

DEPARTMENT OF ENERGY, MOUND FACILITY, ISOLATED  
BUILDING (I BUILDING)  
One Mound Road  
Miamisburg  
Montgomery County  
Ohio

HABS OH-2470-I  
OH-2470-I

HABS  
OH-2470-I

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY  
MIDWEST REGIONAL OFFICE  
National Park Service  
U.S. Department of the Interior  
601 Riverfront Drive  
Omaha, NE 68102

## HISTORIC AMERICAN BUILDINGS SURVEY

### DEPARTMENT OF ENERGY, MOUND FACILITY, ISOLATED BUILDING (I BUILDING)

HABS No. OH-2470-I

- Location:** Department of Energy, Mound Facility  
One Mound Road  
Miamisburg, Montgomery County, Ohio  
UTM Coordinates: 16.730640.4390070
- Present Owner:** U.S. Department of Energy
- Present Use:** Due to possible contamination issues, tenants vacated I “Isolated” Building in the mid 1990s. Mound Facility demolished I Building completely by 2002. Mound Site is currently being decontaminated and prepared for future development.
- Significance:** Mound’s I Building is significant for its operational role in the polonium processing mission of Mound Laboratory during the late 1940s and early 1950s. Radioactive polonium had importance to the nation during that time for its use in nuclear weapons and atomic energy. During the polonium processing era, I Building provided a removed laboratory building for monitoring employee and environmental radiation exposure.
- Project Information:** The Westerly Group, Inc. 225 E Main Street, Madison, Indiana 47250 prepared this document. Floyd Hertweck of CH2M Hill Mound, Inc. supplied research documents. Historical narrative composed by Melissa Buchanan of The Westerly Group, Inc. Photographs by Camille B. Fife and Thomas W. Salmon of The Westerly Group, Inc.

## **PART I. HISTORICAL INFORMATION**

### **A. Physical History:**

1. **Date of Erection:** I Building construction began on June 4, 1947. The first occupants moved into the building before completion in July 1948. The site operator, Monsanto Chemical Company of St. Louis, officially noted the building as complete on November 3, 1948, soon after final construction.<sup>1</sup> The dates cited throughout this section are drawn from the original plans as well as drawings for subsequent additions or alterations.

2. **Architect:** Under contract with the U. S. Government, the Monsanto Chemical Company constructed and operated the proposed Mound Site. They provided the original architectural and engineering supervision for the entire Mound Laboratory, including I Building. Their contractual responsibilities were for all design and engineering aspects of construction, procurement and supervision of laboratory equipment installation, security against espionage and sabotage, and inspections throughout the construction process. Monsanto subcontracted the preparation of architectural drawings to Giffels and Vallet, Inc. of Detroit, Michigan.

3. **Original and Subsequent Owners:** Since the Mound Site's conception, the U. S. Government has owned the Site, including I Building. Originally supervised by the Atomic Energy Commission (AEC) and operated under contract by Monsanto Chemical Company, the Mound Laboratory responsibility shifted to the Department of Energy when President Carter created the Department in 1977. In 1988, operative responsibilities were given to EG&G Mound Applied Technologies, a Massachusetts company. In 1997, Babcock & Wilcox of Ohio, Inc. (currently BWXT of Ohio) assumed operational responsibilities, but as of January 1, 2003, CH2M Hill Mound, Inc. assumed control of the site for the clean-up process.

4. **Builder, Contractor, and Suppliers:** Maxon Construction Company of Dayton, Ohio, was the primary contractor for the original buildings at Mound Laboratory. They furnished labor, tools, machinery, and equipment not furnished by the U. S. Government.

5. **Original Plans and Construction:** The description of I Building as it was constructed in 1948 is based upon available engineering drawings, historic photographs, and Monsanto Chemical Company's *Construction Completion Report*.<sup>2</sup> I Building was a two story, 121'-10" x 61'-10" structure, with a gross floor area of 11,420' square. Unlike most buildings at Mound that used a steel frame, I Building had a reinforced concrete frame and roof. It used only five tons of steel in construction, as compared to the thirty-five tons used in similar-sized Mound buildings.

---

<sup>1</sup>Monsanto Chemical Company, *Construction Completion Report* v. 1, MLM-273, March 1949.

<sup>2</sup>Monsanto Chemical Company, *Construction Completion Report* v. 1, MLM-273, March 1949.

I Building's Health Physics monitoring functions were originally to be housed with B Building's biology program in a "Laboratory Building," but, before construction, the two functions were separated into their own facilities to provide a greater degree of accuracy and lessened risk of cross contamination. Hence, the Health Physics monitoring program was put into the I "Isolated" Building further away from the B "Biology" Building. Isolated Building was constructed southwest of B Building on sloping ground. As further precaution, the main floor of I Building was below the general plant grade and provided access at this lower level on the side facing away from B Building.

**6. Alterations and Additions:** I Building, like most other buildings at Mound Laboratory, underwent a multitude of adaptations through its 50-year lifespan. These modifications to the original structure reflect the changing functions and missions of Mound Laboratory. Originally, I Building was fitted to monitor radioactivity in support of the polonium-processing activities at Mound. However, polonium-related activities were discontinued after time as Mound adopted new military support missions.

On the Mound Site, most additions to the original structures were constructed using the same box-like architecture. I Building is unusual with its linear projecting additions. The architecture reveals that activities within the building required blast walls and barriers for isolation, sensibly built in a linear fashion.

In 1956, I Building received its first major renovations since construction. At this time the Mound Site took a new mission, which necessitated structural adaptations throughout the site. Mound's new Detonators & Explosives Mission (D & E) was to develop, produce, and provide surveillance of detonators and explosives for military applications. This change came in light of new discoveries about polonium's unsuitability as a component in a nuclear detonator, and a subsequent phasing out of its production at Mound. For I Building, as well as several others at Mound, this meant a conversion to a detonator processing facility. All Health Physics functions were moved from I Building to the underground T Building.

This 1956 program change included a "Press Building" addition on the eastern side of I Building. This addition housed presses that made explosive pellets for the D & E Mission. The addition, measuring 51' x 21', included seven rooms and did not have interior access to the original I Building. During this remodeling conductive flooring and spark proof fixtures were added throughout I Building, enabling it to handle explosive materials. The Press Building addition again increased in size by 275' square in 1960.

By 1964 Mound Site needed additional space for production, so I Building received an 86' x 56' first floor addition on its northern side. This Production Plant Addition added twenty-three rooms, including laboratories and laboratory support rooms. This addition, like all others to I Building, modified the rooftop penthouse areas to correspond with changes to the main floor. The period 1964-1983 saw various minor changes to I

Building. These changes mostly involved laboratory fixtures and several upgrades to the HVAC system.

A multi-story addition was constructed on I Building's northwest side in 1985. This addition was a freestanding structure connected to I Building by several doorways. It included a basement area, first floor, roof stair access, and a guard post atop the stairway parapet. This guard post served to monitor the western perimeter of the Mound Site until the early 1990s.

## **B. Historical Context:**

The Mound Laboratory Site was the first permanent atomic energy related facility constructed after World War II. The U. S. Government's Atomic Energy Commission (AEC) planned and constructed the site with the mission to support atomic weapons research, namely through the development of the radioactive element polonium. Polonium had significance to the nation for its role as the initiator in early nuclear weapons, but work completed at Mound also investigated peacetime uses of atomic energy. I "Isolated" Building served as a vital part of the Mound Laboratory complex to support biology-related activities of the site's mission. During that polonium mission, I Building provided a facility to monitor samples from the local environment and personnel. Through this analyzation Mound could ensure that the engineering and administrative controls were in place to protect workers from radioactivity.

The Mound Site had its roots in the turmoil of the Second World War. Franklin Roosevelt approved the formation of the Manhattan Engineering District under the First War Powers Act in 1941, thereby involving the Government directly in the exploration of nuclear-related activities.<sup>3</sup> Dr. Charles Allen Thomas, director of Monsanto's Central Research Department in Dayton, Ohio, accepted responsibility from the Manhattan Project to engage in work related to the chemistry and metallurgy radioactive polonium-210. This research, called the "Dayton Project," was to directly supplement the larger goal of developing an atomic bomb. Polonium provided the initiating source that generated neutrons (sub-atomic particles) to insure initiation of the necessary chain reactions.

When the project became operable in 1943, war-induced material limitations and time constraints forced the Dayton Project to locate in various rented spaces around Dayton, Ohio. After WWII in late 1945, the need for polonium continued to increase and it became feasible to construct a new polonium-processing plant. Although the Dayton facilities had been adequate for producing the polonium initiator on a laboratory scale and for providing the few initiators needed to win World War II, including the polonium utilized in the devastating atomic bombs dropped on Japan, the Dayton facilities were not sufficient for production under normal operations on a manufacturing scale.<sup>4</sup>

---

<sup>3</sup>External Regulation of DOE, <http://tis.eh.doe.gov/extreg/committee/committee/116/rpt3/rpt3-1.html>

<sup>4</sup>US. Department of Energy, *History of the Production Complex: The Methods of Site Selection*, DOE/NV/10594 H1

Site selection and construction of Mound Laboratory began in the post-War years, with construction from 1947-48. The site selection for the new Dayton facility followed an AEC prescribed process for site selection of atomic energy production plants.<sup>5</sup> The Miamisburg, Ohio location was selected because it fulfilled criteria for security, had readily available materials and power, and did not require personnel relocation. It also offered land formations favorable to constructing facilities below ground. Preliminary site preparation work followed in July 1946.<sup>6</sup> The site selected for the construction of the new Mound Laboratory was a 182-acre parcel, essentially rectangular, measuring 3,300' x 2,400'. The government purchased the land from private owners in April of 1947. It should be noted that the site is near the location of a historic Native American burial mound and the Miamisburg Mound State Park. This prehistoric Adena Indian Mound dates to sometime between 800 BC and 100 AD and is the largest mound of its type in Ohio.<sup>7 8</sup>

The plans for Mound Laboratory called for a greater degree of organization, security, and specialization than had been available to the Dayton Project in its various rented spaces. The original polonium-era buildings were categorized to fulfill one of six functions. Buildings were to either serve in Administration, Production, Research, Health, Disposal, or Maintenance. The Technical (T) Building was the only facility in the production group. This building was constructed within the mounded land formation, below ground, as a defensive position. The research buildings included the Research Laboratory (R) Building, the Biology (B) Building, and the Electronics (E) Building. These structures had facilities for fundamental polonium research, facilities for chronic studies on animals, and the capacity for developing special radiation detection instruments, respectively. I Building served the main function of the health division, as it included facilities to provide routine personnel monitoring. The Change House (H Building) as well served a health function: it provided laundry decontamination. The disposal group included the Sewage and Waste Disposal (SD and WD) Buildings as well as the Hydrolysis House (HH Building), which was equipped to neutralize process acid solutions. The maintenance group had five buildings including the Cafeteria, Garage, Power House, Pump House, and Maintenance Building.

During these early years of polonium exploration, Mound was involved in an AEC mandated Biology and Medicine Program. This umbrella program involved personnel and environmental monitoring for safety, as well as biologic radioactive testing to develop uses for radionuclides in

---

UC-2, September 1987.

<sup>5</sup>U.S. Department of Energy, *History of the Production Complex: The Methods of Site Selection*, DOE/NV/10594 H1 UC-2, September 1987.

<sup>6</sup>U.S. Department of Energy, *History of the Production Complex: The Methods of Site Selection*, DOE/NV/10594 H1 UC-2, September 1987.

<sup>7</sup>Russell, Lorraine, M., *Brief History of the Miamisburg Indian Mound*, no date.

<sup>8</sup>Ohio Historical Society, <http://www.ohiohistory.org/places/miamisburg/index.html>

medicines.<sup>9</sup> The program had originated as part of the Dayton Units and was housed in the B and I Buildings after the construction of Mound Laboratory. Originally, the operations in each B and I Building were to be housed in the same laboratory building, however, before construction it became evident that the Health Physics and Biology aspects demanded their own spaces. Because of the sensitive nature of work and the need for exact radiation readings, I Building was constructed below grade and distant from other Mound Buildings. This was to prevent interference from radioactive samples in the Biology program.

The 1949 report to the Joint Committee on Atomic Energy says that the focus of the Biology Program changed from being primarily based in medicinal research to include civil defense and planning for future weapons tests, namely to ensure the safety of workers and the environment. In the late 1940s and the early 1950s, tests for radioactivity included worker urine and fecal analysis, analysis of air samples, surface wipes, and river water, and experiments on rats and dogs. The 1949 report to the AEC Committee notes that discoveries about radiation conclude that the greatest risk of injury would be the cumulative effects of recurring exposures over an extended period. It also acknowledged that there was still a risk of acute exposure in the event of an atomic accident, large-scale disaster, or wartime use of atomic energy. Mound intensified research on both chronic and acute radiation effects, but it is noted that no intentional doses or exposures of humans to polonium have been recorded at Mound.<sup>10 11</sup> As Mound changed angles of its atomic studies, the Health Physics (medicinal) Program grew smaller to only accommodate tests on new materials on the site. Changes such as this in Mound programming reflect political situations of the time. At the end of WWII, the focus of the Biology program was the investigation of medicine and peacetime activities. By the early 1950s, Mound research evolved under Cold War tensions to include more weapon-based research and planning for possible catastrophic nuclear events.<sup>12</sup>

During the late 1940s and early 1950s, scientists in I Building collected and analyzed surface water and silt samples from the Great Miami River and the air surrounding Mound Site. Samples were taken on a weekly basis and examined for trends in polonium contamination. By 1953, it was recommended to curtail the environmental monitoring program, as there had been little changes in the samples monitored over the previous six years. Though some analysis continued, environmental analysis in I Building was greatly scaled back.

Harvey Moyer of Ohio State University outlines the methods used by Mound scientists in his book, *Polonium*. He notes that they used mostly urinalysis for personnel monitoring, as early experiments with polonium indicated that ingested polonium was excreted from the body as waste. To monitor on-site air samples, scientists processed air continually throughout the day. A

---

9 Atomic Energy Commission, *Quarterly Progress Report to Joint Committee on Atomic Energy* - Various reports, 1947-1949.

10 Holland, A. H. *Program Review of Biological Studies*, Letter to Dr. C. Hochwalt, September 8, 1948.

11 Bradley, J. E., *Quarterly Health Physics Report through September 30, 1954*, MLM 1011, September 30, 1954.

12 Atomic Energy Commission, *Quarterly Progress Report to Joint Committee on Atomic Energy* - July-September 1949, November 1949.

wall-mounted air sampler drew in air at the rate of 10 liters/minute (approximately the rate of human breathing.) Filter papers were collected and examined in I Building counting laboratories using a parallel-plate alpha counter.<sup>13</sup> I Building worked closely with the Change and Laundry (H) Building to monitor the Mound contaminated employee laundry.

It was in August 1956 that the Mound Laboratory took a major new path in investigation, which resulted in a transformation of many Mound buildings. In this new mission, the U. S. Government employed Mound Laboratory to develop, produce, and provide surveillance of detonators and explosives for military applications, known as the D & E Mission. This work complemented and completed design work done at Las Alamos National Laboratory in New Mexico. In 1963, the Laboratory started manufacture of explosive timers. In 1962, Mound was employed to manufacture ferroelectrical transducers and firing set components that controlled the initiation of detonators. Mound shipped these to other sites for testing and weapons assembly. This major change came about as Mound scaled back its polonium production. Scientists had found that because of its short half-life, polonium would need to be replaced in stockpiled weapons, creating unnecessary chances of accidental exposure to radiation.

For the D & E Mission, personnel monitoring and bio-assay labs were transferred from I Building to T Building, which would contain all remaining polonium-processing activities at Mound Site. The Health Physics program was reduced in size and reassigned to the production division. I Building was retrofitted to become a pyrotechnical manufacturing facility. Insulated blocks in I Building that had previously protected against contamination were removed as they now could harbor explosive powder dust. I Building scientists conducted research and development work involving the use of primary, secondary, and special explosives to fabricate low-energy and energetic components. The processing included pressing explosive pellets and related quality checks such as inspections and surveillance of component development. As before stated, at this time several press rooms were installed in I Building. The building maintained several "clean rooms" through the D & E Mission.

I Building continued to operate as a manufacturing facility well into the 1980s, as evidenced by a large 1985 addition that housed presses. As production phased out at Mound Facility, I Building was used for record storage through the 1990s, and was vacated in 1994 after the discontinuance of the detonator mission. At that time, it was classified as a shut down building and accessed only for fire prevention services. The building underwent radiological characterization and asbestos abatement before destruction. The building retained many of its appliances and equipment, including ovens, chambers, presses, tables, fume hoods, microscopes, and cabinets. Although generally such equipment is removed using government surplus procedures, I Building furnishings could not be verified as clean to the DOE decontamination standards.

In October 1988, EG&G Mound Applied Technologies became the site operator, continuing until September 1997 as traditional weapons related operations were phased out at Mound. The

---

<sup>13</sup> Moyer, Harvey V. *Polonium*. United States Atomic Energy Commission, Technical Information Service Extension, Oak Ridge, Tennessee, 1956.

mission was changed to site clean-up and the transition of reusable buildings and processes to the Miamisburg Mound Community Improvement Corporation (MMCIC.) In 1997, Babcock & Wilcox Co. of Ohio was selected to operate the site under an incentive-based contract with an award fee for specific milestones in the clean-up process. This process was known as the Mound Exit Plan and was administered under the Mound 2000 Program, the implementing plan for the CERCLA (Comprehensive Environmental Response, Compensation and Liability Act). In 2002, the Department of Energy prepared a request for proposals to seek a new contractor for the site clean-up. A contract was awarded to CH2MHill Mound, Inc. to clean-up the site. The clean-up program under this new contract was named the "Mound Closure Project," using an accelerated version of the Mound 2000 Program. Because of this clean-up, the number of buildings on the Mound Site is constantly diminishing as buildings are decontaminated and destroyed. I Building was destroyed completely by 2002.

## **PART II. ARCHITECTURAL INFORMATION**

### **A. General Statement:**

1. **Architectural Character:** I Building was a typical example of utilitarian design common in many manufacturing facilities built during World War II and into the early 1950s. In the vernacular style similar to other Mound Site buildings, I Building was a simple, windowless, box-like structure that was not ornate in design. Additions on each side of the building obscured its original architectural character.
2. **Condition of Fabric:** Demolition of I Building began in 2000 and was completed in 2001. Before demolition, I Building had fallen subject to deterioration due to neglect, as it had been vacant since 1994 and considered a contamination risk. Mostly cosmetic damage, the building had buckled floors, falling ceiling tiles, and moisture damage due to a malfunctioning HVAC system.

### **B. Description of Exterior:**

1. **Overall Dimensions:** At construction, I Building was 121'-10" x 61'-10". Various linear additions doubled the size of the building from 11,420' square to 25,736' square, but make overall dimensions difficult to obtain.
2. **Foundations:** The foundation for the original structure and all additions was reinforced poured concrete.
3. **Walls:** I Building's original exterior walls and most of the additions' walls were of concrete block with a red clay brick facing. The brick was laid in a bond pattern in

which every sixth course of brick was a row of headers (bricks laid at a 90 degree angle to the row of bricks) and recessed by .75". The 1970 addition on the northern side had stretcher bond brick walls.

4. **Structural Systems, Framing:** According to MLM-273, I Building was constructed of reinforced concrete with brick facing. The roof had a steel truss system. Walls that were on the exterior of the original building served as interior walls after remodeling.

5. **Porches:** I Building had covered walkways and entries constructed of fiberglass panels on its northern side.

6. **Chimneys:** The building had no chimneys, only ventilation and exhaust stacks located on the roof.

7. **Openings:**

- a. **Doorways and Doors:** There were seventeen doorways into I Building. These lead into the corridors and entry vestibule of the original building, into the press building addition, and into rooms that were isolated from the rest of the structure.
- b. **Windows:** The I Building had very few windows. Other than a few windows built into doors, only the Press building Addition had a window on its southern side. The guard post built atop the roof in 1985 had bullet proof glass windows.

8. **Roof:**

- a. **Shape, Covering:** The roof of I Building was flat, consisting of a built-up membrane of coal tar and carboline. Roof sections or divisions that defined the former exterior walls projected above the roofline. While on the roof, access to these separate areas was by metal bridge stairways that connect one roof unit to another. There were several penthouse utility rooms air conditioning unites, as well as a guard post constructed atop the parapet of a stairwell on the 1985 addition.

C. **Description of Interior:**

1. **Floor Plans:** The floor plan of I Building allowed for passage from room to room or room to corridor through multiple doors and hallways. The original building had a central corridor running the length of the building. Some rooms were isolated as to allow only access form the exterior. As before mentioned, additions to the original rectangular block radiated out linearly. This allowed for blast walls and series of rooms.

Before demolition, I Building contained approximately 25,736' square of floor space divided into seventy-seven rooms, corridors, stairwells, utility closets, and penthouse

rooms. The first floor had large operational rooms with nearby smaller support rooms.

2. **Stairways:** There were five stairways associated with I Building. Two indoor stairways led to various indoor levels. The other three stairways were outdoor metal cases that accessed the building's rooftop and security post.

3. **Flooring:** For the most part, I Building flooring consisted of asphalt-type floor tile and linoleum over concrete. Mound used this material because it met the conductivity requirements established for explosives manufacturing facilities. Other flooring in the building was inlaid flooring and coated or sealed concrete. Colors ranged from light to black.

4. **Wall and Ceiling Finish:** I Building interior walls and ceilings were mostly painted plaster, which was used extensively in the original structure and the 1964 addition. Some processing areas had acoustic tiled walls and ceilings. Glazed block tile walls covered some corridors and restrooms. The 1985 addition had a drop ceiling of masonite panels. Other rooms have open construction ceilings.

5. **Openings:**

- a. **Doorways and Doors:** Doorways included flush and panel doors, double and single, with and without windows. Wire guards cover the windows of some doors.
- b. **Windows:** The only windows in I Building that were not part of exterior doors were a row of steel sash windows across the southern wall of the Press Building Addition and bullet-proof glass windows in the rooftop guard post.

7. **Hardware:** Door and window hardware in the building was simple and utilitarian in design and use, with no notable examples of the period that require documentation.

8. **Mechanical Equipment:**

- a. **Heating, Air Conditioning, Ventilation:** I Building was serviced by central steam for heat and chilled water.
- b. **Lighting:** Lighting included fluorescent fixture and incandescent lighting, depending upon the function of the area. Many fixtures in the explosive materials processing areas were spark proof.
- c. **Plumbing:** Plumbing in I Building was typical of an industrial structure, with potable water supply lines to restrooms, laboratories, and utility areas.

**D. Site:**

1. **General Setting and Orientation:** Mound Site is located on top of a flattened topographical feature that once was part a large area of agricultural lands. The site, at the time of decommissioning, was within the corporate limits of the City of Miamisburg, Montgomery County, Ohio. I Building was located at the western side of a cluster of buildings at Mound on what was locally described as the Main Hill. I Building was at a lower grade than the other buildings and was constructed partially underground, hence being designated the I “Isolated” Building. The Miami & Erie Canal flows just west of the Mound Site.
2. **Historic Landscape Design:** The original design of the landscape for Mound Site focused on easy access to the major buildings in the complex and on security issues. A perimeter road ringed the complex around the crest of the Main Hill and connected to the off-site access road near the northeast corner of the site perimeter. Interior paved roads and driveways provide access to the various buildings. For security reasons, the slopes of the Main Hill were relatively free of large vegetation. The density of buildings in a very small area precluded any extensive efforts to landscape the interior of the space at the top of the hill.
3. **Outbuildings:** Three modular office trailers and several explosive-containing bunkers were historically associated with I Building. These were all removed by the mid-1990s.

**PART III. SOURCES OF INFORMATION**

- A. **Architectural Drawings:** Attached I Building plans are the work of The Westerly Group, Inc. Much architectural information from this project is largely dependent on Floyd Hertweck’s investigation at the Mound Drawing Control Department and various architectural plans and elevations from the collections at the Mound Facility, 1948-1991. Notably, these are the 1948 I Building Engineering Drawings for I Building, Index numbers 351000-02001 through 02005 at Mound Site.
- B. **Historic Views:** Early views of E Building were assembled from the following sources:
  1. Monsanto Chemical Company, *Construction Completion Report, Mound Laboratory, Volume 1*, MLM-273, March 1949.
  2. Engineering Drawing Number 351000-02001, I Building Basement and Roof Schedule and Details
  3. Engineering Drawing Number 351000-02002, I Building First Floor Plan
  4. Engineering Drawing Number 351000-02003, I Building Elevations and Details
  5. Engineering Drawing Number 351000-02005, I Building Shielding Details
- C. **Interviews:** Floyd Hertweck interviewed the following individuals:
  - Gary Widedenbach, I Building Manager under BWXT of Ohio

#### D. Bibliography:

Atomic Energy Commission. *Quarterly Progress Report-Report to Joint Committee on Atomic Energy -- October to December 1947*. February 14, 1948.

\_\_\_\_\_. *Quarterly Progress Report-Report to Joint Committee on Atomic Energy -- October to December 1948*. January 31, 1949.

\_\_\_\_\_. *Quarterly Progress Report-Report to Joint Committee on Atomic Energy -- January to March 1949*. April 29, 1949.

\_\_\_\_\_. *Quarterly Progress Report-Report to Joint Committee on Atomic Energy -- July to September 1949*. November 14, 1949.

\_\_\_\_\_. *Quarterly Progress Report-Report to Joint Committee on Atomic Energy -- April to June 1949*. July 29, 1949.

Babcock & Wilcox of Ohio, Inc. *Determination of the Historical/Archeological Significance of the Mound Facility*. June 1998.

Bradley, John E. *Health Physics Monthly Information Report*, MLM-752, August 31, 1952; MLM-764, September 30, 1952; MLM-778, October 31, 1952; MLM-786, November 30, 1952; MLM-798, December 31, 1952; MLM-809, January 31, 1953; MLM-821, February 28, 1953; MLM-845, April 30, 1953; MLM-854, April 30, 1953; MLM-870, June 1, 1953; MLM-883, July 31, 1953; MLM-895, August 31, 1953; MLM-904, September 30, 1953; MLM-916, October 31, 1953; MLM-924, November 30, 1953; MLM-933, December 31, 1953; MLM-940, January 31, 1954; MLM-951, February 28, 1954; MLM-959, March 31, 1954.

\_\_\_\_\_. *Quarterly Health Physics Information Report through June 30 1954*, MLM-990. July 14, 1954.

\_\_\_\_\_. *Quarterly Health Physics Information Report through September 30, 1954*, MLM-1011. October 6, 1954.

\_\_\_\_\_. *Recommendations for Reduction of the Mound Laboratory Environmental Survey Program*. February 25, 1953.

\_\_\_\_\_. *Stack Effluent*. Letter report from Bradley to E. C. McCarthy, Monsanto Chemical Company. January 22, 1952.

\_\_\_\_\_. *Summary of Polonium Contamination in the Miami River during 1948 and 1949*. November 28, 1951.

\_\_\_\_\_. *Summary of Polonium Contamination in the Miami River during 1950*. MLM-636. December 1, 1951.

Bradley, J. E. and Burbage, J. J. *Health Physics Monthly Information Report*, MLM-673, February 29, 1952; MLM-727, June 30, 1952; MLM-736, July 31, 1952; MLM-544, January 31, 1951; MLM-548, February 28, 1951; MLM-556, March 31, 1951; MLM-568, April 30, 1951; MLM-578, May 31, 1951; MLM-593, June 30, 1951; MLM-600, July 31, 1951; MLM-607, August 31, 1951; MLM-620, September 30, 1951; MLM-634, October 31, 1951; MLM-640, November 30, 1951; MLM-651, December 31, 1951; MLM-661, January 31, 1952; MLM-685, March 31, 1952; MLM-700, April 30, 1952.

Bradley, J. E. and Haring M. M. *Health Physics Monthly Information Report*, MLM-482, July 31, 1950; MLM-496, August 31, 1950; MLM-503, September 30, 1950; MLM-511, October 31, 1950; MLM-517, November 30, 1950; MLM-528, December 31, 1950.

- \_\_\_\_\_. *Monthly Health Information Report*, MLM-219, October 31, 1948; MLM-241, November 30, 1948; MLM-256, December 31, 1948; MLM-281, January 31, 1949; MLM-292, February 28, 1949; MLM-307, March 31, 1949; MLM-327, April 30, 1949; MLM-359, May 31, 1949; MLM-336, June 30, 1949; MLM-346, July 31, 1949; MLM-384, August 31, 1949; MLM-388, September 30, 1949; MLM-398, October 31, 1949; MLM-408, November 30, 1949; MLM-413, December 31, 1949; MLM-417, January 31, 1950; MLM-440, February 28, 1950; MLM-448, March 31, 1950; MLM-459, April 30, 1950; MLM-465, May 31, 1950; MLM-477, June 30, 1950.
- Bradley, J. E., Svirbely, J. L., and Haring M. M. *Monthly Health Information Report*, MLM-177. August 31, 1948.
- Brawley, E. L. Trip Report, Mound Laboratory. July 21-22, 1955.
- Combs, J. F. *Operating Instructions for the Breath-Sample Analyzer*, MLM-655. June 1, 1951.
- Combs, J. F. and Williamson, J. A. *Manual of Maintenance Instructions for the Breath Analysis System*, MLM-721. June 26, 1952.
- Curtis, Mary Lou. *Counting Technique Studies II Discrepancy in Alpha Counting Instruments*, MLM-373. September 22, 1949.
- Davis, R. K. *Health Division Research Progress Report*, December 1-31, 1948, MLM-254. January 20, 1949.
- Department of Energy, Environmental Restoration Program. *Operable Unit 9 Site Scoping Report: Vol. 3- Radiological Site Survey*. June 1993.
- EG&G Mound Applied Technologies. *Environmental Appraisal of the Mound Plant*, Volume 1. March 1996.
- \_\_\_\_\_. *Environmental Appraisal of the Mound Plant*, Volume 2. March 1996.
- Eichelberger, J. F. *Mound Laboratory Monthly Report Technical Progress for May 1961*. September 20, 1961.
- Fentiman, A. W. *Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes*. 1990.
- Haring, M. M. *Health Division Research Progress Report*, MLM-185. October 1948.
- \_\_\_\_\_. *Health Division Research Progress Report*, MLM-197. November 1948.
- Hemler, C. E. *Operating & Maintenance Manual for the Wall Mounting Gamma Monitor, Model CIT8*, MLM-655. June 1, 1951.
- Hertweck, Floyd. *A History of the Department of Energy Mound Facility, Miamisburg, Ohio*. 2002.
- Hertweck, Floyd, Environmental Compliance and Analytical Services Group. *I Building – A Process and Architectural History: DOE Mound Plant Site, Miamisburg, Ohio*. January 2003.
- HOK/K Industrial, *I Building Site Plan*, mid-1990s.
- Kirby, H. W. and Brodbeck, R. M. *Determination of Radium-226, Actinium-227, and Thorium-228 in Human Urine*, MLM-1003. August 20, 1954.
- Meyer, H. E. *History of Health Physics for 1955*.

\_\_\_\_\_. *Healthy Physics Monthly Report*. January 1-31, 1954.

\_\_\_\_\_. *Quarterly Health Physics Reports*, MLM-1028, January 5, 1955; July 20, 1955; January 30, 1956; January 15, 1957; January 20, 1958; February 2, 1959; July 20, 1955; July 16, 1956; July 17, 1957; August 11, 1958; MLM-1044, April 12, 1955; April 24, 1956; April 30, 1957; May 7, 1958; October 25, 1955; October 25, 1957; October 23, 1958; January 30, 1956.

Meyer, H. E., Rakietan, S. E., Bradley, J. E., and Burbage, J. J. *Summary of Polonium Contamination in the Miami River during 1950 (information report)*, MLM-636. December 1, 1951.

Miller, R. A. *Unit III IV, and V Monthly Information Health Report March 1-31, 1948*, MLM-83. 1948.

Monsanto Chemical Company. *Construction Completion Report, Mound Laboratory, Vol. 1*, MLM-273. March 1949.

\_\_\_\_\_. Construction Field Orders 59, 133, 150, 153, 210, 245, 383, dated from August 1947 to April 1948.

\_\_\_\_\_. *Engineering Manual for Equipment and Services*, Vol. II. November 1948.

\_\_\_\_\_. *Health Division Monthly Reports*, MLM-20. January 31, 1948.

\_\_\_\_\_. *Health Division Research Progress Report*, MLM-14, January 15, 1948; MLM-39, February 15, 1948.

\_\_\_\_\_. *Preliminary Proposal "SW" building Area 1C Alterations*.

\_\_\_\_\_. *Progress Report- Health Research*. December 15, 1947.

\_\_\_\_\_. *Unit III & IV Monthly Health Report*. November 30, 1947.

Monsanto Research Corporation. *Mound Laboratory Applying Technical Versatility, Process Mechanism*. November 1970.

\_\_\_\_\_. *Process Mechanism and Automation*, MLM-MU-76-70-0002. October 1976.

Moyer, Harvey V. *Polonium*. United States Atomic Energy Commission, Technical Information Service Extension, Oak Ridge, Tennessee: July 1956.

Stanton, John S. *Shielded Room Measurements (Final Report)*, MLM-285. February 22, 1949.

Steinberg, R. and Baker, M. L. *Low Activity Urine Analysis, Final Report #30*. May 2, 1946, reissued March 21, 1947.

Weberman, R. F. *Pencil Type Ionization Chambers Ad Interim Report # 6*. February 12, 1947.

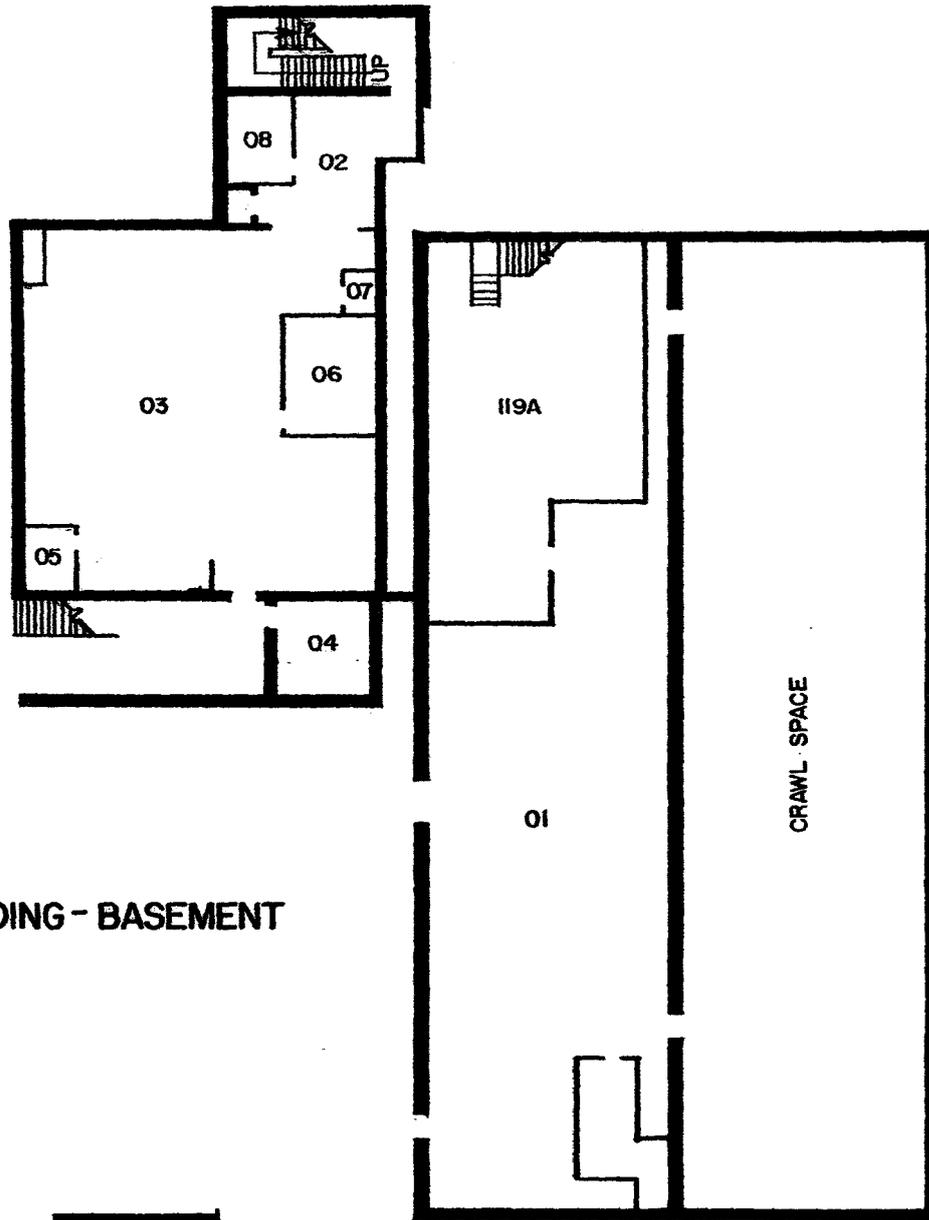
**E. Likely sources not yet investigated:**

Sources of information not yet investigated would be those areas where availability of information or releasing that information is a potential security risk. These limitations are due to the type of activities at the Mound Facility and their Atomic Energy Act related activities. As such, employees at the facility were security cleared to the “secret” and “top secret” level in order to work at the Mound Complex. Information sharing was discouraged, except on a “need to know” basis.

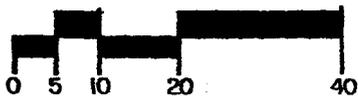
**PART IV. PROJECT INFORMATION**

The Westerly Group, Inc. of 225 E. Main Street, Madison, Indiana 47250 developed this document. Floyd R. Hertweck, Jr., the Cultural Resources Coordinator for CH2M Hill Mound, Inc., provided the bibliography and research materials. It was prepared as part of a larger project to document the 1948-era Mound Site under a Memorandum of Agreement with the Advisory Council on Historic Preservation. Under this Memorandum of Agreement, seven of the original seventeen polonium processing era buildings will be documented in the HABS format, and accompany a site information volume also documented in the HABS format. The documentation of the remaining ten structures will be done with the Ohio Historic Preservation Office as stipulated in the Memorandum of Agreement.

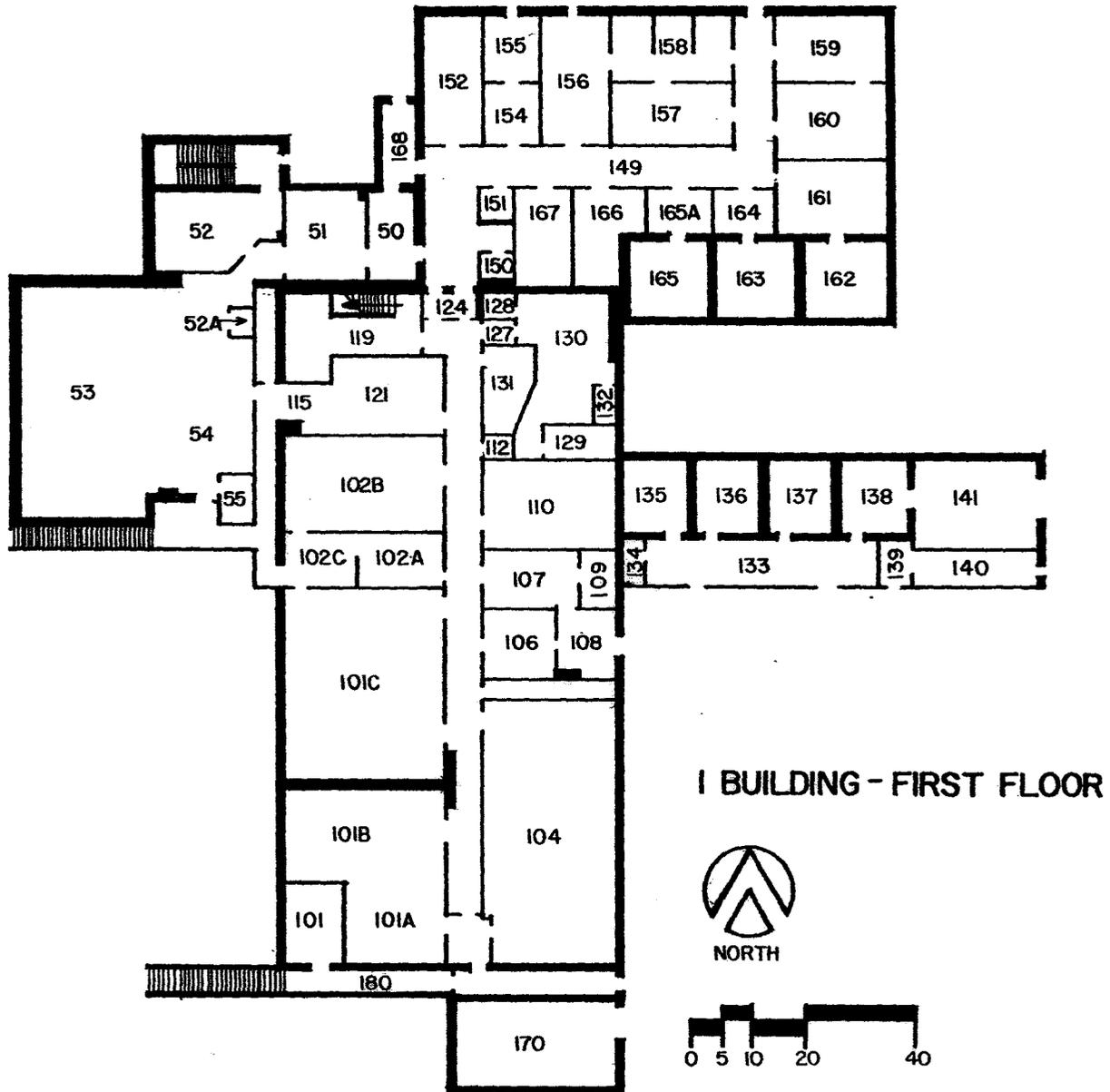
Large format photographs and architectural sketches were completed under contract with The Westerly Group Inc., 225 E. Main Street, Madison, Indiana 47250.



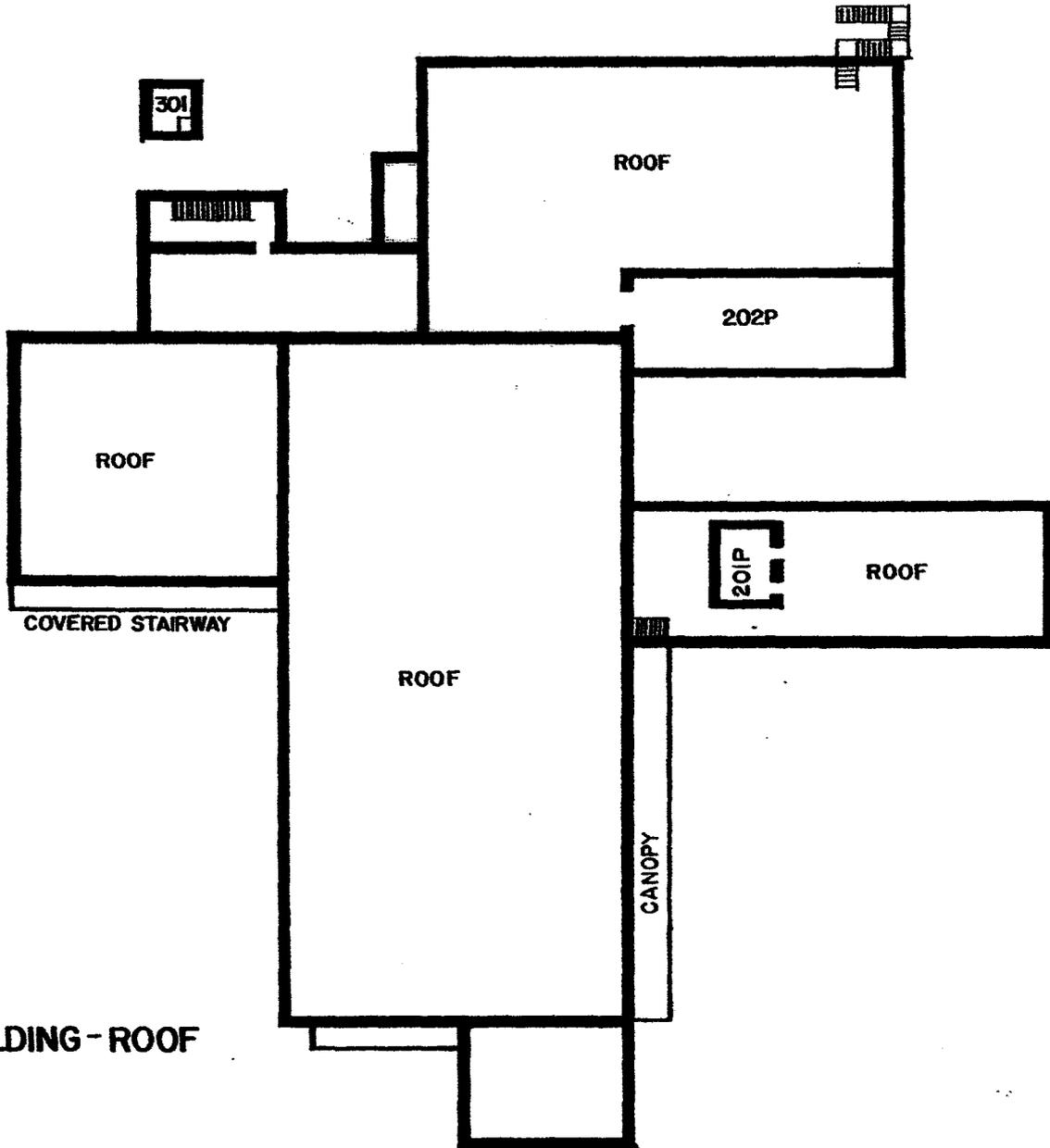
I BUILDING - BASEMENT



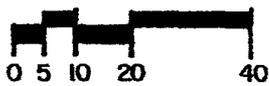
U.S. Department of Energy  
MOUND FACILITY  
Isolated Building (I Building)  
HABS No. OH-2470-I (Page 17)



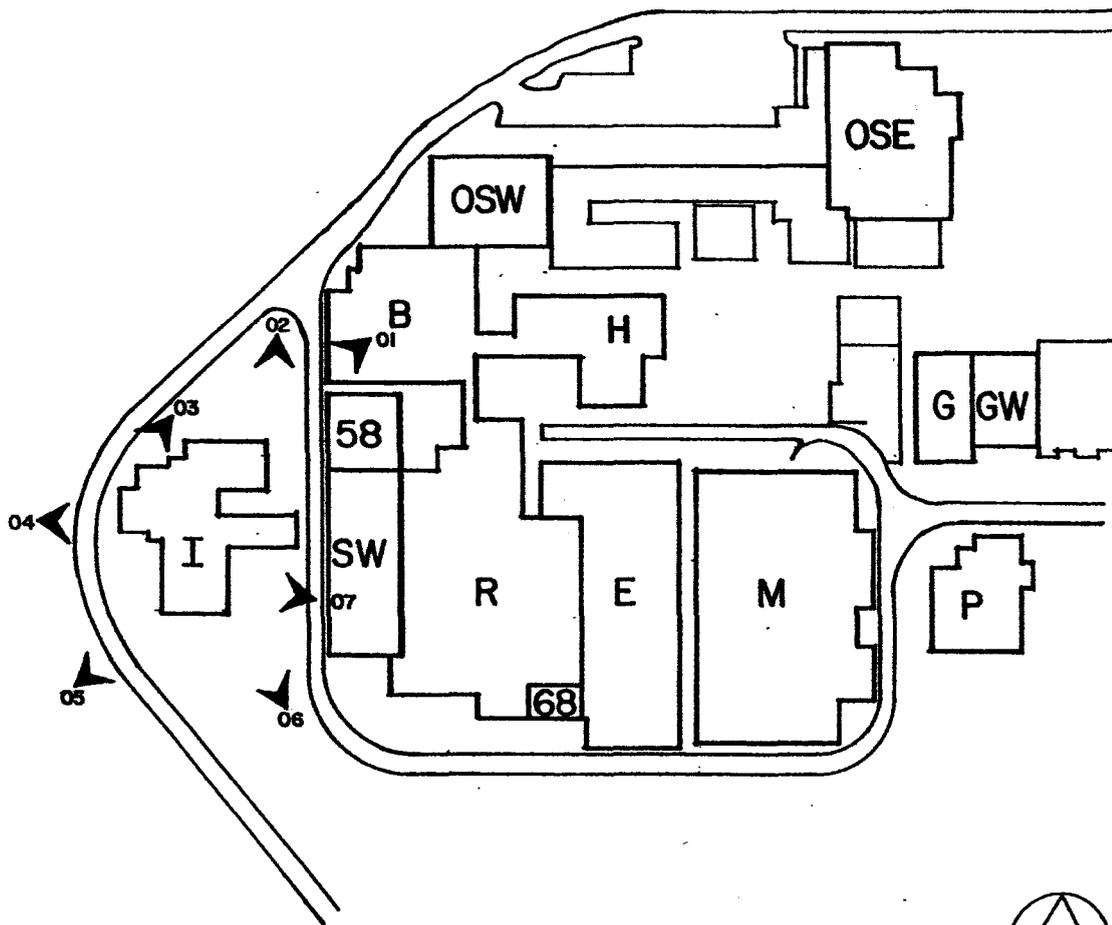
U.S. Department of Energy  
MOUND FACILITY  
Isolated Building (I Building)  
HABS No. OH-2470-I (Page 18)



I BUILDING - ROOF



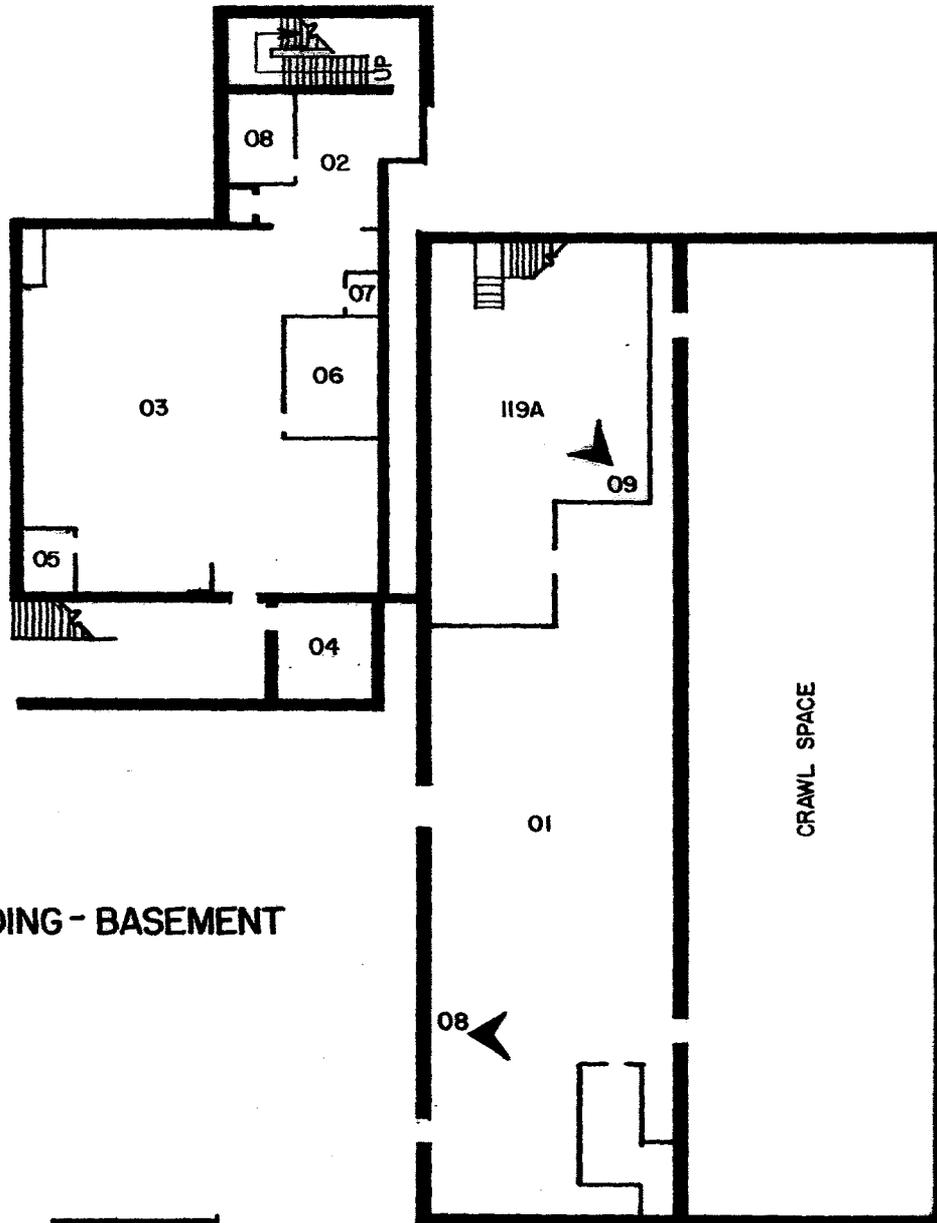
KEY TO PHOTOGRAPHS  
U.S. Department of Energy  
MOUND FACILITY  
Isolated Building (I Building)  
HABS No. OH-2470-I (Page 19)



SITE PLAN



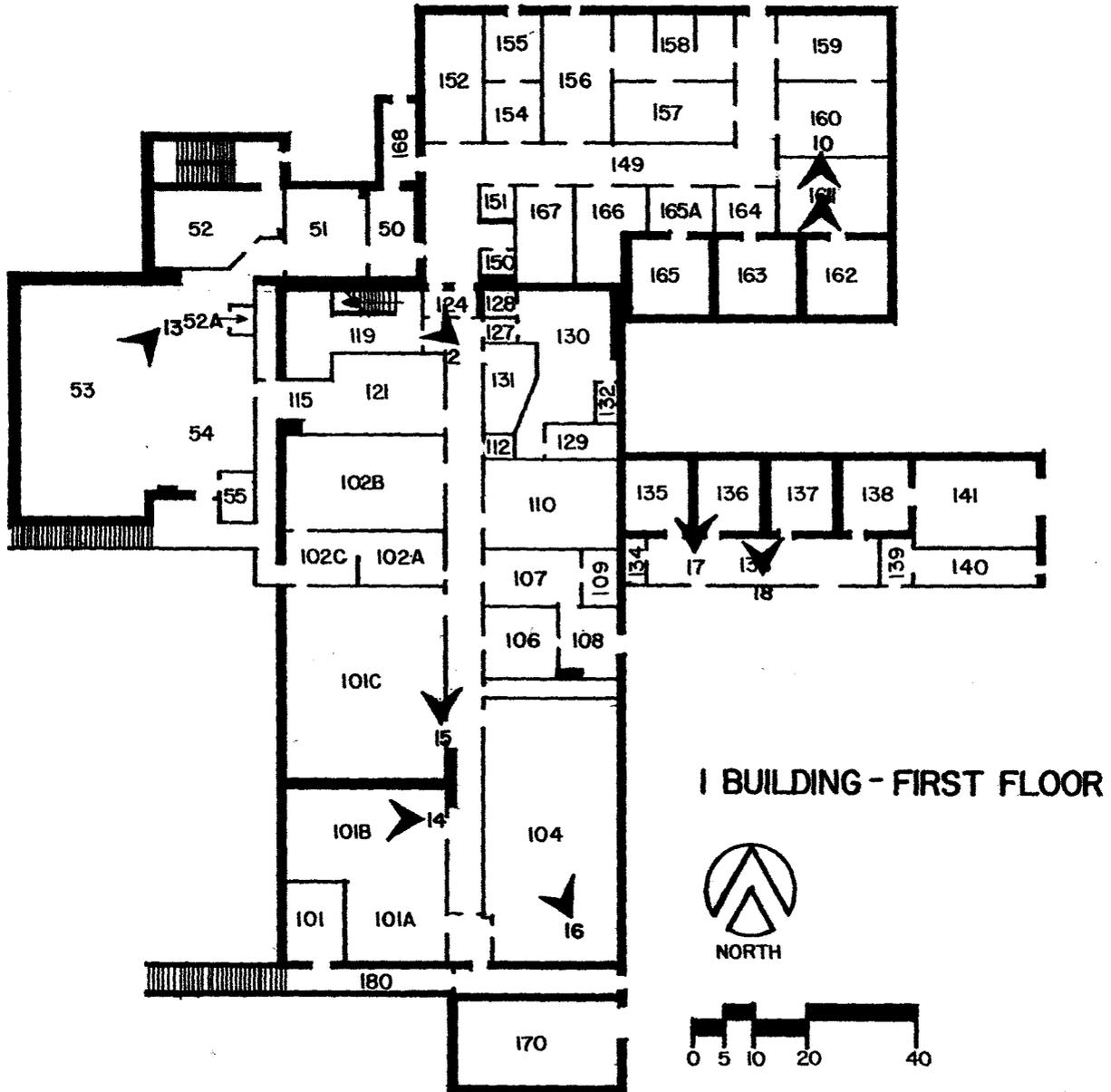
KEY TO PHOTOGRAPHS  
U.S. Department of Energy  
MOUND FACILITY  
Isolated Building (I Building)  
HABS No. OH-2470-I (Page 20)



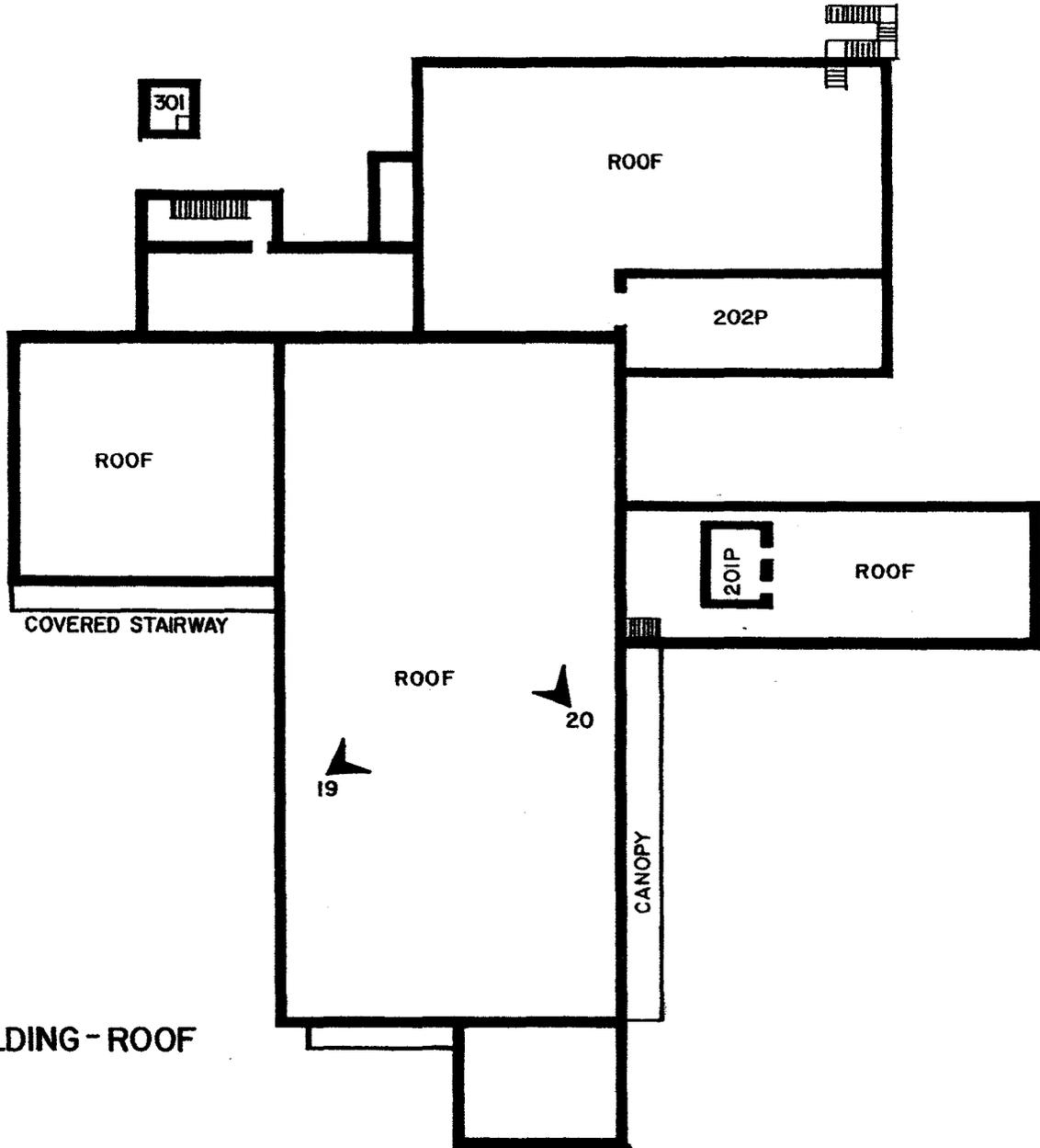
I BUILDING - BASEMENT



KEY TO PHOTOGRAPHS  
U.S. Department of Energy  
MOUND FACILITY  
Isolated Building (I Building)  
HABS No. OH-2470-I (Page 21)



KEY TO PHOTOGRAPHS  
U.S. Department of Energy  
MOUND FACILITY  
Isolated Building (I Building)  
HABS No. OH-2470-I (Page 22)



I BUILDING - ROOF

