



## Executive Office of Housing

State of Rhode Island  
One Capitol Hill, 3rd Floor,  
Providence, RI 02908

December 19, 2025

### **Repurposing of Vacant Schools for Affordable Housing Program**

Pursuant to Rhode Island Gen. Laws § 45-53-10, the Executive Office of Housing (EOH) submits this report on the Repurposing of Vacant Schools for Affordable Housing Program. The statute established this program to provide guidance and assistance in the repurposing of vacant and unused school buildings. Subsection (h) of the statute requires the Secretary of Housing to provide an annual report on or before December 31 of each year that includes, but is not limited to, “the number of schools that are vacant and include a status report of any development and/or feasibility to repurpose a vacant building.” EOH is committed to pursuing all viable avenues to affordable housing development in Rhode Island and views this as an important opportunity to partner with other state agencies and municipalities in that pursuit. Statutory changes during the 2025 General Assembly session gave responsibility to EOH to develop rules and regulations for the vacant schools program; EOH staff are currently working on these rules and anticipate they will be promulgated in 2026. Feasibility studies conducted on schools listed in the 2024 report were funded through an existing EOH contract for architecture and engineering services utilizing one-time State Fiscal Recovery Fund resources.

### **Progress Regarding 2024 Vacant Schools**

The 2024 vacant schools list identified 11 schools, including some for which proactive steps were being taken at the municipal level to redevelop the building into housing. Based on preliminary assessment criteria established by the then-Department of Housing and the statutory task force, two of these schools were recommended for full feasibility studies. Signal Works Architecture, as part of a contract with EOH, performed these feasibility studies. A copy of each feasibility study is attached to this report, and a summary of each of them is available in this report and on the Executive Office’s website.

#### *Oak Haven Elementary School, 46 Pettine Street, Coventry, RI 02816*

The Adaptive Reuse Feasibility Study for the vacant Oak Haven Elementary School (Attachment 1) demonstrates how the 29,000 SF building can be repurposed into 24 residential units through strategic interior demolition, the creation of two internal courtyards, and the conversion of the gymnasium into four lofted dwelling units. The 24 units are comprised of 20 one-bedroom and four two-bedroom units. There is existing vehicular access and ample off-street parking on site.

The study estimates that the project would cost between \$9.6 – \$13.2 million, with the higher end cost reflecting energy upgrades to passive house standards.

#### *Alan Shawn Feinstein Elementary School, 1450 Broad Street, Providence, RI 02905*

The feasibility study for the Alan Shawn Feinstein school (Attachment 2) found that the adaptive reuse of the former school building into affordable housing is a viable development opportunity with multiple implementation pathways. The design team was able to create a full residential program of one- and two-bedroom units, storage, and community amenities within the existing building envelope. The cost estimates provided in the feasibility study ranged from \$20.35 – \$26.4 million, with the higher end cost reflecting energy upgrades to passive house standards. The feasibility study envisioned a total of 40 units in the building.

### **2025 Vacant Schools Identified**

The Executive Office of Housing received a list from the Rhode Island Department of Education (RIDE) in September 2025, which identified eight vacant or unused school buildings as of July 1, 2025 and two buildings that were in use on July 1, 2025 but which they anticipate will be vacant or unused by December 31, 2025 (Attachment 3). Many of these vacant buildings overlap with the vacant buildings reported in the 2024 Vacant Schools report; previous updates on the buildings' statuses can be found in that report.

### **Assessment Strategy for 2025 Vacant Schools**

In 2023, the then-Department of Housing collaborated with a task force as outlined in statute to develop assessment criteria to conduct preliminary assessments to determine if a building may be repurposed into affordable housing. Based on the established criteria, EOH performed an initial assessment of each of the 10 school buildings reported this year. This initial assessment included outreach to seven municipalities to understand the current status of the building, any existing municipal plans for the building, and any reason the municipality had to believe that the building would be unsuitable for redevelopment to affordable housing. Based on these initial assessments, no buildings are recommended for a full feasibility study at this time. The following section provides a table outlining the list of buildings and the reason(s) why a full study is not recommended for each one.

## Preliminary Assessments

School Identified	Municipal Oversight	School Status	Reason for Declining Feasibility Study
<b>Coggeshall Elementary School</b> 133 Van Zandt Avenue, Newport	Newport	Under contract for redevelopment as housing; will include up to 32 dwelling units with a mix of one- and two-bedroom apartments; 40% of units shall be income restricted to 80% AMI – 120% AMI for a period of 10 years.	RFP issued and under contract for redevelopment
<b>Coggeshall School (former Aquid. Island Christian Academy)</b> 321 East Main Road, Portsmouth	Portsmouth	No existing plans for the building, but includes significant mold and asbestos issues; would require extensive renovation and modification to bring it up to modern building code.	Hazardous material present
<b>Carl Lauro</b> 99 Kenyon St, Providence	Providence	Is currently being used as a swing space for students that attend other schools that are under construction.	Municipality has non-housing plans for the site
<b>Feinstein at Broad Street</b> 1450 Broad St, Providence	Providence	The City has received the feasibility study from EOH and is evaluating it for decision making purposes	Feasibility study already complete
<b>Gilbert Stuart</b> 188 Princeton Ave, Providence	Providence	Is currently being demolished, will be rebuilt as a new PreK – 8 school	Demolition underway
<b>Wakefield Elementary School</b> 101 High Street, Wakefield	South Kingstown	Completed initial study of affordable housing options for the site, and the opinion of the architect was that the structure is not suitable for housing reuse. Current plan is to raze the building.	Demolition planned
<b>Curtis Corner Middle School</b> 301 Curtis Corner Road, Wakefield	South Kingstown	Most of the structure to be demolished in early 2026 in order to accommodate parking for the athletic fields and facilities, with a small segment retained for a field house and storage.	Demolition planned
<b>Aldrich Junior High School</b> 789 Post Road, Warwick	Warwick	Under contract for redevelopment into 63 deed restricted affordable rental units; developer is putting together funding to execute the project.	RFP issued and under contract for redevelopment

<b>Guiteras</b> 35 Washington St., Bristol	Bristol	Plan to convert this building to be used as the new Town Hall.	Municipality has non-housing plans for the site
<b>Hope Valley Elementary</b> 15 Thelma Drive, Hope Valley	Hopkinton	The property was transferred to the Town on 10/1/25, and they plan to lease or sell the building.	Municipality has plans for the building



Figure 1: Map of vacant schools on the list provided by RIDE

ATTACHMENT 1

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# 1450 Broad Street - Providence, RI

## Adaptive Reuse Feasibility Study

State of Rhode Island – Executive Office of Housing

August 28, 2025



1450 Broad Street



11 ALEPOO STREET  
PROVIDENCE, RHODE ISLAND

**To us, buildings  
are more than  
structures,**



**They are  
signals  
broadcasting  
your mission.**

**Together, we'll  
create a work  
that embodies  
your values:**



**We turn Broken Buildings into Purposeful Places**



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Level 1 & 2 Presentation Slide Decks (pdf format)

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## EXECUTIVE SUMMARY

# Scope Introduction & Process

Signal Works Architecture is proud to support the Rhode Island Department of Housing in a statewide initiative aimed at converting underutilized municipal buildings—most commonly former public schools—into affordable housing. This program presents an opportunity to transform dormant civic infrastructure into long-term housing solutions that are sustainable, energy-efficient, and responsive to the character and needs of Rhode Island communities.

Our feasibility studies are designed to provide high-level yet thorough insight into the potential reuse of each site. The purpose of this early-phase work is to prepare the State and its municipal partners with the information necessary to craft targeted Requests for Proposals (RFPs) for developers or architect-engineer (A/E) teams who will ultimately carry these projects forward into full design and construction.

Each study begins with a review of existing architectural conditions. Depending on the building's size and available documentation, this may include Matterport 3D scanning, on-site walkthroughs, photographic documentation, or basic dimensional verification using provided drawings. While not intended as a comprehensive building assessment, this phase establishes a reliable understanding of the building's form and layout, which becomes the foundation for design development.

To support planning and regulatory alignment, we also perform a site and zoning analysis. This includes a review of use classifications, dimensional requirements, density and parking regulations, and relevant municipal ordinances. Our goal is to clearly identify development potential while also flagging any site or zoning-related roadblocks that could impact feasibility. This allows the State and municipalities to make informed decisions and anticipate challenges early.

From this groundwork, we develop two conceptual design options tailored to each site. The first option emphasizes minimal intervention—working within the constraints of existing wall locations to limit complexity and control construction cost. The second option aims to maximize housing yield, reconfiguring interior spaces to increase the number of residential units within zoning limits. Both designs are developed with spatial efficiency, residential code considerations, and community scale in mind.

Recognizing the long-term value of energy performance, our team provides comparative energy modeling for each study. Three scenarios are modeled: a baseline representing the



building's existing energy use; a path to compliance with the International Energy Conservation Code (IECC); and a third scenario that aligns with PHIUS (Passive House Institute US) standards. This layered approach enables decision-makers to weigh performance outcomes and cost implications across different redevelopment strategies.

To complement the design and energy work, we prepare a Rough Order of Magnitude (ROM) cost estimate for each concept. These figures offer a preliminary sense of construction investment, informed by comparable adaptive reuse projects and current market conditions. While conceptual in nature, they provide a clear starting point for capital planning and funding alignment.

Taken together, these studies equip the State and municipalities with the tools necessary to initiate housing redevelopment in a strategic, coordinated, and informed manner. Our deliverables—conceptual designs, zoning insights, energy models, and cost projections—are designed to be actionable and adaptable, forming a bridge between underutilized buildings and future homes for Rhode Islanders.

Signal Works Architecture brings a practiced approach to adaptive reuse, drawing on a deep understanding of community-scale housing, existing building conditions, and energy-conscious design. We are proud to play a role in Rhode Island's housing response—reimagining public assets as places of permanence, equity, and resilience.

## PROJECT BACKGROUND

### Building Assessment & Information

**Property Address:** 1450 Broad Street, Providence, RI

**Plat/Lot:** 58-458

**Existing Use:** Education (“E”) – Former Public School

**Zoning Designation:** Public Space (“PS”)

**Proposed Use:** Multi-Family Residential (“R-2”) – Affordable Housing; Apartment-Style

**Year Built:** 1930

**Lot Size:** 43,965 GSF

**Building Size:** 51,165 GSF

1450 Broad Street is situated in the Washington Park neighborhood, a historically working-class area with deep roots in the city’s industrial past. Once a thriving hub for immigrant laborers during the 19th and early 20th centuries, this area attracted waves of Irish, Italian, Cape Verdean, and later Hispanic and African-American communities. The Broad Street corridor served as both a commercial spine and cultural touchstone, linking South Providence to Elmwood and the West End. In the post-industrial era, disinvestment and redlining policies significantly affected the neighborhood’s economic trajectory, contributing to persistent socioeconomic disparities that remain evident today.

### Demographics and Current Conditions

Today, South Providence is one of the most racially and ethnically diverse neighborhoods in Rhode Island, with a large percentage of residents identifying as Latino (predominantly Dominican and Puerto Rican), Black or African American, and Cape Verdean. The area experiences some of the highest poverty rates in the state, with many households facing housing insecurity and cost burdens. Broad Street itself remains a vital corridor with small businesses, cultural institutions, and community organizations, yet much of the residential housing stock is aging, with limited new development or investment in affordable options.

### Planning and Housing Opportunities

The area surrounding 1450 Broad Street represents both a challenge and an opportunity. Its proximity to public transit, schools, health centers (including Rhode Island Hospital), and downtown Providence makes it well-suited for transit-oriented, affordable housing development. Recent city and state initiatives—like the Providence Housing Trust Fund and investments from Rhode Island’s ARPA funding—have targeted neighborhoods like South Providence for revitalization. An affordable housing development at this location could leverage these policies while supporting long-time residents, addressing historic disinvestment, and preserving the cultural fabric of the community.

Due to the scale of this building, the existing conditions are based on client-provided documentation and on-site photography. Complete due diligence is strongly recommended to analyze the building and confirm the building's dimensions, systems, and to formally assess the building.

The team's proposed redevelopment plan calls for a full adaptive reuse of the existing structure within the building's envelope into multi-family housing. The building's size, structural integrity, and layout support this transition, with opportunity for unit mix flexibility and retention of certain historic or architectural features.

Site constraints and opportunities include:

- Adequate building area to support unit count
- Need for parking accommodations, whether on-site or through adjacent lots

## Zoning Analysis

**District Designation:** Public Space (PS)

**Adjacent Zoning:** Multi-Family Residential (R-2), Commercial Neighborhood (C-1), and Commercial General (C-2)

The subject property at 1450 Broad Street is currently zoned **Public Space (PS)**, a designation commonly applied to publicly owned sites such as schools, parks, and institutional facilities. While this zone does not permit multi-family residential development by-right, the city's zoning ordinance includes a critical pathway for projects of this nature. Specifically, Section §12.02.K.7 allows for the **adaptive reuse of existing buildings** within the PS zone, provided certain criteria are met. This provision offers a strategic opportunity to convert the property to residential use, contingent on demonstrating compliance with the ordinance's performance standards and review process.

Encouragingly, the site is directly adjacent to zones **R-2, C-1, and C-2**, all of which allow multi-family residential uses—particularly adaptive reuse—by-right. This surrounding zoning pattern provides a strong contextual precedent and policy support for residential redevelopment. From a planning perspective, the proposed affordable housing use would not only be compatible with nearby land uses but would also reinforce the urban fabric and walkable mixed-use character of the Broad Street corridor.

Additionally, Rhode Island state law ([§45-24-37](#)) provides a higher-level framework that encourages adaptive reuse of existing buildings, particularly in cases that serve public interests such as affordable housing. This legislation likely supersedes local restrictions in certain cases,

further strengthening the legal foundation for the project. Based on our review, the regulatory pathway for this adaptive reuse appears straightforward, with limited administrative friction anticipated during the early design and permitting phases.

## Parking Requirements

One of the primary site planning challenges for affordable housing development at this project location involves navigating the city's off-street parking requirements. Under Providence's current zoning ordinance, one parking space is required per dwelling unit. However, the ordinance also provides flexibility in cases involving the adaptive reuse of existing structures or where existing conditions predate the current zoning rules—both of which are relevant to this project. These allowances create an opportunity to explore creative and context-sensitive parking solutions that do not compromise housing density or affordability.

Two potential strategies are being explored as part of the feasibility assessment. The first involves reconfiguring on-site surface parking within the existing parcel boundaries. This would require a careful study of spatial limitations, circulation needs, and compliance with setback and landscaping requirements. Alternatively, the project team is evaluating the possibility of partnering with the City of Providence to lease or acquire adjacent parcels for shared or off-site parking, many of which are already municipally owned. This approach may alleviate space constraints while also promoting walkability and preserving more of the site for housing.

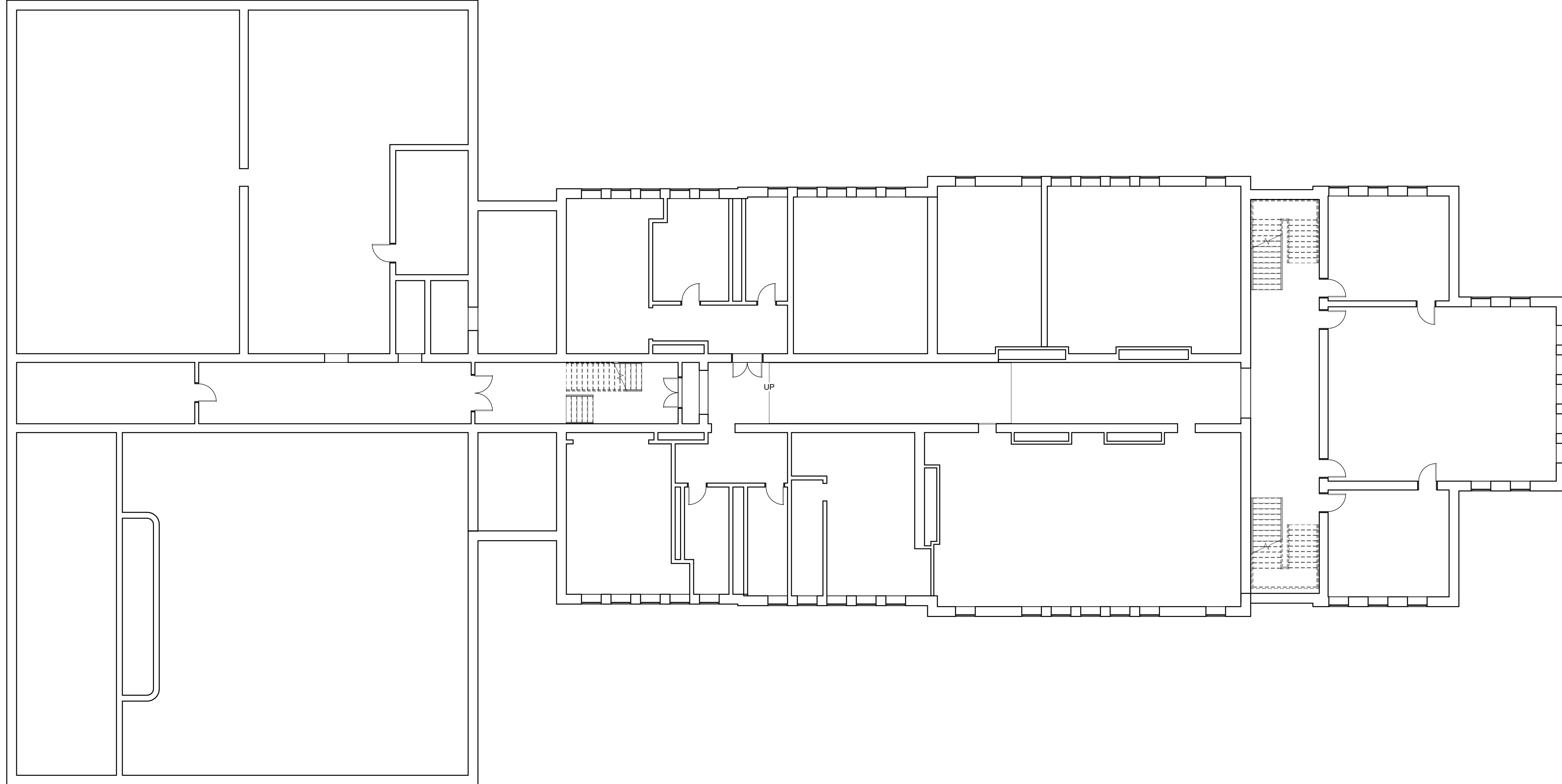
Ultimately, a thoughtful parking and access strategy will be critical to the success of the project and should be developed in parallel with design and permitting phases. Balancing zoning compliance, neighborhood character, and project feasibility will help ensure the site can accommodate both the housing program and the daily needs of future residents.

## Recommended Points of Contact

- **City of Providence - Planning & Development: City Plan Commission (CPC) - Administrative Review**
  - Contact Information:
    - Robert Azar, AICP, Deputy Director
    - 401.680.8524
    - [razar@providenceri.gov](mailto:razar@providenceri.gov)
- **Rhode Island Historical Preservation & Heritage Commission**
  - Contact Information:
    - Virginia Hesse, Architect / Reviewer, Tax Credits & Technical Assistance
    - 401.222.4333
    - [virginia.hesse@preservation.ri.gov](mailto:virginia.hesse@preservation.ri.gov)



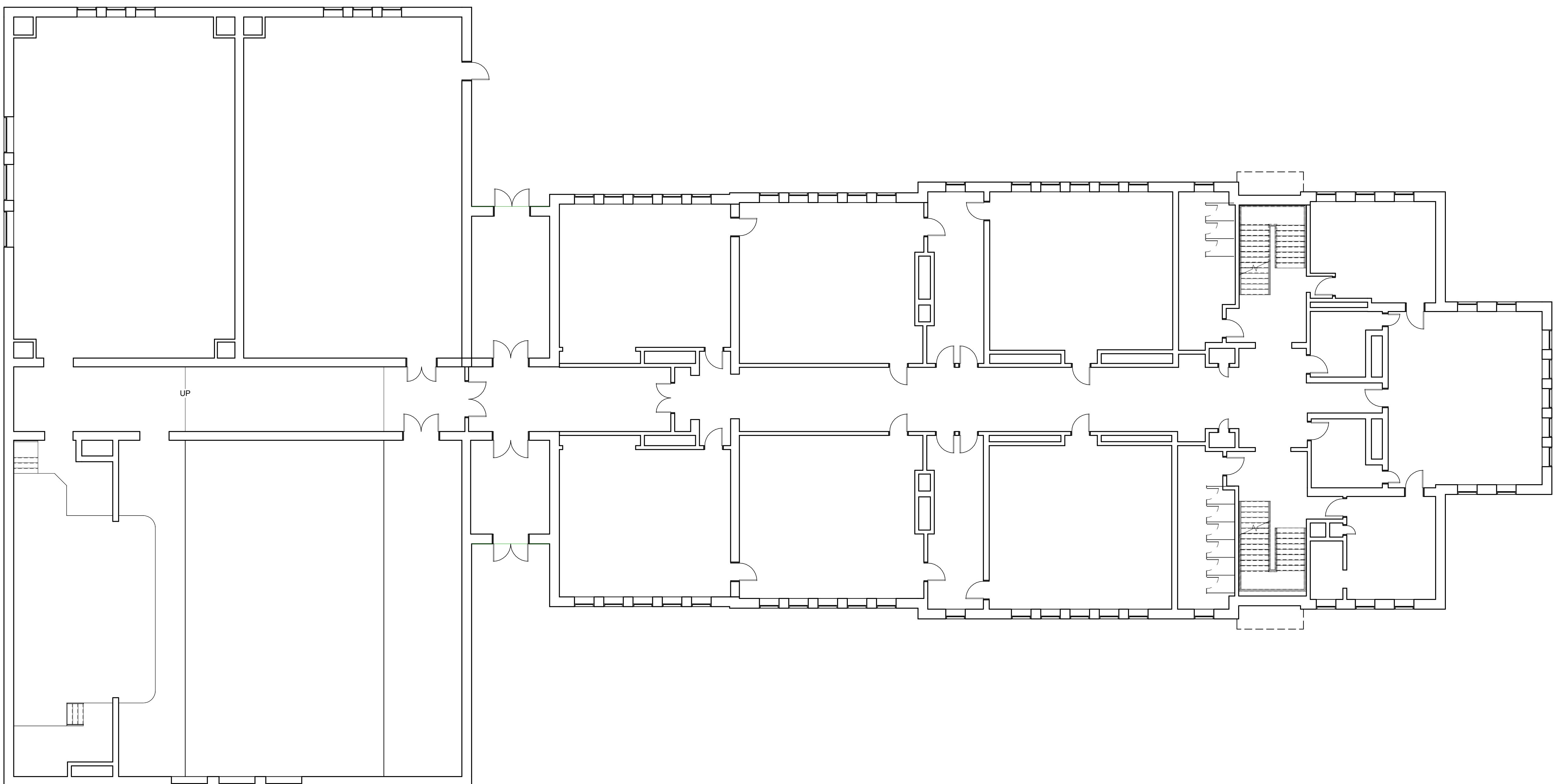




1 EXISTING BASEMENT PLAN  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

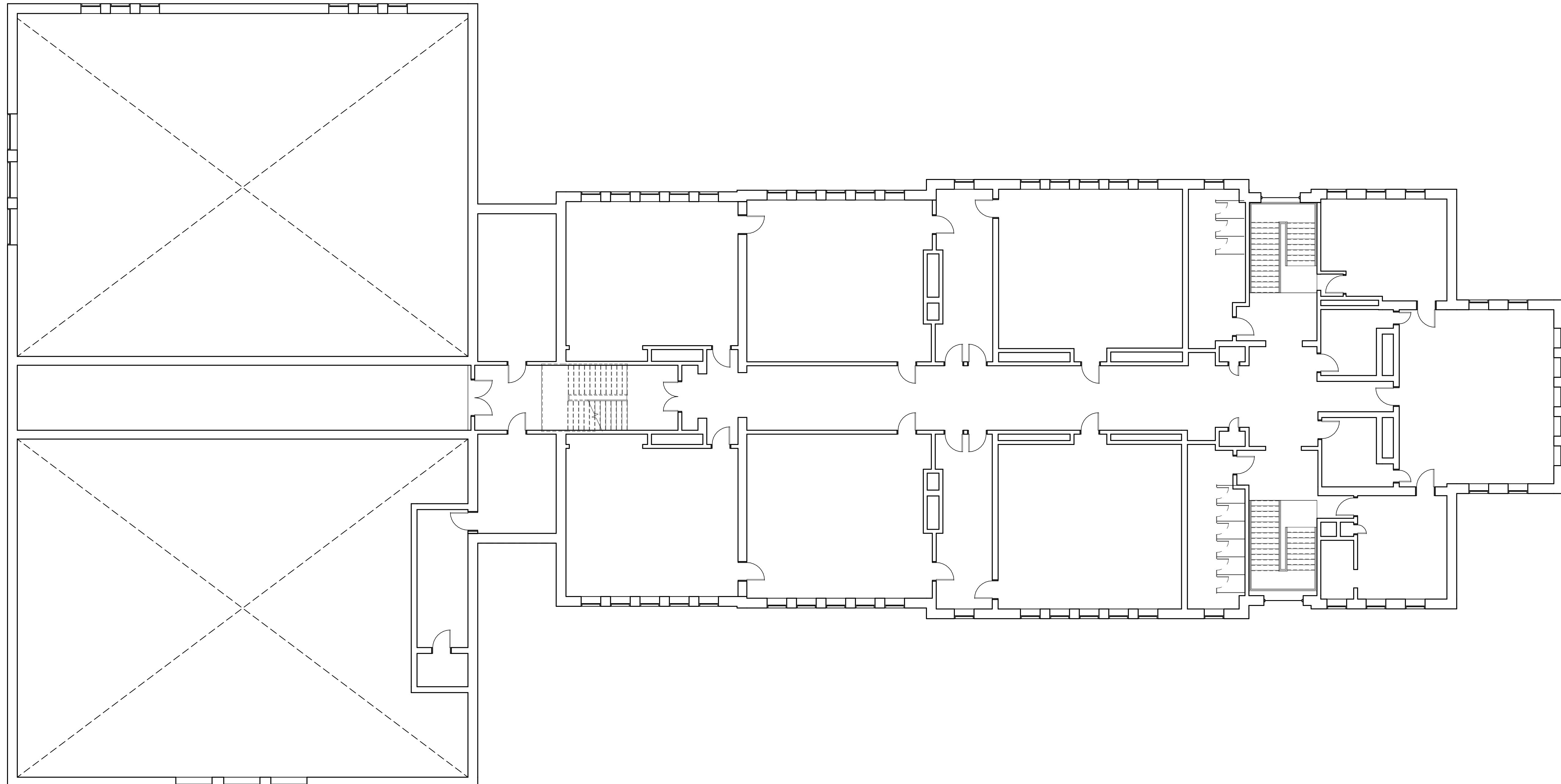
08/28/2025



① EXISTING GROUND FLOOR  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

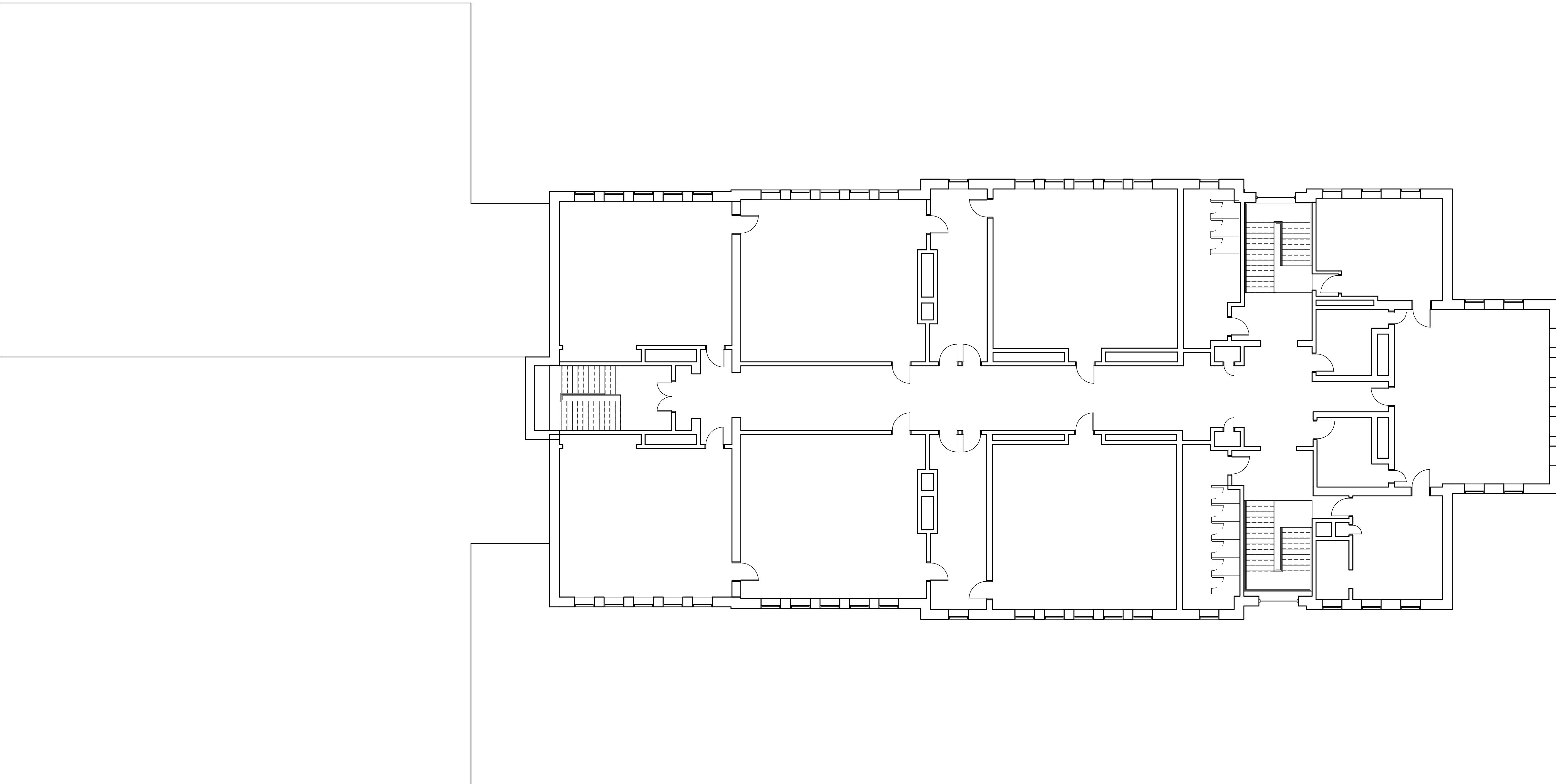
08/28/2025



1 EXISTING SECOND FLOOR  
1" = 10'-0"

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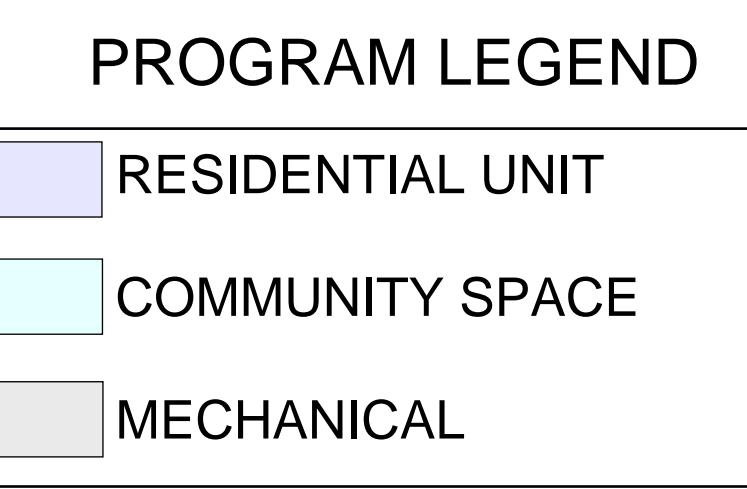
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① EXISTING THIRD FLOOR  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

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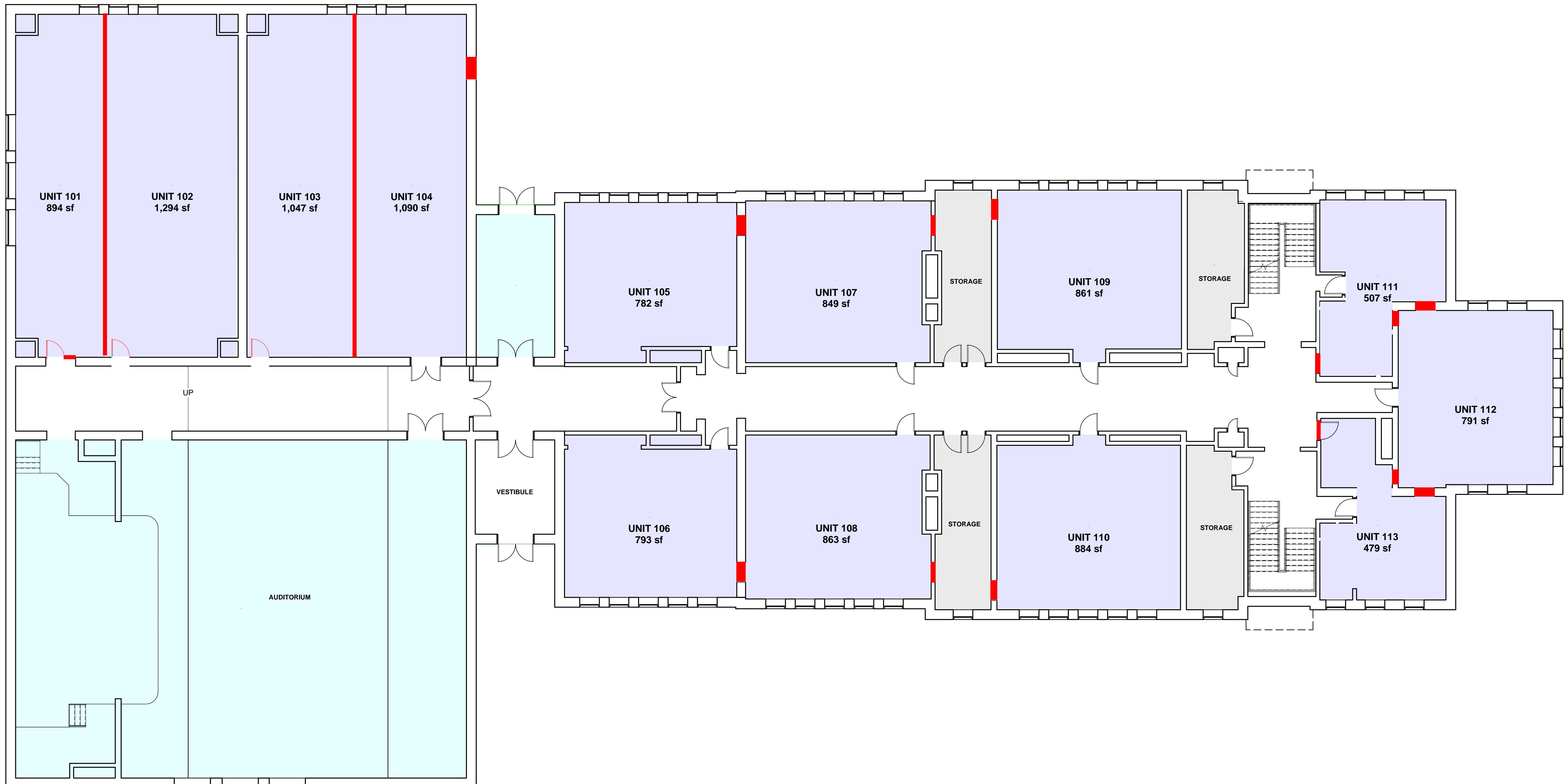


1 PROPOSED BASEMENT PLAN  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

08/28/2025

PROGRAM LEGEND	
	RESIDENTIAL UNIT
	COMMUNITY SPACE
	MECHANICAL



1 PROPOSED GROUND FLOOR PLAN  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

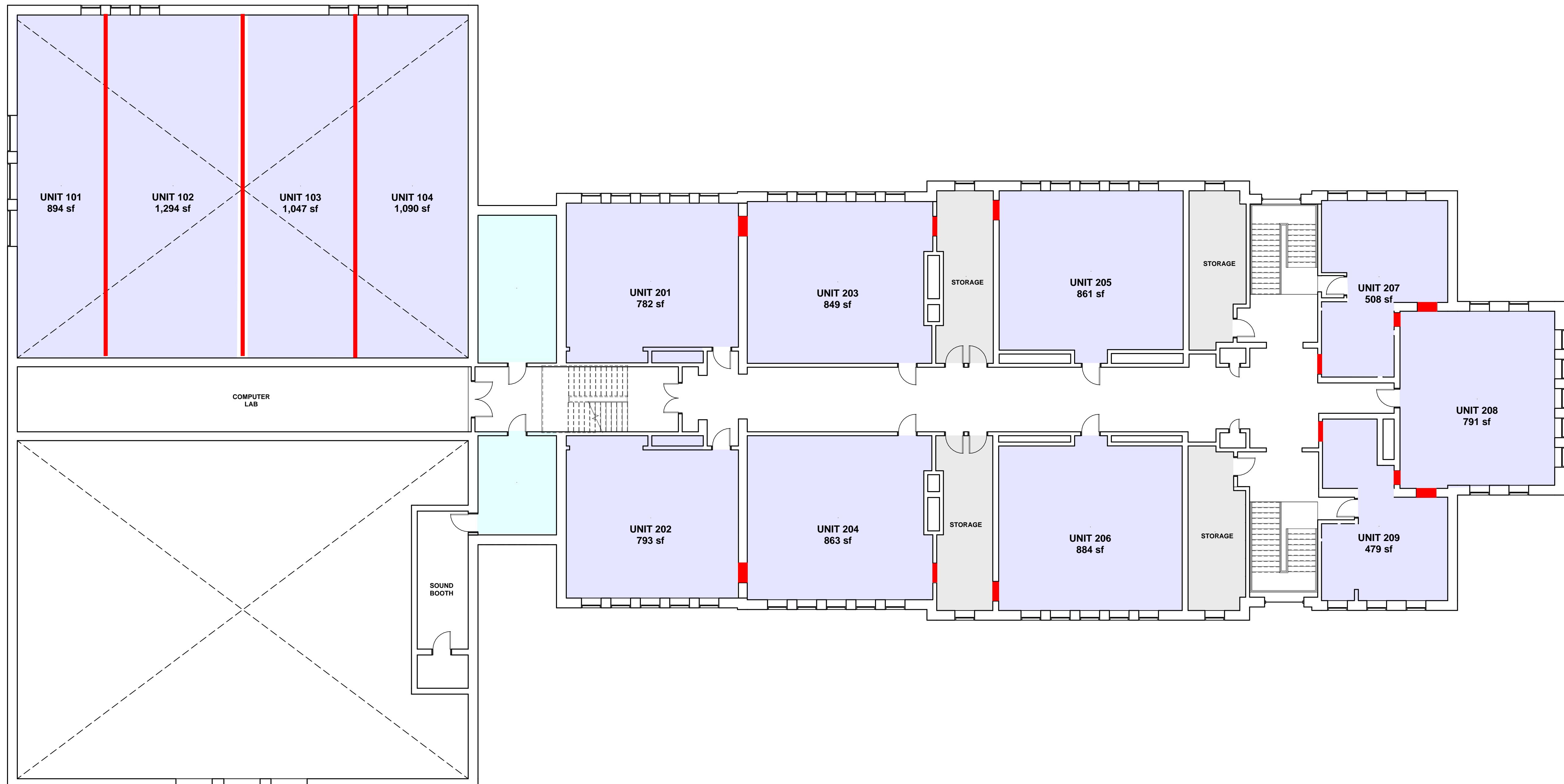
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## PROGRAM LEGEND

RESIDENTIAL UNIT

COMMUNITY SPACE

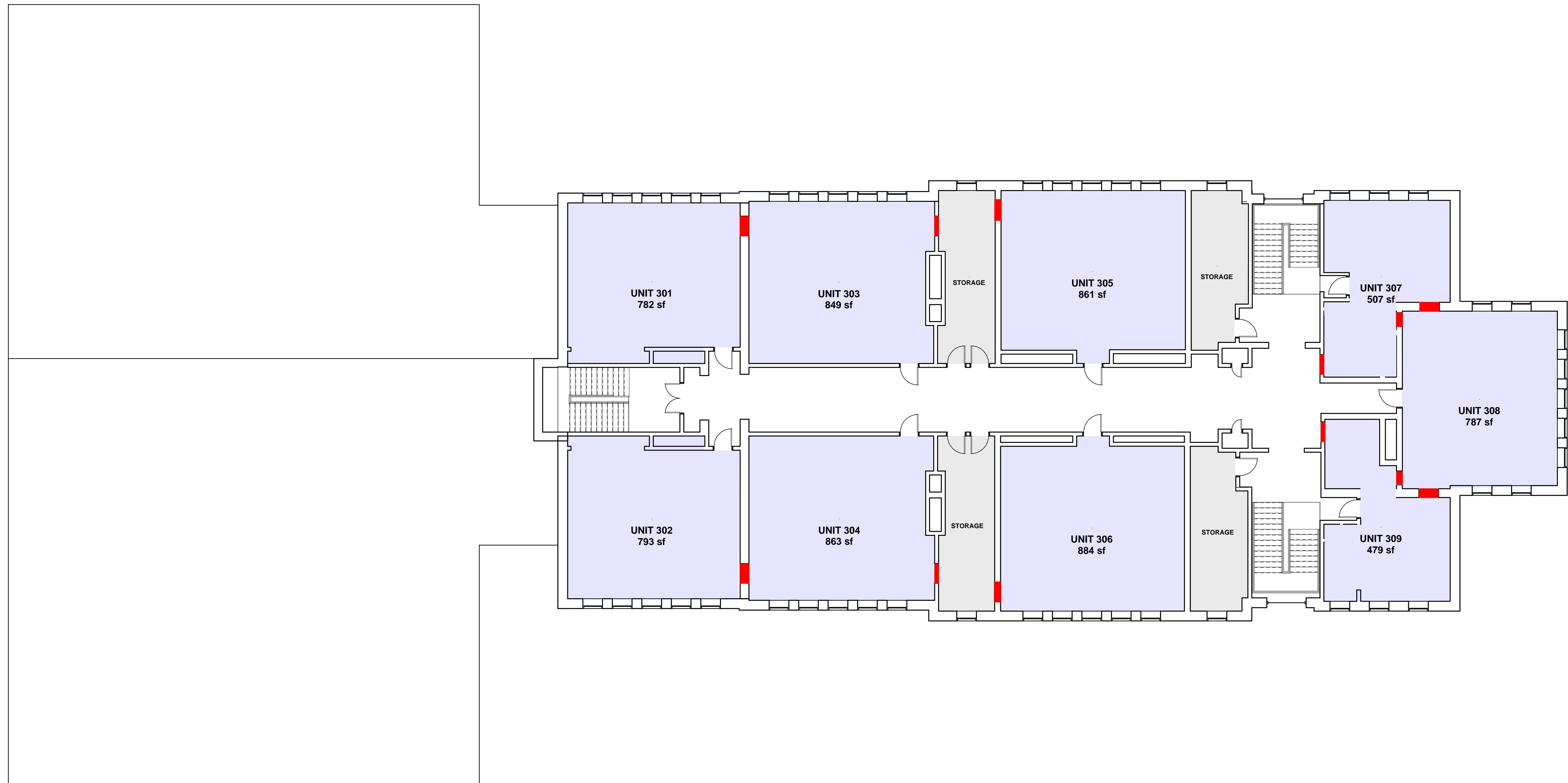
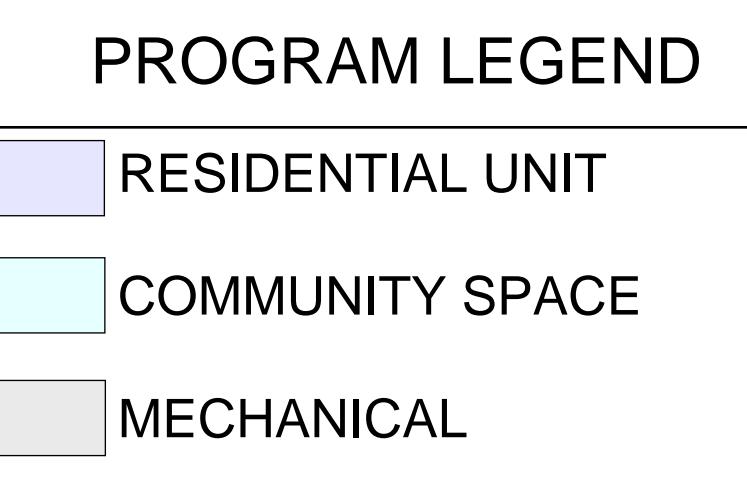
MECHANICAL



1 PROPOSED SECOND FLOOR PLAN  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

08/28/2025



1 PROPOSED THIRD FLOOR PLAN  
1" = 10'-0"

1450 BROAD STREET - FEASIBILITY STUDY  
08/28/2025



## CONCEPTUAL DIAGRAMS

### Approach Summary

This project seeks to transform a decommissioned public school on Broad Street into a **40-unit residential community**, adapting the building's institutional legacy into a new chapter of public service: providing high-quality, affordable housing. From an architectural standpoint, the approach honors the robust character of the original school—its generous ceiling heights, large windows, and durable materials—while reimagining its interior organization to meet contemporary housing needs.

Two distinct design strategies were initially considered for this feasibility phase. The first explored a **maximized unit count**, achieved by removing most interior partitions and reconstructing the floor plan to introduce new units within the full building envelope. This approach leveraged the large classroom floorplates and open areas like the gymnasium and library, offering maximum flexibility in layout and density. While efficient, this strategy required significant interior demolition and infrastructure overhaul.

The second strategy, which ultimately shaped the preferred direction, focused on a more **surgical adaptation**: respecting the existing layout wherever feasible by placing residential units along the perimeter of classrooms and reusing corridor circulation. This approach preserves more of the building's original spatial logic—especially in areas like the auditorium, library, and administrative wings—while still allowing for strategic interventions to introduce bathrooms, kitchens, and new vertical circulation as needed. It also retains the rhythm and memory of the building's educational past, which will resonate with community members and former students alike.

Throughout the design process, the architectural team prioritized **human-centered principles**—balancing privacy and natural light within units, integrating accessible entries and elevators, and creating communal areas where residents can gather. The final concept blends efficiency and empathy, respecting both the building's past and the dignity of future residents.

### Accessibility Considerations

During the feasibility analysis, the project team considered whether a full four-stop elevator would be required as part of the adaptive reuse. After review, our approach has excluded a vertical elevator system at this stage, as there are multiple pathways to achieving accessibility compliance under state and federal requirements.

The proposed strategy ensures accessibility through the following measures:

- Ground-level access: An exterior ramp can be provided at the primary entry, allowing barrier-free access to the building.
- Accessible unit distribution: The required percentage of accessible dwelling units can be located on the first floor, ensuring that individuals with mobility needs have equitable housing options.
  - **40 Overall Units Requires 2 Accessible Units**
- Code alignment: This approach meets the intent of accessibility provisions while avoiding the substantial cost, space impacts, and long-term maintenance burden associated with installing a four-stop elevator.

Should the project advance to later design phases, the municipality and development team may revisit vertical accessibility solutions. However, at the feasibility stage, this strategy strikes a balance between regulatory compliance, cost control, and practical use of the existing building layout.

## Basement Level: Compact Living with Strategic Retention

The basement level of the building has been thoughtfully programmed to make productive use of space that might otherwise remain underutilized. Uniquely, this level is only partially below grade, allowing for ample natural light through existing window openings along multiple façades. This condition enables the basement to function as a fully viable residential floor, offering units that meet modern standards for light, ventilation, and comfort—an uncommon but valuable opportunity in adaptive reuse work.

From a planning perspective, the basement supports both housing and auxiliary functions. Existing crawl spaces, which are not suitable for conversion into living areas, have been preserved and may be repurposed for tenant storage or building operations, adding a layer of amenity that is often lacking in affordable housing developments.

This level includes:

- **(8) Eight One-bedroom, One-Bath Units**, efficiently laid out and naturally lit, taking advantage of the building's partial exposure
- **(1) One Two-Bedroom, Two-Bath Unit**, ideal for small families or shared living arrangements
- **(1) One Designated Storage Area**, supporting building operations or tenant needs  
Crawl spaces retained, with the potential to become assigned or leasable tenant storage

By leveraging the building's partial grade exposure and structurally sound foundation, the basement level plays an essential role in maximizing unit count while maintaining high standards of livability. It is a key component of the project's overall strategy to deliver both functional and dignified housing within a limited footprint.

## First Floor: Centralized Living & Community Anchoring

The first floor functions as the **primary entry point and social heart** of the residential development. Elevated slightly above grade and accessed via a short exterior stair, this level benefits from wide corridors, generous ceiling heights, and expansive classroom footprints—hallmarks of its original educational use. These characteristics provide a natural framework for spacious one- and two-bedroom units, with larger classrooms either split or combined to create **open-plan apartments** that retain the sense of volume and light.

In keeping with the building's communal legacy, the first floor also incorporates **shared community spaces** that serve as vital social infrastructure for residents. These flexible rooms are ideal for tenant meetings, coworking, youth programming, or informal lounge use—supporting both connection and daily life. This blending of private dwellings and shared areas helps preserve the inclusive spirit of the former school while enriching the residential experience.

This level includes:

- **(9) Nine One-Bedroom, One-Bath units**, designed with generous proportions and ample daylight
- **(4) Four Two-Bedroom, Two-Bath Loft-Style Units**, offering more expansive layouts suitable for families or working professionals
- **(2) Two Community Spaces**, adaptable for tenant gatherings, occasions, or collaborative meetings
- **(4) Four Dedicated Storage Areas**, supporting tenant and/or operational needs

Notably, the existing **auditorium**—a defining feature of the original building—remains intact at this level. While there is potential to demolish it in favor of additional units, its preservation presents a rare opportunity: a dramatic, flexible space that can serve as a **community amenity** for fitness, performance, cultural events, or celebrations. Retaining this space not only enhances resident life but also honors the building's civic past, reinforcing the project's mission to **blend housing with heritage**.

## Second Floor: Single-Unit Efficiency with Community Flexibility

The second floor is dedicated entirely to **one-bedroom units**, allowing for a streamlined and efficient residential layout that capitalizes on the building's original classroom configuration. This level follows a rhythmic spatial logic—nine classrooms repurposed into compact, comfortable apartments, each benefiting from **large, operable windows** that provide natural light, cross-ventilation, and a strong visual connection to the surrounding neighborhood.

By aligning unit design with the original footprint, the second floor supports both construction efficiency and preservation goals. Minimal structural interventions are required, and many existing corridor paths and mechanical chases can be reused, reducing costs and construction complexity. This consistent layout also fosters a sense of order and clarity in the building's vertical stack—creating ease of wayfinding for residents and simplifying long-term maintenance.

This level includes:

- **(9) Nine One-Bedroom, One-Bath units**, offering a consistent and efficient layout with ample daylight
- **(2) Two Community Spaces**, suited for casual gathering, quiet work, or shared programming
- **(4) Four Storage Areas**, which can be designated for tenant use or building operations

As with the first floor, the **auditorium volume** remains a significant architectural presence at this level.

## Third Floor: Upper-Level Privacy & Light

The third floor serves as the **highest and last residential level**, mirroring the second floor in overall layout and unit distribution. Dedicated entirely to **one-bedroom units**, this floor offers a consistent and efficient plan while benefiting from increased privacy, natural light, and potentially elevated views—features that enhance the appeal of top-floor living. With no shared community spaces on this level, the atmosphere is quieter and more secluded, making it ideal for residents seeking a more private or tranquil home environment.

By replicating the successful layout strategy of the second floor, the third floor continues to leverage the building's original classroom proportions, window lines, and corridor paths to deliver high-quality housing with minimal structural reconfiguration. The uniformity of



one-bedroom units also simplifies vertical mechanical planning and contributes to overall construction efficiency.

This level includes:

- **(9) Nine One-Bedroom, One-Bath units**, with elevated ceiling heights and improved daylight exposure
- **(4) Four Storage Areas**, providing valuable auxiliary space for residents or building management

While it does not feature dedicated community rooms, the third floor's **quieter character** complements the more active, amenity-rich spaces found on the levels below. It rounds out the building's unit mix by offering a distinct residential experience—one focused on calm, comfort, and privacy within a vibrant, reimagined community setting.

## Future Expansion Considerations

As with many adaptive reuse projects, the transformation of the former school into housing not only leverages existing assets but also unlocks opportunities for future expansion, refinement, and amenity development. While the initial plan is focused on delivering 40 high-quality residential units, the building and site contain embedded potential that can support long-term growth or phased investment—providing flexibility to respond to future tenant needs, funding opportunities, or evolving program goals.

The partially below-grade **crawl spaces** adjacent to the basement level offer an untapped opportunity to introduce additional storage amenities. With selective upgrades—such as moisture control, lighting, and secure access—these areas could be converted into rentable or assigned storage units for tenants. This would enhance the building's amenity package, especially valuable in compact unit layouts, and generate modest but steady operational revenue.

While the current design preserves the auditorium as a community space, an **alternate consideration** is to convert it into additional residential units. The auditorium, as planned, offers a unique opportunity for tenant events, fitness programming, performances, and partnerships—functions that reinforce the building's role as a community anchor. Yet, the space also represents a potential expansion zone: its removal could yield multiple new units across both the first and second floors by reclaiming substantial square footage.

The **former gym wing** presents a unique opportunity to expand the building footprint without compromising its core program. With thoughtful design, this area could support a vertical or



horizontal addition—potentially introducing new residential units while preserving portions of the gym for internal amenities such as fitness rooms, recreation areas, or flexible gathering spaces. This strategy would allow the development to grow while maintaining a balance between housing density and livability.

Together, these future growth opportunities provide a framework for phased development, allowing the project to remain adaptable and responsive over time. They reflect a holistic design approach—one that sees the building not just as a static conversion, but as a living piece of infrastructure capable of evolving alongside its residents and community.

## Unit Summary

The proposed residential program delivers a well-balanced and intentional mix of unit types, shaped by both the opportunities of the existing building and the needs of future residents. With a total of **40 residential units** distributed across four levels, the layout emphasizes flexibility, inclusivity, and thoughtful spatial organization. Each floor plan draws from the building's original classroom structure, preserving generous ceiling heights, maximizing access to natural light, and aligning circulation with existing corridors—all while enhancing the resident experience through proximity to shared amenities.

The unit mix includes **35 one-bedroom, one-bathroom units**, designed to accommodate individuals, couples, or seniors seeking privacy and efficiency. These are evenly distributed throughout the building, ensuring equitable access to light, storage, and shared community spaces. Complementing this are **5 two-bedroom, two-bathroom units**, located on the lower levels and tailored for small families, roommates, or those requiring more space. Their placement near amenity areas like the community rooms and auditorium reinforces the project's commitment to livability and social connection.

Together, this unit distribution supports a diverse resident population while respecting the architectural character of the original school. The result is a residential community that feels cohesive, adaptable, and grounded in both purpose and place—a model for thoughtful, community-oriented adaptive reuse.

## Approach Summary

This feasibility study examines how 1450 Broad Street could be renovated to serve a new purpose while also lowering overall building energy use. Three scenarios were modeled to understand what is possible: **the existing conditions, a renovation that meets the International Energy Conservation Code (IECC), and a renovation that follows the more rigorous Passive House Institute US (PHIUS) standard.** The main difference between IECC and PHIUS is that IECC ensures buildings meet the minimum legal requirements for efficiency. PHIUS, by contrast, sets a higher bar and delivers a building that is more comfortable, resilient, and cost-effective to operate over time.

## Modeling Results

### Existing Building Overview

The current building serves as the baseline for evaluation. As it stands, the structure is outdated in terms of energy performance. With virtually no insulation, modest-quality windows, and significant air leakage, the building consumes far more energy than is appropriate for modern standards. This level of performance is neither cost-effective in the long term nor suitable for meeting current energy codes.

### Assumed Values for the Existing Building

- **Slab:** Uninsulated, R-0.67
- **Walls (Above Grade):** R-7.21
- **Basement Walls:** R-7.21
- **Roof:** R-25.84
- **Windows:** U-Factor 1.17, SHGC 0.7
- **Airtightness:** 3.2 ACH, 0.5 CFM/ft<sup>2</sup>
- **Cooling:** Standard air conditioning
- **Heating (HVAC):** Boiler
- **Domestic Hot Water (DHW):** Boiler
- **Ventilation:** No heat recovery
- **Lighting:** LED

## Energy Use Data

These assumptions translate directly into how much energy the building requires to operate. The following metrics are key to understanding its performance:

**Total Site Energy Use:** 1,078,282.7 kWh/year (Energy consumed annually)

**Specific Site Energy Use:** 16.3 kWh/ft<sup>2</sup>·yr (Energy use per square foot)

**Heating Load Intensity:** 55.7 kBtu/ft<sup>2</sup>·y (Energy needed for heating alone)

## What This Means

This data highlights the inefficiency of the existing building. High energy use is driven by poor insulation values, leaky construction, and outdated mechanical systems. While the building uses LED lighting, this single upgrade cannot offset the energy losses from the envelope and systems.

Crucially, these performance levels **do not meet IECC code minimums for energy compliance**. As a result, the building is not only energy-intensive but also non-compliant with modern standards—making renovation and upgrades essential.

## Why Change is Needed

To remain viable, the building must reduce its energy demand and improve efficiency. Without upgrades, it will continue to have high operating costs, poor comfort levels, and a larger carbon footprint.

The next two options demonstrate how this building can be transformed:

1. **Code-Minimum Renovation (IECC-Compliant):** Meeting current standards for insulation, airtightness, and system performance.
2. **High-Performance Upgrade (PHIUS):** Going beyond code minimums to create a building that is exceptionally efficient, comfortable, and resilient.

Both paths represent significant improvements over the baseline, but with very different long-term impacts.

### IECC-Compliant Building Renovation

The first renovation scenario upgrades the building to meet **IECC code minimums**. This means bringing the structure in line with today's baseline legal requirements for energy performance.

To achieve this, the design includes continuous exterior insulation, higher-performing windows, better air sealing, and more efficient heating, cooling, and ventilation systems.

With these upgrades, the building becomes **legally compliant and far more efficient** than its current state. Energy use drops by about two-thirds, showing how significant code-minimum improvements can be. This represents the standard benchmark for permitting and what a “typical” renovated building would look like under today’s energy codes.

### Assumed Values for IECC Renovation

- **Slab:** Uninsulated, R-0.67
- **Walls (Above Grade):** Continuous insulation added, total R-18.6
- **Basement Walls:** R-14.7
- **Roof:** R-49
- **Windows:** U-Factor 0.45, SHGC 0.33 (much more efficient than existing)
- **Airtightness:** 2.24 ACH, 0.35 CFM/ft<sup>2</sup> (tighter building envelope)
- **HVAC:** High-efficiency heat pump (COP 2/3), energy recovery ventilation (ERV)
- **DHW:** Heat pump water heater, EF 3.4
- **Ventilation:** Includes heat recovery
- **Lighting:** LED

### Energy Use Data

These improvements dramatically cut energy demand:

- **Total Site Energy Use:** 353,347 kWh/year (Energy consumed annually)
- **Specific Site Energy Use:** 5.3 kWh/ft<sup>2</sup>·yr (Energy use per square foot)
- **Heating Load Intensity:** 18.2 kBtu/ft<sup>2</sup>·yr (Energy needed for heating alone)

Compared to the existing building, this is a **67% reduction in energy use**.

### What This Means

An IECC-compliant renovation makes the building significantly more efficient while also ensuring it meets modern legal standards. The improved envelope and systems reduce operating costs, lower the building’s carbon footprint, and provide a much higher level of comfort for occupants.

The benefit of this approach is that it delivers major improvements while achieving the minimum compliance needed for permitting. It represents a substantial leap forward compared to the existing building, cutting operating costs and energy use by nearly two-thirds.

However, the limitation of stopping at code minimum is that the building will still use more energy than a high-performance building, such as one designed to Passive House (PHIUS) standards. It remains less resilient to future energy price increases and does not fully maximize long-term carbon savings. In other words, while this is a solid step forward, it establishes a baseline rather than a forward-looking solution.

### **PHIUS-Compliant Building Renovation**

The second renovation scenario goes further by adopting the **Passive House (PHIUS) standard**. Unlike code minimum upgrades, this approach prioritizes the performance of the building envelope itself. The design includes significantly higher insulation levels, ultra-efficient windows, and an exceptionally tight building shell. While the heating, cooling, and ventilation systems remain efficient, the real gains come from reducing the building's overall energy demand through envelope design.

This strategy pushes efficiency well beyond code compliance, achieving a **73% reduction in energy use compared to the existing building** and performing about 17% better than the IECC scenario.

### **Assumed Values for PHIUS Renovation**

- **Slab:** Uninsulated, R-0.67
- **Walls (Above Grade):** R-30.5
- **Basement Walls:** R-30.5
- **Roof:** R-68.5
- **Windows:** U-Factor 0.174, SHGC 0.4 (very high-performing)
- **Airtightness:** 0.38 ACH, 0.06 CFM/ft<sup>2</sup> (extremely tight envelope)
- **HVAC:** High-efficiency heat pump (COP 2/3), energy recovery ventilation (ERV)
- **DHW:** Heat pump water heater, COP 2.5
- **Lighting:** LED (critical for lowering site energy, 110,661 kWh total)

### **Energy Use Data**

The improvements under PHIUS result in even greater efficiency gains:

- **Total Site Energy Use:** 292,770.5 kWh/year (Energy consumed annually)
- **Specific Site Energy Use:** 4.4 kWh/ft<sup>2</sup>·yr (Energy use per square foot)
- **Heating Load Intensity:** 15.1 kBtu/ft<sup>2</sup>·yr (Energy needed for heating alone)

Compared to the existing building, this represents a **73% drop in energy use**, and a **17% improvement over the IECC scenario**.

## What This Means

A PHIUS-compliant renovation doesn't just meet code—it sets the building up as a **high-performance model** of efficiency, comfort, and resilience. The robust envelope ensures consistent indoor temperatures, eliminates drafts, and provides excellent protection against extreme weather. In addition, the tighter and more insulated building shell reduces mechanical strain, creating a longer-lasting system with fewer maintenance demands.

The benefit of this approach is clear: energy use is minimized, operating costs are significantly lower, and the long-term resilience of the building is greatly improved. Occupants enjoy superior comfort and air quality, while the building's carbon footprint is drastically reduced.

The limitation of PHIUS, however, is its higher upfront construction cost. Meeting Passive House standards requires more investment in insulation, windows, and air-sealing details than a code-minimum renovation. Yet, this cost is often offset by the long-term savings in utility bills, as well as the non-financial benefits of durability, comfort, and climate resilience. In short, while more ambitious, PHIUS offers the greatest return in performance and long-term value.

## Conclusions

In evaluating the two renovation pathways—**IECC 2024 compliance** and **PHIUS certification**—this study highlights both the practical feasibility of a code-minimum renovation and the added performance potential of a more advanced approach. Each path delivers meaningful energy savings and upgrades, but the scale of impact and investment differs.

An **IECC-compliant renovation** represents a significant improvement over the existing baseline. By adding continuous insulation, tightening the envelope, and incorporating efficient mechanical systems, the building reduces its energy use by 67%. This approach achieves legal compliance, streamlines permitting, and aligns with standard construction practices and common funding thresholds. It offers a cost-effective path to adaptive reuse, delivering affordable housing with substantial energy improvements at a lower upfront cost.

A **PHIUS renovation** takes performance a step further, achieving a 73% reduction in energy use—about 17% better than the IECC scenario. This is accomplished through more robust insulation, advanced window systems, and an extremely tight building envelope. While this pathway does deliver enhanced comfort, indoor air quality, and operational resilience, it requires a higher initial investment. On energy savings alone, the payoff timeline difference between IECC Compliance and PHIUS compliance is roughly 10-years in favor of the IECC Compliant Approach. However, it may unlock access to additional funding sources, incentives, and financing tools that increasingly favor high-performance and climate-aligned projects.



**The key distinction lies in cost versus benefit over time.** IECC compliance provides a straightforward, economical strategy that balances energy efficiency and affordability today. PHIUS represents a deeper investment that extends the payback horizon but could provide additional long-term value and alignment with evolving sustainability goals.

Ultimately, both approaches are feasible. The decision rests on whether the project team prioritizes immediate cost-effectiveness and speed of delivery (IECC) or longer-term performance, durability, and access to high-performance funding opportunities (PHIUS).

## Energy Modeling Base Case

The current building serves as the baseline for evaluation. As it stands, the structure is outdated in terms of energy performance. With virtually no insulation, modest-quality windows, and significant air leakage, the building consumes far more energy than is appropriate for modern standards. This level of performance is neither cost-effective in the long term nor suitable for meeting current energy codes.

### Modeling Information

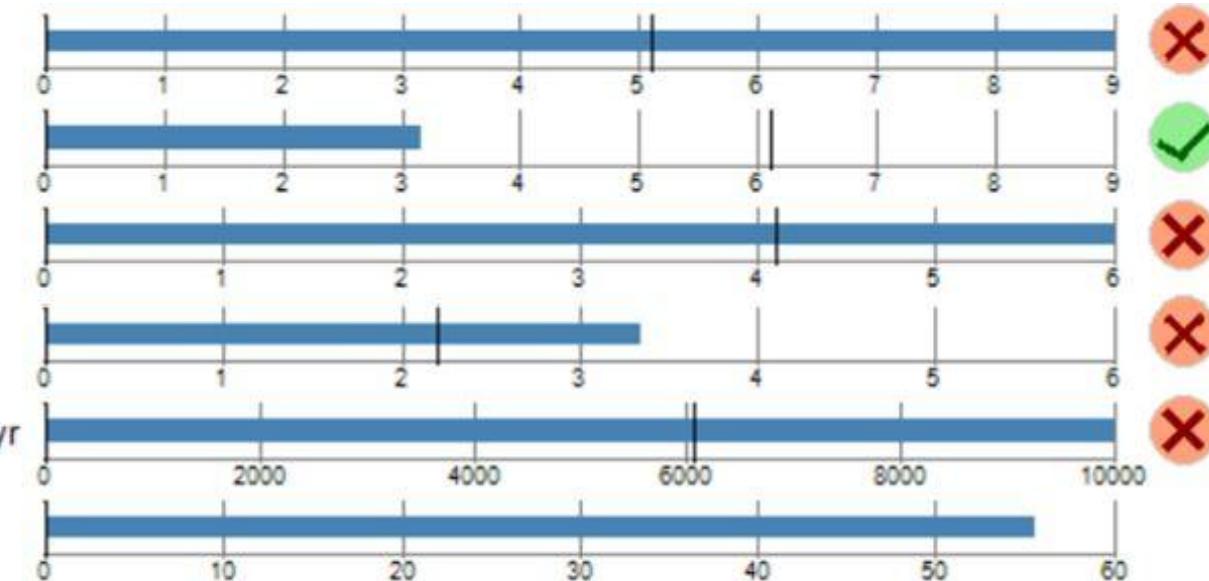
Slab	Uninsulated R 0.67
Walls	Uninsulated R 7.21
Basement Wall	Uninsulated R 7.21
Roof	R 25.84
Windows	1.17 U-Value 0.7 SHGC
Airtightness	3.2 ACH 0.5 CFM/ft <sup>2</sup>
Cooling	Air Conditioning
Heating	Boiler*
DHW	Boiler*
Ventilation	Ventilation w/o heat recovery
Lighting	LED

**Total Site Energy Use: 1,078,282.7 kWh/yr**

**Specific Site Energy Use: 16.3 kWh/sqft.yr. (55.7 kBtu/[sqft.yr.](#))**

### WUFI Results

Heating demand:	<b>36.81 kBtu/ft<sup>2</sup>yr</b>
Cooling demand:	<b>3.18 kBtu/ft<sup>2</sup>yr</b>
Heating load:	<b>17.85 Btu/hr ft<sup>2</sup></b>
Cooling load:	<b>3.35 Btu/hr ft<sup>2</sup></b>
Source energy:	<b>17,445 kWh/Person yr</b>
Site energy:	<b>55.67 kBtu/ft<sup>2</sup>yr</b>



## Energy Modeling Case #1 IECC Compliant

The first renovation scenario upgrades the building to meet **IECC code minimums**.

This means bringing the structure in line with today's baseline legal requirements for energy performance. To achieve this, the design includes continuous exterior insulation, higher-performing windows, better air sealing, and more efficient heating, cooling, and ventilation systems.

With these upgrades, the building becomes **legally compliant and far more efficient** than its current state. Energy use drops by about two-thirds, showing how significant code-minimum improvements can be. This represents the standard benchmark for permitting and what a "typical" renovated building would look like under today's energy codes.

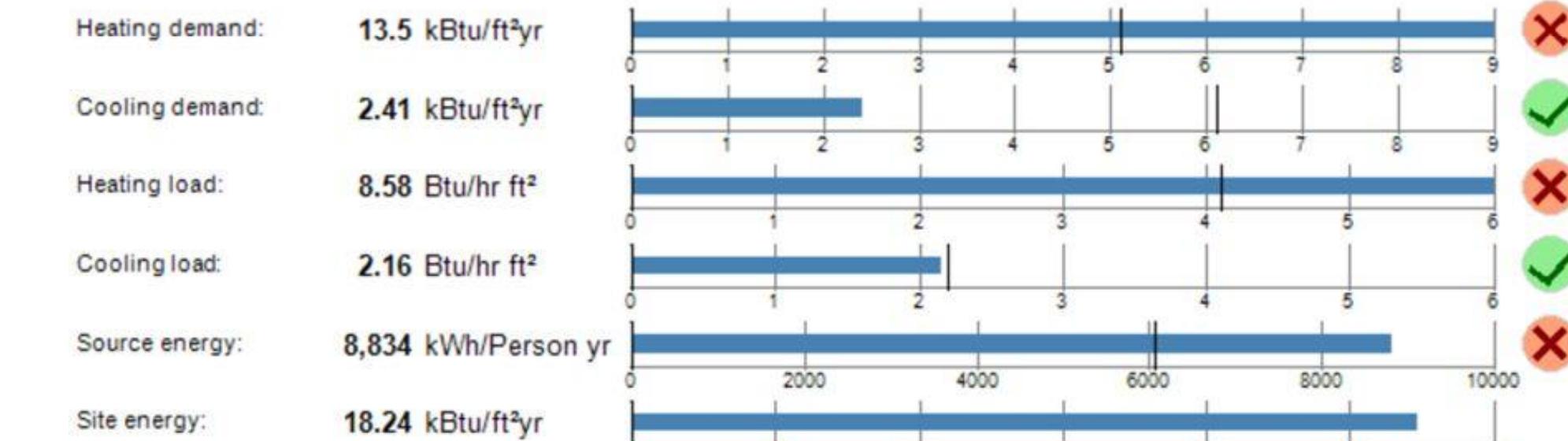
### Modeling Information

Slab	Uninsulated R 0.67
Walls	Mass: R 11.4 ci – total R 18.611
Basement Wall	Mass: R 7.5 ci – total R 14.711
Roof	R 49
Windows	0.45 U-Value (Operable) 0.33 SHGC (Operable) – lowest projection factor assumed (.38 SHGC <sub>cog</sub> was used and resulted in a .323 whole window SHGC)
Airtightness	2.24 ACH 0.35 CFM/ft <sup>2</sup>
HVAC	Heat Pump: COP 2/3 ERV: 0.75 S / 0.6 L
DHW	Heat Pump: 3.4 EF
Ventilation	Ventilation with heat recovery
Lighting	LED

**Total Site Energy Use: 353,347.09 kWh/yr**

**Specific Site Energy Use: 5.35 kWh/sqft.yr. (18.24 kBtu/sqft.yr.)**

### WUFI Results



## Energy Modeling Case #2 PHIUS

The second renovation scenario goes further by adopting the **Passive House (PHIUS) standard**. Unlike code minimum upgrades, this approach prioritizes the performance of the building envelope itself. The design includes significantly higher insulation levels, ultra-efficient windows, and an exceptionally tight building shell. While the heating, cooling, and ventilation systems remain efficient, the real gains come from reducing the building's overall energy demand through envelope design.

This strategy pushes efficiency well beyond code compliance, achieving a **73% reduction in energy use compared to the existing building** and performing about 17% better than the IECC scenario.

### Modeling Information

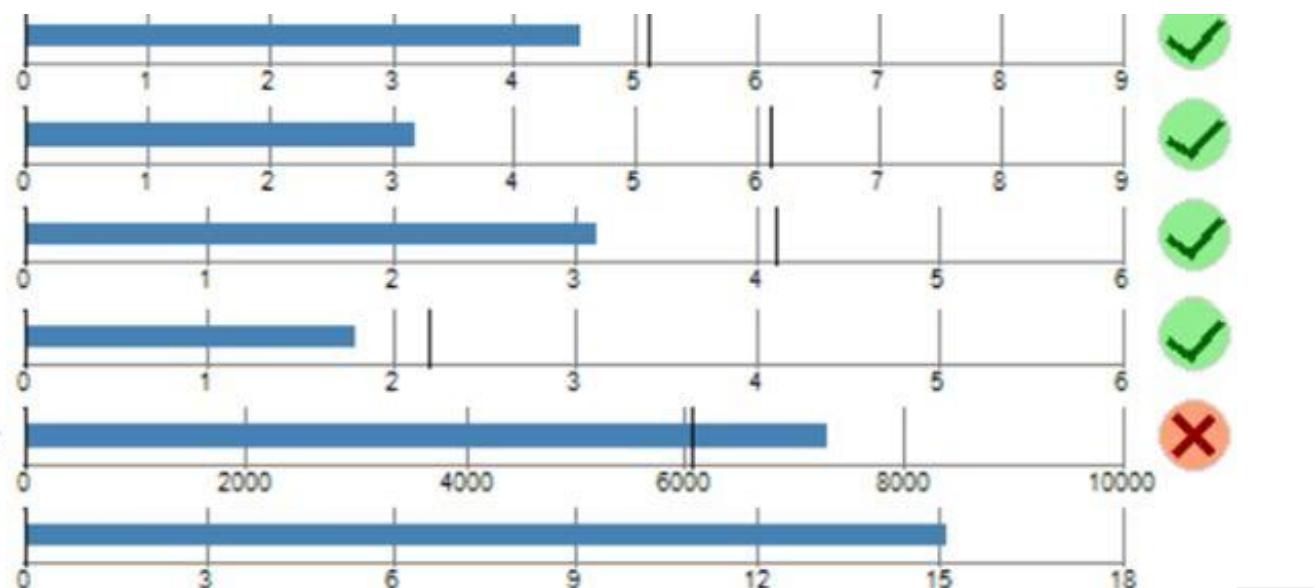
Slab	Uninsulated R 0.67
Walls	R 30.49
Basement Wall	R 30.49
Roof	R 68.46
Windows	0.174 U-Value 0.4 SHGC
Airtightness	0.38 ACH 0.06 CFM/ft <sup>2</sup>
HVAC	Heat Pump: COP2/3 ERV: 0.75 S / 0.6 L
DHW	Heat Pump: 3.4 EF
Lighting	LED (critical for site energy use, total of 110,661 kWh)

**Total Site Energy Use: 292,770.5 kWh/yr**

**Specific Site Energy Use: 4.4 kWh/sqft.yr. (15.1 kBtu/sqft.yr.)**

### WUFI Results

Heating demand:	<b>4.56 kBtu/ft<sup>2</sup>yr</b>
Cooling demand:	<b>3.18 kBtu/ft<sup>2</sup>yr</b>
Heating load:	<b>3.12 Btu/hr ft<sup>2</sup></b>
Cooling load:	<b>1.8 Btu/hr ft<sup>2</sup></b>
Source energy:	<b>7,319 kWh/Person yr</b>
Site energy:	<b>15.12 kBtu/ft<sup>2</sup>yr</b>



## ROUGH ORDER OF MAGNITUDE (ROM) COST ESTIMATE

### Approach Summary

At the feasibility stage of a project, especially one involving adaptive reuse, a **Rough Order of Magnitude (ROM) cost estimate** plays a critical role in shaping early decision-making. While inherently high-level, this preliminary cost analysis provides stakeholders with a conceptual framework to understand the potential scale of investment required—well before detailed design or engineering begins. It is not meant to be precise, but rather to define a realistic cost boundary that supports strategic planning.

The ROM estimate serves as a **financial litmus test**, helping project sponsors, municipalities, or development partners gauge whether the vision is within reach. It draws on industry benchmarks, historical project data, and cost-per-square-foot assumptions that are appropriate to the building type, program, and regional construction climate. While it cannot predict every variable, it does highlight where further clarity will be needed—such as in environmental remediation, structural upgrades, MEP system replacement, or code-driven modifications. These early insights help to identify potential cost “blind spots” that should be addressed as the project moves into schematic design.

Importantly, a well-documented ROM estimate can also function as a **foundational tool for decision-making and procurement**. Whether used to shape a Request for Proposals (RFP) for developers, design professionals, or construction partners, it sets clear expectations and helps establish a shared understanding of scope and scale. In doing so, it bridges the gap between concept and execution—ensuring that future project phases are grounded in both ambition and practical feasibility.

### Defined Costs

In any development estimate, project costs are typically divided into **hard costs** and **soft costs**—a distinction that helps clarify where money is being spent and how those costs behave over the course of a project. While most experienced teams are familiar with these terms, understanding their implications at the **feasibility stage** is critical to shaping accurate expectations and making informed decisions.

**Hard costs** refer to the physical, brick-and-mortar components of construction: materials, labor, building systems, site work, and contractor overhead. These are typically more straightforward to quantify and benchmark, especially when existing buildings provide measurable data points like square footage, structure, or envelope conditions. They represent the core of what gets built—and tend to follow predictable pricing patterns within a given region or market.

**Soft costs**, on the other hand, encompass the **professional services, administrative requirements, and financing structures** that support a project's execution. These include architectural and engineering fees, permitting, legal services, insurance, commissioning, and often, financing or carrying costs. While not physically visible in the final structure, soft costs are essential to getting a project approved, designed, and delivered. Because they are more sensitive to variables like project complexity, entitlement processes, or agency coordination, soft costs can fluctuate significantly—even early on.

At the feasibility stage, including both cost categories in a Rough Order of Magnitude estimate ensures a **holistic understanding of total project exposure**. For teams preparing an RFP or developers evaluating project viability, this context helps set realistic financial expectations and avoids common pitfalls where soft costs are underestimated or overlooked.

## Estimate Findings

### Summary:

The feasibility analysis confirms that the adaptive reuse of the former school building into affordable housing is a viable development opportunity with multiple implementation pathways. Two distinct performance strategies were examined—one aligned with the 2024 IECC code requirements and another targeting PHIUS certification. Each was modeled using a consistent renovation scope, allowing for a direct comparison of programmatic outcomes, capital investment, and alignment with long-term goals around sustainability and housing access.

Beyond confirming baseline feasibility, the findings underscore the adaptability of the existing structure. The design team successfully accommodated a full residential program—including one- and two-bedroom units, storage, and community amenities—entirely within the original building envelope. The study also identified future opportunities for phased expansion, such as gymnasium infill or the reconfiguration of common areas, further reinforcing the site's long-term potential.

Cost modeling revealed several key areas where performance goals directly influence construction costs. In particular, notable increases were identified in **Division 07 (Thermal and Moisture Protection)**, where higher insulation values and air-tightness requirements significantly drive cost in PHIUS-aligned design. Similarly, **Division 23 (HVAC)** and **Division 26 (Electrical)** carried substantial increases due to enhanced mechanical systems, energy recovery requirements, and electrical upgrades supporting electrification and renewable energy readiness. These divisions represent critical drivers in the shift from baseline to high-performance design, and their early identification helps inform funding strategies and design priorities.

Ultimately, the findings provide a practical and flexible foundation for moving forward. Whether pursued through a code-compliant strategy or an enhanced performance pathway, the project is shown to be both technically and financially feasible. The analysis equips public stakeholders, development partners, and design teams with a clear roadmap—grounded in real data—for transforming this legacy building into a resilient, high-quality housing asset.

### **ROM Estimate Figures:**

#### **USE Case #01: Non-PHIUS, Code Compliant per IECC 2024**

- Full Interior Renovation
  - Walls Insulated to R-27
  - Roof Insulated to R-30ci
  - New Windows @ Double-Pane, Energy Efficient Glazing
- Hard-Costs = \$15,000,000 (\$233/sf)
- Soft-Costs = \$3,500,000
- Contingency / Escalation = \$1,850,000
- **Total Project Cost (+/-) = \$20,350,000 (\$316/sf)**

#### **USE Case #02: PHIUS Compliance / Certification**

- PHIUS Compliance Criteria
  - Walls Insulated to R-30.5
  - Roof Insulated to R-68.5
  - New Windows @ Triple-Pane, Low-E Glazing
- Hard-Costs = \$19,570,495 (\$304/sf)
- Soft-Costs = \$4,250,000
- Contingency / Escalation = \$2,150,000
- **Total Project Costs (+/-) = \$25,570,495 (\$398/sf)**

### ***Recommended Allowance Items:***

- On-site Renewable Energy Production: ~5% of Hard-Costs
  - Includes roof-mounted solar array, conduit infrastructure, inverters, and structural allowances.
- Hazardous Materials - Testing & Abatement: ~5% of Hard-Costs
  - Covers potential asbestos, lead-based paint, or PCB removal based on typical school building conditions.
- Exterior Accessibility Improvements: ~3% of Hard-Costs
  - For interior and exterior modifications including accessible units, compliant egress, ramps, and signage.
- Site Work & Landscaping: ~7% of Hard-Costs
  - Assumes reconfiguration of surface parking, accessible paths, limited hardscape, and plantings.

### **Elevator Alternate Options (Provided for Consideration)**

- Interior Intervention: ~\$500,000
  - Includes elevator equipment package, limited hoistway construction/lining, pit

and machine room upgrades, power, controls, basic finishes, demo/patching, testing & commissioning. This aligns with common commercial guideposts (often **\$50k-\$100k per landing** before building modifications) plus typical retrofit premiums.

- Exterior Addition: **~\$975,000**
  - Adds foundations, structural shaft, envelope/weatherproofing, tie-ins to corridors, roof work, fire-rating, and site restoration—on top of the elevator package itself. New installs commonly benchmark **\$250k-\$500k per elevator** before tower/envelope costs; the tower and building interfaces drive the upper range.

## Strategic Considerations: PHIUS vs. IECC Compliance

In evaluating two performance pathways—IECC 2024 compliance and PHIUS certification—this study highlights both the immediate feasibility and long-term potential of the project. While the Passive House (PHIUS) scenario requires a higher upfront capital investment, it positions the development to deliver sustained energy savings, increased comfort, and alignment with state-level priorities for building decarbonization and performance-based housing.

The PHIUS path introduces increased thermal performance standards, reduced energy demand, and greater resilience. For residents, this can mean lower utility bills and improved indoor air quality. For development partners, it may open access to additional funding streams, sustainability-focused tax credits, and competitive positioning for public-private financing tools increasingly linked to ESG goals.

That said, the code-compliant design—based on the 2024 IECC—remains a fully viable and cost-effective approach. It allows for the adaptive reuse of the school into affordable housing at a reasonable price point, aligned with standard construction practices and funding thresholds. This path retains the core mission of delivering equitable, high-quality housing while reducing complexity during permitting and construction.

This dual-path strategy reflects a fundamental principle of the feasibility study: the project is **achievable today**, with the flexibility to **aspire further**. It invites development teams to weigh costs, benefits, and funding strategies with a clear understanding of the tradeoffs—and to select the approach that best matches their capacity, funding sources, and long-term operational vision.

## CSI Divisional Breakdown (Projected)

Division Name	IECC Compliant Costs	PHIUS Compliant Costs
Division 02 - Existing Conditions	\$771,490	\$771,490
Division 03 - Concrete	\$48,220	\$48,220
Division 04 - Masonry	\$299,310	\$299,310
Division 05 - Metals	\$106,440	\$126,440
Division 06 - Woods / Plastics / Composites	\$546,660	\$596,660
Division 07 - Thermal & Moisture Protection	\$1,028,650	\$1,950,000
Division 08 - Openings	\$514,330	\$968,625
Division 09 - Finishes	\$2,893,100	\$3,327,060
Division 10 - Specialties	\$48,220	\$48,220
Division 21 - Fire Protection	\$417,895	\$417,895
Division 22 - Plumbing	\$1,928,730	\$2,510,915
Division 23 - HVAC	\$4,500,370	\$6,255,480
Division 26 - Electrical	\$1,414,400	\$1,768,000
Division 27 - Communications	\$160,730	\$160,730
Division 28 - Electronic Safety & Security	\$321,455	\$321,455
<b>Total Hard-Costs</b>	<b>\$15,000,000</b>	<b>\$19,570,495</b>
General Conditions (not all-inclusive list)	\$2,950,950	\$3,400,000
Insurance, Bonds, Fees	<i>Included Above</i>	<i>Included Above</i>
Safety & Security	<i>Included Above</i>	<i>Included Above</i>
Site Services & Temporary Utilities	<i>Included Above</i>	<i>Included Above</i>
General Requirements (not all-inclusive list)	\$549,050	\$1,150,000
Administrative Requirements	<i>Included Above</i>	<i>Included Above</i>
Quality & Performance Requirements	<i>Included Above</i>	<i>Included Above</i>
Special Project Procedures	<i>Included Above</i>	<i>Included Above</i>
Project Closeout	<i>Included Above</i>	<i>Included Above</i>
<b>Total Soft-Costs*</b>	<b>\$3,500,000</b>	<b>\$4,250,000</b>
Recommended Escalation & Contingency	\$1,850,000	\$2,150,000
<b>Total Project Costs</b>	<b>\$20,350,000</b>	<b>\$25,970,495</b>

\* Soft-Costs do not account for potential development or entitlement fees, those would become the responsibility of the interested party to develop and incorporate

## CONCLUSIONS

### Summary of Findings

The proposed adaptive reuse of 1450 Broad Street in Providence, RI, envisions the transformation of a 1930s-era former public school into a 40-unit multi-family residential development. The building's durable masonry construction, generous classroom footprints, and wide central corridors offer an ideal framework for residential conversion—supporting both functional reprogramming and architectural preservation. The current concept introduces a mix of one- and two-bedroom units distributed across four floors, with integrated community spaces, tenant storage, and room for future expansion through the gymnasium wing or auditorium reconfiguration.

Although the property is zoned PS (Public Space), the City of Providence permits residential use through adaptive reuse provisions—particularly when converting existing civic structures. Importantly, all adjacent zoning districts (R-2, C-1, and C-2) support residential use, reinforcing the contextual appropriateness of the proposed program. Parking requirements, while governed by local ordinance, are expected to be satisfied through a combination of on-site layout and potential shared-use agreements with adjacent city-owned parcels.

In support of long-term sustainability and energy performance goals, the study evaluated both a code-compliant path aligned with the 2024 International Energy Conservation Code (IECC), and a higher-performance design pursuing Phius (Passive House Institute U.S.) certification. While both pathways are viable, the PHIUS strategy introduces enhanced building envelope requirements, airtightness, and mechanical systems designed and verified through advanced energy modeling (WUFI). In return, it offers long-term benefits in comfort, indoor air quality, and operational energy savings.

A Rough Order of Magnitude (ROM) cost estimate was prepared to test early feasibility. It includes both **hard costs** (construction materials, labor, systems) and **soft costs** (design, permitting, administrative fees), and accounts for escalation and contingency. Notably, cost modeling revealed significant deltas in Division 07 (Thermal & Moisture Protection), Division 23 (HVAC), and Division 26 (Electrical), particularly when comparing baseline and Phius-aligned scopes. These findings help stakeholders anticipate where cost pressures may emerge and plan accordingly.

Overall, the study confirms that redevelopment of this site is both **feasible and flexible**—capable of meeting baseline performance standards or stretching toward high-performance design goals. The adaptive reuse plan supports affordability, neighborhood compatibility, and architectural integrity, while offering a platform for long-term resilience.

## Development Guidance Note: Use in Future RFPs

The following development guidance is intended to help public stakeholders, funding agencies, and prospective development teams translate the findings of this feasibility study into actionable next steps. It outlines key considerations for procurement, performance alignment, and scope flexibility—framing how the project can move from conceptual planning into solicitation and execution. Whether the goal is to issue an RFP, engage design professionals, or evaluate funding strategies, this guidance supports a clear and informed path forward.

- The two cost scenarios provided in this feasibility study are intended to inform the structure of future Requests for Proposals (RFPs) for development or design teams. The information herein supports either of the following pathways:
- A base proposal that meets IECC 2024 energy code compliance and fulfills all stated affordability and programmatic goals, or
- An enhanced proposal that targets PHIUS certification and demonstrates a commitment to high-performance building strategies and long-term energy savings.
- RFP issuers may choose to encourage respondents to propose one or both options, accompanied by a narrative that articulates cost, constructability, and funding implications. This flexibility enables competitive responses while ensuring alignment with the state's broader goals for sustainable development and housing equity.
- By grounding this RFP framework in clearly defined cost estimates and performance tiers, public stakeholders can better evaluate proposals not just on budget, but on long-term value, environmental impact, and community benefit.

## Key Findings

1450 Broad Street presents a clear and compelling opportunity to convert a historic public school building into 40 units of affordable housing. Through a detailed feasibility study, the project has been proven viable under both standard code compliance and a high-performance design path. The structure's existing layout, durable construction, and zoning context support redevelopment with minimal zoning friction and significant design flexibility.

## Key Program Outcomes

- **Total Units Proposed:** 40
  - 35 one-bedroom / one-bathroom units
  - 5 two-bedroom / two-bathroom units

- **Zoning:** While the site is zoned PS (Public Space), residential use is allowable via adaptive reuse provisions. Surrounding zones (R-2, C-1, C-2) support residential development, reinforcing land use compatibility.
- **Parking:** Feasible through on-site layout or adjacent lot agreements with city-owned parcels.

## Energy Strategy Comparison: IECC vs. PHIUS

Two performance scenarios were evaluated, each with significant implications for long-term energy use, construction cost, and sustainability:

### Use Case #1 – Code Compliant (IECC 2024):

This scenario meets baseline performance standards and is designed to be cost-efficient and achievable with conventional construction methods.

- Wall insulation: R-18.6 (total)
- Roof insulation: R-49
- Windows: U-0.45 (operable)
- Airtightness: 2.24 ACH
- HVAC and DHW: High-efficiency heat pump systems
- LED lighting and ERV for ventilation

### Use Case #2 – PHIUS Certification:

This approach targets a much more aggressive energy performance profile, reducing long-term utility costs and increasing comfort and resilience.

- Wall insulation: R-30.49
- Roof insulation: R-68.46
- Windows: U-0.174 (triple-glazed, low U-value)
- Airtightness: 0.38 ACH (nearly 6x tighter than baseline)
- Overall energy savings driven by dramatically improved envelope performance, ventilation efficiency, and lighting system optimization

### Key Differences:

- PHIUS requires higher up-front investment but delivers long-term energy savings and may unlock additional funding or ESG-aligned financing.
- Envelope and window performance are the most significant contributors to increased costs (notably in Division 07).

- Airtightness and thermal bridging control are critical to meeting PHIUS standards and require precision during construction.

## Market Viability

### Average Rental Amounts

#### Rhode Island Averages (per [apartments.com](#) data)

- The average rent for a one-bedroom apartment across the state is approximately \$1,820/month, while a two-bedroom averages around \$2,232/month.

#### City-Wide (Providence) Averages (per [apartments.com](#) data)

- In Providence, average market rents are notably higher—about \$2,072/month for a one-bedroom and \$2,598/month for a two-bedroom unit. Apartments.com Given neighborhood variation, a more conservative assumption for your rental projections could be in the range of \$1,800 for one-bedrooms and \$2,200 for two-bedrooms, positioning the project competitively and accessibly within the local market.

#### Lower-Cost Alternatives (per [rentdata.org](#) data)

- In more budget-friendly neighborhoods such as Wayland or Washington Park, one-bedroom rents can drop into the \$800–\$1,000/month range, offering a benchmark for subsidized affordability targets.

### Implications for This Development

- Affordable Positioning: Setting baseline rents at or below \$1,800 (1BR) and \$2,200 (2BR) aligns the project with cost-conscious renters while staying within prevailing regional norms.
- Enhanced Value with PHIUS: If pursuing high-performance (PHIUS) certification, long-term energy savings can support these rent targets while maintaining affordability.
- Funding and Subsidy Alignment: Anchoring rental projections in real market data will help substantiate funding applications and guide discussions around affordability definitions or rent caps.

## Recommended Next Steps

The intent of this feasibility study is to provide the municipality with a clear, actionable framework for advancing the adaptive reuse of 1450 Broad Street into affordable housing. The

findings confirm the viability of redevelopment and outline viable paths to achieve both code-compliant and high-performance outcomes. To build on this momentum, we recommend the following next steps for transitioning into project execution.

These steps are designed to guide the municipality through the initial project implementation process—particularly the issuance of a Request for Proposals (RFP) to attract qualified development or design-build teams. They are intentionally structured to be straightforward, flexible, and scalable based on local capacity and funding environment. The below two-tiered approach allows the municipality to take **immediate, low-barrier actions** while setting the stage for a well-informed and competitive developer selection process. Let me know if you'd like a checklist version or visual to accompany this.

## Initial Next Steps

### 1. Confirm Project Goals & Performance Target

- Decide whether the RFP will prioritize IECC compliance or encourage PHIUS certification.
- Establish affordability goals, unit mix expectations, and any preferences for building reuse vs. new construction (e.g., preserve auditorium).

### 2. Engage City Planning & Zoning Early

- Confirm adaptive reuse eligibility under PS zoning.
- Explore options for shared parking or adjacent lot partnerships, especially with city-owned parcels.

### 3. Commission Environmental & Hazardous Materials Testing

- Conduct a hazmat survey (asbestos, lead, PCBs) to validate abatement needs.
- Initiate a Phase I ESA (if not done) to ensure environmental due diligence before RFP release.

### 4. Begin Drafting the RFP

- Use this feasibility study as the basis for scope, performance benchmarks, and evaluation criteria.

## Parallel or Follow-Up Steps

### 1. Outline Funding Strategy

- Identify local/state funding opportunities (ARPA, LIHTC, passive house incentives, etc.).

- Clarify any municipal contributions: land value, subsidies, PILOT agreements, etc.

## 2. Engage Developer Community (Optional but Valuable)

- Host an informal listening session or site walk-through to share the opportunity.
- Use feedback to refine the RFP structure and anticipate interest or concerns.

## 3. Finalize & Release RFP

- Structure the RFP to allow for both baseline and PHIUS-aligned proposals.
- Clearly define evaluation criteria based on feasibility, affordability, sustainability, and public benefit.

### Final Note

This feasibility study is designed to serve as a foundational tool for moving this project forward with confidence. By following the steps above, the municipality will be well-positioned to attract qualified partners and translate a vision for sustainable, adaptive housing into a built reality.

**ATTACHMENT 2**

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# 1450 Broad Street - Providence, RI

## Adaptive Reuse Feasibility Study

State of Rhode Island – Executive Office of Housing

August 28, 2025



1450 Broad Street



11 ALEPOO STREET  
PROVIDENCE, RHODE ISLAND

**To us, buildings  
are more than  
structures,**



**They are  
signals  
broadcasting  
your mission.**

**Together, we'll  
create a work  
that embodies  
your values:**



**We turn Broken Buildings into Purposeful Places**



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Level 1 & 2 Presentation Slide Decks (pdf format)

Existing Conditions Revit Model w/ Electronic Transfer Agreement



## EXECUTIVE SUMMARY

# Scope Introduction & Process

Signal Works Architecture is proud to support the Rhode Island Department of Housing in a statewide initiative aimed at converting underutilized municipal buildings—most commonly former public schools—into affordable housing. This program presents an opportunity to transform dormant civic infrastructure into long-term housing solutions that are sustainable, energy-efficient, and responsive to the character and needs of Rhode Island communities.

Our feasibility studies are designed to provide high-level yet thorough insight into the potential reuse of each site. The purpose of this early-phase work is to prepare the State and its municipal partners with the information necessary to craft targeted Requests for Proposals (RFPs) for developers or architect-engineer (A/E) teams who will ultimately carry these projects forward into full design and construction.

Each study begins with a review of existing architectural conditions. Depending on the building's size and available documentation, this may include Matterport 3D scanning, on-site walkthroughs, photographic documentation, or basic dimensional verification using provided drawings. While not intended as a comprehensive building assessment, this phase establishes a reliable understanding of the building's form and layout, which becomes the foundation for design development.

To support planning and regulatory alignment, we also perform a site and zoning analysis. This includes a review of use classifications, dimensional requirements, density and parking regulations, and relevant municipal ordinances. Our goal is to clearly identify development potential while also flagging any site or zoning-related roadblocks that could impact feasibility. This allows the State and municipalities to make informed decisions and anticipate challenges early.

From this groundwork, we develop two conceptual design options tailored to each site. The first option emphasizes minimal intervention—working within the constraints of existing wall locations to limit complexity and control construction cost. The second option aims to maximize housing yield, reconfiguring interior spaces to increase the number of residential units within zoning limits. Both designs are developed with spatial efficiency, residential code considerations, and community scale in mind.

Recognizing the long-term value of energy performance, our team provides comparative energy modeling for each study. Three scenarios are modeled: a baseline representing the

building's existing energy use; a path to compliance with the International Energy Conservation Code (IECC); and a third scenario that aligns with PHIUS (Passive House Institute US) standards. This layered approach enables decision-makers to weigh performance outcomes and cost implications across different redevelopment strategies.

To complement the design and energy work, we prepare a Rough Order of Magnitude (ROM) cost estimate for each concept. These figures offer a preliminary sense of construction investment, informed by comparable adaptive reuse projects and current market conditions. While conceptual in nature, they provide a clear starting point for capital planning and funding alignment.

Taken together, these studies equip the State and municipalities with the tools necessary to initiate housing redevelopment in a strategic, coordinated, and informed manner. Our deliverables—conceptual designs, zoning insights, energy models, and cost projections—are designed to be actionable and adaptable, forming a bridge between underutilized buildings and future homes for Rhode Islanders.

Signal Works Architecture brings a practiced approach to adaptive reuse, drawing on a deep understanding of community-scale housing, existing building conditions, and energy-conscious design. We are proud to play a role in Rhode Island's housing response—reimagining public assets as places of permanence, equity, and resilience.

## PROJECT BACKGROUND

### Building Assessment & Information

**Property Address:** 1450 Broad Street, Providence, RI

**Plat/Lot:** 58-458

**Existing Use:** Education (“E”) – Former Public School

**Zoning Designation:** Public Space (“PS”)

**Proposed Use:** Multi-Family Residential (“R-2”) – Affordable Housing; Apartment-Style

**Year Built:** 1930

**Lot Size:** 43,965 GSF

**Building Size:** 51,165 GSF

1450 Broad Street is situated in the Washington Park neighborhood, a historically working-class area with deep roots in the city’s industrial past. Once a thriving hub for immigrant laborers during the 19th and early 20th centuries, this area attracted waves of Irish, Italian, Cape Verdean, and later Hispanic and African-American communities. The Broad Street corridor served as both a commercial spine and cultural touchstone, linking South Providence to Elmwood and the West End. In the post-industrial era, disinvestment and redlining policies significantly affected the neighborhood’s economic trajectory, contributing to persistent socioeconomic disparities that remain evident today.

### Demographics and Current Conditions

Today, South Providence is one of the most racially and ethnically diverse neighborhoods in Rhode Island, with a large percentage of residents identifying as Latino (predominantly Dominican and Puerto Rican), Black or African American, and Cape Verdean. The area experiences some of the highest poverty rates in the state, with many households facing housing insecurity and cost burdens. Broad Street itself remains a vital corridor with small businesses, cultural institutions, and community organizations, yet much of the residential housing stock is aging, with limited new development or investment in affordable options.

### Planning and Housing Opportunities

The area surrounding 1450 Broad Street represents both a challenge and an opportunity. Its proximity to public transit, schools, health centers (including Rhode Island Hospital), and downtown Providence makes it well-suited for transit-oriented, affordable housing development. Recent city and state initiatives—like the Providence Housing Trust Fund and investments from Rhode Island’s ARPA funding—have targeted neighborhoods like South Providence for revitalization. An affordable housing development at this location could leverage these policies while supporting long-time residents, addressing historic disinvestment, and preserving the cultural fabric of the community.

Due to the scale of this building, the existing conditions are based on client-provided documentation and on-site photography. Complete due diligence is strongly recommended to analyze the building and confirm the building's dimensions, systems, and to formally assess the building.

The team's proposed redevelopment plan calls for a full adaptive reuse of the existing structure within the building's envelope into multi-family housing. The building's size, structural integrity, and layout support this transition, with opportunity for unit mix flexibility and retention of certain historic or architectural features.

Site constraints and opportunities include:

- Adequate building area to support unit count
- Need for parking accommodations, whether on-site or through adjacent lots

## Zoning Analysis

**District Designation:** Public Space (PS)

**Adjacent Zoning:** Multi-Family Residential (R-2), Commercial Neighborhood (C-1), and Commercial General (C-2)

The subject property at 1450 Broad Street is currently zoned **Public Space (PS)**, a designation commonly applied to publicly owned sites such as schools, parks, and institutional facilities. While this zone does not permit multi-family residential development by-right, the city's zoning ordinance includes a critical pathway for projects of this nature. Specifically, Section §12.02.K.7 allows for the **adaptive reuse of existing buildings** within the PS zone, provided certain criteria are met. This provision offers a strategic opportunity to convert the property to residential use, contingent on demonstrating compliance with the ordinance's performance standards and review process.

Encouragingly, the site is directly adjacent to zones **R-2, C-1, and C-2**, all of which allow multi-family residential uses—particularly adaptive reuse—by-right. This surrounding zoning pattern provides a strong contextual precedent and policy support for residential redevelopment. From a planning perspective, the proposed affordable housing use would not only be compatible with nearby land uses but would also reinforce the urban fabric and walkable mixed-use character of the Broad Street corridor.

Additionally, Rhode Island state law ([§45-24-37](#)) provides a higher-level framework that encourages adaptive reuse of existing buildings, particularly in cases that serve public interests such as affordable housing. This legislation likely supersedes local restrictions in certain cases,

further strengthening the legal foundation for the project. Based on our review, the regulatory pathway for this adaptive reuse appears straightforward, with limited administrative friction anticipated during the early design and permitting phases.

## Parking Requirements

One of the primary site planning challenges for affordable housing development at this project location involves navigating the city's off-street parking requirements. Under Providence's current zoning ordinance, one parking space is required per dwelling unit. However, the ordinance also provides flexibility in cases involving the adaptive reuse of existing structures or where existing conditions predate the current zoning rules—both of which are relevant to this project. These allowances create an opportunity to explore creative and context-sensitive parking solutions that do not compromise housing density or affordability.

Two potential strategies are being explored as part of the feasibility assessment. The first involves reconfiguring on-site surface parking within the existing parcel boundaries. This would require a careful study of spatial limitations, circulation needs, and compliance with setback and landscaping requirements. Alternatively, the project team is evaluating the possibility of partnering with the City of Providence to lease or acquire adjacent parcels for shared or off-site parking, many of which are already municipally owned. This approach may alleviate space constraints while also promoting walkability and preserving more of the site for housing.

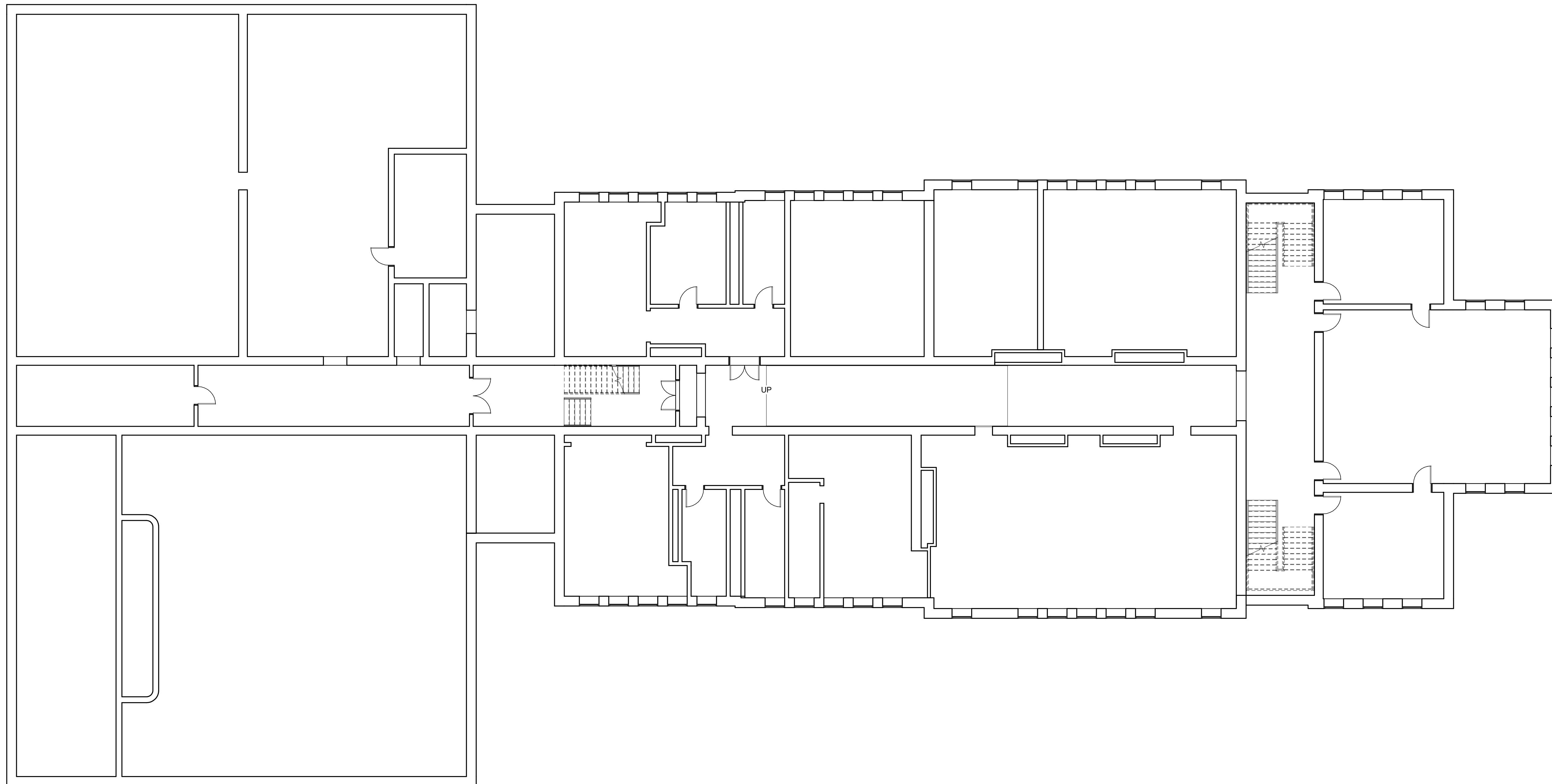
Ultimately, a thoughtful parking and access strategy will be critical to the success of the project and should be developed in parallel with design and permitting phases. Balancing zoning compliance, neighborhood character, and project feasibility will help ensure the site can accommodate both the housing program and the daily needs of future residents.

## Recommended Points of Contact

- **City of Providence - Planning & Development: City Plan Commission (CPC) - Administrative Review**
  - Contact Information:
    - Robert Azar, AICP, Deputy Director
    - 401.680.8524
    - [razar@providenceri.gov](mailto:razar@providenceri.gov)
- **Rhode Island Historical Preservation & Heritage Commission**
  - Contact Information:
    - Virginia Hesse, Architect / Reviewer, Tax Credits & Technical Assistance
    - 401.222.4333
    - [virginia.hesse@preservation.ri.gov](mailto:virginia.hesse@preservation.ri.gov)



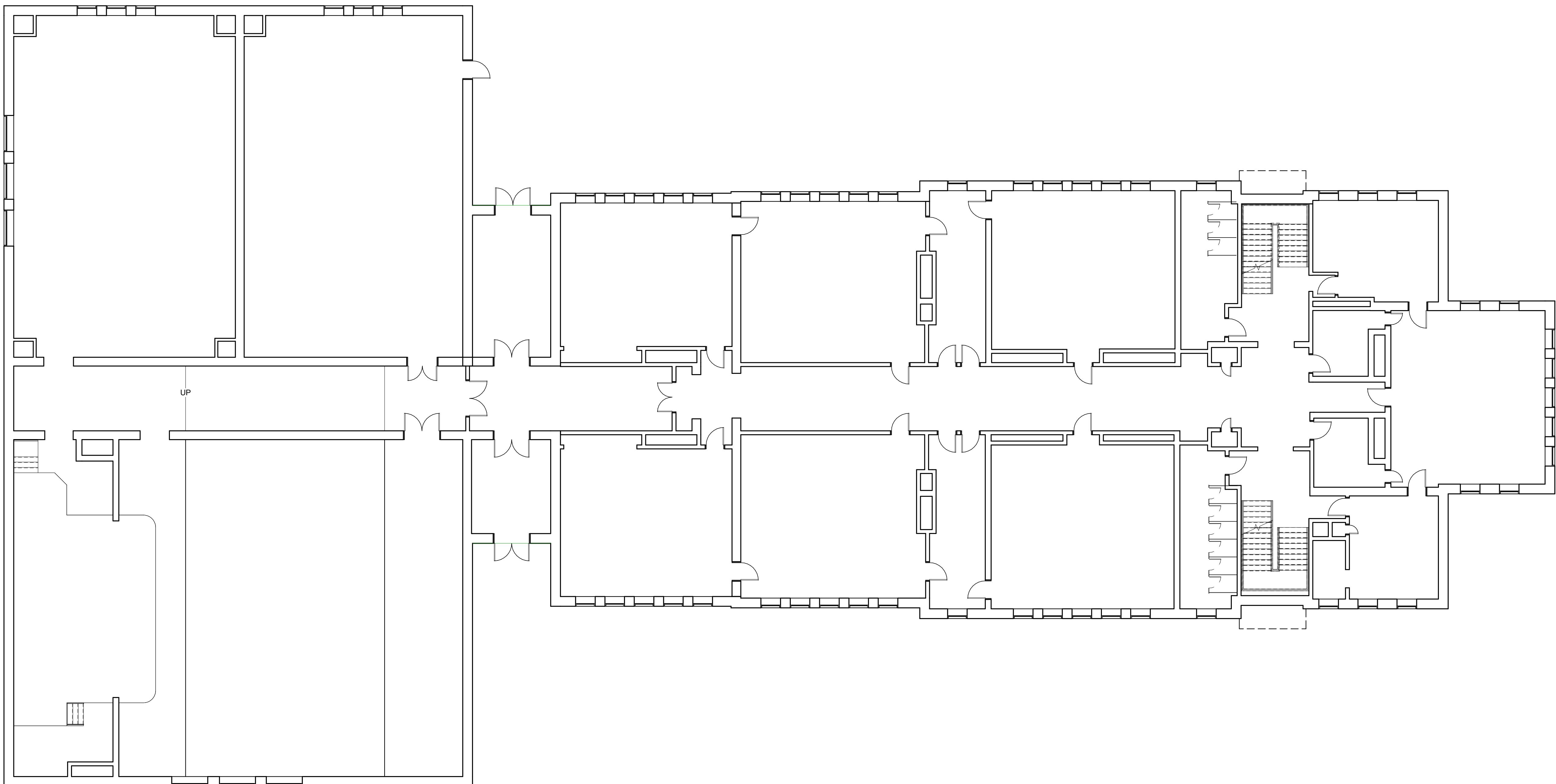




1 EXISTING BASEMENT PLAN  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

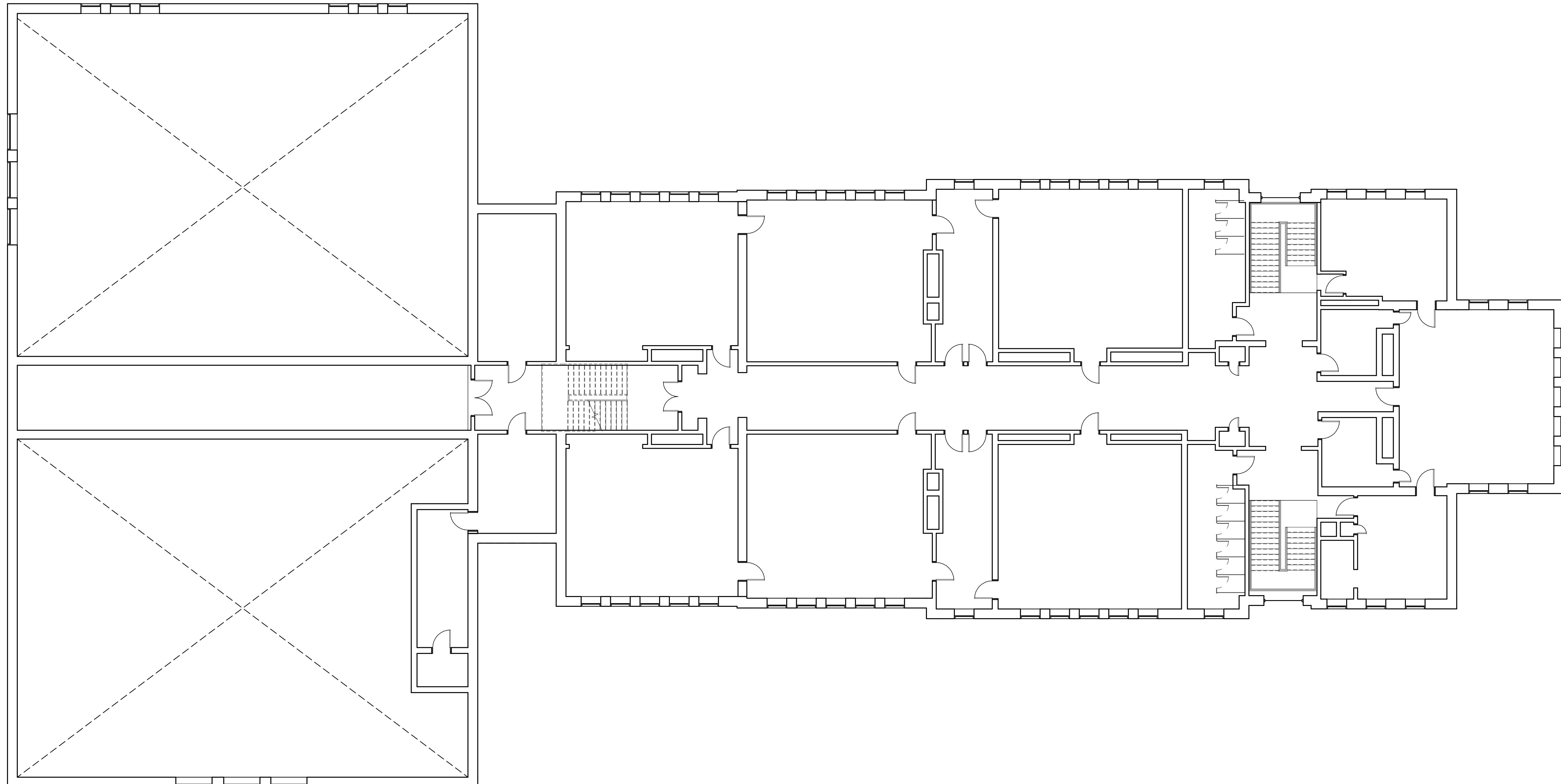
08/28/2025



① EXISTING GROUND FLOOR  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

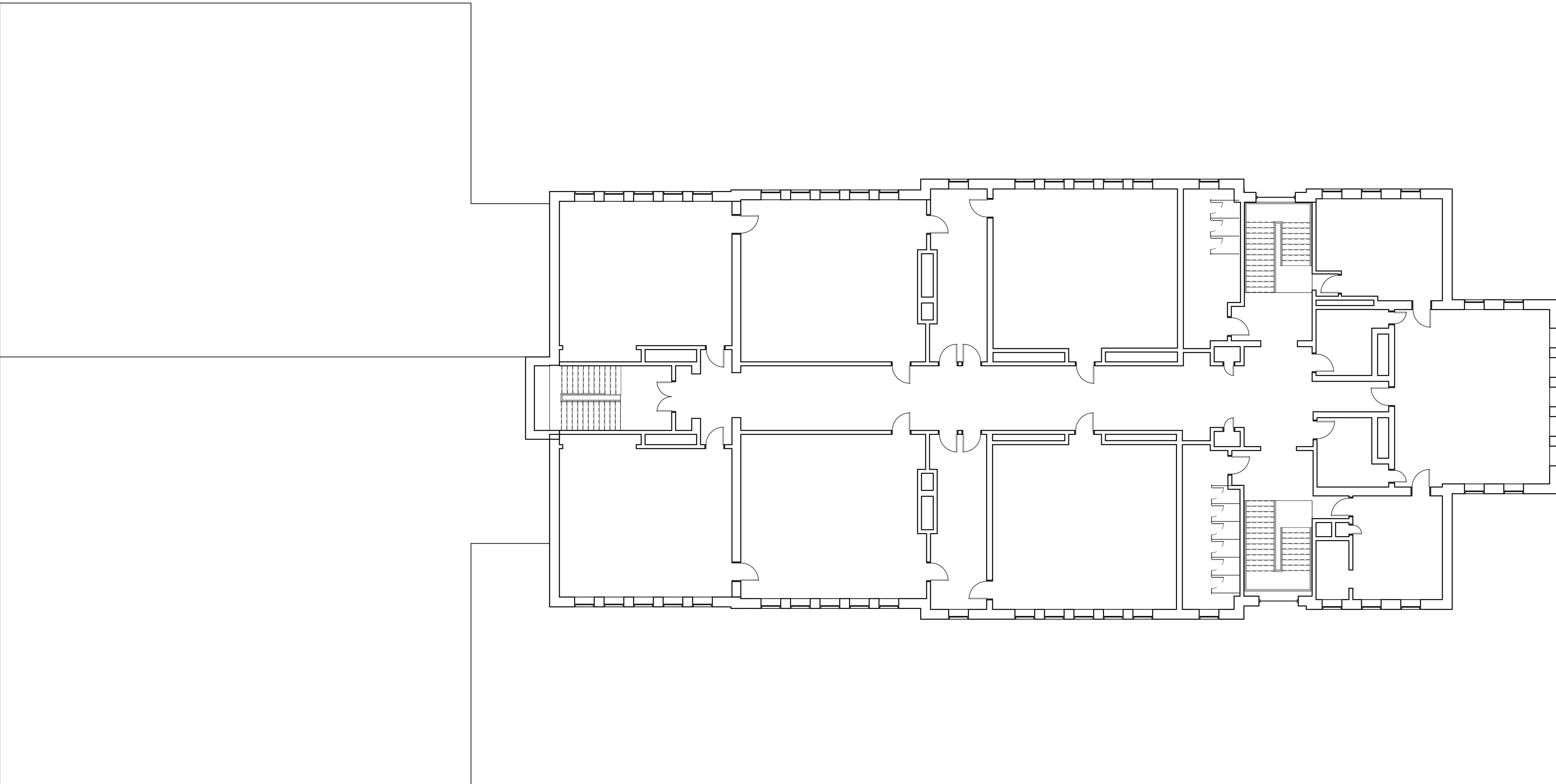
08/28/2025



1 EXISTING SECOND FLOOR  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

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① EXISTING THIRD FLOOR  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

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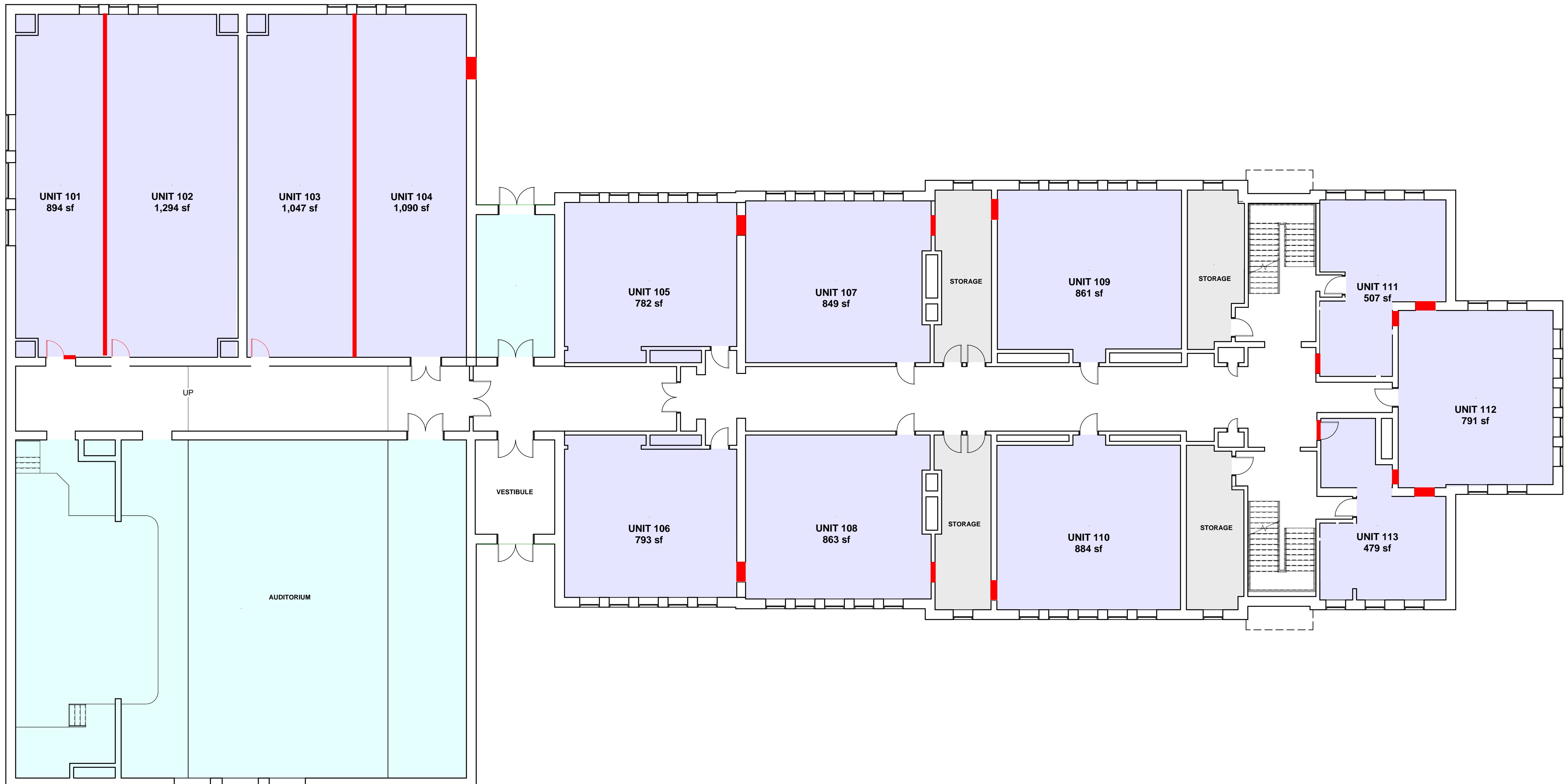


1 PROPOSED BASEMENT PLAN  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

08/28/2025

PROGRAM LEGEND	
	RESIDENTIAL UNIT
	COMMUNITY SPACE
	MECHANICAL



1 PROPOSED GROUND FLOOR PLAN  
1" = 10'-0"

## 1450 BROAD STREET - FEASIBILITY STUDY

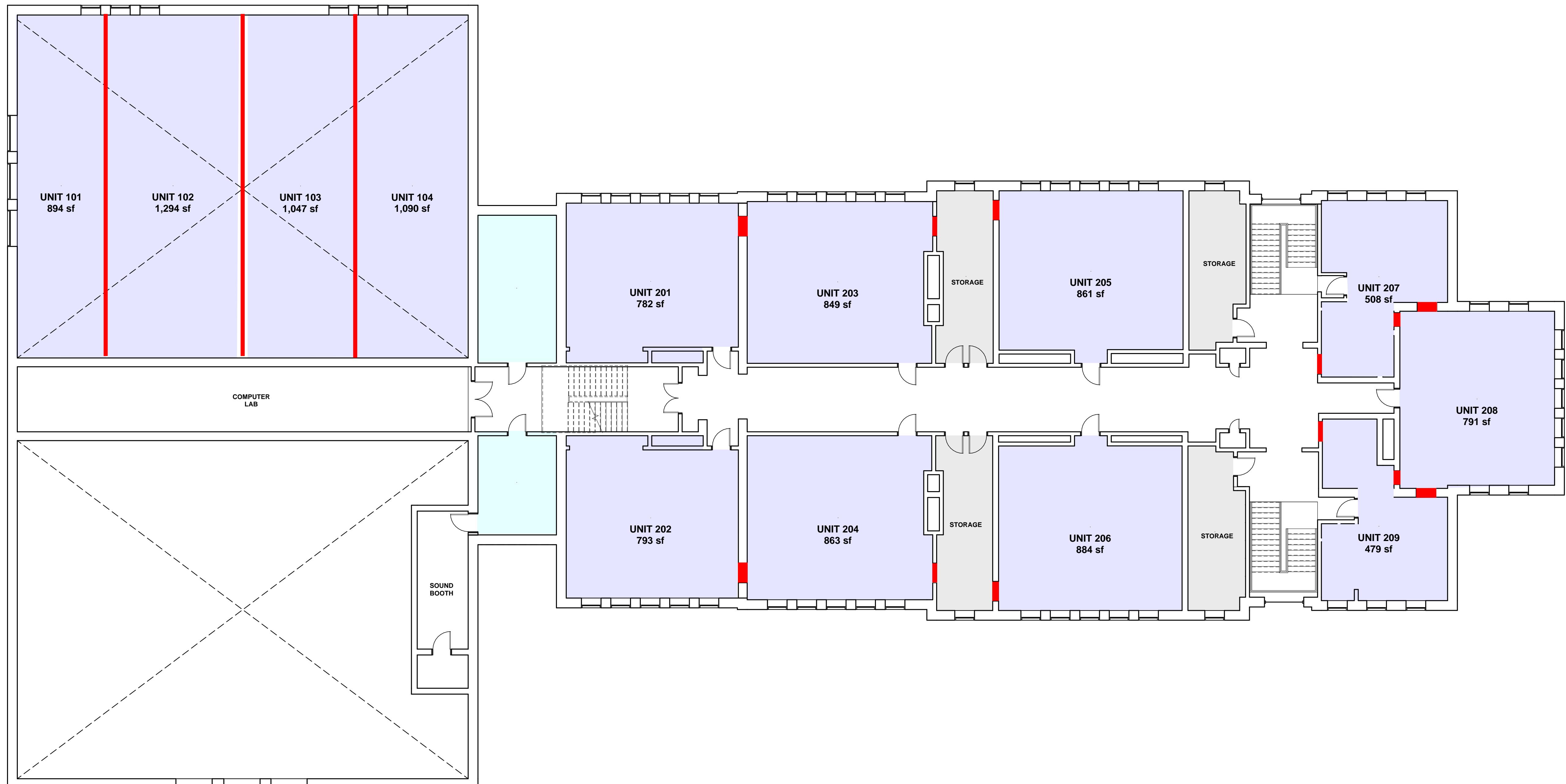
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## PROGRAM LEGEND

RESIDENTIAL UNIT

COMMUNITY SPACE

MECHANICAL



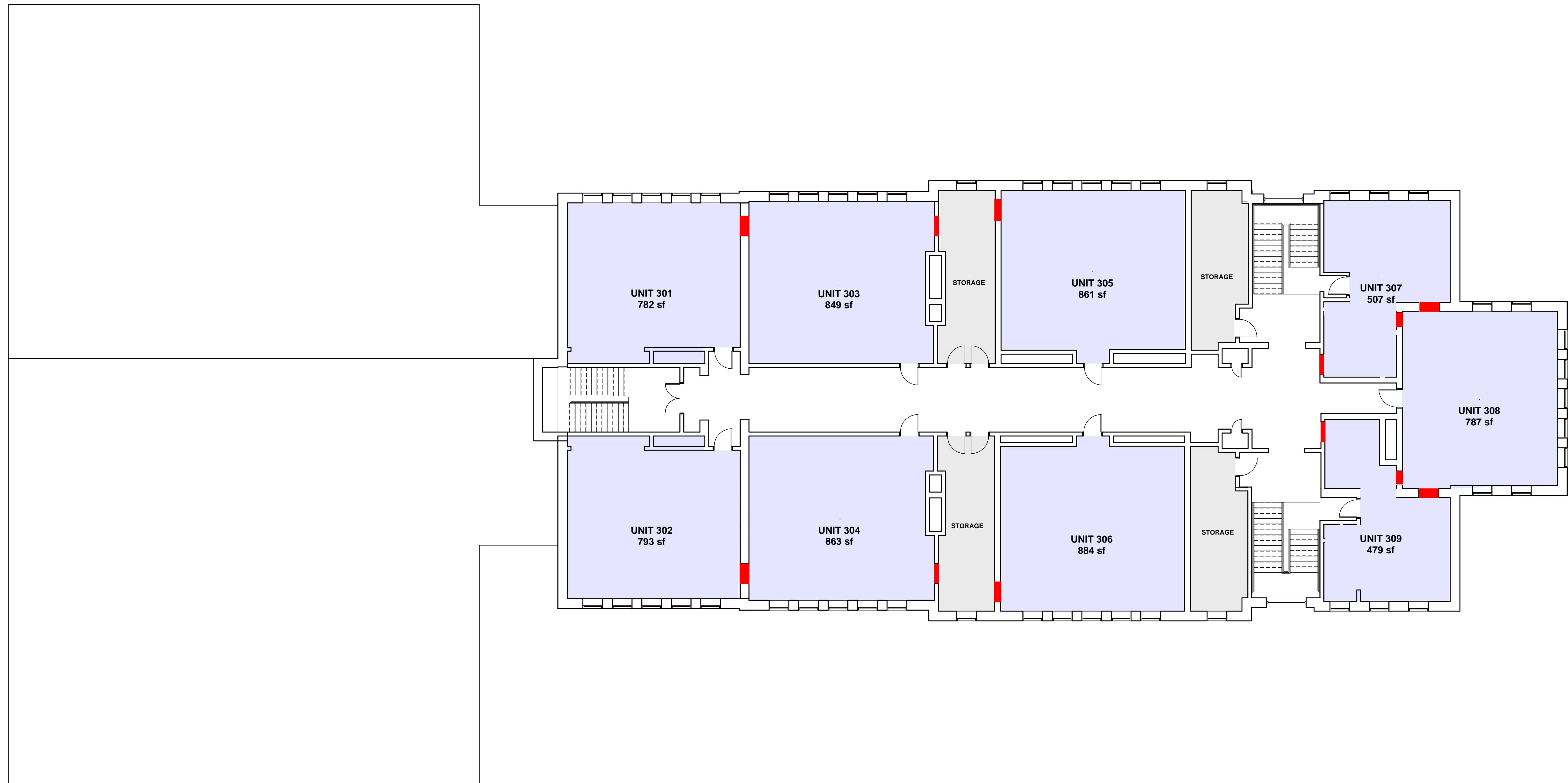
1 PROPOSED SECOND FLOOR PLAN  
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1450 BROAD STREET - FEASIBILITY STUDY

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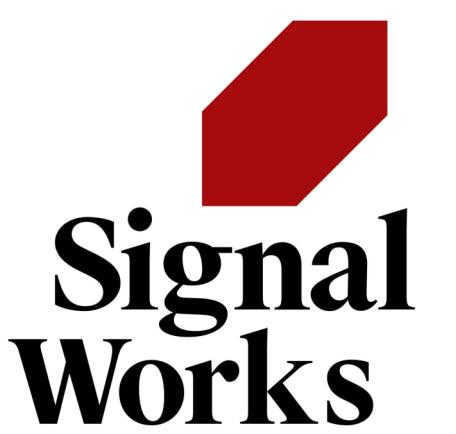
**Signal  
Works**

PROGRAM LEGEND
RESIDENTIAL UNIT
COMMUNITY SPACE
MECHANICAL



1 PROPOSED THIRD FLOOR PLAN  
1" = 10'-0"

1450 BROAD STREET - FEASIBILITY STUDY  
08/28/2025





## CONCEPTUAL DIAGRAMS

### Approach Summary

This project seeks to transform a decommissioned public school on Broad Street into a **40-unit residential community**, adapting the building's institutional legacy into a new chapter of public service: providing high-quality, affordable housing. From an architectural standpoint, the approach honors the robust character of the original school—its generous ceiling heights, large windows, and durable materials—while reimagining its interior organization to meet contemporary housing needs.

Two distinct design strategies were initially considered for this feasibility phase. The first explored a **maximized unit count**, achieved by removing most interior partitions and reconstructing the floor plan to introduce new units within the full building envelope. This approach leveraged the large classroom floorplates and open areas like the gymnasium and library, offering maximum flexibility in layout and density. While efficient, this strategy required significant interior demolition and infrastructure overhaul.

The second strategy, which ultimately shaped the preferred direction, focused on a more **surgical adaptation**: respecting the existing layout wherever feasible by placing residential units along the perimeter of classrooms and reusing corridor circulation. This approach preserves more of the building's original spatial logic—especially in areas like the auditorium, library, and administrative wings—while still allowing for strategic interventions to introduce bathrooms, kitchens, and new vertical circulation as needed. It also retains the rhythm and memory of the building's educational past, which will resonate with community members and former students alike.

Throughout the design process, the architectural team prioritized **human-centered principles**—balancing privacy and natural light within units, integrating accessible entries and elevators, and creating communal areas where residents can gather. The final concept blends efficiency and empathy, respecting both the building's past and the dignity of future residents.

### Accessibility Considerations

During the feasibility analysis, the project team considered whether a full four-stop elevator would be required as part of the adaptive reuse. After review, our approach has excluded a vertical elevator system at this stage, as there are multiple pathways to achieving accessibility compliance under state and federal requirements.

The proposed strategy ensures accessibility through the following measures:

- Ground-level access: An exterior ramp can be provided at the primary entry, allowing barrier-free access to the building.
- Accessible unit distribution: The required percentage of accessible dwelling units can be located on the first floor, ensuring that individuals with mobility needs have equitable housing options.
  - **40 Overall Units Requires 2 Accessible Units**
- Code alignment: This approach meets the intent of accessibility provisions while avoiding the substantial cost, space impacts, and long-term maintenance burden associated with installing a four-stop elevator.

Should the project advance to later design phases, the municipality and development team may revisit vertical accessibility solutions. However, at the feasibility stage, this strategy strikes a balance between regulatory compliance, cost control, and practical use of the existing building layout.

## Basement Level: Compact Living with Strategic Retention

The basement level of the building has been thoughtfully programmed to make productive use of space that might otherwise remain underutilized. Uniquely, this level is only partially below grade, allowing for ample natural light through existing window openings along multiple façades. This condition enables the basement to function as a fully viable residential floor, offering units that meet modern standards for light, ventilation, and comfort—an uncommon but valuable opportunity in adaptive reuse work.

From a planning perspective, the basement supports both housing and auxiliary functions. Existing crawl spaces, which are not suitable for conversion into living areas, have been preserved and may be repurposed for tenant storage or building operations, adding a layer of amenity that is often lacking in affordable housing developments.

This level includes:

- **(8) Eight One-bedroom, One-Bath Units**, efficiently laid out and naturally lit, taking advantage of the building's partial exposure
- **(1) One Two-Bedroom, Two-Bath Unit**, ideal for small families or shared living arrangements
- **(1) One Designated Storage Area**, supporting building operations or tenant needs  
Crawl spaces retained, with the potential to become assigned or leasable tenant storage

By leveraging the building's partial grade exposure and structurally sound foundation, the basement level plays an essential role in maximizing unit count while maintaining high standards of livability. It is a key component of the project's overall strategy to deliver both functional and dignified housing within a limited footprint.

## First Floor: Centralized Living & Community Anchoring

The first floor functions as the **primary entry point and social heart** of the residential development. Elevated slightly above grade and accessed via a short exterior stair, this level benefits from wide corridors, generous ceiling heights, and expansive classroom footprints—hallmarks of its original educational use. These characteristics provide a natural framework for spacious one- and two-bedroom units, with larger classrooms either split or combined to create **open-plan apartments** that retain the sense of volume and light.

In keeping with the building's communal legacy, the first floor also incorporates **shared community spaces** that serve as vital social infrastructure for residents. These flexible rooms are ideal for tenant meetings, coworking, youth programming, or informal lounge use—supporting both connection and daily life. This blending of private dwellings and shared areas helps preserve the inclusive spirit of the former school while enriching the residential experience.

This level includes:

- **(9) Nine One-Bedroom, One-Bath units**, designed with generous proportions and ample daylight
- **(4) Four Two-Bedroom, Two-Bath Loft-Style Units**, offering more expansive layouts suitable for families or working professionals
- **(2) Two Community Spaces**, adaptable for tenant gatherings, occasions, or collaborative meetings
- **(4) Four Dedicated Storage Areas**, supporting tenant and/or operational needs

Notably, the existing **auditorium**—a defining feature of the original building—remains intact at this level. While there is potential to demolish it in favor of additional units, its preservation presents a rare opportunity: a dramatic, flexible space that can serve as a **community amenity** for fitness, performance, cultural events, or celebrations. Retaining this space not only enhances resident life but also honors the building's civic past, reinforcing the project's mission to **blend housing with heritage**.

## Second Floor: Single-Unit Efficiency with Community Flexibility

The second floor is dedicated entirely to **one-bedroom units**, allowing for a streamlined and efficient residential layout that capitalizes on the building's original classroom configuration. This level follows a rhythmic spatial logic—nine classrooms repurposed into compact, comfortable apartments, each benefiting from **large, operable windows** that provide natural light, cross-ventilation, and a strong visual connection to the surrounding neighborhood.

By aligning unit design with the original footprint, the second floor supports both construction efficiency and preservation goals. Minimal structural interventions are required, and many existing corridor paths and mechanical chases can be reused, reducing costs and construction complexity. This consistent layout also fosters a sense of order and clarity in the building's vertical stack—creating ease of wayfinding for residents and simplifying long-term maintenance.

This level includes:

- **(9) Nine One-Bedroom, One-Bath units**, offering a consistent and efficient layout with ample daylight
- **(2) Two Community Spaces**, suited for casual gathering, quiet work, or shared programming
- **(4) Four Storage Areas**, which can be designated for tenant use or building operations

As with the first floor, the **auditorium volume** remains a significant architectural presence at this level.

## Third Floor: Upper-Level Privacy & Light

The third floor serves as the **highest and last residential level**, mirroring the second floor in overall layout and unit distribution. Dedicated entirely to **one-bedroom units**, this floor offers a consistent and efficient plan while benefiting from increased privacy, natural light, and potentially elevated views—features that enhance the appeal of top-floor living. With no shared community spaces on this level, the atmosphere is quieter and more secluded, making it ideal for residents seeking a more private or tranquil home environment.

By replicating the successful layout strategy of the second floor, the third floor continues to leverage the building's original classroom proportions, window lines, and corridor paths to deliver high-quality housing with minimal structural reconfiguration. The uniformity of



one-bedroom units also simplifies vertical mechanical planning and contributes to overall construction efficiency.

This level includes:

- **(9) Nine One-Bedroom, One-Bath units**, with elevated ceiling heights and improved daylight exposure
- **(4) Four Storage Areas**, providing valuable auxiliary space for residents or building management

While it does not feature dedicated community rooms, the third floor's **quieter character** complements the more active, amenity-rich spaces found on the levels below. It rounds out the building's unit mix by offering a distinct residential experience—one focused on calm, comfort, and privacy within a vibrant, reimagined community setting.

## Future Expansion Considerations

As with many adaptive reuse projects, the transformation of the former school into housing not only leverages existing assets but also unlocks opportunities for future expansion, refinement, and amenity development. While the initial plan is focused on delivering 40 high-quality residential units, the building and site contain embedded potential that can support long-term growth or phased investment—providing flexibility to respond to future tenant needs, funding opportunities, or evolving program goals.

The partially below-grade **crawl spaces** adjacent to the basement level offer an untapped opportunity to introduce additional storage amenities. With selective upgrades—such as moisture control, lighting, and secure access—these areas could be converted into rentable or assigned storage units for tenants. This would enhance the building's amenity package, especially valuable in compact unit layouts, and generate modest but steady operational revenue.

While the current design preserves the auditorium as a community space, an **alternate consideration** is to convert it into additional residential units. The auditorium, as planned, offers a unique opportunity for tenant events, fitness programming, performances, and partnerships—functions that reinforce the building's role as a community anchor. Yet, the space also represents a potential expansion zone: its removal could yield multiple new units across both the first and second floors by reclaiming substantial square footage.

The **former gym wing** presents a unique opportunity to expand the building footprint without compromising its core program. With thoughtful design, this area could support a vertical or



horizontal addition—potentially introducing new residential units while preserving portions of the gym for internal amenities such as fitness rooms, recreation areas, or flexible gathering spaces. This strategy would allow the development to grow while maintaining a balance between housing density and livability.

Together, these future growth opportunities provide a framework for phased development, allowing the project to remain adaptable and responsive over time. They reflect a holistic design approach—one that sees the building not just as a static conversion, but as a living piece of infrastructure capable of evolving alongside its residents and community.

## Unit Summary

The proposed residential program delivers a well-balanced and intentional mix of unit types, shaped by both the opportunities of the existing building and the needs of future residents. With a total of **40 residential units** distributed across four levels, the layout emphasizes flexibility, inclusivity, and thoughtful spatial organization. Each floor plan draws from the building's original classroom structure, preserving generous ceiling heights, maximizing access to natural light, and aligning circulation with existing corridors—all while enhancing the resident experience through proximity to shared amenities.

The unit mix includes **35 one-bedroom, one-bathroom units**, designed to accommodate individuals, couples, or seniors seeking privacy and efficiency. These are evenly distributed throughout the building, ensuring equitable access to light, storage, and shared community spaces. Complementing this are **5 two-bedroom, two-bathroom units**, located on the lower levels and tailored for small families, roommates, or those requiring more space. Their placement near amenity areas like the community rooms and auditorium reinforces the project's commitment to livability and social connection.

Together, this unit distribution supports a diverse resident population while respecting the architectural character of the original school. The result is a residential community that feels cohesive, adaptable, and grounded in both purpose and place—a model for thoughtful, community-oriented adaptive reuse.

## Approach Summary

This feasibility study examines how 1450 Broad Street could be renovated to serve a new purpose while also lowering overall building energy use. Three scenarios were modeled to understand what is possible: **the existing conditions, a renovation that meets the International Energy Conservation Code (IECC), and a renovation that follows the more rigorous Passive House Institute US (PHIUS) standard.** The main difference between IECC and PHIUS is that IECC ensures buildings meet the minimum legal requirements for efficiency. PHIUS, by contrast, sets a higher bar and delivers a building that is more comfortable, resilient, and cost-effective to operate over time.

## Modeling Results

### Existing Building Overview

The current building serves as the baseline for evaluation. As it stands, the structure is outdated in terms of energy performance. With virtually no insulation, modest-quality windows, and significant air leakage, the building consumes far more energy than is appropriate for modern standards. This level of performance is neither cost-effective in the long term nor suitable for meeting current energy codes.

### Assumed Values for the Existing Building

- **Slab:** Uninsulated, R-0.67
- **Walls (Above Grade):** R-7.21
- **Basement Walls:** R-7.21
- **Roof:** R-25.84
- **Windows:** U-Factor 1.17, SHGC 0.7
- **Airtightness:** 3.2 ACH, 0.5 CFM/ft<sup>2</sup>
- **Cooling:** Standard air conditioning
- **Heating (HVAC):** Boiler
- **Domestic Hot Water (DHW):** Boiler
- **Ventilation:** No heat recovery
- **Lighting:** LED

## Energy Use Data

These assumptions translate directly into how much energy the building requires to operate. The following metrics are key to understanding its performance:

**Total Site Energy Use:** 1,078,282.7 kWh/year (Energy consumed annually)

**Specific Site Energy Use:** 16.3 kWh/ft<sup>2</sup>·yr (Energy use per square foot)

**Heating Load Intensity:** 55.7 kBtu/ft<sup>2</sup>·y (Energy needed for heating alone)

## What This Means

This data highlights the inefficiency of the existing building. High energy use is driven by poor insulation values, leaky construction, and outdated mechanical systems. While the building uses LED lighting, this single upgrade cannot offset the energy losses from the envelope and systems.

Crucially, these performance levels **do not meet IECC code minimums for energy compliance**. As a result, the building is not only energy-intensive but also non-compliant with modern standards—making renovation and upgrades essential.

## Why Change is Needed

To remain viable, the building must reduce its energy demand and improve efficiency. Without upgrades, it will continue to have high operating costs, poor comfort levels, and a larger carbon footprint.

The next two options demonstrate how this building can be transformed:

1. **Code-Minimum Renovation (IECC-Compliant):** Meeting current standards for insulation, airtightness, and system performance.
2. **High-Performance Upgrade (PHIUS):** Going beyond code minimums to create a building that is exceptionally efficient, comfortable, and resilient.

Both paths represent significant improvements over the baseline, but with very different long-term impacts.

### IECC-Compliant Building Renovation

The first renovation scenario upgrades the building to meet **IECC code minimums**. This means bringing the structure in line with today's baseline legal requirements for energy performance.

To achieve this, the design includes continuous exterior insulation, higher-performing windows, better air sealing, and more efficient heating, cooling, and ventilation systems.

With these upgrades, the building becomes **legally compliant and far more efficient** than its current state. Energy use drops by about two-thirds, showing how significant code-minimum improvements can be. This represents the standard benchmark for permitting and what a “typical” renovated building would look like under today’s energy codes.

### Assumed Values for IECC Renovation

- **Slab:** Uninsulated, R-0.67
- **Walls (Above Grade):** Continuous insulation added, total R-18.6
- **Basement Walls:** R-14.7
- **Roof:** R-49
- **Windows:** U-Factor 0.45, SHGC 0.33 (much more efficient than existing)
- **Airtightness:** 2.24 ACH, 0.35 CFM/ft<sup>2</sup> (tighter building envelope)
- **HVAC:** High-efficiency heat pump (COP 2/3), energy recovery ventilation (ERV)
- **DHW:** Heat pump water heater, EF 3.4
- **Ventilation:** Includes heat recovery
- **Lighting:** LED

### Energy Use Data

These improvements dramatically cut energy demand:

- **Total Site Energy Use:** 353,347 kWh/year (Energy consumed annually)
- **Specific Site Energy Use:** 5.3 kWh/ft<sup>2</sup>·yr (Energy use per square foot)
- **Heating Load Intensity:** 18.2 kBtu/ft<sup>2</sup>·yr (Energy needed for heating alone)

Compared to the existing building, this is a **67% reduction in energy use**.

### What This Means

An IECC-compliant renovation makes the building significantly more efficient while also ensuring it meets modern legal standards. The improved envelope and systems reduce operating costs, lower the building’s carbon footprint, and provide a much higher level of comfort for occupants.

The benefit of this approach is that it delivers major improvements while achieving the minimum compliance needed for permitting. It represents a substantial leap forward compared to the existing building, cutting operating costs and energy use by nearly two-thirds.

However, the limitation of stopping at code minimum is that the building will still use more energy than a high-performance building, such as one designed to Passive House (PHIUS) standards. It remains less resilient to future energy price increases and does not fully maximize long-term carbon savings. In other words, while this is a solid step forward, it establishes a baseline rather than a forward-looking solution.

### **PHIUS-Compliant Building Renovation**

The second renovation scenario goes further by adopting the **Passive House (PHIUS) standard**. Unlike code minimum upgrades, this approach prioritizes the performance of the building envelope itself. The design includes significantly higher insulation levels, ultra-efficient windows, and an exceptionally tight building shell. While the heating, cooling, and ventilation systems remain efficient, the real gains come from reducing the building's overall energy demand through envelope design.

This strategy pushes efficiency well beyond code compliance, achieving a **73% reduction in energy use compared to the existing building** and performing about 17% better than the IECC scenario.

### **Assumed Values for PHIUS Renovation**

- **Slab:** Uninsulated, R-0.67
- **Walls (Above Grade):** R-30.5
- **Basement Walls:** R-30.5
- **Roof:** R-68.5
- **Windows:** U-Factor 0.174, SHGC 0.4 (very high-performing)
- **Airtightness:** 0.38 ACH, 0.06 CFM/ft<sup>2</sup> (extremely tight envelope)
- **HVAC:** High-efficiency heat pump (COP 2/3), energy recovery ventilation (ERV)
- **DHW:** Heat pump water heater, COP 2.5
- **Lighting:** LED (critical for lowering site energy, 110,661 kWh total)

### **Energy Use Data**

The improvements under PHIUS result in even greater efficiency gains:

- **Total Site Energy Use:** 292,770.5 kWh/year (Energy consumed annually)
- **Specific Site Energy Use:** 4.4 kWh/ft<sup>2</sup>·yr (Energy use per square foot)
- **Heating Load Intensity:** 15.1 kBtu/ft<sup>2</sup>·yr (Energy needed for heating alone)

Compared to the existing building, this represents a **73% drop in energy use**, and a **17% improvement over the IECC scenario**.

## What This Means

A PHIUS-compliant renovation doesn't just meet code—it sets the building up as a **high-performance model** of efficiency, comfort, and resilience. The robust envelope ensures consistent indoor temperatures, eliminates drafts, and provides excellent protection against extreme weather. In addition, the tighter and more insulated building shell reduces mechanical strain, creating a longer-lasting system with fewer maintenance demands.

The benefit of this approach is clear: energy use is minimized, operating costs are significantly lower, and the long-term resilience of the building is greatly improved. Occupants enjoy superior comfort and air quality, while the building's carbon footprint is drastically reduced.

The limitation of PHIUS, however, is its higher upfront construction cost. Meeting Passive House standards requires more investment in insulation, windows, and air-sealing details than a code-minimum renovation. Yet, this cost is often offset by the long-term savings in utility bills, as well as the non-financial benefits of durability, comfort, and climate resilience. In short, while more ambitious, PHIUS offers the greatest return in performance and long-term value.

## Conclusions

In evaluating the two renovation pathways—**IECC 2024 compliance** and **PHIUS certification**—this study highlights both the practical feasibility of a code-minimum renovation and the added performance potential of a more advanced approach. Each path delivers meaningful energy savings and upgrades, but the scale of impact and investment differs.

An **IECC-compliant renovation** represents a significant improvement over the existing baseline. By adding continuous insulation, tightening the envelope, and incorporating efficient mechanical systems, the building reduces its energy use by 67%. This approach achieves legal compliance, streamlines permitting, and aligns with standard construction practices and common funding thresholds. It offers a cost-effective path to adaptive reuse, delivering affordable housing with substantial energy improvements at a lower upfront cost.

A **PHIUS renovation** takes performance a step further, achieving a 73% reduction in energy use—about 17% better than the IECC scenario. This is accomplished through more robust insulation, advanced window systems, and an extremely tight building envelope. While this pathway does deliver enhanced comfort, indoor air quality, and operational resilience, it requires a higher initial investment. On energy savings alone, the payoff timeline difference between IECC Compliance and PHIUS compliance is roughly 10-years in favor of the IECC Compliant Approach. However, it may unlock access to additional funding sources, incentives, and financing tools that increasingly favor high-performance and climate-aligned projects.



**The key distinction lies in cost versus benefit over time.** IECC compliance provides a straightforward, economical strategy that balances energy efficiency and affordability today. PHIUS represents a deeper investment that extends the payback horizon but could provide additional long-term value and alignment with evolving sustainability goals.

Ultimately, both approaches are feasible. The decision rests on whether the project team prioritizes immediate cost-effectiveness and speed of delivery (IECC) or longer-term performance, durability, and access to high-performance funding opportunities (PHIUS).

## Energy Modeling Base Case

The current building serves as the baseline for evaluation. As it stands, the structure is outdated in terms of energy performance. With virtually no insulation, modest-quality windows, and significant air leakage, the building consumes far more energy than is appropriate for modern standards. This level of performance is neither cost-effective in the long term nor suitable for meeting current energy codes.

### Modeling Information

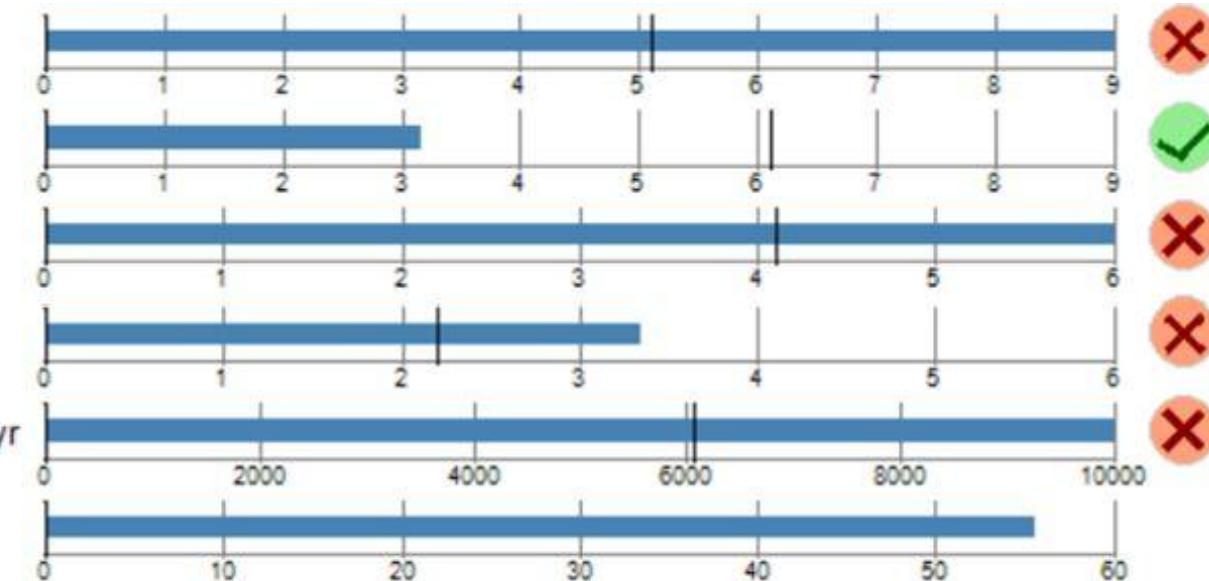
Slab	Uninsulated R 0.67
Walls	Uninsulated R 7.21
Basement Wall	Uninsulated R 7.21
Roof	R 25.84
Windows	1.17 U-Value 0.7 SHGC
Airtightness	3.2 ACH 0.5 CFM/ft <sup>2</sup>
Cooling	Air Conditioning
Heating	Boiler*
DHW	Boiler*
Ventilation	Ventilation w/o heat recovery
Lighting	LED

**Total Site Energy Use: 1,078,282.7 kWh/yr**

**Specific Site Energy Use: 16.3 kWh/sqft.yr. (55.7 kBtu/[sqft.yr.](#))**

### WUFI Results

Heating demand:	<b>36.81 kBtu/ft<sup>2</sup>yr</b>
Cooling demand:	<b>3.18 kBtu/ft<sup>2</sup>yr</b>
Heating load:	<b>17.85 Btu/hr ft<sup>2</sup></b>
Cooling load:	<b>3.35 Btu/hr ft<sup>2</sup></b>
Source energy:	<b>17,445 kWh/Person yr</b>
Site energy:	<b>55.67 kBtu/ft<sup>2</sup>yr</b>



## Energy Modeling Case #1 IECC Compliant

The first renovation scenario upgrades the building to meet **IECC code minimums**.

This means bringing the structure in line with today's baseline legal requirements for energy performance. To achieve this, the design includes continuous exterior insulation, higher-performing windows, better air sealing, and more efficient heating, cooling, and ventilation systems.

With these upgrades, the building becomes **legally compliant and far more efficient** than its current state. Energy use drops by about two-thirds, showing how significant code-minimum improvements can be. This represents the standard benchmark for permitting and what a "typical" renovated building would look like under today's energy codes.

### Modeling Information

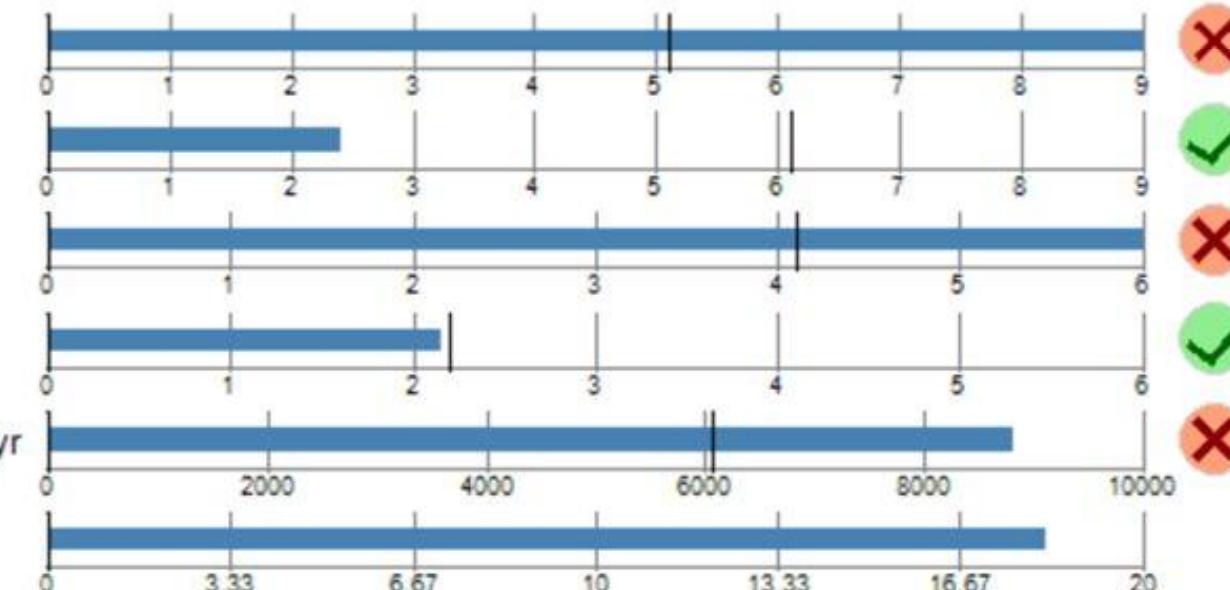
Slab	Uninsulated R 0.67
Walls	Mass: R 11.4 ci – total R 18.611
Basement Wall	Mass: R 7.5 ci – total R 14.711
Roof	R 49
Windows	0.45 U-Value (Operable) 0.33 SHGC (Operable) – lowest projection factor assumed (.38 SHGC <sub>cog</sub> was used and resulted in a .323 whole window SHGC)
Airtightness	2.24 ACH 0.35 CFM/ft <sup>2</sup>
HVAC	Heat Pump: COP 2/3 ERV: 0.75 S / 0.6 L
DHW	Heat Pump: 3.4 EF
Ventilation	Ventilation with heat recovery
Lighting	LED

**Total Site Energy Use: 353,347.09 kWh/yr**

**Specific Site Energy Use: 5.35 kWh/sqft.yr. (18.24 kBtu/sqft.yr.)**

### WUFI Results

Heating demand:	<b>13.5 kBtu/ft<sup>2</sup>yr</b>
Cooling demand:	<b>2.41 kBtu/ft<sup>2</sup>yr</b>
Heating load:	<b>8.58 Btu/hr ft<sup>2</sup></b>
Cooling load:	<b>2.16 Btu/hr ft<sup>2</sup></b>
Source energy:	<b>8,834 kWh/Person yr</b>
Site energy:	<b>18.24 kBtu/ft<sup>2</sup>yr</b>



## Energy Modeling Case #2 PHIUS

The second renovation scenario goes further by adopting the **Passive House (PHIUS) standard**. Unlike code minimum upgrades, this approach prioritizes the performance of the building envelope itself. The design includes significantly higher insulation levels, ultra-efficient windows, and an exceptionally tight building shell. While the heating, cooling, and ventilation systems remain efficient, the real gains come from reducing the building's overall energy demand through envelope design.

This strategy pushes efficiency well beyond code compliance, achieving a **73% reduction in energy use compared to the existing building** and performing about 17% better than the IECC scenario.

### Modeling Information

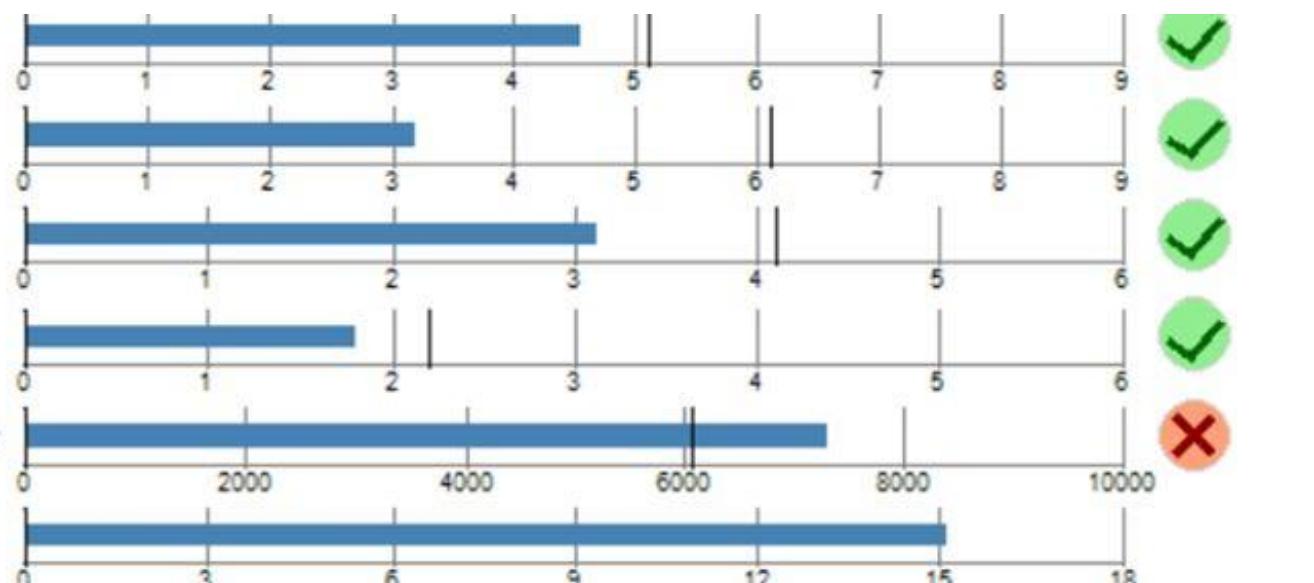
Slab	Uninsulated R 0.67
Walls	R 30.49
Basement Wall	R 30.49
Roof	R 68.46
Windows	0.174 U-Value 0.4 SHGC
Airtightness	0.38 ACH 0.06 CFM/ft <sup>2</sup>
HVAC	Heat Pump: COP2/3 ERV: 0.75 S / 0.6 L
DHW	Heat Pump: 3.4 EF
Lighting	LED (critical for site energy use, total of 110,661 kWh)

**Total Site Energy Use: 292,770.5 kWh/yr**

**Specific Site Energy Use: 4.4 kWh/sqft.yr. (15.1 kBtu/sqft.yr.)**

### WUFI Results

Heating demand:	<b>4.56 kBtu/ft<sup>2</sup>yr</b>
Cooling demand:	<b>3.18 kBtu/ft<sup>2</sup>yr</b>
Heating load:	<b>3.12 Btu/hr ft<sup>2</sup></b>
Cooling load:	<b>1.8 Btu/hr ft<sup>2</sup></b>
Source energy:	<b>7,319 kWh/Person yr</b>
Site energy:	<b>15.12 kBtu/ft<sup>2</sup>yr</b>



## ROUGH ORDER OF MAGNITUDE (ROM) COST ESTIMATE

### Approach Summary

At the feasibility stage of a project, especially one involving adaptive reuse, a **Rough Order of Magnitude (ROM) cost estimate** plays a critical role in shaping early decision-making. While inherently high-level, this preliminary cost analysis provides stakeholders with a conceptual framework to understand the potential scale of investment required—well before detailed design or engineering begins. It is not meant to be precise, but rather to define a realistic cost boundary that supports strategic planning.

The ROM estimate serves as a **financial litmus test**, helping project sponsors, municipalities, or development partners gauge whether the vision is within reach. It draws on industry benchmarks, historical project data, and cost-per-square-foot assumptions that are appropriate to the building type, program, and regional construction climate. While it cannot predict every variable, it does highlight where further clarity will be needed—such as in environmental remediation, structural upgrades, MEP system replacement, or code-driven modifications. These early insights help to identify potential cost “blind spots” that should be addressed as the project moves into schematic design.

Importantly, a well-documented ROM estimate can also function as a **foundational tool for decision-making and procurement**. Whether used to shape a Request for Proposals (RFP) for developers, design professionals, or construction partners, it sets clear expectations and helps establish a shared understanding of scope and scale. In doing so, it bridges the gap between concept and execution—ensuring that future project phases are grounded in both ambition and practical feasibility.

### Defined Costs

In any development estimate, project costs are typically divided into **hard costs** and **soft costs**—a distinction that helps clarify where money is being spent and how those costs behave over the course of a project. While most experienced teams are familiar with these terms, understanding their implications at the **feasibility stage** is critical to shaping accurate expectations and making informed decisions.

**Hard costs** refer to the physical, brick-and-mortar components of construction: materials, labor, building systems, site work, and contractor overhead. These are typically more straightforward to quantify and benchmark, especially when existing buildings provide measurable data points like square footage, structure, or envelope conditions. They represent the core of what gets built—and tend to follow predictable pricing patterns within a given region or market.

**Soft costs**, on the other hand, encompass the **professional services, administrative requirements, and financing structures** that support a project's execution. These include architectural and engineering fees, permitting, legal services, insurance, commissioning, and often, financing or carrying costs. While not physically visible in the final structure, soft costs are essential to getting a project approved, designed, and delivered. Because they are more sensitive to variables like project complexity, entitlement processes, or agency coordination, soft costs can fluctuate significantly—even early on.

At the feasibility stage, including both cost categories in a Rough Order of Magnitude estimate ensures a **holistic understanding of total project exposure**. For teams preparing an RFP or developers evaluating project viability, this context helps set realistic financial expectations and avoids common pitfalls where soft costs are underestimated or overlooked.

## Estimate Findings

### Summary:

The feasibility analysis confirms that the adaptive reuse of the former school building into affordable housing is a viable development opportunity with multiple implementation pathways. Two distinct performance strategies were examined—one aligned with the 2024 IECC code requirements and another targeting PHIUS certification. Each was modeled using a consistent renovation scope, allowing for a direct comparison of programmatic outcomes, capital investment, and alignment with long-term goals around sustainability and housing access.

Beyond confirming baseline feasibility, the findings underscore the adaptability of the existing structure. The design team successfully accommodated a full residential program—including one- and two-bedroom units, storage, and community amenities—entirely within the original building envelope. The study also identified future opportunities for phased expansion, such as gymnasium infill or the reconfiguration of common areas, further reinforcing the site's long-term potential.

Cost modeling revealed several key areas where performance goals directly influence construction costs. In particular, notable increases were identified in **Division 07 (Thermal and Moisture Protection)**, where higher insulation values and air-tightness requirements significantly drive cost in PHIUS-aligned design. Similarly, **Division 23 (HVAC)** and **Division 26 (Electrical)** carried substantial increases due to enhanced mechanical systems, energy recovery requirements, and electrical upgrades supporting electrification and renewable energy readiness. These divisions represent critical drivers in the shift from baseline to high-performance design, and their early identification helps inform funding strategies and design priorities.

Ultimately, the findings provide a practical and flexible foundation for moving forward. Whether pursued through a code-compliant strategy or an enhanced performance pathway, the project is shown to be both technically and financially feasible. The analysis equips public stakeholders, development partners, and design teams with a clear roadmap—grounded in real data—for transforming this legacy building into a resilient, high-quality housing asset.

### **ROM Estimate Figures:**

#### **USE Case #01: Non-PHIUS, Code Compliant per IECC 2024**

- Full Interior Renovation
  - Walls Insulated to R-27
  - Roof Insulated to R-30ci
  - New Windows @ Double-Pane, Energy Efficient Glazing
- Hard-Costs = \$15,000,000 (\$233/sf)
- Soft-Costs = \$3,500,000
- Contingency / Escalation = \$1,850,000
- **Total Project Cost (+/-) = \$20,350,000 (\$316/sf)**

#### **USE Case #02: PHIUS Compliance / Certification**

- PHIUS Compliance Criteria
  - Walls Insulated to R-30.5
  - Roof Insulated to R-68.5
  - New Windows @ Triple-Pane, Low-E Glazing
- Hard-Costs = \$19,570,495 (\$304/sf)
- Soft-Costs = \$4,250,000
- Contingency / Escalation = \$2,150,000
- **Total Project Costs (+/-) = \$25,570,495 (\$398/sf)**

### ***Recommended Allowance Items:***

- On-site Renewable Energy Production: ~5% of Hard-Costs
  - Includes roof-mounted solar array, conduit infrastructure, inverters, and structural allowances.
- Hazardous Materials - Testing & Abatement: ~5% of Hard-Costs
  - Covers potential asbestos, lead-based paint, or PCB removal based on typical school building conditions.
- Exterior Accessibility Improvements: ~3% of Hard-Costs
  - For interior and exterior modifications including accessible units, compliant egress, ramps, and signage.
- Site Work & Landscaping: ~7% of Hard-Costs
  - Assumes reconfiguration of surface parking, accessible paths, limited hardscape, and plantings.

### **Elevator Alternate Options (Provided for Consideration)**

- Interior Intervention: ~\$500,000
  - Includes elevator equipment package, limited hoistway construction/lining, pit

and machine room upgrades, power, controls, basic finishes, demo/patching, testing & commissioning. This aligns with common commercial guideposts (often **\$50k-\$100k per landing** before building modifications) plus typical retrofit premiums.

- Exterior Addition: **~\$975,000**
  - Adds foundations, structural shaft, envelope/weatherproofing, tie-ins to corridors, roof work, fire-rating, and site restoration—on top of the elevator package itself. New installs commonly benchmark **\$250k-\$500k per elevator** before tower/envelope costs; the tower and building interfaces drive the upper range.

## Strategic Considerations: PHIUS vs. IECC Compliance

In evaluating two performance pathways—IECC 2024 compliance and PHIUS certification—this study highlights both the immediate feasibility and long-term potential of the project. While the Passive House (PHIUS) scenario requires a higher upfront capital investment, it positions the development to deliver sustained energy savings, increased comfort, and alignment with state-level priorities for building decarbonization and performance-based housing.

The PHIUS path introduces increased thermal performance standards, reduced energy demand, and greater resilience. For residents, this can mean lower utility bills and improved indoor air quality. For development partners, it may open access to additional funding streams, sustainability-focused tax credits, and competitive positioning for public-private financing tools increasingly linked to ESG goals.

That said, the code-compliant design—based on the 2024 IECC—remains a fully viable and cost-effective approach. It allows for the adaptive reuse of the school into affordable housing at a reasonable price point, aligned with standard construction practices and funding thresholds. This path retains the core mission of delivering equitable, high-quality housing while reducing complexity during permitting and construction.

This dual-path strategy reflects a fundamental principle of the feasibility study: the project is **achievable today**, with the flexibility to **aspire further**. It invites development teams to weigh costs, benefits, and funding strategies with a clear understanding of the tradeoffs—and to select the approach that best matches their capacity, funding sources, and long-term operational vision.

## CSI Divisional Breakdown (Projected)

Division Name	IECC Compliant Costs	PHIUS Compliant Costs
Division 02 - Existing Conditions	\$771,490	\$771,490
Division 03 - Concrete	\$48,220	\$48,220
Division 04 - Masonry	\$299,310	\$299,310
Division 05 - Metals	\$106,440	\$126,440
Division 06 - Woods / Plastics / Composites	\$546,660	\$596,660
Division 07 - Thermal & Moisture Protection	\$1,028,650	\$1,950,000
Division 08 - Openings	\$514,330	\$968,625
Division 09 - Finishes	\$2,893,100	\$3,327,060
Division 10 - Specialties	\$48,220	\$48,220
Division 21 - Fire Protection	\$417,895	\$417,895
Division 22 - Plumbing	\$1,928,730	\$2,510,915
Division 23 - HVAC	\$4,500,370	\$6,255,480
Division 26 - Electrical	\$1,414,400	\$1,768,000
Division 27 - Communications	\$160,730	\$160,730
Division 28 - Electronic Safety & Security	\$321,455	\$321,455
<b>Total Hard-Costs</b>	<b>\$15,000,000</b>	<b>\$19,570,495</b>
General Conditions (not all-inclusive list)	\$2,950,950	\$3,400,000
Insurance, Bonds, Fees	<i>Included Above</i>	<i>Included Above</i>
Safety & Security	<i>Included Above</i>	<i>Included Above</i>
Site Services & Temporary Utilities	<i>Included Above</i>	<i>Included Above</i>
General Requirements (not all-inclusive list)	\$549,050	\$1,150,000
Administrative Requirements	<i>Included Above</i>	<i>Included Above</i>
Quality & Performance Requirements	<i>Included Above</i>	<i>Included Above</i>
Special Project Procedures	<i>Included Above</i>	<i>Included Above</i>
Project Closeout	<i>Included Above</i>	<i>Included Above</i>
<b>Total Soft-Costs*</b>	<b>\$3,500,000</b>	<b>\$4,250,000</b>
Recommended Escalation & Contingency	\$1,850,000	\$2,150,000
<b>Total Project Costs</b>	<b>\$20,350,000</b>	<b>\$25,970,495</b>

\* Soft-Costs do not account for potential development or entitlement fees, those would become the responsibility of the interested party to develop and incorporate

## CONCLUSIONS

### Summary of Findings

The proposed adaptive reuse of 1450 Broad Street in Providence, RI, envisions the transformation of a 1930s-era former public school into a 40-unit multi-family residential development. The building's durable masonry construction, generous classroom footprints, and wide central corridors offer an ideal framework for residential conversion—supporting both functional reprogramming and architectural preservation. The current concept introduces a mix of one- and two-bedroom units distributed across four floors, with integrated community spaces, tenant storage, and room for future expansion through the gymnasium wing or auditorium reconfiguration.

Although the property is zoned PS (Public Space), the City of Providence permits residential use through adaptive reuse provisions—particularly when converting existing civic structures. Importantly, all adjacent zoning districts (R-2, C-1, and C-2) support residential use, reinforcing the contextual appropriateness of the proposed program. Parking requirements, while governed by local ordinance, are expected to be satisfied through a combination of on-site layout and potential shared-use agreements with adjacent city-owned parcels.

In support of long-term sustainability and energy performance goals, the study evaluated both a code-compliant path aligned with the 2024 International Energy Conservation Code (IECC), and a higher-performance design pursuing Phius (Passive House Institute U.S.) certification. While both pathways are viable, the PHIUS strategy introduces enhanced building envelope requirements, airtightness, and mechanical systems designed and verified through advanced energy modeling (WUFI). In return, it offers long-term benefits in comfort, indoor air quality, and operational energy savings.

A Rough Order of Magnitude (ROM) cost estimate was prepared to test early feasibility. It includes both **hard costs** (construction materials, labor, systems) and **soft costs** (design, permitting, administrative fees), and accounts for escalation and contingency. Notably, cost modeling revealed significant deltas in Division 07 (Thermal & Moisture Protection), Division 23 (HVAC), and Division 26 (Electrical), particularly when comparing baseline and Phius-aligned scopes. These findings help stakeholders anticipate where cost pressures may emerge and plan accordingly.

Overall, the study confirms that redevelopment of this site is both **feasible and flexible**—capable of meeting baseline performance standards or stretching toward high-performance design goals. The adaptive reuse plan supports affordability, neighborhood compatibility, and architectural integrity, while offering a platform for long-term resilience.

## Development Guidance Note: Use in Future RFPs

The following development guidance is intended to help public stakeholders, funding agencies, and prospective development teams translate the findings of this feasibility study into actionable next steps. It outlines key considerations for procurement, performance alignment, and scope flexibility—framing how the project can move from conceptual planning into solicitation and execution. Whether the goal is to issue an RFP, engage design professionals, or evaluate funding strategies, this guidance supports a clear and informed path forward.

- The two cost scenarios provided in this feasibility study are intended to inform the structure of future Requests for Proposals (RFPs) for development or design teams. The information herein supports either of the following pathways:
- A base proposal that meets IECC 2024 energy code compliance and fulfills all stated affordability and programmatic goals, or
- An enhanced proposal that targets PHIUS certification and demonstrates a commitment to high-performance building strategies and long-term energy savings.
- RFP issuers may choose to encourage respondents to propose one or both options, accompanied by a narrative that articulates cost, constructability, and funding implications. This flexibility enables competitive responses while ensuring alignment with the state's broader goals for sustainable development and housing equity.
- By grounding this RFP framework in clearly defined cost estimates and performance tiers, public stakeholders can better evaluate proposals not just on budget, but on long-term value, environmental impact, and community benefit.

## Key Findings

1450 Broad Street presents a clear and compelling opportunity to convert a historic public school building into 40 units of affordable housing. Through a detailed feasibility study, the project has been proven viable under both standard code compliance and a high-performance design path. The structure's existing layout, durable construction, and zoning context support redevelopment with minimal zoning friction and significant design flexibility.

## Key Program Outcomes

- **Total Units Proposed:** 40
  - 35 one-bedroom / one-bathroom units
  - 5 two-bedroom / two-bathroom units

- **Zoning:** While the site is zoned PS (Public Space), residential use is allowable via adaptive reuse provisions. Surrounding zones (R-2, C-1, C-2) support residential development, reinforcing land use compatibility.
- **Parking:** Feasible through on-site layout or adjacent lot agreements with city-owned parcels.

## Energy Strategy Comparison: IECC vs. PHIUS

Two performance scenarios were evaluated, each with significant implications for long-term energy use, construction cost, and sustainability:

### Use Case #1 – Code Compliant (IECC 2024):

This scenario meets baseline performance standards and is designed to be cost-efficient and achievable with conventional construction methods.

- Wall insulation: R-18.6 (total)
- Roof insulation: R-49
- Windows: U-0.45 (operable)
- Airtightness: 2.24 ACH
- HVAC and DHW: High-efficiency heat pump systems
- LED lighting and ERV for ventilation

### Use Case #2 – PHIUS Certification:

This approach targets a much more aggressive energy performance profile, reducing long-term utility costs and increasing comfort and resilience.

- Wall insulation: R-30.49
- Roof insulation: R-68.46
- Windows: U-0.174 (triple-glazed, low U-value)
- Airtightness: 0.38 ACH (nearly 6x tighter than baseline)
- Overall energy savings driven by dramatically improved envelope performance, ventilation efficiency, and lighting system optimization

### Key Differences:

- PHIUS requires higher up-front investment but delivers long-term energy savings and may unlock additional funding or ESG-aligned financing.
- Envelope and window performance are the most significant contributors to increased costs (notably in Division 07).

- Airtightness and thermal bridging control are critical to meeting PHIUS standards and require precision during construction.

## Market Viability

### Average Rental Amounts

#### Rhode Island Averages (per [apartments.com](#) data)

- The average rent for a one-bedroom apartment across the state is approximately \$1,820/month, while a two-bedroom averages around \$2,232/month.

#### City-Wide (Providence) Averages (per [apartments.com](#) data)

- In Providence, average market rents are notably higher—about \$2,072/month for a one-bedroom and \$2,598/month for a two-bedroom unit. Apartments.com Given neighborhood variation, a more conservative assumption for your rental projections could be in the range of \$1,800 for one-bedrooms and \$2,200 for two-bedrooms, positioning the project competitively and accessibly within the local market.

#### Lower-Cost Alternatives (per [rentdata.org](#) data)

- In more budget-friendly neighborhoods such as Wayland or Washington Park, one-bedroom rents can drop into the \$800–\$1,000/month range, offering a benchmark for subsidized affordability targets.

### Implications for This Development

- Affordable Positioning: Setting baseline rents at or below \$1,800 (1BR) and \$2,200 (2BR) aligns the project with cost-conscious renters while staying within prevailing regional norms.
- Enhanced Value with PHIUS: If pursuing high-performance (PHIUS) certification, long-term energy savings can support these rent targets while maintaining affordability.
- Funding and Subsidy Alignment: Anchoring rental projections in real market data will help substantiate funding applications and guide discussions around affordability definitions or rent caps.

## Recommended Next Steps

The intent of this feasibility study is to provide the municipality with a clear, actionable framework for advancing the adaptive reuse of 1450 Broad Street into affordable housing. The

findings confirm the viability of redevelopment and outline viable paths to achieve both code-compliant and high-performance outcomes. To build on this momentum, we recommend the following next steps for transitioning into project execution.

These steps are designed to guide the municipality through the initial project implementation process—particularly the issuance of a Request for Proposals (RFP) to attract qualified development or design-build teams. They are intentionally structured to be straightforward, flexible, and scalable based on local capacity and funding environment. The below two-tiered approach allows the municipality to take **immediate, low-barrier actions** while setting the stage for a well-informed and competitive developer selection process. Let me know if you'd like a checklist version or visual to accompany this.

## Initial Next Steps

### 1. Confirm Project Goals & Performance Target

- Decide whether the RFP will prioritize IECC compliance or encourage PHIUS certification.
- Establish affordability goals, unit mix expectations, and any preferences for building reuse vs. new construction (e.g., preserve auditorium).

### 2. Engage City Planning & Zoning Early

- Confirm adaptive reuse eligibility under PS zoning.
- Explore options for shared parking or adjacent lot partnerships, especially with city-owned parcels.

### 3. Commission Environmental & Hazardous Materials Testing

- Conduct a hazmat survey (asbestos, lead, PCBs) to validate abatement needs.
- Initiate a Phase I ESA (if not done) to ensure environmental due diligence before RFP release.

### 4. Begin Drafting the RFP

- Use this feasibility study as the basis for scope, performance benchmarks, and evaluation criteria.

## Parallel or Follow-Up Steps

### 1. Outline Funding Strategy

- Identify local/state funding opportunities (ARPA, LIHTC, passive house incentives, etc.).

- Clarify any municipal contributions: land value, subsidies, PILOT agreements, etc.

## 2. Engage Developer Community (Optional but Valuable)

- Host an informal listening session or site walk-through to share the opportunity.
- Use feedback to refine the RFP structure and anticipate interest or concerns.

## 3. Finalize & Release RFP

- Structure the RFP to allow for both baseline and PHIUS-aligned proposals.
- Clearly define evaluation criteria based on feasibility, affordability, sustainability, and public benefit.

### Final Note

This feasibility study is designed to serve as a foundational tool for moving this project forward with confidence. By following the steps above, the municipality will be well-positioned to attract qualified partners and translate a vision for sustainable, adaptive housing into a built reality.

**ATTACHMENT 3**

## **Vacant School Building Report – October 1, 2025**

### **Pursuant to R.I.G.L. 45-53-10(c)**

The following information was collected from school and municipal officials as part of the annual Housing Aid submission.

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- *School districts, municipalities, and charter schools reporting vacant/unused school building as of July 1, 2025:*
  - Newport
    - Coggeshall Elementary School, 133 Van Zandt Avenue, Newport
  - Portsmouth
    - Coggeshall School (former Aquid. Island Christian Academy), 321 East Main Road, Portsmouth
  - Providence
    - Carl Lauro (future swing space)
    - Feinstein at Broad Street
    - Gilbert Stuart (will be rebuilt as a new PreK-8 school)
  - South Kingstown
    - Wakefield Elementary School, 101 High Street, Wakefield
    - Curtis Corner Middle School, 301 Curtis Corner Road, Wakefield
  - Warwick
    - Aldrich Junior High School, 789 Post Road, Warwick (being developed by city)
- *School districts, municipalities, and charter schools reporting buildings that were in use on July 1 but which they anticipate will be vacant/unused by December 31, 2025:*
  - Bristol-Warren
    - Guiteras, 35 Washington St., Bristol
  - Chariho
    - Hope Valley Elementary, 15 Thelma Drive, Hope Valley (will be turned over to the Town Hopkinton on 10/1/2025)

- *School districts, municipalities, and charter schools reporting no vacant/unused school buildings as of July 1, 2025 and December 31, 2025:*
  - Barrington
  - Burrillville
  - Central Falls
  - Coventry
  - Cranston
  - Cumberland
  - East Greenwich
  - East Providence
  - Exeter-West Greenwich
  - Foster
  - Foster-Glocester
  - Glocester
  - Jamestown
  - Johnston
  - Lincoln
  - Little Compton
  - Middletown
  - Narragansett
  - New Shoreham
  - North Kingstown
  - North Providence
  - North Smithfield
  - Pawtucket
  - Scituate
  - Smithfield
  - Tiverton
  - West Warwick
  - Westerly
  - Woonsocket
  - Achievement First
  - Beacon Charter School
  - Blackstone Academy
  - Compass School
  - Excel Academy
  - Greene School
  - Highlander Charter School
  - Kingston Hill Academy
  - Learning Community
  - Paul Cuffee School

- RI Nurses Institute
- RISE Prep Mayoral Academy
- Segue Institute for Learning
- Trinity Academy for the Performing Arts
- *Charter schools that rent, don't own their building:*
  - Charette Charter School
  - Hope Academy
  - International Charter School
  - Nuestro Mundo Charter School
  - Providence Preparatory Charter School
  - Southside Elementary Charter School
  - Village Green Virtual Charter School
- *No response:*
  - Blackstone Valley Prep