

**MARYLAND HISTORICAL TRUST
DETERMINATION OF ELIGIBILITY FORM**

NR Eligible: yes no

Property Name: NIH Biologics Standards Laboratory Annex (Building 29A) Inventory Number: M: 35-9-18
 Address: 9000 Rockville Pike City: Bethesda Zip Code: 20892
 County: Montgomery USGS Topographic Map: Washington West
 Owner: United States of America (National Institutes of Health) Is the property being evaluated a district? yes no
 Tax Parcel Number: _____ Tax Map Number: _____ Tax Account ID Number: _____
 Project: _____ Agency: _____
 Site visit by MHT Staff: no yes Name: Peter Kurtze, Jonathan Sager Date: May 15, 2014
 Is the property located within a historic district? yes no

If the property is within a district
 District Inventory Number: _____
 NR-listed district yes Eligible district yes District Name: _____
 Preparer's Recommendation: Contributing resource yes no Non-contributing but eligible in another context

If the property is not within a district (or the property is a district)
 Preparer's Recommendation: Eligible yes no

Criteria: A B C D Considerations: A B C D E F G None

Documentation on the property/district is presented in: Maryland Inventory of Historic Properties Form M: 35-9-18

Description of Property and Eligibility Determination: (Use continuation sheet if necessary and attach map and photo)

The Biologics Standards Laboratory Annex (Building 29A), constructed between 1965 and 1967 by the National Institutes of Health (NIH) and designed by the Detroit firm Smith Hinchman & Grylls Associates, possesses significance under National Register Criteria A and B for its association with the activities and persons that have made significant and influential scientific contributions to the federal regulation of biologics. The significance of NIH as a scientific institution capable of developing necessary standards for the complicated treatments of serious diseases such as diphtheria, smallpox, and rabies can be traced to the regulatory activities carried out in Building 29A and its associated laboratory buildings.

Building 29A is rectangular in plan with seven bays on the long side. The primary entrance is located under a slab canopy on the north facade. Enclosed brick and glass corridors provide connections to adjacent buildings on the east and west sides (Buildings 29 and 29B). On the exterior, Building 29A is stripped of ornament and features narrow vertical bands of fixed glazing (with spandrel glass at the floor lines) between attenuated brick columns that project from the window face. Building materials include brick masonry, buff precast concrete trim, and dark anodized aluminum-framed gray-tinted glass. On the interior, the floor plans feature a perimeter corridor that runs continuously along the exterior wall. The interior also features

| | |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MARYLAND HISTORICAL TRUST REVIEW | |
| Eligibility recommended <input checked="" type="checkbox"/> | Eligibility not recommended <input type="checkbox"/> |
| Criteria: <input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | Considerations: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> None |
| Comments: _____ | |
| _____ Jonathan Sager Reviewer, Office of Preservation Services | _____ 12/13/14 Date |
| _____ Reviewer, NR Program | _____ 6/18/14 Date |

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two cross-corridors that connect to interior stair towers and elevators. Laboratories are accessed directly from the perimeter corridor or from the cross-corridors. Utility cores, parallel to the backs of the laboratories, allow changes and maintenance to the various systems while not interrupting the uses of the laboratory.

Building 29A retains the essential physical features that made up its character during the period of its association with the history and achievements of the Division of Biologics Standards and its successor agencies, as well as the activities and persons who made significant contributions to the regulation of biologics. Building 29A retains a high level of integrity of location, setting, design, material, workmanship, feeling, and association.

The Biologics Standards Laboratory Annex (Building 29A) is nationally significant to the history of science under National Register of Historic Places Criterion A because of its central role in the federal regulation of biological products and for the research that informed that regulation. Building 29A carries out the unique function, mandated by federal law, of approving which therapies are suitable for public distribution. Building 29A operates in close association with its companion Building 29 (MIHP Inventory No. M: 35-9-12), and the achievements associated with Building 29A include the development of a vaccine for German measles (rubella), contributions to the discovery of the hepatitis A, B, and C viruses, a revolutionary test for detecting endotoxins in injectable biologics, the regulation of blood banks and increasingly sophisticated testing that ensures the safety of blood and blood products, and the licensing and continuing oversight of the production of vaccines that have virtually eliminated polio, measles, mumps, and rubella. The accomplishments of researchers and administrators working in Building 29A, particularly related to vaccines, have affected and continue to affect every American in many ways. Scientists at the Division of Biological Standards have worked closely with international agencies, including the World Health Organization, to establish international standards and have thus helped to ensure the safety and efficacy of biologics used worldwide. Because of its direct association with Dr. Paul D. Parkman and Dr. Harry M. Meyer, Jr. for their work on German measles, Dr. H. Donald Hochstein and Dr. Edward B. Seligmann, Jr. for scientific contributions related to endotoxins in injectable biologics, Dr. Ruth Kirschstein for research on live-virus vaccines and other outstanding accomplishments, and Dr. Paul Albrecht for the study of the immunogenesis of viral infections, slow virus infections, and the development and control of vaccines, Building 29A also qualifies for listing in the National Register under Criterion B.

See the attached MIHP form for additional information, maps, and photos.

Phillip W. Neuberg, AIA
NIH Federal Historic Preservation Officer

In association with:
O'Neil & Manion Architects P.A.,
Robinson & Associates, Inc., and
Andrea Schoenfeld

Prepared by:

Date Prepared:

September 2014

M: 35-9-18

NIH Biologics Standards Laboratory Annex (Building 29A)

National Institutes of Health, Bethesda Campus

9000 Rockville Pike, Bethesda, Maryland, 20892

Montgomery County

1965-67; Public

The NIH Biologics Standards Laboratory Annex (Building 29A) was designed by Smith Hinchman & Grylls Associates and constructed between 1965 and 1967. Building 29A is rectangular in plan with seven bays on the long side. Building materials include brick masonry, buff precast concrete trim, and dark anodized aluminum-framed gray-tinted glass. The exterior features narrow vertical bands of fixed glazing (with spandrel glass at the floor lines) between attenuated brick columns that project from the window face. The primary entrance to Building 29A is located under a slab canopy on the north facade. Enclosed brick and glass corridors provide connections between Building 29A and adjacent buildings on the east and west sides (Buildings 29 and 29B).

Building 29A possesses significance under National Register Criteria A and B for its association with the activities and persons that have made significant and influential scientific contributions to the federal regulation of biologics. The significance of NIH as a scientific institution capable of developing necessary standards for the complicated treatments of serious diseases such as diphtheria, smallpox, and rabies can be traced to the regulatory activities carried out in Building 29A and its associated laboratory buildings.

Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

1. Name of Property

historic NIH Biologics Standards Laboratory Annex (Building 29A)
 other N/A

2. Location

street and number 9000 Rockville Pike __ not for publication
 city, town Bethesda __ vicinity
 county Montgomery

3. Owner of Property

name United States of America (National Institutes of Health)
 street and number 9000 Rockville Pike telephone 301-443-7154
 city, town Bethesda state MD zip code 20892

4. Location of Legal Description

courthouse, registry of deeds, etc. Montgomery County Courthouse liber unknown folio unknown
 city, town Rockville tax map unknown tax parcel unknown tax ID number unknown

5. Primary Location of Additional Data

- N/A Contributing Resource in National Register District
- N/A Contributing Resource in Local Historic District
- N/A Determined Eligible for the National Register/Maryland Register
- N/A Determined Ineligible for the National Register/Maryland Register
- N/A Recorded by HABS/HAER
- N/A Historic Structure Report or Research Report at MHT
- Other: _____

6. Classification

| Category | Ownership | Current Function | Resource Count | |
|-------------------------------------------------|--------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------|-----------------|
| <input type="checkbox"/> district | <input checked="" type="checkbox"/> public | <input type="checkbox"/> agriculture | Contributing | Noncontributing |
| <input checked="" type="checkbox"/> building(s) | <input type="checkbox"/> private | <input type="checkbox"/> commerce/trade | 1 | 0 |
| <input type="checkbox"/> structure | <input type="checkbox"/> both | <input type="checkbox"/> defense | 0 | 0 |
| <input type="checkbox"/> site | | <input type="checkbox"/> domestic | 0 | 0 |
| <input type="checkbox"/> object | | <input type="checkbox"/> education | 0 | 0 |
| | | <input type="checkbox"/> funerary | 1 | 0 |
| | | <input checked="" type="checkbox"/> government | | |
| | | <input type="checkbox"/> health care | | |
| | | <input type="checkbox"/> industry | | |
| | | <input type="checkbox"/> landscape | | |
| | | <input type="checkbox"/> recreation/culture | | |
| | | <input type="checkbox"/> religion | | |
| | | <input type="checkbox"/> social | | |
| | | <input type="checkbox"/> transportation | | |
| | | <input type="checkbox"/> work in progress | | |
| | | <input type="checkbox"/> unknown | | |
| | | <input type="checkbox"/> vacant/not in use | | |
| | | <input type="checkbox"/> other: | | |
| | | | Number of Contributing Resources previously listed in the Inventory | |
| | | | N/A | |

7. Description

Inventory No. M: 35-9-18

Condition

| | |
|------------------------------------------|---------------------------------------|
| <input type="checkbox"/> excellent | <input type="checkbox"/> deteriorated |
| <input checked="" type="checkbox"/> good | <input type="checkbox"/> ruins |
| <input type="checkbox"/> fair | <input type="checkbox"/> altered |

Summary

The Biologics Standards Laboratory Annex (Building 29A) was designed by the Detroit firm Smith Hinchman & Grylls Associates and constructed between 1965 and 1967. To meet the programmatic and functional requirements of the National Institutes of Health's Division of Biologics Standards, Building 29A was designed featuring an innovative floor plan for its time, characterized by exterior perimeter corridors, modular laboratories, and continuous utility cores. At the time of its construction, Building 29A's modern design represented a striking departure from NIH's earlier laboratory buildings, which were more traditional in their form, materials, and plan.

Resource Description

The Biologics Standards Laboratory Annex (Building 29A) is located on the Bethesda Campus of the NIH on a site bounded by Lincoln Drive on the south and an entrance courtyard on the north. The laboratory building is situated between Building 29 on the east and Building 29B on the west and is linked to its adjacent structures by connecting corridors.

The building is rectangular in plan and measures approximately 171 feet long by 139 feet wide, with seven bays on the long side and six bays, plus two narrow bays, on the short side. The primary entrance to Building 29A is located under a slab canopy on the north facade. A courtyard area landscaped with trees and shrubs and featuring an oval entry drive with limited parking and loading areas marks the entrance. In the center of the oval entry drive are four cylindrical brick structures with precast concrete caps that house intake air ducts for the building's mechanical system. Several large areaways, concealing generators and other service equipment, adjoin the east side of the building below grade. Retaining walls at the southwest corner partially conceal a loading area and other services. This loading area has been modified (date unknown), and the finishes do not closely match the original construction. On the south facade, a secondary entry from Lincoln Drive is located adjacent to the loading area.

Building 29A is linked with the west facade of Building 29 at three levels via a connection structure that measures 20 feet wide by approximately 80 feet long. The multilevel structure connects directly between buildings on the basement- and second-floor levels. At the ground-floor level, an arched open passage allows pedestrian access through the connection structure and shelters at-grade entrances to both buildings. Building 29A is connected to the east facade of Building 29B at four levels.

The four-story building has three levels above grade, one level below grade, and two enclosed oval penthouse structures above a flat roof. The oval penthouses are clad with precast concrete panels and have shallow domed concrete roofs, which are not visible from the ground. Mechanical areas on the roof are also clad in precast concrete panels. The below-grade level is approximately 22 feet below the first-floor level to provide additional height for building systems and a refrigeration repository.

On the exterior, Building 29A features narrow vertical bands of fixed glazing (with spandrel glass at the floor lines) between attenuated brick columns that project 26 inches from the window face. At the roofline is a parapet composed of precast concrete panels. The facade treatment is similar on all four sides, interrupted only by the precast concrete canopied entrances on the north and south sides and the enclosed brick and glass connections to adjacent buildings on the east and west. Building materials of the exterior walls include brick masonry, buff precast concrete trim, and dark anodized aluminum-framed gray-tinted glass. The building rests on a brick "podium" with sloped walls.

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In the interior, the first, second, and third floors feature perimeter corridors that run continuously along the exterior wall to provide natural light to the principal circulation spaces. Instead of a central axial passage, the floor plans feature two cross-corridors that connect to interior stair towers and elevators. Laboratories, including those requiring air locks, are accessed directly from the perimeter and cross-corridors. In addition to the pedestrian corridors, the building features three utility cores to access the building systems independently from the research spaces. The utility cores run parallel to the cross-corridors and access the backs of the laboratories. At the time of the building's construction, the utility cores were a radical break from the minimal space usually allotted for routing plumbing and mechanical services. The utility cores allowed changes and maintenance to the various systems, including plumbing, power, compressed air, laboratory gases, heating, ventilation, and air conditioning, while not interrupting the uses of the laboratories. Since the building's construction, the utility cores have been supplanted by other concepts, such as interstitial spaces that place the services above the laboratories.

The structural system of Building 29A consists of a reinforced concrete frame and slab. Reinforced concrete interior columns are spaced on a generous grid that provides ample column-free space and flexibility for modular laboratories. There are two short-span bays to accommodate the cross-corridors.

8. Significance

Inventory No. M: 35-9-18

| Period | Areas of Significance | Check and justify below | | |
|-----------------------------------------------|---------------------------------------------|-------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------|
| <input type="checkbox"/> 1600-1699 | <input type="checkbox"/> agriculture | <input type="checkbox"/> economics | <input type="checkbox"/> health/medicine | <input type="checkbox"/> performing arts |
| <input type="checkbox"/> 1700-1799 | <input type="checkbox"/> archeology | <input type="checkbox"/> education | <input type="checkbox"/> industry | <input type="checkbox"/> philosophy |
| <input type="checkbox"/> 1800-1899 | <input type="checkbox"/> architecture | <input type="checkbox"/> engineering | <input type="checkbox"/> invention | <input checked="" type="checkbox"/> politics/government |
| <input checked="" type="checkbox"/> 1900-1999 | <input type="checkbox"/> art | <input type="checkbox"/> entertainment/ recreation | <input type="checkbox"/> landscape architecture | <input type="checkbox"/> religion |
| <input type="checkbox"/> 2000- | <input type="checkbox"/> commerce | <input type="checkbox"/> ethnic heritage | <input type="checkbox"/> law | <input checked="" type="checkbox"/> science |
| | <input type="checkbox"/> communications | <input type="checkbox"/> exploration/ settlement | <input type="checkbox"/> literature | <input type="checkbox"/> social history |
| | <input type="checkbox"/> community planning | | <input type="checkbox"/> maritime history | <input type="checkbox"/> transportation |
| | <input type="checkbox"/> conservation | | <input type="checkbox"/> military | <input type="checkbox"/> other: _____ |

Specific dates unknown **Architect/Builder** Smith Hinchman & Grylls Associates

Construction dates 1965-67

Evaluation for:

National Register Maryland Register not evaluated

Summary Statement of Significance

The Biologics Standards Laboratory Annex (Building 29A), constructed between 1965 and 1967 by the National Institutes of Health (NIH) and designed by the Detroit firm Smith Hinchman & Grylls Associates, possesses significance under National Register of Historic Places Criteria A and B for its association with the activities and persons that have made significant and influential scientific contributions to the federal regulation of biologics. The Biologics Standards Laboratory Annex (Building 29A), along with the adjacent and interconnected Buildings 29 and 29B, represent the only facilities, not just on the NIH campus but in the nation, that have functioned since their construction for the primary purpose of regulating biological medicines, a core component of the therapeutic armamentarium.¹ The significance of NIH as a scientific institution capable of developing necessary standards for the complicated treatments of serious diseases such as diphtheria, smallpox, and rabies can be traced to the regulatory activities carried out in Building 29A and its associated laboratory buildings.

The Biologics Standards Laboratory Annex (Building 29A), retains the essential physical features that made up its character during the period of its association with the history and achievements of the Division of Biologics Standards and its successor agencies, as well as the activities and persons who made significant contributions to the regulation of biologics. Building 29A retains a high level of integrity of location, setting, design, material, workmanship, feeling, and association.

Resource History and Historic Context

History of Biologics Regulation

Biologics include a wide range of medical products, such as vaccines, blood and blood components, allergenics, tissues, and others, derived from *animal* or human sources. In the late nineteenth century, killed-virus vaccinations were developed for cholera, typhoid, and plague, along with antitoxin inoculations for diphtheria and tetanus. The production of these early biological medicines was not government regulated until tragedy struck. In 1902, one year after the death of thirteen children from a diphtheria serum derived from a tetanus-infected source, the Biologics Control Act was passed. The act created the basic regulatory framework for biologics that continues in use today. The tools for enforcement included annual licensing of

¹ Building 29A was constructed in 1965-67 as an annex to Building 29 (MIHP Inventory No. M: 35-9-12). Since Building 29A opened, the two buildings have functioned in close association, and both are integral to the history of the Division of Biologics Standards and its achievements. In cases where research has identified significant activities and persons common to Building 29 and Building 29A that have already been evaluated and described in the Building 29 MIHP survey form, the information is presented here in summary form in order to limit duplication, avoid repetition of detailed histories and evaluations, and to produce a useful and manageable document. Building 29B was constructed in 1993 and, although closely associated with the significance of Building 29 and Building 29A, its National Register eligibility is not addressed in this survey form.

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manufacturers of biologics, regular inspections of manufacturing establishments, and the authority to sample products for purity and potency, to revoke licenses, and to issue rules necessary to enforce the act.

The biologics regulatory function, the first federal oversight of any kind over domestically and foreign-produced therapeutic products, goes hand-in-hand with the early development of the NIH. The Biologics Control Act vested the authority to enforce the new legislation in the Hygienic Laboratory of the Public Health and Marine Hospital Service. In 1930, the Hygienic Laboratory was renamed the National Institute of Health. Later that decade, the biologics regulation was assigned to the newly established Division of Biologics within the NIH.

From the beginning stages, research was recognized as being an essential component of biologics regulation. Because biologics are derived from human or animal sources and potentially can transmit known – or unknown – diseases, setting standards to ensure their safety, purity, and efficacy has required extensive basic research. In the 1930s, the field of biologics expanded with the licensing of the production of the first human blood product. World War II accelerated the demand for blood products and for the production and improvement of vaccines to protect troops from diseases that were endemic in other regions of the world. This spurred research to refine standards and tests for biologics and to explore problems that arose with the use of blood products. Due to the nature of the diseases being treated, which were extremely dangerous and likely fast-acting, the development of standards was crucial. Abiding by the standards set forth by the Division of Biologics provided assurance that medicines would work. The Public Health Service Act of 1944 changed the Division of Biologics Control to the Laboratory of Biologics Control and gave it the authority to license biological products, as well as the manufacturers that produced them.

In 1949, scientists working at the Boston Children's Hospital successfully cultivated the poliovirus in human tissue, ushering in a new era in vaccination that is considered a forerunner of the discoveries and changes relevant to biologics that would occur in the second half of the twentieth century.² The ability to readily culture viruses made possible the large-scale production of killed-virus vaccines. Polio was the first target. Polio outbreaks had been increasing in the 1940s and early 1950s with about 35,000 cases a year being reported, some of which resulted in permanent paralysis or death.³ By 1954, Jonas Salk had developed a killed-virus polio vaccine, and production was licensed in 1955 after extensive field trials. This much heralded achievement virtually eliminated the widely feared disease in the United States over the next few years, but not before exposing the dangers inherent in developing new vaccines without adequate standards and controls for the manufacturing process and for testing individual batches. One manufacturer produced a flawed vaccine that in 1955 caused 260 cases of polio, of which about 190 were paralytic. In response, NIH reorganized its Laboratory of Biologics Control into an enlarged Division of Biologics Standards (DBS), an independent entity within NIH. As industry regulation increased and testing requirements were strengthened, the DBS workload was vastly increased. Achievements at the time included Albert B. Sabin's development of a weakened live-virus oral polio vaccine, which was ready for field trials by 1957. Others were working on vaccines for measles. Simultaneously, DBS research scientists focused on developing ways to test the safety, purity, and efficacy of these vaccines while continuing to carry out the division's responsibilities for overseeing the manufacture of biological products already on the market and testing batches to ensure their safety and potency.

² Food and Drug Administration, "Science and the Regulation of Biological Products: From a Rich History to a Challenging Future," accessed March 21, 2014, at <http://www.fda.gov/downloads/aboutfda/whatwedo/history/productregulation/100yearsofbiologicsregulation/ucm070313.pdf>.

³ Centers for Disease Control and Prevention, "Vaccines and Immunizations: Polio - Questions and Answers," accessed July 13, 2014, at <http://www.cdc.gov/vaccines/vpd-vac/polio/dis-faqs.htm>.

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On July 1, 1972, the Division of Biologics Standards was administratively removed from the NIH and placed in the Food and Drug Administration (FDA). It was renamed the Bureau of Biologics. In 1982, the Bureau of Biologics and the Bureau of Drugs merged to form the National Center for Drugs and Biologics, which soon became known simply as the Center for Drugs and Biologics. The Center for Drugs and Biologics was divided into the Center for Biologics Evaluation and Research (CBER) and the Center for Drug Evaluation and Research (CDER) in 1988.

Development and Use of Building 29A

In 1956, Congress authorized the construction of the Biologics Standards Laboratory (Building 29) to consolidate the division's laboratories, which had been scattered among several NIH buildings. Building 29 was completed in 1960, but within months of moving into the new laboratory building, the DBS realized that the facility was inadequate to meet its rapidly expanding needs. Within two years of finishing construction of Building 29, NIH began planning Building 29A as a laboratory annex. NIH's director at the time, Dr. James Shannon, described the quickening pace of vaccine development when he sought to justify to Congress his request for funds for planning Building 29A so soon after Building 29 had been completed. As previously mentioned, the DBS at the time had just established standards governing the production and testing of oral polio vaccines developed by Albert Sabin, the development of measles vaccines was well underway, and a vaccine for infectious hepatitis was thought to be on the horizon. Justifying the request, Shannon stated that, "Although laboratory testing space, including quarters for experimental animals, appeared adequate with the move in 1961 to the new Biologics Standards Building, requirements for new programs in 1962, particularly live polio virus vaccine and measles vaccine have increased considerably."⁴ NIH quantified the growth in a prepared statement, stating that, "In the past five or six years the importance of biologics control and its role in the future development of preventive and therapeutic medicines has continually grown until in 1962 the program is approximately three and one-half times larger than when the Congress authorized the construction of the first Biologics Standards Building in 1956."⁵

Throughout its design and construction stages, Building 29A was described as an addition or as an annex to Building 29. To facilitate communication between the two buildings they were linked by corridors both above and below ground. The buildings were linked functionally as well. While administration of the DBS remained in Building 29, at least two laboratories that had been in Building 29, the Division of Virology and the Division of Control Activities (later named Division of Product Quality), moved to Building 29A. Most research requiring the use of animals, including animal pyrogen testing and animal safety testing, also moved to Building 29A. Some of the researchers who rose through the ranks to become administrators had offices in Building 29 but maintained their laboratories in Building 29A. The rapid, successive development of Buildings 29 and 29A was a testament to the dramatic growth in the development of vaccines and other biologics in the late 1950s and in the 1960s and the corresponding growth in federal regulation of biologics manufacturers and blood banks.

NIH selected the firm Smith Hinchman & Grylls to design the annex and requested Congressional funding in 1964. Construction of Building 29A began on March 15, 1965, and staff began moving into the building early in 1967 as laboratory

⁴ House Committee on Appropriations, Subcommittee on Labor, Health, Education and Welfare *Hearings on H.R. 1916*, 87th Cong., 2nd sess., 1962, 936.

⁵ Senate Committee on Appropriations, *Labor - Health, Education and Welfare Appropriations for 1963: Hearings on S. 1514*, 87th Cong., 2^d sess., 1962, 474.

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spaces became ready.⁶ The design of Building 29A was radically different from Building 29 both in exterior appearance and in concepts of laboratory design. Building 29 was designed by local architect Ted Englehardt and drew its inspiration from existing NIH laboratories. It was built to consolidate the research and regulatory activities relating to biologics that were scattered among several NIH buildings. By contrast, Building 29A was designed by a firm that had an established national reputation for its expertise in designing health and research facilities. At the time, biological research laboratory design was a relatively new specialty field for architectural design. The project architect at Smith Hinchman & Grylls was Sigmund Blum.

Responding to the growing responsibilities of the DBS, the Smith Hinchman & Grylls design for Building 29A employed innovative concepts to create flexible laboratory space, which could be readily reconfigured for new research projects. The building was designed to house many laboratory animals used in testing and featured sophisticated air-handling systems to guard against viral contamination. The placement of the intake air system and the exhaust air system was also innovative at the time. The intake air system was placed remote from the building to ensure a source of fresh incoming air, and the high velocity exhaust air system was placed on the roof to ensure dilution and dispersion of laboratory and vivarium exhaust air. In addition, the building had a large capacity to provide refrigerated repositories for biological materials. All this was accomplished within a distinctively contemporary building envelope. Laboratory floors were designed with a perimeter access corridor adjacent to the exterior building wall, which provided natural light to the primary circulation spaces. The perimeter access corridor also served to buffer and insulate the interior laboratories from the temperature fluctuations, noise, and other influences that would affect an exterior wall. Laboratories on the interior of the building featured adjacent utility cores that allowed for changes and maintenance to various systems without interrupting research activities taking place in the rooms. Building 29A and its forerunner illustrate the changes that were taking place between the 1950s and the 1960s in laboratory design and architectural style.

Within the research laboratories of Building 29A, the DBS did critical work related to biologics regulation. However, many scientific achievements and distinguished careers straddled both Building 29A and Building 29 and cannot be logically limited to one building or the other. As such, many of the people and events that make Building 29 significant also contribute to the historic significance of Building 29A.⁷

The DBS did essential work that led to the development of the vaccine for German measles (rubella). Because of its mild symptoms, rubella was not considered a significant illness until, in the 1940s, it was discovered that babies born to women who had contracted German measles early in their pregnancy were likely to deliver babies who suffered from congenital abnormalities including blindness, deafness, and learning disabilities. A particularly severe epidemic in 1964 affected 20,000 babies. Dr. Paul D. Parkman who, with colleagues, had isolated the rubella virus while working at the Army's Walter Reed Hospital, joined the DBS staff in 1963. Working with Dr. Harry M. Meyer, Jr., he developed an inexpensive and reliable test for rubella antibodies that was practical for widespread use. It was made available in 1967 and enabled women to determine whether they had had German measles and were thus immune. Parkman and Meyer also developed a weakened live virus that became the basis for the first German measles vaccines, which the DBS licensed for production in 1969. In 1971, the drug company Merck developed a combined measles, mumps, and rubella vaccine (MMR), which became standard for vaccinating young children. Dr. Parkman, in an oral interview, credited including the rubella vaccination with that of the

⁶ House Committee on Appropriations, Subcommittee on Labor, Health, Education and Welfare, *Hearings on FY 1968 HEW Appropriations*, 90th Cong., 1st sess., 1967, 222, and National Institutes of Health, "8 New Buildings Needed Here, To Be Erected in 3 Years." *NIH Record* 17, no. 8 (April 20, 1965): 3.

⁷ Maryland Historical Trust, Determination of Eligibility Form, "NIH Biologics Standards Laboratory Building (Building 29), Inventory No. M: 35-9-0012," January 2013.

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more dreaded measles and mumps with the virtual elimination of German measles in the United States.⁸ Parkman and Meyer's initial work on German measles took place in Building 29, but moved to Building 29A when its research laboratories opened.⁹

Dr. H. Donald Hochstein and colleagues, working in the Division of Control Activities in Building 29A, revolutionized testing for endotoxins in injectable biologics. Endotoxins are part of the outer membrane of the cell wall of Gram-negative bacteria and had been discovered to be the cause of fevers observed in some patients receiving injections. For over thirty years, the standard test for pyrogens (fever-causing endotoxins) was to inject rabbits' ears and measure the reaction. Building on studies by scientists at Johns Hopkins, Hochstein, with Dr. Edward B. Seligmann, Jr., developed a calibrated test for endotoxins using horseshoe crab blood that was far more sensitive than the rabbit pyrogen test, as well as being quicker and more economical. The test, known as LAL (Limulus ameocyte lysate), became the worldwide test of choice for bacterial endotoxins.

Dr. Ruth Kirschstein, a researcher in experimental pathology at the DBS between 1957 and 1972, was instrumental in developing new laboratory techniques to properly assess the safety and efficacy of attenuated live-virus vaccines then under development. She also worked with other researchers at the DBS on tests of the measles and rubella vaccines. Due to her achievements, Kirschstein was named the Chief of Laboratory Pathology in 1961 and later became the Director of National Institute of General Medical Sciences.¹⁰ Kirschstein's research took place in both Building 29 and Building 29A.

Dr. Paul Albrecht joined the Division of Biologics Standards in 1968 as a resident virologist and thus worked primarily in Building 29A. His research focused extensively on the measles vaccination, which helped lead to new recommendations on the best age for immunization. His areas of specialty were immunogenesis of viral infections, slow virus infections, and the development and control of vaccines including polio, rubella, and pediatric infectious diseases. Albrecht was born in 1925 in what is now Slovakia. He received his medical degree from the Comenius University, Bratislava, in 1949 and a Ph.D. in virology from the Czechoslovak Academy of Sciences in 1960. He began his career as an assistant professor of pathology at the Comenius University and then worked at the Virology Institute of the Czechoslovak Academy of Sciences from 1955 to 1965, beginning as a resident associate and rising to laboratory chief. In 1965 he came to the National Institute of Neurological Diseases and Blindness as a resident associate microbiologist. Albrecht joined the DBS 1968 as a resident virologist and continued in that position when the DBS was transferred to the FDA. He retired in 1993 as director of the virology at what had by then become the Center for Biologics Evaluation and Research.

In addition to the research contributions described above, the DBS's Division of Virology, located in Building 29A, has been the source of significant research for decades. Contributions have included notable research into vaccinia and hepatitis B, research that has contributed significantly to our understanding of varicella (the chicken pox virus), influenza, RSZ (respiratory syncytial virus, a cause of bronchitis in children), and CMZ (cytomegalovirus, a herpes virus that can be quite

⁸ Paul Parkman, oral interview by Sarah Leavitt, Office of NIH History, National Institutes of Health, June 7, 2005, 28.

⁹ The careers of Dr. Paul D. Parkman and Dr. Harry M. Meyer, Jr., are described in length in the MHT Determination of Eligibility form for the Biologics Standard Laboratory Building (Building 29). See Maryland Historical Trust, Determination of Eligibility Form, "NIH Biologics Standards Laboratory Building (Building 29), Inventory No. M: 35-9-0012," January 2013.

¹⁰ The achievements of Dr. Ruth Kirschstein are described in length in the MHT Determination of Eligibility form for the Biologics Standard Laboratory Building (Building 29). See Maryland Historical Trust, Determination of Eligibility Form, "NIH Biologics Standards Laboratory Building (Building 29), Inventory No. M: 35-9-0012," January 2013.

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Continuation Sheet

Number 8 Page 5

serious in certain patient populations), and important research on the structure and function of human interferons. Additionally, early DBS research on AIDS was carried out in Building 29A.¹¹

Evaluation of Significance

The Biologics Standards Laboratory Annex (Building 29A) is nationally significant to the history of science under National Register Criterion A because of its central role in the federal regulation of biological products and for the research that informed that regulation. Building 29A carries out the unique function, mandated by federal law, of approving which therapies are suitable for public distribution. The achievements associated with Building 29A (and Building 29) include the development of a vaccine for German measles (rubella), contributions to the discovery of the hepatitis A, B, and C viruses, a revolutionary test for detecting endotoxins in injectable biologics, the regulation of blood banks and increasingly sophisticated testing that ensures the safety of blood and blood products, and the licensing and continuing oversight of the production of vaccines that have virtually eliminated polio, measles, mumps, and rubella. The accomplishments of researchers and administrators working in Building 29A (and Building 29), particularly related to vaccines, have impacted every American in many ways – from how infants and children are treated by physicians to the immunization requirements for school admission and the social controversies about vaccinations. The methods developed by DBS scientists have also affected the ability of public health professionals to rapidly respond to emerging threats like SARS, H1N1, and other diseases. DBS scientists have worked closely with international agencies, including the World Health Organization, to establish international standards and have thus helped to ensure the safety and efficacy of biologics used worldwide. Building 29A also qualifies for listing in the National Register under Criterion B because of its direct association with Dr. Paul D. Parkman and Dr. Harry M. Meyer, Jr. for their work on German measles, Dr. H. Donald Hochstein and Dr. Edward Seligmann for scientific contributions related to endotoxins in injectable biologics, Dr. Ruth Kirschstein for research on live-virus vaccines and other outstanding accomplishments, and Dr. Paul Albrecht for the study of the immunogenesis of viral infections, slow virus infections, and the development and control of vaccines, among others.

Of the notable scientists described above, four are deceased and two are retired. Overall, their body of work at Building 29A has been widely recognized scientifically and has been the primary basis for continued ground-breaking biomedical research. Therefore, for the purpose of this document, Criterion B is considered applicable.

Evaluation of Integrity

Integrity relates to the degree to which the characteristics that define a historic property's significance are present. A property that is significant for its historic association is eligible if it retains the essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or person(s). A comparative study of the historic and contemporary conditions associated with the Biologics Standards Laboratory Annex (Building 29A) indicates that the building retains a high degree of integrity. The seven aspects of historic integrity, as established for the National Register of Historic Places, include location, setting, design, material, workmanship, feeling, and association. The

¹¹ Further evaluation under Criterion B of the contributions of several individuals associated with the Division of Virology and early AIDS research should be carried out when enough time has passed to objectively evaluate their contributions. These individuals include Lewellys F. Barker, Gerald V. Quinnan, Jr., Kathryn Zoon, and Jay Epstein.

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Continuation Sheet

Number 8 Page 6

following summary considers these criteria for Biologics Standards Laboratory Annex (Building 29A).

Location is the place where the historic property was constructed or the place where the historic event occurred. **Setting** refers to the physical environment of a historic property. Building 29A is in its original location. While the original setting of Building 29A has changed with the construction of adjoining Building 29B and by the maturation of plantings such as trees and shrubs, these changes have not negatively compromised or obscured the original design intent.

Design is the combination of elements that create the form, plan, space, structure, and style of a property. The exterior of Building 29A remains an accurate reflection of the architect's original design intent. Significant architectural details, including the facade treatment of narrow floor-to-ceiling windows interrupted by slender columnar brick piers, are intact. The design of the exterior facade reinforces the verticality of the building by carrying the line of the windows past the floor structure, which is concealing with spandrel glass. Most of the primary elements of the building envelope (walls and windows) appear to be original. Significant interior spaces have remained relatively unchanged since their construction. This includes the perimeter access corridor, which buffers and insulates interior laboratories from the temperature fluctuations, noise, and other influences that would affect an exterior wall. The corridor provides daylight and views for occupants with floor-to-ceiling windows interrupted only by the brick columns.

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. **Workmanship** is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. Building 29A retains its primary character-defining original exterior materials, including the brick masonry walls and buff, precast concrete trim. Original workmanship remains evident in the sloped, running bond podium.

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. **Association** is the direct link between an important historic event or person and a historic property. The utilitarian, yet modern, feeling of the design of Building 29A is still evident in the slender vertical fenestration pattern, sloped brick podium, oval penthouses, and interior floor plan. Building 29A retains its original use as a research laboratory for biologics evaluation and research.

9. Major Bibliographical References

Inventory No. M: 35-9-18

See continuation sheet.

10. Geographical Data

| | | |
|-------------------------------|------------------------|-----------------------------------|
| Acreage of surveyed property | <u>N/A</u> | |
| Acreage of historical setting | <u>1.5 acres</u> | |
| Quadrangle name | <u>Washington West</u> | Quadrangle scale: <u>1:24,000</u> |

Verbal boundary description and justification

The NIH Biologics Standards Laboratory Annex (Building 29A) is located on the Bethesda Campus of the National Institutes of Health. See attached site plans. For USGS coordinates, please see the attached USGS map.

11. Form Prepared by

| | | | |
|-----------------|----------------------------------------------------------------------------------------|-----------|----------------|
| name/title | Phillip W. Neuberg, AIA/NIH Federal Historic Preservation Officer, in association with | | |
| | O'Neil & Manion Architects, P.A., Robinson & Associates, Inc., and Andrea Schoenfeld | | |
| organization | National Institutes of Health, Office of Research Facilities | date | September 2014 |
| street & number | Division of Facilities Planning, Building 13, Room 1325 | telephone | 301-443-7154 |
| city or town | Bethesda | state | MD |

The Maryland Inventory of Historic Properties was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

return to: Maryland Historical Trust
Maryland Department of Planning
100 Community Place
Crownsville, MD 21032-2023
410-514-7600

Maryland Historical Trust

Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Continuation Sheet

Number 9 Page 1

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Maryland Historical Trust

Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Continuation Sheet

Number 9 Page 2

U.S. Congress. Senate. Committee on Appropriations. *Labor – Health, Education and Welfare Appropriations for 1963: Hearings on S. 1514*. 87th Cong., 2^d sess., 1962.

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Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Continuation Sheet

Number 9 Page 3

Archival Sources

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Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
USGS Map

Biologics Standards Laboratory Annex
(Building 29A)
USGS Coordinates: 38.9987, -77.1057
9000 Rockville Pike
Bethesda, Maryland, 20854
Montgomery County



United States Department of the Interior Geological Survey
Washington West Quadrangle
District of Columbia - Maryland - Virginia
7.5 Minute Series

Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

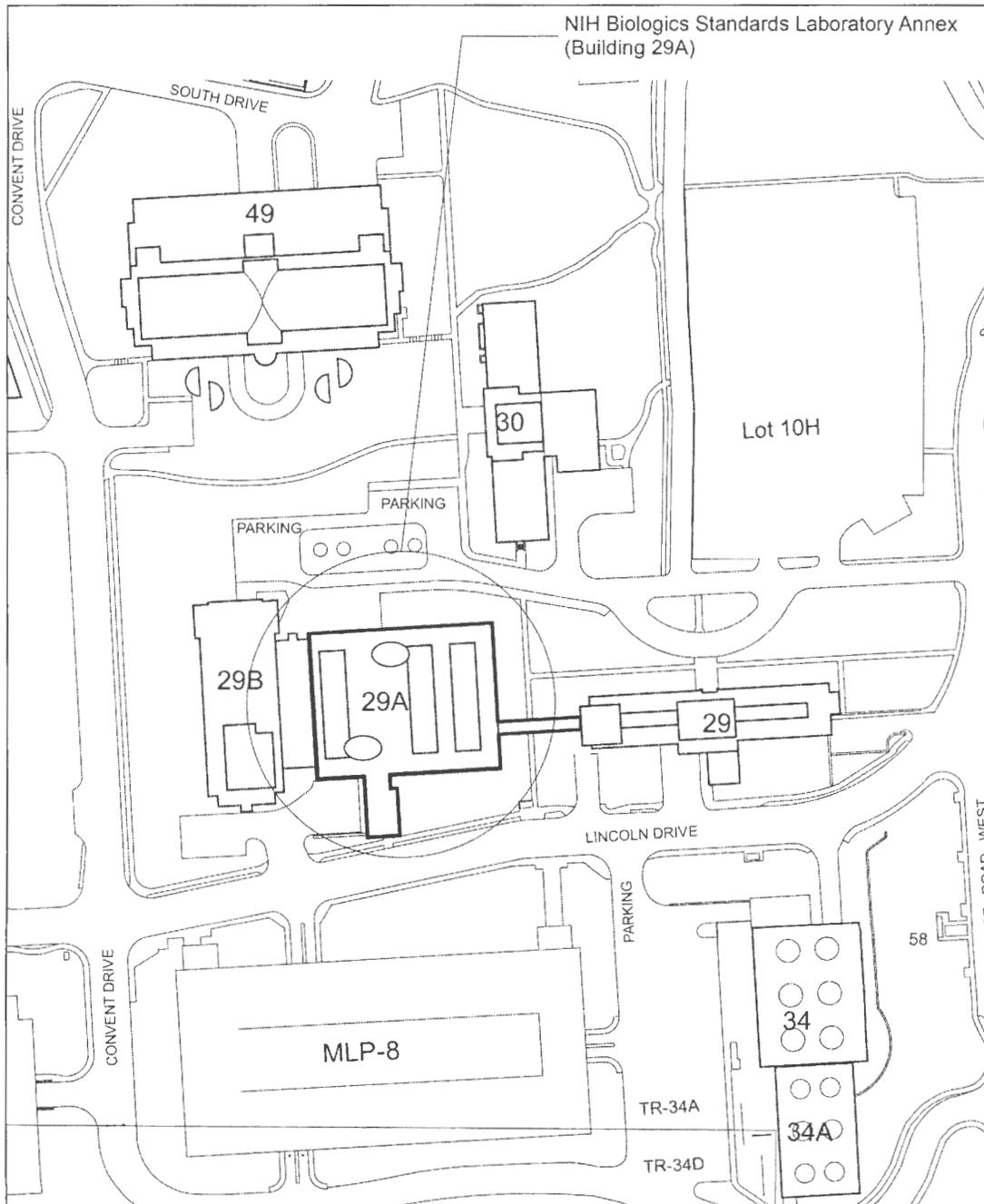
Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Site Plan, NIH Bethesda Campus



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Site Plan, NIH Bethesda Campus (detail)



Maryland Historical Trust

Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

PHOTO LOG

| Number | Description | Photographer | Photo Date | Filename |
|--------|--------------------------------------------------|----------------------------|-----------------------|-------------------------------|
| 1 | East Elevation – Bldg. 29A | O’Neil & Manion Architects | 2014/05/15 | M_35-9-0018_2014-05-15_01.tif |
| 2 | North Elevation – Bldg. 29A | O’Neil & Manion Architects | 2014/05/15 | M_35-9-0018_2014-05-15_02.tif |
| 3 | South Elevation – Bldg. 29A | O’Neil & Manion Architects | 2014/05/15 | M_35-9-0018_2014-07-11_01.tif |
| 4 | North Elevation – Bldgs. 29-29A Connector Bridge | O’Neil & Manion Architects | 2012/08/30 | M_35-9-0018_2012-08-30_01.tif |
| 5 | West Elevation – Bldg. 29A & Bldg. 29B Connector | O’Neil & Manion Architects | 2014/07/11 | M_35-9-0018_2014-07-11_07.tif |
| 6 | Bldgs. 29-29A Connector Bridge | O’Neil & Manion Architects | 2014/07/11 | M_35-9-0018_2014-07-11_02.tif |
| 7 | Bldg. 29A Perimeter Corridor | O’Neil & Manion Architects | 2014/07/11 | M_35-9-0018_2014-07-11_03.tif |
| 8 | Bldg. 29A Double Bay Laboratory | O’Neil & Manion Architects | 2014/07/11 | M_35-9-0018_2014-07-11_04.tif |
| 9 | Bldg. 29A Utility Core Access | O’Neil & Manion Architects | 2014/07/11 | M_35-9-0018_2014-07-11_05.tif |
| 10 | Bldg. 29A Utility Core | O’Neil & Manion Architects | 2014/07/11 | M_35-9-0018_2014-07-11_06.tif |
| 11 | Bldg. 29A Single Bay Laboratory | O’Neil & Manion Architects | 2014/07/11 | M_35-9-0018_2014-07-11_08.tif |
| 12 | Northwest Elevation - Bldg. 29A | Unknown | Unknown (circa 1970s) | M_35-9-0018_unknown_01.tif |

Photo print date: September 15, 2014

Print paper used: Epson Premium Luster Photo Paper

Print ink used: Ultrachrome K3

Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 1

NIH Biologics Standards Laboratory Annex (Building 29A), East Elevation, 2014



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 2

NIH Biologics Standards Laboratory Annex (Building 29A), North Elevation, 2014



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 3

NIH Biologics Standards Laboratory Annex (Building 29A), South Elevation, 2014



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 4

NIH Biologics Standards Laboratory Annex (Building 29A), North Elevation Buildings 29 and 29A Connector Bridge, 2012



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 5

NIH Biologics Standards Laboratory Annex (Building 29A), Building 29A and Building 29B Connector, 2014



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 6

NIH Biologics Standards Laboratory Annex (Building 29A), Buildings 29 and 29A Connector Bridge, 2014



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 7

NIH Biologics Standards Laboratory Annex (Building 29A), Perimeter Corridor, 2014



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 8

NIH Biologics Standards Laboratory Annex (Building 29A), Double Bay Laboratory, 2014



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 9

NIH Biologics Standards Laboratory Annex (Building 29A), Utility Core Access, 2014



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 10

NIH Biologics Standards Laboratory Annex (Building 29A), Utility Core, 2014



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 11

NIH Biologics Standards Laboratory Annex (Building 29A), Single Bay Laboratory, 2014



Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Photographs

Photo No. 12

NIH Biologics Standards Laboratory Annex (Building 29A), Northwest Elevation, ca. 1970s

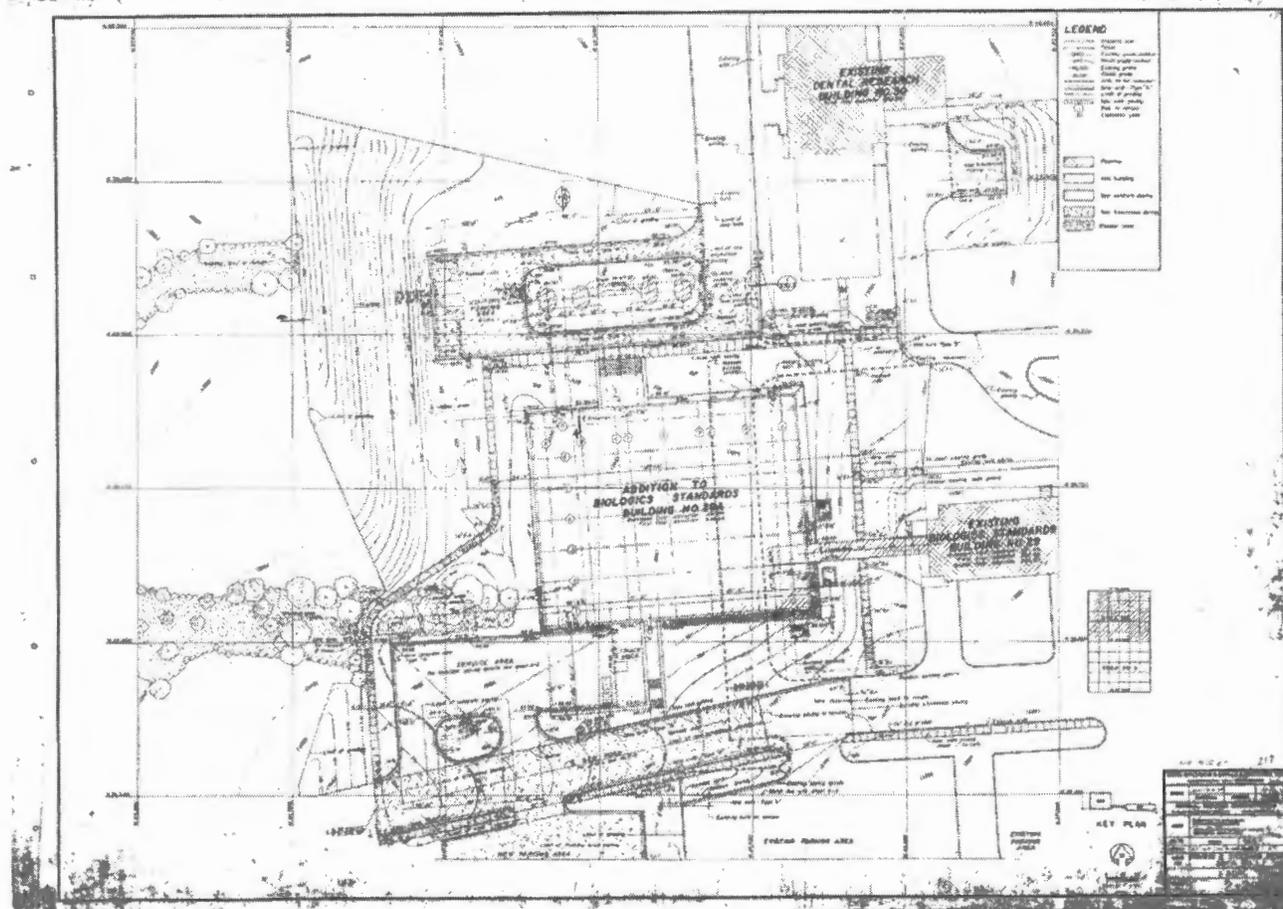


Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Drawings

NIH Biologics Standards Laboratory Annex (Building 29A), Paving and Grading Plan, 1964



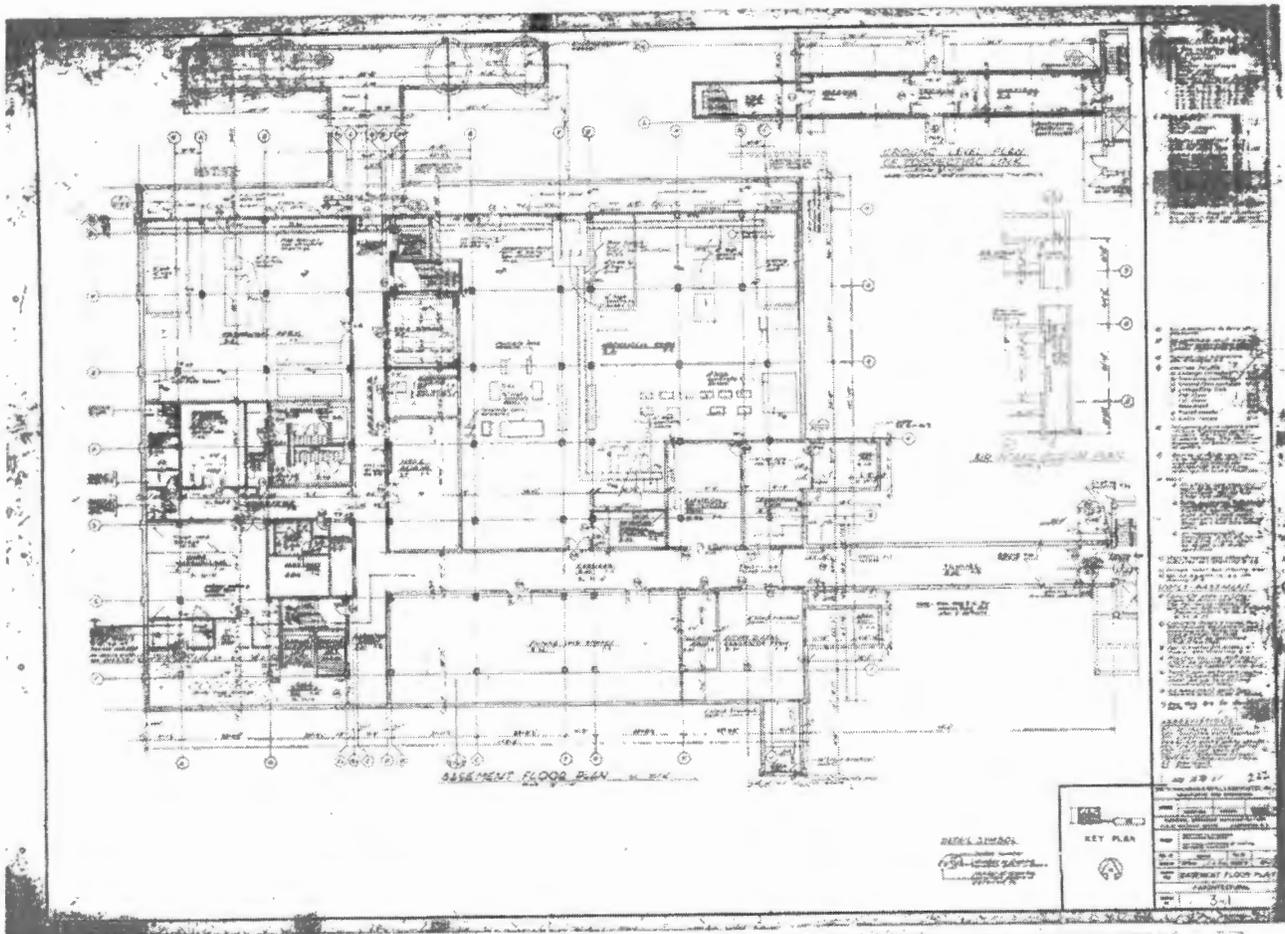
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Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Drawings

NIH Biologics Standards Laboratory Annex (Building 29A), Basement Floor Plan, 1964

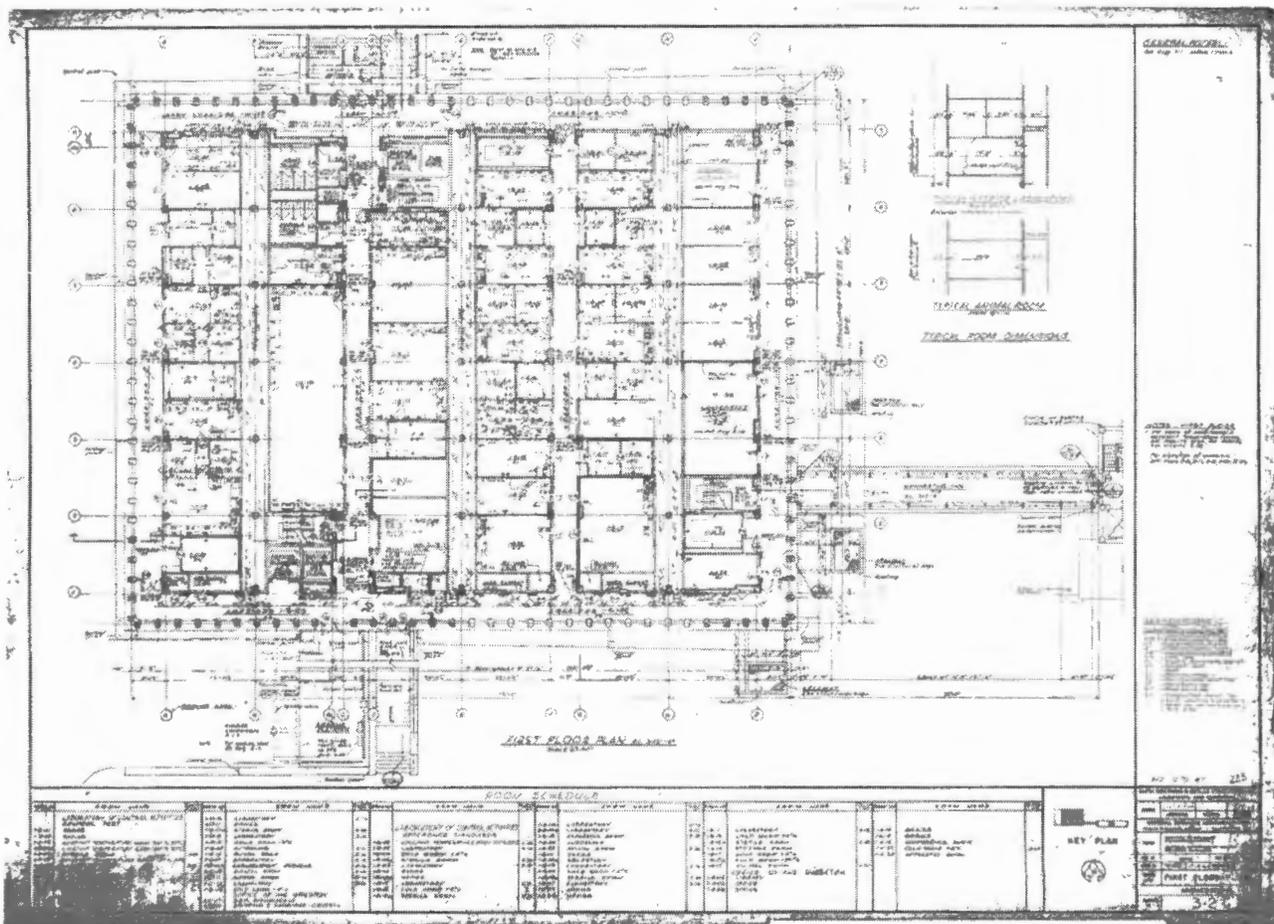


Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Drawings

NIH Biologics Standards Laboratory Annex (Building 29A), First Floor Plan, 1964

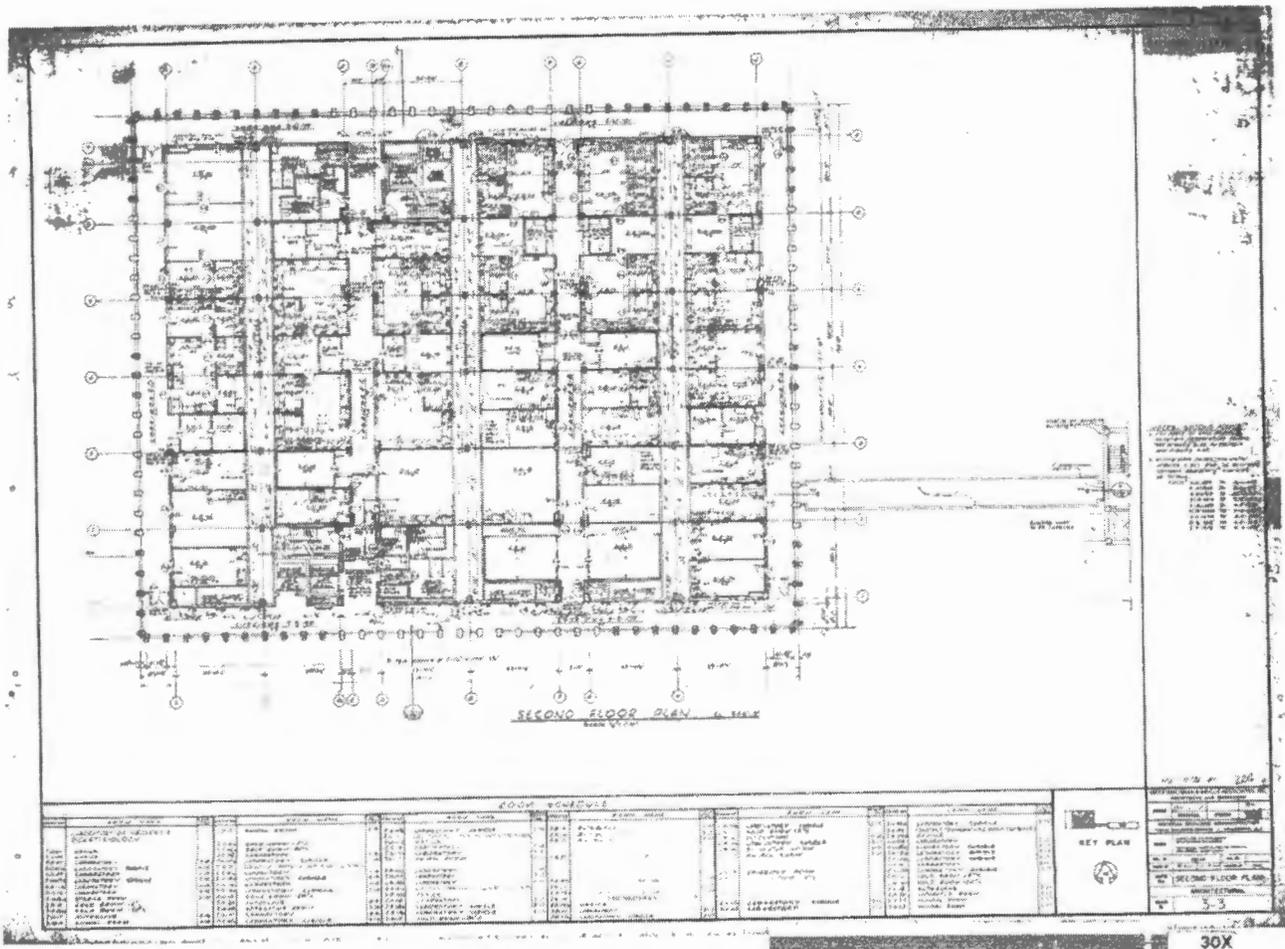


Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Drawings

NIH Biologics Standards Laboratory Annex (Building 29A), Second Floor Plan, 1964

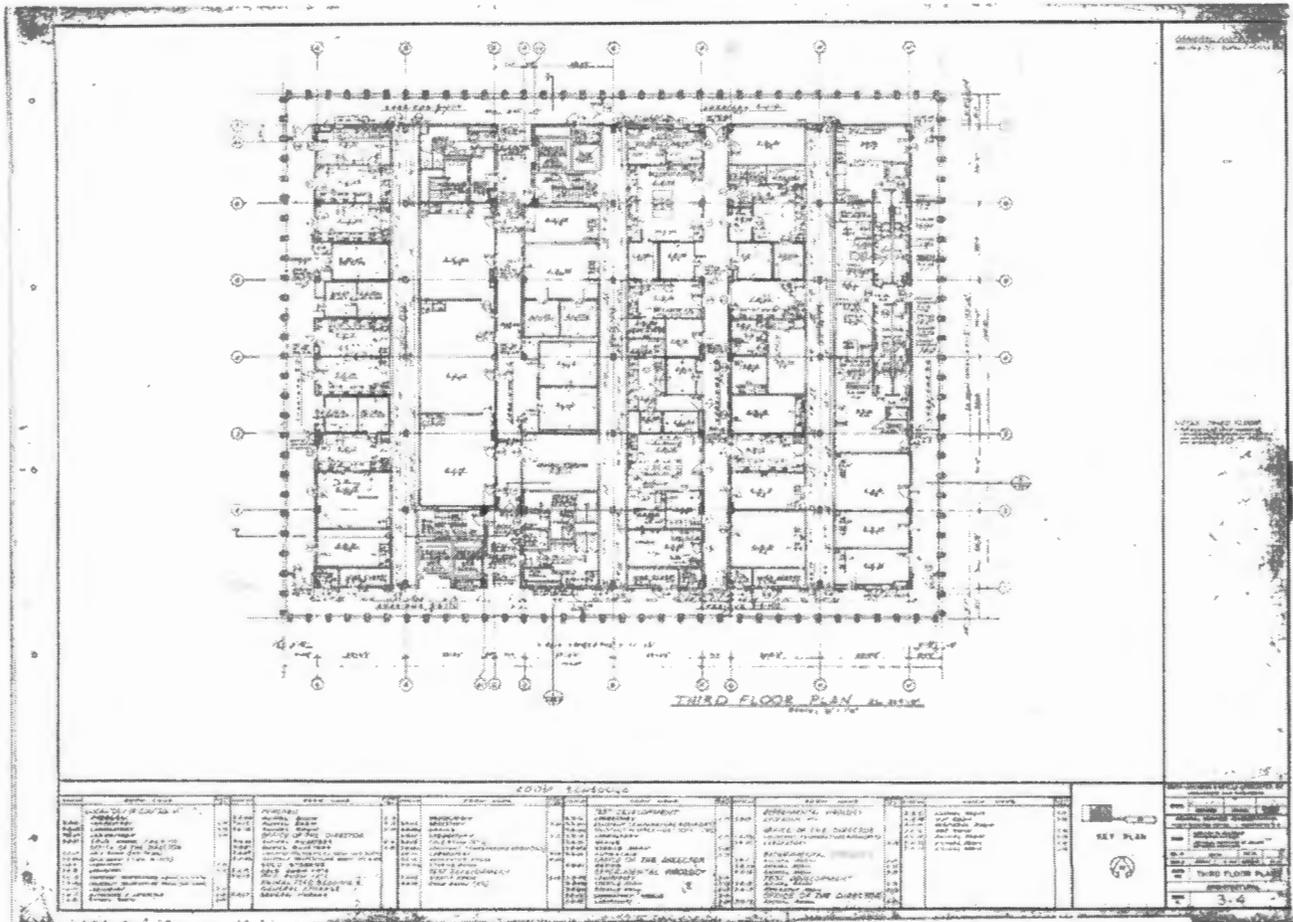


Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Drawings

NIH Biologics Standards Laboratory Annex (Building 29A), Third Floor Plan, 1964

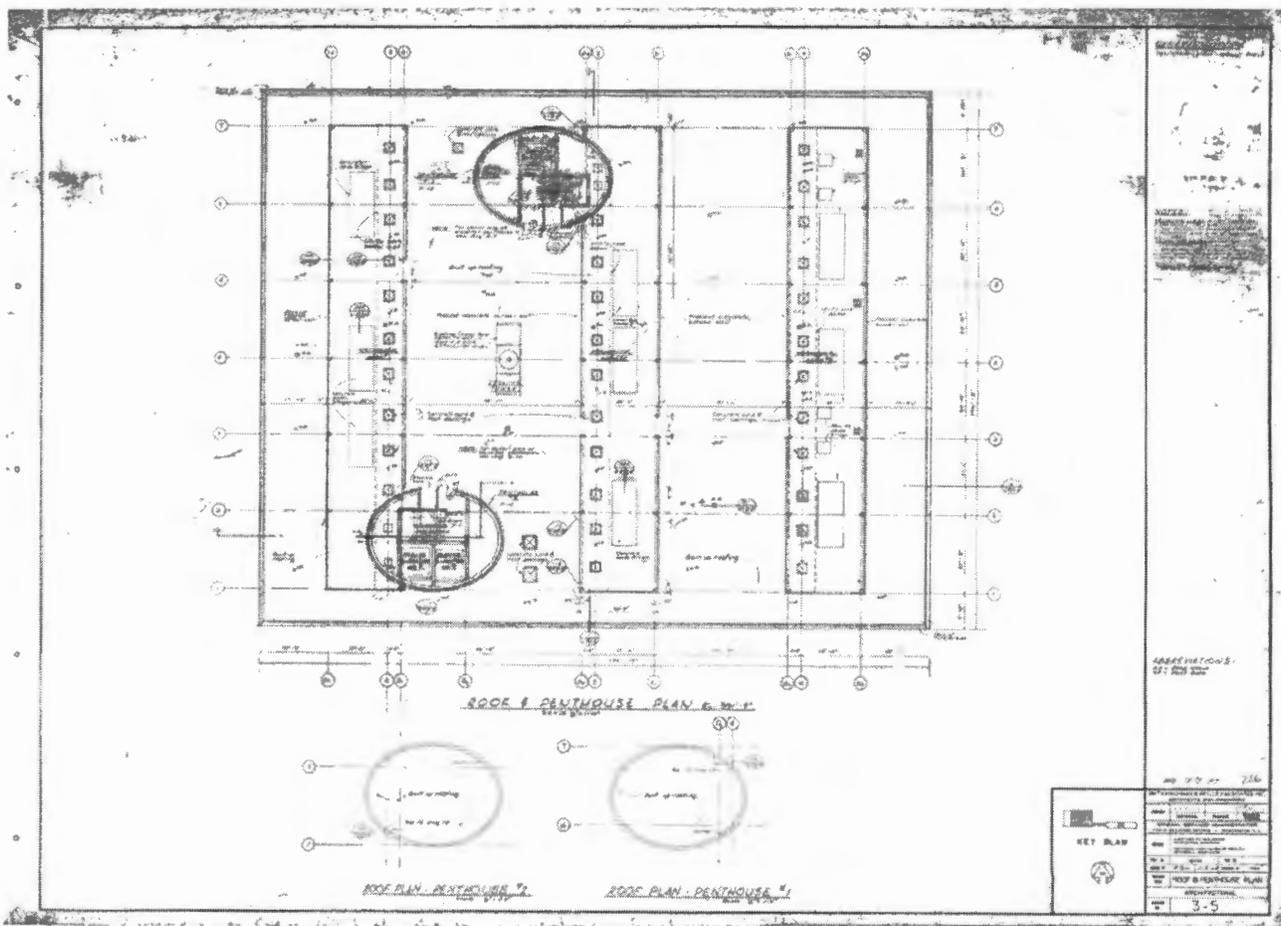


Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Drawings

NIH Biologics Standards Laboratory Annex (Building 29A), Roof and Penthouse Plan, 1964

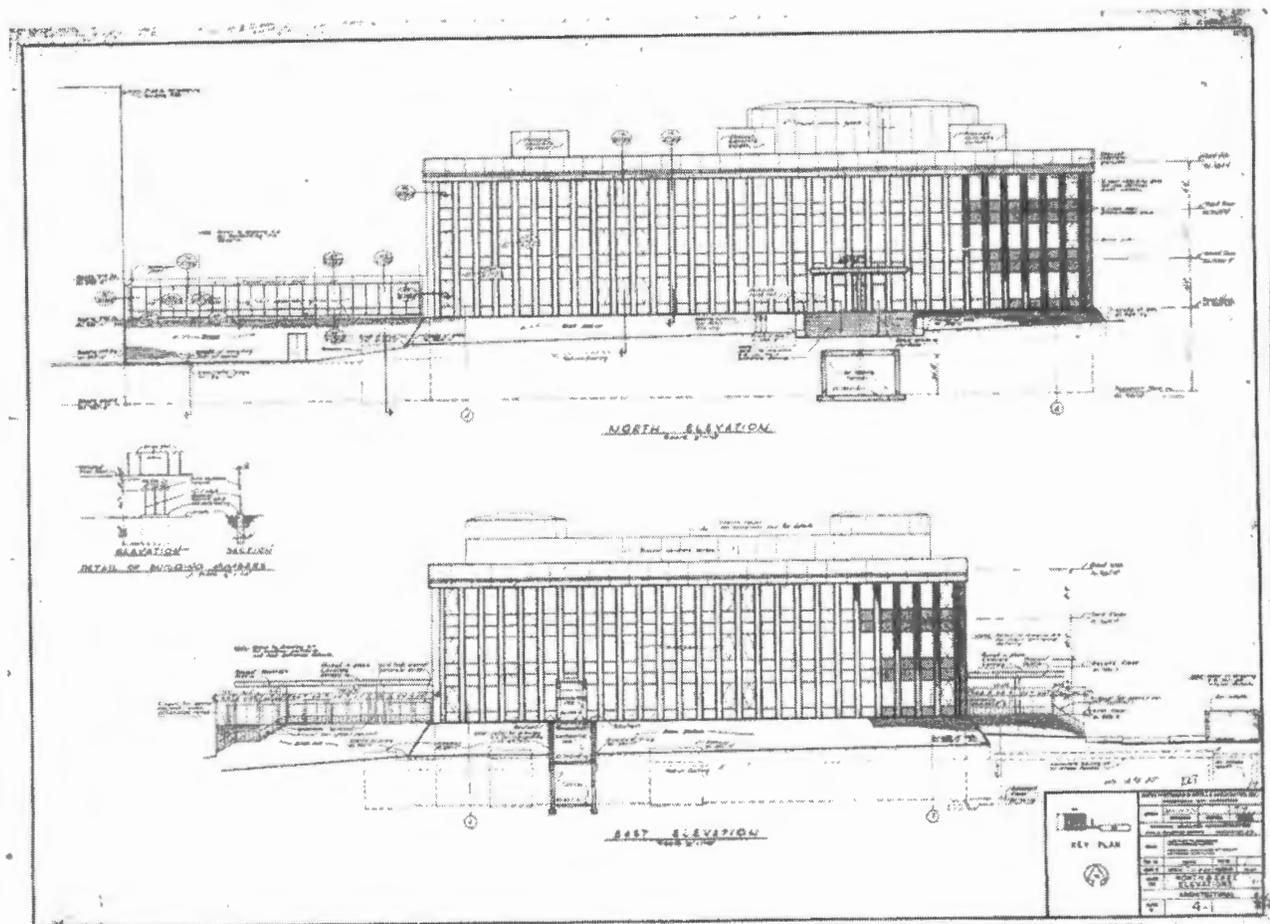


Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Drawings

NIH Biologics Standards Laboratory Annex (Building 29A), North and East Elevations, 1964



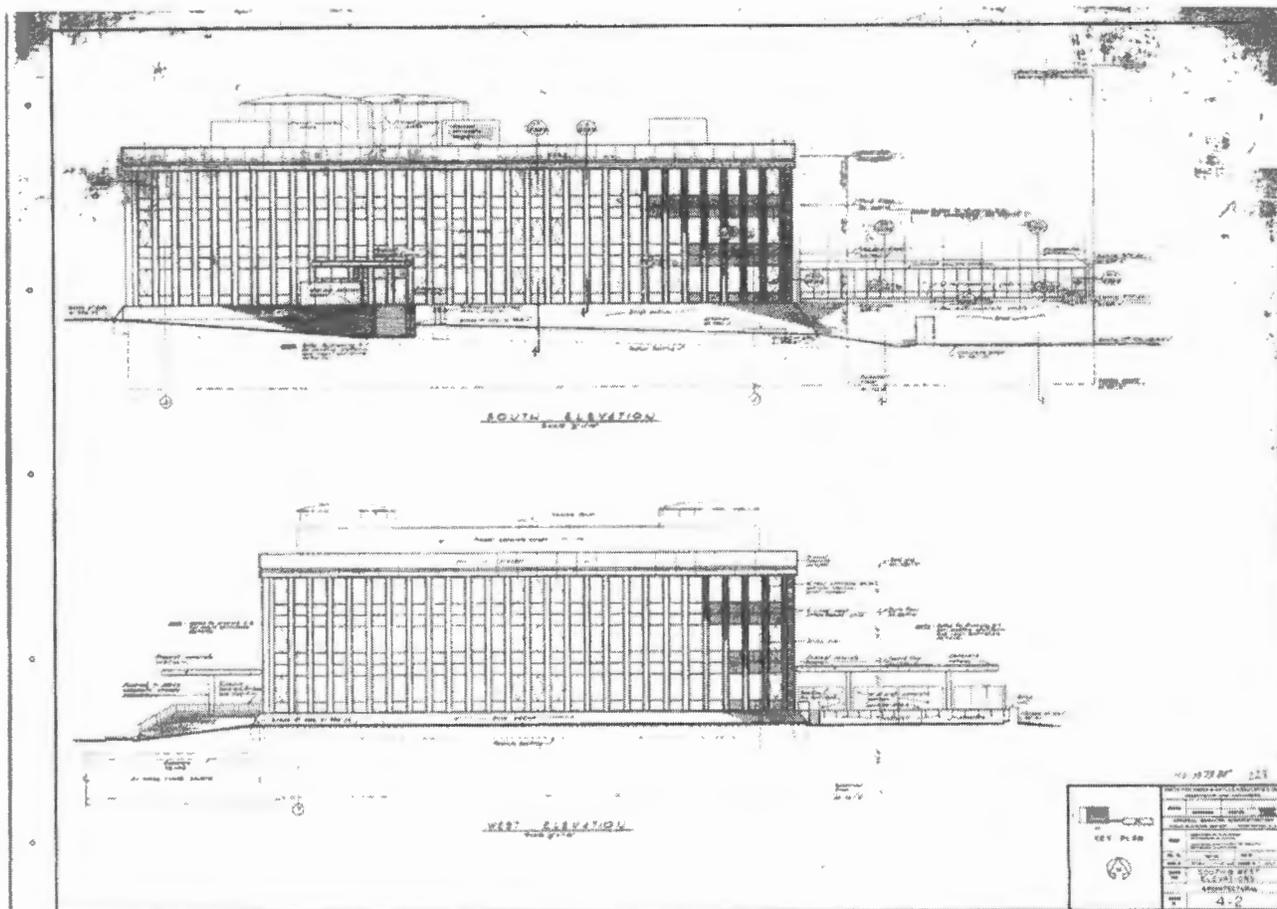
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Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Drawings

NIH Biologics Standards Laboratory Annex (Building 29A), South and West Elevations, 1964



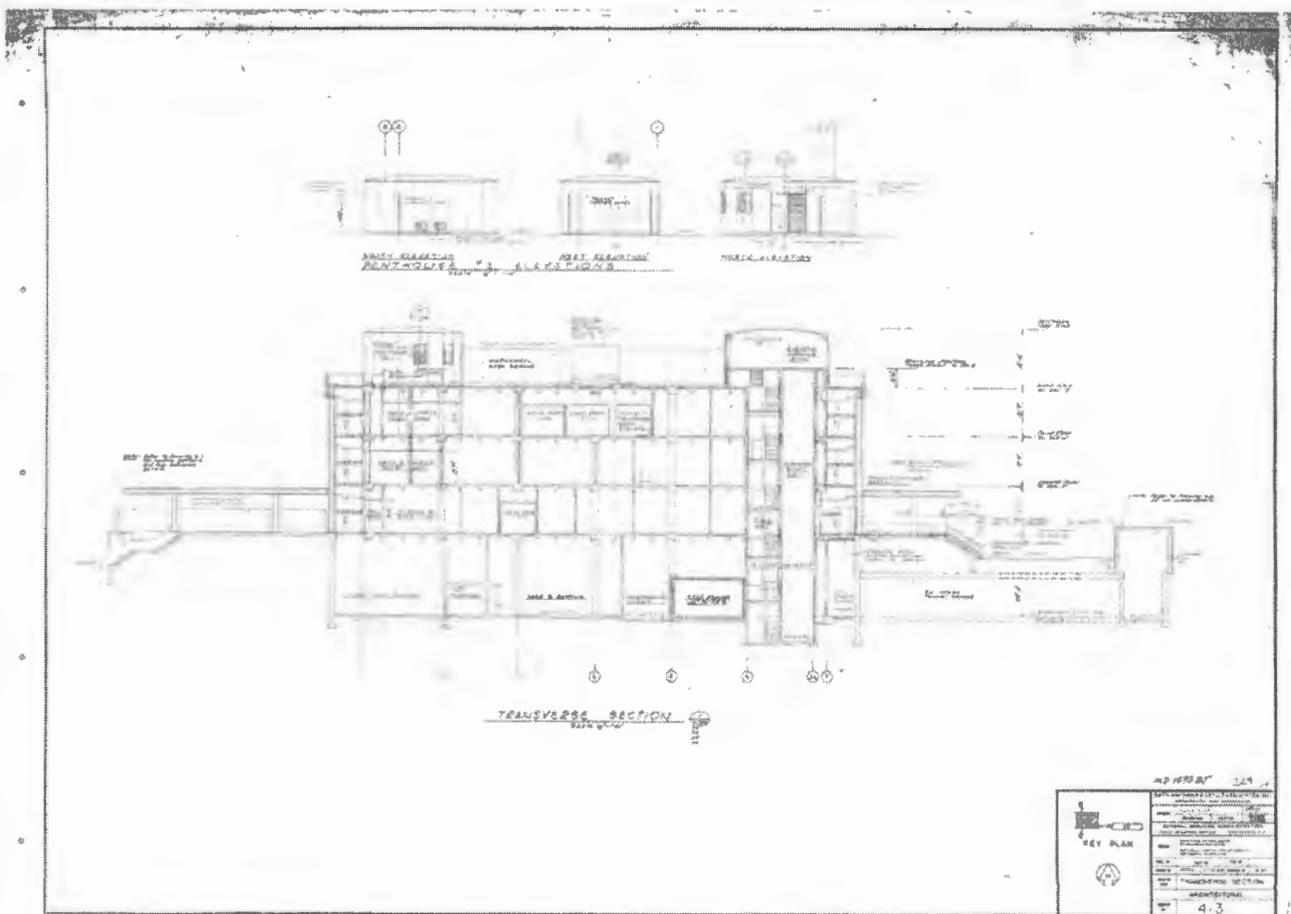
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Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Drawings

NIH Biologics Standards Laboratory Annex (Building 29A), Transverse Section, 1964



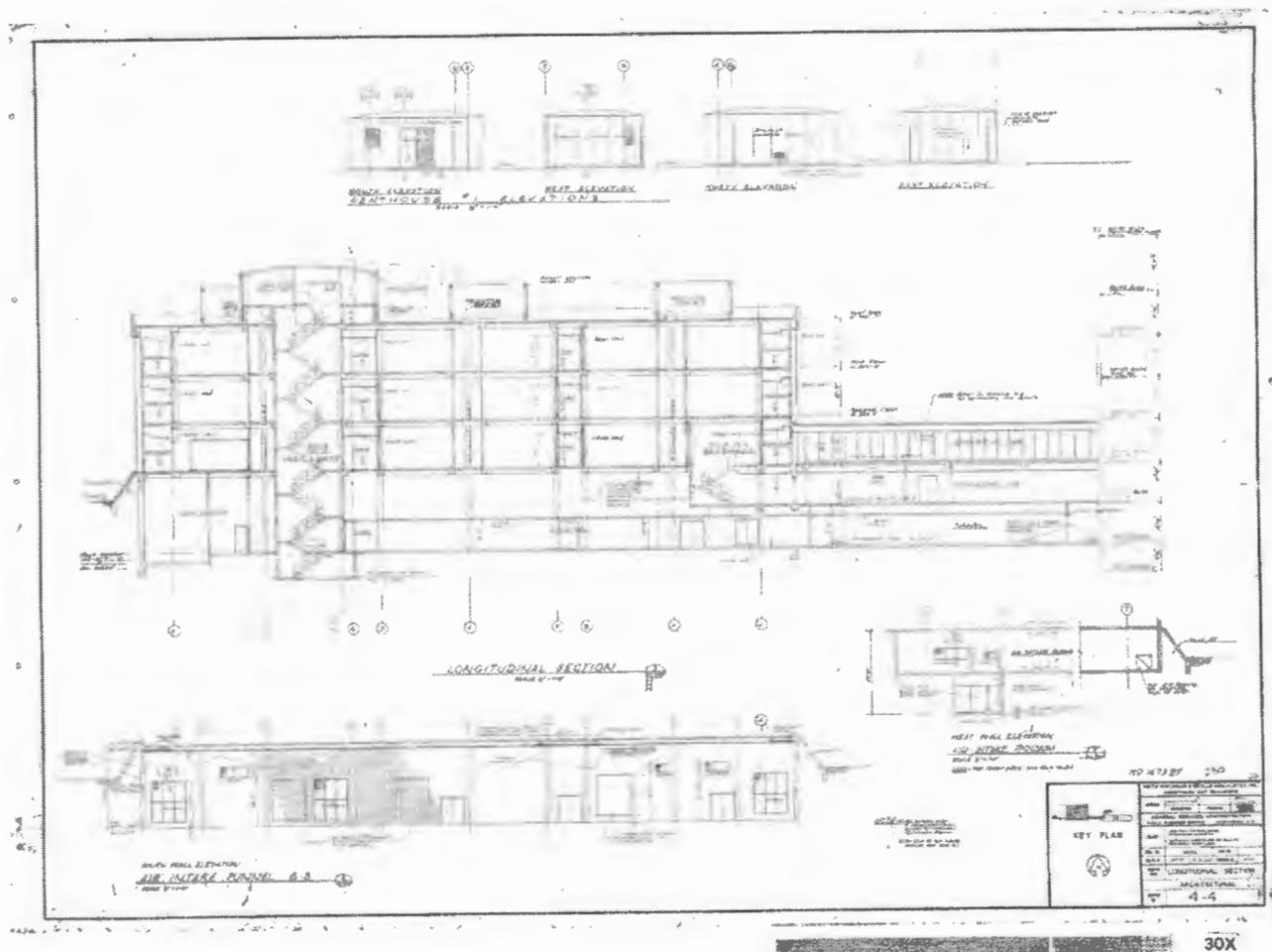
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Maryland Historical Trust Maryland Inventory of Historic Properties Form

Inventory No. M: 35-9-18

Name: NIH Biologics Standards Laboratory Annex (Building 29A)
Drawings

NIH Biologics Standards Laboratory Annex (Building 29A), Longitudinal Section, 1964





M: 35-9-18
NIH BLDG 29A
BETHESDA
MONTGOMERY MARYLAND
ONEIL & MANION ARCHITECTS
08/30/2012
MD SPHO
NORTH ELEVATION-BLDGS. 29-29A
CONNECTOR BRIDGE

#1 OF 12



M:35-9-18
NIH BLDG 29A
BETHESDA
MONTGOMERY MARYLAND
O'NEIL MANION ARCHITECTS
05/15/2014
MD SPHO
EAST ELEVATION BLDG 29A

#2 OF 12



M135-9 18

NH BLDG 29 A

BETHESDA

MONTGOMERY MARYLAND

O'NEIL + MANN ARCHITECTS

MD SPHO

05/15/2014

NORTH ELEVATION - BLDG 29A

#3 OF 12



29A

M: 35-9-18

NIH BLDG 29A

BETHESDA

MONTGOMERY MARYLAND

O'NEIL & NATION ARCHITECTS

07/11/2014

MD SPHO

SOUTH ELEVATION-BLDG 29A

#4 OF 12



M: 35-9-18

NHT Bldg 29A

BETHESDA

MONTGOMERY MARYLAND

ONEIL-MANION ARCHITECTS

07/11/2014

MD SP40

BLDGS 29-29A CONNECTOR BRIDGE

#5 OF 12



MI: 35-9-18

NH BLDG 29A

BETHESDA

MONTGOMERY MARYLAND

O'NEIL & MANON ARCHITECTS

07/11/2014

MD SPHO

BLDG 29A OUTER CORRIDOR

#6 OF 12



FLAMMABLES

KEEP FIRE AWAY

OLUTION

Epson
Professional Paper

NY 35-9-18

NIH BLDG 29A

BETHESDA

MONTGOMERY MARYLAND

O'NEIL & NANNON ARCHITECTS

07/11/2014

MD SPHO

BLDG 29A DOUBLE BAY LABORATORY

#7 OF 12

EPSON

UTILITY CORE
3-BC

W

EXCESSIVE CURRENT
SHOULD BE IMMEDIATELY
REPORTED TO THE
PERSONNEL OFFICE
...THE AREA...
...THE AREA...

DANGER

CONTACT THE
AND USE THE
FOR REPAIRS

M: 35-9- 18
NIH BLDG 29A
BETHESDA
MONTGOMERY MARYLAND
ONEIL-MANNION ARCHITECTS
07/11/2014
MD SPHO
BLDG 29A UTILITY CORE ACCESS
#8 OF 12



M:35-9-18

NIH BLDG 29A

BETHESDA

MONTGOMERY MARYLAND

O'NEIL & MANION ARCHITECTS

07/11/2014

MD SP40

BLDG 29A UTILITY CORE

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EPSON

11-35-9-18

NIH BLDG 29A

BETHESDA

MONTGOMERY MARYLAND

O'NEIL & MANION ARCHITECTS

07/11/2014

MD SPHO

WEST ELEVATION - BLDGS 29A - 29B
CONNECTOR

#10 OF 12



Essex Professional Paper

M: 35-9-18

NIH BLDG 29A

BETHESDA

MONTGOMERY MARYLAND

PHOTO BY O'NEIL'S MANION ARCHITECTS

07/11/2014

MD SPHO

BLDG 29A SINGLE BAY LABORATORY

#11 OF 12

10503



M: 35-9-18

NIH BLDG 29A
BETHESDA

MONTGOMERY MARYLAND

UNKNOWN PHOTOGRAPHER

UNKNOWN DATE. CIRCA 1970'S

MD SPHO

NORTHWEST ELEVATION - BLDG 29A

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