



## OLD NICHOLS LIBRARY Limited Condition Assessment

110 South Washington Street  
Naperville, Illinois



**Final Report**  
August 8, 2017

*Prepared for:*  
**Save Old Nichols**  
And  
**Landmarks Illinois**  
30 North Michigan, Suite 2020  
Chicago, Illinois 60602

*Prepared by:*  
**Association for Preservation Technology -  
Western Great Lakes Chapter**  
P.O. Box 1163  
Elgin, Illinois 60121  
[www.aptwglc.com](http://www.aptwglc.com)  
[aptwglc@gmail.com](mailto:aptwglc@gmail.com)

**OLD NICHOLS LIBRARY  
Limited Condition Assessment**

**110 South Washington Street  
Naperville, Illinois**



---

Rachel Will  
Past-President, APT WGLC



Jamie Morris  
President, APT WGLC

**Final Report**  
August 9, 2017

*Prepared for:*  
**Save Old Nichols**  
And  
**Landmarks Illinois**  
30 North Michigan, Suite 2020  
Chicago, Illinois 60602

*Prepared by:*  
**Association for Preservation Technology -  
Western Great Lakes Chapter**  
P.O. Box 1163  
Elgin, Illinois 60121  
[www.aptwglc.com](http://www.aptwglc.com)  
[aptwglc@gmail.com](mailto:aptwglc@gmail.com)



**TABLE OF CONTENTS**

Introduction ..... 1

Background..... 1

Building Description..... 1

    Building Envelope ..... 2

Observations ..... 2

    Masonry ..... 2

    Roofing ..... 3

    Windows..... 4

Discussion..... 5

    Masonry ..... 5

    Roofing ..... 6

    Windows..... 6

Recommendations and Preliminary Cost Estimate ..... 7

Qualifications ..... 9

Figures

# **OLD NICHOLS LIBRARY**

## **Limited Condition Assessment**

**110 South Washington Street  
Naperville, Illinois**

### **INTRODUCTION**

As requested by members of the Save Old Nichols group, members of the Association of Preservation Technology - Western Great Lakes Chapter (APT WGLC) performed a limited condition assessment of the Old Nichols Library located at 110 South Washington Street in Naperville, Illinois. The purpose of our assessment was to evaluate the current condition of the building's exterior envelope.

### **BACKGROUND**

Old Nichols Library opened on September 22, 1898. The building was partly made possible by a bequest from James Lawrence Nichols who in 1895, left \$10,000 for the library in his will. An addition was constructed south of the library in 1961 (the addition is not included in this assessment). In 1986, a new local library was constructed and the collection moved from the Old Nichols Library to 200 West Jefferson Avenue. The library system was also expanded to include branch libraries at other Naperville locations.

The Old Nichols Library building has been owned by Truth Lutheran Church since they purchased it from the City of Naperville in 1995. Additional history of the building is available in the Naperville application for Landmark status.

On June 24, 2017, representatives of the Association for Preservation Technology - Western Great Lakes Chapter (APT WGLC) met with members of the Save Old Nichols group and performed a volunteer limited condition assessment. Our assessment included visual observations of readily accessible portions of the exterior envelope and select interior spaces within the building. We did not perform a structural analysis to evaluate the adequacy of the existing components, or perform any inspection openings to observe concealed conditions.

### **BUILDING DESCRIPTION**

Old Nichols library is a two-story building, roughly rectangular in plan, with a raised basement and partially finished attic space. The foundation is constructed of rusticated ashlar limestone, which extends above-grade to a limestone water table below the first-floor windows. The upper levels consist of tan-colored brick with limestone accents. The primary roofing shape is hipped; however, the roofing also includes several dormers. The hipped roofing and dormers are covered with asphalt shingles. There is a wood soffit with painted wood brackets at the underside of the soffit. There is a previously constructed single story addition to the south of the original building; however, the addition was excluded from this assessment.

The massing of west facade is symmetrical and includes a central portion, delineated by gabled dormer, which projects slightly from the primary wall plane. The double doors at the entrance are surrounded by limestone with a limestone arch and a large limestone lintel above the second-floor windows is carved with "The Nichols Library." Overall views of the building are included in Figure 1 through Figure 4.

## Building Envelope

The Old Nichols library is a load bearing masonry building composed primarily of rusticated limestone masonry with multi-wythe brick walls above with carved limestone corner quoins, stills, and lintels. Carved limestone is also used for ornamentation on the gabled parapets on the north and west facades, including pilaster caps and pilaster bases, windowsills, and the copings. A large Romanesque multi-wythe stone masonry arch exists over the opening at the main entrance to the building on the west facade. A monumental stair constructed of rusticated stone cheek walls and concrete risers and treads leads to the front entrance. The interior first and second floors are wood framed with 2x10s spaced at approximately 16 inches on center spanning between the masonry walls and interior cast iron columns at the basement level. The interior of the exterior walls is finished with plaster adhered to the brick/stone masonry backup.

The main roof is a steep slope wood-framed hipped roof construction with asphalt shingles and painted metal gutters. Several features of the main roofing include a small hipped roofing dormer with hipped roofing on the eastside and gabled parapets on the north and west sides. Based on historic photographs it appears the roof structure and chimneys were reconfigured at an unknown date sometime after 1930 (Figure 5 through Figure 7) Painted galvanized steel gutters and downspouts provide drainage for the roofing. A painted wood soffit with brackets exists at the top of the wall and provides structure for the roofing overhang.

The majority of the windows appear to be original and include painted wood one-over-one double-hung or casement windows with single pane glass. Most windows have stone lintels and sills. Two two-story modern vinyl windows are located on the south side of the west facade and a matching window is located on west side of the south facade. These two-story windows include two fixed uppers paired over single-hung lower openings with screens.

## OBSERVATIONS

Representatives of the Association for Preservation Technology - Western Great Lakes Chapter (APT WGLC) made visual observations of readily accessible portions of the building on June 24, 2017. Exterior observations of the facade and roofing were made from ground level. Interior observations were made at accessible areas. The following sections summarize our observations.

### Masonry

1. A few isolated displaced bricks and limestone exist at the terminus of the gable parapet and the south finial on the west facade. The bricks are displaced approximately 1/4 to 1/2 inch (Figure 8 and Figure 9).
2. Generally, the mortar in the joints at the brick masonry are in serviceable condition, with only minor areas of erosion (Figure 10 and Figure 11).
3. The brick masonry has a roughened texture, indicating that it has likely been previously sandblasted (Figure 12).
4. Isolated spalls at a few brick faces were noted at locations of previous anchorages at portions of the gabled parapet on the north facade (Figure 13).
5. Corrosion staining was noted on a few of the limestone sills, due to carbon steel hooks installed at the aluminum window panning (Figure 14).
6. Biological growth was noted on the rusticated stone on the north facade of the building (Figure 15).
7. Isolated areas of the mortar in the joints between limestone units are cracked and eroded (Figure 16).

8. The joints between the limestone coping units at the gabled parapets on the north and west facades are typically eroded.
9. Various isolated cracks ranging in width from hairline to 1/8 inch at the monumental stair stone clad cheek walls. Mortar was noted in some of the cracks in the brick and the mortar typically had subsequently debonded and/or cracked along the length of the crack (Figure 17 through Figure 19).
10. At the monumental stair stone clad cheek walls, isolated stones are face bedded and scaling and spalling of the stones was observed (Figure 20 through Figure 22).
11. The mortar joints between the stone units at the monumental stairs are typically cracked, debonded and eroded (Figure 23 and Figure 24).
12. Isolated hairline cracks with efflorescence were also noted at the concrete stair treads and risers (Figure 25).
13. Many of the mortar joints at the interior face of the limestone foundation walls are cracked and eroded. Evidence of water infiltration was observed at isolated locations of the foundation, primarily located on the north wall, near an improperly detailed downspout (Figure 26 and Figure 27).
14. The exposed 2x10 wood framing for the first floor, as observed in the basement is in serviceable condition, with no evidence of decay (Figure 28).
15. Bubbling and peeling paint and water damage to drywall at the base of the interior face of the west foundation wall, near the emergency egress door. A radiator exists in the vicinity of the damaged plaster (Figure 29 and Figure 30).
16. Bubbling and peeling paint and plaster on interior basement walls. Mechanical and plumbing lines exist in the vicinity of the damaged plaster (Figure 31 and Figure 32).

## Roofing

The main roofing over the building is a steep sloped hipped roofing with asphalt shingles. Overall views of the existing roofing are included in Figure 33 through Figure 37. The roofing survey sheets inclusive of conditions and locations are included in Appendix A of this report. The following conditions were noted at the main roofing of the building.

1. Curling, cupping of the shingles indicating UV degradation and likely granule migration (Figure 38).
2. Much of the bottom edge of the shingles is deteriorated including granule loss and cupping.
3. Slight cupping of shingles was noted throughout the roofing, the cupping of the shingles is more significant near the bottom of the slope adjacent to the gutter.
4. Isolated missing shingles as well as shingle tabs were observed throughout the roofing (Figure 39).
5. No apparent sill flashing was observed under the dormer windows on the south and east sides of the roofing.
6. Apparent previous repairs were observed at the ridge at the north and south sides of the building (Figure 40).
7. The shingles at the previously repaired valleys are lapped incorrectly at the top of gable, which could have impact on wind resistance (Figure 41 and Figure 42).
8. Previous flashing repairs at the gable parapet are lapped over shingles, potentially trapping water
9. Tree overhanging shingle roofing at northwest corner of the building. The leaves, stick and other debris from the tree can clog gutter and downspouts, as well as causing excess wear of the shingles.
10. Corrosion bleed through at the existing paint is visible a portions of the gutter.
11. Isolated peeling paint was observed at select locations at the soffit, fascia and brackets. At an isolated location of the west side of the building, a small portion of the soffit is deteriorated and missing (Figure 43).
12. A hole in exist in soffit on the north side of the building at east side of gabled parapet (Figure 44)

13. Downspout at the northeast corner of the building was not connected to nearby sanitary line, allowing water runoff to discharge against the building foundation (Figure 45)
14. The downspout at the south side of the building is also disconnected from the gutter.

At single story bay with low slope roofing with slate tile exists at the northeast corner of the east side of the building.

1. Isolated broken/missing tile were observed at a few locations (Figure 46).
2. The previous repairs to the counterflashing are failing and the sealant is debonded and crazing.
3. A spalled brick was observed at one location above the counterflashing
4. At select locations of the fascia, some of the paint was peeling.

At the low slope roofing with a modified bitumen membrane over sheet metal roofing at the north side of the building.

5. Water staining was noted at the ceiling from the interior adjacent to (2) vent stacks through roofing, north of dormer on the east side of the roofing (Figure 47)
6. Water staining was noted on the on inside of west wall, south of gable (Figure 48)

## Windows

1. The windows were observed from available interior spaces as well as from the exterior.
2. The wood window frames and sash components are generally in good condition with distress limited to minor paint deterioration. Paint distress (including minor cracking and peeling) and is more pronounced in the interior than the exterior (Figure 49 through Figure 51).
3. Minor cracking of glazing putty was observed at some of the windows.
4. Crazing and isolated debonding were typically observed in the window perimeter sealant (Figure 52 and Figure 53). At some locations, perimeter sealant was not present between the wood and stone sills.
5. No instances of rotten wood window frames or sash elements were observed.
6. At one location, a gap exists between the interior stop and the wood window frame (Figure 54).
7. At one second-story casement window, the wood glazing stops have been removed and replaced with glazing putty. It is possible that points were included with the putty installation; however, there is no way to confirm without removing the putty (Figure 55).
8. A few (approximately three) isolated windows with cracked glass were observed (Figure 56).
9. Two windows on the east have sashes that have been modified to accommodate air conditioning units (Figure 57).
10. Most windows have been painted shut at the interior (Figure 58).
11. Many of double-hung windows are missing the operable elements including the sash cords. Isolated windows are missing pull hardware (Figure 59).
12. Three two-story vinyl replacement windows are present on the southwest corner of the building. The date of replacement is unknown (Figure 60).
13. Stone lintels and sills are in good condition, some lintels and sills have varied soiling patterns due to differing water run-off patterns (Figure 61).
14. The basement level windows that are covered with painted metal grills or screens on the exterior and thus the condition of the wood frames and sashes were not visible as part of this assessment (Figure 62).



## **DISCUSSION**

Generally, the Old Nichols Library building is in good to serviceable condition. Isolated repairs and continued maintenance are recommended to limit water infiltration and associated minor deterioration.

### **Masonry**

The brick masonry and limestone cladding at the building facades is generally in good condition. The local environment and the construction materials dictated many aspects of historic architectural ornament. While aesthetics is part of the conversation, with regard to material selection in architectural ornament, the understanding of durability and function were also considerations. This can be seen at Old Nichols as the more durable Indiana limestone was used for the higher exposure regions such as the copings on top of parapet walls and finials at the juncture of the parapets and the roofing valleys, as compared with the less durable Illinois rusticated limestone at the corner quoins. As such, the limestone in both regions of the building remains in serviceable condition. There are a few isolated locations of eroded and open mortar joints, but they do not appear to have resulted in water infiltration through the masonry walls at the first and second floor walls. Some water infiltration has been experienced in the basement, reportedly through the foundation walls. The locations of interior water infiltration are near the base of the foundation wall adjacent to a failed downspout on the north facade as well as near the emergency exit stair at the west facade at a location where the exterior drain has been minimally maintained.

A few areas of cracked, spalled and displaced limestone masonry were evident at the monumental stair at the west facade of the building. Some of the spalling and deterioration is due to the orientation of the stones. Some of the stones at the cheek walls surrounding the stair have been installed such that the orientation of the units in the wall, are such that the bedding planes are parallel to the plane of the wall, rather than perpendicular. As water infiltrates the stone, this can cause deterioration/scaling, due to the weak bond between the bedding planes. A large number of mortar joints were cracked or washed out at the cheek walls as well due to continued exposure to the elements. In general, most of the damage to the masonry did not appear to have substantially reduced the integrity of the masonry, and large areas of masonry were performing acceptably. Generally, the limited areas of distress and displacements at the cheek walls are likely the result of ongoing water infiltration and subsequent freeze-thaw cycles in combination unaccommodated thermal movements.

Based on the lack of reported history of leakage directly through the masonry, the existing walls are performing as would be expected of properly functioning mass walls. That said, all masonry walls require ongoing maintenance, such as replacing or repairing cracked units, repointing, and/or replacing sealant joints, in order to continue to function as intended.

The masonry appears to have previously been abrasively cleaned. While removing previous soiling on the brick, sandblasting has also removed the fire skin of the brick, thus exposing the biscuit (lower fired, softer portion of the brick), possibly making it more susceptible to water infiltration and subsequent freeze thaw damage. Despite the presumed previous sandblasting of the brick, only minor deterioration of the brick was observed on most of the building at this time.

## Roofing

The existing asphalt shingle roofing is generally in poor condition and is approaching the end of its effective service life. Significant repairs to the roofing are necessary to limit ongoing water infiltration.

Curling, cupping, and missing shingles likely indicate UV degradation. Asphalt shingles are typically manufactured as an asphalt coated fiberglass mat with a layer of granules bed in the topside. The granules serve to protect the asphalt from UV exposure, as asphalt alone is not UV stable. When these granules disengage and the asphalt base layer is exposed, it begins to deteriorate and can lead to distortion (such as cupping and curling) and during wind events can lead to the displacement of whole shingle tabs as is largely evident on the southern exposure of the library. An underlayment is likely present, which may briefly deter leaks from occurring, however the underlayment is also likely an asphalt based material and will deteriorate when exposed to UV. The previous repairs made to the ridge and valleys indicate that a maintenance program already in place has likely begun addressing roofing leaks. At this point in the life of the roofing, these repairs should be considered a temporary measure until the roofing can be replaced in whole, as the remaining shingles appear to be in an advanced stage of deterioration.

The lack of proper drainage on the building exterior also threatens the water tightness of the building envelope. Missing or leaking downspouts allow water infiltration within the exterior masonry and foundation walls, causing erosion of the mortar and potential freeze-thaw related distress. The improper connection of the downspouts, which do not generate drainage away from the building, has resulted in intrusion of water into the building. In addition, the portions of the masonry facade adjacent to these areas is exposed to water run down and subsequent damage and deterioration.

## Windows

Based on their materials and design, the majority of the windows observed appear to be original to the building, therefore approximately 120 years old. Considering their age, windows are generally in very good condition; this is likely due in part to the density and rot resistance of the lumber available during the building's construction. Due to the wood materials currently available, it is unlikely that modern wood replacement windows would have similar longevity.

Most conditions observed can be addressed by routine maintenance. Cracked glass should be replaced to limit air and water infiltration and to prevent shards dislodging from the sash. The protective paint coatings are showing signs of wear on the exterior as well as the interior. The age of the existing coating is unknown. Depending on exposure conditions, surface preparation methods, and paint formula, paint coatings can generally be expected to last approximately ten years. If the paint coating deteriorates to the point of peeling and flaking, the windows will be exposed to additional moisture, which may accelerate moisture-related distress.

Hairline cracks in glazing putty may be able to be sealed with paint to extend the putty service life a few years. At locations of wider cracks or loose putty, the existing putty should be removed and replaced. At the time of our assessment, only minor cracks were observed at much of the putty. Minor crazing and isolated locations of debonding of the window perimeter sealant was also observed. Replacement of the window perimeter sealant is part of routine maintenance and should be anticipated every 10 to 15 years ideally coordinated with repainting.

Air and water infiltration of the existing windows was not reported to be a problem; however, storm windows may be added if desired to reduce air or water infiltration. Many windows include hardware from previously existing storm windows.

Visible conditions related to operability include paint seals at the sash and the frame, the occasional absence of pull hardware, and cut or missing sash cords. If operability is desired, these items could be easily addressed by cutting the paint seal, installing pull hardware, and repairing the sash cords. If the windows are returned to an operable condition, screens and or limit stops may be added as well. If operability is restored, storm windows with integrated screens may be considered. At the location where a gap at the interior stop was observed the gap does not affect the functioning of the window since it is painted closed. If loose stops are observed, they should be fixed back into place. If there are gaps and the stop is not loose, the gap can be filled with paintable sealant during the next repainting campaign.

Windows that currently include air conditioning units may require the reconstruction of portions of the existing frames and installation of new sashes if the units are removed in the future.

The replacement windows on the south and west are reportedly newer and are currently in good condition. Due to the nature of the materials (vinyl with insulated glass) and construction, the modern replacement windows are likely to require more maintenance than the historic wood windows.

## **RECOMMENDATIONS AND PRELIMINARY COST ESTIMATE**

The repair recommendations provided below have been developed from a visual assessment of the building components only. Priority 1 repairs are those that need to be addressed within the year to verify extent of deterioration of inaccessible areas and limit water infiltration and further distress. Priority 2 repairs are those needing to be addressed in the next three to five years to limit further deterioration and maintain integrity of the structure. Priority 3 repairs should be anticipated with the next ten years and generally considered maintenance items. As with all repair projections, these time frames are based on the development and execution of an ongoing facade maintenance program that includes performing some unanticipated repairs on an as-needed basis. Alternatively, more aggressive repair and maintenance programs could be developed to lengthen the time between repair and maintenance work on the building.

Based on our review of the Old Nichols library building we offer the following prioritized repair recommendations.

### **Priority 1:**

1. Remove and replace cracked glass at three units.
  - Estimated cost: \$200 per window
2. Remove existing asphalt shingles and underlayment at all roofing, inspect existing sheathing for signs of water damage or areas of advanced decay/displacement. Repair or replace areas of deteriorated sheathing and framing, install new underlayment, asphalt shingles and repair valley, wall flashings and scupper interface detailing.
  - Estimated cost: \$40,000 - \$50,000 allowance for tear off and replacement of underlayment and shingles, along with some minor repairs to the wood decking and framing.

3. Evaluate the existing gutter /downspout system to determine if repairs can be implemented or if full replacement is necessary.
  - Estimated cost: \$3,500 allowance for evaluation
4. Replace all downspouts and install splash blocks. Alternatively, the new downspouts could be tied into the catch basin system.
  - Estimated cost: \$5,000 allowance
5. Clean all existing gutters. Repaint existing galvanized gutters and wood soffits, fascia and brackets. Perform limited repairs to gutters, wood soffits and brackets prior to repainting.
  - Estimated cost: \$10,000

**Priority 2:**

1. Areas of deteriorated mortar should be removed and repointed. Backer rod and sealant should be installed in upward facing mortar joints at the copings, water tables and window sills at all facades (brick and stone clad).
  - Estimated cost: \$15,000 allowance
2. Reconstruct the stonework on the at the monumental stair cheek walls, this would removal and replacement of the existing concrete stair. This will likely include removal and isolated replacement of the stone as well as installation of supplemental anchorages.
  - Estimated cost: \$125,000 allowance
3. Repoint interior joints at existing foundation walls following downspout reconfigurations.
  - Estimated cost: \$15,000 allowance
4. If water infiltration through the existing foundation walls persists, an evaluation of the existing foundation walls should be conducted to determine if the installation of a foundation waterproofing system is necessary. This should include the removal and replacement of the existing egress door on the west facade.
  - Estimated cost of evaluation; \$10,000;
  - Estimated cost of foundation wall waterproofing installation: \$50,000
5. Rebuild portions of the brick masonry upon removal of the previous addition to the south wall of the Old Nichols Library building.
  - Estimated cost: \$150 per square foot. Assume an allowance of \$25,000
6. Install backer rod and sealant in the vertical joint at the interface of the pilasters and adjacent masonry.
  - Estimated cost: \$5,000 allowance
7. Evaluate the condition of the wood windows. At a minimum, the windows should be painted and the perimeter sealant and glazing materials replaced.
  - Estimated cost: \$10,000 allowance for evaluation and replacement of deteriorated glazing putty

8. Remove the existing interior and exterior coatings, recoat the wood frame windows, and remove and replace the exterior perimeter sealant.
  - Estimated cost: \$500 per window

### **Priority 3:**

1. Repair operability of existing double-hung windows dependent on program for building.
  - Estimated cost: \$350 per window
2. Treat areas of biological growth on the north facade of the building with a biocide.
  - Estimated cost: \$5,000 allowance
3. Typical masonry maintenance including isolated repointing and replacement of sealant on as necessary basis.
  - Estimated cost: \$2,500 annual allowance
4. Typical window maintenance including replacement of cracked glass and regular painting maintenance on an as needed basis.
  - Estimated cost: \$2,500 annual allowance
5. Typical roofing inspections and maintenance, this would include annual inspections of the roofing and repairing distress conditions, as well as cleaning and maintaining the gutters and wood soffits, brackets and fascia.
  - Estimated cost: \$3,500 annual allowance

The above items represent the minimum level of effort necessary to rehabilitate the major architectural components and exterior envelope of the building. A more thorough review of the existing architectural and structural elements should be performed, and detailed repair drawings and specifications should be prepared. Obviously, repairs to the electrical, plumbing, and HVAC systems may be required per the new use of the structure, but consideration of these items was beyond the scope of our review.

General repair methods are included to develop an opinion of estimated costs to correct the deficiencies observed. These methods may or may not be the best method of remediation and should not be considered as a repair recommendation. All repairs should be designed by a licensed professional. Costs are given in present-day dollars and are not modified for cost increases in the future. Cost estimates were made by either reference to a standard estimating guide or from experience with costs of similar work. Costs were not obtained from a contractor bidding on a set of repair drawings and specifications and were not made by a professional cost estimator. Competitive bids using a set of repair drawings and specifications should be obtained if more-accurate costs are required.

### **QUALIFICATIONS**

It should be understood that our limited condition assessment does not serve as a building investigation, and therefore, is not intended to document all deteriorated conditions of the exterior wall, building envelope and structural systems.

## FIGURES



*Figure 1. Over all view of the west facade of Old Nichols Library.*



*Figure 2. View of west facade from the southwest corner.*



*Figure 3. Partial view of east facade.*



*Figure 4. Overall view of north facade*





*Figure 5. Historic view of east facade provided by Wilkins.*



*Figure 6. Historic view of west facade provided by Wilkins.*



*Figure 7. Historic view of postcard of west and south facades provided by Wilkins.*



*Figure 8. General view of isolated displaced brick and limestone.*



*Figure 9. Detailed view of displaced brick and limestone units.*



*Figure 10. Locations of minor mortar erosion.*



*Figure 11. Locations of minor mortar erosion.*



*Figure 12. Note brick texture roughened due to sandblasting.*



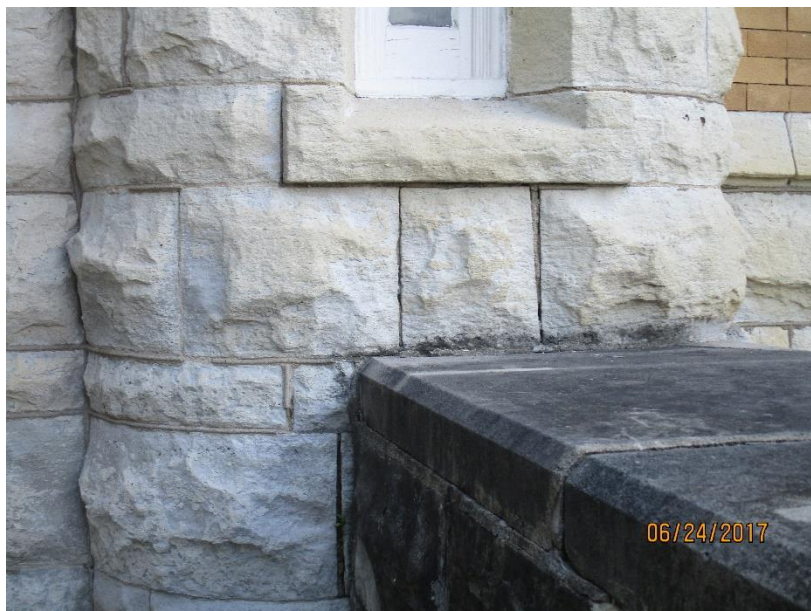
*Figure 13. Note spalls at locations previously used for anchorage.*



*Figure 14. Note corrosion staining.*



*Figure 15. Minor biological growth present on rusticated stone and improperly detailed downspout at northwest corner of the building.*



*Figure 16. Isolated limestone mortar joint erosion and cracking.*



*Figure 17. Isolate mortar cracks in stairway cheek walls.*



*Figure 18. Detailed view of stair cheek wall cracking.*



*Figure 19. Alternate view of isolated stair cheek wall cracking.*



*Figure 20. Scaling and spalling of face bedded stone at stairway cheek wall.*





*Figure 21. Additional view of scaling/spalling face-bedded stone.*



*Figure 22. Additional view of scaling/spalling of face-bedded stone.*



*Figure 23. Open mortar joint at coping of stairway cheek wall.*



*Figure 24. Cracked and debonded mortar between stone units.*



*Figure 25. Isolated hairline cracks with efflorescence on stair treads and risers.*



*Figure 26. Partial view of west end of north foundation wall.*



*Figure 27. Evidence of isolated water infiltration at north foundation wall.*



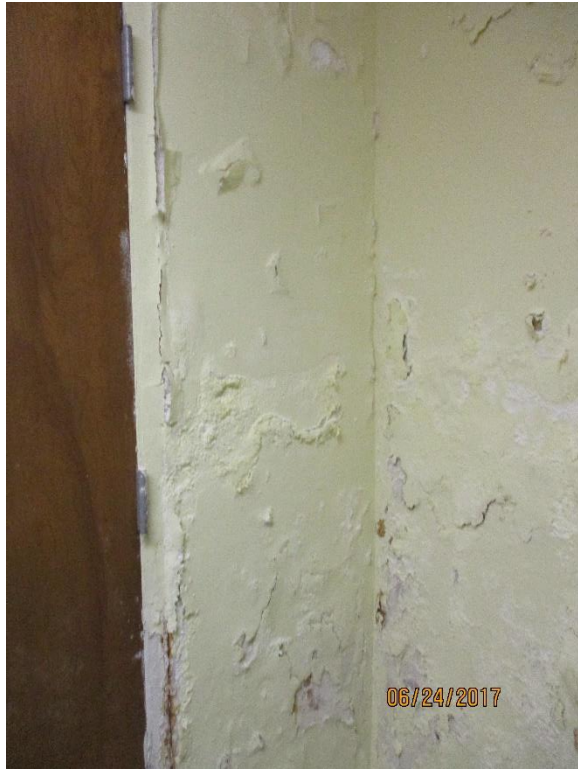
*Figure 28. No evidence of decay on wood framing.*



*Figure 29. Evidence of moisture, potentially from nearby radiator.*



*Figure 30. Moisture related distress near emergency egress door.*



*Figure 31. Moisture related distress evident on plaster wall.*



*Figure 32. Moisture related distress evident on plaster wall.*



*Figure 33. South roofing face.*



*Figure 34. South roofing face.*



*Figure 35. East roofing face.*



*Figure 36. North roofing face.*





*Figure 37. West roofing face (from southwest corner).*



*Figure 38. General view of curling/cupping of shingles.*



*Figure 39. General view of south roofing area with areas of missing shingle tabs.*



*Figure 40. Location of previous ridge repair.*



*Figure 41. Location of previous valley repair.*



*Figure 42. Another location of previous valley repair.*



*Figure 43. Isolated wood deterioration and peeling paint at soffit and fascia.*



*Figure 44. Opening in soffit at the east side of the gable on the north facade.*



*Figure 45. Disconnected downspouts.*



*Figure 46. Broken/missing tile.*



*Figure 47. Interior water staining corresponding to vent stacks on east roofing area, north of the dormer.*



*Figure 48. Interior water staining located south of the gable on the east facade.*



*Figure 49. View of typical wood double-hung window. This window includes privacy glass in the lower sash.*



*Figure 50. View of most distressed interior paint observed.*



*Figure 51. View of exterior of wood window with paint distress (more significant than most) and cracked glazing putty.*



*Figure 52. Cracked/debonded perimeter sealant at connection of wood and stone sill.*





*Figure 53. No observed perimeter sealant at connection of wood and stone sill.*



*Figure 54. Gap between interior wood stop and window frame.*



*Figure 55. Second floor casement window (west facade) with putty infill replacing wood glazing stops.*



*Figure 56. View of cracked glass.*



*Figure 57. Window sash modified to accommodate A/C unit.*



*Figure 58. Arrow indicates bridges of paint fixing the lower sash in closed position.*



*Figure 59. View of window with missing sash cord.*



*Figure 60. View of modern replacement window on west facade.*



*Figure 61. View of staining due to watershed patterns on the window lintel.*



*Figure 62. Typical basement window covered with metal screening.*

**APPENDIX A – ROOF PLAN AND FIELD NOTES**



N  
⬆️ OLD NICHOLS LIBRARY ROOF PLAN  
\*Note that flat portion was not included in assessment (Roof P)

*Figure 1. Aerial view of Old Nichols Library roof with annotated roof areas.*



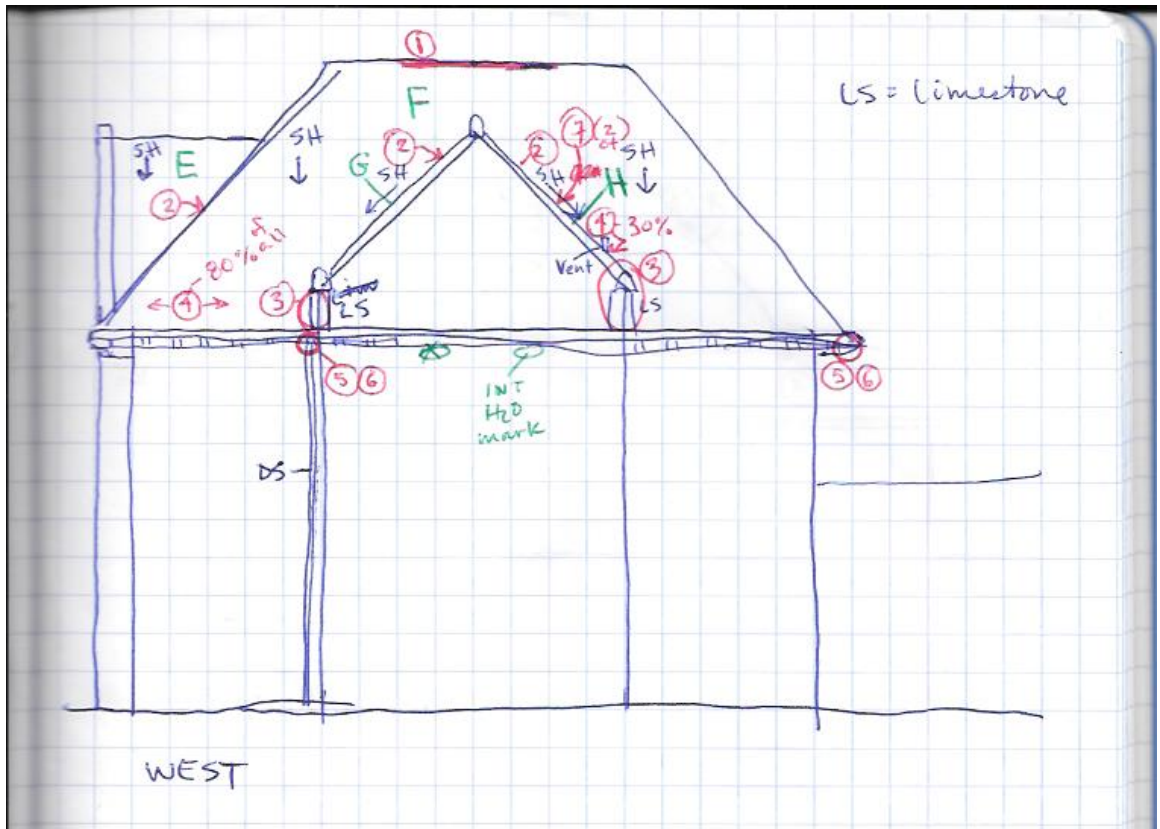


Figure 2. West roof area with condition notations.

WEST

- ① ROOF REPAIR
- ② VALLEY REPAIR
- ③ FLASHING AT BACKSIDE OF PALLET (GABLE) LAP JOINTS  
OVER SHINGLES.
- ④ SHINGLES CRUMBLING AT BOTTOM EDGES
- ⑤ HOLD SOFFIT / UNDERMINING CORBEL
- ⑥ PAINT PEELING ADJACENT TO HOLD IN SOFFIT
- ⑦ MISSING SHINGLES
- ⑧ IMPROPERLY LAPPED SHINGLES AT MOUNT TOP OF GABLE

INTERNAL

WATER ON INSIDE OF EXT. WALL, JUST SOUTH OF  
GABLE

Figure 3. West roof area condition key.

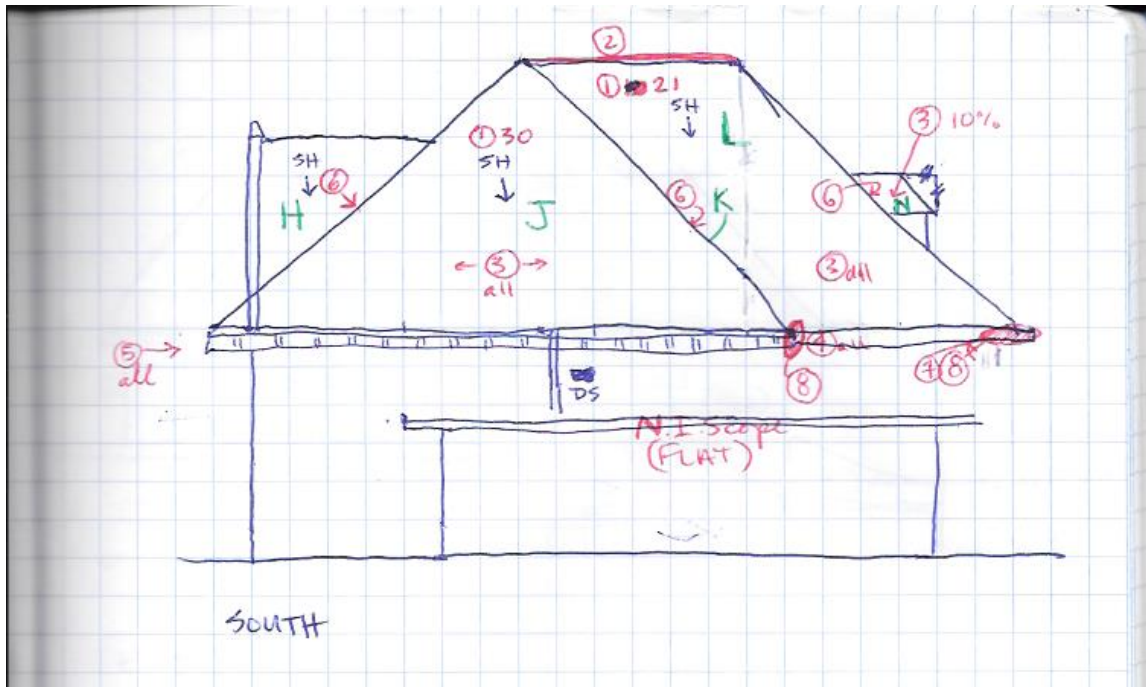


Figure 4. South roof area with condition notations.

3 of 4

SOUTH

<ul style="list-style-type: none"> <li>①</li> <li>②</li> <li>③</li> <li>④</li> <li>⑤</li> <li>⑥</li> <li>⑦</li> <li>⑧</li> <li>⑨</li> </ul>	<p>MISSING STRINGS &amp; TABS</p> <p>RIDGE REPAIR</p> <p>CORROSION/WARPING/DISCONNECTED STRINGS</p> <p>CORROSION AT GUTTER</p> <p>PEELING PAINT ON SOFFIT</p> <p>VALLEY REPAIR</p> <p>D.S. DISCONNECTED</p> <p>FASCIA MISSING/DAMAGED</p> <p>2 W/PS</p>
---	---

Figure 5. South roof area condition key.

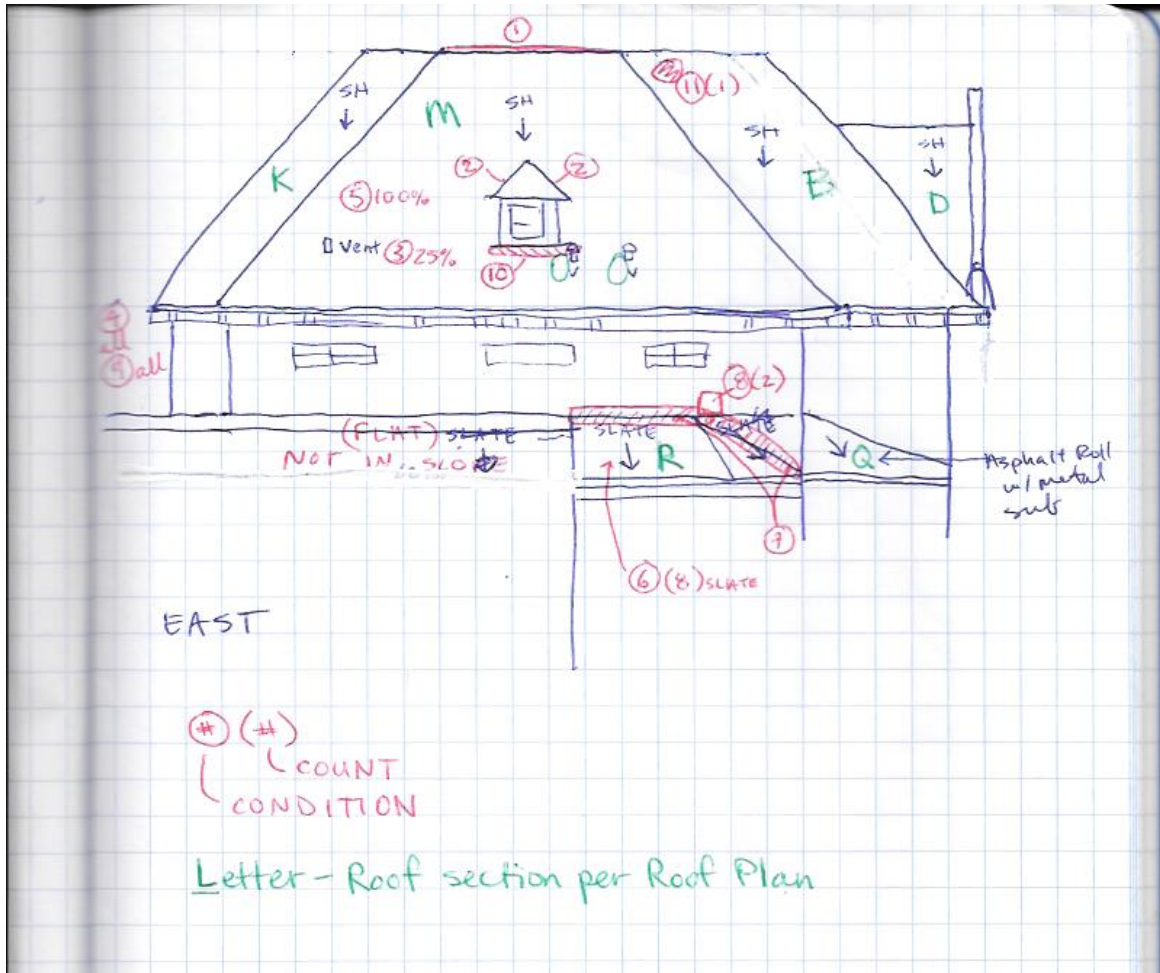


Figure 6. East roof area with condition notations.

EAST

- ① EDGE REPAIR
- ② VALLEY ROOFING
- ③ CURINGS / COPPING / ROTTERNATED SHINGLES 25%
- ④ OCCASION → 90 GUTTER
- ⑤ SHINGLE: EDGE (BOTTOM) DETERIORATED 100% ONLY

SCATEL

- ⑥ BROKEN / MISSING TILE
- ⑦ SEVERAL GENERATIONS OF REPAIRS AT CPING, FLASHING
- ⑧ BROKEN BRACKS ABOVE CPING
- ⑨ PEELING PAINT ON FASCIA

- ⑩ NO APPARENT SILL BRUSHING UNDER WINDOW
- ⑪ MISSING SHINGLE

INTERIOR

WATER STAINING UNDER (2) ROOFS NORTH OF MANORUM ST

Figure 7. East roof area condition key.

Nichols  
 Old Library  
 June 24, 2017

asphalt shingle  
 repairs in valley  
 missing shingles  
 granular migration  
 shingles cupping

wood soffit  
 holes @ base of valley  
 wood painted, in fair shape

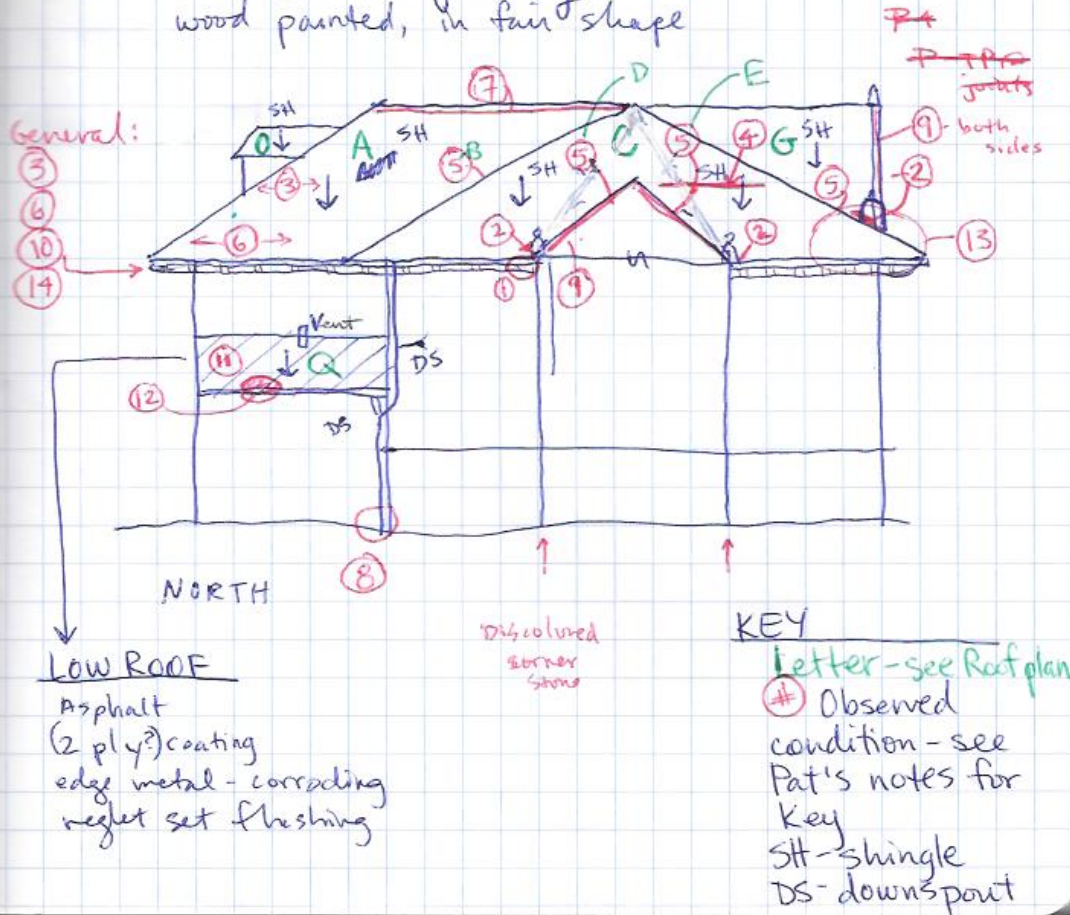


Figure 8. North roof area with condition notations.

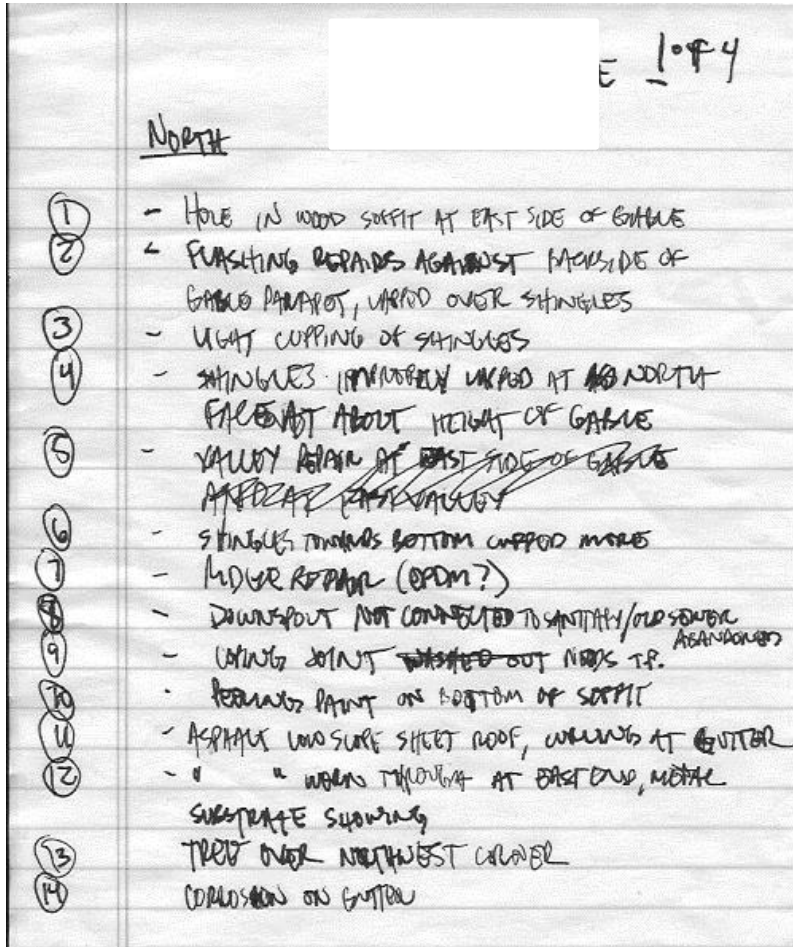


Figure 9. North roof area condition key.