Wiss, Janney, Elstner Associates, Inc.
30700 Telegraph Road, Suite 3580
Bingham Farms, Michigan 48025
248.593.0900 tel
www.wje.com

VACANT HISTORIC SCHOOL BUILDINGS DISPOSITION PLAN

City of Detroit RFP# 19BW2717

Building Envelope and Structural Assessment Report

Healy International School

Basic Property Information: COD 1-Healy-12834 West Parkway

Short Name:	Healy
Address:	12834 West Parkway Street, Detroit, Michigan 48223
Year Built:	1950
Additions Built:	None
Outbuildings:	Powerhouse
Year Vacated:	2007
Building Footprint:	80 feet x 125 feet
Square Footage:	16,732 sq. ft.
Number of Stories:	2
Building Height:	25 ft.

Current Ownership:	City of Detroit
City Council District:	1
SNF District:	NA

Structural Framing System:	▪ Cast-in-Place Concrete ▪ CMU
Exterior Wall System:	▪ Brick ▪ Limestone
Window System(s):	▪ Steel-framed ▪ Glass Block Infill
Roofing System(s):	▪ Built-up Roofing ▪ Flood coat ▪ Aluminum coating ▪ Internal Roof Drains

Assessment Summary

Assessment Date:	March 05, 2020
WJE Inspector(s):	Cheryl Early; Sarah Rush; Justin Barden, Meredith Crouch
Report Date:	November 10, 2020
Building Risk Index:	**23.77**

Cost Estimate

Base Rehabilitation Cost Estimate:	$485,050
Preparation for Rehabilitation Work:	$900,000
Mechanical, Electrical, Plumbing, Fire Protection ($80/sq ft):	$1,338,560
Sub-Total	$2,696,610
Contingency (25%):	$674,152
Sub-Total	$3,370,762
Overhead and Profit (15-18%):	$606,737
Sub-Total	$3,977,499
Escalation (6% for 2 years)	$238,649
Sub-Total	$4,216,149
Architectural and Engineering Design Services (20%):	$843,229
TOTAL COST ESTIMATE:	$5,059,379

ASSESSMENT METHODS

Visual Survey

As requested, Wiss, Janney, Elstner Associates, Inc. (WJE) performed a visual review of the building envelopes and structures to assess the viability of the buildings for reuse. WJE was joined by Mr. Andrew Wald of Interboro Partners and Ms. Jennifer Ross and Mr. Garrick Landsberg of City of Detroit Planning and Development Department. During the time on site, Mr. Wald gathered information pertinent to the general building site and layout of the buildings, and Ms. Ross and Mr. Landsberg assessed the condition of the historic fabric of the buildings.

WJE performed a visual review of the building envelope from grade and roof levels, using binoculars as needed. On the interior, WJE performed a walkthrough of accessible areas of each floor of the buildings. Limited access to the attic was obtained near the roof hatch. The basement level is flooded, and thus, was not accessed. The interior finishes are in sound condition, exposing the structural framing systems only in isolated locations. The interior of the powerhouse could not be accessed during our assessment. Up-close examination of building elements and destructive inspection openings involving the removal of building finishes to review underlying conditions were generally not performed.

WJE's observations were documented with tablets and digital photography. WJE has shared our field data with Interboro Partners; City of Detroit Planning and Development representatives; and A.M. Higley Company, the cost estimator for this project. Each observed condition is documented in the field data and assessed as discussed under "Risk Characterization" below. A summary of the conditions observed is provided in the "Building Overview" section below.

Limitations of Assessment

Limited to four hours on site, WJE visually assessed the exposed portions of the building envelope and structure. Recognizing the limitations on visually detecting distress from afar and the limitations on detecting concealed internal distress, the assessment may not include all current conditions. As such, completion of this assessment is not an indication, certification, or representation that all deterioration or hazards have been observed or recorded, including underlying deterioration not evident from the building exterior or interior. Additionally, the conditions of the building elements discussed herein are exposed to further damage and deterioration due to the existing condition and unoccupied status of the property, and as such, WJE cannot state the conditions discussed herein will remain unaltered and as observed during the visual survey. However, we have performed these assessments in accordance with the requirements of applicable regulations and the applicable standard of care for architects or structural engineers performing such services.

WJE identified structural or building envelope issues that have significant impact on the viability of future reuse of the property. Items posing little risk such as regular maintenance items are not included in the assessment. The assessment was limited to within the walls of the buildings; on-grade walkways, access roads, parking lots, landscaping, play structures, or other site features were excluded from this assessment. The assessment, remediation, and identification of hazardous materials (e.g., asbestos, lead, etc.) or other environmental issues were also excluded. Based on WJE's past experience with building rehabilitation projects, WJE has assumed existing mechanical, electrical, plumbing, interior finishes, and other building

systems are anticipated be removed and replaced with future reuse of the buildings, and as such, were not included in WJE's assessment.

Document Review

WJE performed a cursory review of documentation provided by Interboro Partners to gain familiarity of the property. The documentation provided included:

- Site Plan (included with this report)
- Floor Plans (included with this report)
- Environmental Reports
- National Register of Historic Places Registration Form

Other documents, such as original construction drawings, specifications, or maintenance records, were not made available for our review.

Risk Characterization

WJE has categorized each significant area of distress, damage, or deterioration observed with a systematic methodology to provide an objective, quantitative characterization of its relative condition and associated risk, or its Condition Risk Index (CRI). The CRI is based on the primary building system affected by the condition and the condition's severity, prevalence, and the associated consequence of failure. A higher CRI score indicates that observed conditions embody relatively higher risk than conditions with a lower CRI. The CRI is the product of each of the rankings below multiplied and normalized to meet a maximum score of 100 per condition.

Specifically, the CRI assigns a numerical value to the following:

- System (Structural, Roofing, Facade, Other)
  Conditions affecting the structure are assigned a higher rating than those affecting the facade or roofing systems. Other includes items such as non-load bearing partition walls and exterior steps, and are assigned a lower rating.
- Building Performance Impact (Minor, Moderate, Advanced, Critical, Imminently Hazardous)

  This parameter addresses the severity of the impact of the observed condition on the performance of the affected building system. Imminently Hazardous is assigned the highest rating. For example, a crack in a concrete slab may be a minor distress, but a damaged prominent skylight is considered advanced distress. Imminently hazardous conditions are discussed immediately with Interboro Partners and the City of Detroit representatives.
- Size/Distribution (Isolated/Infrequent/Frequent/Widespread/Pervasive)

  In short, this parameter rates how large and/or frequent a condition is with respect to the entire affected building system/component. Pervasive is assigned the highest rating. Examples include: an isolated step crack in a masonry wall versus pervasive corrosion of metal floor decking throughout a building.

- Consequence of Failure (Low, Moderate, High)

  This parameter allows inspectors to exercise judgment regarding general risk to the public, considering the unoccupied status of the buildings. High is assigned a higher priority, and, for example, might be assigned to a condition whose failure would result in potential harm within the public right of way. Conditions rated with a high consequence of failure are discussed immediately with Interboro Partners and the City of Detroit representatives.

The CRI for each observed condition is summed to calculate a total Building Risk Index (BRI), as provided in this report. The reported BRI is therefore a numerical expression of the relative risk present at one property, as compared to other properties in the scope of this assessment.

Both the CRI and the BRI are expressions of WJE's professional opinion of the relative significance of an observed condition to other building conditions, and the collective relative risk of the structural and building enclosure elements of this property. Neither the CRI nor the BRI are an expression of actual risk or probability of occurrence of any event. The CRI for each condition is tabulated in WJE's electronic field notes. The BRI provides a numerical tool for the project team and the property owners to compare and make decisions about this property and the other properties included in this overall effort, in context with the cost estimate, market analysis and community input. Both the CRI and BRI are intended only for this assessment project. The numerical values do not have substantive meaning beyond the context of the Vacant Historic School Buildings Disposition Plan project.

Recommendations

Recommendations developed in the assessment are conceptual and are intended for budgetary and planning considerations. Recommendations are provided within the narrative below, and in the field data provided. It is not the intent or purpose of this report or the field data to direct a contractor to bid, or otherwise implement, the recommendations. Significant additional investigation by various professional disciplines is necessary to develop appropriate scopes of repair and rehabilitation efforts to enable the re-use of any facility included in this assessment.

Cost Estimating

The rehabilitation costs are opinions of probable construction cost and have been developed with the assistance of A.M. Higley Company, a contractor familiar with rehabilitation of historic buildings. The costs have been developed for evaluating the relative cost of repair of distressed conditions as well as establishment of order-of-magnitude repair budgets. They are based on national construction cost data, adjusted based on the local construction market, and our experience with similar past projects.

Understanding the rehabilitation cost may vary depending on type of future occupancy, this assessment assumes the building will be rehabilitated to a weathertight and "grey box" condition with unfinished walls, flooring and ceilings; no mechanical, electrical, plumbing or other building systems installed. The costs assume the rehabilitation work would occur in 2022 and are not inflated should the work occur in future years.

In addition to this "grey box" base rehabilitation cost, an allowance, based on percentage of costs and square footage of the building, is delineated for:

- Preparation for Rehabilitation Work

- Mechanical, Electrical, Plumbing, Fire Protection ($80/sq ft)
- Contingency (25%)
- Overhead and Profit (15-18%)
- Escalation (6% for 2 years)
- Architectural and Engineering Design Services (20%)

The preparation for rehabilitation work item includes mobilization, hazardous material abatement as well as salvaging for potential later duplication or re-installation pertinent historic interior finishes identified by the City. For the purposes of the cost estimating effort, all roofing replacement or repair work is recommended to be performed with like-kind materials; all windows are assumed to be replaced with new commercial window assemblies in lieu of restoration of existing elements, and any exterior doors are to be repaired or replaced in like-kind. Where like-kind materials may no longer be available, WJE will offer alternative materials for the cost estimating purpose. For rehabilitation design and construction efforts, further evaluation of each of these elements is recommended. All work is recommended to be performed as per the Secretary of Interior's Standards for The Treatment of Historic Properties.

The condition-based subdivision of repair recommendations used to develop the base cost estimate is not representative of how a repair program could be implemented to remediate building conditions. Moreover, the costs assume that all repairs would be remediated in the same rehabilitation project. Execution of separate repair projects, or phasing of the rehabilitation project, could result in increases in the total repair cost. Furthermore, the final scope of repair work and the actual repair costs may vary depending on underlying or concealed conditions that were not apparent during our limited assessment.

BUILDING OVERVIEW

Overall

The two-story main school building is rectangular in plan. The first floor is a slab-on-ground construction excepting the plenum and fan room basement-level spaces. A single story, freestanding powerhouse with an adjoining chimney is located to the west of the main building. The interior of the powerhouse could not be accessed during the assessment.

The building facades generally consist of clay brick masonry veneer with concrete masonry (CMU) backup, while the north-half portion of the east facade on the main building consists of exposed CMU only. Punched wall openings contain glass block infill with operable steel-framed windows within lower lites. Limestone mullions frame the lower, operable units. Fiberglass panels have been installed on the exterior surfaces to protect the glass block infill. The building entrances generally consist of steel doors. The low-slope roofing consists of an internally drained, bituminous built-up roof with a flood coat and aluminum surface coating.

The roof and second floor structure are of cast-in-place concrete tee joist-slab construction with stay-in-place concrete masonry forms. The floor joists span between concrete beams oriented perpendicular to the corridor walls. Concrete columns are visible in the attic plenum space and align with the corridor walls below. A concrete beam and column system is exposed in the southeastern kindergarten room. The roof structure over the attic plenum space is a flat concrete slab bearing on CMU walls; the attic plenum concrete floor structure is suspended from the flat roof slab with tension wire.

Overall, the building is in good condition with localized areas of water damage primarily affecting the ceiling finishes. Multiple cracks, primarily vertical in nature, were observed throughout the interior CMU walls that may warrant further assessment. The facade is generally in good condition with only localized areas of maintenance or repair required, though the upper regions of the masonry chimney are in need of repair. Many of the existing windows can be restored. Removal and replacement of the existing roof assemblies should be considered, though near-term maintenance repairs in localized areas are feasible to extend the service life of the roof if needed. Further detail of the observed distress is provided below.

Facade

The facade is generally in good condition. Minor localized cracking within the brick and exposed CMU elements is attributed to water infiltration, corrosion of embedded steel elements, and confined thermal movement due to a lack of expansion joints. Limestone mullions that surround the lower lites are generally in good condition; however, minor localized distress such as cracked and spalled units and deteriorated mortar require repair. Paint on the exposed CMU surfaces has failed and should be replaced to mitigate further water penetration and masonry damage. Similarly, exposed surfaces of the painted concrete soffits at the building roof perimeter and entrances contain water staining, paint failure, and localized minor spalling of concrete materials and require repair. Rehabilitation of the building should include repair of these elements to mitigate further distress.

The glass block infill within the upper lites of the punched wall openings are mortared in place. A majority of the perimeter mortar joints were observed to be debonded from the CMU substrates and many of the glass block assemblies are displaced outward slightly, creating openings between the glass block infill and

the CMU at the window jambs. The observed distress is attributed to differences in thermal movement and constraint between the glass block and CMU and corrosion of the steel lintels above. Debonded mortar and open joints should be repointed to obtain a watertight and airtight condition, and a perimeter sealant joint detail may be considered in the repair effort to improve the repair durability. Displaced glass block units may be reset, if desired, for improved aesthetic. Localized glass block units are cracked or missing and require replacement.

The steel-framed windows contain minor deterioration such as paint failure, minor surface corrosion, perimeter sealant failure, and displacement of localized operable components. The exterior steel doors are typically corroded. Rehabilitation of the building should include restoration of the existing window assemblies and replacement or repair of the exterior doors.

Significant masonry cracking, displacement, and spalling was observed within the freestanding clay masonry chimney stack, which is attributed to water penetration within the chimney walls and subsequent freeze-thaw damage. A large area of the chimney has previously been repointed, though a majority of these areas are currently cracked and debonded. The chimney, as a whole, also appears slightly out of plumb. Although the observed deformation is not yet structurally significant, the apparent out of plumb condition coupled with horizontal cracking located at approximately two-third of the chimney height elevation, may indicate that the cyclic deterioration processes are causing shifting and movements within the chimney. The chimney should be monitored on a regular basis for additional movements until repairs can be made. Restoration of the chimney should include rebuilding the upper six feet where the majority of the spalling and freeze-thaw damage was observed. Below this region, localized repointing of distressed mortar joints is recommended. The cap should be repaired with improved flashing to mitigate further water penetration and masonry distress. Following repair, the chimney should be monitored to determine if distress recurs.

The powerhouse facade is in similar condition to that of the main building. On the south elevation of the powerhouse, cracked, spalled, and displaced brick elements were observed near corroded wall-mounted vehicle barriers and the adjacent door frame.

Roofing

The roofing assembly of both buildings is generally in fair-to-poor condition. Observed roofing deterioration included ponded water, organic growth, seam failures, cracking, and crushing of insulation; however, only minimal water damage was observed within the building interior. Rehabilitation of the building should consider removal and replacement of the existing roofing based on its limited remaining service life overall, though near-term maintenance repairs in localized areas may be performed to extend the service life of the roof.

Structure

The structure is in excellent condition with no readily visible significant distress observed. Water is infiltrating through the roof structure and stalactites have formed in isolated locations at the joints between the concrete joist and the concrete masonry form. Addressing the water infiltration through the roof with effective repairs will prevent significant deterioration of the concrete roof structure. Where

exposed for the roofing repairs, the condition of the top surface of the concrete roof should be reviewed for cracked locations that may require repair.

Ponded water, approximately 4 feet in depth, was observed in the basement level preventing access to the basement spaces. The basement should be dewatered, allowing for assessment of the basement level prior to the implementation of the recommendations stated herein.

Miscellaneous

Many of the interior CMU walls are cracked, including over built-in arches over the drinking fountains, within the length of the walls, and at corners of walls. Repairs had been attempted at some of the crack locations. Further investigation is recommended to determine the cause of the distress, but it is suspected to be related to the water infiltration occurring and thermal or volumetric changes in the wall materials. Cracking within select walls, such as interior classroom walls, may be related to the relative stiffness of the walls within the structural building frame system. Repointing of the cracked mortar joints and replacement of cracked units is recommended. These cracks may recur after rehabilitation and remain an ongoing maintenance item unless the underlying cause of the cracking is further assessed and mitigated.

Some localized masonry infill areas and partition walls are damaged from vandalism during the removal of plumbing and heating elements. Repair of these partition walls is recommended as appropriate for potential new use of the spaces.

HEALY SCHOOL

SURVEY, GRADE, & STREET LEVELS

ARCHITECTURAL PLANNING DEPT.

BOARD OF EDUCATION

DETROIT, MICHIGAN

Drawn	Checked	
M.A.B.		4-26-50

INV. 137.01 — 12" CROCK — 18" — INV. 135.43 — 15" CROCK — 18" CR. INV. 134.15 — 18" CR. — INV. 132.08 N.M. — 24" CROCK

B.M. Top of Hydrant 150.89

Build M.H. INV. 138.50

INV. 131.63

INV. 138.50

W E S T P A R K W A Y — Pres. Road - Not Paved — 200' — 60'-0

A V E. 50'

G L E N D A L E — Future — 60'-0

D A V I S O N — Future Road

NOT SUBDIVIDED

NOT SUBDIVIDED

PROPOSED SCHOOL

FL. L. 149.41

FUTURE ADDITION

B E A V E R L A N D — Future Road — A V E N U E — 60'-0

STATUS OF INTERSECTION UNKNOWN

STATUS OF INTERSECTION UNKNOWN

N O T S U B D I V I D E D

NOTE :

ALL WALKS ARE FUTURE.

GLENDALE, BEAVERLAND, & DAVISON NOT CUT THROUGH - FUTURE.

WEST PARKWAY CUT THROUGH - NOT PAVED

100.00 INDICATE PRES. GRADES.

000.00 INDICATE PROPOSED GRADES, TOP OF CURB.

149.41 PROPOSED FL. LEVEL FROM B.M. 150.89

(148.91) PROPOSED GRADE ELEV. AT BLDG.

SCALE 1" = 60'-0"

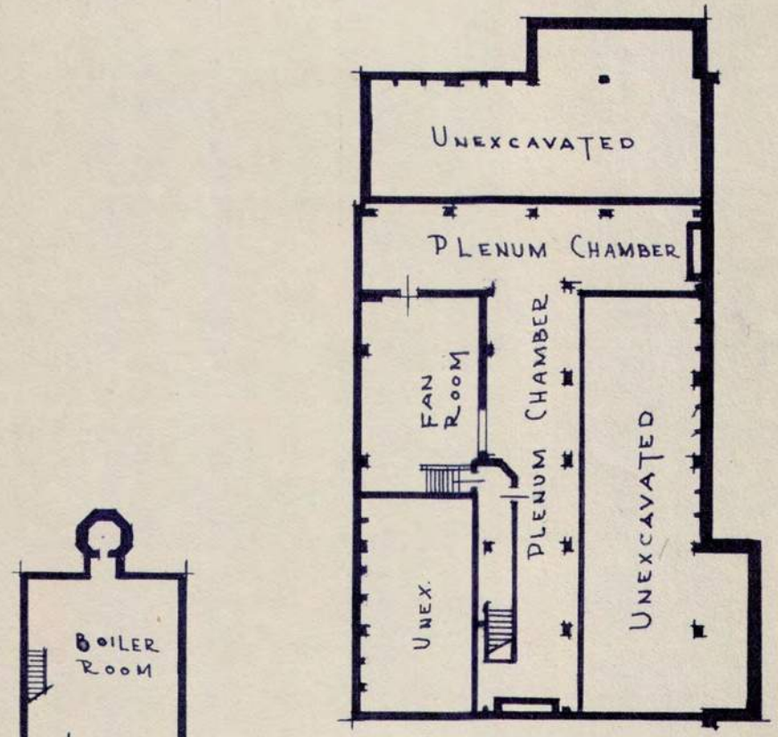
B.M. TOP OF HYDRANT AT S.W. CORNER OF W. PARKWAY & DAVISON ELEV. - 150.89

DANIEL J. HEALY
BASEMENT PLAN

ARCHITECTURAL PLANNING DEPT.
BOARD OF EDUCATION
DETROIT—MICHIGAN

DRAWN	DATE	CHECKED	DATE	APPROV'D	DATE
J. C.	7/28/50				

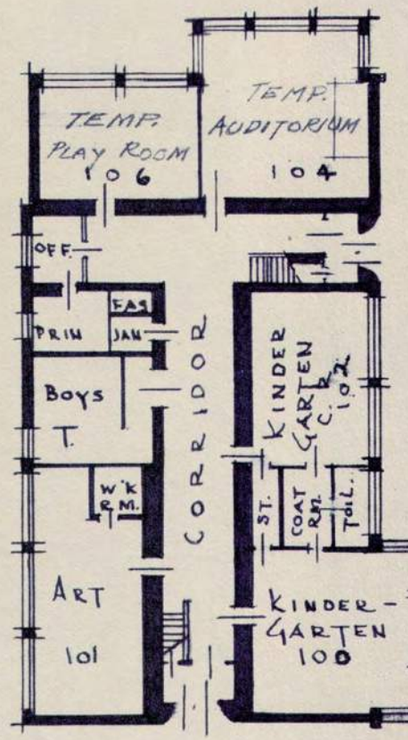
SCALE 1/32 = 1'-0"

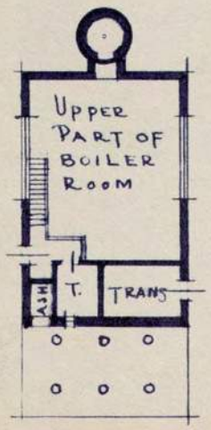


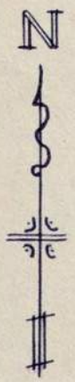
DANIEL J. HEALY
FIRST FLOOR PLAN

ARCHITECTURAL PLANNING DEPT.
BOARD OF EDUCATION
DETROIT—MICHIGAN

DRAWN	DATE	CHECKED	DATE	APPROV'D	DATE
R. C.	7/28/50				







DANIEL J. HEALY
SECOND FLOOR PLAN

ARCHITECTURAL PLANNING DEP'T.
BOARD OF EDUCATION
DETROIT – MICHIGAN

DRAWN	DATE	CHECKED	DATE	APPROV'D	DATE
J. C.	7/29/59