

**NOMINATION OF HISTORIC BUILDING, STRUCTURE, SITE, OR OBJECT  
PHILADELPHIA REGISTER OF HISTORIC PLACES  
PHILADELPHIA HISTORICAL COMMISSION**

SUBMIT ALL ATTACHED MATERIALS ON PAPER AND IN ELECTRONIC FORM (CD, EMAIL, FLASH DRIVE)  
ELECTRONIC FILES MUST BE WORD OR WORD COMPATIBLE

**1. ADDRESS OF HISTORIC RESOURCE** *(must comply with an Office of Property Assessment address)*

Street address: 700-734 Race Street

Postal code: 19106-1509

**2. NAME OF HISTORIC RESOURCE**

Historic Name: Philadelphia Police Administration Building

Current/Common Name: Philadelphia Police Headquarters; aka "The Roundhouse"

**3. TYPE OF HISTORIC RESOURCE**

Building

Structure

Site

Object

**4. PROPERTY INFORMATION**

Condition:  excellent  good  fair  poor  ruins

Occupancy:  occupied  vacant  under construction  unknown

Current use: Headquarters for the Philadelphia Police Department

**5. BOUNDARY DESCRIPTION**

*Please attach a narrative description and site/plot plan of the resource's boundaries.*

**6. DESCRIPTION**

*Please attach a narrative description and photographs of the resource's physical appearance, site, setting, and surroundings.*

**7. SIGNIFICANCE**

*Please attach a narrative Statement of Significance citing the Criteria for Designation the resource satisfies.*

Period of Significance (from year to year): from 1962 to 2021

Date(s) of construction and/or alteration: 1959-1962

Architect, engineer, and/or designer: Geddes, Brecher, Qualls, and Cunningham; August Komendant; David Bloom

Builder, contractor, and/or artisan: Sovereign Construction Co., Ltd.

Original owner: City of Philadelphia

Other significant persons: \_\_\_\_\_

**CRITERIA FOR DESIGNATION:**

The historic resource satisfies the following criteria for designation (check all that apply):

- (a) Has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past; or,
- (b) Is associated with an event of importance to the history of the City, Commonwealth or Nation; or,
- (c) Reflects the environment in an era characterized by a distinctive architectural style; or,
- (d) Embodies distinguishing characteristics of an architectural style or engineering specimen; or,
- (e) Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth or Nation; or,
- (f) Contains elements of design, detail, materials or craftsmanship which represent a significant innovation; or,
- (g) Is part of or related to a square, park or other distinctive area which should be preserved according to an historic, cultural or architectural motif; or,
- (h) Owing to its unique location or singular physical characteristic, represents an established and familiar visual feature of the neighborhood, community or City; or,
- (i) Has yielded, or may be likely to yield, information important in pre-history or history; or
- (j) Exemplifies the cultural, political, economic, social or historical heritage of the community.

**8. MAJOR BIBLIOGRAPHICAL REFERENCES**

*Please attach a bibliography.*

**9. NOMINATOR**

Organization Docomomo US/Greater Philadelphia; Preservation Alliance for Grtr. Phila. Date December 13, 2022

Name with Title Allee Davis (Docomomo US); Chris Hepp (Criterion J only) Email allee.berger@gmail.com

Street Address \_\_\_\_\_ Telephone \_\_\_\_\_

City, State, and Postal Code Philadelphia, PA

Nominator  is  is not the property owner.

**PHC USE ONLY**

Date of Receipt: December 13, 2022

Correct-Complete  Incorrect-Incomplete Date: July 20, 2023

Date of Notice Issuance: August 3, 2023

Property Owner at Time of Notice:

Name: City of Philadelphia

Address: City Hall, Room 790

City: Philadelphia State: PA Postal Code: 19107

Date(s) Reviewed by the Committee on Historic Designation: September 6, 2023

Date(s) Reviewed by the Historical Commission: October 13, 2023

Date of Final Action: \_\_\_\_\_

Designated  Rejected

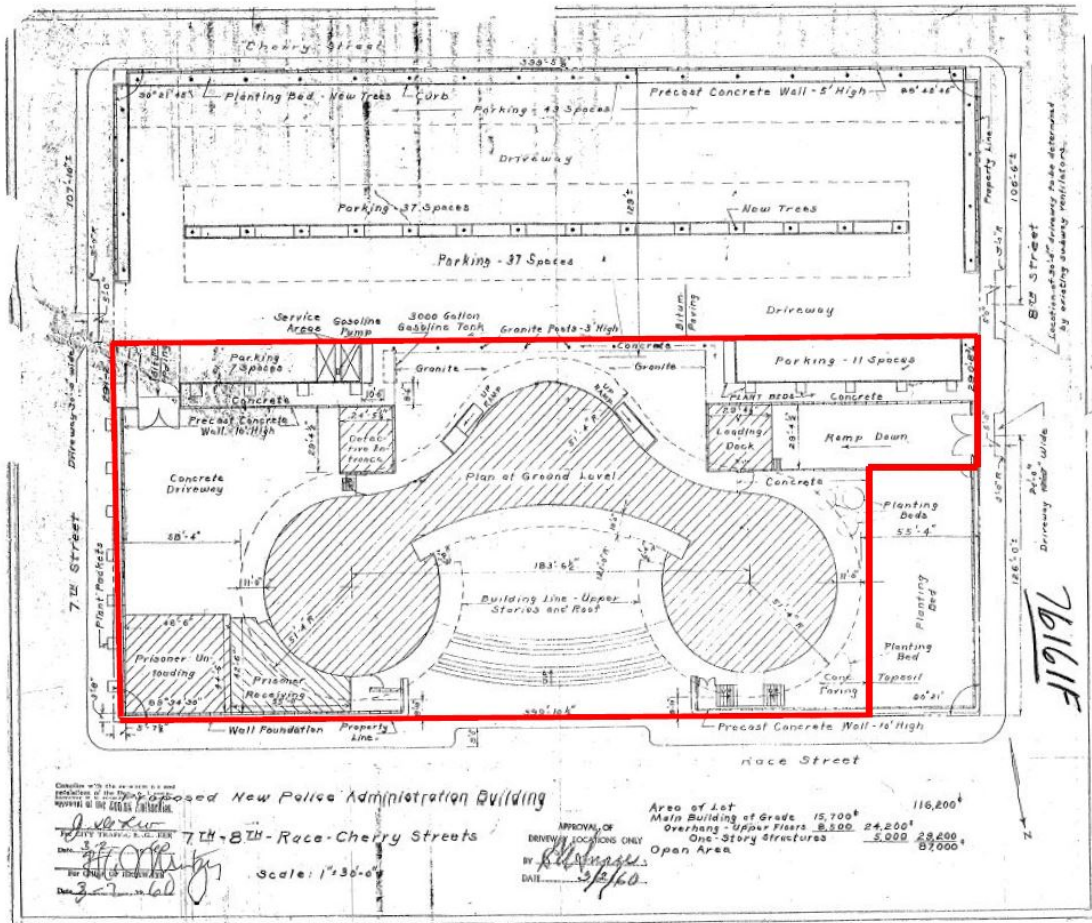
**NOMINATION**  
**FOR THE**  
**PHILADELPHIA REGISTER OF HISTORIC PLACES**



**THE PHILADELPHIA POLICE HEADQUARTERS**  
**ERECTED 1959 - 1962**

**ALSO KNOWN AS**  
**“THE ROUNDHOUSE”**

**700-734 RACE STREET**  
**CITY OF PHILADELPHIA**  
**PHILADELPHIA COUNTY**  
**PENNSYLVANIA**



**5. BOUNDARY DESCRIPTION**

The Philadelphia Police Headquarters is bordered on the north by Race Street, the east by Seventh Street, the south by Cherry Street, and the west by Eighth Street, and is delineated as follows:

Beginning at the intersection of the south side of Race Street and the west side of N. 7th Street; thence extending northwest approximately 350 feet along the south side of Race Street to the property line with 736-40 Race Street; thence extending southwest approximately 110 feet along the property line with 736-40 Race Street; thence extending northwest approximately 50 feet along the property line with 736-40 Race Street to the east side of N. 8th Street; thence extending southwest approximately 62 feet along the east side of N. 8th Street; thence extending southeast approximately 400 feet on a line parallel to Race Street to the west side of N. 7th Street; thence extending northeast approximately 172 feet along the west side of N. 7th Street to the point of beginning.

**6. PHYSICAL DESCRIPTION**

Situated on the south side of Race Street between Seventh and Eighth streets in the City of Philadelphia, Philadelphia County, Pennsylvania is the Philadelphia Police Headquarters (PPHQ), which was originally the Police Administration Building and is known colloquially today as the Roundhouse. The PPHQ was designed in 1959 by the Philadelphia architectural firm Geddes, Brecher, Qualls, and Cunningham (GBQC) and construction completed in 1962 by Sovereign Construction Company with Eastern Schokbeton as the precasting subcontractor. The building is 90% architectural precast concrete. The concrete finish is the final finish in most of the building, interior and exterior. In total, roughly 1,000 precast concrete units compose the entire structure, including the vertical exterior panels and floor slabs. The exposed quartz aggregate in a white concrete matrix is the primary exterior architectural finish. The Schokbeton system of precasting, developed in the Netherlands, was new to the United States of America in 1960 but had been proven in Europe for several decades. Their approach to architectural precasting created a high quality





Plate 1 (left): View of the south elevation of the Philadelphia Police Headquarters, from Seventh Street (Source: Allee Davis, June 2019)

Plate 2 (right): View of the north elevation of the Philadelphia Police Headquarters, from Race Street. (Source: Allee Davis, June 2019)

of casting using zero-slump concrete through high intensity vibration unique to Schokbeton.<sup>1</sup> Cast-in-place concrete was limited to the footings, foundations, corridors, and elevator-stair cores.<sup>2</sup>

Today, the building is sited in between the city's Chinatown neighborhood to the west and Independence National Historical Park to the east (Plates 1 and 2). Adjacent to the north, across Race Street, is Franklin Square, one of William Penn's five original open-space parks, and the similarly rounded, residential MetroClub Condominium. Further north, bordering Franklin Square, is the Vine Street Expressway (Interstate 676). Approximately two blocks to the east is the western approach for the Benjamin Franklin Bridge.

Within the rectangular boundaries of the PPHQ, the building occupies the northern half of the site with an associated surface parking lot on the southern half. Delineating a majority of the northern half of the site, primarily along the sidewalks, are rectilinear, precast concrete panels forming a perimeter wall, which is considered a non-contributing feature of the site. In plan, the building is two circles connected by a reverse curve connector. The geometry addressed two primary objectives. First, presenting a softer more open presentation to the street than achievable in an orthogonal scheme and second, getting the most precast pieces out of a mold to clad the building, an essential aspect of realizing the economy of precasting concrete.

The PPHQ is particularly important for its connection to GBQC, the architect, prior second place finisher in the Sydney Opera House competition and for the contributions of the internationally renowned structural engineer, August Komendant. Komendant's use of post tensioning to create the cantilever at the second floor that carried three floors of the structure above is a bold and exceptionally important part of the building's history.

The design of the building was achieved through a level of collaboration that was both totally unique at the time in the practice of architecture and foretold the future of digital collaborative design.



Plate 3: The original primary entrance on the north elevation. (Source: Allee Davis, June 2019)

1 Jack Pyburn, "The Role of Architectural Precast Concrete Technology in the Internationalization of Postwar Modernism," in *Eighth International Docomomo Conference: Postwar Modernism in an Expanding World, 1945-75* (New York, 2004), 115.

2 August E. Komendant, "Precasting Making New Strides," *Progressive Architecture* (October 1960): 189.

The building rises four stories in height, measuring approximately 50 feet from grade. Below grade is a 12-foot high basement. Atop the roof are three penthouses that measure 20 feet, two inches in height. In elevation, the form of the building features sweeping, curving wall surfaces that create both convex and concave planes, repeating the curvilinear vocabulary observed in plan view. The building is composed of a traditional base, shaft, and capital.



Plate 4: View of the south elevation of the Philadelphia Police Headquarters, from Eighth Street. (Source: Allee Davis, June 2019)

Acting as the base, or piloti, the ground floor of the PPHQ rises 17 feet in height and is set back on all sides from the upper three floors. The north elevation, facing Race Street, contains the original primary entrance that is accessed via a large concrete, terraced plaza and two revolving doorways; this entrance is no longer used (Plate 3). The south elevation faces a large parking lot and has two entrances accessed by ramps on either side of the convex, curving wall surface; these entrances currently serve as the building's primary point of entry.

The shaft of the PPHQ consists of the upper three floors that cantilever 12 feet from the base, or ground floor. Each floor is 11 feet in height. There are a total of 144 precast concrete panels that define the form of the shaft. These panels measure approximately five feet by 32 feet. Each panel is punctured with three rectangular windows, one window for each floor, creating a total of

432 windows. The windows on the concave surface on the north side of the building are slightly more elongated than the other windows. These other windows each have a sill that slopes outwards. Although there have been a number of replacement windows since the PPHQ's construction, the remaining original windows are a quarter-inch thick with a bronze glaze. Replacement windows vary and are randomly placed; replacement window types include louvered, casement, and operable bottom units. Additional window modifications include adjustments for accommodating air conditioning units.

At the roofline, an open parapet wall follows the undulating form of the shaft and forms the capital of the PPHQ. The parapet wall is slightly slanted back towards the roof surface. The three penthouses crowning the roof house the mechanical equipment; two are circular in plan and the third is more of an oval form. The walls of all three penthouses rise 20 feet, two inches in height. The circular penthouses measure approximately 38 feet in diameter and are positioned in the center of the east and west circular wings. Each are approximately 43 feet from the edge of the parapet well. The third, and largest, penthouse is sited in the center of the overall form, roughly in the center of the concave hyphen.

## 7. STATEMENT OF SIGNIFICANCE

The City of Philadelphia Police Headquarters (PPHQ) was designed in 1959 by the eminent Philadelphia architecture firm Geddes, Brecher, Qualls, and Cunningham (GBQC). The building, colloquially known as the Roundhouse, was constructed by the Sovereign Construction Company between 1959 and 1962 at 700-734 Race Street, between Seventh and Eighth streets, adjacent to the south of Franklin Square. Significant for its architecture, the PPHQ meets Criterion C for listing in the Philadelphia Register of Historic Places (PRHP) as a prominent example of the architectural trends of the post-World War II years. The design for the PPHQ reflects significant aesthetic principles developed by GBQC in their earlier academic training at Harvard University and in their second-place finish in the Sydney Opera House competition, one of the most prestigious and notable architectural competitions of the twentieth century.



The PPHQ meets Criterion D for PRHP designation as a building that embodies distinguishing characteristics of the Expressionist style of architecture, as well as for its engineering for its almost exclusive use of architectural precast concrete and state of the art post tensioning engineering to support a fully integrated building system. While the iconic curvilinear form and massing of the building respects but softens the gridded plan of Philadelphia, it does so with sweeping, poetic architectural verve that is emblematic of the Expressionist style of architecture—rather than Brutalist, a common misnomer. The stylistic identity is further defined by the building’s envelope, through the precast concrete panels that integrate the structural, mechanical, and electrical systems. These panels were manufactured using the Schokbeton process, an innovative method of precasting concrete that flourished during the mid-twentieth century and was used for a number of other prominent examples of Modern architecture designed by Minoru Yamasaki, Philip Johnson, Marcel Breuer, and Edward Durrell Stone.

The significant design and construction of the PPHQ is the result of the deft collaboration between the prominent Philadelphia architecture firm GBQC, August Komendant, and general contractor Sovereign Construction Company. Included in the architectural design movement known as the Philadelphia School, GBQC played a key role in the development of mid-century American architecture locally and nationally, examples of which can be found in Philadelphia, including the PPHQ. Most of GBQC’s work was largely for civic institutions and found to be expressive of the progressive manner in which the firm engaged with the urban context. In the case of the PPHQ, its visually distinct design was made possible, in part, by its innovative engineering which was conceived by August Komendant. The PPHQ is the second known building in the United States to employ the Schokbeton system.<sup>3</sup> In addition to working closely with GBQC for the PPHQ, Komendant worked with a number of other prominent mid-century architects, most notably with Louis I. Kahn for his Richards Medical Research Laboratories (1957-1960; 1962-1965). The construction of the PPHQ was undertaken by Sovereign Construction Company, a firm involved in the construction of many significant buildings at the time, including Edward Durell Stone’s Garden State Arts Center situated on the Garden State Parkway in Holmdel Township, Monmouth County, New Jersey.<sup>4</sup> The Garden State Arts Center used a similar innovative, structural concrete system that was pre-stressed. For these reasons, the PPHQ meets Criteria E and F for PRHP designation.

The PPHQ also meets Criterion H for listing in the PRHP due to its unique location adjacent to the south of Franklin Square, across Race Street, and its proximity to Chinatown and Independence National Historical Park. The PPHQ has since become a significant landmark in this area of Philadelphia.

Given the cultural and political discourse dominating the historical context of the years in which the PPHQ was designed and built, the building meets Criterion J for PRHP designation. The PPHQ is a product of a progressive period in Philadelphia that spanned from the mayorship of Joseph Clark (1952-1956) to Richardson Dilworth (1956-1962). During this period there was a desire to reduce the connections between ward politics and policing as well as to address the deteriorated state of police department facilities in Philadelphia’s City Hall, the location of the police since 1901. It was the goal of a headquarters building in the community for the community that was the impetus for the development, siting, and design of the PPHQ. The building’s siting and design exemplify the transformative post-World War II period of Philadelphia where urban renewal was the prevailing theme.



Plate 5: View of the south elevation of the Philadelphia Police Headquarters, from Cherry Street. (Source: Allee Davis, June 2019)

3 The first building to use the Schokbeton process for precasting concrete was Philip Johnson’s Lake Pavilion (1962) in New Canaan, Connecticut.

4 Built in 1968, the Garden State Arts Center, known today as the PNC Bank Arts Center, is individually eligible for listing in the National Register of Historic Places, as well as eligible as a contributing resource to the National Register-eligible Garden State Parkway Historic District.

The PPHQ meets the following criteria for designation as set forth by the Philadelphia Historic Preservation Ordinance, Section 14-2007(5), of the Philadelphia Code:

- (c) Reflects the environment in an era characterized by a distinctive architectural style;
- (d) Embodies distinguishing characteristics of an architectural style or engineering specimen;
- (e) Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth, or Nation;
- (f) Contains elements of design, detail, materials or craftsmanship which represent a significant innovation;
- (h) Owing to its unique location or singular physical characteristic, represents an established and familiar visual feature of the neighborhood, community or City; and
- (j) Exemplifies the cultural, political, economic, social or historical heritage of the community.

***Criterion C: Reflects the environment in an era characterized by a distinctive architectural style; and  
Criterion J: Exemplifies the cultural, political, economic, social or historical heritage of the community.***

The City of Philadelphia Police Headquarters (PPHQ) reflects the environment of the mid-twentieth century, when both the City of Philadelphia and the nation were moving away from traditional architectural styles and toward modern ideals about design that were directly influenced by contemporary aesthetic principles and movements. Such a transition was further justified by economic, political, and social theories of urban development, design, and planning. During this time most large American cities, especially Philadelphia, witnessed the local government's increased involvement in the city's physical development and growth, which resulted from reform and legislation from the Federal Government. As private investment in cities generally declined, the municipal government took an increased interest in architectural trends as a means to redevelop depressed areas of the city, a trend that is characterized and represented in the design of the PPHQ.

During the nineteenth- and early-twentieth centuries, Franklin Square was once surrounded by a thriving neighborhood. The years during the 1920s saw a decline in the neighborhood as automobiles and the construction of the Benjamin Franklin Bridge (1922-1926) created substantial traffic congestion; access to the park consequently became problematic for pedestrians. As the mid-twentieth century approached, this area was called "Skid Row." Jane Jacobs provides a telling description of this particular neighborhood in her seminal book *The Death and Life of Great American Cities*:

The second of Penn's little parks is Franklin Square, the city's Skid Row park where the homeless, the unemployed and the people of indigent leisure gather amid the adjacent flophouses, cheap hotels, missions, second hand clothing store, reading and writing lobbies, pawnshops, employment agencies, tattoo parlors, burlesque houses and eateries. This park and its users are both seedy, but it is not a dangerous or crime park. Nevertheless, it has hardly worked as an anchor to real estate values or to social stability.<sup>5</sup>

Along with urban revitalization efforts related to the creation of Independence National Historical Park and Society Hill, the neighborhood that comprised Franklin Square underwent an intensive transformation during the 1950s and 1960s. This led to the demolition of many buildings that defined the character of Franklin Square. The loss of this built fabric meant a loss of residential character. As was the prevailing formula of the time, the notion of urban renewal, or demolition and redevelopment, became more appealing and seen as an immediate solution. The same idea was materializing just a few blocks away as numerous old commercial squares were procured by eminent domain and entirely razed for what would become Independence Mall, a project that had been a concept since the 1930s but would not officially begin until 1951.

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<sup>5</sup> Jane Jacobs, *The Death and Life of Great American Cities* (New York: Vintage Books, 1992), 95.



Edmund Bacon (1910-2005), the eminent Philadelphia Architect and Urban Planner, shared his support for these plans and visions for the area in a letter he wrote that same year. He described how spaces are to function differently than the residential areas just south of the park, and that he wanted commercial and industrial development to pervade the areas north of the Mall.<sup>6</sup> Also in the 1950s, the newly empowered Planning Commission, backed by recent Federal legislation, was quick to activate the project for Washington Square East beginning in 1957. I.M. Pei's (1917-2019) plans for the Society Hill Towers were submitted that same year. This area was to be developed strictly for only residential use and was made possible with the help of a Federal planning grant.<sup>7</sup> As work continued, a marketability study was conducted in 1959 that revealed a strong demand for offices surrounding this area of the city.

When the idea surfaced to relocate the Philadelphia Police from throughout City Hall to their own building, the site for the new headquarters was to be carefully, and thoughtfully, selected. Initially, Albert Greenfield (1887-1967), the prominent Philadelphia real estate broker and developer, and Harry Batten, both of the Old Philadelphia Development Corporation (OPDC), suggested that the new "Police Administration Building" be located in the Dock Street area.<sup>8</sup> However, John Robin, the Executive Vice President of the OPDC, rejected the idea arguing that this would be ruinous to Society Hill.<sup>9</sup> Then-Mayor Richardson Dilworth would select the location for the PPHQ in 1958, and Geddes, Brecher, Qualls, and Cunningham (GBQC) was commissioned for its design the next year. The new building was to be constructed just outside the heart of downtown, which Mayor Dilworth felt was advantageous to both the police and the city.<sup>10</sup> Additionally, the construction of a new police building in this particular area was intended to serve as a catalyst for improvement in police/community relations in the City and, as hoped for at the time, improve the conditions of the immediate neighborhood.

Constructed between 1959 and 1962, the PPHQ was not the only new development created by urban renewal clearance in the area. Concurrent with the building of the PPHQ, the Dock Street Market, located some distance to the south of the new headquarters, was to be razed, following the Redevelopment Authority's acquisition of the entire area via eminent domain by 1961.<sup>11</sup> This would make a blank slate of sorts for the aforementioned Society Hill Towers.

When the PPHQ was officially dedicated on April 1, 1963, the building was celebrated as a technological and symbolic tour de force (Figure 1). GBQC was awarded the American Institute of Architects' Gold Medal Award for the best Philadelphia architecture of the year. The pamphlet that accompanied the dedication ceremony praised it as the new "architectural focal point of the northern end of Independence Mall and an important contribution to the city's



Figure 1: 1963 photograph taken during the dedication ceremonies for the Philadelphia Police Headquarters. (Source: Urban Archives, Temple University)

6 Ibid., 422.

7 Valerie Sue Halverson Pace, "Society Hill, Philadelphia: Historic Preservation and Urban Renewal in Washington Square East" (Master's Thesis, University of Minnesota, 1976), 113.

8 Ibid., 465.

9 John Robin, interview by Walter Philips Sr., February 11, 1978, transcript, Philips Oral History Project, Temple University Urban Archives, Philadelphia, PA.

10 "The Changing City," *The Evening Bulletin*, February 27, 1958.

11 Cohen, "Postwar City Planning in Philadelphia," 521.



Figure 2: Circa 1962 bird's eye view of the Philadelphia Police Headquarters. (Source: Urban Archives, Temple University)

downtown renewal.”<sup>12</sup> In attendance for the ceremony were about 600 people, notably then-Mayor James Tate, Philadelphia Police Commissioner Albert Brown, Los Angeles Chief of Police William H. Parker, Chairman of the City Planning Commission G. Holmes Perkins, and GBQC.

By the time the PPHQ was completed and operational in 1963, other government buildings were being erected proximate to the subject building that would subsequently redefine the character of the areas contiguous to Independence Mall. These buildings included Pietro Belluschi and George M. Ewing Company's Rohm and Haas Corporate Headquarters (1964) at Sixth and Market streets, the United States Courthouse and Federal Office Building (1963-1968) at Sixth and Arch streets, and the United States Mint (1965-1969) on Fifth Street between Race and Arch streets designed by Vincent Kling

& Associates. Siting the PPHQ just west of Independence Mall was in keeping with the trend of constructing government buildings in this section of Philadelphia.

Initially, the 1966 Independence Mall Redevelopment Area Plan proposed a site plan for the PPHQ's immediate surroundings—Seventh Street to Ninth Street and Vine Street to Arch Street. This plan recounted the area as having “unsafe, unsanitary, inadequate or over-crowded conditions of certain buildings.”<sup>13</sup> As a result of this plan's initiative, many buildings were demolished whose lots remain vacant today, or have otherwise been converted into surface parking. The proposed site plan, set forth by the City Planning Commission, was loosely followed as efforts proceeded. The closing of Ridge Avenue was completed; this provided the necessary land for the Vine Street Expressway (Interstate 676) ramps that were to connect to Market East and the Metropolitan Hospital, located across Race Street to the north of the PPHQ. However, the ramp to Market East was never built. Today, this area is a parking lot.

Socially, the PPHQ is reflective of the vast urban redevelopment projects that swept across the city during the 1960s (Figure 2). Today, the building is located in between several prominent Philadelphia neighborhoods: Independence National Historical Park, Old City, and Society Hill to the east; and Chinatown and Penn Center to the west. This centrally located site was chosen to not only improve the immediate surrounding area but also to benefit the city's other police districts.

### **Historic Context: The Philadelphia Police Headquarters in the Context of Post-War America**

Post-war America is often described as a country burgeoning in the economic and political realms, as well as in technological advancements. As it recovered from the Great Depression, the nation was faced with new challenges that sparked a plethora of reforms in both government and architecture. With the population and economy booming, there was a pressing need, or desire, to bulldoze the old to make way for the new.<sup>14</sup> Modern architecture used this opportunity as a catalyst to pervade the landscape of the United States. The American people latched on to a newfound emphasis on family which fueled the demand for new houses, home-based consumer goods, and schools.<sup>15</sup>

12 City of Philadelphia, “Dedication of Police Headquarters,” Monday, April 1, 1963, pamphlet from Temple University, Urban Archives, Philadelphia, PA.

13 Philadelphia City Planning Commission, “Amendment Unit Four” in *Independence Mall: Center City Redevelopment Area* (Philadelphia: City Planning Commission, 1966).

14 Gelernter, *A History of American Architecture*, 261.

15 *Ibid.*, 262.

Paralleling this trend was the nation's enthusiasm for investing in new technologies in the face of both the Cold War and Vietnam War. Mass production proliferated and, as a result, so did building materials. As architecture took advantage of these developing technologies, new construction, such as the PPHQ, took on styles that have managed to capture and preserve the zeitgeist of this pivotal time.

Philadelphia, much like many other major cities, went through a series of political reform that consequently affected development and the city's architecture. Restructuring of the city's government is said to have begun with the elections of Mayor Joseph Clark in 1951 and Mayor Richardson Dilworth in 1955.<sup>16</sup> As a result, local government became increasingly more involved with housing and city planning and empowered its City Planning Commission. Commercial and institutional buildings were being revived and urban renewal was bursting at the seams.<sup>17</sup> Philadelphia's architecture, and its architectural education, would emerge as leaders in the field as propagated by the Philadelphia School. George Holmes Perkins (1904-2004) described it best: "A city that for nearly a quarter-century had been in the doldrums awoke with the energy to transform its center and assume a national architectural leadership through its urban renewal."<sup>18</sup> The PPHQ has since become a vessel for both these national and local architectural and legislative trends that occurred during the mid-twentieth-century.

While the beginning of the Modernist style in the United States is not easy to pinpoint, it is largely accepted by historians and scholars that Modernism hit the shores of America when Philip Johnson and Henry-Russell Hitchcock wrote *The International Style* in 1932. Architects began to abandon historical styles and move towards ahistorical, austere forms.<sup>19</sup> Le Corbusier and Ludwig Mies van der Rohe perpetuated and influenced these shifts in architectural design. A plethora of different sects fall under the encompassing umbrella of Modernist architecture, including such styles as Internationalism, Brutalism, Formalism, and Expressionism; the PPHQ being a strong example of Expressionism. This variety of Modernist architectural styles allowed architects to explore and invent new vocabularies that, at times, would simultaneously meet the needs of Post-War America. Modernism was found to be the most appropriate expression for the burgeoning country.<sup>20</sup> It appealed to the public as a rational, efficient, and practical style for solving an assortment of problems.<sup>21</sup> Additionally, architects took this as a much-needed opportunity to be inventive, to explore, and to create new aesthetic forms and shapes.<sup>22</sup>

Modernism in Philadelphia can be marked by two national trends. One being the spread of the International Style and the subsequent Modernist styles that followed. And the second being regional modernism, which arguably preceded the nationwide notions of Modernism.<sup>23</sup> Architecture in the City of Philadelphia and the surrounding area was on the pulse of larger trends as both the national and local government encouraged and supported substantial redevelopment. Two important factors that set the stage for design and development for Philadelphia after the Second World War was first, a series of planning initiatives that set the direction for areas pinpointed for redevelopment and growth; and second, the arrival of a group of significant designers—known as the "Philadelphia School"—at the University of Pennsylvania (Penn) in the early 1950s.<sup>24</sup> The architects and engineers of the Philadelphia School were responsible for revamping architectural education and consequently the city.<sup>25</sup> With G. Holmes Perkins leading the way for Penn and the Philadelphia School, city planning and urban design became intertwined and more intimately involved with the city's architecture.<sup>26</sup>

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16 Perkins, "Part Four: Philadelphia Phoenix," 204.

17 Ibid.

18 Ibid.

19 Gelernter, *A History of American Architecture*, 260.

20 Gelernter, *A History of American Architecture*, 263.

21 Ibid.

22 Ibid.

23 Clendenin, "Thematic Context Statement."

24 Ibid.

25 Ibid.

26 Perkins, "Part Four: Philadelphia Phoenix," 204.



The PPHQ is reflective of the city's architectural soul-searching for a national heritage.<sup>27</sup> The Expressionist style employed for the design created a sculptural, iconic building that has been prominently keyed into the city (Figure 3). GBQC hastily celebrated technological innovation as represented by the Schokbeton panels of the building. Investing in such a high grade of precast concrete, it is no secret that the City Planning Commission supported emerging high architectural ideals; Philadelphia was investing in good design. By the 1960s, the Philadelphia Chapter of the American Institute of Architects was considered to be one of the most energized chapters in the United States.<sup>28</sup> In 1963, the chapter awarded GBQC the American Institute of Architects' Gold Medal Award for best Philadelphia architecture for their design of the PPHQ.<sup>29</sup>



Figure 3: Circa 1962 photograph from a promotional pamphlet for the Philadelphia Police Headquarters (Source: Urban Archives, Temple University)

### **Historic Context: The Philadelphia School**

The Philadelphia School is a group of architects and engineers who are loosely defined by their work and design beliefs. The concept of the Philadelphia School was first introduced in a 1961 *Progressive Architecture* article by Jan Rowan titled, "Wanting to Be: The Philadelphia School." Rowan defined the group as comprising Louis I. Kahn, Robert Venturi, Romaldo Giurgola, Robert Geddes, and two engineers, Robert Le Ricolais and August Komendant. Kahn was pinpointed as the group's "spiritual leader" as his design principles were felt to be the driving force for others.<sup>30</sup> Rowan proclaimed that the Philadelphia School was to do for Philadelphia what the Chicago School did for their city during the late nineteenth-century.<sup>31</sup> Some of the architects singled out by the *Progressive Architecture* article, including Robert Geddes, were hesitant about being classified into one style or group.<sup>32</sup> Yet, the association provided the men with exposure that won them numerous commissions, even if these were mostly for work located outside of Philadelphia.

The Philadelphia School is also said to be a byproduct of the efforts of G. Holmes Perkins. Perkins worked diligently to redefine architectural education within both Penn's School of Fine Arts and the City of Philadelphia. Each individual of this group taught at Penn and each influenced students in their own way. However, these architects and engineers are each profound in their own right, outside of the Philadelphia School. Largely, the Philadelphia School promoted a greater focus on context and developed their modern style by looking critically at history.<sup>33</sup> These architects and engineers understood there was an inherent need for Philadelphia to return to a more human-scaled city. Their goal was for the public to be engaged in conversation with the architecture through associations buildings could bring forth.<sup>34</sup>

GBQC's design for the PPHQ embodies some of the design theories championed by the Philadelphia School. The rectilinear concrete panels that define the majority of the building's boundaries were meant to relate to Philadelphia's grid plan (Figure 4). The plaza on the north side of the building, housing the intended primary entrance, was

27 Ibid., 206.

28 Clendenin, "Thematic Context Statement."

29 "Police Building Wins Awards of Architects," *The Evening Bulletin*, April 1, 1963.

30 Jan C. Rowan, "Wanting to Be: The Philadelphia School," *Progressive Architecture* 42 (April 1961): 131.

31 Ibid, 163.

32 Ibid, 157.

33 Clendenin, "Thematic Context Statement."

34 Robert Coombs, "Philadelphia's Phantom School," *Progressive Architecture* (April 1976): 58.



Figure 4: Circa 1962 photograph of the interior of the Philadelphia Police Headquarters (Source: Urban Archives, Temple University)

not meant to elicit the sense of jail, detainment, or an oppressive police force; however, over time, the nature of the building's function prevailed.

***Criterion D: Embodies distinguishing characteristics of an architectural style or engineering specimen.***

The Philadelphia Police Headquarters (PPHQ) embodies distinguishing characteristics of both an architectural style and engineering specimen due to its Expressionist style of architecture and engineered use of Schokbeton to support a fully integrated building system. Architecturally, the PPHQ is a distinct juxtaposition with the City of Philadelphia's gridded plan through its curvilinear form and massing. The building's nearly 1,000 precast concrete panels, manufactured using Schokbeton that radically integrate the structural, mechanical, and electrical systems, further support the PPHQ's stylistic identity as Expressionist. An innovative method for precasting concrete during the mid-twentieth century, the Schokbeton system required careful, precise engineering that resulted in remarkably structurally sound buildings, as evidenced by the PPHQ, as well as a number of other significant Modern buildings across the nation and other parts of the world.

One can argue that employing design vocabulary indicative of the Expressionist style of architecture allows for greater flexibility of form, as evidenced by the PPHQ. Expressionist-styled architecture often exhibits sweeping, curved wall surfaces and rooflines, minimal use of symmetrical or geometric forms, a combination of concave and convex surfaces, and arched or vaulted spaces.<sup>37</sup> Such design vocabulary is evident on the PPHQ, which stands as a prominent architectural example of Expressionism (Figure 5). Particularly, the gentle, sweeping concave and convex surfaces of the PPHQ define its mass and form. No other buildings by Geddes,



Figure 5: View of the underside of the cantilevering upper floors (Source: Allee Davis, September 2012)

<sup>35</sup> Robert Geddes, "Possibilities in Architecture," *Architectural Record* 108 (November 1977): 107.

<sup>36</sup> "Circling in the Square," *Architectural Forum* 118 (1963): 120.

<sup>37</sup> Robinson & Associates, Inc., Judith H. Robinson and Stephanie S. Foell, United States General Services Administration, *Growth, Efficiency, and Modernism: GSA Buildings of the 1950s, 60s, and 70s* (Center for Historic Buildings, U.S. General Services Administration, March 2006), 15.

Brecher, Qualls, and Cunningham (GBQC) were designed in the Expressionist style, making it a rarity of the firm's *oeuvre*. Eero Saarinen's TWA Terminal (1956-1962) at the Kennedy Airport in New York City utilizes this style to revive the French idea of *architecture parlante*, where a building is expected to metaphorically express its function and character.<sup>38</sup> Similarly, Skidmore, Owings and Merrill's Chapel at the United States Air Force Academy (1956-1962) in Colorado Springs utilizes the Expressionist style and *architecture parlante*. A similar government building to the PPHQ that has sweeping, curving wall surfaces is Marcel Breuer's U.S. Department of Housing and Urban Development Headquarters (1963-1968) in Washington, D.C.

The PPHQ, much like the aforementioned examples, exploited burgeoning technology and materials in its design to create a dramatic structure that utilized innovative construction techniques. Architect and critic J. M. Richards summarized best the changing trends in architecture in his 1940 book, *An Introduction to Modern Architecture*, when he said:

The principal reason why a new architecture is coming into existence is that the needs of this age are in nearly every case totally different from the needs of previous ages, and so cannot be satisfied by methods of building that belong to any age but the present. We can satisfy them in the practical sense, by utilizing modern building techniques and modern scientific inventions to the full; and we can satisfy them in the aesthetic sense, both by being honest craftsmen in our own materials and by taking special advantage of the opportunities these materials offer of creating effects and qualities in tune with our own times.<sup>39</sup>

In many ways, this quote can be directly applied to the PPHQ. Post-war Philadelphia restructured its government which resulted in the city commissioning a vast number of building campaigns in the name of urban revitalization. The PPHQ was one of many nodes among these efforts as it bulldozed its way into a blighted neighborhood. As one of the more notable buildings in which the city invested during this time, the Schokkbeton-manufactured panels of the PPHQ served as the structural system for the building while also defining its mass and form (Figure 6). Such design speaks to Richards's call for being honest craftsmen; what is seen on the outside also serves as the building's internal structural system. As an architectural firm, GBQC often took advantage of innovative technologies and building techniques during the 1960s. In the case of the PPHQ, the architects wanted to fully exploit the capabilities that Schokkbeton allowed. This desire to explore materials and form paralleled the nation's enthusiasm for mass production and drive for continuous technological advancement. As such, the PPHQ is significant for its association with this moment in architectural design of the post-war years that created significant, unprecedented forms and structural systems.

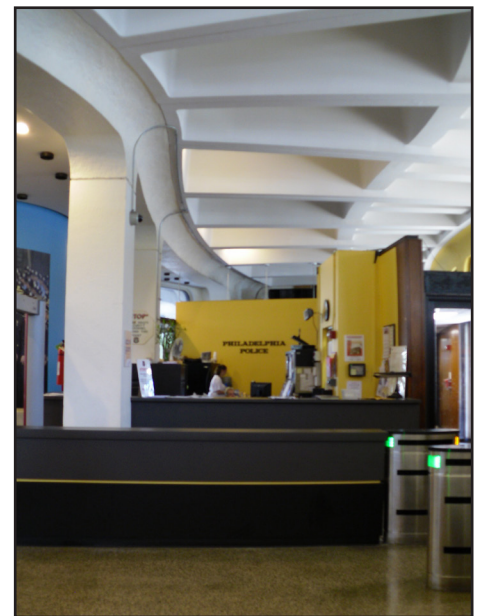


Figure 6: Interior view of the lobby of the Philadelphia Police Headquarters, showing the precast concrete panels (Source: Allee Davis, September 2012)

### **Historic Context: The Philadelphia Police Headquarters & Modernism**

GBQC designed the PPHQ in the Expressionist style, a style that falls under the umbrella of architectural Modernism. Modernist styles, like Expressionism, were used in conjunction with many other buildings constructed in the midst of urban revitalization efforts; these can be found in Philadelphia and other cities throughout the United States. Furthermore, it is the second building in the United States to use the Schokkbeton system to manufacture the building's character-defining precast concrete panels. These panels integrate the mechanical, electrical, and structural systems.

<sup>38</sup> Gelernter, *A History of American Architecture*, 274.

<sup>39</sup> J. M. Richards, *An Introduction to Modern Architecture* (Baltimore: Penguin Books, 1940 and 1962), 28.



As Modernism pervaded all aspects of society, architecture did well to visually translate what the United States was thinking during the 1950s and 1960s. Transcending the bounds of traditional, historic styles, architects began to explore new materials, technologies, and forms with which to build.<sup>40</sup> Le Corbusier and Ludwig Mies van der Rohe continue to be considered two of the most influential architects during this time, influencing the appearance of new construction across the states. Being the most appropriate expression of a new age for the nation following World War II, Modernism was found to be rational, efficient, and confident in expressing power and wealth, as well as expressive of the individual.<sup>41</sup> Often found to have been achieved primarily through these Modern architectural styles: the International Style, Brutalism, Formalism, and Expressionism.

The International Style was first introduced with Philip Johnson and Henry-Russell Hitchcock's publication, *The International Style*. This was written in 1932 to accompany an exhibit at the Museum of Modern Art. In considering the work of Mies van der Rohe, his buildings did not focus on social aspects, rather, they focused on the technical and visual problems the architect believed needed to be solved through design.<sup>42</sup> His famous "Less is more" motto stripped architecture to its fundamental essence; buildings are to be simple, rational, based on a geometric grid, and austere.<sup>43</sup> Architecture across the United States took note of these ideals and emulated them in a number of building types including shopping centers, schools, office parks, corporate headquarters, apartment buildings, and government buildings.<sup>44</sup> Mies van der Rohe provided a form of building that consisted of a rational structural frame with nothing more than a thin curtain wall cladding.

Le Corbusier helped to propagate the style of Brutalism that is today both praised and hated. The word originates from the French phrase *béton brut*, which translates into "raw concrete." Buildings of this style celebrate rough concrete due to its texture and aesthetics created from the casting process. Due to the extensive use of concrete for the PPHQ, the building is often categorized as a Brutalist-styled building; again, a common misnomer. Taking a closer look at other Brutalist buildings, one will learn that the PPHQ is actually more in line with the Expressionist style of Modern architecture. Examples of Brutalism include Paul Rudolph's School of Art and Architecture Building (1959-1963) at Yale University and, most famously, Boston City Hall (1963-1968) by Kallman, McKinnell, and Knowles. In Philadelphia, the United States Mint (1965-1969) on Fifth Street between Race and Arch streets by Vincent Kling & Associates and even Mitchell/Giurgola's William Penn High School (1967-1975) at Fifteenth and Mount Vernon streets are more representative of the Brutalist style than the PPHQ is often thought to be.

A common third style under the umbrella of Modernism is Formalism. Architects designing in this style opposed austere designs, such as those found on Mies van der Rohe's buildings, but shared the rational construction system.<sup>45</sup> Formalism took the basic frame and box and paralleled it with traditional Classical ideals, and explored how the building could be decorated with the intention of creating a more elegant and commanding presence.<sup>46</sup> It is worth mentioning this style within the discourse of the PPHQ since this form of architecture embraced new Modernist vocabulary and materials through technological innovations. Philip Johnson's Sheldon Memorial Art Gallery (1963) in Lincoln, Nebraska is a great example of Formalist architecture with its hint of a Roman arcade synthesized with Modernist design elements. Other examples can be found throughout the United States, but this particular style did not proliferate as much as either the International or Brutalist styles

### **The Philadelphia Police Headquarters & Schokbeton**

Several prominent engineers were involved in the construction of the PPHQ. David Bloom was the principal engineer while August Komendant was responsible for the engineering of the precast concrete assembly (Figure

40 Gelernter, *A History of American Architecture*, 260.

41 Ibid., 263.

42 Ibid., 266.

43 Ibid.

44 Ibid.

45 Ibid., 269.

46 Ibid.

7). The precast concrete components were designed to accommodate a fully integrated set of building systems – the structural, mechanical, and electrical systems – while achieving the dominant architectural finish of exposed concrete inside and out. As previously noted, these panels were manufactured using the Schokbeton process for precasting concrete. This process allowed for the concave and convex forms that give the PPHQ its distinct curvilinear character. Furthermore, these panels are a product of Komendant’s innovative structural engineering expertise, particularly in the use of post tensioning.

Ninety (90) percent of the PPHQ consists of concrete that is either precast or cast-in-place. Cast-in-place concrete is limited to the footings, foundations, corridor floors, and the four elevator-stair cores (Figure 8). This creates the structural formwork that acts as an anchor for the precast concrete panels.<sup>47</sup> The cast-in-place concrete of the elevator-stair cores contain special bearing pockets into which the cast-in-place floor slabs and the precast panels key.<sup>48</sup>

In addition to accommodating building systems in their interior surface, the three-story wall panels carried the dead and live loads of the three floors and roof above, bearing on the post tensioned cantilevered and post-tensioned, second-floor assembly. This was another daring engineering feat that distinguishes the exceptional importance of this building to mid-century structural engineering.

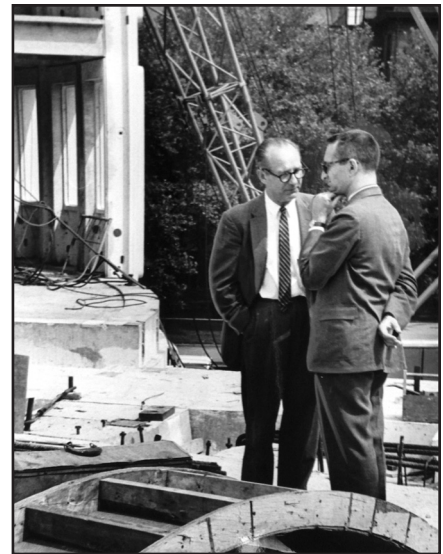


Figure 7: Circa 1962 photograph of August Komendant [left] and Robert Geddes [left] on site of the construction of the Philadelphia Police Headquarters. (Source: Urban Archives, Temple University)



Figure 8: Circa 1960 photograph of the construction of the Philadelphia Police Headquarters. (Source: Urban Archives, Temple University)

Overseeing their production and installation, Komendant post-tensioned the concrete—a technique of pre-stressing and post tensioning—to capture the maximum potential of the concrete for the PPHQ. As commonly understood, concrete performs best in compression and has little tensile strength, whereas steel performs best in tension. Both concrete and steel share the same coefficient of expansion ( $6.5 \times 10^{-5}$ ), making steel reinforcing bars and concrete ideal partners. Pre-tensioning and post-tensioning are two techniques used to pre-stress concrete to ensure that the structural concrete is in the necessary amount of compression to counteract any tensile strength imposed on the building during its service life.

Post-tensioning concrete requires that steel tubes be cast into the concrete panels through which wire tendons are threaded. After the precast floor panels were brought to the construction site and set in place, the wire tendons are then threaded through the aligned steel tubes in the multiple pieces of precast to be joined by the tension wires. These wire tendons are then connected to portable jacks on either end of the panel that administer more tensile strength than would typically be applied in the opposite direction. This technique requires permanent anchors to be embedded to either end of the concrete unit that transmit the necessary load. Once the post-tensioning process has been completed, the steel tubes are grouted to ensure that the wire tendons remain in place and are protected from corrosion.

47 Komendant, “Precasting Makes New Strides,” 189.

48 “Pioneering,” *Engineering News Record*, October 13, 1960, 60.

For the PPHQ, the first-floor framing was subjected to this process with high-strength reinforcing bars that have a reported ultimate strength of 150,000 psi. In the top of the ribbed floor panels, eight tendons were placed and carried through to the interior span of the floor panels. Threaded through the innermost third of the span are six tendons to resist the moment of the cantilever over the exterior columns; the floor panels cantilever a total of 12 feet. This form of pre-stressing, at the behest of Komendant, is what is largely responsible for the PPHQ's excellent, continued structural performance.

What makes the post tensioning exceptional is that it connected two floor panels with a 12-foot cantilever at the second-floor level of the PPHQ that, in turn, supported the three-story exterior architectural and structural wall panels that carried the full dead and live loads of the top three floors of the building. Post tensioning had been used before, even load-bearing exterior architectural wall panels had been used before, in Europe, but not in the United States of America; however, the combination of the two in a cantilever configuration was a first internationally.

***Criterion E: Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth, or Nation.***

This section will consist of two parts, one devoted to Geddes, Brecher, Qualls, and Cunningham (GBQC) and their design for the Philadelphia Police Headquarters (PPHQ). The second section will be devoted to August Komendant, the building's structural engineer.

#### **Geddes, Brecher, Qualls and Cunningham, Architects (1959-present)**

The PPHQ is the work of Geddes, Brecher, Qualls and Cunningham (GBQC), the celebrated architectural firm, formed in 1959, that designed many civic institutions in Philadelphia and the surrounding area, as well as internationally. GBQC was awarded the American Institute of Architects' Gold Medal Award for Best Philadelphia Architecture in 1963 for their design of the PPHQ.<sup>49</sup>

Relevant to the PPHQ is the Geddes Brecher entry into the Sydney (Australia) Opera House competition in 1953. Recently graduated from the Harvard University's Graduate School of Design, Geddes' thesis was a round form as the core of an urban center in Providence, Rhode Island. The Geddes Brecher scheme, a nautilus-shaped structure illustrated to most logically be architectural precast concrete won second place in the competition. This competition was one of the most significant international competition of the twentieth century.

During the early 1970s, the firm won first prize for both the Birmingham-Jefferson Civic Center Design Competition and the Vienna South International Town Planning Competition.<sup>50</sup> In 1979, the American Institute of Architects honored the firm with the highest professional honor awarding them the Architectural Firm Award.<sup>51</sup> This is only a small representation of the actual number of competitions the in which the firm engaged and the awards the firm received. Despite the fact that none of the founding architects are actively working there, GBQC Architects is still an active firm continuing the legacy of its founding principles with an office located in downtown Philadelphia.

Robert Geddes and Melvin Brecher (1924-2008) met as classmates at Harvard University's Graduate School of Design where the two earned Master of Architecture degrees in 1950. Three years later, Geddes and Brecher formed a practice that was soon succeeded by Geddes, Brecher, and Qualls in 1956. Prior to the creation of this firm, Geddes and Brecher were the runners-up for the Sydney Opera House competition in 1955. Warren Cunningham joined the group in 1958 specifically to collaborate with the firm on alterations to the Moore School Pender Laboratory (1909,

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49 "Police Building Wins Awards of Architects."

50 "Geddes Brecher Qualls Cunningham," Architectural Archives of the University of Pennsylvania, accessed October 21, 2012, <http://www.design.upenn.edu/archives/majorcollections/gbqc.html>.

51 "Robert Geddes, FAIA," Faculty, Princeton University School of Architecture, accessed October 21, 2012, [http://soa.princeton.edu/02fac/fac\\_frame.html?geddes.html](http://soa.princeton.edu/02fac/fac_frame.html?geddes.html).



built; alterations 1957-1960 and 1966) for the University of Pennsylvania (Penn).<sup>52</sup> GBQC officially formed when Mayor Richardson Dilworth (1898-1974) commissioned the architects to design a building for the Philadelphia Police in 1959, the firm's first public building.<sup>53</sup> At the time, the police department was housed in a cramped space in City Hall, which prevented the department from functioning efficiently. Headquartered in Philadelphia, GBQC was at the frontline of a changing city undergoing vast redevelopment projects. Philadelphia was vigorously restructuring the way it interacted with the public and soon became a hotbed of innovative architecture during the mid-twentieth-century.

In an effort to rebuild architectural education in Philadelphia, George Holmes Perkins (1904-2004), the new dean of Penn's School of Fine Arts beginning in 1951, restructured the faculty through the inclusion of prominent architects and planners, including both Geddes and Qualls. Inadvertently, Perkins laid the foundations for what would come to known as the Philadelphia School, a group of architects and engineers whose beliefs centered on a style that worked to serve the needs of older, pedestrian-scaled cities. Geddes would remain at Penn until 1965, when he would go on to become the new dean of Princeton University's School of Design through to 1982.<sup>54</sup> Qualls stayed with Penn into the 1990s.<sup>55</sup>

GBQC, alongside Louis I. Kahn (1901-1974), Vincent Kling (1916-2013), Romaldo Giurgola (1920-2016), and others, worked to reshape the city of Philadelphia at the behest of Mayor Dilworth and Edmund Bacon. The resulting architecture represented the city's desires to expand and adapt to an urban environment that is often largely defined by brick. Mid-century architecture was employed by Philadelphia to erase blight, as well as to implement a series of planning initiatives that set the direction for redevelopment and growth.<sup>56</sup> The PPHQ is one of the many structures built as part of this effort.

Following the construction of the PPHQ, GBQC embarked on an ambitious career designing for both civic and educational institutions. The firm embraced large-scale projects that would serve a significant number of people. In 1965, GBQC was commissioned to design the United States Embassy in Islamabad, Pakistan. Here, the building acquiesced to the landscape by respecting the site and commanding scale of the surrounding terrain.<sup>57</sup> The complex was completed in 1979.

The same year the firm began the Embassy, they began to design the Rodney Complex, a new dormitory for the University of Delaware. The dormitory was completed in 1967 and accommodated both the private and communal needs of students in a campus setting.<sup>58</sup> Following the Pender Laboratory and dormitory project, GBQC would go on to design for many other colleges and universities. This includes an academic building at Beaver College Science in Glenside, Pennsylvania (1971), the Institute for Advanced Study in Princeton (1971), New Jersey, and Stockton State College (1968-1983) in Pomona, New Jersey. GBQC's designs for these projects embody spaces organized and oriented towards specific functions customized to each given program. The material of choice was concrete, often accented by other materials, and was used in various ways to facilitate a sense of human-scale in their buildings.

As for civic entities, GBQC's projects incorporated widespread planning in addition to architectural design. The commission for the Birmingham Jefferson Civic Center in Alabama was the result of a national design competition

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52 Robert Geddes, "Principles and Precedents: Geddes Brecher Qualls Cunningham," *Process Architecture* 62 (October 1985): 5.

53 Ibid.

54 Emily T. Cooperman, "Geddes, Robert Louis (b. 1923)," Philadelphia Architects and Buildings, accessed October 4, 2012, [http://www.philadelphiabuildings.org/pab/app/ar\\_display.cfm/23846](http://www.philadelphiabuildings.org/pab/app/ar_display.cfm/23846).

55 Emily T. Cooperman, "Qualls, George Wyckoff (1923-2001)," Philadelphia Architects and Buildings, accessed October 4, 2012, [http://www.philadelphiabuildings.org/pab/app/ar\\_display.cfm/23412](http://www.philadelphiabuildings.org/pab/app/ar_display.cfm/23412).

56 Clendenin, "Thematic Context Statement."

57 Geddes, "Principles and Precedents," *Process Architecture*, 21.

58 Ibid., 24.

held in 1966. The plan comprises four entertainment and cultural facilities around a civic plaza.<sup>59</sup> In the wake of an expanding downtown development, this civic center created a new focal point for the community.<sup>60</sup> Following the completion of this complex in 1976, GBQC began the design for Liberty State Park in Jersey City, New Jersey. This project commenced in 1979 and was the state's first urban state park and a catalyst for renewing the Hudson River waterfront.<sup>61</sup> One of the larger designs the firm pursued was the Vienna South International Town Planning Competition in 1971. This design was for a new community of 70,000 people along a 2,500-acre area of land extending four miles south of the city's historic core.<sup>62</sup> GBQC won first prize "on the basis of the jury's assessment of its rational distribution of movement and activity systems and flexibility for change and growth, its balanced monumental and human-scaled landscapes, and its varied buildings and open spaces."<sup>63</sup>

Other notable buildings by GBQC include the Architects Housing Company (1979) in Trenton, New Jersey, the Mobil Environmental and Health Science Laboratory (1983) in Hopewell, New Jersey, and the south wing addition to the J. B. Speed Art Museum (1983) in Louisville, Kentucky. Each of these three buildings thoughtfully accommodates and responds to different programmatic needs.

### **August E. Komendant, Engineer (1906-1992)**

The structural prowess of the PPHQ is the work of August E. Komendant, a significant structural engineer hired by GBQC to oversee the design, production, and installation of the precast concrete panels used for the PPHQ (Figure 9). His expertise in structural engineering was highly influential in the emerging field of precast concrete engineering during the mid-twentieth-century. Komendant was brazen in his efforts to make feasible the designs set forth by the architects with which he collaborated. He did this by using innovative techniques and materials that Jack Pyburn, the Harrison Associates Visiting Scholar in Historic Preservation at the Georgia Institute of Technology, calls him a "structural engineering cowboy" for doing so.<sup>64</sup> Komendant, along with another engineer, Robert Le Ricolais, was included in the Philadelphia School.



Figure 9: Circa 1960 photograph of the construction of the Philadelphia Police Headquarters. (Source: Urban Archives, Temple University)

Born in Estonia on October 2, 1906, Komendant later moved to Germany where he would earn a doctorate from the Technical University in Dresden.<sup>65</sup> Interned by the United States Army during World War II, Komendant's engineering expertise was uncovered by General George Patten who employed his skills in determining the stability of bridges prior to allowing troops to cross.<sup>66</sup> This led to Komendant's recruiting to assist the United States Army in rebuilding war-damaged bridges across Europe. By 1950, he immigrated to the United States where he would form a consulting practice in Montclair, New Jersey.<sup>67</sup> Based on Komendant's experience with concrete material while rebuilding war-damaged bridges, he published *Prestressed Concrete Structures* in 1952.<sup>68</sup> *Contemporary Concrete Structures* was published in 1972.

59 Ibid., 48.

60 Ibid., 48.

61 Ibid., 59.

62 Ibid., 134.

63 Ibid., 134.

64 August E. Komendant, *18 years with architect Louis I. Kahn*, (Englewood, NJ: Aloray, 1975), 1.

65 "A. E. Komendant, 85, A Structural Engineer," *New York Times*, September 18, 1992, accessed October 8, 2012, ProQuest Historical Newspapers.

66 Carter Wiseman, *Louis I. Kahn: Beyond Time and Style* (New York: Norton, 2007), 96.

67 "Komendant, 85."

68 August E. Komendant, *Prestressed Concrete Structures* (New York: McGraw-Hill, 1952).

From 1959 to 1974, Komendant was a professor of architecture and taught courses in structural engineering at Penn. During his tenure, he established a relationship with Louis I. Kahn. The two men met in 1956 and bonded over their Estonian heritage. Kahn admired Komendant for pursuing designs that other structural engineers were, Kahn felt, too cowardly to consider. Komendant was commissioned by Kahn for Richards Medical Laboratories (1957-1960; 1962-1965) where post-tensioning was used for the building's concrete beams. The two men remained friends until Kahn's death in 1974.<sup>69</sup>

***Criterion F: Contains elements of design, detail, materials or craftsmanship which represent a significant innovation.***



Figure 10: Circa 1960 photograph of the construction of the Philadelphia Police Headquarters. (Source: Architectural Archives, University of Pennsylvania)

The precast concrete panels that define the structure, form, and mass of the Philadelphia Police Headquarters (PPHQ) were manufactured using the innovative process of Schokbeton (Figure 10). These panels integrate the structural, mechanical, and electrical systems creating a fully integrated building system. The Schokbeton process was first created in Holland and subsequently patented by 1932. When translated from Dutch it means “shocked concrete.” The idea for this particular process is said to have begun from observations of a worker moving a wheelbarrow full of concrete over a rough road. The worker took notice of the effects the rough road had on the concrete.<sup>70</sup> After years of research and testing, the Schokbeton process resulted in the optimal water-to-cement ratios, the creative construction of molds, and calibrated shocking (vibration) of the cement during placement.<sup>71</sup> Also important to note is that glass-making equipment was used instead of typical concrete making equipment. This resulted in a more precise and higher quality product.

The first product to be made using Schokbeton was for the windows of a barn built in the Netherlands during the 1930s. This barn was assembled using all pre-cast concrete. The structure was in a honeycomb form that allowed for the precast units to be easily, and quickly, inserted. Building in this manner led the Dutch to experiment with housing, considering assembly was proving to be an efficient process. Subsequently, seeing the potential of the Schokbeton process, the Dutch were quick to export this precasting system internationally resulting in a vast number of structures utilizing this form of concrete.

Unique to this precasting method that differentiates it from others is the use of zero-slump concrete. The concrete mixture uses only enough water to activate the chemical process of the cement.<sup>72</sup> Using such a small amount of water allows for the concrete to dry quickly, develop its strength early, and be removed from the mold so that other panels can be made.<sup>73</sup> Additionally, the Schokbeton process creates a concrete with high strength and a uniform finish due to the mix and use of vibration. Using the maximum amount of stone in combination with zero-slump concrete resulted in a desirable optimum finish and strength. Other advantages of the Schokbeton process include the resulting water-resistant surface due to the required aggregate, sand, and cement ratio in addition to the compacting process.<sup>74</sup>

<sup>69</sup> Komendant, *18 years*, 1.

<sup>70</sup> Bernard P. Spring and Donald Canty, “Concrete: The material that can do almost anything,” *Architectural Forum* (1962), 92.

<sup>71</sup> Pyburn, “The Role of Architectural Precast Concrete,” 115.

<sup>72</sup> Komendant, “Precasting,” 189.

<sup>73</sup> G. Husken, H. J. H. Brouwers, “On the early-age behavior of zero-slump concrete,” *Cement and Concrete Research* 42 (2012): 501, accessed November 12, 2012, <http://jsbrouwers.bwk.tue.nl/publications/Journal80.pdf>.

<sup>74</sup> Spring and Canty, 92.



To properly consolidate the concrete and avoid the inclusion of voids when using the Schokbeton process, a force other than gravity is required. This is due to the low workability that zero-slump concrete creates. To achieve this, a shocking table was invented that was carefully calibrated. Following the mixing inside upright drums with counter-rotating paddles, the concrete is poured into custom-designed molds that rest on the steel-framed shocking table—these upright drums are an example of some of the equipment used in making glass. For the PPHQ, the molds for the panels measured 32.8 feet by 8.2 feet. Once the concrete has been poured into the apparatus, the table raises and lowers the mold about a quarter of an inch in the air about 250 times per minute.<sup>75</sup> Using the Schokbeton process, panels can be cast as large as 12 feet by 40 feet without compromising its strength. Inversely, panels could be cast as thin as two inches and still perform just as well as its larger counterparts. Compared to other precasting techniques available during the mid-twentieth-century, Schokbeton was considered to be one of the more expensive processes. This was largely due to the cost of the necessary equipment, such as the shocking table. However, this process affords both great flexibility in design and the customization of color.

Emerson Cohen, Don Rothenhaus, and George Santry were responsible for introducing Schokbeton to the United States.<sup>76</sup> Cohen was responsible for marketing, Rothenhaus was the first licensee for the product, and Santry was the owner of the rights to Schokbeton in the United States. In 1960, Rothenhaus, Cohen, and other colleagues, established Eastern Schokbeton in New Jersey.<sup>77</sup> The company's first commission was for Philip Johnson's Lake Pavilion on his personal property in New Canaan, Connecticut. The commission for the PPHQ followed shortly thereafter and was the company's first large project. When Geddes, Brecher, Qualls, and Cunningham (GBQC) decided that they were to use precast concrete panels for this building, they hired August Komendant to help design the panels and their necessary molds.<sup>78</sup>

The use of Schokbeton for the PPHQ's concrete panels is exemplar of the marriage of craft and technology inherent in the pre-casting process (Figure 11). GBQC wanted a white exterior for the building via the panels. This required the use of white cement, white sand from Maryland, and white quartz from Georgia. The coffered floor slabs were also manufactured using the Schokbeton process, but were made gray in color to differentiate from the structure's exterior design and appearance. There is a total of 144 exterior precast concrete wall panels. These measure five feet by 35 feet in height and contain web flanges that are two-and-a-quarter inches thick and 21 inches in depth. Again, these panels serve as the structural system for the PPHQ and house the mechanical and electrical equipment, eliminating the need for a suspended ceiling.<sup>79</sup>

Creating the space for the piping, heating units, air conditioning ducts, diffusers, and lighting fixtures required the design of several different joint details. For instance, "ears" were molded into the panels; these extend from the plane of the windows and act as points of connection. There are narrow "ears" that house the heating pipes and wider "ears" that house high-velocity air risers.<sup>80</sup> Komendant and GBQC took great consideration in designing how light would hit the panels in addition to how these panels would control both water runoff and the collection of dirt.<sup>81</sup>

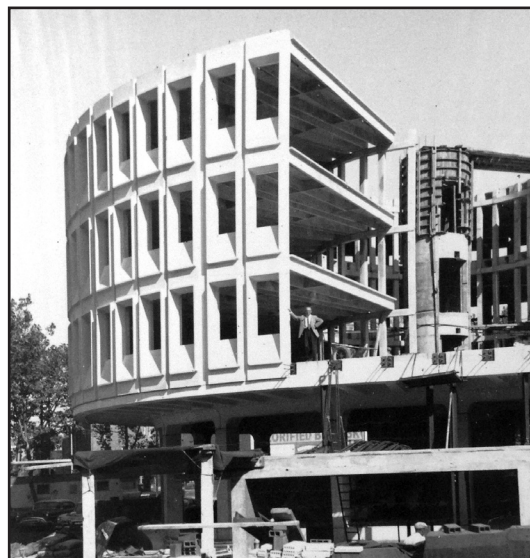


Figure 11: Circa 1960 photograph of the construction of the Philadelphia Police Headquarters. (Source: Architectural Archives, University of Pennsylvania)

75 Pyburn, "The Role of Architectural Precast Concrete," 115.

76 Ibid., 116.

77 Ibid., 116.

78 Ibid., 117-118.

79 "Pioneering in Precast Concrete," 50.

80 Ibid.

81 Komendant, "Precasting," 189.

***Criterion H: Owing to its unique location or singular physical characteristic, represents an established and familiar visual feature of the neighborhood, community or City.***

An architectural and engineering landmark of the mid-twentieth century, the Philadelphia Police Headquarters (PPHQ)—the Roundhouse—represents an established and familiar visual feature of Franklin Square and the larger City of Philadelphia. Recognized locally as one of Philadelphia’s “most iconic modern buildings,” this status is achieved through its unique physical appearance as a rare surviving specimen of the Expressionist style, being of a form and massing unlike any other public building in the Quaker City.<sup>82</sup>

“Owing to its unique location,” set on the south side of Franklin Square, the building was at the center of Urban Renewal at the time of its construction between 1959 and 1962, making it a focal point of one of William Penn’s five squares, as well as from the Vine Street Expressway and for those entering the Benjamin Franklin Bridge. For those entering and leaving the eastern part of Center City via the Vine Street Expressway (I676) or Race Street, the PPHQ is often the first and last physical reference point in Philadelphia. This visual distinction is further justified by the building’s unique form and mass, creating a sharp contrast with the Philadelphia gridiron.

“Owing to its...single physical feature,” the bold, curvaceous form of the PPHQ has established this building as an iconic, sculptural element integral to both the surrounding neighborhood and city. In addition to local news reports and general public gatherings—known to use the Roundhouse as a meeting place—the building has also caught the popular imagination of a wide range of local Philadelphians and visitors, being featured in articles by *The Architects’ Newspaper*, *Changing Skyline*, *Curbed Philly*, *The Daily Pennsylvanian*, *Hidden City Philadelphia*, *The Philadelphia Inquirer*, *PlanPhilly*, *Reddit*, and various other online media sources and venues. As recently as 2013, *The Philadelphia Inquirer’s* architecture critic, Inga Saffron, dedicated an entire column to the PPHQ. In addition to the building being the distinctive built face of the Philadelphia Police Department, the overall Expressionist design—again often confused with Brutalism—has landed it on lists like the “15 ugliest buildings in Philadelphia.”<sup>83</sup> This wide range of publicity, as well as varied public reaction, only further prove that the building is a familiar and established visual feature. Perhaps best described as the modern version of the Furness Library—another once hated grand architectural gesture—the PPHQ has become permanently embedded in Philadelphia’s built environment.

***Criterion J: Exemplifies the cultural, political, economic, social or historical heritage of the community.***

Beyond its architectural significance, the Roundhouse stands out for the singular position it held as home to the Philadelphia Police Department, the most dominant, and visible, non-elected power in the city. For almost 60 years, across an era of great cultural upheaval, the building was the public embodiment of a police force which played an outsized and, often, controversial role in the conflicts of the day, be they related to crime, social disruptions or even politics. Hardly a day passed that Robert Geddes’s curving concrete design wasn’t used as a backdrop for news reports on the latest newsworthy arrest, police scandal or large public event requiring police intervention or oversight.

The Roundhouse, then, was among the most recognizable buildings in the region. Recognizable, and, for some, feared. Under the leadership of Frank L. Rizzo, first as police commissioner and later as mayor, the Philadelphia Police earned a well-documented reputation for brutality and civil rights abuses, particularly towards minority and marginalized communities.<sup>84</sup> Among the city’s black and brown population, its poor and powerless residents, the Roundhouse was

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82 Anna Merriman and Melissa Romero, “Philly’s 11 Most Iconic Modern Buildings,” *Curbed Philadelphia*, April 10, 2019, accessed November 2022: <https://philly.curbed.com/maps/philadelphia-modern-architecture-buildings-iconic>.

83 Melissa Romero, “The 15 ugliest buildings in Philadelphia,” *Curbed Philadelphia*, August 23, 2016, accessed November 2022, <https://philly.curbed.com/maps/ugliest-buildings-philadelphia>.

84 Edward Teitelman and Richard W. Longstreth, *Architecture in Philadelphia: A Guide* (Cambridge, MA: MIT Press, 1974), 77.

akin to Philadelphia's Bastille, a dark and dangerous place given to beatings and illegal detentions.<sup>85</sup> That history has unfortunately stained the memory of a structure that was conceived, in part, as a progressive prescription to address police corruption of the past<sup>86</sup> and has just as often housed enlightened administrations that brought the best of law enforcement practices to the city.<sup>87</sup>

"Huge amount of history took place in that building," civil rights attorney David Rudovsky said in an interview for this submission. "Unfortunately a lot of it was negative. But it did reflect the culture of the Philadelphia Police Department, good and bad."

The building was championed by Mayor Richardson Dilworth, a reformer who hoped that moving the police department from City Hall would reduce political influence within the forces.<sup>88</sup> It was part of a wide range of reforms Dilworth introduced to advance and modernize Philadelphia and its government.<sup>89</sup> From its inception through its dedication in 1963, the Police Administration Building was seen by its promoters as a symbol of police transparency and the department's ties to the city's neighborhoods.<sup>90</sup>

In practice, the Roundhouse almost immediately was thrust in the middle of tensions between the status quo of the city's well-to-do and white blue collar neighborhoods and the demands of respect from the city's minority communities, including African Americans<sup>91</sup> and gays and lesbians.<sup>92</sup> In 1964, long-simmering Black resentment towards police treatment flared into three days of riots in North Philadelphia. The outbreak of violence was part of a wave of uprisings in oppressed Black communities across the country that summer, beginning in Harlem in New York City. Philadelphia Police, under Commissioner Howard Leary, initially did little to stop rioters here, earning credit from some for mitigating the human damage but criticism from others for being too passive.<sup>93</sup>

Among the most vocal critics was Rizzo, then a deputy police commissioner whose reputation for tough-if-questionable police tactics later fueled his rise to police commissioner in 1968 and secured his election to two terms as mayor (1972-1980). For those twelve years, the Roundhouse was intricately tied to one the most controversial public figures in the nation, complicating its relationship with city residents. Rizzo's tough stance on crime and minority communities echoed tensions that were straining race relations throughout the country.

In 1965, President Lyndon Johnson declared a "war on crime," and asked Congress to pass the Law Enforcement Assistance Act, under which the federal government would supply local police with military-grade weapons, weapons

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85 Jonathan Neumann and William K. Marimow, "The Homicide Files: How Phila. Detectives compel murder 'confessions,'" *The Philadelphia Inquirer*, April 24-27, 1977, accessed November 2022, <https://www.inquirer.com/news/homicide-files-1977-series-police-beatings-confessions-20200710.html>.

86 Jack Pyburn, "Op-Ed: Save the Roundhouse," *Hidden City Philadelphia*, November 12, 2021, accessed November 2022, <https://hiddencityphila.org/2021/11/op-ed-save-the-roundhouse/>.

87 Bob Warner, "Former Police Commissioner Kevin M. Tucker dies at 71," *The Philadelphia Inquirer*, June 19, 2012, accessed November 2022, [https://www.inquirer.com/philly/obituaries/20120619\\_Former\\_Police\\_Commissioner\\_Kevin\\_M\\_Tucker\\_dies\\_at\\_71.html](https://www.inquirer.com/philly/obituaries/20120619_Former_Police_Commissioner_Kevin_M_Tucker_dies_at_71.html).

88 Jake Blumgart, "The Roundhouse's architect debunks Philly urban legend: the building wasn't designed to look like a pair of handcuffs," *The Philadelphia Inquirer*, September 11, 2022, accessed November 2022, <https://www.inquirer.com/news/roundhouse-philadelphia-architect-robert-geddes-20220911.html>.

89 Jake Blumgart, "Jawnts: Dilworth was a Fighter," *The Philadelphia Inquirer*, November 23, 2018, accessed November 2022, [https://www.inquirer.com/philly/opinion/currents/20150308\\_Jawnts\\_Dilworth\\_was\\_a\\_fighter.htm](https://www.inquirer.com/philly/opinion/currents/20150308_Jawnts_Dilworth_was_a_fighter.htm).

90 "History of the Roundhouse," Framing the Future of the Roundhouse, accessed November 28, 2022, <https://www.roundhousefutures.com/history>.

91 Dain Saint, Craig R. McCoy, Tommy Rowen, and Valerie Russ, "Black and Blue: 190 years of police brutality against Black people in Philadelphia," *The Philadelphia Inquirer*, July 11, 2020, accessed November 2022, <https://www.inquirer.com/news/inq/philadelphia-police-brutality-history-frank-rizzo-20200710.html>.

92 Victoria A. Brownworth, "The Rizzo legacy and the queer community," *Philadelphia Gay News*, June 10, 2020, accessed November 2022, <https://epgn.com/2020/06/10/the-rizzo-legacy-and-the-queer-community/>.

93 Joseph R. Daughen and Peter Binzen, *The Cop Who Would Be King*, (Boston: Little, Brown and Company, 1977), 93-96.



that were being used in the war in Vietnam.<sup>94</sup> (Rizzo, fourteen years later, would boast in a televised interview that by then the Philadelphia Police were so well armed that “we could invade Cuba, and win.”)<sup>95</sup> In 1968, Richard Nixon, mindful of Rizzo’s no-nonsense reputation in Philadelphia,<sup>96</sup> adopted “law and order” as a central theme of his successful presidential campaign.

The Rizzo era left long-lasting social divisions and a police department tarred by a seemingly endless string of scandals and controversies. Those include the 1967 police assault on student protesters outside the Board of Education, a 1974 report by the Pennsylvania Crime Commission outlining systemic corruption at all levels of the department, and a 1977 Pulitzer Prize-winning series in *The Inquirer* exposing the use of routine violence by police to extract confessions from suspects.<sup>97</sup>

The *Inquirer* series was graphic in its descriptions of tactics used by “teams of detectives in tiny rooms at police headquarters — known as the Roundhouse — at Eighth and Race Streets. The suspect or witness is often hand-cuffed to a metal chair, which is bolted to the floor. . . . Some of the techniques used in the beatings leave no severe marks. Those techniques include placing a telephone book on a suspect’s head and hammering it with a heavy object; beating his feet and ankles: twisting or kicking his testicles; and pummeling his back, ribs and kidneys.” The reporting left an indelible mark on the Roundhouse as well as the department. “When I was a teenager in the 70s, you didn’t want to go to The Roundhouse, as they were likely to attach you to a chair, put a phone book next to your head, and wallop it,” read a November 28, 2020 post on the Philadelphia Industrial and Commercial Heritage Facebook group.

In 1978, the department had its first violent standoff with the MOVE organization, in Powelton Village, leaving one police officer dead. A slow and unsteady rehabilitation of the department began in 1980 with the election of Bill Green as mayor and the appointment of Morton Solomon as police commissioner. Solomon pressed for greater police accountability and less use of deadly force.<sup>98</sup> The ethos of the Rizzo era, however, was hard to eradicate from a department still filled with officers and commanders steeped in questionable values. The department’s low ebb arguably was the 1985 MOVE bombing in West Philadelphia, which killed 11 people and destroyed a neighborhood. In the aftermath of that debacle, former Secret Service Agent Kevin Tucker was recruited to lead the department, the first outsider to do so in 60 years.<sup>99</sup>

Tucker launched a determined effort to remake and modernize the force. He embraced the philosophy of community policing to reestablish trust with Philadelphia’s residents. That included bringing back foot patrols, opening mini-stations and providing Spanish language courses for officers. Tucker sent dozens of commanders to management seminars at Harvard’s John F. Kennedy School of Government.<sup>100</sup> “The man came in and literally turned the department around,” said Robert Hurst, who, as head of the police union, often clashed with Tucker.<sup>101</sup>

Over the past thirty-plus years, the police department has embraced reforms, increased its diversity, and been led largely by progressive Commissioners, many African Americans, including current Commissioner Danielle Outlaw, the first woman to direct the force. Despite periodic setbacks, the police department enjoys an improved relationship with the residents it serves, as does the Roundhouse by extension. Still, it is difficult to ignore the memory of the worst the Roundhouse once represented.

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94 Jill Lapore, “The Invention of the Police,” *The New Yorker*, July 13, 2020.

95 Bob Frump, “Rizzo says police could invade Cuba,” *The Philadelphia Inquirer*, August 10, 1979.

96 Daughen and Binzen, “Cop.”

97 Neumann and Marimow. “Homicide Files.”

98 Stephen J. Morgan, “Philadelphia police work to change ‘tough cop’ image,” *UPI*, April 7, 1981.

99 Warner, “Tucker.”

100 Warner, “Tucker.”

101 Dennis Hevesi, “Kevin Tucker is Dead at 71; Led Philadelphia Police,” *The New York Times*, June 22, 2012. <https://www.nytimes.com/2012/06/23/us/kevin-tucker-former-philadelphia-police-commissioner-dies.html>.

Jack Pyburn is an historic preservation architect with the Atlanta firm of Lord Aeck Sargent. “Over sixty years the Roundhouse became a symbol bigger than the building itself,” Pyburn said in an interview for this submission. “Yes, atrocities were committed in that building, but it is important to remember the building did not commit those atrocities.”

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