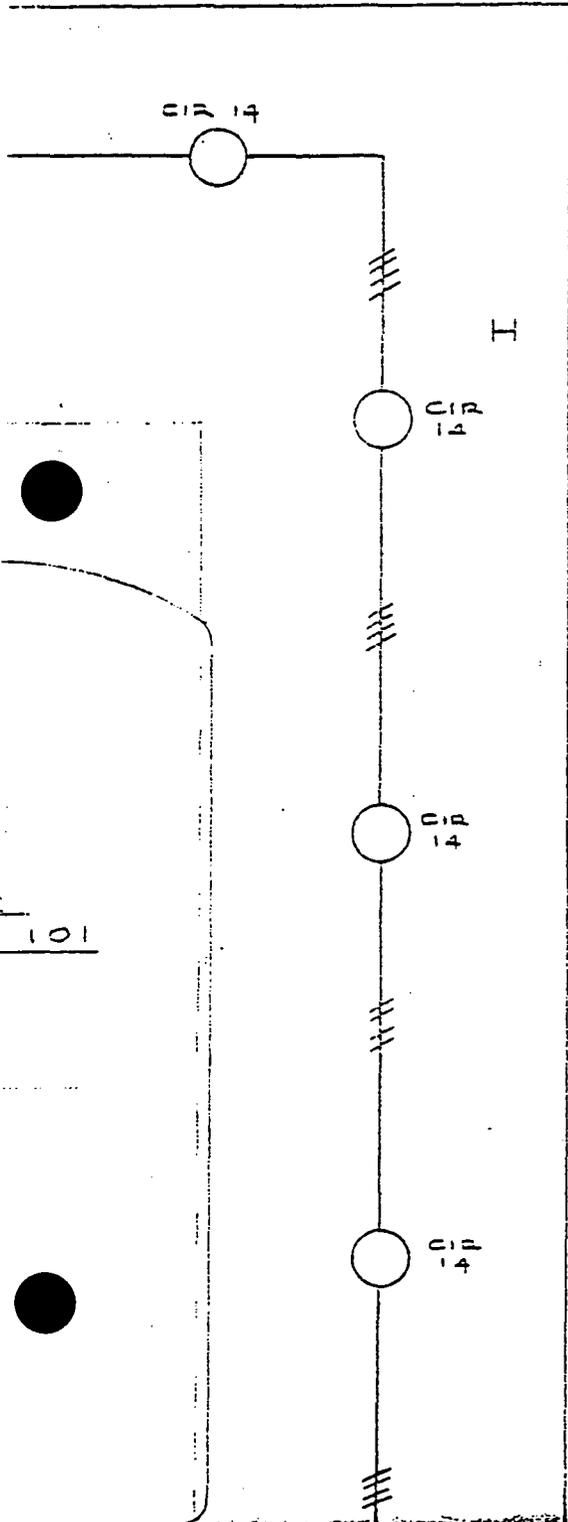
SCALE: 1" = 100'-0"



CEILING LINE

OUTSIDE EDGE
ROOF LINE

ALL FIXTURES MTD. OUTSIDE

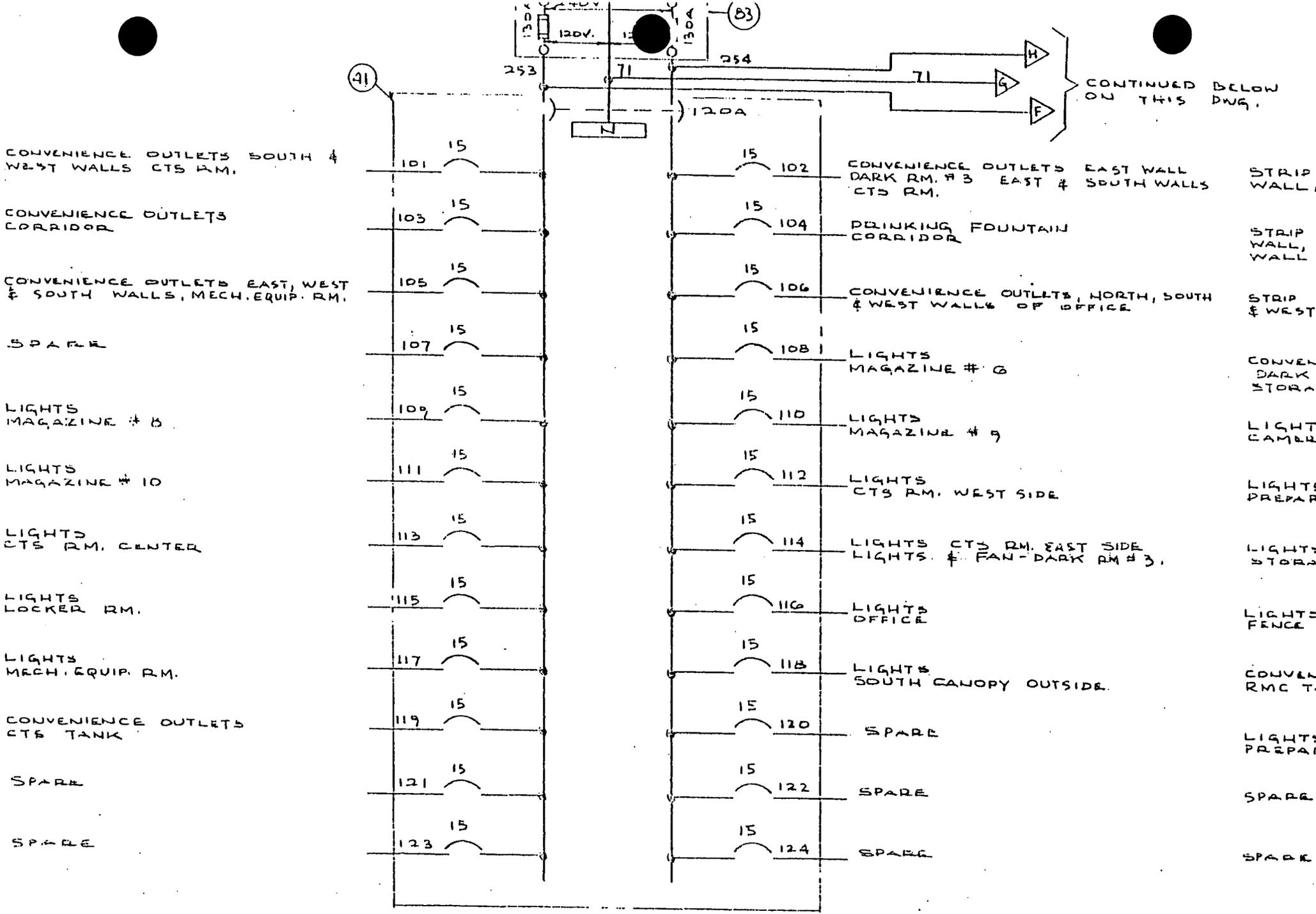


VIEW "A-A"

SHOWING LTG. PANELS "EAST" "CENTER" "WEST"
SCALE 1/2" = 1'-0"

LEGEND

- \$1 SINGLE POLE SWITCH
- \$3 THREE-WAY SWITCH
- \$4 FOUR-WAY SWITCH
- \$1P SUBSCRIPT (P) DENOTES FIXTURES OPERATED BY SW. FIXTURES ALSO HAVE SUBSCRIPT.
- \$M SUBSCRIPT (M) DENOTES MOTOR STARTING SW.
- (M) MOTOR.



CENTER PANEL "100"

CONT. ON THIS DWG.

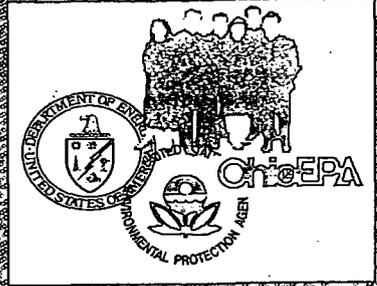
Appendix N

Building Data Package Narrative For Magazines 5, 6, 7, 10, 11, 20, 53, 54

MOUND



**Environmental
Restoration
Program**



MOUND PLANT

Building Data Package

Magazines 5, 6, 7, 10, 11, 20, 53, 54

Located within Release Block C, E, R, Q



BDP Magazines 5, 6, 7, 10, 11, 20, 53, 54

REV	DESCRIPTION	DATE
0 PUBLIC RELEASE	Available for comments.	Sept. 4, 1997
1 FINAL	Comment period expired. No comments. Press release inserted.	Nov. 4, 1997

MOUND



Environmental
Restoration
Program

**MOUND PLANT
BUILDING DATA PACKAGE**
Notice of Public Review Period



The following Building Data Packages will be available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio beginning August 7, 1997. Public comment will be accepted on these packages from August 7, 1997, through September 10, 1997.

**Buildings 5, 6, 7, 10, 11, 20, 53, 54:
Energetic/Inert Storage Magazines**

Written comments may be sent to Mound Community Relations, P.O. Box 3000, Miamisburg, Ohio 45343-3000 or by E-Mail to nowksl@doe-md.gov. Questions can be referred to Mound's Community Relations at (937) 865-4140.

Mound Plant Recommendation Magazines

BACKGROUND:

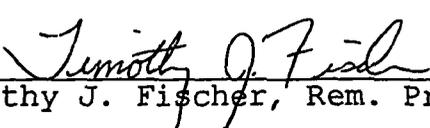
Magazines 5, 6, 7, 10, 11, 20 and 54 are single story reinforced concrete structures covered with approximately two feet of earth. Magazine 6 has no earth covering. Each Magazine has one or more storage cells that are protected by a canopy. Magazines 5, 6, 7, 10, 11, 20 and 54 range in size from 90 - 513 square feet and were constructed between 1949 and 1970.

RECOMMENDATION:

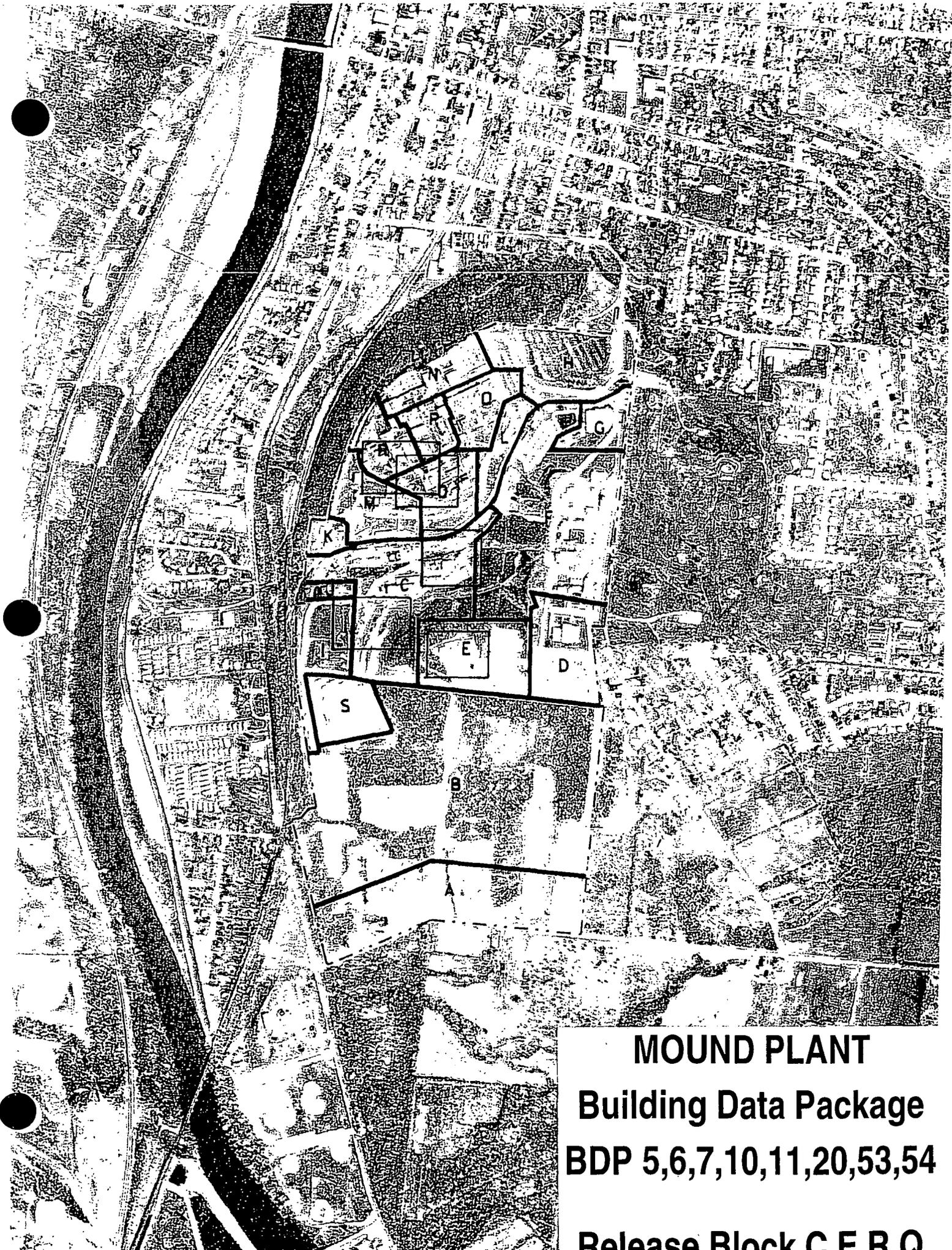
After thorough review of the environmental data and the building data package, the Core Team agrees that all existing environmental issues associated with Magazines 5, 6, 7, 10, 11, 20 and 54 have been resolved. Future use of Magazines 5, 6, 7, 10, 11, 20 and 54, if left in place, shall be restricted to industrial/commercial use. The Core Team hereby recommends that the U.S. Department of Energy submit a letter to the Administrator of the U.S. EPA for final approval of the lease or sale of this property, as required by Section 120(h) of CERCLA.

CONCURRENCE:

DOE/MEMP:  5-14-97
Sam Cheng, D&D Team Leader (date)

USEPA:  5/14/97
Timothy J. Fischer, Rem. Proj. Mgr. (date)

OEPA:  5/15/97
Brian K. Nickel, Project Manager (date)



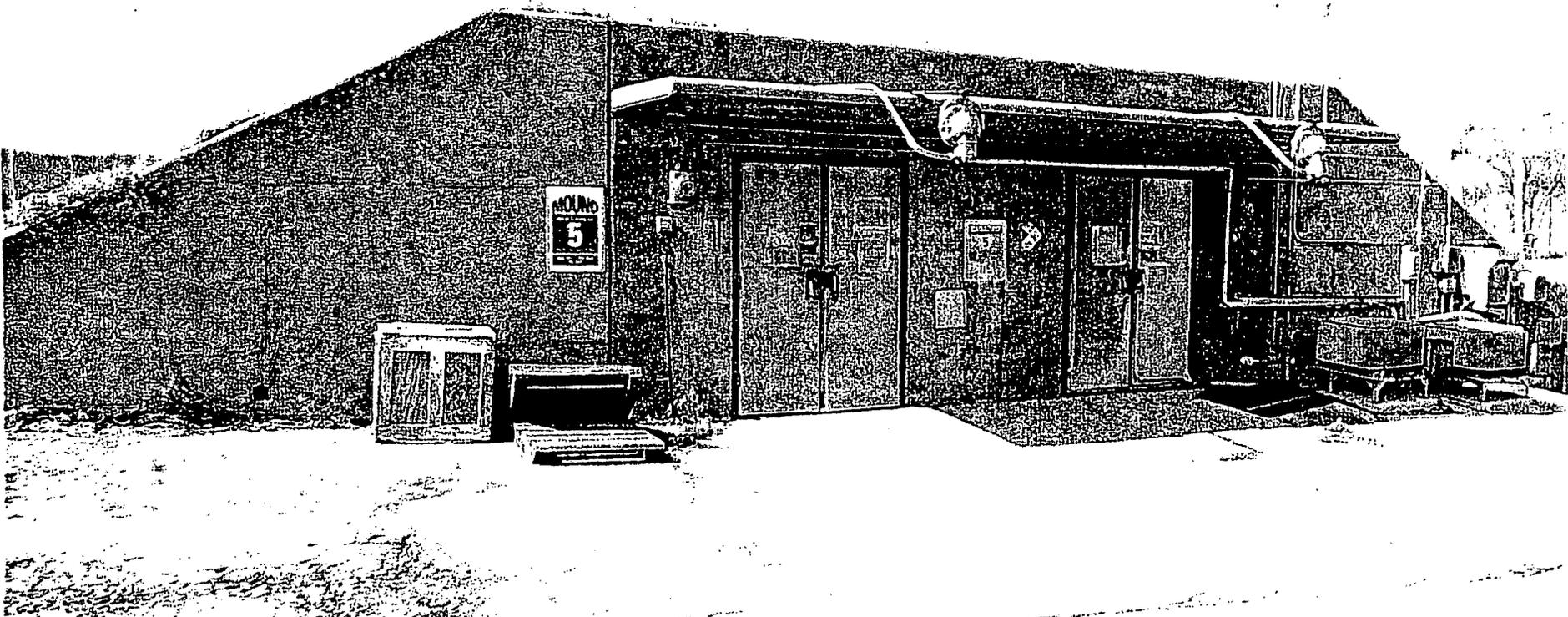
MOUND PLANT

**Building Data Package
BDP 5,6,7,10,11,20,53,54**

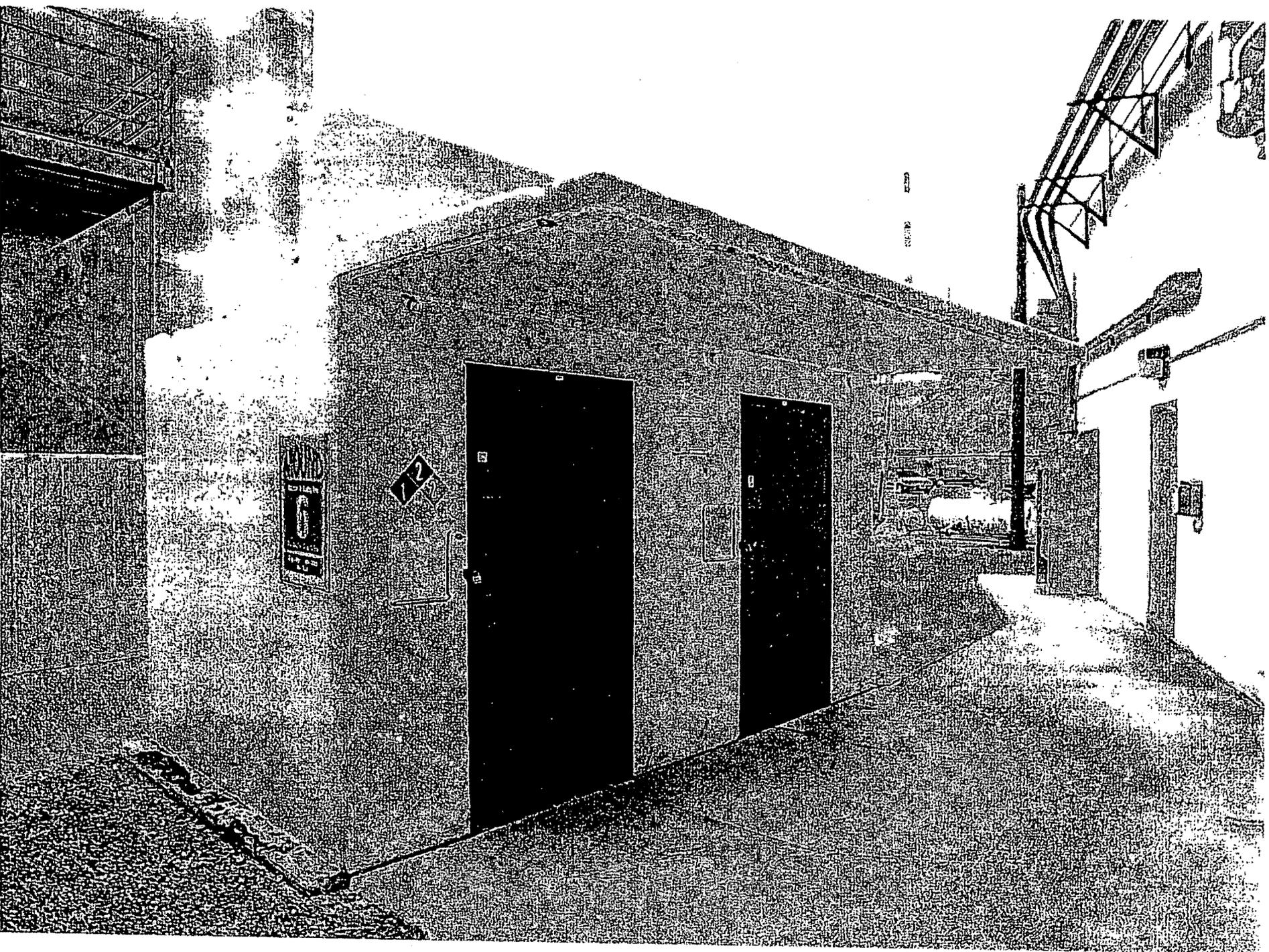
Release Block C.E.R.Q



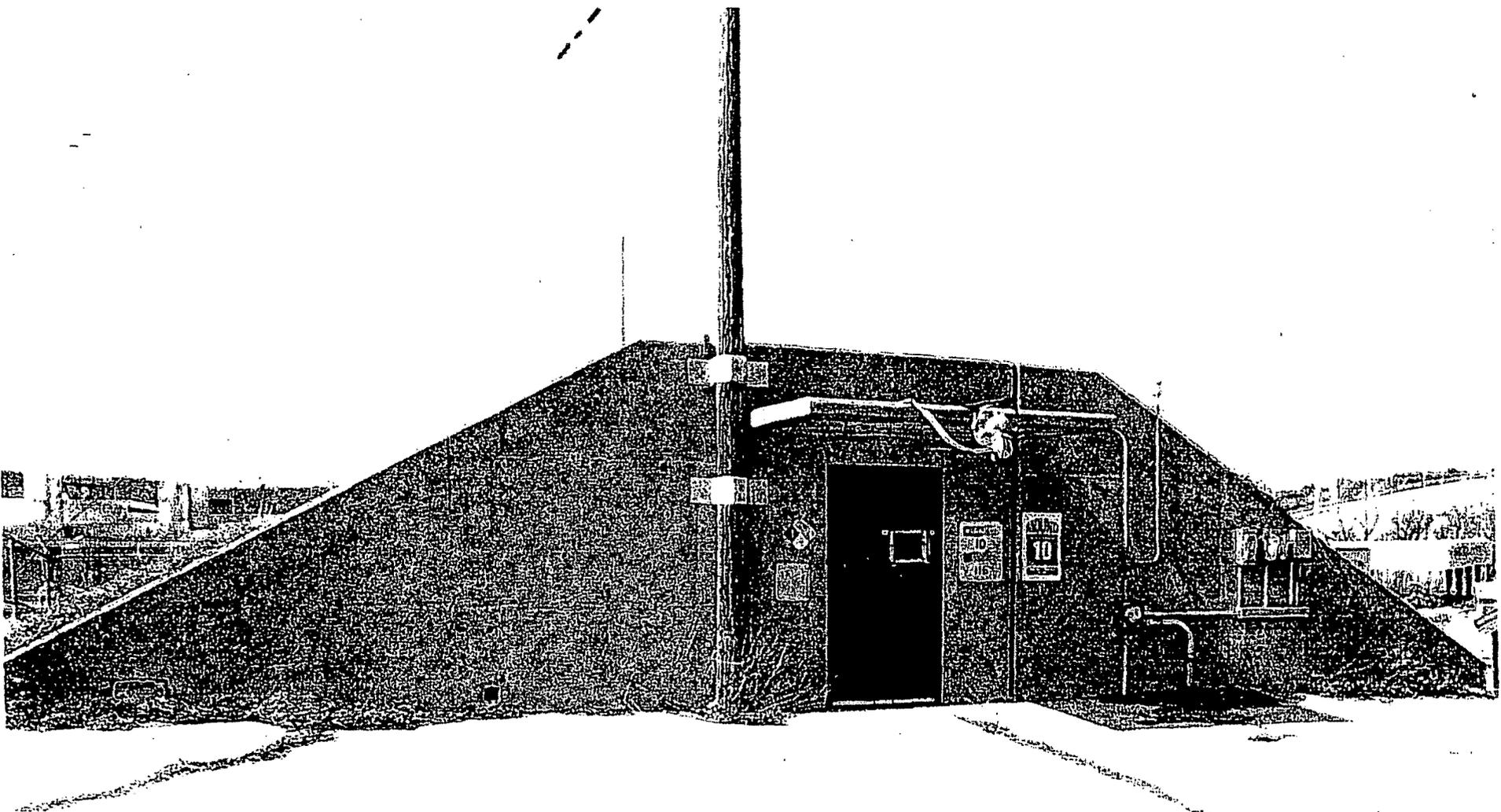
Mound Plant Magazine 5



9.117-65

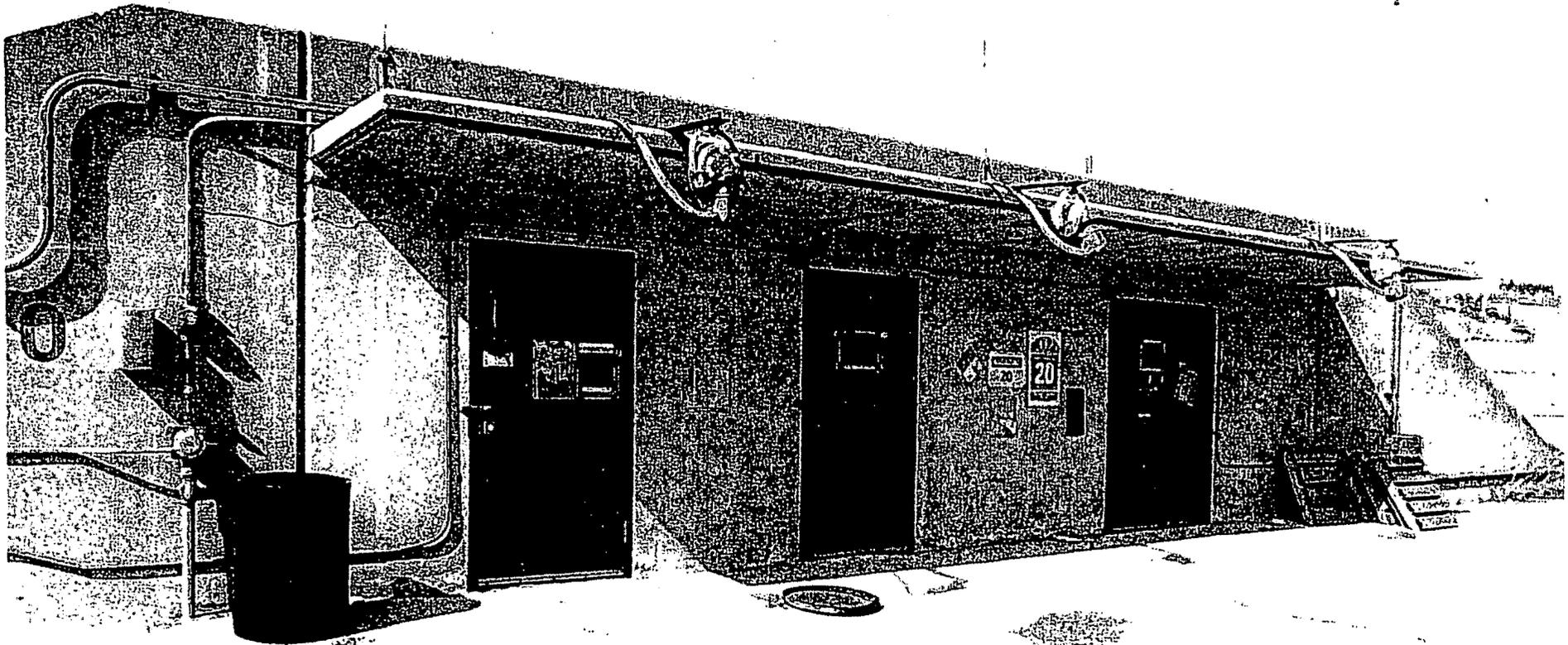






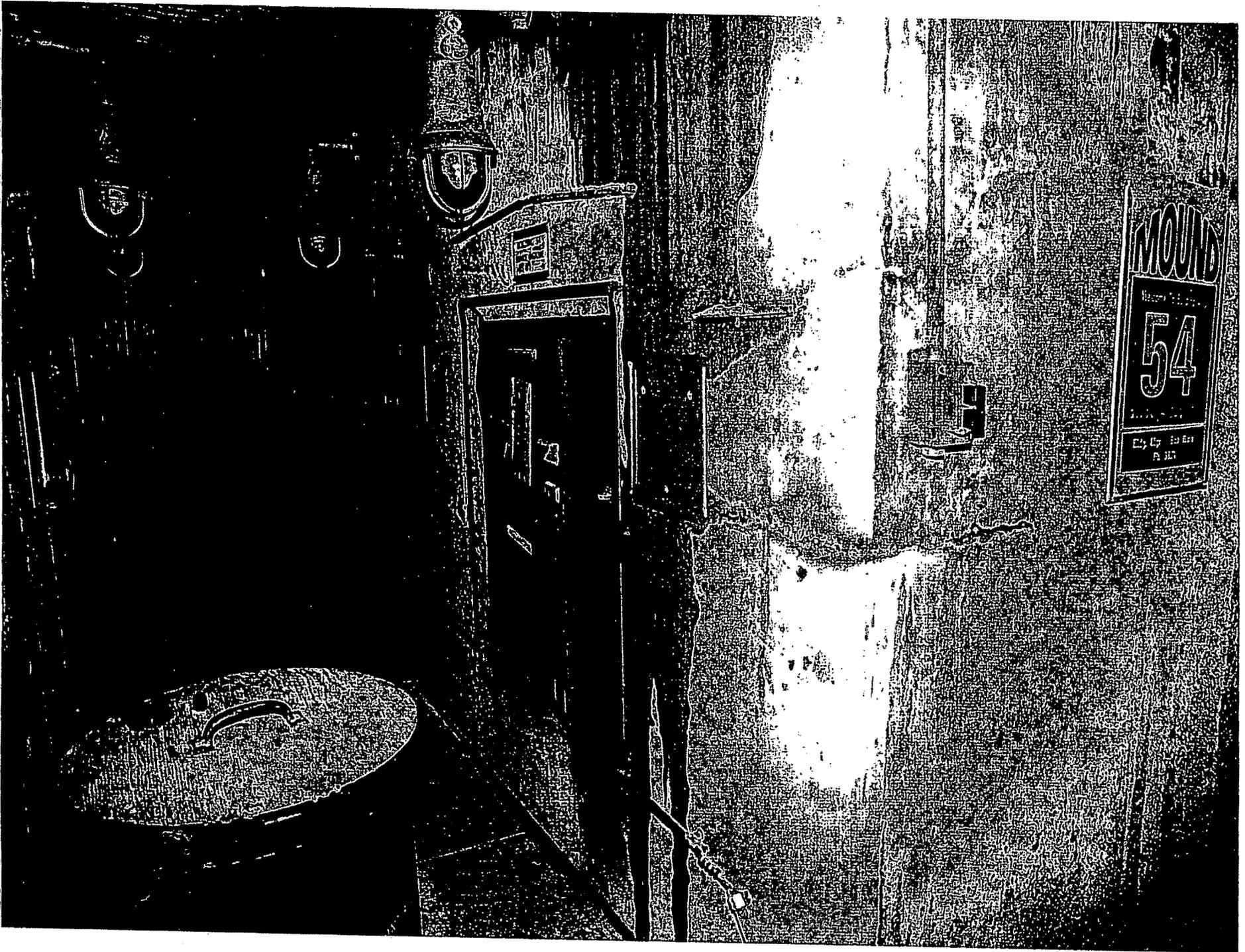


Mound Plant Magazine 20



9.123-65





BUILDING DATA PACKAGE (BDP)
MAGAZINES 5, 6, 7, 10, 11, 20, 53, 54
DOE MOUND PLANT
MIAMISBURG, OHIO 45343

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1.0 Summary

1.1 General

This document has been prepared in response to an agreement between the Department of Energy (DOE), the U.S. Environmental Protection Agency, and the Ohio Environmental Protection Agency. It is a Building Data Package of Magazines 5, 6, 7, 10, 11, 20, 53 and 54 located at the DOE Mound Plant in Miamisburg, Ohio. This investigation was performed in accordance with the procedures laid out in ASTM Standard Practice for Environmental Site Assessments; Phase I Environmental Site Assessment Process (Designation E 1527-94).

The scope of the investigation included the magazines and a 15-foot wide perimeter border around the magazines. This perimeter includes roadways, sidewalks, pavement and grass covered areas. The investigation of Magazines 5, 6, 7, 10, 11, 20, 53 and 54 included the following.

- 1) A building and perimeter inspection.
- 2) An examination of historical aerial photographs and maps.
- 3) A review of federal and state regulatory agency record.
- 4) Personnel interviews.
- 5) A review of Mound Plant records for:
 - a) History of spills and releases
 - b) Past sampling data
 - ◆ Radiological survey
 - ◆ Chemical history
 - ◆ Lead paint
 - ◆ Asbestos
 - ◆ Radon

Although Magazine 53 is included throughout this document, the Core Team decided on May 14, 1997 that this magazine would be excluded from the binning recommendation. Magazine 53 is included in the RCRA closure for the Burn Area. Finalization of the RCRA closure will allow the Core Team to reevaluate Magazine 53. The building investigation was conducted by EG&G personnel on March 26, 1997 and April 14 through April 28, 1997.

Mound Plant is located in the southern portion of the corporation limits of Miamisburg, Ohio. The entire Mound Plant facility is situated on 305 acres of land and contains approximately 130 buildings. The subject property consists of Mound Plant Magazines 5, 6, 7, 10, 11, 20, 53, and 54.

<u>Magazine</u>	<u>Facility Area</u>	<u>Date Constructed</u>
Magazine 5	314 sq. ft.	1961
Magazine 6	90 sq. ft.	1949
Magazine 7	387 sq. ft.	1957
Magazine 10	66 sq. ft.	1956
Magazine 11	372 sq. ft.	1957
Magazine 20	303 sq. ft.	1963
Magazine 53	239 sq. ft.	1970
Magazine 54	513 sq. ft.	1970

All areas are *in gross* square feet (external wall to external wall). These magazines have served primarily as storage facilities for containerized bulk explosive materials for United States Department of Energy detonator production.

1.2 Statement of Environmental Concerns

There are no substantial environmental concerns related to these magazines and the 15-foot perimeter area.

Because refrigerants were not removed from the Magazine 5 HVAC system, future owners of these facilities will have to be cognizant of the responsibilities of managing chlorinated fluorocarbon refrigerant materials.

Because of the date of construction, there is some potential for the presence of lead based paints in all of these Magazines.

2.0 Introduction

2.1 Purpose

The purpose of this Building Data Package is to identify, as possible, any recognized environmental conditions (defined below) that may affect the subject property.

2.2 Special Terms and Conditions

Key Site Manager – The Key Site Manager is the person identified by the owner of a property as having good knowledge of the uses and physical characteristics of the property. This individual is frequently, but not necessarily always, the Building Manager. Mr. Robert Ward, Building Manager, has been designated as the Key Site Manager for Magazines 5, 6, 10, 20, and 53. Mr. Jeff Boston, Building Manager, has been designated as the Key Site Manager for Magazine 54. Mr. Gary Weidenbach, Building Manager, has been designated as the Key Site Manager for Magazines 7 and 11.

Recognized Environmental Condition – The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a likely release, a past release, or a material threat of a release of any hazardous substances or petroleum into structures or into the ground, ground water, or surface water near the building. The term is not intended to include *deminimis* conditions that generally do not present a material risk of harm to public health or the environment, and that generally would not be the subject of an enforcement action brought to the attention of the appropriate governmental agencies.

2.3 Limitations and Exceptions of Assessment

Magazines 5, 6, 7, 10, 11, 20, 53 and 54, as stated above, are covered by the building footprint, the surrounding concrete roadway, concrete sidewalk, asphalt pavement, and grass covered areas 15 feet around the perimeter of the magazines. Soil conditions beneath the magazines and the paved areas could not be observed. Based on the process history of the magazines and the records of soil investigations in the soil areas near the magazines, it was determined that no soil samples were required within the 15-foot perimeter.

2.4 Limiting Conditions and Methodology Used

2.4.1 On-Site Methodology

Mound Plant personnel examined the magazines in the Spring of 1997. This examination consisted of a detailed inspection of the magazines and border survey of the neighboring properties.

2.4.2 Use of Previous Assessments

This report used a variety of previous assessments completed by EG&G Mound and/or its subcontractors. The reports used were as follows.

- ◆ OU-9 Site Scoping Report, Volumes 1-12
- ◆ Mound Facility Physical Characterization, December 1992
- ◆ Active Underground Storage Plan, November 1994.
- ◆ MD-22153, Mound Site Radionuclides By Location, July 1995
- ◆ Asbestos Surveys
- ◆ Environmental Appraisal of the Mound Plant, March 1996
- ◆ Characterization of Mound's Hazardous, Radioactive and Mixed Wastes, August 1990
- ◆ Phase 1, Environmental Assessment of Thirteen Buildings at Mound Plant, April 1994

2.4.3 Historical Information

A complete title search of the Mound Plant was completed on June 3, 1995. A copy of the report is in Appendix 7.3.

2.4.4 Records Review

Environmental Data Resources (EDR), Inc., of Southport, Connecticut, a regulatory database search company, was contracted in 1995 to provide environmental regulatory information concerning the site and surrounding properties, consistent with the requirements of ASTM Standard #1527-94. This information was reviewed by Environmental Restoration personnel for indications of recognized environmental conditions.

3.0 Site Description

3.1 Location and Legal Description

Magazines 5, 6, 7, 10, 11, 20, 53, and 54 are located at the U.S. Department of Energy facility known as Mound Plant. Mound Plant is situated in the city of Miamisburg, Miami Township, Montgomery County, state of Ohio, and is being a track of land containing 305.116 acres, more or less, situated in part of Section 30 and fractional Sections 35 and 36, Town 2, Range MRS and being all of city lots numbered 2259, 2290, 4777, 4778, and 4779 and part of out lot #6 lying within the city of Miamisburg, Ohio; and being the same premises convened in Warranty Deeds recorded in Volume 1214, pages 10, 12, 15, and 17, Volume 1215, page 347, Volume 1214, page 248, Volume 1246, page 45, Volume 1258, page 74, Volume 1258, Volume 1256, page 179, and microfiche no. 81-376A01 and microfiche #81-323. Deed records, maps, and site plans are in Appendix 7.2 and 7.3.

3.2 Site and Vicinity Characteristics

The subject site consists of Mound Plant Magazines 5, 6, 7, 10, 11, 20, 53, and 54 and a 15-foot wide perimeter border around each magazine. (See Appendix 7.2 and Introductory Pages.)

The Mound Plant facility is situated on 305 acres of land and contains approximately 130 buildings with a total of approximately 1.4 million square feet of floor space. (The number of buildings is constantly diminishing as buildings are decommissioned and either sold or demolished.) The original 182-acre site, purchased by the Manhattan Engineering District in 1946, consists of two hills and an intervening valley that runs approximately east and west. The 124-acre tract, acquired in 1981, is an underdeveloped mixture of fields and woods that undulates and slopes downward to the west, away from the main site. This area was acquired to serve as a buffer and has been used as a staging area and parking area for contractors working on-site.

To the west lies a Conrail Railroad line and the north south trending Miami-Erie Canal (owned and controlled by the Ohio Department of Natural Resources). The northern boundaries of the site abuts the historic residential area of Miamisburg, Ohio. Mound Road marks the northern half of the eastern perimeter of the facility then veers east, away from the southern half of the eastern boundary. A public golf course (belonging to the City of Miamisburg), the Miamisburg Mound Memorial Park, old agricultural fields, residential lots, and vacant wooded lots border against the facility along Mound Road. Benner Road forms the southern property

line of the Mound Plant, with agricultural fields and farms occupying the lands beyond.

3.3 Description of Structures, Roads, Other Improvements on the Site

Magazines 5, 6, 7, 10, 11, 20, 53, and 54 are single story reinforced concrete structures. Magazines 5, 7, 10, 11, 20, 53, and 54 are covered with earth. Magazine 6 has no earth covering. The earth covering was removed to allow an addition to Building 63 to be constructed. There were no other structures, roads or improvement that would impact the environmental conditions of the magazines.

3.4 Information Reported by User Regarding Environmental Liens or Specialized Knowledge or Experience

The title search completed on June 3, 1995 indicated one lien against the property. That resulted from an unpaid Montgomery County incinerator fee. After this was discovered, the fee was paid and the lien was removed from the title.

3.5 Current uses of Magazines 5, 6, 7, 10, 11, 20, 53 and 54

No operations are being conducted in Magazines 5, 6, 7, 10, 11, 20, 53, and 54, and the magazines are currently empty.

3.6 Past Uses of Magazines 5, 6, 7, 10, 11, 20, 53, and 54

The magazines were used for the purpose of storing large quantities of containerized explosives. Detonators, high explosive powders, detonator cords, pyrotechnic powders, hexanitrostilbene, and primary explosives were stored in drums on the floor or on shelves.

Magazine 5 consists of two storage cells. A continuous concrete canopy protects the entrance to the cells. The roadway ends at the edge of the foundation. This building was constructed as a slab on grade building, with reinforced concrete walls and roof that was covered with about two feet of earth. Materials were removed by September 9, 1995. This magazine has a central cooling system.

Magazine 6 consists of two storage cells. A continuous concrete canopy protects the entrance to cells. The roadway ends at the edge of the foundation. This building was constructed as a slab on grade building, with reinforced concrete walls and roof that was covered with about two feet of earth. At some time the earth was removed. Materials were removed by September 30, 1994.

Magazine 7 consists of four storage cells. A plastic canopy protects the entrance to the cells. The roadway ends at the edge of the foundation. This building was constructed as a slab on grade building, with reinforced concrete walls and roof that was covered with about two feet of earth. Explosive materials were stored in tray type containers in one cell to allow the drying system to function properly. The rooms were sealed in late 1994. When opened, there were no residual materials. This magazine has a steam heating system.

Magazine 10 consists of a single storage cell. A continuous concrete canopy protects the entrance to the cell. The roadway ends near the edge of the foundation. This building was constructed as a slab on grade building, with reinforced concrete walls and roof that was covered with about two feet of earth. Materials were removed from this magazine by September 30, 1995. This magazine had neither a heating or cooling system.

Magazine 11 consists of eight storage cells. A plastic canopy protects the entrance to the cells. The roadway ends at the edge of the foundation. This building was constructed as a slab on grade building, with reinforced concrete walls and roof that was covered with about two feet of earth. The rooms were sealed in late 1994. When opened, there were no residual materials. This magazine has a steam heating system.

Magazine 20 consists of three cells. The center cell is full of sandbags and sealed. The sandbags were placed in this cell to allow for larger quantities of explosives to be stored in the remaining two cells. The purpose of the sandbags was to eliminate propagation of an explosion of either of the two end cells. A continuous concrete canopy protects the entrance to the cells. The roadway ends at the edge of the foundation. This building was constructed as a slab on grade building, with reinforced concrete walls and roof that was covered with about two feet of earth. Materials were removed from this magazine at some time prior to September 30, 1995. This magazine has neither a heating or cooling system.

Magazine 53 consists of a single cell. A canopy protects the entrance to the cells. The roadway ends at the edge of the foundation. This building was constructed as a slab on grade building, with reinforced concrete walls and roof that was covered with about two feet of earth. The roof and sidewall construction of this magazine is corrugated steel rather than concrete. The end walls are 12" reinforced concrete. This bunker was used for the temporary storage of waste products. Materials were removed from this magazine at some time prior to the end of 1996. This magazine has neither a heating or cooling system. Magazine 53 was included in the RCRA closure of the Burn Area. This magazine will be reviewed after the RCRA closure is completed.

Magazine 54 consists of five cells. A plastic canopy protects the entrance to the cells. The roadway ends at the edge of the wall foundation. This building was constructed as a slab on grade building with reinforced concrete walls and roof that was covered with about two feet of earth. Materials were removed from this magazine at some time prior to September 30, 1994. This magazine has neither a heating or cooling system.

3.7 Current and Past Uses of Adjacent Buildings

These magazines are located in somewhat remote locations with no contiguous buildings. The exception is Magazine 54, which is a continuation of the dock at building DS.

Magazines 5, 6, 10, & 20

Close Proximity to Building	Building Area (Sq. Ft)	Current Use	Past Use	Direction from Building
87	38,882	Vacant	Explosive Testing	SW
85	3,161	Vacant	Powder Blending & Processing	E

These facilities appear to have no environmental impact on the above magazines.

Magazines 7 & 11

Close Proximity to Building	Building Area (Sq. Ft)	Current Use	Past Use	Direction from Building
I	64,654	Vacant	Load & Test Explosives	S
SW	43,066	Processing Nuclear Materials	Same as Current Use	SW
89	4,380	Vacant	Explosive Component Storage	W
48	7,950	Vacant	Explosives Testing & Offices	NW

These facilities appear to have no environmental impact on the above magazines.

Magazine 53

Close Proximity to Building	Building Area (Sq. Ft)	Current Use	Past Use	Direction from Building
SST	590	Salt Storage	Salt Storage	N

This facility appears to have no environmental impact on the above magazines.

Magazine 54

Close Proximity to Building	Building Area (Sq. Ft)	Current Use	Past Use	Direction from Building
DS	47,810	Metrology Laboratories Explosive Development Tape Processing Production Receiving Inspection	Metrology Laboratories	W

This facility appears to have no environmental impact on the above magazines.

4.0 Records Review

4.1 Standard Environmental Record Sources, Federal and State

Environmental Data Resources, Inc., provided information regarding sites in the vicinity of the subject site, which appear in regulatory agency summaries and databases. Sites under the jurisdiction of various regulatory offices or programs were included in the EDR search report, provided in Appendix 7.4.

There are fourteen sites within the appropriate (see EDR document, Appendix 7.4) radii for an ASTM Phase I Environmental Site Assessment search. The properties are designated in Table 1 as well as in the EDR report.

All of the identified sites listed in Table 1 are located north or west of the Mound Plant. These other sites are as much as 170 feet lower in elevation than the Mound Plant main hill; thus they are down gradient or down slope in terms of surface water, and probably ground water flow. These other sites are very unlikely to adversely effect the soil or ground water conditions at the subject site.

The Mound Plant site was identified as a contaminated site on the National Priority List under CERCLA (Superfund) in 1989. The Mound Plant site was originally listed as a consequence of historic disposal practices including use of a commercial/industrial landfill, various spills, and the use of underground storage tanks, resulting in the contamination of soils and drinking water. The original contaminants of concern were calcium cyanide, copper cyanide, plutonium and its isotopes, and compounds, specifically plutonium-238, and uranium, its isotopes and compounds.

The clean-up of the Mound Site was originally to be accomplished under the CERCLA mandated procedures for regulating Superfund Sites using the operable unit (OU) system to define and characterize clean-up areas. As the clean-up effort went forward, it became apparent that the Mound Site did not fit the profile for a clean-up strategy based on operable units. The Department of Energy (DOE), the United States Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA) designed a new decision making process for the clean-up of Mound. The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 process". The Mound 2000 process system divided Mound into 19 Release Blocks containing over 400 Potential Release Sites (PRSs) with approximately

200 concerned with potentially contaminated soils, and the balance with potential contamination in buildings.

In compliance with permit requirements under RCRA, the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), and the Clean Air Act (CAA), Mound Plant has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. Mound Plant has submitted both RCRA Part A and Part B permit applications and operates as a RCRA hazardous waste treatment and storage facility under an interim status. Mound Plant also maintains an NPDES surface water discharge permit with Facility I.D. number OH 009857. Permits for the open burning of wastes involving explosives and other fuels have been issued by the Regional Air Pollution Control Agency (RAPCA). Other operations that produce particulate or vaporous emissions are registered with RAPCA and OEPA. Mound Plant also submits annual Emergency and Hazardous Chemical Inventory forms to the OEPA, pursuant to SARA, Title III, the Emergency Planning and Community Right-to-Know Act. The 1995 version of this report indicated that no chemicals are stored in Magazines 5, 7, 10, 11, 20, 53, and 54 in quantities above the regulatory thresholds.

Table 1. Properties of ASTM Phase I Environmental Sites Assessment

Address and Property Name	Proximity	Status
U.S. DOE Mound Plant	Mound Road Miamisburg, OH (target property)	NPL, PADS, CERLIS, LUST, & TRIS
D.J. Ceramics	611 S. Main Street Miamisburg, OH (WNW)	LUST
CG&R	901 S. Main Street Miamisburg, OH (W)	LUST
GMC Delco Products Division	329 E. First Street Miamisburg, OH (NNW)	RCRIS-SQG, FINDS
Dayton Public Schools	348 W. First Street Miamisburg, OH (NNW)	RCRIS-SQG, FINDS
City of Miamisburg Pump Station	1021 S. Main Street Miamisburg, OH (WSW)	UST
Richard Church, Sr. Estate	1009 S. Main Street Miamisburg, OH	LUST
Presto Adhesive Paper Co., Inc.	222 Mound Avenue Miamisburg, OH (N)	RCRIS-LQG, FINDS
Plocher Andrew Sons	4128 E. First Street Miamisburg, OH (N)	RCRIS-SQG, FINDS
Shell Oil Co.	1224 S. Main Street Miamisburg, OH	LUST
Point Store	155 S. Main Street Miamisburg, OH (N)	LUST
Miamisburg Water Treatment Plant	302 S. Riverview Miamisburg, OH (NW)	LUST
Miamisburg Well Field/Unknown Source	302 S. Riverview Miamisburg, OH (NW)	LUST
Technicote, Inc.	222 Mound Avenue Miamisburg, OH (N)	RCRIS-SQG, UST, LUST

4.2 Physical Setting Source(s)

See Appendix 7.2.

4.3 Historical Use Information

A history of the site was developed to identify past uses that may have an environmental impact. A title search was performed on June 3, 1995 to establish a history of ownership. The history of operations comes from other documents. In the summer of 1942, the United States Army organized the Manhattan Energy District for the purpose of developing an atomic bomb. This undertaking became known as the "Manhattan Project." In 1943, the director of Monsanto Chemical Company (MCC, now Monsanto Corporation) Central Research department in Dayton, Ohio accepted the responsibility for chemistry and the metallurgy of radioactive polonium-210, and the Dayton Project was launched. MCC operated five (5) units of the Dayton Project at various locations around the Dayton area. For Dayton Unit V (more formally known as the Dayton Engineer Works under the Dayton Engineer District), a 128-acre site on the outskirts of the town of Miamisburg, Montgomery County, Ohio, was selected in 1946 as the location for a permanent research facility in support of the Manhattan Project. In July 1946, the Monsanto Research Corporation (MRC), a subsidiary of MCC, engaged the firm of Giffels and Vallet of Detroit, Michigan, to design the plant. Construction of the new facility, consisting of fourteen (14) original buildings began in February 1947 by Maxon Construction Co., Dayton, Ohio. The plant was the first permanent facility of the Atomic Energy Commission, which succeeded the wartime Manhattan Engineering District. The Mound Plant was occupied by MRC personnel in May 1948 and operations involving radionuclides began in January 1949.

Mound Plant is a Government Owned/Contractor Operated (GOCO) facility, originally administered under the Oak Ridge Operations office of the AEC. The plant was assigned new production and development functions in 1955 when the administrative control was assumed by the AEC's Santa Fe operations office. The Santa Fe Operations Office was changed to the Albuquerque Operations office in April 1956. In January 1975, upon the dissolution of the AEC, the plant formally came under the Energy Research and Development Administration. In October 1977, the plant was incorporated into the DOE complex and the facility designation was changed from Mound Laboratory to Mound Plant. MRC was the sole operating contractor until October 1988 when EG&G Mound Applied Technologies took over.

Magazines 5, 6, 7, 10, 11, 20, and 54 were constructed from 1949 to 1970 as explosives storage bunkers. No waste was generated or stored in these magazines. Magazine 53 was used for temporary storage of containerized explosive waste prior to thermal destruction.

4.4 Additional Record Sources

4.4.1 History of Past Spills and Releases

No spills or releases were likely to have occurred in the magazines because 1) all energetic materials were stored in sealed containers and 2) procedures did not allow the opening of the sealed containers inside the magazine. See Appendix 7.5.

4.4.1.1 Associated PRS Overview

As a result of the investigations and documentation conducted to comply with the CERCLA cleanup process via the FFA/DOE ER program, DOE and EG&G Mound Applied Technologies have tabulated all the Potential Release Sites (PRSs). Many additional contaminants of concern and types of operations were identified beyond the original NPL listing of site activities. A total of 413 PRSs have been identified. None of these 413 PRSs have been attributed to the magazines. The PRSs that are in the general vicinity of the magazines will be listed and discussed below. (See Introductory Pages and Appendix 7.2.)

Magazines 5, 10, 20

PRS 71 – Identified as a potential release site because it was a below grade tank designed to store waste solvents associated with explosive processing in Building 85. Based on sampling results and the fact that the tank was never used, this PRS was binned as “No Further Assessment.” See Appendix 7.2.

PRS 347 – Identified as a soil Potential Release Site because of qualitative hydrocarbon detections found during PETREX soil gas portion of the OU-5, Non Area of Concern Investigation. Subsequent sampling and analysis in the area allowed this PRS to be binned “No Further Assessment.” See Appendix 7.2.

PRS 348– Identified as a soil Potential Release Site because of qualitative hydrocarbon detections found during PETREX soil gas portion of the OU-5, Non Area of Concern investigation. Subsequent sampling and analysis in the area allowed this PRS to be binned “No Further Assessment.” See Appendix 7.2.

Magazine 6

PRS 67 – Originally identified by the Preliminary Review/Visual Site Inspection conducted by the U.S. Environmental Protection Agency in 1988. It is an open, unlined channel that flows above the ground, through the central part of the facility from Building 22 to the retention basins on the western plant boundary. The ditch carries surface run-off from both the Main Hill and the SM/PP Hill areas, as well as the asphalt-lined pond that drains to the ditch through a culvert, emerging behind Building 22. From that point, the open ditch falls 40 feet over a length of 1800 feet. The banks rise steeply from 8 to 20 feet above the flow line of the ditch, and its width varies from 30 to 80 feet. The upper-most reach of the ditch was in-filled and reclaimed for development in the late 1960s. In the 1960s and early 1970s, the plant drainage ditch received systematic releases of low-activity plutonium-238 wastewaters from operations in the SM and WDA buildings. Periodic spills due to Mound Plant operations have occurred since the 1950s and are documented in investigation reports. The contaminants involved included fuels, solvents, oils, cooling-water brines (calcium chloride and zinc chromate), ethylene glycol, and plutonium-238 waste-waters that reached the ditch via surface runoff. This PRS was reviewed by the Core Team and binned as “Further Assessment.”

PRS 72 – Identified as that area which was used in the early 1950s for the storage of materials contaminated with polonium-210. It is also known as Area 13. In 1949, wood, equipment, and other materials were brought to Mound from the former Dayton operations and staged in and around Area 13. Materials were monitored for alpha contamination associated with the polonium-210. In 1955, wood and lumber that was too contaminated to be removed from the plant site was soaked with fuel oil and burned in Area 13. Residual materials were subsequently buried in the historic landfill (now known as

PRS 10). This PRS was reviewed by the core team and binned as "Further Assessment."

PRS 87 – Refers to the storage sheds that supplied solvents to the cleaning operations performed in Building 49. The Building 49 operations have used two storage sheds. The first shed was built in 1968 and was operated until 1986. This shed, located on the north side of Building 29, was demolished in 1986 to provide space for the construction of the Building 49 addition. Another shed was built and is located approximately 100 feet east of the Building 49 addition. This shed is a small metal structure with dimensions of 8x12x10 feet. It was operational from 1986 to the early 1990s.

Trichloroethene (TCE), isopropyl alcohol, ethyl alcohol, Freon TF, and hexane were stored in these sheds. There is no record of a solvent spill or leak from the storage sheds. The Building 49 Solvent sheds did not involve radiological operations. Building 49 and the Solvent shed have been leased to a commercial company, EG&G Star City. This PRS was reviewed by the Core Team and was binned as "Further Assessment."

PRS 330 – Identified as an Underground Storage Tank (UST), tank 260. The tank was in service from 1956 to 1968. It was used to store No. 2 fuel oil that supported Building 2, located in the Mound Test Fire area. The tank was removed in 1968. Approximately 8 inches of asphalt was placed over the area in 1972. This PRS was binned as "No Further Assessment." See Appendix 7.2.

PRS 331 – Identified as the Building 2 septic tank. Because of the discharge of sanitary wastewater from Building 2 to this tank; it was identified as a Potential Release Site. This PRS was binned as "No Further Assessment." See Appendix 7.2.

Magazines 7 and 11

PRS 122 – Identified as underground radioactive waste lines. These lines were used to transport radioactive waste from SW, R, and H buildings to the Waste Disposal (WD) building. These lines were abandoned in 1970. This PRS will be addressed as part of the D&D program.

PRS 124 – Identified as a soil Potential Release Site. It is associated with PRS 122. This soil area west of Building 48 was contaminated from a break in the underground line. This PRS will be addressed as part of the D&D program.

PRS 245 – Identified as a Potential Release Site because of the detection of volatile organic compounds during the Mound Reconnaissance Sampling Soil Gas survey. This PRS was binned as “No Further Assessment.” See Appendix 7.2.

Magazine 53

PRS 258/259/260/261/262/263/264/265 – Potential Release Sites (PRS) 258 through 265 refer to the waste storage and treatment facilities located in the “Burn Area.” This area is located northwest of Building 21. A variety of wastes such as explosive powders, pyrotechnic materials, solid wastes contaminated with energetic materials, and weapon components were thermally treated in the “Burn Area.”

The units listed below were identified by the 1988 RCRA Facility Assessment and were subsequently investigated by Mound’s Environmental Restoration program.

PRS	Unit	Description	In Service Dates
258	Open Burn Cubicle	Thermal treatment unit – open burn	1966-1995
259	Pyrotechnics Shed	Waste storage shed – pyrotechnic materials	1975-1996
260	Thermal Treatment Unit	Thermal treatment unit – electrical furnace operated within the Open Burn Cubicle	? - 1991
261	Trash Burner Area	Thermal treatment unit	1950s-1988
262	Retort	Thermal treatment unit – rotary kiln	1984-1995
263	Building 90		
264	Magazine 53	Waste Storage Bunker – secondary explosives	1970-1996
265	Pretreatment Unit	Evaporation of waste solvents prior to thermal treatment via Open Burn Cubicle	? - 1991

These PRSs are being addressed as part of the RCRA Closure Plan for the Burn Area.

PRS 369 – Identified as a soil Potential Release Site because of qualitative hydrocarbon detections found during the PETREX soil gas portion of the OU-5, Non Area of Concern investigation. Subsequent sampling and analysis allowed this PRS to be binned “No Further Assessment.” See Appendix 7.2.

PRS 350 – Identified as a soil Potential Release Site because of detectable plutonium-238 concentrations (25-50 pCi/g) discovered during the OU-5 Phase I investigation in 1994. This PRS has been binned as “No Further Assessment.” See Appendix 7.2.

PRS 407 – Identified as the soil area associated with Building 21. Building 21 stored thorium sludges in the 1960s. This soil area will be addressed through the D&D project to remediate Building 21 and the associated contaminated soil.

Magazine 54

PRS 123 – Identified as a soil Potential Release Site. The underground radioactive waste line (PRS 122) broke in this area and contaminated the soil waste of Magazine 54. This PRS will be addressed as a part of the D&D program.

PRS 215-233 & 339-341 – Are sumps and drains in T Building. These PRSs will be addressed within the framework of building dispositioning.

4.4.1.2 Occurrence Reports

An interview with the Occurrence Report Manager, Jeff Boston, on April 23, 1997, indicated no reportable events.

4.4.2 Past Sampling Data

4.4.2.1. Radiation Surveys

A radiation survey was conducted on these Magazines the week of April 14, 1997. A wipe and scan survey was accomplished per the requirements of the Property/Waste Release Evaluation (PWRE) for these Magazines. The Radiological

Characterization Summary indicates that no radiological contamination was detected above the DOE 5400.5 Guidelines, NUREG 1500 Guidelines or the Attachment 1 Limit (MD-90043). See the following Table 2 and Appendix 7.6.

Table 2
Radiological Characterization Summary
Magazines 5, 6, 7, 10, 11, 20, 53, 54

Type	RSDS	Location	Amount (dpm/100 cm ²)	5400.5 Guidelines for Groups 1, 3, 4 (fixed + loose) (dpm/100 cm ²)	NUREG 1500 Guidelines (loose) (dpm/100 cm ²)	Attachment 1 Limit (fixed + loose) (See Note 2.) (dpm/100 cm ²)	Comments
Highest Alpha Smearable Activity	97-GA- 213	Magazine 7 Room 3	4	20	211	20	No Action Necessary
Highest Alpha Fixed Activity	All	All	<100	100	Note 1	100	No Action Necessary
Highest Beta Smearable Activity	97-GA- 213	Magazine 7 Room 1	7	1,000	9940	1,000	No Action Necessary
Highest Beta Fixed Activity	All	All	<5,000	5,000	Note 1	5,000	No Action Necessary
Highest Tritium Smearable Activity	97-GA- 212	Magazine 11 Room 7	110	1,000	Note 1	1,000	No Action Necessary

Note 1: NUREG-1500 gives guidelines for loose beta and alpha only.

Note 2: The limits referenced above is based on MD-80043, Radiological Work Requirements Procedure 400 "Transfer of Radioactive Material and Unrestricted Release of Property/Waste", Attachment 1.

4.4.2.2. Chemical History

There is no historical chemical data on any of the magazines, except Magazine 53. The chemical data for Magazine 53 was collected as part of the RCRA closure plan for the Burn Area. The magazine was decontaminated and the rinseate was analyzed for eleven compounds to determine successful decontamination. All eleven compounds analyzed were detected below the action levels.

4.4.2.3. Lead Paint

Because of the age of Magazines 5, 6, 7, 10, 11, 20, 53 and 54, lead paint is assumed to be present. Paint chip samples were collected in Magazines 5, 7, 11 and 20, and indicated no lead contamination. See Appendix 7.6.

4.4.2.4. Asbestos

Mound's Technical Manual, Asbestos Program Manual, MD-10391, indicates that (known, assumed, suspected) asbestos was not found in Magazines 5, 6, 7, 10, 11, 20, 53, and 54. Floor tile samples were collected from Magazines 5, 7, and 11 and indicated no asbestos contamination. See Appendix 7.6.

4.4.2.5. Radon

Mr. Ron Daily of the Mound Radiological Assessment/Management Group has indicated that the storage magazines are not intended for human habitation and thus radon information is not available for them. The interior air volume of such a small space is massively diluted each time the door is open and a dangerous level of radon could not accumulate.

4.4.3. Chemicals Removed After Mission End

The only chemicals stored in the magazines were explosives. All explosives were removed from the magazines

4.4.4. Review of Building Prints

Building prints were reviewed and included in Appendix 7.2.

4.4.5. Aerial Photographs

Aerial photographs from 1994, 1983, 1973, 1968, 1965, 1959, 1949, and 1938 were reviewed and copies are found in Appendix 7.2.

The 1938 photograph shows that the Mound Plant site was agricultural fields and undeveloped wooded lots. The historic Miamisburg Indian Mound is visible for a location reference.

The 1949 photograph shows the completed initial phase of construction on the Mound Plant Main Hill. Approximately fourteen (14) buildings are visible. Roadways on both the Main Hill and the eastern hill are present.

The overall Mound Plant facilities, as depicted in the 1968, 1973, 1983, and 1994 photographs continue to show change and expansion.

5.0 Site Reconnaissance

5.1 Hazardous Substances in Connection with Identified Uses

5.1.1 Space

The magazines are not in use at this time. There are no indications of the presence of hazardous substances. All energetic materials were stored in sealed containers and procedures did not allow the opening of these containers inside the magazines. See Appendix 7.5.

5.1.2 Heating/Cooling

Steam for heating is provided to Magazines 7 and 11 via an above ground system of distribution piping running from the powerhouse (Building P). The boilers generate saturated 125 psig steam and reduced to 30 psig for use in the magazine. The condensate is not collected in the magazines.

Air conditioning was provided to Magazine 5 via split package air conditioning systems. These units have been disconnected. Records indicate that refrigerants were not removed from these systems. All other Magazines have no heating or cooling systems.

5.1.3 Stains or Corrosion

Only minor stains were observed. These stains are believed to be rust from containers and shelving.

5.1.4 Drains and Sumps

No drains or sumps were located in Magazines 5, 6, 7, 10, 11, 20, 53 and 54.

5.1.5 Wastewater

Potable water and sanitary service was never provided for Magazines 5, 6, 7, 10, 11, 20, 53, and 54. The Mound Plant facility operates an on-site sanitary and storm water sewer treatment plant (Building 57) to manage the plant's storm water and sanitary waste water pursuant to a National Pollution Discharge Elimination system (NPDES) permit issued by OEPA. No wastewater was generated in the area.

5.1.6 Septic Systems

No evidence of a septic system was noted or is known to have ever existed in the immediate vicinity of the magazines.

5.1.7 Suspect Asbestos Containing Material

ACM in buildings can be found in five (5) forms: sprayed or troweled on ceilings and walls (surfacing materials); insulation around pipes, ducts, boilers and tanks (pipe and boiler insulation); transite (in ground piping); and in roofing materials (shingles and roofing felts); other products such as ceiling and floor tiles and wall boards (miscellaneous materials).

Although past records (See Section 4.4.2.4) indicate asbestos was not found in the magazines. Suspected asbestos floor tile was found in Magazines 5, 7, 11, and 20. Samples were collected and the analysis reconfirmed that this floor tile did not contain asbestos. See Appendix 7.6.

Steam piping insulation from Building I to Magazines 7 and 11 appears to be in poor repair. These magazines were constructed in 1957 and therefore the insulation is suspected to be ACM. See Environmental Evaluation Concern matrix for the latest information.

Explosion proof lighting used throughout the magazines was known to use ACM gasket materials for sealing the fixtures.

5.1.8 Paint

Lead based paint was used in the U.S. prior to 1978, when Congress established the limits on the maximum lead concentration allowable in residential buildings. The risk of a lead based paint hazard exists only when painted surfaces are damaged (cracked, chipped, loosened, or chewed).

Because of the age of the magazines, it is likely that lead based paint has been used. No formal survey was made for lead paint. There was substantial chipping and peeling in Magazines 5, 7, and 11. Testing of these areas has been completed. Samples were collected and the analysis indicated no lead contamination. See Appendix 7.6.

5.1.9 Fluorescent Lamps

Fluorescent lamps were not utilized in Magazines 5, 6, 7, 10, 11, 20, 53 and 54.

5.2 Hazardous Substance Containers and Unidentified Substance Containers

There were no hazardous or unidentified substance containers found.

5.3 Storage Tanks

No storage tanks are associated with the magazines.

5.4 Indications of PCBs

Fluorescent lighting was not used in these magazines. No wet type transformers were utilized in the magazine area. There were no other indications of PCBs in the magazine.

5.5 Indications of Solid Waste Disposal

No solid waste was observed in the magazines. No evidence of hazardous waste was noted in the immediate vicinity of the magazines.

5.6 Physical Setting Analysis, If Migrating Hazardous Substances Are An Issue

There are no migrating hazardous substances detected to the magazines.

5.7 Other Conditions of Concern

There are no other conditions of concern.

5.8 Interviews

Information gained in discussions with the following personnel and the historical information have been incorporated within this document.

5.8.1 Recent Interviews

Magazines 7 & 11

Current Building Manager of Magazines 7 and 11, Mr. Gary Weidenbach, has been employed at the Mound Plant for 21 years and has been the Building Manger of these magazines for the last year.

Former Building Manager, Mr. William Whitelow, has been employed at the Mound Plant for 17 years and had been the Building Manager of these magazines for a year and a half.

Past Building Manager, Mr. Jeff Mathews, had worked in the magazine area during the production years.

Magazines 5, 6, 10, 20, & 53

Current Building Manager of Magazines 5, 6, 10, 20, and 53, Mr. Robert Ward, has been employed at the Mound plant for 17 years and the Building Manager of these magazines for the last 2 years.

Previous Building Manager, Mr. Brady Barnhart, has been employed at the Mound plant for 24 years and he worked in the area of these magazines for 23 years.

Magazine 54

Current Building Manager of Magazine 54, Mr. Jeff Boston, has been employed at the plant for 17 years and the Building Manager of this magazine for the last year and a half.

5.8.2 Historical Interviews

Additional interviews were also completed in 1990 and 1995 involving personnel working in the process area at that time. (See MLM-ML-90-48-0001, *Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes*, August 15, 1990 and MLM-ML-96-43-0001, *Environmental Appraisal Report of the Mound Plant*, March 29, 1996.)

6.0 Findings and Observations

Based on the process history of the magazines and the records of soil investigation in the soil areas near the magazines, it was determined that no further soil samples were required in the 15-foot perimeter boundary.

No spills or releases were likely to have occurred in the magazines because 1) all energetic materials were stored in sealed containers and 2) procedures did not allow the opening of the sealed containers inside the magazines.

6.1 Environmental Concern (Matrix)

Mound Personnel accomplished this building data package for Magazines 5, 6, 7, 10, 11, 20, 53, and 54. The following is derived:

Radiological: No radiological materials were housed within the magazines. Radiological confirmation studies indicate only normal local background readings for all magazines.

Lead Paint: Environmental regulatory and administrative pressure over the past few years has pushed to discourage the use of lead based paints. Paints already in place are not currently regulated in the industrial setting. However, pressure to regulate that condition is mounting and may become a reality in the future. Any property owner should be aware of that potential risk.

Specific lead paint analysis has been performed on Magazines 5, 7, and 11. Results were negative for lead in the paint.

HVAC Refrigerants: Use of chlorinated fluorocarbon refrigerants was observed in Magazine 5. Use of such substances has recently undergone regulatory change and future use will likely be limited. The refrigerants were not removed.

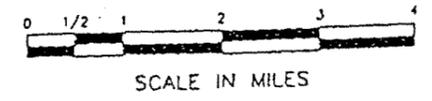
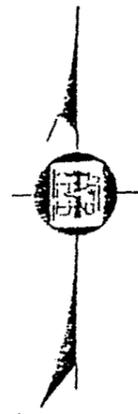
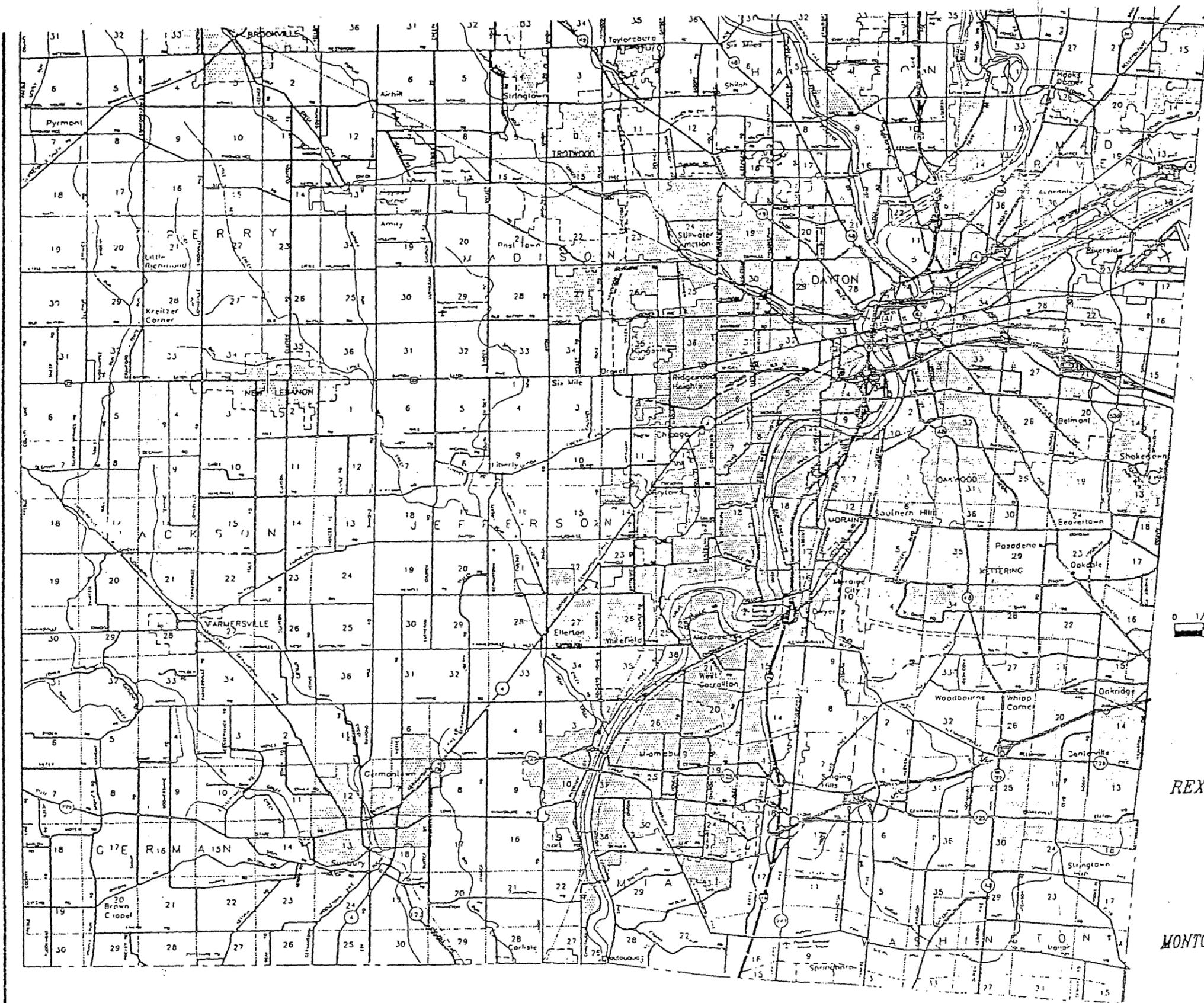
The demolition plan for this magazine should include the proper handling of these refrigerants.

Asbestos: No suspect Asbestos materials were observed during the previous studies or observations. Tile samples were taken on Buildings 5, 7, 11 and 20. Results indicate no asbestos material within the file. Asbestos is suspected on pipeline running to Magazines 7 and 11 (from I Building).

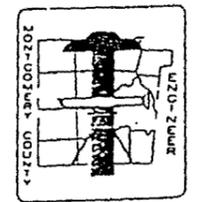
MAGAZINES 5, 6, 7, 10, 11, 20, 53 & 54 :
ENVIRONMENTAL CONCERN EVALUATION

DESCRIPTION	POT-ENTIAL PROBLEM?	COMMENT	PROPOSED RESOLUTION	REF
Conductive floor tile - suspected to be asbestos containing material.	No	Floor tile is in good shape.	Sample collected for asbestos testing. Analysis to be completed by May 8, 1997	4.4.2.4 5.1.7 6.0
Paint peeling in Magazines 5, 7 & 11.	No		Samples collected for lead testing. Analysis to be completed by May 8, 1997	4.4.2.3 5.1.8 6.0
Suspect asbestos insulation on steam piping to Magazines 7 & 11 in poor repair.	Yes	Determine appropriate action for insulation		4.4.2.4 5.1.7 6.0

29



REX A. DICKEY, P.E., P.S.



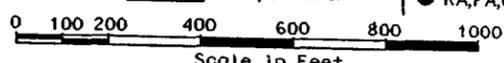
MONTGOMERY COUNTY ENGINEER



FSD

Legend

- | | | |
|-------------------|-------------------|-------------------|
| PROJECTS | Waste Management | PRS STATUS |
| Test Fire Valley | Main Hill Tritium | D & D PRS's |
| SM/PP Hill | Main Hill RAD | NFA PRS's |
| Main Hill Non-RAD | Isotope Power | NFAPS PRS's |
| | | RA,FA,UB PRS's |



SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
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ISSUE	1	2	3	4	5	6	() TITLE CLASSIFICATION														
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ISSUE *
PART CLASSIFICATION
Building *Ownership with PRS's

DRAWING CLASSIFICATION	SIZE	DRAWING NUMBER	JOB NUMBER
UNCLASSIFIED	D	FSD*	*

DWG TYPE *	PRNG	CAGEC *	SCALE *	SHEET 1 OF *
STATUS MD-REL-***	ORIGIN	INSTATION 5.0		

ISS	DATE	REVISION	BY	CHKR	ENG	M

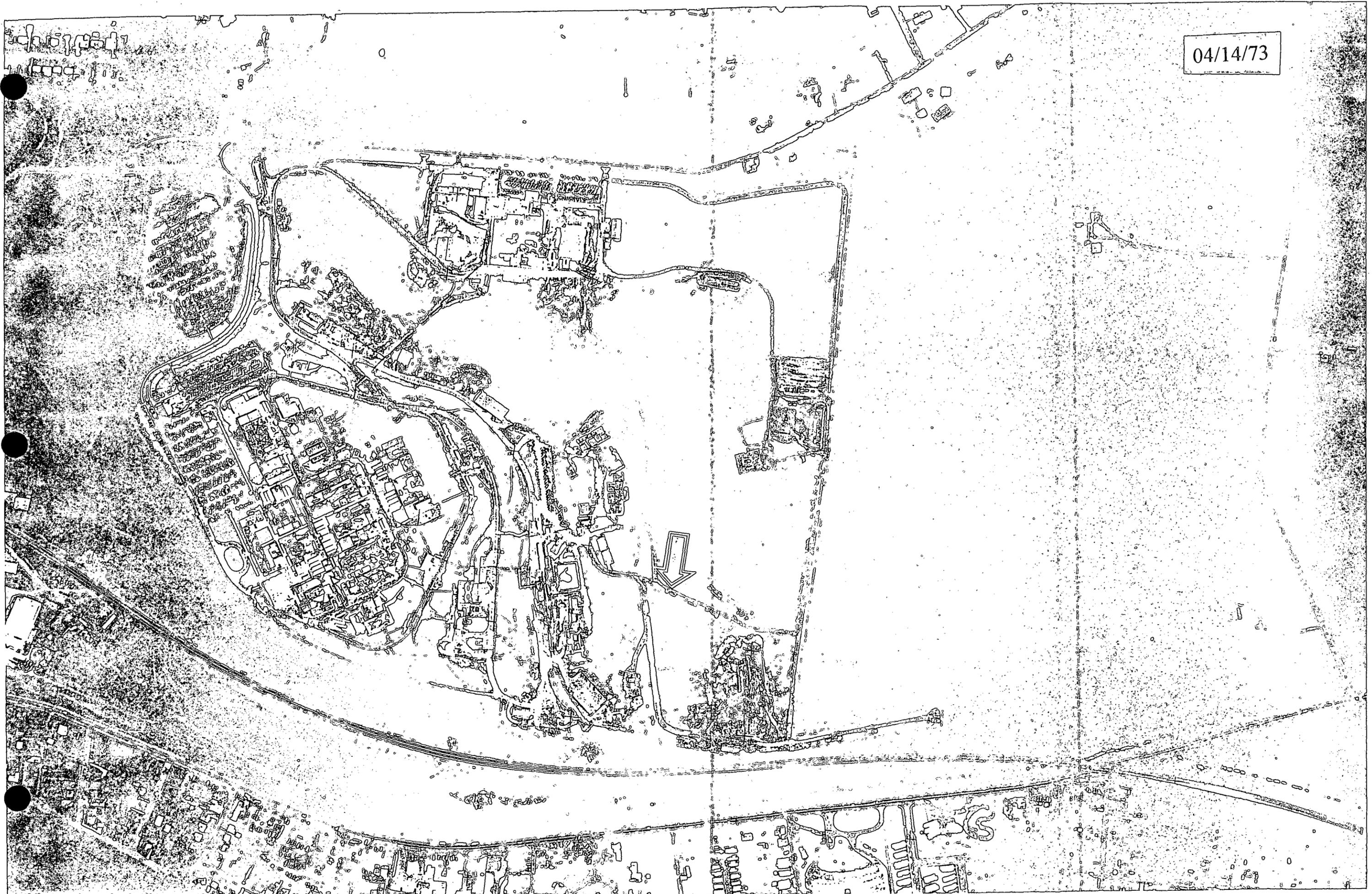
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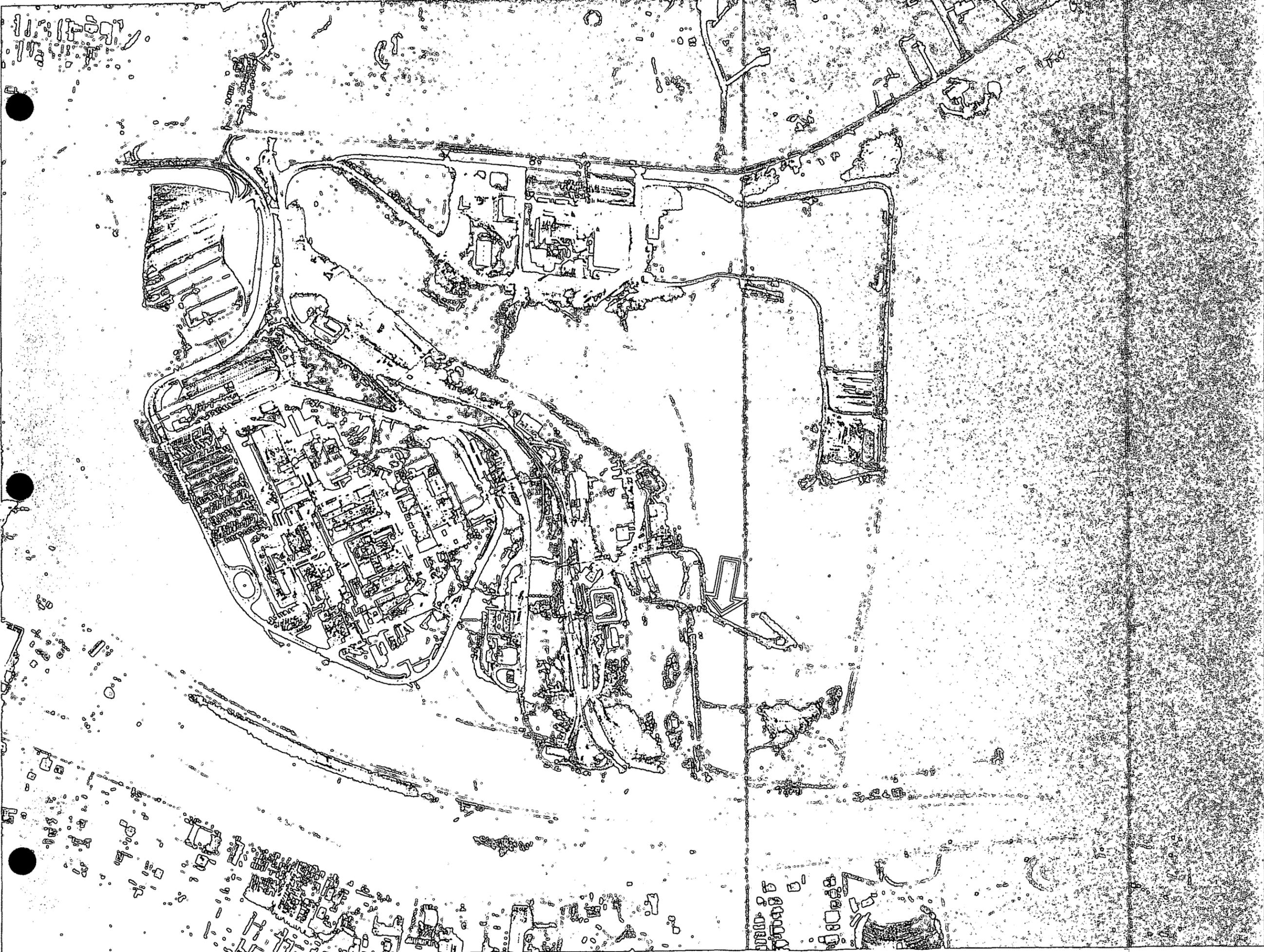
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04/14/73



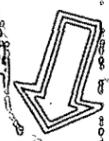
03/30/68



04/07/65

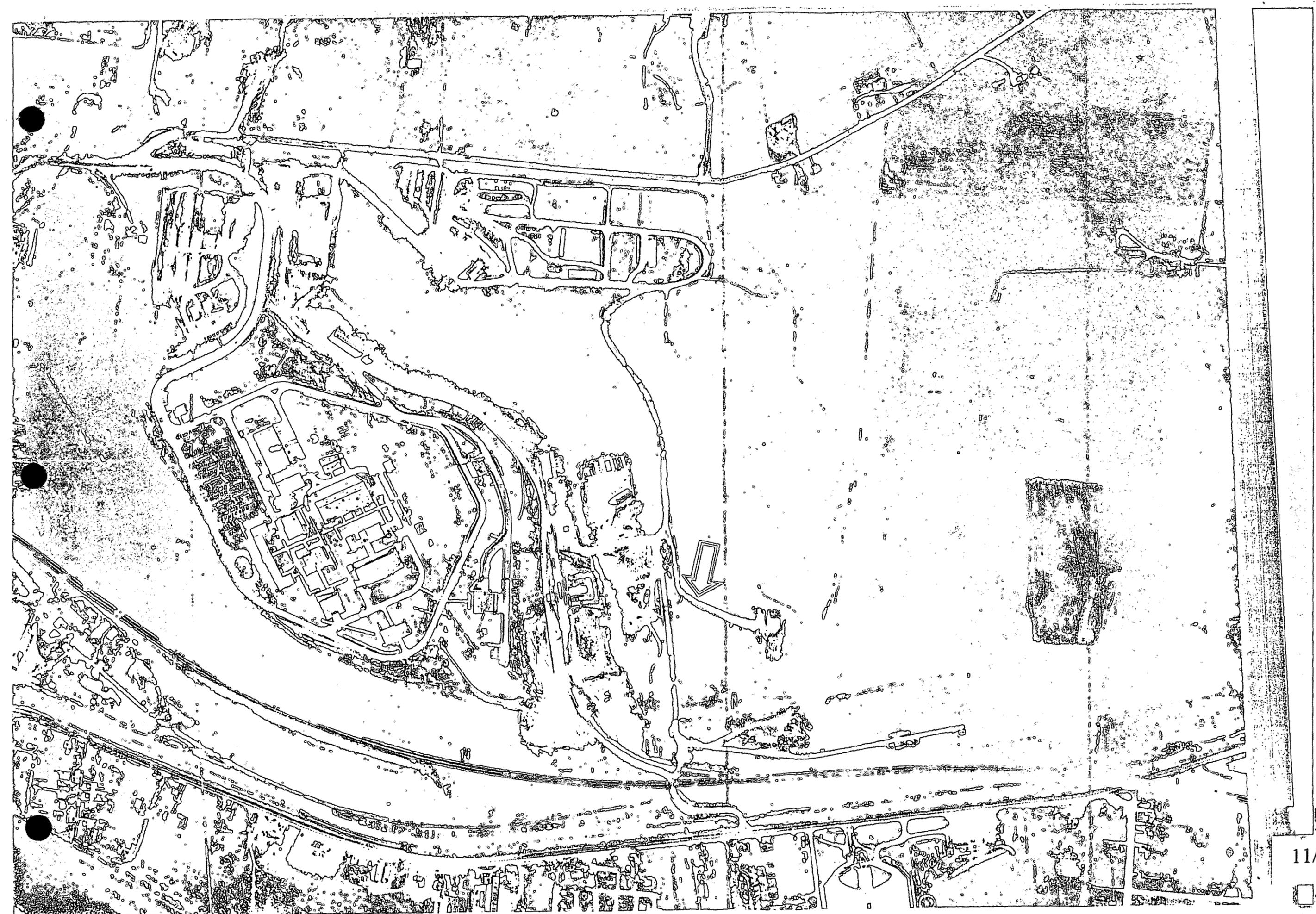


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