Leedsville Schoolhouse

Preservation Plan

October 2009

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16 West Poplar Avenue
Linwood, New Jersey

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Executive Summary

The Leedsville Schoolhouse, also known as Linwood School #1, is located on West Poplar Avenue in Linwood, Atlantic County, New Jersey. The building is owned by the City of Linwood, which is also responsible for its maintenance. It is occupied by the Linwood Historical Society, which houses a local history museum and local history archives in the building.

The building is a symmetrical, three-bay, one-story building with a brick foundation, frame construction clad in wood shingles (over original wood siding), and a side gable roof also clad in wood shingles. The building has large, six-over-six, double-hung windows, one pair of double-leaf entrance doors centered on the facade, and an entrance porch extending across the center of the facade between the windows in the outer bays.

The building was constructed in 1873. It has not undergone significant alterations since its construction, but minor alterations include the removal of the belfry, the replacement of the original chimney pots with brick chimneys (that were also subsequently removed), the construction of a chimney on the rear elevation, the construction of a weather vestibule over the bulkhead opening to the basement, the installation of cedar shingles over the original clapboard, the removal of shutters and addition of storm windows, the removal of side railings from the porch and the addition of stair railings, the replacement of the front exterior doors and the removal of the interior vestibule doors, the installation of a powder room in the vestibule, the installation of a new wood floor over the original wood floor, the installation of a beaded-board ceiling over the original plaster ceiling, and the addition (and subsequent removal) of a central partition wall that created two classroom spaces. The building's site, a small, flat, rectangular parcel, has changed over time from a sandy lot with a well pump located to the east of the building to a grassy lot with two mature trees to the south of the building, an asphalt driveway to the east, a sidewalk and walkway to the south, and a small storage building to the north.

The building retains most of its original fabric, all of which is critical to its architectural and historical integrity. On the exterior, it retains its original size, massing and symmetry, as well as its large windows and the centrally-located entrance. On the interior it retains its original one-room with vestibule configuration, as well as original finishes, including the wainscoting, plaster, blackboard, ceiling, and trim. The flooring and beaded-board ceiling have gained significance since they were added using the building's use as a school.

The exterior of the building suffers from deferred maintenance. It was last rehabilitated in the late 1980s, when it was converted from use as a library to the historical society headquarters and museum. The wood elements on the building, from the roof and wall shingles to the porch elements and the trim, all require repair and repainting. The windows have been protected to some degree by the storm windows. The brick foundation also requires repair and repointing on both the interior and exterior. The interior is in generally better condition, but items such as plaster cracks and water damage from previous leaks also need to be addressed. There are areas of structural concern, primarily in the attic where the added chimney was cut through the cornice. Water infiltration over time has damaged the roof framing in that area. In addition, damp conditions, possibly from previous roof leaks, allowed termites to flourish and do damage to rafters, floor joists, and the spaced lath supporting the wood shingles.

The treatment approach recommended in this Preservation Plan is the restoration of the exterior to its original appearance and the continued preservation of the interior. On the exterior, this approach will address all of the problem conditions through a program of repair and in-kind replacement, but also advocates the restoration of the missing elements, such as the belfry, side railings, and shutters, as well as the removal of the added wall shingles and the restoration of the original clapboard beneath. This approach is recommended because the building is interpreted to the public as a historic schoolhouse. Accurate restoration is possible because there are historic photographs available, along with original belfry support framing in the attic, to guide the work. On the interior, the preservation approach is recommended because the two main changes should not be undone. The powder room is necessary to the function of the building, as it cannot be kept open to the public without bathroom facilities, and the added flooring was installed early in the twentieth century, possibly during the building's use as a school, and has therefore gained its own significance over time.

In addition to the restoration and preservation work, however, the issue of accessibility must be addressed. The building is currently not accessible by wheelchair at all, nor is the powder room large enough for wheelchair use. The installation of a ramp and alteration of the porch floor height to the door sill level would create a significant visual alteration and intrusion to the building, while the alteration of the original vestibule configuration to accommodate a handicapped-accessible bathroom would be a similarly significant alteration to the interior appearance and would negatively affect the interpretation of the interior space as a one-room schoolhouse. To avoid this negative impact while still providing necessary improvements, this Preservation Plan advocates the creation of a door in the north wall of the building, likely between the two center windows, that would provide access to a connector hallway between the schoolhouse and the storage building (which was originally a gas station that was moved to the property from Shore Road in the 1940s). A ramp from the existing front entrance of the storage building would run to a new sidewalk along Lincoln Avenue, with a new marked pedestrian crossing leading across the street to the existing handicapped-accessible parking spaces in the Township-owned lot. The storage building would be raised to the same floor height as the schoolhouse and its placement on the site may be slightly adjusted. Inside the storage building would be an entrance vestibule for hanging coats and a handicapped-accessible bathroom. Thus the building would become fully accessible without major alteration to its facade or its interior.

Finally, the building's systems are in need of upgrade and maintenance work for the continued and improved function of the building and care of the collections and archives.

The complete restoration and preservation of the Leedsville Schoolhouse is estimated to cost $1,242,377. However, the project may be phased if necessary due to financial limitations or other constraints. The recommended scope of work, therefore, has bee identified by priority level. The highest level of priority pertains to life safety issues or the on-going deterioration of the building. The second priority level pertains to long-term preservation issues that must be addressed for the continued integrity and use of the building. Third level items address aesthetic issues and historical accuracy. Highest priority items in the recommended scope of work total $508,899. Second level items total $594,458 and third level items total $138,020. Once the building has been restored, the City and historical society must work together to ensure that the cyclical maintenance program included in this Preservation Plan is implemented and maintained. Following this program will ensure that any new problem conditions are addressed before they can spread or affect large areas, and that the existing historic fabric will continue to be preserved.

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Chapter 1

Introduction

History and Significance

The Leedsville Schoolhouse, located at 16 West Poplar Avenue in Linwood, Atlantic County, New Jersey is a late nineteenth century one-room schoolhouse constructed with a brick foundation and frame walls. The building was constructed in 1873 to meet the needs of many of the students in what would later become Linwood, known at the time as Leedsville. The building served as a school until 1908. In 1895, the interior space was divided into two classrooms by the addition of a partition wall. That wall was later removed. In 1904, the coal fired stoves were replaced with a hot air heating system. The clay chimney pots that topped the original flues were replaced with brick chimneys at that time. The original clapboard was covered with cedar shingles in 1906. During the late nineteenth or early twentieth century, the original flooring was covered with narrower, tongue-and-groove flooring and the plaster ceiling with beaded boards that remains in place today.

In 1910, the building was purchased for use as the Borough Hall. It remained the Borough Hall until 1965. During that time, the belfry was removed from the roof and the added partition wall came down. The building also underwent mechanical, electrical, and plumbing upgrades, including the installation of a powder room in the vestibule. When the City (the Borough incorporated as a city in 1931) offices moved in 1965, the building was converted to a library. The summer beam that supported the first floor joists was replaced at this time, along with the brick piers that supported it. The building remained otherwise substantially the same. The library was moved to a larger facility in the mid-1980s, after which the Linwood Historical Society undertook the restoration of the building and has operated it as a house museum since that time.

The building is significant as an intact example of a one-room schoolhouse dating from the inception of the public school system in New Jersey and representing the significant contribution of one-room schoolhouses to the social and architectural landscape of New Jersey's small towns. It is well-suited for its original and current use as an educational community resource.

Conditions

The exterior of the schoolhouse suffers from deferred maintenance. The roof and wall shingles are in poor condition and continue to deteriorate. The rainwater conduction systems are not functional. The wood trim is in somewhat better condition, except at the corners of the cornices, where small holes have developed. The porch roof and trim have been compromised by water infiltration and have begun to deteriorate at an accelerating pace. Handicapped accessibility to the building has not been addressed. The interior of the building is in generally good condition, with the exception of the restroom, which is in fair condition and is also not handicapped accessible.

Methodology and Organization

The project was undertaken by Westfield Architects & Preservation Consultants between July 2009 and October 2009, at the request of the City of Linwood, during which time the Leedsville Schoolhouse was analyzed, documented, and researched. As a result, this report was produced to guide the efforts of the City of Linwood in the preservation of the historic property. For the purpose of this Preservation Plan, existing research provided by the Linwood Historical Society was reviewed. The documentary research was coordinated with the physical investigations of the architectural team, the consulting structural and mechanical engineers, and the materials conservator.

The scope of the work undertaken as part of this Preservation Plan encompassed architectural investigations of the building by the architectural team, structural investigations by the structural engineer, mechanical systems examinations by the mechanical engineer, and materials analysis by the architectural conservator. The architectural investigations included elevation-by-elevation and room-by-room survey,

architectural inventory, photographic documentation of the building, and visual observations by the structural and mechanical engineers, Brian McGlade, P.E. and Anthony Scalamandre, P.E., respectively. Material analysis was conducted by Lorraine Schnabel.

Initial visual surveys performed by the historic architect and the preservation specialist of every elevation and every space in the building were supplemented by photographs of the existing features and conditions. The surveys provided the basis for the architectural descriptions of the individual elevations and interior spaces. The engineers then performed their visual inspections. No destructive investigations were performed. The engineers' reports are included in the appendices of this document.

The information gathered through documentary research and physical investigations is compiled in this Preservation Plan. The history, contextual analysis, and significance are presented in the second chapter and serve as the basis for understanding the architectural description in the third chapter. Photographs and a conditions assessment are included in the third chapter with the architectural description. The fourth chapter contains the preservation philosophy and approach recommended for this building, along with prioritized repair and restoration recommendations with cost estimates. A cyclical maintenance program to direct the care of the restored building follows, along with a conclusion that reviews potential funding sources for the rehabilitation.

Recommendations for Future Study

The exterior of the Leedsville Schoolhouse has been well-documented over time. The interior also appears to retain its general appearance to its period of significance. Little is known, however, about how the interior was laid out while it was in use as a schoolhouse, the municipal building, or as a library. Further documentary research may uncover how the spaces were divided and utilized.

Beyond documentary research, interior paint analysis should be performed to determine the original interior colors of the building.

Objective and Acknowledgments

The objective of this report is to provide an understanding of the history, architecture, and condition of the Leedsville Schoolhouse and to develop a preservation philosophy for its restoration based on that understanding. The team of Westfield Architects & Preservation Consultants was directed by Margaret Westfield, R.A. with assistance from Sheila Koehler, Associate for building analysis and report preparation, Michael M. Westfield, R.A. for document formatting, and Mildred Hairston-Denker for document production.

Funding for the Preservation Plan was provided by the City of Linwood.

Additional assistance in the investigations was provided by Brian McGlade, P.E. of Baker Ingram Associates, Anthony Scalamandre, P.E. of Polaris Consulting Engineers, Lorraine Schnabel of Schnabel Conservation, and cost estimator Brian Monteith of MPG, Inc. Special thanks go to Carolyn Patterson and Leigh Ann Nepal for their time and assistance throughout the project.

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Chapter 2

Historical Significance

Methodology and Prior Studies

For the purposes of this Preservation Plan, existing research on the Leedsville Schoolhouse was reviewed and studied. Two successive City Historians, James Kirk and Carolyn Patterson, have searched the archives of the Linwood Historical Society as well as records from the City of Linwood over the past several decades, resulting in the information that has been compiled into a National Register Nomination, the Images of America book on Linwood, and other historical summaries. The information that they compiled over time was coordinated and integrated with the physical investigations and observations made by Westfield Architects & Preservation Consultants. Original documentation is on file with the Linwood Historical Society and the City of Linwood.

The Leedsville Schoolhouse was listed in the New Jersey Register of Historic Places on 1 November 1984, and in the National Register of Historic Places on 20 December 1984, as "Linwood Borough School No. 1 (Linwood Public Library)". The property is also a contributing building within the Linwood Historic District that was recognized by NJ Register listing on 27 April 1989 and National Register listing on 13 July 1989.

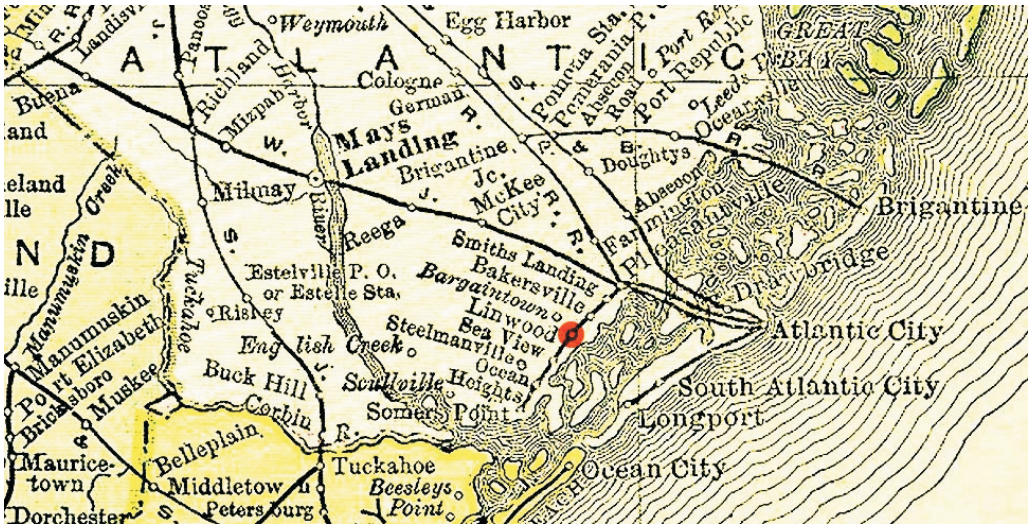

Figure 2-1. 1895 Map

History

History of Leedsville/ Linwood

The recorded history of European settlement of the area that is currently Linwood began in the late seventeenth century. In 1693, the Court of Portsmouth in Cape May County (which apparently exercised jurisdiction over Great Egg Harbor for a short time) appointed John Somers "first Supervisor of Roads and first Constable for Great Egg Harbour," suggesting that the population was sufficient to need a governmental presence and was growing. In 1694, the New Jersey Legislature passed an act placing Great Egg Harbour under the "jurisdiction of Gloucester County to all intents and purposes, till such time as they shall be capable by a competent number of inhabitants to be erected into a county." By October of 1695, there were enough people in the area to move the Grand Jury for the County of Gloucester to appoint "John Somers to keep a Ferry over Great Egg Harbour for man, hors & Kattle; to pass to Cape May … and other ports as passengers may have occasion." The ferry ran for many years from Job's Point on the Great Egg Harbor side of the river to Beesley's Point in Cape May County.

On November 29th and 30th of 1695, in the City of Burlington, Gloucester County, a West Jersey Proprietor, Thomas Budd, identified as a merchant from Philadelphia, sold large tracts of land along "Patconk Creek" in Great Egg Harbor to John Somers, John Skull, John Gilbert, Jonas Valentine, Peter Cowanover, James Steelman, and Jonathan Adams. Some portions of the Somers plantation and all of the Skull property lie within the boundaries of the present City of Linwood. [1]

The population of the area increased over the course of the eighteenth century. The community was primarily agricultural. The marshlands along the Patcong Creek and Scull Bay were desirable as pastures and sources of winter hay. Scull Bay was also a source of sustenance and livelihood for area residents. Shipbuilding was the primary mechanical industry, while fish, clams and oysters were all harvested and consumed locally, as well as sold to ships heading to New York. Sometime during the late eighteenth century, the community became known as Leedsville, probably after a local store operated by members of the Leeds family.[2]

In 1880, the US Post Office Department requested that the name of the town be changed, as there was another Leedsville in New Jersey. Residents met at the schoolhouse and agreed to change the name to Linwood. Linwood separated from Egg Harbor Township and became incorporated as Linwood Borough in 1889. The advent of the railroad and the rise of the seashore resort community contributed to the changing character of the area from agricultural to suburban over the course of the later nineteenth and twentieth centuries. [3] In 1931, the Borough incorporated as the City of Linwood.

1 James B. Kirk, Jr., "From Leedsville to Linwood· A brief history of Linwood, New Jersey" [1987] Linwood, NJ Website, City of Linwood, September 1, 2009, http·//www.linwoodnj.org/Index.html.

2 Ibid.

3 Ibid.

History of the Leedsville Schoolhouse

Note: Except as noted in the endnotes, the following information is taken directly from the National Register nomination prepared by James B. Kirk, with minor edits for context and clarity. The full nomination is included as Appendix C of this Preservation Plan.

Early formal education efforts in Linwood began around 1800 with classes held in the Friends Meeting House, a log cabin structure (not extant) located at the northern end of Leedsville. By the 1820, the Cedar Grove Schoolhouse was in operation, serving the southern half of the village of Leedsville. In 1843, a school referred to as the Leeds Ville Academy, located three blocks south of the meeting house was in service. In 1873, the Leedsville Schoolhouse was constructed to serve students living between Belhaven and Central Avenues, while those who resided south of Belhaven attended the Sea View School, in a building which had previously been a private residence. [4]

On November 11, 1873, Captain John D. Sanders and his wife, Abigail, deeded to the Board of Trustees of School District #19, "one acre more or less" on the road "leading from Shore Road to bridge over Patconk [sic] Creek." Since the minutes of the Board of Trustees of that period have not been found, the exact date of construction is unknown, but the year of construction is verifiable from other reliable records.[5]

The School Register for 1873 indicates that John Walker Tilton, a well-known local sea captain was the District Clerk of the Board of Trustees. In that capacity, his signature appears on an insurance policy from the Millville Mutual Marine and Fire Insurance Company, dated December 2, 1873. That policy insures the new building "Situated on the North East side of road from Winner's Landing to Patconk Creek perhaps 20 rods distant from the shore road from Somers Point to Absecon adjoining the Village of Leeds Ville in Egg Harbor Township, Atlantic County, New Jersey." This document confirms that construction was completed in 1873.[6]

The County School System of New Jersey was organized in 1866. Egg Harbor Township, of which Leedsville was a part, was divided into 48 School Districts; this was carried out to provide equitable disbursements of School Tax monies to the various districts. The village of Leedsville fell into two of the Township Districts: The Leedsville School District #19 included all households within the areas bounded by what is now Central Avenue in the north and Belhaven Avenue in the south; and the Somers Point District #20 included those households situated from Belhaven Avenue to Ocean Heights Avenue in the south. [7]

According to the Minutes of the Trustees of the Seaview School District, a one-room schoolhouse was built in 1887. It replaced the former school located on a adjoining lot. In 1873, then, there were two schools in Leedsville, each in a different district and each with its own District Clerk and Board of Trustees. [8]

The School Registers reveal the School #1, District #19 (the former Leedsville Schoolhouse) operated as an ungraded one-room school from 1873 to 1894. During that period, 65 to 70 students aged 5 through 18 were taught by a single teacher. In 1894, the

4 Ibid.; James B. Kirk, "Linwood Borough School No. 1" National Register Nomination, 1986, 8.1.

5 "Linwood Borough School No. 1," 8.1.

6 Ibid.

7 Ibid.

8 Ibid., 8.2.

Board of Education of Linwood Borough was organized, assuming jurisdiction and responsibility for both schools. The School registers for 1895 indicate that the school was divided into two classes: Primary, and Upper Grammar and High School. It must have been at this time that a partition was placed across the width of the building in such a way that divided the interior into two separate classrooms. Older citizens who attended school there describe a paneled partition wall with a door just inside the "cloak room" door which gave entrance to the Primary Room on the left (west). They describe, too, florentine glass extending from the wainscoting in the partition toward the ceiling for a considerable distance. In 1895, two teachers, a principal and an assistant, were employed to handle approximately 53 Primary students, aged 5 to 13, and 32 Upper Grammar and High School students, aged 10 to 18, respectively. That same year, the Seaview School had 43 students, 5 to 18 years of age, in a single, ungraded classroom. [9]

During the early 1900s, the Board Minutes address with some regularity the problems of growth in the community and the deterioration of the Seaview School. In 1906, a resolution was passed requesting the County Superintendent to condemn School #2. At that time, the population of the two Linwood Borough Schools exceeded 126 scholars and the Board presented a resolution to the voters of the community for the purpose of building a new school for all of the Borough's students at a "probable cost of $8,000." It was turned down by a vote of 27 to 10, primarily because there was strong disagreement on the chosen location; it was not considered central enough for the households in the northern part of the community. A year later, however, on January 15, 1907, the voters approved the purchase of a lot 150' x 150' close to the geographical center of Linwood for $600. Further, they authorized the Board of Education "to erect a schoolhouse and purchase furniture and other necessary equipment" at a cost "not to exceed $12,000." Lear and Corson, local building contractors, received the contract in 1908 for the sum of $10,883. Construction was evidently rapid, for according to a letter in the files of the District Clerk, the students were transferred to the new building in the "middle of September, 1908." They were separated into four levels, grades 1-2, 3-4, 5-6, and 7-8. [10]

After the spring of 1908, the Leedsville School building was used for storage for two years by the Board of Education, according to letters between the principal and the Board that mention looking for some supplies at the old school. The Board, meanwhile tried to determine how to dispose of the building. On March 20, 1909, the Atlantic City Press reported:

> At the school board meeting and election last Tuesday night, the same members were re-elected....Strange to say, those opposed to selling the school house won out. The building is, therefore, still in possession of the tax payers. It is now earnestly hoped that the school board will put in repair of the building and utilize it for a town hall. By so doing many dollars might be saved the borough instead of paying for use of Mechanics' Hall.
>
> It is said that borough thanks are due John Sutton and William Scull for 'saving' the building. These citizens are always alive to home interests and are not easily 'hoodwinked.' There are a few others whose 'innerds' feel equally loyal, but they get sudden attacks of 'rhematiz', 'bout 'lection time and stay 'to hum' and 'chew the rag' the balance of the year because things failed to go their way.[11]

9 Ibid.

10 Ibid., 8.2-8.3.

11 Newspaper article, *The Atlantic City Press*, 20 March 1909.

A year later on March 15, 1910, the voters of the Borough of Linwood approved two questions relating to the former one-room schools:

The sale of the Seaview Schoolhouse to "use the proceeds for current expenses" and the sale of School #1 (the Leedsville Schoolhouse) to the "Borough of Linwood, for One Dollar, to be used for Borough purposes."[12] A report of the School Board meeting in the Press on 19 March 1910 stated:

> At the election for school purposes held on Tuesday evening several items of interest were at stake. The proposal of the district board of education to dispose of the two old school properties, which propositions have been submitted to a vote on several occasions and for lack of interest among the citizens never reached a final conclusion, again were printed on the school ticket under three resolutions.
>
> By a fair majority the resolution to sell the house and grounds at Ocean Heights and use the money for current expenses was adopted. The resolution to dispose of the house and ground on Poplar avenue to the borough for one dollar was the subject of a fight, but was finally sustained.
>
> The borough will use this place as a town hall, which will be of great benefit to all the taxpayers and no loss by the transfer to the borough.
>
> The candidates for member of the Board of Education were Edmond Somers, Wesley A. Smith, and Daniel Sutton, all present members. However when it came to a vote, it developed that a dark horse was in the stalls and succeeded in winning the race from Daniel Sutton by eight votes. Mr. William Lear, a well known building and contractor, and former borough official, will be the new member to take his seat.
>
> A board of education that can afford to use embossed stationery and has two old schoolhouses to sell is decidedly in a class by itself.[13]

The building was conveyed to the Borough in June of 1910.[14] By 1912, the building had become Linwood Borough Hall and it was utilized for that purpose until 1965, when a new City Hall was constructed. In 1924, there was a population boom in Linwood and the Board of Education requested that the Borough sell the building back for use as a primary school. The Borough refused. A few years later, the building was nearly demolished in favor of a proposal to construct a new Borough Hall. That proposal was defeated. In 1944, a tiny service station was moved down Shore Road to the back of City Hall to provide additional space for a police station. Soon thereafter, at the behest of a number of interested citizens, the building was refurbished and became the City Library. The significance of the building was recognized in 1986 with listing on the New Jersey and National Registers of Historic Places. In 1987, the building was restored and became the home of the Linwood Historical Society Museum.[15]

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12 "Linwood Borough School No. 1," 8.3.

13 Newspaper Article, *The Atlantic City Press*, 19 March, 1910.

14 Deed, Grantee· Borough of Linwood, Municipal Corporation of New Jersey, Grantor· Board of Education of the Borough of Linwood. June 20, 1910, Deed book pages 231-234.

15 "Linwood Borough School No. 1;" Carolyn Patterson, "Restoring the Leedsville Schoolhouse," Linwood· n.p., 2008; Carolyn Patterson, "What is the significance of the Leedsville School building?" Linwood· n.p., 7 May 2009.

Architectural Evolution

Photograph 2-1

The Leedsville Schoolhouse was constructed in 1873 as a one-room schoolhouse. (Photogrpah 2-1) The frame building has a brick foundation, clapboard siding, and a wood shingle roof. An entrance porch with chamfered posts and foliated brackets was located on the south elevation between the two outer bay windows. The entrance doors were four-panel doors with bolection moldings and rounded panels at the top. (Photograph 2-2) The windows around the building were six-over-six, double-hung sash with three-panel shutters. (Photograph 2-3) Three windows each were set in the east and west elevations, with four more on the north elevation and two on the south. The four gable end attic windows, two in each gable end, were two-over-two, double-hung sash with louvered shutters. A hexagonal belfry centered on the roof ridge contained a school bell, 20" in diameter with a 27" yoke, made by the Meneely Bell foundry in 1873. On the interior, one large room accommodated the children, while a narrow entrance vestibule provided cloak room space. The interior was finished with wide tongue-and-groove wood flooring, vertical, random-width, beaded board wainscoting, plaster walls, and a plaster ceiling. Lamp black was mixed with the plaster to create a blackboard surface just above the wainscoting. The extent of the blackboards is not known. The building was set on a small, flat, sandy lot generally cleared of vegetation, although trees were still located behind the building.

Photograph 2-2

Photograph 2-3

The first change to the building was the construction of a partition wall by 1895 to divide the space into two classrooms. This wall, which ran north-south just to the west of the entrance door from the vestibule, is described as having Florentine glass extending from the wainscoting in the partition toward the ceiling for a considerable distance.[16] The partition wall was later removed, although the date of removal is not known. A ceiling beam marks its previous location. It appears that the current narrow, tongue-and-groove wood flooring and the current beaded-board ceiling were most likely installed at the same time. This supposition is based on the short sections of wood flooring pieced into the floor in a staggered pattern, which was presumably done to fill in the hole left by the wall removal (suggesting the floors were installed concurrently with the wall or at some time after and therefore stopped to either side of it rather than running under it) and the remaining ceiling lath above the board ceiling, indicating the presence of an original plaster ceiling, combined with the remaining boxed beam in the ceiling which serves no apparent structural purpose, but may have been left in place to accommodate the fact that the added board ceiling stopped to either side of the added wall.

In 1904/05, the original chimney pots were replaced with brick chimneys when the original cast iron stoves were replaced with a "Hot Air Heater in the Cellar."[17]

The next change to the building was the installation of cedar wall shingles over the original clapboard in 1906. The specifications called for:

> No. 1 assorted shingles, cedar 4 in. by 18 in. laid 6 in. to the weather; to be nailed with No. 5 galv. Wire nails, two to each shingle. Shingles to be dipped in Cabot's creosote stain in gray color, two thirds of the length; to take frieze board off, shingle and put back; to cover building between the weather boards and shingles with No. 1 single ply building paper; Small 1 3/8 in. O. G. moulding around each window, 1 1/8 in. from outer edge of window frame; paint all window casings, cornices and doors; &c. with Y.B. lead mixed with pure linseed oil, two coats; anything necessary to make complete job.[18]

16 "Linwood Borough School No. 1," 8.2.

17 Ibid., 7.2.

18 "Specifications for Work to be Done on the Linwood School House for which New Bids are to be Asked." Linwood· n.p., [1906].

The work was completed in the summer of 1906 by Carl A. Hopf for the sum of $258. The specifications called for the work to be completed by September 1st. The bill was submitted September 7th, suggesting he finished on time.[19] (Photograph 2-4)

Photograph 2-4

The school closed at the end of the 1907-08 school year. (Photogrpah 2-5) It was then apparently used for storage for two years before it was purchased by the Borough of Linwood and became the borough hall. The building remained in use as the borough hall until 1965. (Photograph 2-6) During that time a few more changes were made to the building. The belfry was removed in 1939. The center window on the east elevation was removed at an unknown date. The added partition wall was removed. The powder room was installed in the vestibule and heating and electrical systems were added and updated. At some point, the interior door from the vestibule was removed. On the exterior, the original sandy lot was replaced with grass, a driveway to the east of the building, concrete walkways along the south and west elevations, as well as up to and in front of the porch, and two medium to large trees have grown between the building and Poplar Avenue.

When the City offices moved to a new building in 1965, the building was converted to use as the local library. At that time, the center girder running east-west under the building, called a summer beam, was replaced with newer beams bolted together and the brick piers that supported the summer beam were replaced with CMU piers. The building was not otherwise significantly altered for use as a library. Also by the 1960s, the exterior wood shingles had been painted red.

19 Carl A. Hopf to The Board of Education, Linwood, Invoice, September 7, 1906.

Photograph 2-5

Photograph 2-6

In 1987, when the library moved to a new building, the schoolhouse was restored for use as the museum of the Linwood Historical Society. During the restoration, the fluorescent lights were removed and the ceiling was carefully patched. The floor was stripped and refinished and the interior was painted in historically appropriate colors.

Since that time, the schoolhouse has remained substantially the same. It retains its architectural integrity to its period of construction, having had only minor changes that do not affect the building's appearance and interpretation as a one-room schoolhouse.

Significance

Education during the colonial period in New Jersey and well into the nineteenth century, was not conducted or supported as a government enterprise. Religious groups and other private citizens who formed groups were primarily responsible for the organization, construction, and administration of small, neighborhood schools or private academies. The Religious Society of Friends believed in the cause of primary education for everyone and individual Friends' meetings often started elementary schools. These schools were frequently co-educational and included African Americans in many instances, particularly as the nineteenth century advanced. These schools taught reading, writing, and arithmetic, but many children could not afford the time away from farm work to attend or were only able to attend irregularly. By 1828, a study on the state of education showed that many children were unable to attend school, that one in five voters could not read or write, and that there was considerable support for a free public education system. Private efforts to improve education continued, with treatises produced on optimal learning conditions that set a standard for the second half of the nineteenth century in education building architecture. These new designs were mostly still one-room schoolhouses, but they followed certain strictures of design with regard to amenities and placement. Although support for and efforts toward a public education system in New Jersey were growing throughout the nineteenth century, it was not until 1867 that the State passed the Act of Public Instruction, which established the State Board of Education and ushered in a period of transition from private and semi-private schools to a public education system. While the wheels of government turned and new construction began to provide more schools, the old one-room schoolhouses were converted to public schools and remained in service, often into the beginning of the twentieth century. During the last quarter of the nineteenth century school architecture gradually changed from the one-room schoolhouse type to a multi-room type better suited to teaching multiple classes and ages of children.[20]

The Leedsville Schoolhouse fits into the pattern of transitional, one-room schoolhouses that were organized and constructed by the local Board of Education in the mid-to-late nineteenth century, shortly after the 1867 Act of Public Instruction. It follows a long-established plan type, but incorporates some of the design elements advocated from the mid-nineteenth century on for the health and welfare of students, including a high ceiling and large windows. The conversion of the school into a two-room schoolhouse was representative of late nineteenth century education trends as well, as was the eventual abandonment of the building in favor a new multi-room schoolhouse (the Belhaven School). Other examples of one-room schoolhouses from the late eighteenth and early nineteenth centuries can be found throughout the State of New Jersey.

One early example is the Old School House in Mount Holly, Burlington County, New Jersey. This brick school house was constructed as a single room, 24' x 20', with a side gable roof and a three-bay, eaves façade. The school was organized by an association of local citizens that formed for the specific purpose of raising funds for the education of local youths in 1756 and the school was built in 1759.[21]

An early nineteenth-century example is the Mickleton Friends School in East Greenwich Township, Gloucester County, constructed 1809-1810. This 27' x 33' one-room, one-story brick schoolhouse has a symmetrical, three-bay eaves facade with the entrance in

20 Roberta Marx Delson, "New Jersey Schools· Recommendations for Conservation of the Legacy" [Trenton, NJ· Division of Parks and Forestry], pp. 190-193; Richard Vespucci, "Public Education in New Jersey" (Trenton, NJ· Department of Education, 2001), pp.7-8.

21 Historic American Buildings Survey, "Brainerd School, Mount Holly, New Jersey" (District No. 6, State of New Jersey· U.S Department of the Interior, National Park Service, 1934), Data Pages 2-3.

the center bay and a gabled front entrance porch addition. This school was started and maintained by the Friends until 1900, after which it was leased to the Board of Education. It eventually ceased being a school.[22]

A third example is the Newton-Union School House, also known as the Champion School, in West Collingswood, Camden County built in 1821. The Champion School was the first school in Old Gloucester County built by a non-religious citizens group. It was constructed by the Newton Union School Society, which formed with the goal of educating the area's youth to enable them to become "useful members of society." Upon the passage of the New Jersey Public School Act in March 1838, the Champion School was named the first free school in Old Gloucester County and the deed to the school, held by Samuel Champion, was transferred to the Board of Education. The building remained in use as a school until 1905. The brick building was a one-room, one-story schoolhouse with a symmetrical three-bay facade, but with the addition of a brick front entrance vestibule.[23]

In the wake of the establishment of the public school system and tighter controls on the design of schools, school types became more diverse. Some efforts, like the Birmingham School (1875) in Birmingham, Burlington County, New Jersey were still designed as one-room schoolhouses, but with design modifications recommended to create a healthier environment for the students, a case very similar to the Leedsville Schoolhouse. Other schools, like the District No. 98 Schoolhouse (1872-1884) in Stockton, Hunterdon County, reflected the growing school population with multi-classroom buildings, while still others like the Zane School (1905) in Collingswood, Camden County began to reflect a new style of multiple classrooms on multiple floors with center hallways and two sets of stairs for egress to accommodate even larger urban populations.[24]

The Leedsville Schoolhouse in the City of Linwood is significant under National Register Criterion C in the area of education. It was built in 1873 and operated as a school until 1908. It later became the Borough/City Hall and then the City Library. Changes to the building have been minor and most are reversible, giving the building a high level of historical and architectural integrity. The building is significant as an intact representative example of the one-room schoolhouse plan type that predominated education architecture in New Jersey from the eighteenth century through the end of the nineteenth century. It dates from the inception of the public school system in New Jersey and represents the significant contribution of one-room schoolhouses to the social and architectural landscape of New Jersey's small towns. It is well-suited for its original and current use as an educational community resource.

22 Historic American Buildings Survey, "Mickleton Friends School" (District No. 6, State of New Jersey· U.S Department of the Interior, National Park Service, 1936), Data pages 1-2.

23 Margaret Westfield, "Champion School· Preservation Plan" (Haddon Heights· n.p., 1991), pp.1-3.

24 Margaret Westfield and Martin Shore, "Birmingham School." National Register Nomination (Haddon Heights· n.p., 1992), pp. 7.1, 7.2, 8.1 through 8.5; Joanne Nestor, "District No. 98 Schoolhouse" National Register Nomination (N.p., 2004), pp. 7.1 through 7.4.

Chapter 3

Conditions Assessment

Site

❖ Description

The Leedsville Schoolhouse is located at 16 West Poplar Avenue in Linwood, Atlantic County. The school is located near the western end of a small, flat, rectangular property bounded by West Poplar Avenue and Lincoln Avenue on the south and west sides respectively. The local fire station abuts the northern boundary of the property and a residence is located along the eastern boundary. On the property itself, a one-story frame storage building is located behind the building, to the north. A gravel driveway, approximately two cars wide and two cars deep, runs along the east side of the building. Along the west side, which faces West Poplar Avenue, there are two mature deciduous trees flanking a concrete walkway that runs from the front porch to the concrete sidewalk. The concrete sidewalk also extends along the western boundary from the southwest corner as far as the northwest corner of the building, but does not continue to the northern boundary. (Figure 3-1)

❖ Condition

The site is in generally good condition. A few items of concern were noted.

- The trees overhang the roof of the building and drop debris in the gutters, which is contributing to problems with the rainwater conduction system.
- There are no handicapped-accessible parking facilities.

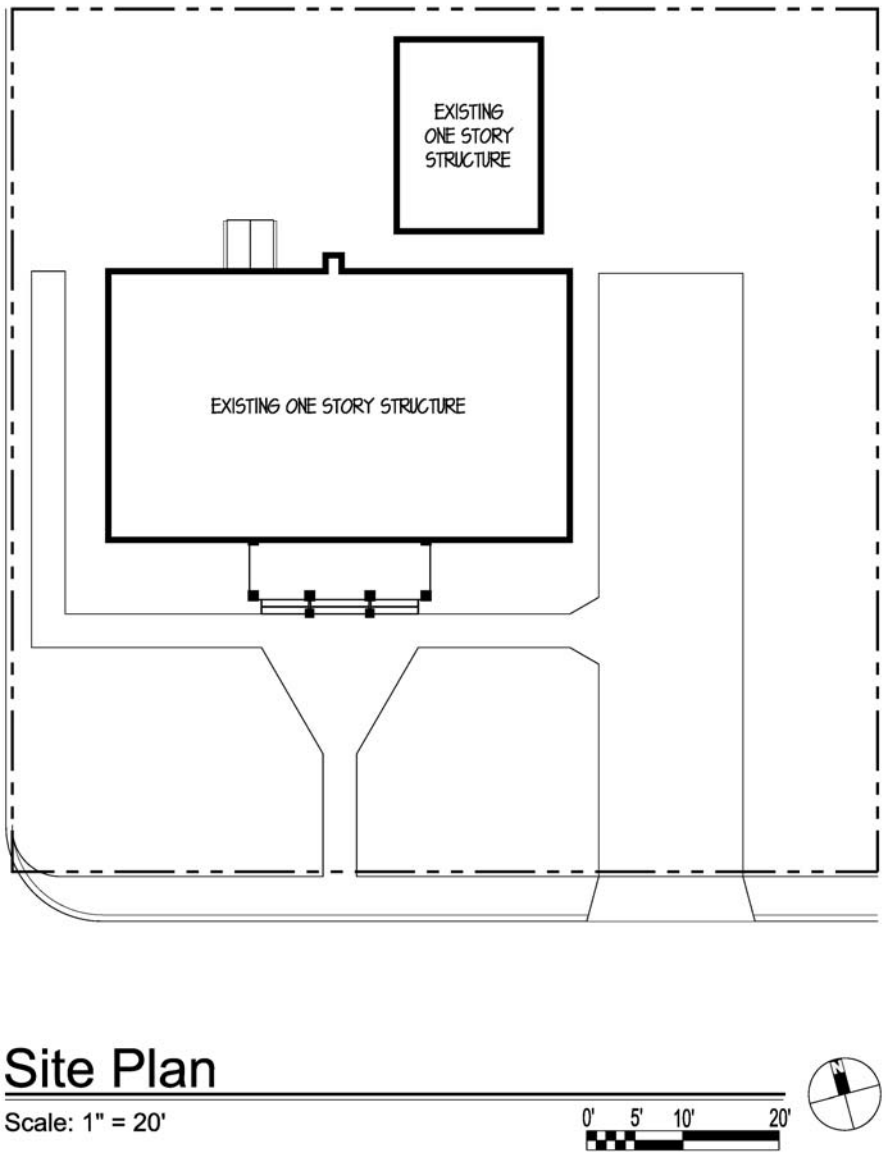

EXISTING
ONE STORY
STRUCTURE
EXISTING ONE STORY STRUCTURE
Site Plan
Scale: 1" = 20'
0'
5'
10'
20'
N

Figure 3-1

Exterior

The Leedsville Schoolhouse is a one-story, three-bay frame structure with a side gable roof and a center bay porch on the west elevation. The building is clad with painted wood shingle siding and cedar shingle roofing and is set on a brick foundation. (Photograph 3-1)

Photograph 3-1

Roofing and Drainage

❖ Description

The main roof features side gables, running east-west, with cedar roofing shingles. Half-round gutters extend along the eaves on the north elevation, with a single round, uncorrugated downspout near the center of the elevation that has an extender at the bottom that should discharge onto a splashblock, but the splashblock is out of position. Modern K-gutters extend along the south elevation, with rectangular, corrugated downspouts at the southwest and northeast corners. The western downspout wraps around the corner to the west elevation and discharges onto a splashblock, while the eastern downspout discharges next to the building. The porch has a flat-seam metal roof that drains into half-round gutters and a single round, uncorrugated downspout composed of both metal and PVC pipe.

❖ Condition

- The cedar shingle roof is in fair to poor condition. While a recent leak has been fixed, the overall condition of the shingles is deteriorating. Holes were visible in the roof during a recent rain, when the water should have caused the shingles to swell and close any normal gaps that are seen when the roof is dry. Curling and split shingles are visible on the roof, as is some organic growth. A rusty pipe extends through the roof.

- The half-round gutter on the north elevation has rotated outward such that it is no longer functional. The south elevation gutter is full of debris from the trees, making it nearly nonfunctional. Since the splashblock under the north downspout is out of place, water is not directed away from the building to the optimal distance. The east downspout on the south elevation discharges directly next to the foundations, contributing to the damp conditions in the crawlspace that have attracted termites to that location.
- While the porch roof is not visible from the ground, there is staining and puddling that suggest water may be leaking through the roof.
- The porch gutter is also full of debris from the trees. The porch gutter is also attached to the molding of the porch cornice, which has split at the location of some of the attachments. The downspout has corroded at the joints, creating holes through which the water seeps out and down along the porch, and also discharges next to the porch and near the foundations of the building, contributing to damp conditions in the crawlspace. (Photograph 3-2)

Photograph 3-2

South Elevation

❖ Description

The south elevation is a one-story, three-bay symmetrical facade. (Photogrpah 3-3) A wide wood water table with an added board at the bottom edge and an ovolo molding at the top separates the running bond brick foundation from the wood shingled walls. (Photograph 3-4) The eaves consist of a bed molding comprised of two fascias separated by a cyma reversa molding, a quirked cavetto molding that marks the transition to the soffit, and, at the outer edge of the soffit, a small fillet that is located beneath a cyma recta cornice molding. (Photogrpah 3-5) Exterior lights are mounted on the southwest corner of the building.

Each of the outer bays on the elevation contains a six-over-six, double-hung sash window. (Photogrpah 3-6) Each window opening has a flat sill and a fascia/cyma recta molding profile on the jambs and lintel, with a drip cap over a cavetto molding and three-panel shutters that are fixed in place. The shutter panels are recessed and have an applied quirked ovolo molding. The window sash are covered with storm panels. The panels over the upper sash are fixed in place. The panels over the lower sash have moveable storm and screen panels. The lower storm window frames are narrower than the upper storm panels and project further from the surface of the jambs.

Photograph 3-3

Photograph 3-4

Photogrpah 3-5

Photogrpah 3-6

Photograph 3-7

Photogrpah 3-8

The only entrance to the building is located in the center bay. (Photogrph 3-7) It consists of a pair of four-panel doors. The panels are recessed with an applied quirked ovolo molding. The trim around the door has a fascia/cyma recta molding similar to that around the windows. A clear glass transom is set above the doors. The door opening is surmounted by a drip cap over cavetto molding, similar to the windows. The plain metal door knob has a chamfered backplate. A modern mail slot is located in the western leaf. The entrance is flanked by a pair of early twentieth-century gas lanterns and two signs located to the east of the door. (Photograph 3-8) One is a National Register of Historic Places plaque and the other has the name of the historical society and address of the building.

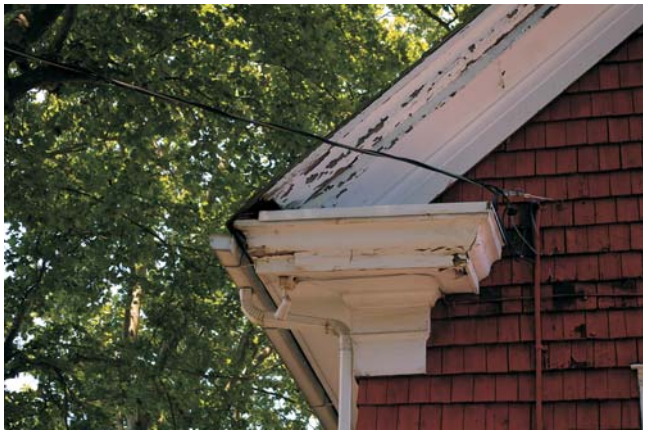
An entrance porch stretches across the center bay. This Victorian porch has three wood steps across the length of the porch leading up to a tongue-and-groove wood floor. The porch floor framing is hidden by a wide skirt board and is supported by brick piers. Two stair railings have been added at the center of the porch steps. Each has square newel posts with ball caps and turned balusters. Four chamfered posts and two chamfered pilasters with scrolled brackets support the porch roof. The bases of the posts are boxed. The trim at the top of the base boxes have a quirked ovolo/quirked cavetto molding transition. Neck moldings with a cavetto profile are set beneath the brackets. The porch roof bed molding consists of a fascia beneath a small soffit and cyma reversa molding. The porch cornice has a flat soffit and fillet beneath a cyma recta molding. The underside of the porch roof has exposed framing beneath tongue-and-groove beaded board sheathing.

❖ Conditions

- The condition of the wood elements on this elevation is typical of the entire exterior. The wood shingles are in fair to poor condition due to age and constant exposure to moisture. The water table is deteriorating due to age, previous inappropriate repairs, constant exposure to moisture, and it is coming loose in some locations. (Photogrpah 3-9) The porch elements exhibit wood deterioration and one location on the porch floor has a low spot that constantly collects water. (Photograph 3-10)
The building cornice is in fair condition on the south elevation, except at the corners, but the north cornice is in generally poor condition, due to the failure of the rainwater conduction systems exposing the cornices to additional water. Small holes at the corners appear to have been made and/or enlarged by small animals. (Photogrpah 3-11) The shutters also exhibit some deteriorating woodwork. All of the wood elements exhibit peeling paint as well. Paint should be reapplied approximately every five to eight years, and only after proper surface preparation. The lack of recoating, combined with the moisture, has accelerated paint lost and general wood deterioration. The large trees overhanging the building have exacerbated the moisture situation by constantly dripping on the building, clogging the gutters, and creating an overall moist environment, particularly on the south side.

Photograph 3-9

Photograph 3-10



Photograph 3-11

- The brick foundation has been subject to several programs of repointing and brick replacement over time. Many of the replacements are inappropriate due to size and color, while others are not bricks, but rather concrete block. The repointing has been poor and some has been executed with portland cement, which is harder than the brick and, when it expands and contracts, causes further damage to the brick.

East Elevation

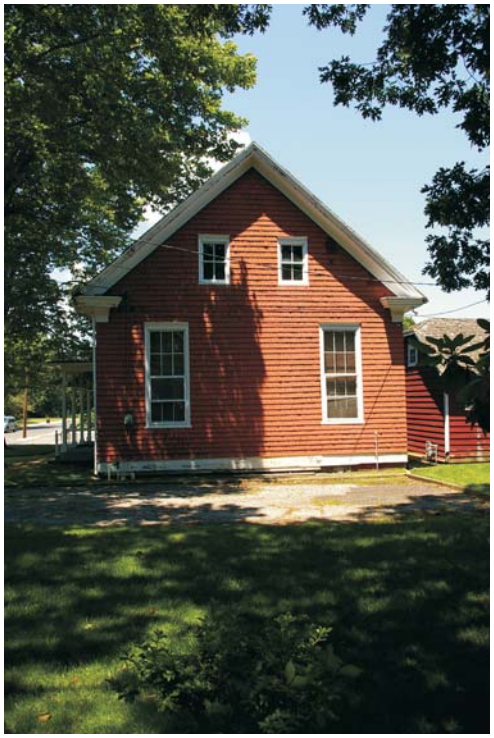
❖ Description

The east elevation is a one-story, two-bay symmetrical gable-end elevation. (Photograph 3-12) Two windows matching those on the south elevation are located at the first floor level, but no shutters are installed. (Photograph 3-13) Two two-over-two double-hung windows with the same trim as the first floor windows are located in the gable end. The water table matches that on the south elevation. The raking cornice matches that on the south elevation and has returns. A bed molding has been added beneath the cornice molding. Its profile consists of a fascia beneath a cavetto molding and soffit.

Various utilities and other elements are located on this elevation, including an electric meter, an old light or alarm fixture at the southeast corner, and one current emergency light fixture at the northeast corner.

❖ Condition

- The wood conditions are similar to those on the south elevation. The wood elements are deteriorated and exhibit peeling paint. The cornice returns are a vulnerable point for deterioration and holes made by small animals and so are in worse condition that the rest of the cornice.



Photograph 3-12

Photograph 3-13

- The brick foundation also exhibits loss of pointing and inappropriate repairs and repointing, as well as a broken basement vent grate. (Photograph 3-14)
- The upper storm panel on the south window is broken.

Photograph 3-14

North Elevation

❖ Description

The north elevation has four windows like those on the south elevation spaced evenly across the elevation. In addition to the windows, there is an added exterior brick chimney just west of the center of the elevation and a weather vestibule covering the basement entrance between the western two windows. (Photographs 3-15 & 3-16) The weather vestibule is a frame structure with clapboard on the walls and wood shingles on the gable roof that runs north-south. A beaded-board door with flat trim and a drip cap is located in the center of the north wall. A vent is set low in the door. The gable end has plain raking eaves.

Various utility items are also located on this side of the building, including telephone, gas meter/service, an old alarm bell, and the fill and vent pipes for an abandoned oil tank. Exterior emergency lights are located on the cornice at the east and west ends.

Photograph 3-15

Photograph 3-16

❖ Condition

- The wood elements and brick foundation exhibit the same issues as on the south and east elevations. In particular, the brick foundation has at least one missing brick, inappropriate infill, and deteriorated pointing, and the water table is in very poor condition at the west end.
- The failure of the rainwater conduction system is highlighted by a drip line on the ground and an abundance of moss growth.
- The window air conditioner that cools the building is set in the second window opening from the east end. Condensate drips from the air conditioner creating a constant puddle next to the foundation, contributing to damp conditions in the crawlspace.
- The chimney has a stepped crack at the base. Water damage noted on the interior also suggests that it is not properly flashed.

West Elevation

❖ Description

The west elevation is nearly identical to the east, except that it has three windows symmetrically placed across the first floor of the elevation and there are two basement vents. (Photograph 3-17) An abandoned downspout boot is located near the south end of the elevation, suggesting that there may have been an underground rainwater conduction system to carry water away from the building at one time.

❖ Condition

- This elevation exhibits the same conditions as the other elevation. It was also noted that the drip cap molding on the center first floor window has been damaged.

Photograph 3-17

Interior

The interior of the schoolhouse is divided into the main room and, at the south center of the space, a vestibule and small restroom. The attic space is accessible via a hatch in the ceiling near the southeast corner. The partial basement is accessible via an exterior entrance on the north side of the building.

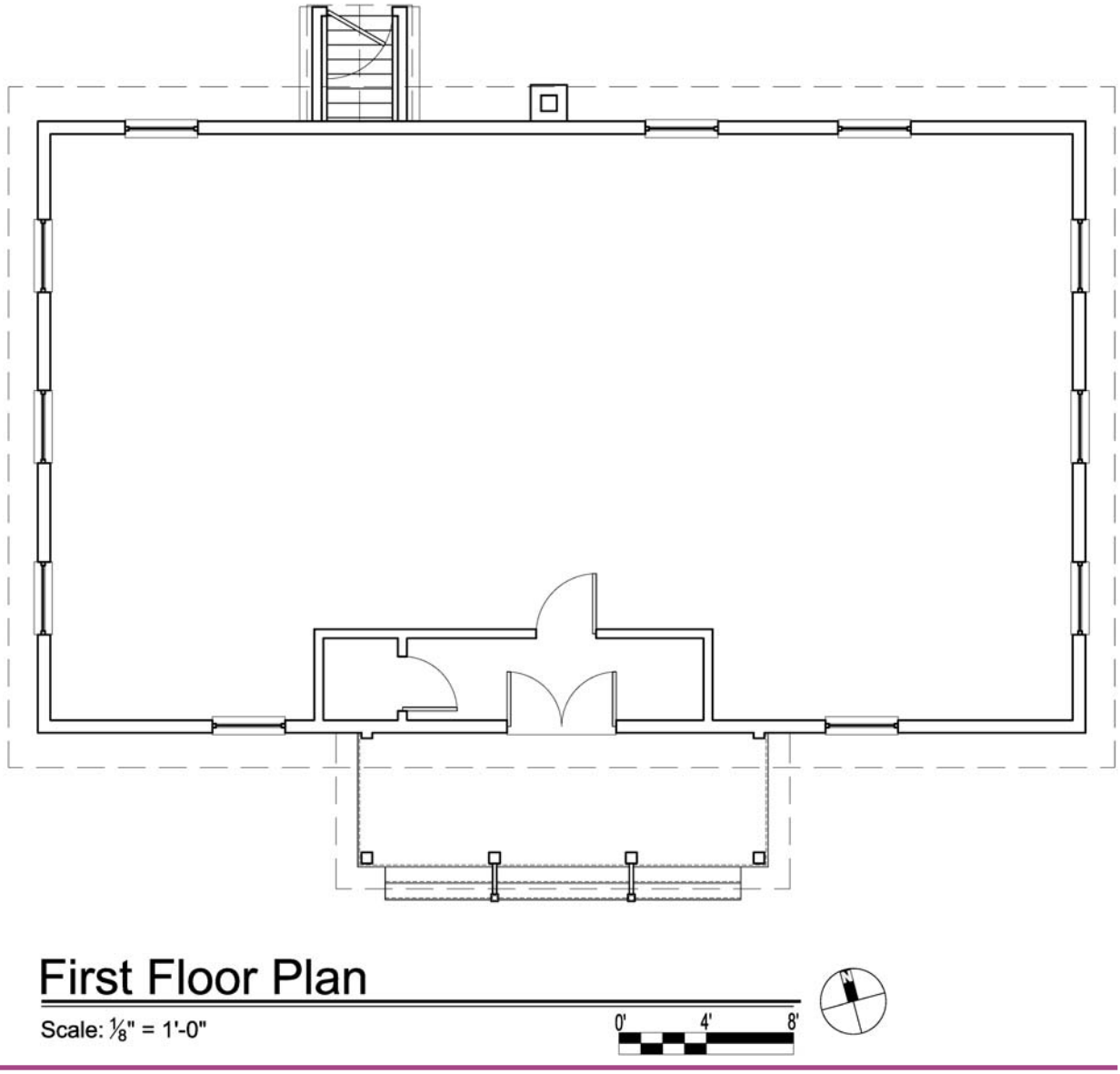


Figure 3-2

Photograph 3-18


Photograph 3-19

Room 101- School Room

❖ Description

Photograph 3-20

The main space is a single large room, 48' long by 20' deep, rectangular in shape except for the smaller rectangle taken out of the south center section of the space. (Photographs 18 through 21) The floors are 2½" wide tongue-and-groove pine. The approximately 15' high walls are covered with plaster above vertical beaded-board wainscoting. The wainscoting has a quarter-round shoe molding at its base and is capped by a chair rail with a small shelf with bullnose over a smaller bullnose that curves down to a small splay face. (Photograph 3-22) A remaining section of original blackboard, formed by adding lamp black to the plaster, is located in the southwest corner of the room and is set off by an added piece of modern oak trim which has a fascia below half-bead trim. (Photograph 3-23) The ceiling is 2" wide beaded board with a cornice. Although not entirely consistent around the room, the general cornice profile is, from bottom to top, cavetto/cyma recta. (Photograph 3-24) A boxed-out beam near the center of the ceiling marks the location of the partition wall that once divided the space into two classrooms.

Photograph 3-21

Photograph 3-22

Photograph 3-23

Photograph 3-24

Photograph 3-25

There are a total of eleven windows in the room, two on the south wall that are located to either side of the vestibule and bathroom, two on the east wall, four on the north, and three on the west. The single entrance door to the room is located in the north wall of the vestibule. The door itself has been removed, leaving the opening. (Photograph 3-18) The trim around the windows and the door has a profile, from inside to outside, of three-quarter bead/cavetto/fascia/cyma reversa/fascia/bullnose. The window sash have an acorn muntin profile and the inner edge of the sash has an ovolo routed into it. (Photograph 3-22)

A total of six radiators are located on the north, east, and west walls, spaced two per wall. Lighting is provided by eight pendant lights, with three additional high hats each over the office space in the southeast corner and the research table in the northeast corner. (Photograph 3-25) A single air conditioning unit is located in the second window from the east end on the north wall.

❖ Conditions

- The interior of the schoolhouse is in fair to good condition.
- The floor, although uneven and having been patched over time, is in generally good condition, requiring little in the way of repair or refinishing.
- The wainscoting has gaps in places, most likely due to the same movement that has caused the unevenness of the floor. The gaps are merely a cosmetic issue, however, and are mostly hidden by museum exhibits.
- The plaster has hairline cracks, generally extending from the upper corners of the windows up to the ceiling, as well as in other areas, particularly in the southeast corner. The cracks do not appear to be widening over time, although many appear to have been previously repaired and have since reappeared. However, these cracks are not representative of a significant problem. Some peeling paint was also noted on the plaster. (Photograph 3-26)
- One section of the ceiling along the north wall, east of the center beam, has been damaged by moisture from a roof leak. Other areas of the ceiling are uneven and some peeling paint was noted. (Photographs 3-27 through 3-29)
- The windows appear to be in generally good condition from the interior and some are at least partly operational. Not all of the windows were accessible to test their operability.

Photograph 3-26

Photograph 3-27

Photograph 3-28


Photograph 3-29

- The wire from which the airplanes are hung is secured to the center beam in the ceiling. While it is not clear if the wire is secured into a true beam inside the boxing, there are some signs of stress on the side boards of the box out. The boards have moved slightly out of place, creating gaps between the side boards and adjacent boards.

Room 102 - Vestibule

❖ Description

The vestibule, which is 4'-2"x13'-1" and 15' high, occupies roughly the eastern three quarters of the smaller rectangle within the building. (Photographs 3-30 & 3-31) It has the same flooring, wainscoting, shoe molding, chairrail, door trim around the entrance and main room doors, and plaster walls, except that the west wall, which is the restroom partition wall, is made entirely of beaded board. The ceiling in this room is plaster. There is a cornice at the west wall with bullnose/fillet/cyma recta profile from bottom to top.

The main entrance doors, located in the south wall, are four-panel, double-leaf doors. (Photograph 3-32) The panels, two vertical above two horizontal, are recessed and have an applied ovolo/fillet molding. The door knob is a plain round metal knob with a band around it and a plain chamfered backplate. There are three five-knuckle, ball-tipped hinges on each door, as well as a surface deadbolt, a mail slot in the west door with a basket to catch the mail, a top bolt with a pull chain release, and a bottom bolt. A two-panel door in the west wall leads to the restroom. The panels are recessed and have a cavetto/ovolo applied molding. The trim around the door has a cyma reversa/fascia/quirked ovolo/fillet profile from inside to outside. The knob is porcelain and has a plain, chamfered backplate. In the west wall, above the bathroom door, is a flush door with plain trim that provides access to a storage space. The door opening in the north wall with typical trim leads into the main room.

Other elements in the vestibule include a coathook rail on the east wall with metal hooks, a wood chase running up the wall to the west of the door leading to Room 101 that has a

Photograph 3-30

Photograph 3-31

small access door in it, an electrical box and an obsolete fire alarm box, and a two-light cast iron chandelier. (Photograph 3-33) The chase running up the north wall once housed the rope for the school bell located in the former belfry.

❖ Condition

- The vestibule exhibits the same problem conditions as the main room: the floor is sloped; there are gaps in the wainscoting; and there are plaster cracks in the walls and ceiling. The front entrance doors, which are not original to the building, are also not properly aligned; the two leaves rub against each other, making it difficult to open and close the doors.

Photograph 3-32

Photograph 3-33

Room 103 - Restroom

❖ Description

The restroom is a small room located to the west of the vestibule. (Photograph 3-34) The small space, approximately 4'x5' in size, has a vinyl floor, plaster walls above the typical wainscoting, and a plywood ceiling. The door, set in the east wall, has stock trim with a half-bead/fascia/cyma recta/fillet molding. A small cornice has an ovolo/splay profile. The toilet is set in the northwest corner of the room, while the sink is in the northeast corner with a mirror and three-light fixture over it. The soil stack is in the southwest corner of the room, an obsolete exhaust fan is located in the northwest corner of the ceiling, and a radiator is located against the south wall. The wainscoting has been modified/ removed behind the toilet and sink.

Photograph 3-34

❖ Condition

The restroom is in fair to poor condition.

- There are gaps in the wainscoting and cracks in the plaster.
- The fixtures are old and there is no hot water.
- The exhaust fan does not work.
- The room is not, and cannot be, handicapped accessible.

Attic

❖ Description

Note: See the structural engineer's description for additional information.

The attic is a nonhabitable space that is accessible via a hatch in the ceiling near the southeastern corner of the main room. The attic does not have flooring. The attic structure includes four king post trusses, paired and butted rafters, ceiling joists, a top plate to receive the rafters, and the remains of the belfry support structure. (Photographs 3-35 through 3-39) Two two-over-two windows without trim are located in the east and west gable end walls. Some insulation has been laid between the ceiling joists.

❖ Condition

- There is evidence of termite damage, particularly near the hatch on the south slope of the roof. Entire sections of lath strips have been eaten away. (Photographs 3-40 & 3-41)
- There is evidence of significant moisture damage at the location of the added chimney on the north slope.

Photograph 3-35

Photograph 3-36

Photograph 3-37

Photograph 3-38

Photograph 3-39

Photograph 3-40

Photograph 3-41

Basement

❖ Description

The basement is partially excavated. (Photograph 3-42) The entire southern half of the basement is a crawlspace, as is the northeastern quarter and a small area in the northwestern corner. (Photograph 3-43) The center and most of the northwestern portion of the basement have been excavated to make room for a boiler and an oil tank with an overflow tank. The oil tank is set on an area of basement floor that is about two feet higher than the boiler area floor. The floor has been covered with concrete at these two levels, but not over the crawlspace area. The boiler is located to the east of the basement entrance, which is set between the western two windows on the north elevation. (Photograph 3-44) The oil tank, located to the west of the entrance, has been abandoned, but remains in place, along with the overflow tank. The walls of the excavated area are brick. Some areas, particularly along the south wall of the excavated area, show what appears to be original pointing, while other areas have been repointed with various types of mortar.

Photograph 3-42

Photograph 3-43

A replacement summer beam with replacement concrete piers runs east-west, while the original, circular-sawn joists run north-south. Debris from the previous brick piers and sections of wood that may be from the original summer beam remain in the crawlspace. (Photographs 3-45 & 3-46) Above the joists, at the location of a previous circular grate that may have served the initial central heating system, the edges of two layers of flooring are exposed. The lower layer, which runs east-west, is approximately one inch thick and is random width, while the layer above is about ¾" thick. Both layers are beneath the current finish flooring. The base of one of the original interior chimneys is visible on the west wall, as is a modern vent grate.

The entrance to the basement consists of concrete steps outside the footprint of the building that are covered by a small frame structure. The structure is unfinished on the interior. Original clapboard siding is exposed on the north wall of the building, where it is covered by this structure. (Photograph 3-47) This clapboard appears to be in good condition.

Photograph 3-44

Photograph 3-45

Photograph 3-46

Photoraph 3-47

❖ Condition

The basement exhibits several problem conditions.

- There is extensive evidence of termite damage throughout the first floor framing. Although the damage is not continuous from joist to joist, it was noted throughout the basement. (Photograph 3-48)

Photograph 3-48

- The space has a very damp smell, suggesting that moisture infiltration is a continuing problem.
- There is extensive mortar loss and some brick spalling or crumbling in the brick walls throughout the space. In addition, there is an area over an opening low in the lower section of the south boiler area wall that has been poorly repaired.
- The basement and crawlspace are filled with junk, including wood debris. Damp conditions combined with wood debris create a highly favorable environment for termite infestation. [Note: Since the date these field observations were taken, most of the stored items have been removed from the basement, although the crawlspace is still littered with debris.]

Building Systems

The following summary of problem conditions with the building systems at the Leedsville Schoolhouse was prepared by Anthony Scalamandre, P.E. The full report is included in Appendix B.

❖ Heating Equipment Approaching End of Service Life

The hot water boiler providing heat to the building is approximately 27 years old with an industry standard life expectancy of 35 years. (Photograph 3-49) Replacement of the boiler with a new high efficiency model should provide energy savings, extended reliability of the system, and should allow for the removal of the chimney at the rear of the building.

❖ Aboveground Oil Storage Tanks In Basement

There is one above-ground oil tank in the basement in the area of the boiler. It is assumed that the oil tank was used to store fuel oil for a previous hot water boiler. However, the current boiler is fired by natural gas and the oil tank is no longer used and assumed to be empty. The cost to remove the tank, as well as any remediation that may be required, could be significant.

❖ Inefficient Air Conditioning and Poor Condensate Management

The energy use of the wall air conditioning unit is relatively inefficient. In addition, it is located at one end of the building, providing less than optimal distribution. The new system must have the means to provide dehumidification to aid in preservation of the historic artifacts.

The condensate from the existing unit collects outside at the base of the building and may have contributed to some building damage. A new air conditioning system must include a method for keeping the condensate away from portions of the building that may be damaged by water.

Photograph 3-49

❖ Toilet Room Upgrades

The existing toilet room does not meet ADA requirements and the plumbing fixtures should be considered for replacement.

The existing exhaust fan must be replaced to provide code minimum toilet exhaust ventilation rate.

There is no source of hot water in the toilet room; a new point-of-use or small tank-type electric water heater should be installed.

❖ Old Wiring Methods

Some of the wiring methods throughout the building are outdated and may present a safety hazard. It is recommended that old knob-and-tube wiring be replaced and that the receptacles be provided with a ground wire back to the building ground source.

The electric panel is aged and utilizes split circuit breakers in some cases. Considering the age of the panel and breakers and the wiring recommendations mentioned above, it is recommended that the panel and circuit breakers be replaced with more modern equipment.

❖ Attic Insulation

Due to the installation of the non-IC rated recessed light fixtures in the ceiling of the museum, the insulation has been removed in areas such that there is not one continuous layer. This condition compromises the performance of the insulation.

❖ Fire Alarm System Upgrade

There is an abandoned fire alarm panel on the first floor level and an active fire alarm panel in the basement mechanical room. In addition, there is a pull station and smoke detectors on the first floor level and there are heat detectors in the attic.

Inactive panels and devices should be removed from the building. Devices intended to be active should be further evaluated to ensure that they function as intended.

Structural Evaluation

Brian D. McGlade, P.E. of Baker, Ingram & Associates Structural Engineers visited the Leedsville Schoolhouse on 21 July 2009. The following observations and recommendations are extracted from his report, which is included in its entirety in Appendix A.

The building is a single-story structure, originally constructed in 1873. The building measures approximately 48 feet long by 28 feet wide. There is a small partial basement along the northern side of the building, with a crawlspace beneath the majority of the structure. Due to limited clearance, we were only able to access the northeastern quadrant of the crawlspace. The roof is a conventional gable, with a pitch of approximately 10 in 12. Historic photographs of the building indicate a large central cupola, which has since been removed. There is a small open porch on the front elevation.

The first floor framing consists of full 3"x9" wood joists, spaced approximately 16 inches on center, spanning from the front and rear exterior masonry walls to a center wood girder. The joists were generally found to be free of large splits or checks, and the joist ends probed along the north wall were found to be sound and free of rot or other damage. Termite damage was observed in several locations throughout the crawlspace.
(Photograph 3-50)

Photograph 3-50

The original center wood girder has been reinforced with a double 2x10 joist nailed to both faces of the original girder. The condition, and to a lesser extent the size of the original wood girder could not be confirmed, due to accessibility limitations. Additional vertical support for the center girder has also been provided. In some cases, this additional support took the form of solid wood blocking stacked and shimmed to the underside of the girder, without a foundation.

The building foundations appear to be functioning adequately, as there were no visible indications of settlement or movement in the exterior walls or framing.

The roof of the building is supported by three (3) kingpost trusses which bear on the front and rear walls, and clear-span the short (north-south) direction of the building. The trusses support two intermediate wood 4x6 girts, one each on the front and rear roof elevations. The girts support the tapered wood rafters that span continuously from the ridge to the eave. The wood girts and rafters were generally found to be in serviceable condition. The rafters, which are spaced 24 to 27 inches on center, support 1x3 continuous furring, onto which the wood shingles were nailed. Water staining was evident on the underside of the wood shingles and furring, and there were several locations where the furring had failed, leaving the shingles unsupported.

The ceiling joists measure 2"x8" and are spaced 16 inches on center, spanning from the front and rear walls to a center 5"x8" wood girder. The ceiling joists are connected to the ceiling girder by pegged tenons. The ceiling girder spans between the bottom chord of the kingpost trusses, and is presumed to also be connected by mortise and tenon joinery.

The kingpost trusses are compised of 6x6 timbers for the top chord and diagonals, and a 6x8 timber for the kingpost. The two intermediate verticals are comprised of 7/8 inch diameter (iron) rods, which extend through the top and bottom chords and are anchored with plate washers and nuts. Threaded rods also clamp the heel joint between the top and bottom chords. The bottom chords consists of an 8x8 timber, with a two inch wide iron strap connecting the kingpost to the bottom chord. The condition of the kingpost trusses was generally good, with the exception of the northern end of the middle truss. The bearing for this truss occurs immediately adjacent to the masonry chimney which extends through the roof. Water leaking through the failed chimney flashing has caused significant deterioration to the top chord of the truss. (Photograph 3-51) A strap was added presumably to reinforce the heel joint, however the deterioration entends beyond limits of the strap, and remedial reinforcing is required.

Photograph 3-51

Summary

- The intact, undamaged wood joists are capable of supporting a live load on the order of 80 to 100 psf, which should be more than adequate for the ongoing use of the building by the historical society. Those joists which have been damaged by termites should be repaired by sistering the damaged joist with a single pressure-treated 2x10 joist. During our site visit, we did not observe any active termite activity, however, we do recommend that the building be periodically inspected to verify this is the case.
- The capacity of the interior girder was conservatively calculated based solely upon the two double 2x10's reinforcing the original wood girder. The reinforced girder can safely support a uniform load comparable to that of the floor joists providing the span of the girder is limited to approximately six feet. We recommend that the wood blocking that was previously installed beneath the girder to provide additional support be replaced with a masonry pier or permanent wood column bearing on a concrete footing.
- The majority of the roof framing is in generally good condition, with the exception of isolated sections of furring which are deteriorated and in need of replacement. The major concern with the roof is the condition of the north heel joint of the middle truss. The deterioration observed in the top chord of the truss has progressed to a point in which the truss can no longer safely support the roof and ceiling loads. We recommend that the north end of the truss be temporarily shored to provide support for the truss until permanent repairs can be made. The permanent truss repair must address the loss of material in the top chord and be able to develop the connection force between the top and bottom chord. Conceptually the truss repair would replace the deteriorated top chord with a "Dutchman" type of repair, possibly in conjunction with wood or steel side plates to transfer the horizontal component of the axial force in the top chord into the bottom chord. Investigation into the condition of the bottom chord will also be required.
- The building was found to be in generally sound condition, with isolated areas requiring remedial attention. Several of the first joists have been subjected to termite attack, and require reinforcing. The supports for the center girder below the first floor should also be improved so as to provide a more permanent foundation.

- The major work associated with the roof framing is the repair to the heel joint of the middle truss at the north end. The development of the repair detail will require a more thorough investigation and analysis of the truss. Of course the source of the water infiltration must also be addressed.

Significant Historic Fabric

The historic fabric of the Leedsville Schoolhouse is remarkably intact. Aside from the removal of the belfry and chimneys and the two sets of doors, and the cyclical replacement of the porch floor and wood shingle roof, the original historic fabric all remains a part of the building.

The following list of building components are original to the building and should be retained and repaired in the most conservative manner possible.

- brick foundation
- clapboard beneath the wood shingles on the exterior
- windows
- porch
- cornice
- wainscoting
- plaster
- ceiling
- the blackboard
- all interior trim
- the chandelier in the vestibule

Elements that are not original to the building but were added during its period of significance and therefore should be retained unless otherwise directed by the preservation approach include the following list.

- exterior trim around the windows (excluding the pieces of ogee molding added with the wall shingling)
- exterior doors
- current wood floor

The following are elements that may be removed.

- radiator convectors
- powder room
- ceiling light fixtures

Chapter 4

Recommendations for Preservation & Estimated Costs

As the preceding narrative and photographs illustrate, the Leedsville Schoolhouse is of historical and architectural significance. The preservation of this building must be based on an understanding of and respect for that significance, as well as an awareness of the needs of the City of Linwood and the Linwood Historical Society. The building is generally in fair to good condition, but suffers from deferred maintenance on the exterior and is currently not handicapped accessible, limiting the site's potential for full visitation.

Treatment Philosophy

The treatment philosophy for the proposed preservation of the Leedsville Schoolhouse advocated in this document is to restore the exterior appearance of this historic building and preserve the existing interior appearance, while stabilizing problem conditions, improving sub-standard elements, replacing missing elements, and providing new handicapped accessible facilities as required. The restoration of the Leedsville Schoolhouse will preserve the historic finishes and general appearance from its period of significance and date of construction, 1873.

The treatment philosophy is based on:

The historical and architectural significance of the building as an intact nineteenth-century one-room schoolhouse;

The existing appearance of the building that was described and illustrated in the preceding chapters, namely the presence of nearly all the original fabric and the generally good condition of newer, but still historic, fabric on the interior; and,

The evaluation of the existing conditions and alterations required for ADA compliance of the building.

Alternative treatments might include the full restoration of the interior as well as the exterior. This would require the removal of the current flooring and ceiling, which date either to the late nineteenth or early twentieth century and therefore have both age and significance. The restoration/replacement in-kind of the original flooring still extant beneath the current flooring and the installation of a new plaster ceiling would also be necessary. This has the advantage of revealing the full original appearance of the interior, but the disadvantage of wastefully removing historic floorboards and ceiling boards in good condition. This approach would also require the removal of the powder room, which would be impossible until the handicapped accessible lavatory is constructed. After the new lavatory is in place, the City and Historical Society may decide that removal of the current powder room, which has all modern fixtures and some modern finishes, is an appropriate decision to increase the authenticity of the appearance of the vestibule. However, the restroom can be removed under the proposed preservation philosophy.

The second possible alternative treatment would be the preservation of the existing exterior. This approach would not require the restoration of the belfry, which is an integral part of the one-room school design for this particular building, or the restoration of the original entrance doors, vestibule doors, and chimney pots. It would also allow for the replacement in-kind of the wall shingles, instead of restoring the clapboard beneath the shingles. This approach may be considered viable if one focuses on the historical significance of the schoolhouse as a center of community life in Linwood in the twentieth century (as the Borough/City Hall) along with its significance as a nineteenth-century schoolhouse and may be a more conservative approach in terms of financial investments, although the cost of reshingling is more expensive than restoring the clapboard, due to the cost of reconstructing the missing belfry and doors.

The potential impact of these recommendations will be to address problem conditions and deferred maintenance, as well as to provide handicapped accessibility and to make the appearance of the building more historically accurate, enhancing its use as a local history museum. The provision of handicapped accessability will have the most significant impact on the historic fabric. This Preservation Plan proposes the introduction of a door on the rear elevation of the building, connecting to a new hallway between the schoolhouse and the small storage building behind, where the handicapped entrance, handicapped-accessible bathroom, and a coat room would be located. While the introduction of a new door is a significant visual alteration, it will prevent the need for closing off a portion of the room to create a handicapped-accessible bathroom, allow for the removal of the current powder room if the City and Historical Society desire, and ameliorate the need to alter the porch height and configuration, as well as the front doors and the vestibule doorway, to accommodate a handicapped ramp and wheelchair access.

Use and Interpretation of the Resource

The Leedsville Schoolhouse is owned and maintained by the City of Linwood. The Linwood Historical Society occupies the building and houses a local history collection and local history archives in the building. The Historical Society opens it to the public one day each week and by appointment. Community meetings are sometimes held in the building as well. The existing and proposed use of the resource as a local history museum and historical society archive is perfectly appropriate to the building and places no significant stresses on it and no significant alterations, beyond those for handicapped accessibility, are proposed. The collection housed in the building may require a more stable, climate-controlled

environment, but the improvements proposed to address this issue are minor and should not prove detrimental to the building.

The Linwood Historical Society provides a valuable service to the community by maintaining the building, housing the local history collections and archives, and opening the building for public events and tour hours. The restoration of the building will enhance all of those efforts by providing a historically accurate interpretation of the building, preserving this historic resource, and providing space for the history collections and archives, thus benefitting the entire community.

Recommendations & Costs

Scope of Work

The scope of work for the preservation and stabilization of the Leedsville Schoolhouse focuses on the repair and rehabilitation of the historic fabric and making hte facility handicapped accessible.

As the project may have to be undertaken in phases due to financial constraints, items pertaining to public safety and on-going deterioration are identified as being of the highest priority. Items related to the rehabilitation are classified as second priority level items, and those of only aesthetic importance are noted as third level of priority. To distinguish between these three levels of priority; different fonts have been utilized. Highest priority items (critical life-safety issues and problem conditions) are presented in **bold red** typeface. Second priority items (problems related to long-term preservation) are presented in *italics*. Third priority level work items are presented in normal typeface.

Preliminary Cost Estimates

The associated Preliminary Cost Estimates for the preservation of the Leedsville Schoolhouse were established in consultation with cost estimator Brian Monteith of MPG, Inc., a general contracting firm that specializes in the preservation and rehabilitation of historic structures. These cost estimates are intended as a guide in budgeting for the work and in planning for fund-raising activities and grant proposals. They are only of a preliminary nature and were not developed with sophisticated analysis techniques.

Fluctuations within the construction industry, such as market conditions and material costs, could result in significant discrepancies over time.

Leedsville Schoolhouse

Exterior

Division 2 - Site:

Remove the exterior chimney on the north elevation $2,000

Trim or remove the trees overhanging the building and the walkway. $2,000

Repave the driveway with asphalt $6,500

Remove obsolete features, such as oil tank fill, vent pipes, and wires $5,500

Remove the existing wall shingles. $15,000

Remove the basement entrance vestibule $1,800

Division 4 - Masonry

Install one CMU pier with a concrete footing beneath the first floor girder. $3,000

Repair and repoint the brick masonry. Remove non-matching brick or block and replace with brick to match. Replace or patch repair spalled brick. Repoint at locations of damaged or missing mortar with new mortar to match the original in color, texture, hardness and tooling. Replace the broken basement vents. $14,500

Install chimney pots on "chimney" support structures at each end of the gable roof based on historic photographs. $7,500

Division 6 - Wood

Replace the missing section of cornice at the location of the added chimney after its removal $1,000

Repair all trim, including the water table, through dutchman repair, replacement in-kind, and epoxy consolidation. $17,000

Restore all woodwork on the porch, including the floor structure, flooring, posts, trim, roof structure, and ceiling. Replace the existing porch stair railings with code compliant and historically appropriate railings $24,200

Install a new belfry, with additional structural support as needed to reinforce the existing belfry framing, based on the historic photographs. $35,000

Install new three-panel shutters to match the historic photographs on all first floor windows and new louvered shutters on all four gable-end windows $32,000

Construct period-appropriate bulkhead entrance doors to the basement $2,500

Division 7 - Thermal and Moisture Protection

Remove the existing roof shingles and replace with new western red cedar shingles with appropriate flashing $77,000

Remove the existing gutter system around the building. Install new half-round gutters with round, corrugated downspouts. Direct water away from the building with extenders (priced) or underground rainwater conduction system (at additional cost). $8,320

Replace the existing porch roof in-kind $20,000

Restore the existing clapboard using epoxy consolidation, dutchman repair, and in-kind replacement to match the existing width and exposure OR $16,000

Install new wall shingles to match the existing original shingles in width, length, and exposure (not in total). Shingle color should be based on paint analysis. $146,000

Division 8 - Doors and Windows

Restore all windows through dutchman repair, replacement in-kind, and epoxy consolidation. Apply weatherstripping and restore to full operation. $52,500

Replace the front entrance doors to match the historic photographs with bolection panel moldings and rounded panel tops ***OR*** *$21,000*

Restore the existing front doors through dutchman repair, replacement in-kind, and epoxy consolidation. Apply weatherstripping and restore to full operation (***not included in total***) *$12,000*

Replace two broken storm windows ***OR*** *$3,200*

Replace all storm windows with new low-profile storm windows (**not included in total**) $22,500

Install one new window with storm window and shutters on the east elevation. $8,000

Division 9 - Finishes

Prepare and repaint all exterior wood, including back and edge-priming all new or bare wood. $19,800

Subtotals for Exterior	**$257,320**	*$51,200*	$86,800

Interior

Division 2 - Site:

Remove all debris from the basement and crawl space. Wood debris in the crawl space is a particular concern, as it may contribute to insect infestation $1,800

Remove the vinyl flooring and bathroom fixtures in the powder room $1,500

Division 3 - Concrete

Pour a concrete slab in the lowest section of the basement to the height of the existing furnace pad (note: the furnace sits on concrete blocks above the current pad $1,800

Division 4 - Masonry

Repoint the masonry in the basement matching the original mortar in color, hardness (as determined by mortar analysis), texture, and tooling. $3,200

Division 6 - Wood and Plastic

Repair the beaded boards on the ceiling through epoxy consolidation or dutchman repair and resecure loose boards $2,500

Repair the wainscoting in all three rooms by securing loose boards and filling large gaps $3,000

Secure the airplane wire into beam, rather than just the box around beam, and resecure the boards of the box to the beam. $500

Division 7 - Thermal and Moisture Protection

Install new batt insulation throughout the attic *$8,000*

Division 8 - Doors and Windows

Install a new interior vestibule door to match the exterior doors in the historic photograph. $2,500

Division 9 - Finishes

Repair the plaster in all of the rooms. Install a new drywall ceiling in the powder room. *$2,500*

Make minor repairs to the floor in all three rooms *$7,250*

***Alternative:** Install a new vinyl floor in the powder room if use is retained (**not included in total**)* *$600*

Repaint the plaster and all interior woodwork in all three rooms. *$16,500*

Subtotals for Interior	**$5,000**	*$43,550*	$2,500

Building Systems

Replace boiler with a new high efficiency boiler with direct vent **$6,800**

Remove the oil tank and remediate the soil **$7,500**

Replace the electrical panel and circuit breakers with a 30-pole panel and no split breakers **$4,500**

Replace knob-and-tube wiring and provide ground wires from the receptacles back to the building ground source. . . **$10,600**

Install three (3) dedicated quad receptacles in the southeast corner to minimize the load on the existing receptacles **$800**

Remove inactive fire alarm panels and devices from the building. Evaluate devices intended to be active for proper operation **$3,800**

Install two new ductless split system air conditioners with dehumidification in the schoolhouse *$8,500*

Replace the sink, toilet, and exhaust fan in the powder room.		*$3,750*	
Provide a point-of-use water heater for the powder room sink.		*$1,500*	
Replace the high hat fixtures with fixtures that do not require clearance and separation from the surrounding insulation in the attic.		*$2,200*	
Replace the exterior floodlight fixtures with code-compliant, UL-rated fixtures. The new porch fixtures should be low-profile and placed to minimize visual intrusion		*$3,200*	
Provide a new backer board for telephone service		*$2,000*	
Subtotals for Building Systems	**$34,000**	*$21,150*	$0

Structural Systems

Repair the framing in the attic damaged by termite infestation and by moisture infiltration around chimney on north slope. Also repair framing as necessary where chimney is to be removed	**$7,000**		
Sister the first floor framing members that have been damaged by insect infestation	**$7,000**		
Subtotals for Structural Systems	**$14,000**	*$0*	$0

Storage Building/Link

Handicapped Accessibility

Create a handicapped-accessible entrance and install a handicapped-accessible bathroom. Raise the rear storage building on a new foundation to the same finished floor height as the schoolhouse. Construct a small, enclosed connector between the two buildings and create corresponding doorways in the north wall of the schoolhouse and south wall of the storage building. Rehabilitate the exterior of the storage building by replacing the roof in-kind, replacing the wall shingles with stucco per the historic photograph, restoring the windows, replacing the existing front entrance with a wider, handicapped-accessible door of the same design and appearance, and repainting. Rehabilitate the interior by removing the composition tile floor and repairing and refinishing the wood floor beneath or installing a new wood floor (if none is present), repairing the wall and ceiling plaster where possible and replacing with drywall where the plaster is damaged beyond repair, repainting the walls and ceiling, and repairing and repainting trim where it remains after the bathroom alterations. Install a handicapped-accessible bathroom on the northern side of the storage building, preserving the existing closet and providing additional storage if possible. Revise the attic access as necessary. On the site, install a new curb at Lincoln Avenue and install a concrete handicapped ramp from the curb cut to a wood landing at the front entrance to the storage building. Extend the sidewalk along Lincoln Avenue to the curb cut and the base of the ramp.

Division 2 - Site Work

Perform removal of possible hazardous materials on the interior of the building $6,500

Install new lateral pipes from Poplar Street along the driveway to the storage building to accommodate the new bathroom (waste, water, electric). $12,600

Extend the existing concrete sidewalk along Lincoln Avenue to the base of the new ramp. Install a new curb cut along the sidewalk near the base of the ramp $10,000

Remove the existing wall shingles from the storage building $12,600

Division 3 - Concrete

Raise the storage building to the same floor height as the schoolhouse with a new concrete foundation. Provide a concrete foundation for the new link. $22,000

Install a new handicapped ramp from Lincoln Avenue to the entrance of the storage building. The ramp will be concrete with pipe railing handrails $18,000

Division 6 - Wood and Plastic

Construct new bathroom walls in the storage building. Redesign/ reconstruct the attic stairs as necessary. Construct floor, wall, and roof framing in the new link $19,000

Division 7 - Thermal and Moisture Protection

Remove and replace the cedar shingles on the roof of the storage building in-kind with appropriate flashing $22,300

Remove the existing gutter system around the building. Install new half-round gutters with round, corrugated downspouts. Direct water away from the building with extenders (priced) or an underground rainwater conduction system (at additional cost) $4,300

Install compatible clapboard on the new link $3,000

Division 8 - Windows and Doors

Install a new door to match the existing in an opening compliant with barrier-free access requirements $5,000

Restore all windows through dutchman repair, epoxy consolidation, and replacement in-kind. Apply weatherstripping and storm windows and restore to full operation $16,300

Division 9 - Finishes

Install new stucco on the exterior of the building to match the historic photograph $46,900

Repair the plaster walls and ceilings where possible and replace with drywall where damaged beyond repair. Provide new drywall in the link $4,000

Repair or replace in-kind the floor beneath the existing composition tile floor. Install new wood floor to match schoolhouse if no original floor remains. Install new wood flooring to match the schoolhouse in the link $11,000

Prepare and repaint all exterior and interior wood and all plaster and drywall, including back and edge priming of all new or bare wood on the storage building and the link $13,500

Division 10 - Specialties

Provide grab bars and other bathroom accessories, including soap and toilet paper dispensers, as well as a mirror. $2,500

Division 15 - Mechanical

Provide an HVAC system for the storage building and link $14,750

Install a sink, toilet, and exhaust fan with a point-of-use water heater for the new handicapped bathroom $5,250

Division 16 - Electrical

Upgrade the electrical service and provide new wiring to new fixtures and receptacles and provide electrical services and fixtures in the new link as well $17,000

Subtotals for Storage Building/Link	**$0**	*$266,500*	$0
Total for all Construction Work	**$310,320**	*$382,250*	$89,300
General Conditions (20% of Construction Cost) . . .	**$62,064**	*$76,450*	$17,860

Professional Services

Professional services are proposed from the planning phase throughout the construction and are considered to be critical to the successful completion of this project.

Preservation Architect - to provide Architectural Drawings, Specifications, and Construction Observation (First Level Priority) **$44,685**

Preservation Architect - to provide Architectural Drawings, Specifications, and Construction Observation (Second Level Priority) *$55,045*

Preservation Architect - to provide Architectural Drawings, Specifications, and Construction Observation (Third Level Priority) $12,860

Structural Engineer - to provide Structural Drawings, Specifications, and Construction Observation **$7,350**

Mechanical Engineer - to design first priority systems without compromising the historic integrity of the interior spaces **$5,100**

Mechanical Engineer - to design second priority systems without compromising the historic integrity of the interior spaces *$3,175*

Entomologist - to examine the building for active infestations and recommend treatment as appropriate . . . **$5,000**

Archaeologist - to perform Phase 1 Archaeological Survey prior to ground disturbance **$8,000**

Subtotals for Professional Services	**$70,135**	*$58,220*	$12,860
Contingency (15% of Construction/Nonconstruction) .	**$66,380**	*$77,538*	$18,000
Grand Total by Priority Level	**$508,899**	*$594,458*	$138,020
Grand Project Total	**$1,242,377**		

Chapter 5

Cyclical Maintenance

Introduction

In the preceding sections, restoration recommendations for the Leedsville Schoolhouse were presented. Many of these recommendations included the restoration of deteriorated original historic fabric — deterioration resulting from unresolved preservation problems or deferred maintenance of the past. Cyclical maintenance is the most vital and cost-effective tool for the continued preservation of a historic structure. Accordingly, this section addresses the future maintenance concerns of the Leedsville Schoolhouse once it has been restored.

As the following periodic maintenance tasks* are performed, all activities should be recorded in a maintenance log. This log would include a complete record of housekeeping and maintenance activities, details of work performed, dates executed, costs incurred, and names of personnel involved (whether in-staff or contractual). The log should be periodically reviewed for repeated repairs which may indicate more serious problems. Furthermore, an annual inspection and inventory should be compiled for each space and its furnishings, as well as the exterior of the building. Tasks have been outlined in accordance with their needed frequency: weekly, monthly, semi-annually, or annually. Several general maintenance recommendations have also been included. Additional tasks should be added to these lists and the frequency of specified tasks revised as necessary, so that thorough, conscientious maintenance can fully contribute to the continued preservation of the building.

*** Note:** *Much of the material on proper curatorial maintenance procedures was obtained from the book* ***Cyclical Maintenance for Historic Buildings*** *by J. Henry Chambers. For another excellent in-depth guide to cleaning methods and materials for historic houses, furnishings, and other artifacts, contact the National Trust for Historic Preservation (202/588-6296) or www.preservationbooks.org to obtain "Housekeeping for Historic Homes and House Museums" by Melissa M. Heaver.*

Cyclical Maintenance Program

A. General Maintenance Recommendations

A.1 Monitoring the basement, crawlspace, and attic on a regular basis and in varying weather conditions is extremely important to observe early signs of a failing roof and/or faulty rainwater drainage system before it accelerates to cause serious damage to the structure.

A.2 Keeping the structure (including the basement, attic, and less frequently used areas) in a clean condition should be a high priority. The accumulation of dirt will lead to abrasive and chemical deterioration of the historic fabric affecting all long-term preservation efforts. Vacuuming is particularly important to pick up dirt and other protein-based materials such as hair that attract fabric-eating insects and other unwanted pests.

A.3 Provide exterior natural fiber mats with solid backings at entrance doors to remove dirt from visitors' feet prior to entering the structure. During rainy or snowy weather, a second interior mat should be used to further prevent mud and water from being tracked into the building.

A.4 If vandalism occurs, correct as soon as possible to deter additional damage by other vandals. Prior to removing graffiti, a small affected area should be tested with the least destructive cleaner, such as distilled water, or water with a neutral detergent. If scrubbing is required, a natural fiber bristle brush should be employed. Damaged historic finishes should be left for treatment by a qualified conservator.

A.5 Do not use alkaline household cleaning products such as lye or ammonia on wood.

A.6 Do not use water on the blackboard surfaces, as the surface will be damaged. These areas should be cleaned using only dry methods such as vacuuming.

A.7 Remove heavy accumulations of snow by top-layer shoveling and/or sweeping before foot traffic compresses and melts the snow. Do not use snow removal materials such as salt or chemicals which may damage the masonry foundations. If use of snow removal material is necessary, urea, primarily used as fertilizer, is commercially available in white pellet form as a de-icing product. It does not chemically attack masonry, metal, or vegetation, but is not effective at temperatures below +25 degrees Fahrenheit. Of the salt-based de-icing products, calcium chloride, which can potentially harm vegetation and corrode metal, is effective to -25 degrees and requires an application rate of only 2 to 4 ounces per square yard. Potassium chloride and sodium chloride each require 8 ounces per square yard and are only effective to +25 and +20 degrees Fahrenheit respectively. Potassium chloride can harm vegetation, but will not corrode metal, while sodium chloride can potentially harm vegetation and corrode metal. All salt-based, de-icing products are potentially damaging to masonry, and should not be used adjacent to the historic fabric of the building.

A.8 Painting should be undertaken only when actually necessary, and only on those areas requiring it. Unnecessary painting will obscure molding profiles and create an inflexible layer, which is subject to cracking and peeling.

A.9 Extra amounts of paint should be maintained as samples for matching paint colors and for touch-up work. The container should be kept full, replenishing the medium as required, and stored upside down to retard oxidation.

B. WEEKLY TASKS

B.1 INTERIOR

B.1.1 Vacuum floors and carpets.

B.1.2 Dust horizontal surfaces such as window sills, chair rails, baseboards, and tops of door and window trim, taking care not to rub adjacent surfaces. Use only clean, untreated, soft cloths.

B.1.3 Remove cobwebs with a cloth-covered broom in an outward and upward motion to avoid smearing wall or ceiling surfaces.

B.1.4 Remove and shake interior mats at entranceways.

B.1.5 Look for evidence of pests such as the following:

- termites – dirt tubes, especially in basement
- carpenter ants – sawdust beneath wooden elements
- carpenter bees – ¼" circular holes in wooden exterior elements, especially on the sunny side of the building
- powder post beetles – bright white frass
- bats – holes at eaves, and black staining on ceiling
- squirrels and raccoons – access holes and claw marks, chewed elements, and excrement
- birds – holes at eaves, birds perching on building
- mice – chewed elements and excrement
- webbing clothes moth – chewed protein-based materials such as wool
- carpet beetles – silken trail of excrement in same color as damaged material
- silverfish – lacy damage on paper and glued material

Note: An entomologist or Restoration Architect should be consulted for methods of exterminating these pests that are sensitive to the historic building and historic collections rather than a regular pest control service.

B.2 EXTERIOR

B.2.1 Remove and shake exterior mats at entranceways.

B.2.2 Sweep porch, walks, access ramp, and steps, especially under mats.

C. MONTHLY TASKS

C.1 PLASTERWORK

C.1.1 Use dry methods to clean plaster surfaces. Use a vacuum cleaner with a wide dusting brush to clean walls and ceilings. Use a light, even touch with overlapping strokes, beginning at a corner near the floor and moving upward to the ceiling. Clean vacuum brush frequently.

C.1.2 Inspect walls and ceilings for deteriorated plaster surfaces, evidence of water entering through exterior walls (at open mortar joints or gaps at woodwork) or roof (at faulty roofing or flashing). Repoint mortar joints, caulk gaps at woodwork, and/or repair roofing/flashing as necessary.

C.1.3 Inspect plaster surfaces for areas of plaster loose from the lath. Patch failing areas as necessary using new plaster matching the constituent composition, workmanship, and color of the old plaster.

C.2 FLOORING

C.2.1 Clean or replace exterior natural fiber mats (with solid backings) at front and rear entrances.

C.2.2 Wash or replace interior cloth mats at front and rear entrances.

C.2.3 Remove carpets, shake, and vacuum the floors underneath.

C.2.4 Remove dirt in cracks between floor boards with a blunt wood or metal tool.

C.2.5 Inspect floor boards for dangerously worn sections, and cracked or broken boards. Repair as necessary, matching the size, grain pattern, species, workmanship, and finish color of all repairs. Replace only the deteriorated section(s) of the floor board, not the entire length.

C.3 DOORS

C.3.1 Inspect door locks and latches for proper function, and door hinges for proper swing. When loose due to enlarged nail or screw holes, fill and reattach. Fill loose knob-set screw holes with solder and redrill. Build up worn hinge knuckles with matching material. If loose screws or worn knuckles are not the cause of an ill-fitting door, structural movement may be indicated.

C.3.2 When possible, remove hardware when repainting doors to prevent sanding abrasions and to facilitate a quality painting job. Prior to reinstallation, recondition hardware as described in hardware paragraph below. When non-destructive removal of the hardware is infeasible, protect the hardware from paint spills and sanding abrasions.

C.3.3 Clean easily soiled areas around doorknobs.

C.4 WINDOWS

C.4.1 Wash plain windows with a weak non-ionic detergent solution, protecting sills and sash, and taking care not to allow solution to run onto woodwork.

C.4.2 During the winter, inspect the window glass for condensation, which can cause damage if the paint film on the sash permits moisture infiltration. If condensation forms, apply a mixture of equal parts glycerin and methylated spirits to the inside of the glass with a soft cloth after each winter window washing.

C.4.3 Reseal paint film on sash as necessary. After repainting windows (interior or exterior), open and close for several days to prevent sealing of the windows by the paint film.

C.5 INTERIOR WOODWORK & TRIM

C.5.1 Wash oil-based modern paint surfaces with non-ionic detergent in soft water and two damp sponges, thoroughly rinsing and drying each area. Do not clean with alkaline household cleaning products such as lye or ammonia. Do not allow solution to run or drip on to adjacent surfaces. Change rinse water frequently.

C.6 INTERIOR PAINT

C.6.1 Check for isolated blistering or peeling of paint surfaces on walls, ceilings, and woodwork.

C.6.2 Check where moisture is entering plaster/wood and stop leaks.

C.6.3 Split blisters, scrape peeling areas, and sand rough spots.

C.6.4 When substrate is completely dry, spot prime bare areas and apply two coats of finish paint.

C.7 BASEMENT/CRAWLSPACE

C.7.1 Inspect basement space noting musty or damp smells, and using a humidity-indicating device to test for moisture content. When moisture content exceeds twenty percent, an exhaust fan or dehumidifier should be used to dry the air and prevent wood deterioration.

C.7.2 Inspect floors for areas of standing water or visible dampness. Determine source of moisture infiltration and stop.

C.7.3 Inspect framing for fruiting bodies growing out of wood, a sign of active biological deterioration. Treat as necessary.

C.8 FIRE EXTINGUISHERS

C.8.1 Test fire extinguishers (to be located at main and basement levels, and as well as in storage building) for proper function. Refill and/or replace as necessary.

C.8.2 Test smoke and fire detectors. Replace batteries as necessary.

C.8.3 Test all security systems for proper operation.

C.9 STAIRWAYS

C.9.1 Inspect stair railings for loose or missing attachments; reattach as necessary.

C.9.2 Inspect treads for dangerously worn sections, cracking or broken treads. Replace when necessary, matching the original tread.

D. SEMI-ANNUAL TASKS (SPRING AND FALL)

D.1 ROOFING SHINGLES

D.1.1 Check for worn, loose or missing shingles.

D.1.2 Repair leaks, weak areas, loose attachments.

D.1.3 Replace missing shingles.

D.2 SHEET METAL FLASHING

D.2.1 Check for cracks, warps, distortions or weak areas, loose or damaged seams, loose attachments.

D.2.2 Check for loose, damaged or missing sections. Check substrate underneath for moisture damage, especially at attachment points.

D.2.3 Replace damaged or missing sections to match existing sections. Repair leaks and weak areas.

D.2.4 Reattach to repaired wood substrate.

D.2.5 Paint flashings to match color(s) of adjacent construction.

D.3 WATER CONDUCTION SYSTEMS/GUTTERS AND DOWNSPOUTS

D.3.1 During a heavy rainstorm, look for leaks or blocked sections of water conduction systems.

D.3.2 Clean system of any blockages and repair leaks.

D.3.3 Check for any loose gutters and downspouts. Reattach as necessary.

D.3.4 Any downspout replacement sections should be installed with seam turned out away from the wall or in such other manner that downspout leaks will not cause hidden masonry damage.

D.3.5 Any downspout replacement should be of simple, corrugated cylindrical form and of adequate size for area draining into it.

D.4 CAULKING COMPOUND

REPLACEMENT SCHEDULE: As required, about every 6 years

D.4.1 Check caulk for brittle, cracked or missing pieces.

D.4.2 Remove any damaged areas, clean, prime or seal according to manufacturer's specifications, provide backer rods and bond-breaker tape as required, replace caulk.

D.4.3 Sealant should be factory-mixed color to match adjacent construction or should be paintable.

D.5 WOODWORK: DOORS, WINDOWS, SHUTTERS, CORNICES, SIDING, AND TRIM

D.5.1 Check for moisture damage, warping, splitting, and unsound joints.

D.5.2 If wood is decayed, determine source of moisture, stop leaks, and replace decayed wood and damaged flashing. Repair unsound joints.

D.5.3 In painted woodwork, seal fine cracks with wood filler. Check putty for cracks or missing pieces. Re-glaze where necessary.

D.5.4 Coat all bare wood with preservative and refinish in accordance with painting paragraph below.

D.5.5 Prime and paint any new flashing, putty or other glazing materials.

D.5.6 Check for loose attachments of hardware. Reattach as necessary.

D.5.7 Lubricate moving parts, such as door hinges and shutter hinge pintles, with non-running grease or silicone. Open and close shutters to prevent rusting of pintles.

D.6 GLASS

D.6.1 Check for cracked or broken panes of glass.

D.6.2 Where cracked glass is modern, replace; where cracked glass is historic (distinguishable by surface imperfections), check the pane for tightness and, if loose, replace. If tight retain, sealing with a thin bead of clear silicone caulk if necessary. Replace all broken glass. Replacement panes should be matching salvaged historic glass whenever possible, and tempered or other safety glass where required.

D.7 EXTERIOR PAINT

REPLACEMENT SCHEDULE: Every 5 to 8 years

D.7.1 Check for worn, bare spots, blistering, peeling, mildew.

D.7.2 Check where moisture is entering wood and stop leaks.

D.7.3 Wash mildew with fungicide.

D.7.4 Split blisters, scrape peeling areas, remove rust, and sand rough spots.

D.7.5 Coat bare wood with preservative.

D.7.6 For ferrous metals, scrape and wirebrush deteriorated paint and rust from metal.

D.7.7 Prime and paint (two finish coats) wood using materials compatible with the preservative, and appropriate for the material.

D.8 TERMITES

D.8.1 For Fall inspection – have a professional exterminator or house inspector inspect building for termites and other wood-damaging insects. Note evidence of insect

activity: small holes in the wood, small piles of sawdust, clay tubes on pieces of wood, or actual insects.

D.8.2 Treat as necessary according to recommendations of an entomologist experienced with historic buildings and collections.

D.9 HARDWARE

D.9.1 Clean door hardware after applying a cardboard template to protect door surface. Polish brass only when actually tarnished, as a portion of the metal is removed each time. Cover adjacent dissimilar metals with paper prior to polishing brass.

D.9.2 Recondition hardware as required, cleaning locks of accumulated rust and dirt.

D.10 STORM/SCREEN WINDOWS

D.10.1 Remove debris; unclog any drainage slots in frames.

D.10.2 Check for loose joints, deteriorated paint, corrosion, holes, moisture damage, wear.

D.10.3 Repair any loose joints or attachments.

D.10.4 When paint finish deteriorates, prepare and repaint according to exterior paint paragraph. Color shall match adjoining window.

D.11 EXTERIOR LIGHT FIXTURES

D.11.1 Check for deteriorated paint, rust, corrosion, moisture damage, and wear.

D.11.2 Repair any loose joints, weak links, attachments or hardware.

D.11.3 When metal finish deteriorates, restore to match original.

D.11.4 When paint finish deteriorates, repaint according to exterior paint paragraph.

D.11.5 Replace broken glass to match original.

D.12 INTERIOR WORK AND STORAGE

D.12.1 Identify non-useful clutter in work and storage spaces and remove to trash or off-site storage.

E. ANNUAL TASKS

Note: the annual tasks should be undertaken in the Spring or Fall months after a rainstorm. In addition, the building's exterior and grounds should also be inspected after any rainstorm with high winds (over 40 m.p.h.) so that any damage can be uncovered and immediately addressed.

E.1 BRICK MASONRY

E.1.1 Check for moist areas, cracks, crumbling material, loose pieces, missing mortar, and/or efflorescence (white discoloration).

E.1.2 Check where moisture is entering masonry and repair any leaks in roofing, cornice, flashing, downspouts, and/or joints between masonry and other materials. Verify that ground slopes away from masonry foundations; adjust grade as necessary.

E.1.3 If significant cracks, surface spalling, or material deterioration is found, review condition of masonry with a registered architect or professional engineer experienced in methods of evaluating historic brick and masonry. Take remedial action as necessary in accordance with professional's recommendations.

E.1.4 Reflash, recaulk leaking joints as required.

E.1.5 Repoint joints with loose or crumbling mortar using mortar which matches original in color, texture, constituent composition, and workmanship. Mortar should not have high Portland cement content and should be no harder than surrounding brick or masonry or original mortar.

E.1.6 Repointing work should be performed only by a qualified restoration mason experienced in the repointing of historic buildings. Repointing should be done as follows: Remove deteriorated or loose mortar with hand tools to a minimum depth of 2.5 times joint width; clean joints; apply fresh mortar to wetted joints in layers not thicker than ¼" (one quarter inch). Joints should be slightly recessed to maintain original width and tooled to match original finish. Model for repointing should be the original mortar (when exposed). Sample panels for both joint cleaning and repointing mortar should be reviewed and approved prior to proceeding with work.

E.1.7 Masonry should not be cleaned unless absolutely necessary. Such cleaning should be done with materials and techniques which will not damage the masonry. **Sandblasting, wire brushes, grinders, sanding discs, or other abrasive methods should not be used**. Neither should any harsh chemical which weakens the masonry be applied. Acids should not be applied on limestone or marble. Materials and techniques should be selected based on results of test patch samples. Any chemical cleaner should be chemically neutralized and thoroughly rinsed off in order to remove residues that could damage masonry or finishes. Only low-pressure water washes should be used with pressure not exceeding 600 psi at the nozzle or 4 gpm volume.

E.1.8 Snow removal materials which might damage masonry, such as salt, should not be used on stoops or brick walks, or adjacent to walls. (Alternatively, sand or kitty litter can be employed, but these materials should be removed by sweeping when no longer needed so they will not be tracked into the building.)

E.2 STRUCTURAL CHECKPOINTS

E.2.1 Check exposed exterior and interior surfaces of walls and foundations, with particular attention to wall openings. Check for cracks, collapsing, leaning or bulging areas or other signs of uneven settlement, movement, or structural deterioration.

E.2.2 If deteriorated structural members, significant cracks or other signs of movement are observed, review structural condition of building with a professional engineer experienced in the evaluation of historic buildings and qualified to evaluate the structure's condition in order to ensure that adequate safety standards and precautions are met. Take remedial action as necessary in accordance with the engineer's recommendations.

E.3 BUILDING ENVELOPE CHECKPOINTS

E.3.1 In the early fall, check for openings in the building envelope where pests could enter and nest for the winter. Caulk or fill holes as necessary. Use aerosol styrofoam (recessed from surface) to fill holes that could potentially be used by mice to enter the building.

E.4 ELECTRICAL SYSTEM

E.4.1 Have a professional electrician or house inspector check once a year for potential problems with the electrical system. Correct as necessary.

E.5 PLUMBING SYSTEM

E.5.1 Have a professional plumber or house inspector check once a year for potential problems with the plumbing system. Correct as necessary.

E.6 HEATING SYSTEM

E.6.1 Have a professional heating contractor service and check once a year for potential problems with the heating system. Correct as necessary.

E.7 AIR CONDITIONING SYSTEM

E.7.1 Have a professional air conditioning contractor check once a year for potential problems with the air conditioning system. Correct as necessary.

E.7.2 Change the air conditioning filters at least once a year.

E.8 EXTERIOR PAVING

E.8.1 Check for missing, loose, and/or broken pavers and dangerous or uneven sections of paving.

E.8.2 Replace any uneven sections of paving which present tripping hazards.

E.9 HANDICAP RAMP

E.9.1 Ensure that handicap ramp is in good condition after winter weather.

E.10 VEGETATION

E.10.1 Check health of all existing trees.

E.10.2 Prune trees as necessary to promote health and to prevent branches from rubbing the building's roof or walls.

E.10.3 Remove any shrubs or volunteer plant growth within 2' of the building's foundation walls.

E.11 GRADING

E.11.1 Check slopes of grading adjacent to all foundation walls to verify rainwater will travel away from building.

E.11.2 Distribute additional topsoil as necessary to establish positive slopes away from building, taking care not to cover any wood sills or trim with soil. Look for artifacts during ground disturbance. If any artifacts or archaeological features are observed or if significant excavation is planned, consult an archaeologist.

Chapter 6

Conclusion

Summary

The Leedsville Schoolhouse has served the community of Linwood for more than 135 years in its various capacities as a school, town hall, library, and historical society museum. The building was constructed as a school in 1873. It served the students of Leedsville/Linwood until it closed in 1908, after a larger school was constructed nearby. The building then served as the Linwood town hall until 1965, when it was converted to the local public library. Finally, in 1988, the building was restored and became the home of the Linwood Historical Society, which houses both museum exhibits and archives in the building.

During its long life of service, the building has undergone a few changes. On the exterior, the original clapboard was covered with wall shingles in 1906, just two years before its use as a school ended. In 1904/05, the original chimney pots were replaced with brick chimneys when the original cast iron stoves were replaced with a "hot air heater in the cellar." The belfry was removed in 1934. By the 1960s, the wall shingles had been painted red. By the 1980s, railings at the east and west ends of the porch had been removed. Changes occurred to the site as well. The original sandy lot with a well and pump to its east was replaced by grass, a driveway to the east, and a sidewalk along the south and west sides. Two medium/large trees have grown in the yard between the building and Poplar Avenue on its southern boundary.

On the interior, the added partition wall has been removed, a new layer of flooring was added some time in the late nineteenth or early twentieth century (possibly when the partition wall was installed), a beaded board ceiling replaced the original plaster ceiling (also possibly when the partition wall was installed), a bathroom was installed in the western portion of the vestibule, and the interior door from the vestibule was removed.

The building is significant as an intact example of a one-room schoolhouse dating from the inception of the public school system in New Jersey and representing the significant contribution of one-room schoolhouses to the social and architectural landscape of New Jersey's small towns. It is well-suited for its original and current use as an educational community resource.

The exterior of the building exhibits deterioration related to the age of the building materials and the failure of the rainwater conduction system, as well as to damp conditions in and around the building. Exterior deterioration includes peeling paint, the

moisture-related deterioration of all wood elements on the exterior of the building, and the pointing loss and brick spalling on the foundation. Problem conditions on the interior are also primarily related to moisture infiltration. Moisture entering the attic around failed chimney flashing has damaged the roof framing in that area. A prior roof leak at another location has created damp conditions that allowed termites to thrive. In the basement, evidence indicates that termite infestation in the past was extensive. While there were no clear indications of current termite infestation, investigations by an entomologist should be undertaken. All of the building's problem conditions are documented in the Existing Conditions chapter. An itemized list of prioritized recommendations and preliminary cost estimates has been included in this Preservation Plan to help the City and the Historical Society plan for the needed work, which includes the issues described above, as well as other items related to the long term preservation, interpretation, and accessibility of the building. It should be noted that many of the exterior costs are considered top priority because the maintenance of the exterior envelope is vital to the building's continued use.

Once the restoration and rehabilitation of the property is complete, the maintenance should be guided by the Cyclical Maintenance Program included in this document to provide the City and the Historical Society with an outline for scheduled maintenance and appropriate treatments, as one of the most vital and cost-effective tools for the continued preservation of this historic building. A comprehensive maintenance log should be kept to document this work and provide a record of when the various items of cyclical maintenance should next be undertaken. In addition, since the Historical Society houses both archives and artifacts in the building, and the building itself is located in a marine environment, it is recommended that the City and Historical Society develop an emergency response plan. Information on emergency response planning may be obtained from the Heritage Emergency National Task Force (www.heritageermergency.org or 888-979-2233) which is sponsored by the nonprofit Heritage Preservation, Inc. and the Federal Emergency Management Agency.

Restoration Resources

The cost of restoration, estimated at $1,242,377, represents a significant investment cost. Sources of funding that may be researched include appeals through heritage or historical organizations, preservation organizations, professional and civic organizations, foundations, corporations, and small businesses. Information about potential donors may be obtained from such sources as foundation directories, Chamber of Commerce lists, the New Jersey Historic Preservation Office, and the Business and Society pages of local newspapers. Some of these sources may be identified through research at www.foundationcenter.org. Other grant-related information websites include: www.njht.org/fndhome.htm, www.nationaltrust.org/restore_america/ra_grants.html, and www.saveamericastreasures.org/funding.htm.

The National Trust for Historic Preservation's Forum Resource Guide lists the following resources available to Forum members: National Trust Preservation Services Fund, which will fund architectural costs; Johanna Favrot Fund for Historic Preservation; Cynthia Woods Mitchell Fund for Historic Interiors; and, National Trust Loan Funds. The City or Historical Society may wish to join the National Trust's Forum in order to take advantage of these resources.

The City of Linwood has applied for a Historic Sites Management Grant from the Garden State Historic Preservation Trust Fund, and hopes to return to the program for a matching Capital Grant for construction funding for the rehabilitation, restoration, and preservation of the Linwood School. These funds are limited to structures listed on (or eligible for) the New Jersey Register of Historic Places that are owned by a municipality or non-profit organization. All work must be performed in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties*. These *Standard*s have already been taken into consideration in developing the recommendations in this document, since any proposed undertaking that affects a publicly-owned registered property must also undergo review by the NJ Historic Preservation Office under these same *Standards*. However, the Trust grants are very competitive and 2009 may have been the last round of grant awards for the near future.

In addition to seeking out funding for the preservation and rehabilitation of the Linwood School, the Historical Society should consider developing an organizational plan for the future. Such a plan would evaluate the current mission statement, composition, and direction of the association while charting a plan for future growth, fundraising, and additional goals. Funding for this type of strategic master planning may be available through grants from the New Jersey Cultural Trust and New Jersey Historical Commission. The Cultural Trust offers Institutional and Financial Stabilization Grants valued at between $10,000 and $50,000 for History and Humanities Organizations. If the Linwood Historical Society wishes to apply for this planning grant, funding for organizational planning should be available again during fiscal year 2011. The Historical Commission offers general operating grants, for which a variety of expenditures are eligible, including organizational planning. An application and details of the general operating grants are available in .pdf format through the web site of the New Jersey Historical Commission which can be found at http://www.nj.gov/state/home/grants.html. However, it should again be noted that the future of these state-funded grant opportunities is uncertain due to New Jersey's persistent budget crisis.

Conclusion

The City of Linwood and the Linwood Historical Society have been partners dedicated to the continued preservation and use of this important building in local history for over twenty years. Through the continued steadfast efforts of both groups, the preservation and continued use of the schoolhouse can be accomplished, allowing it to be an important part of Linwood's future, as well as its past.

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Appendix A:

Structural Engineering Assessment

Appendix B:

Mechanical Engineering Assessment

Appendix C:

National Register Nomination

Appendix D:

The Secretary of Interior's "Standards for Rehabilitation"

The Secretary of the U.S. Department of the Interior, in response to federal legislation providing financial incentives to stimulate the revitalization of historic communities, developed a series of recommendations for the rehabilitation of older structures. These standards are now commonly used at all governmental levels to determine the appropriateness of proposed work on historic buildings and provide a sound guide for all sensitive rehabilitation.

The Standards (Department of Interior Regulations, 36 CFR 67) pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and the interior, related landscape features and the building's site and environment as well as attached, adjacent, or related new construction.

❖ **Standards for Rehabilitation**
The Secretary of the Interior's *Standards for the Treatment of Historic Properties 1995*

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale, and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Appendix E:

National Park Service Preservation Briefs

Appendix F

Note: *Not all architectural terms are represented on the Name of Project.*

Glossary of Architectural Terms

Apron: A decorative, horizontal trim piece on the lower portion of an architectural element.

Backpriming: The coating of unexposed surfaces of exterior wooden members with primer paint to protect against deterioration.

Bay: One of the regular divisions of a facade between columns or piers, usually marked by windows.

Bead: A continuous convex shape at the edge of molded woodwork.

Belt Course: A horizontal band usually marking the floor levels on the exterior facade of a building.

Bird Mouth: In wood framing, a joint between two framing members where a v-shaped cut at the end of a roof rafter fits over the upper, inner corner of the receiving wall plate.

Blocking: Lumber attached to framing members to spread the load laterally; also lumber used as a nailer to which other material is attached (for example, a wood strip built into a brick wall to allow the installation of wooden trim.

Bolection Molding: On wood paneling, a decorative molding which runs around the panels, overlapping and projecting beyond the rails and stiles.

Bolster: A supplemental support to increase the bearing area or counteract lateral forces. In historic buildings that had an original crawlspace dug out to provide headroom for a central heater, masonry or concrete bolsters were often added against the base of the original foundation walls.

Bond: A term to describe the various patterns in which brick is laid such as "common bond" or "Flemish bond."

Box Cornice: A hollow, projecting cornice consisting of soffit board, fascia board, and decorative wooden moldings. This type of cornice sometimes includes a built-in gutter.

Bracket: A projecting wooden or tin element that spans between vertical and horizontal surfaces as a decorative support.

Bulkhead Doors: The paired, sloping or flat doors that provide exterior access to a basement.

Cant: An architectural member that forms an angle with a vertical wall, most commonly used to describe the piece of wood which diverts water at the upper face of a chimney on the downward slope of a roof.

Capital: The top element of a column or pilaster.

Cast Iron: Decorative metal work that is poured into molds (rather than being hammered, bent, and twisted as is "wrought iron"). Historically used for door and shutter hardware, roof details, and stair newels.

Caulking: The non-hardening putty-like material used to seal the joints between dissimilar exterior materials, such as where wood window trim abuts the sides of the masonry opening.

Clapboards: Horizontal wooden boards, thinner at the top edge, which are overlapped to provide a weatherproof exterior wall surface.

Classical Style: Architecture inspired by the buildings of ancient Greece and Rome, especially in the design of columns.

CMU: Concrete masonry unit; a hollow, structural concrete block frequently used for building foundations and porch piers.

Collar Tie: A horizontal beam connecting the rafters on opposite roof slopes to provide lateral bracing.

Column: A vertical structural member, usually slender and circular or square in cross-section, with a decorative cap and base. (Classical Orders are often used where appropriate.)

Combed Ridge: A line of projecting wood shingles at the roof ridge. In common use prior to metal flashing, this leeward projection of the last shingle course helped prevent moisture infiltration at the ridge.

Common Bond: A brickwork pattern where most courses are laid flat, with the long "stretcher" edge exposed, but every sixth to eighth course is laid perpendicularly, with the small "header" end exposed, to structurally tie the wall together.

Conge: A molding profile found on wooden elements that consists of a concave quarter-round cove that transitions to a vertical plane without any steps or breaks.

Cornerboard: A vertical strip of wood placed at the edges of a frame building to receive the wall siding.

Cornice: A continuous, projecting, horizontal element that provides the transition between building wall and roof.

Cornice Return: The length of cornice that extends at a ninety degree angle to the main cornice onto the gable end of a building, then mitred to return to the wall plane.

Cyma Recta: A classical style molding with a projecting ogee curve, typically one concave and one convex quarter round, bounded by vertical fillets; when the molding is set os that its top is projecting, the bottom curve is convex and the top curve is concave. (*Dictionary of Building Preservation)*.

Cyma Reversa: A classical style molding with an ogee curve, typically one concave and one convex quarter round bounded by vertical fillets; when the molding is set so that its top is projecting, the bottom curve is concave and the top curve is convex. *(Dictionary of Building Preservation)*.

Dado: The flat surface between two base moldings, such as between a baseboard or chairrail.

Denticulated: With dentils.

Dentils: A row of small, projecting blocks articulating a molding.

Double-Hung: A window consisting of two sashes, one above the other, both of which slide vertically on separate tracks.

Downbrace: A brace that is angled downward.

Downspout: A hollow, vertical element, circular or rectangular in cross-section, which carries rainwater down from the roof to the ground. Also called a leader.

Dutchman: A patch spliced into wooden members (where damaged or deteriorated) to match the original construction.

Eave: The underside of a roof where it projects beyond the wall.

Efflourescence: The deposit of soluble salts on the face of masonry, brought from within by water entering the wall.

Elevation: Each of the vertical exterior walls of a building, also called "facade" on the front elevation.

End Chimney: A fireplace flue enclosure placed on the outside wall of one of the short sides of a rectangular building.

Exfoliation: The spalling of a masonry surface from the outward pressure exerted by water freezing within the wall.

Exposure: The portion of a board, slate, or shingle that is visible after it has been installed on a wall or roof.

Facade: The front or primary vertical exterior wall of a building, also called the front elevation, also called the "front elevation".

Fascia: The vertical surface of the horizontal element that encloses a box cornice or covers the outer edge of a porch floor structure.

Feathered Edge: A diminishing thickness at the edge of a new material where it adjoins old, used to minimize the appearance of the joint (in wood) or transition (in paint).

Fenestration Pattern: The placement and rhythm of window and door openings on a building's elevation.

Fishscale Shingles: A decorative pattern of wall shingles composed of staggered horizontal rows of wooden shingles with half-round ends.

Fixed: A building element that does not move, such as an inoperable window or an artificial shutter.

Flashing: Thin metal sheets used to prevent moisture infiltration at joints of roof planes and between the roof and the vertical surfaces of roof penetrations or abutting walls.

Flat Seam: On porch roofs, the joint between the vertical metal roofing strips which are folded together and laid flush to the surface to prevent moisture infiltration at the seam. Typically, flat seams are used on minimally sloped roof surfaces.

Foundation: The lowest exposed portion of the building wall, which supports the structure above.

Gable End: The triangular portion of the vertical end wall beneath the slopes of a roof.

Gable Roof: A pitched roof with one downward slope on either side of a central, horizontal ridge.

Girder: In timber framing, a beam that spans the width of a building between the sill plates to provide additional strength and support for floor joists. When centered on the floor framing, the girder is also called a "Summer Beam."

Glazing: Glass

Grading: When used as a noun, the slope of the ground; or, when used as a verb, the moving of earth at the exterior of a building to change the ground's slope, usually in reference to directing rainwater away from a building foundation.

Hang Gutter: The horizontal, gently-sloping element suspended from the bottom of a roof slope to direct rainwater to the downspout. Historically, hang gutters featured a half-round profile that did not detract from the cornice's appearance.

Head: The top, horizontal member of a door or window frame, or other wall opening.

HVAC: Heating, Ventilation, and Air Conditioning.

Infill: New construction where there had been an opening before, such as a new building between two older structures, or infill in an original window opening, such as the third window on the gable end of the Leedsville School.

Italianate (c.1840-c.1870): An architectural style inspired by the design of rural Italian farmhouses, typically featuring a low-pitched, hipped roof with very wide eaves, often crowned with a cupola..

Jambs: The upright sides of a window or door opening, perpendicular to the wall and covering the walls thickness, also called reveals.

Jigsaw Bracket: A decorative bracket cut from a flat board with a jigsaw.

Joist: A horizontal framing member that runs between beams or vertical supports to carry the floor.

Lap Joint: Joint formed by overlapping two wood framing members and fastening them mechanically. In roof rafters, the upper ends of the rafter are often cut to lap with an opposite rafter and fastened.

Lath: A narrow strip of wood used with other strips to form backing for plaster or stucco.

Lattice: An open grille of interlacing, thin wood strips used as a screening between the piers of a porch.

Lintel: A short, horizontal member spanning the top of an opening in a wall.

Louvered Shutter: A vertical wooden element, hinged to close over a window or door opening, composed of sloping horizontal slats held in a framework of rails and stiles. Louvered shutters are designed to admit air but not rain or creatures, and are most commonly used on upper floor window openings.

Masonry: Brick, stone, or concrete block construction.

Massing: The three-dimensional form of a building.

Meeting Rail: The horizontal member where the lower and upper sashes of a single-hung or double- hung window overlap.

Mortar: A mixture of sand, lime, cement, and water that is applied damp and, once dry holds the brick or stones together in masonry construction.

Mortise: In timber framing, a hole made in a wood framing member to receive the tenon of another framing member.

Multi-light Window: A window sash composed of more than one pane of glass.

Muntins: Thin strips of wood which divide and hold the panes of glass in a multi-light window. The profile (shape) of window muntins changed with different architectural styles, serving as a tool for determining the window's age.

Ovolo: A curved molding shape usually found by one-quarter of a circle's circumference.

Paneled Door: A door composed of solid panels (whether raised or recessed) held within a framework of rails and stiles.

Paneled Shutter: A vertical wooden element, hinged to close over a window or door opening, composed of solid panels held within a framework of rails and stiles. Locked from the interior, paneled shutters were originally designed to provide additional security at a ground-level opening.

Pegged Joint: In timber-framing joinery, a wooden peg, called a treenail (pronounced "trunnel") is inserted through a mortise and tenon joint to secure the two framing members together.

Pier: A square or rectangular masonry or wood post projecting above the ground that carries the weight of a structure down to the foundation. *(Dictionary of Building Preservation)*

Pintle: The male portion of the iron door or shutter hinge that is attached to the wall. The pintle is either driven into the frame or screwed in place. A projecting vertical element on the pintle receives the open end of the strap hinge that is attached to the door or shutter.

Pitch: The degree of a roof's slope.

Plinth Block: On an exterior porch, the square base that raises a column or post off of the floor surface.

Pointing: The exposed jointwork of masonry construction, decoratively finished (or "tooled") to be recessed behind the face of the masonry.

Pole Gutter: A gradually-sloping horizontal channel of metal-covered wood typically mounted on the lower portion of a roof to direct rainwater to the downspouts.

Portland Cement: A strong, inflexible hydraulic cement used to bind mortar. Mortar or patching materials with a high Portland cement content should not be used on old buildings. (The Portland cement is harder than the masonry, thereby causing serious damage over annual freeze – thaw and thermal expansion cycles.)

Post: A vertical structural member, usually slender and either square or circular in cross section, often with ornamental treatments such as fluting, turnings, chamfers, etc., and sometimes with a simple capital and/or base.

Preservation: The act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. *(Secretary of the Interiors Standards for the Treatment of Historic Properties)*

Pressed Tin: Decorative, as well as functional, metalwork made of molded terne-coated steel and used to sheath roofs, bays, and cornices, and ceilings.

Primer: A base coat of paint; typically has more binder and less pigment than topcoat paint.

Purlin: A horizontal beam in a roof structure that supports the common rafters typically spans between the principal rafters or parallel roof trusses.

Racking: A contortion of a wall opening's structural members in the horizontal and vertical planes that results in the wall being out of square.

Rail: A horizontal framing member of a paneled door, window sash, wall paneling, or shutter.

Raised Panel: A square or rectangular board of wood which is beveled at the edges and held within a framework of a door, shutter, or chimney breast.

Recessed Panel: A flat, square, or rectangular board of wood which is set back within the framework of a door, shutter, or chimney breast.

Reconstruction: The act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location. *(Secretary of the Interiors Standards for the Treatment of Historic Properties)*

Rehabilitation: The act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. *(Secretary of the Interiors Standards for the Treatment of Historic Properties)*

Restoration: The process of accurately taking a building's appearance back to a specific period of time by removing later work and by replacing missing earlier features to match the original.

Ridge: The top horizontal member of a gabled roof where the sloping surfaces meet.

Riser: The vertical face of a step.

Rising Damp: Moisture absorbed by masonry walls through capillary action from the soil below.

Sash: The moving portion (usually) of a window, into which glass is set.

Sawtooth Shingles: A decorative pattern of wall shingles alternating long and short rectangular pieces of wood in staggered horizontal rows.

Sconce: A wall-mounted lighting fixture with one or more arms that project outward to support the lamp.

Sheathing: Boards or other surfacing applied to a structural frame to facilitate weatherproofing and the installation of the finished surface.

Shingle Exposure: The portion of a wall or roof shingle that can be seen after it is installed.

Shoring: Temporary structural supports to prevent the collapse of a building element during renovation.

Shutter Dog: A piece of hardware, usually made of cast or wrought iron that projects from an exterior wall at either side of a window sill to hold a shutter leaf open.

Sill: The horizontal member at the bottom of a door or window opening.

Sill Plate: The continuous, horizontal wood member at the top of the foundation wall on which the wall bears and the floor joists are received.

Single-Hung: A window consisting of two sashes, only one of which slides up (or down) to open. Usually the bottom sash is operable and the top sash is fixed in place.

Six-over-Six Window: A double-hung window with six panes of glass in each sash. When the top sash is fixed, the six-over-six window is single-hung.

Soffit: The exposed underside of a cornice, eave, or other spanning element, also call an "eave".

Spaced Sheathing: A series of thin, narrow strips of wood on top of rafters used to support wood roofing shingles, allowing air to reach the underside of shingles so they can dry after swelling in a rain storm. The spacing of the strips, center to center, equals the exposure of the original roof shingles. (Also known as spaced lath or skip sheathing.)

Spalling: The delamination of a masonry surface from the effects of moisture infiltration and changing temperatures, also called exfoliation.

Splash Block: A stone or cast concrete block at the base of a downspout that directs rainwater away from the base of a building.

Splice: The joining of any two building elements length-wise, such as two beams or two electric wires. *(Dictionary of Building Preservation)*

Square-butt Shingles: Rectangular wood shingles arranged in straight rows as the exterior surface of a roof or wall, as installed on the Leedsville School in 1906.

Standing Seam: On roofs, the joint between the vertical metal roofing strips which are folded together and left upright to prevent moisture infiltration at the seam.

Stile: A vertical framing member of a paneled door, window sash, wall paneling, or shutter.

Strut: A diagonal truss member in compression, also called a brace.

Stucco: A mixture of lime, cement, and sand applied over metal lath or directly to a masonry surface to create an exterior surface.

Stud Wall: In building construction, a wall comprised of, wooden studs typically with a cross-section of 2" x 4" (normal dimensions—the actual dimensions are 1½" by 3½"), spaced 16-to-24 inches apart.

Surround: The decorative trim around a door or window opening.

Tenon: A tongue projecting from the end of a framing member, formed by cutting away the surrounding wood, that is inserted into a mortise in timber framing joinery.

Terra Cotta: A hard, glazed or unglazed fired clay product used for ornamental work on buildings.

Threshold: The sill of an entrance door.

Tooling: Decorative grooves on wood or stone, or in mortar joints.

Transom: A horizontal window above a door or window, usually rectangular in shape although an arched fanlight is also a form of transom.

Tread: The horizontal surface of a step.

Trim: The decorative as well as functional woodwork edging openings and covering joints between the wall and structural opening.

Tripartite: Having three parts.

Turned Woodwork: Wooden elements cut on a lathe.

Underpinning: Structural support beneath an existing wall or foundation, typically installed to counteract detrimental structural settlement.

Upbrace: A brace that is angled upward.

Vapor Barrier: In modern construction, a thin metallic or plastic sheet used to prevent the passage of moisture through a wall, floor, or ceiling.

Vernacular: A regional adaptation of a formal architectural style or styles.

Wall Plate: The horizontal framing member at the top or bottom of a wall. When at the wall's base, also called a "sill plate."

Wash: A slight slope of mortar on the top surface of a brick chimney or a masonry wall designed to shed water.

Weatherboards: Horizontal wooden boards of uniform thickness, which are overlapped to provide a weatherproof exterior wall surface.

Weather-stripping: Interlocking strips of material, usually metal, that help prevent the infiltration of air around an exterior opening.

Wrought Iron: Decorative metalwork that is hammered, bent, and twisted into shapes (rather than poured into molds as in "cast iron"). Historically used for fencing, railings, and basement window grilles.