AGENDA
BLOOMINGTON HISTORIC PRESERVATION COMMISSION
REGULAR MEETING,
THURSDAY, MAY 18, 2017
COUNCIL CHAMBERS, CITY HALL
109 EAST OLIVE ST.
BLOOMINGTON, ILLINOIS

1. CALL TO ORDER BY CHAIRPERSON

2. ROLL CALL BY RECORDING SECRETARY

3. PUBLIC COMMENT

A public comment period not to exceed thirty (30) minutes will be held during each Board and Commission meeting, as well as all regularly scheduled City Council meetings, Committee of the Whole meetings, meetings of committees and/or task forces (hereinafter "committees") created by the City Council, work sessions, and special meetings of the City Council. Nothing herein shall prohibit the combination of meetings, at which only one public comment period will be allowed.

Anyone desiring to address the Board, Commission, Committee or City Council, as applicable, must complete a public comment card at least five (5) minutes before the start time of the meeting. Public comment cards shall be made available at the location of the meeting by City staff at least 15 minutes prior to the start time of the meeting. The person must include their name, and any other desired contact information, although said person shall not be required to publicly state their address information. If more than five individuals desire to make a public comment, the order of speakers shall be by random draw. If an individual is not able to speak due to the time limitation and said individual still desires to address the individuals at a future meeting of the same type, said individual shall be entitled to speak first at the next meeting of the same type. (Ordinance No. 2015-46))

4. MINUTES:

Consideration, review and approval of minutes of the April 20, 2017 regular meeting of the Bloomington Historic Preservation Commission

5. REGULAR AGENDA:

A. BHP-03-17 Consideration, review and approval of a Certificate of Appropriateness for repairing the rotted bases of existing columns and replacing rotten rails and spindles of the front porch at 606 E. Grove Street, Charleston Stevenson House; late Victorian Style, c. 1903, East Grove Historic District (NC).

B. BHP-04-17 Consideration, review and approval of a Funk Grant for $2725.00 for repairing the rotted bases of existing columns and replacing rotten rails and spindles of the front porch at 606 E. Grove Street, Charleston Stevenson House; late Victorian Style, c. 1903, East Grove Historic District (NC).

C. **BHP-05-17** Consideration, review and approval of a Certificate of Appropriateness for replacing the roof and tuckpointing the chimney at 905 N. McLean Street, Frank Baker House, Queen Anne Style with Georgian Revival Influence; c. 1894, Franklin Square Historic District.

D. **BHP-06-17** Consideration, review and approval of a Certificate of Appropriateness for replacing the roof with asphalt shingles that resemble the original wooden shingles at 1011 E. Jefferson Street, Charles E Perry House; front-gable type c. 1880's, Davis Jefferson Historic District.

E. **BHP-07-17** Consideration, review and approval of a Funk Grant for $5,000.00 for replacing the roof with asphalt shingles that resemble the original wooden shingles at 1011 E. Jefferson Street, Charles E Perry House; front-gable type c. 1880's, Davis Jefferson Historic District.

6. OLD BUSINESS:

A. Presentation, discussion and review on the City of Bloomington's Brick Streets Master Plan, 2009. Presentation by Jim Karch, Director of Public Works.

7. NEW BUSINESS:

8. ADJOURNMENT:

For further information contact:
Katie Simpson, City Planner
Community Development Department
115 E. Washington Street, Bloomington, IL 61701
Phone (309) 434 -2226
E- mail: ksimpson@cityblm.org

DRAFT MINUTES
BLOOMINGTON HISTORIC PRESERVATION COMMISSION
REGULAR MEETING,
THURSDAY, APRIL 20, 2016 5:00 P.M.
COUNCIL CHAMBERS, CITY HALL
109 EAST OLIVE ST.
BLOOMINGTON, ILLINOIS

MEMBERS PRESENT: Chairperson Graehling, Mr. Williams, Mr. Elterich, Mr. Sturgeon. Graehling, Ms. Bailen, Ms. Cline, Mr. Goldsmith

MEMBERS ABSENT: None

OTHERS PRESENT: Ms. Katie Simpson, City Planner; Tom Dabareiner AICP, Community Development Director

CALL TO ORDER: Chairperson Graehling called the meeting to order at 5:01 P.M.

ROLL CALL: Ms. Simpson called the roll and with seven members present there was a quorum.

PUBLIC COMMENT: No public comment.

MINUTES: The Commission reviewed the minutes of the March 16, 2017 meeting. Ms. Cline corrected a scrivener's error on page 4. Mr. Sturgeon made a motion to approve the minutes as corrected; seconded by Mr. Williams. The motion was **approved** by a vote of 7-0 with the following votes cast in favor on roll call: Mr. Sturgeon—yes; Mr. Williams—yes; Mr. Goldsmith—yes; Ms. Cline—yes, Ms. Bailen—yes; Mr. Elterich—yes; Chairperson Graehling—yes.

REGULAR AGENDA:
BHP-02-17 Consideration, review and approval of a resolution to the Planning Commission to approve the petition submitted by Andrew William Streenz for the recognition of 611 N. Lee St, Henry Behr Home; Queen Anne; c. 1884-85, with historic designation and the rezoning from GAP-3, Iconic House and Manor, to GAP-3 with the S-4 Local Historic Preservation District Zoning Overlay

Chairperson Graehling introduced the case. Ms. Simpson presented the staff report. She stated staff is recommending in favor of the petition to rezone the property. She provided background on the history of the home and original homeowner, Henry Behr. She shared photos of the property. Ms. Simpson explained this property is located on the west side of Bloomington and is zoned GAP-3. She explained the original homeowner, Henry Behr, was a German immigrant that owned a grocery store. She noted Mr. Behr was active in local politics and German heritage organizations. Ms. Simpson pointed out that the home is one of few Queen Anne homes in this neighborhood with distinguishing and original features; the home was restored in the1960s. Ms. Simpson explained meets multiple nominations criteria from Section 44.11-2B and the property complies with the requirements of Chapter 44.11-2D Architectural Design Guidelines.

Ms. Bailen stated that David Beich renovated and restored the home. She stated that once, while visiting the house, she met the granddaughter of Henry Behr. She expressed support for the rezoning and commented on the home's contribution to the neighborhood. Chairperson Graehling commented on the quality of the restoration displayed in the pictures the included with the petition. Ms. Cline states that she believes the homeowners are very dedicated to the restoration of the inside and outside of the home. She stated she is also supportive of the rezoning.

Ms. Simpson explained the Commission would pass a resolution to the Planning Commission and that the Planning Commission would then hold a public hearing on the rezoning.

Ms. Cline motioned to approve a resolution recommending in favor of the rezoning petition; seconded by Ms. Bailen. The motion was **approved** by a vote of 7-0 with the following votes cast in favor on roll call: Ms. Cline—yes; Ms. Bailen—yes; Mr. Goldsmith—yes; Mr. Sturgeon—yes; Mr. Elterich—yes; Mr. Williams—yes; Chairperson Graehling—yes.

OLD BUSINESS:

Consideration, review and approval of a motion to increase the maximum grant award for the Eugene D. Funk Grant from $2,500.00 to $5,000.00, effective May 1, 2017.

Chairperson Graehling introduced the case. Ms. Simpson explained that this item is coming back to the commission as a formality. It needed to be published on the agenda before a formal motion could be adopted.

Ms. Cline motioned to increase the Funk grant award maximum from $2,500.00 to $5,000.00, effective May 1, 2017; seconded by Mr. Williams. The motion was **approved** by a vote of 7-0 with the following votes cast in favor on roll call: Ms. Cline—yes; Mr. Williams—yes; Mr. Goldsmith—yes; Ms. Bailen—yes; Mr. Sturgeon—yes; Mr. Elterich—yes; Chairperson Graehling—yes.

CLG matching grant and CAMP grant award announcements

Ms. Simpson announced the City of Bloomington was awarded $20,000.00 to conduct an inventory of historic commercial and industrial properties located along Bloomington's railways. She stated the City will begin to find a consultant to work on that project. Mr. Dabareiner explained the local contribution of the grant is $8,000.00 and that the Commission will be assigned responsibilities and tasks throughout the inventory process. Ms. Simpson summarized the target areas of the inventory including the Warehouse District, Indianapolis Street, Chestnut Street to Washington Street, and W. Washington Street to Downtown Bloomington. Mr. Williams explained there has been recent interest to redevelop W. Washington Street and the Warehouse District. He stated development is already occurring in the other areas and he enjoys seeing the buildings being reused and recycled.

Ms. Simpson explained that the City of Bloomington and Town of Normal were granted a training grant that will focus on legal aspects of Historic Preservation and Historic Preservation planning. She stated she is working with Normal's Planner to coordinate the workshop and we

are considering August. Ms. Simpson said the training is directed at current and future commissioners.

Resolution of Appreciation for Brad Williams for dedication and service to the City of Bloomington Historic Preservation Commission

Chairperson Graehling announced the Historic Preservation Commission would like to recognize Brad Williams for eleven years of service to the Historic Preservation Commission. Mr. Williams stated that he has enjoyed working with the Commission and has many fond memories of his experience. The board discussed Mr. William's experience and expertise.

NEW BUSINESS:

Mr. Williams raised a point about streetscapes and hardscapes in the National and Local Historic Districts. He is concerned about the restoration of sidewalks, curbs, streets and gutters. He explained he would like the Historic Preservation Commission to be involved in review of these improvements that occur in the S-4 areas. The Commission discussed the character of these Historic Districts and the value of preserving the streetscape. Chairperson Graehling summarized her experience with the preservation of Jefferson Street. Mr. Williams shared his concerns about sidewalk work occurring in the East Grove Street Historic Neighborhood District and curb and gutters. He explained the costs and benefits of concrete, asphalt and brick streetscapes. The Commission announced that City Council would be discussing the asphalt paving on E. Monroe Street, a traditionally brick street, and the Commission discussed what they would like their role to be in the preservation of Historic streetscapes. The Commission noted that their purpose and bylaws mandate the Commission to preserve the historic areas of Bloomington including the carriage walks, streets, curbing, and even. There was discussion on the role of Historic Preservation's relationship to the Comprehensive Plan and the recently passed Complete Streets policy.

Chairperson Graehling introduced Mr. Goldsmith and asked him to introduce himself and explain his background. Mr. Gabe Goldsmith explained he has a vast experience of hardware and old homes. He stated his grandmother worked at the David Davis Mansion for many years and he is an ISU Alumni. He stated he is involved on the Downtown Bloomington Association board and is looking to give back to the community.

Ms. Cline introduced herself and explained that she is a professor at Illinois State University. Ms. Bailen introduced herself and explained she is a Real Estate Broker interested in old homes. Chairperson Graehling introduced herself and summarized her experience with old homes and preservation in Bloomington. Mr. Williams introduced himself and explained his background in carpentry and his interest in working on older homes. Mr. Sturgeon introduced himself and explained he works at State Farm. Mr. Elterich introduced himself and stated he is retired from State Farm and very interested in old homes.

ADJOURNMENT: Ms. Bailen made a motion to adjourn; Mr. Williams seconded the motion, which passed unanimously by voice vote. The meeting was adjourned at 6:19 pm.

Respectfully submitted,

Katie Simpson, City Planner

Prepared: 5-11-17
Agenda item 5A
REPORT

CITY OF BLOOMINGTON
REPORT FOR THE HISTORIC PRESERVATION COMMISSION
May 18, 2017

CASE NO:	TYPE:	ADDRESS	SUBJECT:	REPORT BY:
BHP-03-17	Certificate of Appropriateness	606 E Grove St.	Repair porch columns, replace spindles	Katie Simpson, City Planner
BHP-04-17	Funk Grant- $2725.00	606 E Grove St.	Repair porch columns, replace spindles	

REQUEST:	A Certificate of Appropriateness and Funk Grant $2725.00 for repairing the rotted bases of existing columns and replacing rotten rails and spindles of the front porch at 606 E. Grove Street, Charleston Stevenson House; late Victorian Style, c. 1903, East Grove Historic District (NC).

STAFF RECOMMENDATION:	Approval

Picture of Subject Property

Prepared: 5-11-17
Agenda item 5A
REPORT

GENERAL INFORMATION
Owner and Applicant: Terri Clemens and Chris Eisele

PROPERTY INFORMATION
Existing Zoning: R-2, Mixed Residential with S-4 Historic Overlay
Existing Land Use: residential
Property Size: 60 X 115 (6900 sq ft)
PIN: 21-04-435-009

Historic District: East Grove Street
Year Built: 1903
Architectural Style: late Victorian Style
Architect:

SURROUNDING ZONING AND LAND USES

Zoning
North: R-2 w/ S-4
South: R-2
East: R-2 w/ S-4
West: R-2

Land Uses
North: single, two family homes (historic)
South: single and two family homes
East: single and two family homes (historic)
West: single and two family homes

Analysis:
Submittals
This report is based on the following documents, which are on file with the Community Development Department.

1. Application for Certificate of Appropriateness and Funk Grant
2. Proposed budget
3. Site Photos
4. Site Visit

PROJECT DESCRIPTION:
The Historic Preservation Plan identifies the subject property was built around 1903 in the late Victorian style. When the East Grove Street National Preservation District was established, 606 E. Grove St. was considered a noncontributing structured because many of its historic features were covered by artificial materials. Since acquiring the property in 2000, the petitioners begun restoration of the home.

The petition is applying for Certificate of Appropriateness and Funk Grant to assist with the restoration of the front porch. The scope of work includes repairing the bottoms of five existing front porch columns with cedar wood and repairing/replacing seven sections of porch railing, approximately 45 feet, with cedar railings and treated spindles. In accordance with the Architectural Design Guild lines, the porch, which is visible from the street, will be primed and painted by the petitioner. The petitioner proposes to retain as much of the existing porch as possible.

Analysis

Action by the Historic Preservation Commission: The City of Bloomington Historic Preservation Commission shall make a determination regarding the appropriateness of the proposed work based on the architectural review guidelines and Rehabilitation Standards from the Secretary of the Interior

FINDINGS OF FACT:

For each Certificate of Appropriateness and/or Grant awarded the Historic Preservation Commission shall be guided by the following general standards in addition to any design guidelines in the ordinance designating the landmark or historic district:

1. *Every reasonable effort shall be made to provide a compatible use for a property that requires minimal alteration of the building, structure, or site and its environment, or to use a property for its originally intended purpose;* the standard is met.

2. *The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural feature should be avoided when possible;* the petitioner proposes to repair and restore the original columns and replace only the portions of the porch railing that are beyond repair. The standard is met.

3. *All buildings, structures, and sites shall be recognized as products of their own times. Alterations that have no historical basis and that seek to create an earlier appearance shall be discouraged;* the standard is met.

4. *Changes that may have taken place in the course of time are evidence of the history and development of a building, structure or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected;* the standard is met.

5. *Distinctive stylistic features or examples of skilled craftsmanship that characterize a building, structure, or site shall be treated with sensitivity;* the petitioner proposes to repair the porch columns with cedar and the proposed spindles match the original spindles in size, style and shape. The standard is met.

6. *Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplication of features, substantiated by historic, physical or pictorial evidence, rather than on conjectural designs or the availability of different architectural elements from other buildings or structures;* the standard is met.

7. *The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken;* the petitioner should use caution removing any existing paint

from the columns. No harsh chemicals that might damage the wooden columns should be used. The standard is met.

8. *Every reasonable effort shall be made to protect and preserve archeological resources affected by, or adjacent to, any project;* the standard is met.

9. *Contemporary design for alteration and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural, or cultural material, and such design is compatible with the size, scale, color, material and character of the property, neighborhood, or environment. (Ordinance No. 2006-137, Section 44.11-5D)* the standard is met.

STAFF RECOMMENDATION:
The porch is in need of repair and restoration and staff finds the petition meets the Secretary of the Interior's Standards for Rehabilitation. Staff recommends approval of the **Certificate of Appropriateness** and **Funk Grant for $2725.00** for repairing the rotted bases of existing columns and replacing rotten rails and spindles of the front porch at 606 E. Grove Street, Charleston Stevenson House; late Victorian Style, c. 1903, East Grove Historic District (NC).

Respectfully Submitted,

Katie Simpson
City Planner

Attachments:
- Certificate of Appropriateness Application
- Funk Application
- Itemized Budget
- Photo of home

BHP-03-17
may

CITY OF BLOOMINGTON

Certificate of Appropriateness Application

Historic Preservation Commission

Property Address: 606 E. Grove

Historic District: **Franklin Square** ____ **East Grove Street** X **North Roosevelt** ____
Davis-Jefferson ____ **White Place** ____ **Downtown** ____ **N/A** ____

Year Built 1902 **Architectural Style:** Cross gable late Victorian

Proposed Restoration Work: repair posts + replace spindles + rails - front porch
Detailed description required on following page

Applicant Name: Terri Clemens + Chris Eisele

Address: 606 E Grove

Phone: 825-7540 **Fax:** _____ **Email:** ddstuff33@hotmail.com

- attach photo of property front elevation here

APR 11 2017

Revised 07/22/2011

Detailed Description of Proposed Restoration Work:
Please provide supporting documents: (Photos, drawings, specifications and sample materials info should be attached to form)

front porch

repair rotted bases of existing columns

replace rotted rails + spindles w/ cedar

Project Start Date: July **Project Completion Date:** Aug.

- I have read and am familiar with The Secretary of the Interior's Standards for Rehabilitation info that is available at **www.cr.nps.gov/hps/tps/tax/rehabstandards.htm** from the office listed below.
- I have read and am familiar with the relevant portion of the Commission's Architectural Review Guidelines.

✓ (Check here)

Applicant Signature Jenn Clemons **Date** 4/11/17

Return to: **Katie Simpson, City Planner, City of Bloomington**
Government Center
115 E. Washington St. Suite 201
Bloomington, IL 61701
Phone: (309) 434-2341

Mail Address: **Planning and Code Enforcement**
P.O. Box 3157
Bloomington, IL 61702-3157

Certificate of Appropriateness Number _____

BHP-04-17

CITY OF BLOOMINGTON

Eugene D. Funk Jr.
Grant Application

Historic Preservation Commission

Case No: _____

Property Address: 606 E Grove

Historic District: **Franklin Square** ____ **East Grove Street** X

North Roosevelt ___ **Davis-Jefferson** ___

White Place ___ **Downtown** ___ **N/A** ___

Year Built 1902 **Architectural Style:** _____

Grant Amount Requested: _____

Proposed Restoration Work: repair porch posts, replace spindles + rails
Detailed description required on following page

Applicant Name: Terri Clemens + Chris Eisele

Address: 606 E. Grove

Phone: 825-7540 **Fax:** _____ **Email:** oldstuff33@hotmail.com

- attach photo of property front elevation here

Certificate of Appropriateness Number _____

Detailed Description of Proposed Restoration Work:
Please provide supporting documents:

repair bottoms of 5 columns - front porch
replace spindles + rails w/ cedar

previous spindles + rails rotted

Project Start Date: 7/17 **Project Completion Date:** 9/17

Applicant Signature* Jennifer Clemons **Date** 4/11/17

Return to: **Katie Simpson, City Planner, City of Bloomington**
Government Center
115 E. Washington St. Suite 201
Bloomington, IL 61701
Phone: (309) 434-2341
Email: ksimpson@cityblm.org

PROPOSAL

BRAD WILLIAMS CONSTRUCTION

Carpentry & Woodworking
613 East Grove Street
Bloomington, IL 61701
Home ph: 309-828-1506
Cell: 309-830-1706

Terri Clemens and Chris Eisle 606 E. Grove St. Bloomington, IL 61701	Front porch column and rail repairs
Phone:	Date: 9-22-16

Repair bottoms of existing 5 columns, material and labor.....$1,600.00

(repairs to be cedar wood)

Repair/replace 7 sections of porch railing, approx. 45 ft. w/cedar railings and treated spindles, material and labor.....$3,850.00

Homeowner to do all priming and painting.

Estimate for materials and labor: ***$5,450.00***

This proposal is valid for 365 days.

Authorized signature:_____

Acceptance of Proposal:

Signature_____ **Date:**_____

Signature_____ **Date:**_____

MENARDS®

Dedicated to Service & Quality™

Mr. Spindle Victorian 2-1/4" x 2-1/4" x 27-3/4" Cedar Spindle

Product Specifications:

Dimensions: 2-1/4" x 2-1/4" x 27-3/4"

$15.99

Model Number: VCS328
Menard SKU: 1004650
Product Type: Spindle
Color / Finish: Cedar
Overall Width: 2.25 inch
Overall Depth: 1.375 inch
Overall Height: 27.75 inch
Overall Length: 27.75 inch
Decorative Panel Design: Victorian
Resistance Features: Rot And Decay
Installed Height: 27.75
Includes: Spindle Only
For Use With: 2x4 Configured, 4x4 Handrail, 4x4 Newel, 4x4 Porch post
Material: Cedar
Package Quantity: 1

Online Availability

X Ship to Home
Not eligible for Ship to Home

Ship to Store - Free!
Estimated arrival date 10/09/2016

Store Availability
Visit a Store to Special Order

Product Description

Give your porch a touch of elegance with the Victorian 2-1/4" x 2-1/4" x 27-3/4" Cedar Spindle. This clear, laminated spindle has an 18" turn centered lengthwise.

Brand Name: Mr. Spindle

Menards®
5106 Menard Drive
Eau Claire, WI, 54703, USA
customerservice@menardsoc.com

this is the original porch

c. 1950

this is what we bought 2000

last year Brad Williams replaced our porch floor and removed the rotten spindles + rails

Prepared: 5-11-17
Agenda item C
REPORT

CITY OF BLOOMINGTON
REPORT FOR THE HISTORIC PRESERVATION COMMISSION
May 18, 2017

CASE NO:	TYPE:	ADDRESS	SUBJECT:	REPORT BY:
BHP-05-17	Certificate of Appropriateness	905 N. McLean Street	Roof and tuckpointing	Katie Simpson, City Planner

REQUEST:	A Certificate of Appropriateness for replacing the roof and tuckpointing the chimney at 905 N. McLean Street, Frank Baker House, Queen Anne Style with Georgian Revival Influence; c. 1894, Franklin Square Historic District

STAFF RECOMMENDATION:	Approval

Picture of Subject Property

Prepared: 5-11-17
Agenda item C
REPORT

GENERAL INFORMATION
Owner and Applicant: Anthony and Judy Matens

PROPERTY INFORMATION
Existing Zoning: R-2, Mixed Residential with S-4 Historic Overlay
Existing Land Use: residential
Property Size: 65 X 165 (10, 725sqft)
PIN: 21-04-207-004

Historic District: Franklin Square Historic District
Year Built: 1894
Architectural Style: Queen Anne with Georgian Influence
Architect:

SURROUNDING ZONING AND LAND USES

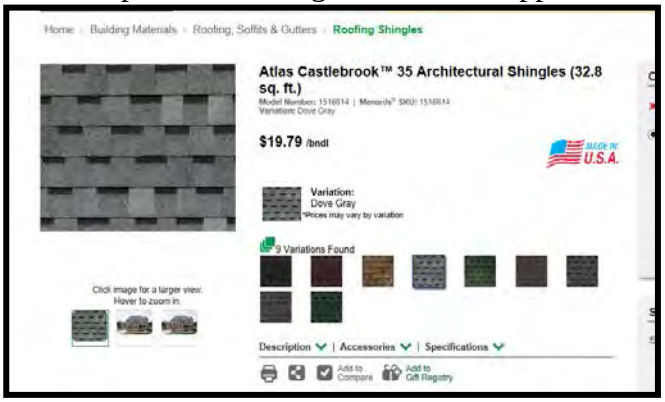
Zoning
North: R-2 w/ S-4 Overlay
South: R-2 w/ S-4 Overlay
East: R-2, Mixed Residential
West: S-2 w/ S-4 Overlay

Land Uses
North: Single family (historic)
South: Multifamily (historic)
East: Single/two family homes
West: Franklin Park

Analysis:
Submittals
This report is based on the following documents, which are on file with the Community Development Department.

1. Application for Certificate of Appropriateness
2. Proposed budget
3. Site Photos
4. Site Visit

PROJECT DESCRIPTION:
The subject property was built in 1894 in the Queen Anne Style with Georgian Influences. The property currently has a slate roof which is in disrepair. The petitioners explain that they have repaired the original roof many times over the past 37 years but much of the roof is sliding off resulting in leakage and water damage. The petitioner is proposing to replace the existing slate roof with an asphalt roof that gives a similar appearance as the slate roof. The slate roof on the turret will remain.



The proposed scope of work includes:

- Removing the existing slate roof shingles

- Repairing and replacing ice and water shield on all pitches of roofs and dormers
- Replace slate shingles with 32 squares of Castlebrook 35-year architectural shingles in the "Dove Gray" color (pictured above, picture taken from Menards website)

The City of Bloomington Architectural Review Guidelines identify asphalt shingles of a smiliar size, shape and appearance as appropriate replacement materials for a slate roof (pg 11). Additionally the petitioner proposes to tuck-point the chimney.

Analysis

Action by the Historic Preservation Commission: The City of Bloomington Historic Preservation Commission shall make a determination regarding the appropriateness of the proposed work based on the architectural review guidelines and Rehabilitation Standards from the Secretary of the Interior

FINDINGS OF FACT:
For each Certificate of Appropriateness and/or Grant awarded the Historic Preservation Commission shall be guided by the following general standards in addition to any design guidelines in the ordinance designating the landmark or historic district:

1. *Every reasonable effort shall be made to provide a compatible use for a property that requires minimal alteration of the building, structure, or site and its environment, or to use a property for its originally intended purpose;* it has become infeasible for the petitioner to repair the slate roof and is proposing an alternative material that will create a similar appearance and protect the roof from water damage. The original roof will be retained on the turret. The standard is met.

2. *The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural feature should be avoided when possible;* although the original roof will be removed, the slate roof on the turret will remain and the proposed roof will give a similar appearance to the slate roof. The standard is met.

3. *All buildings, structures, and sites shall be recognized as products of their own times. Alterations that have no historical basis and that seek to create an earlier appearance shall be discouraged;* the standard is met.

4. *Changes that may have taken place in the course of time are evidence of the history and development of a building, structure or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected;* the standard is met.

5. *Distinctive stylistic features or examples of skilled craftsmanship that characterize a building, structure, or site shall be treated with sensitivity;* care should be taken to protect existing important architectural features. A cement-lime mortar appropriate to the existing mortar should be used. The standard is met.

6. *Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplication of features, substantiated by historic, physical or pictorial evidence, rather than on conjectural designs or the availability of different architectural elements from other buildings or structures;*

7. *The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken;* care should be taken to remove the existing shingles. All tuck-pointing should use a cement-lime mortar mix appropriate and for the chimney's masonry materials.

8. *Every reasonable effort shall be made to protect and preserve archeological resources affected by, or adjacent to, any project;* the standard is met.

9. *Contemporary design for alteration and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural, or cultural material, and such design is compatible with the size, scale, color, material and character of the property, neighborhood, or environment. (Ordinance No. 2006-137, Section 44.11-5D)* The proposed asphalt shingles should be comparable in size, color and shape and create an appearance similar to slate shingles. The standard is met.

STAFF RECOMMENDATION: Staff recommends **approval** of the petition for a Certificate of Appropriateness for replacing the roof and tuckpointing the chimney at 905 N. McLean Street, Frank Baker House, Queen Anne Style with Georgian Revival Influence; c. 1894, Franklin Square Historic District

Respectfully Submitted,

Katie Simpson
City Planner

Attachments:
- Certificate of Appropriateness Application
- Photos of home

CITY OF BLOOMINGTON

Certificate of Appropriateness Application

Historic Preservation Commission

Property Address: 905 N. McLean Street, Bloomington Illinois

Historic District: **Franklin Square _XX__ East Grove Street _____ North Roosevelt _____**
Davis-Jefferson _____ White Place _____ Downtown _____ N/A _____

Year Built: circa 1894 **Architectural Style: _Queen Anne**

Proposed Restoration Work: _Replacement of roof materials
Detailed description required on following page

Applicant Name: _Anthony and Judy Matens_____

Address: _905 N. McLean Street, Bloomington, Illinois_____

Phone: _(309) 838-5733___ Fax: _(309) 827-4656___Email: _amatens@aol.com____

- attach photo of property front elevation here

Detailed Description of Proposed Restoration Work:

Please provide supporting documents: (Photos, drawings, specifications and sample materials info should be attached to form)

This proposal will be for the purpose of replacing the original slate roof on this residence. There will be no structural or design changes made to the house. The current slate roof has been repaired multiple times over the 37 years the current owners have lived in the house. The slate has deteriorated and some is sliding off the road. This has resulted in leakage into portions of the attic. The proposed replacement roof materials would be architectural asphalt shingles with a close match in design and color to the original slate roof. The turret of this Queen Anne designed home will remain a slate roof and the new shingles will complement the slate on the turret. 32 squares of Castlebrook 35-year architectural shingles in the color "Dove Gray", along with the proper rain and ice shield are proposed which would cover all pitch areas of the roof, to include the roofs on the dormers. The single chimney at this residence will be tucked-pointed with new mortar.

Project Start Date: _as soon as possible Project Completion Date: within two weeks of the start date

- I have read and am familiar with The Secretary of the Interior's Standards for Rehabilitation info that is available at www.cr.nps.gov/hps/tps/tax/rehabstandards.htm from the office listed below.
- I have read and am familiar with the relevant portion of the Commission's Architectural Review Guidelines.

_✓_ (Check here)

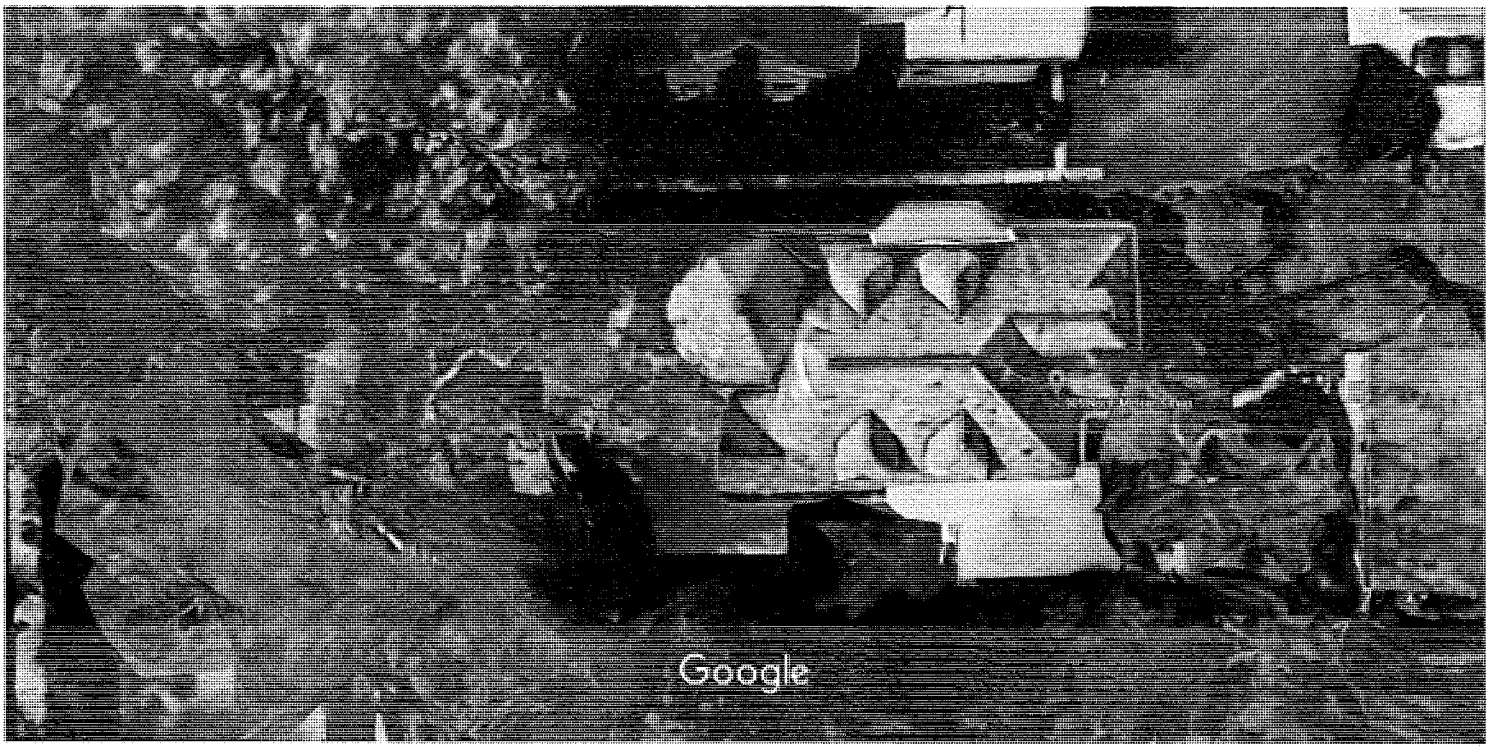
Applicant Signature _____ **Date** 04/26/2017

Return to: **Katie Simpson, City Planner, City of Bloomington**
Government Center
115 E. Washington St. Suite 201
Bloomington, IL 61701
Phone: (309) 434-2341

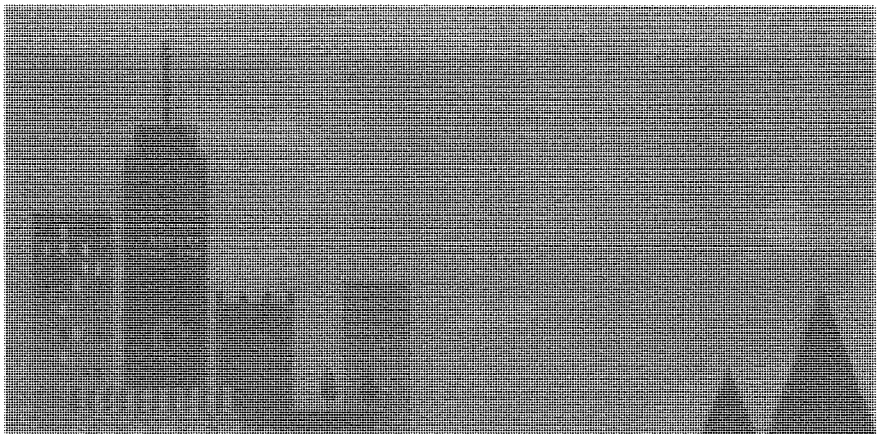
Mail Address: **Planning and Code Enforcement**
P.O. Box 3157
Bloomington, IL 61702-3157

Certificate of Appropriateness Number _____

Google Maps 905 N Mclean St



Imagery ©2017 Google, Map data ©2017 Google 10 ft



Home

905 N Mclean St
Bloomington, IL 61701

Prepared: 5-12-17
Agenda item C,D
REPORT

CITY OF BLOOMINGTON
REPORT FOR THE HISTORIC PRESERVATION COMMISSION
May 18, 2017

CASE NO:	TYPE:	ADDRESS	SUBJECT:	REPORT BY:
BHP-06-17	Certificate of Appropriateness	1011 E Jefferson Street	Roof and Gutters	Katie Simpson, City Planner
BHP-07-17	Funk Grant $5,000	1011 E Jefferson Street	Roof and Gutters	

REQUEST:	A Certificate of Appropriateness for removing and replacing the roof and replacing existing gutters at the Charles E. Perry House, Davis-Jefferson Historic District, located at 1011 E Jefferson Street, c. 1880's, front-gable type

STAFF RECOMMENDATION:	COA: Approval FUNK: Approval with conditions

Picture of Subject Property

Prepared: 5-12-17
Agenda item C,D
REPORT

GENERAL INFORMATION
Owner and Applicant: John Wyssman

PROPERTY INFORMATION
Existing Zoning: R-1C, Single family Residential with S-4 Historic Overlay
Existing Land Use: residential
Property Size: 91 X 140 (12,740 sq ft)
PIN: 21-03-304-010
Historic District: Davis-Jefferson Historic District
Year Built: c. 1880s
Architectural Style: Front-gable type
Architect:

SURROUNDING ZONING AND LAND USES

Zoning	*Land Uses*
North: R-1C, Single family residential	North: single family homes
South: R-1C, Single family residential	South: single and two family homes
East: R-1C w/ S-4	East: single family (historic)
West: R-1C w/ S-4	West: single family (historic)

Analysis:
Submittals
This report is based on the following documents, which are on file with the Community Development Department.

1. Application for Certificate of Appropriateness
2. Funk Grant application
3. Proposed budget
4. Site Photos

PROJECT DESCRIPTION:
The Davis-Jefferson neighborhood was constructed between 1870 and 1913. The City of Bloomington Historic Preservation Plan states that the architecture reflects the prevailing styles of the time and the relative status of the families who resided there. The homes are large and moderately ornate, many identified with large rooms and functional design.

1011 E. Jefferson is a two-story, balloon frame structure. The property was built c. 1880 in the front-gable Victorian style home with a prominent front gable facing the street. Charles E. Perry, the original owner, was Bloomington's City Bill Poster and manager of the New Grant Opera House in Bloomington.

The petitioner proposes to tear off the entire roof on the house and garage, and install ice and water barriers on all edges and valleys. New synthetic paper will be applied. Additionally the petitioner proposes to replace the existing gutters 6" gutters and wider downspouts. The proposed work is to be completed by Schaefer Roofing, Inc.1110 Beechwood Ave and includes:

- Tearing off entire roof on house; upper, lower and

garage
- Installing new ice and water barriers on edges and valleys
- Apply new Synthetic Paper
- Install new dimensional shingle to resemble wood shingles
    - Brand: Cambridge Architectural-IKO; color-dual black
- Install new ridge vent
- Install Lo-slope material on lower roofs
- Install 6" seamless gutters with oversized downspouts

The Funk Grant guidelines allow funds to be awarded to roof and gutter projects if the project is a repair or replacement using modern materials which mimic historic materials in appearance, and increase the durability and useful life. The petitioner is proposing to install asphalt shingles to give the appearance of wooden shingles. The Architectural Review Guidelines identify asphalt shingles of similar size, shape and color as appropriate replacement materials for wood shingle roofs. The work for the home is estimated to be $15,200.00.

Analysis

Action by the Historic Preservation Commission: The City of Bloomington Historic Preservation Commission shall make a determination regarding the appropriateness of the proposed work based on the architectural review guidelines and Rehabilitation Standards from the Secretary of the Interior

FINDINGS OF FACT:
For each Certificate of Appropriateness and/or Grant awarded the Historic Preservation Commission shall be guided by the following general standards in addition to any design guidelines in the ordinance designating the landmark or historic district:

1. *Every reasonable effort shall be made to provide a compatible use for a property that requires minimal alteration of the building, structure, or site and its environment, or to use a property for its originally intended purpose;* the proposed shingles should resemble wood shingles in shape, color, and size. Gutters should also be appropriate in size and shape if possible. Staff has not seen any of the proposed materials for the gutters.

2. *The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural feature should be avoided when possible;* care should be taken to ensure contributing architectural features and trim are not damaged, removed or obscured. It is unclear when the diamond roof was added, if the preservation commission determines the diamond shingles to be a distinguishing feature and part of the property's history than other diamond shingles should be proposed.

3. *All buildings, structures, and sites shall be recognized as products of their own times. Alterations that have no historical basis and that seek to create an earlier appearance shall be discouraged;*

4. *Changes that may have taken place in the course of time are evidence of the history and development of a building, structure or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected;* the standard is met.

5. *Distinctive stylistic features or examples of skilled craftsmanship that characterize a building, structure, or site shall be treated with sensitivity;* care should be taken to protect existing important architectural features and trims, new roofing materials should be the same as existing historic valleys or the original historic valleys.

6. *Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplication of features, substantiated by historic, physical or pictorial evidence, rather than on conjectural designs or the availability of different architectural elements from other buildings or structures;* gutters and roof, if must be replaced, should match the original in size, shape and materials or at least give the same appearance.

7. *The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken;* care should be taken to remove the existing shingles and to preserve historic valleys

8. *Every reasonable effort shall be made to protect and preserve archeological resources affected by, or adjacent to, any project;* the standard is met.

9. *Contemporary design for alteration and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural, or cultural material, and such design is compatible with the size, scale, color, material and character of the property, neighborhood, or environment. (Ordinance No. 2006-137, Section 44.11-5D)* The proposed shingles should be comparable to wood shingles in size, color and shape. The gutters should look as authentic as possible. The standard is met.

STAFF RECOMMENDATION: Staff recommends **approval** of the following petitions:

- Certificate of appropriateness for new roof and gutters at 1011 E. Jefferson St
- Funk Grant for $5,000 to replace roof with asphalt shingles that resemble original material, with the condition that the Commission approves the proposed shingle and finds it to resemble original materials appropriately

Respectfully Submitted,

Katie Simpson
City Planner

Prepared: 5-12-17
Agenda item C,D
REPORT

Attachments:

- Certificate of Appropriateness Application
- Funk Grant Application
- Itemized Budget
- Photos of home

CITY OF Bloomington ILLINOIS

Certificate of Appropriateness Application

Historic Preservation Commission

Property Address: 1011 E Jefferson St.

Historic District: **Franklin Square** ____ **East Grove Street** ____ **North Roosevelt** ____ **Davis-Jefferson** X **White Place** ____ **Downtown** ____ **N/A** ____

Year Built 1885-86 **Architectural Style:** ____

Proposed Restoration Work: Replace all roofs on house and garage with architectual shingles / replace all gutters
Detailed description required on following page

Applicant Name: John Wyssman

Address: 1011 E Jefferson St. Bloomington IL 61701

Phone: 309-829-9164 **Fax:** — **Email:** jwyssman@comcast.net

- attach photo of property front elevation here

Detailed Description of Proposed Restoration Work:
Please provide supporting documents: (Photos, drawings, specifications and sample materials info should be attached to form)

Tear off all roofs on house and garage. Install ice and water barrier on all edges and valleys. Apply synthetic paper.

Install new architectual dimensional shingle to increase useful life with material similar to an original wooden shingle.

Install new 6 inch gutters with oversize downspouts to increase life of roof.

est. JUNE/JULY 2017 **Project Start Date:** _____ **Project Completion Date:** about 1 week from start

- I have read and am familiar with The Secretary of the Interior's Standards for Rehabilitation info that is available at **http://www.nps.gov/tps/standards/rehabilitation.htm** from the office listed below.
- I have read and am familiar with the relevant portion of the Commission's Architectural Review Guidelines.

X (Check here)

Applicant Signature John Wyssman **Date** 5-1-17

Return to: **Katie Simpson, City Planner, City of Bloomington**
Government Center
115 E. Washington St. Suite 201
Bloomington, IL 61701
Phone: (309) 434-2341

Mail Address: **Planning and Code Enforcement**
P.O. Box 3157
Bloomington, IL 61702-3157

Certificate of Appropriateness Number _____

Schaefer Roofing
1110 Beechwood Ave
Bloomington, IL 61701
(309)319-1314
dsconst69@gmail.com

ESTIMATE

ADDRESS
John Wyssman
1011 E Jefferson
Bloomington, Il 61701

ESTIMATE # 1068
DATE 04/19/2017

ACTIVITY	QTY	RATE	AMOUNT
Roof Installation Tear off all roofs on entire house; upper, lower and garage. Install ice and water barrier on all edges and valleys. Apply new synthetic paper. Install new dimensional shingle. Brand; Cambridge Architectual - IKO Color; Dusk Black Install new ridge vent. Install Lo-Slope material on lower roofs. All labor, material and disposal included. Down payment of $1,000.00, due upon signing of contract. PAID CHECK #9751 $8,000.00, due when roof is torn off and papered and ready for shingles. $8,000.00 due upon completion. ***Price includes 6 inch gutters with oversized downspouts.	1	17,00 0.00	17,000.00

309.829.9164

TOTAL **$17,000.00**

Accepted By

John W Wyssman

Accepted Date

4-21-17

4-21-17

Schaefer Roofing & David Stanley Construction
1110 Beechwood Ave
Bloomington, IL 61701
(309)319-1314
dsconst69@gmail.com

ESTIMATE

ADDRESS
John Wyssman
1011 E Jefferson
Bloomington, Il 61701

ESTIMATE # 1068
DATE 04/19/2017

ACTIVITY	QTY	RATE	AMOUNT
Roof Installation Tear off all roofs on entire house; upper and lower. Install ice and water barrier on all edges and valleys. Apply new synthetic paper. Install new dimensional shingle. Brand; Color; Install new ridge vent. Install Lo-Slope material on lower roofs.	1	15,200.00	15,200.00
Roof Installation Tear off roof on entire garage. Install ice & water barrier on all edges. Apply new synthetic paper. Install new dimensional shingle. Brand; Color; Install new ridge vent.	1	1,800.00	1,800.00

All labor, material and disposal included.

Down payment of $1,000.00, due upon signing of contract.
$8,000.00, due when roof is torn off and papered and ready for shingles.
$8,000.00 due upon completion.

***Price includes 6 inch gutters with oversized downspouts.

309.829.9164

TOTAL **$17,000.00**

Accepted By

Accepted Date

CITY OF BLOOMINGTON

EUGENE D. FUNK JR. GRANT APPLICATION

City of Bloomington Historic Preservation Commission

The program provides funding for up to 50% of the total cost of eligible exterior projects, with a maximum grant amount of $5,000 per project.

ELIGIBILITY

If your project does not meet all of the factors listed below, it is ineligible for Funk Grant funding:

☒ Property is zoned S-4, Local Historic Preservation District

☒ The project is an **exterior** preservation, restoration or rehabilitation project to:

- The original structure, or;
- Historically significant features of the property such as original fencing, or;
- Architecturally compatible additions to the original structure, or;
- A historically significant or architecturally compatible auxiliary building to the primary structure such as a carriage house

☒ A Certificate of Appropriateness application has also been submitted for this project

☒ Work on this project has not been started nor been completed

☒ The project complies with the City of Bloomington Architectural Review Guidelines

Funding assistance is not available to exterior projects on:

- Significant additions to the original structure which are not architecturally compatible with the original structure.
- Non-historically significant auxiliary buildings.
- Non-historically significant features of the property such as fences, driveways and sidewalks.
- Landscaping

APPLICATION

Property Address: 1011 E Jefferson St.
Bloomington IL 61701

Detailed Description of Proposed Restoration Work:

Please provide supporting documents:

Tear off all roofs on house. Tear off roof on detached garage. Install ice and water barriers on all edges and valleys. Apply new synthetic paper.

Install new architectual dimensional shingle which is similar to an original wooden shingle to increase to useful life of the house.

Also, replace all gutters with 6 inch gutters and oversized downspouts.

Project Start Date: ~~est.~~ JUNE/JULY 2017 **Expected Project Completion Date:** about 1 week after start.

Please attach the following information to the application.

- ☐ **Detailed budget of project**
- ☐ **Copy of Certificate of Appropriateness or Application for a Certificate of Appropriateness**
- ☐ **Historic photos supporting the application (if available)**

Applicant Name: John Wyssman

Applicant Address: 1011 E Jefferson St.
Bloomington IL 61701

Historic District (if applicable):

- [x] **Davis-Jefferson Historic District**
- [ ] **Downtown Bloomington Historic District**
- [ ] **East Grove Historic District**
- [ ] **Franklin Square Historic District**
- [ ] **North Roosevelt Ave Historic District**
- [ ] **White Place Historic District**

Year Built 1885-86 **Architectural Style:**

Cost of Proposed Work: $15200 - House $1800 - garage

Grant Amount Requested: $5,000

- attach photo of property front elevation here

[x] I have applied or am applying for a Certificate of Appropriateness

Proposed Restoration Work:

Replace all roofs on house and garage with architectual dimensional shingles / replace all gutters with 6" type.

Phone: 309 829-9164

Email: jwyssman@comcast.net

Applicant Signature* Date

John Wyssman 5-1-17

RETURN TO:

City Planner
City of Bloomington Community Development Department
115 E. Washington St. Suite 201
Bloomington, IL 61701
Phone: (309) 434-2341
Email: ksimpson@cityblm.org

Submission Deadline	Hearing Date
12/27/2016	1/19/2017
1/24/2017	2/16/2017
2/21/2017	3/16/2017
3/28/2017	4/20/2017
4/25/2017	5/18/2017
5/23/2017	6/15/2017
6/27/2017	7/20/2017
7/25/2017	8/17/2017
8/29/2017	9/21/2017
9/26/2017	10/19/2017
10/24/2017	11/16/2017
11/28/2017	12/21/2017
1/02/2018	1/18/2018

CITY OF BLOOMINGTON
REPORT FOR THE HISTORIC PRESERVATION COMMITTEE
May 18, 2017

TYPE:	ADDRESS:	SUBJECT:
Commission Recommendation	Brick Streets	Creating a Brick Streets Master Plan to preserve historic brick streets

STAFF RECOMMEDATION:	Discuss how the Commission would like to proceed with creating a Brick Streets Master Plan. Authorize Public Works to create the Brick Streets Master Plan, in conjunction with the Commission and the public, in order to come up with a long-term plan to preserve the 3.5 miles of brick streets left in the City of Bloomington.

BACKGROUND:
The Bloomington Historic Preservation Committee held public hearings on the City of Bloomington Brick Street Strategic Plan during their regular meetings at 5:00 PM on August 20, 2009 and September 17, 2009 in the City Hall Council Chambers. The Brick Street Strategic Plan was originally slated to be brought to the City Council for approval sometime in December 2009. However, the plan was never brought to the Council.

The Brick Streets Strategic Plan was created for the purpose of having a plan to preserve the integrity of Bloomington's brick streets. In 1926, Bloomington had around 46 miles of brick streets. As of 2009, Bloomington had around 3.5 miles (1 percent) of brick streets out of its 320 total miles of streets. Brick streets are a diminishing asset to the community and provide a sense of nostalgia in a residential neighborhood. The longevity of Bloomington's remaining brick streets attest to their durability and economic value. Though costly to install and patch properly, these streets last for generations and add significant beauty and history to the area. The Brick Streets Strategic Plan was provided to create a policy and procedure on preserving Bloomington's brick streets by placing them into the categories of restoring, repairing or reconstructing.

However, a formal brick streets policy has not been adopted by the Council. Based on Council action regarding Monroe St from Clinton St to Robinson St, Staff is now seeking direction on how the Commission wants to proceed with creating a 2017 Brick Streets Master Plan to replace the 2009 Brick Streets Strategic Plan and to be brought to the council in Fall 2017.

Proposed Methodology:
The 2017 Brick Streets Master Plan would take a slightly different approach to the 2009 Brick Streets Strategic Plan. The purpose of the master plan is to identify and evaluate Bloomington's brick streets using measures such as percent of patches, crown condition, drainage problems, bas condition, and ride quality. Using these measures, each street will be given a priority rating. Based on these priorities, and availability of funding, Public Works will either repair, restore, or reconstruct each street. Public Works is seeking direction from the Historic Preservation Commission as to whether the brick streets should be historic or new brick.

The goals of the master plan include developing a long-term plan and schedule to repair and maintain brick streets in the City, increasing collaboration between Public Works and the Historic Preservation Commission, creating a mechanism for the City to obtain and store historic bricks (if necessary), receiving public input on brick streets, and increasing transparency on brick street policies.

Proposed Timeline:

- May to August 2017: Public meetings and brick street analysis
- August 2017: Historic Preservation Commission consideration
- September 2017: Planning Commission consideration
- October 2017: Council consideration
- April 2018: Council approves brick street spending as part of FY 19 Budget
- Spring/Summer 2018: First brick street restored under new Master Plan

STAFF RECOMMENDATION:
Authorize Public Works to create the Brick Streets Master Plan, in conjunction with the Commission and the public, in order to come up with a long-term plan to preserve the 3.5 miles of brick streets left in the City of Bloomington.

Respectfully Submitted,

Michael Hill
Public Works Administration

Attachments:

- Creating a Brick Streets Master Plan in Bloomington Presentation
- 2009 Brick Streets Strategic Plan
- Brick Streets In Illinois Article

Creating a Brick Streets Master Plan in Bloomington

Jim Karch, PE CFM
Director of Public Works

May 18, 2017

Historic Preservation Commission

History of Brick Street Planning in the City

- August to September 2009: Historic Preservation Commission public hearings on Brick Streets Strategic Plan
- September 2009: Brick Streets Strategic Plan completed, but never adopted
- April 2017: City Council directs Staff to develop new Master Plan
- May 2017: Historic Preservation Commission presentation

Purpose / Goals of Master Plan

- Purpose:
  - Identify and evaluate Bloomington's brick streets
- Goals:
  - Develop a long-term plan and schedule to repair and maintain brick streets
  - Increase collaboration between Public Works and the Historic Preservation Commission
  - Create a mechanism for the City to obtain and store historic bricks (if necessary)
  - Receive public input on brick streets
  - Increase transparency on brick street policies

History of Brick Streets in Bloomington

- Brick paving began in Bloomington in the late 1877
  - One of the pioneers of brick began in Bloomington
  - Early problems with brick
  - Different methods and brick types have been used over the years
- 1926: 46 miles of brick streets
- 2009: 3.5 miles of brick streets

Proposed Methodology

- Update analyses of brick streets in 2009 Brick Streets Strategic Plan
- Criteria used for analysis:
  - Percent of patches
  - Crown condition
  - Drainage problems
  - Base condition
  - Ride quality

Proposed Methodology

- Each street will be given a priority rating
- Based on those priorities, and availability of funding, Public Works will either repair, restore, or reconstruct each street so that it is historical and like new

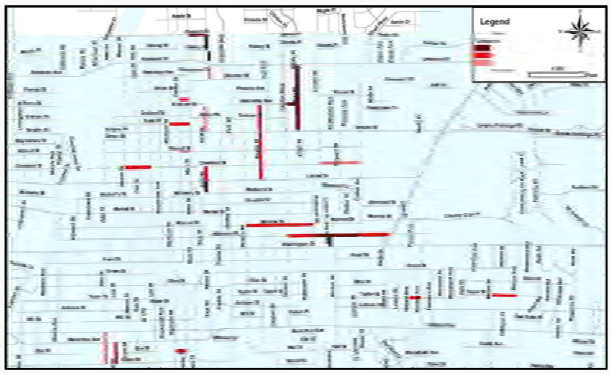
Proposed Timeline

- May to August 2017: Public meetings and brick street analysis
- August 2017: Historic Preservation Commission consideration
- September 2017: Planning Commission consideration
- October 2017: Council consideration
- April 2018: Council approves brick street spending as part of FY 19 Budget
- Spring/Summer 2018: First brick street restored under new Master Plan

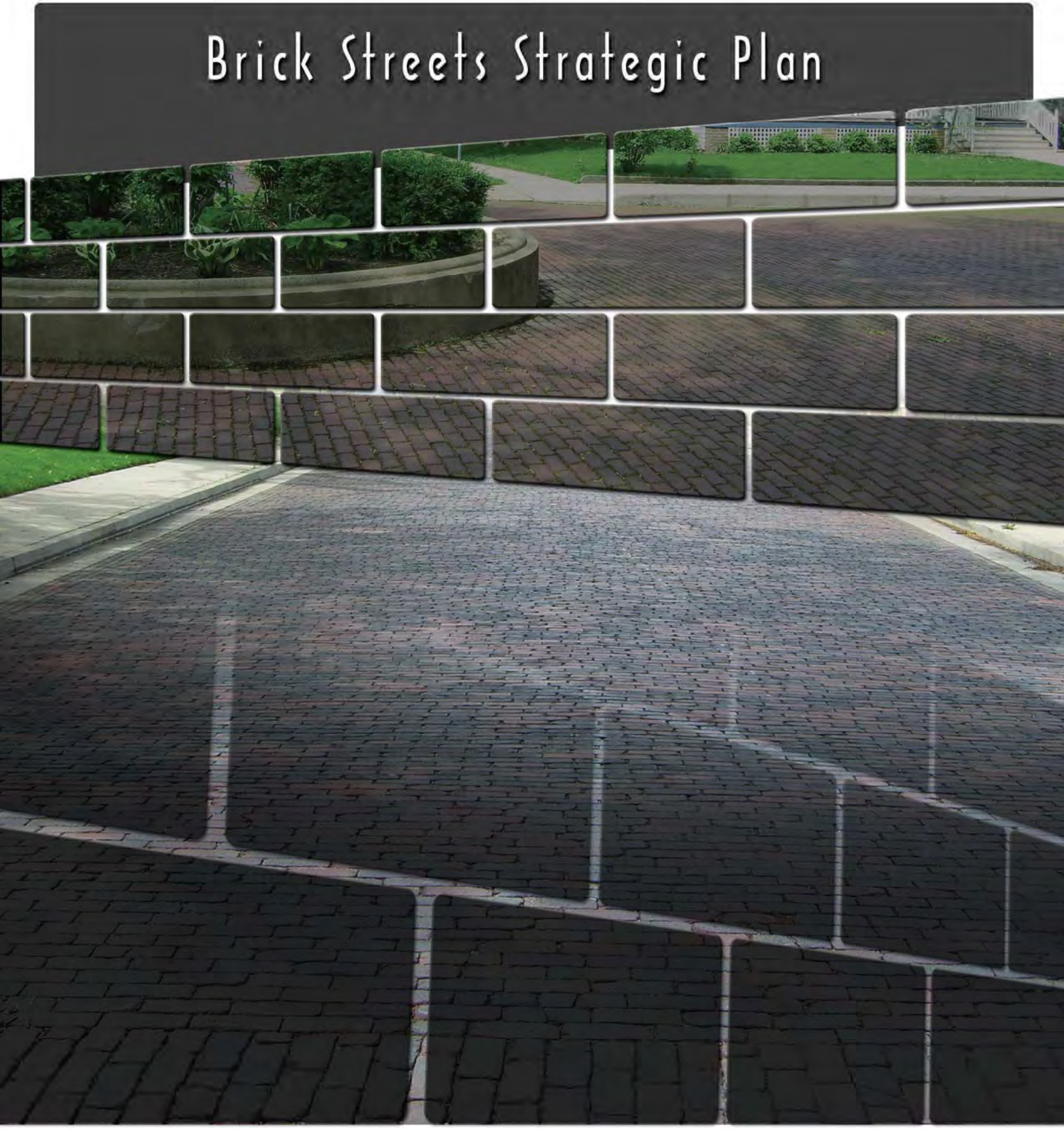
2009 Brick Street Prioritization Categories

- Category 1 (Restore)
  - These brick streets should be repaired, restored and reconstructed to their original appearance as funds are available.
- Category 2 (Repair)
  - These brick streets are important enough to merit preservation but not so important as to merit restoration. If any existing brick areas are disturbed, they shall be restored but existing patches will not be restored.
- Category 3 (Reconstruct)
  - Resurfacing and patching with materials other than brick are allowed on these streets. The Public Works Department can repair as disturbed areas as budget and conditions dictate.

2009 Brick Street Prioritization Category Map



Brick Streets Strategic Plan



CITY OF BLOOMINGTON | PUBLIC WORKS DEPARTMENT

PROVIDING GOOD STEWARDSHIP OF THE PUBLIC INFRASTRUCTURE AND EQUIPMENT SAFELY
THROUGH COMPETITIVE SERVICES AND EXCELLENT CUSTOMER RELATIONS

CITY OF BLOOMINGTON

Sept. 17, 2009 Draft

TABLE OF CONTENTS

Executive Summary

The Brick Streets Strategic Plan has been created for the purpose of maintaining and preserving Bloomington's brick streets. It is not intended to be binding on decisions of funding for reconstruction. There are 3.5 miles of brick streets out of 320 miles of streets in the city, which is 1.1% of all streets. Brick streets are a diminishing asset to the community and provide a sense of nostalgia in a residential neighborhood. The longevity of Bloomington's remaining brick streets attest to their durability and economic value. Though costly to install and patch properly, these streets last for generations and add significant beauty and history to the area.

Before this strategic plan, no regular maintenance plan was in place for any brick streets. Maintenance and repair was decided on a case by case basis. The intent of this plan is to establish levels of maintenance and repair for all of the remaining brick streets in the City of Bloomington, Illinois. In February 2000, a survey was conducted of 25 Illinois and Iowa communities. The survey found that those cities that were proactively repairing brick streets (Champaign, Davenport and Galesburg) had dedicated funds in their street repair budgets for brick street restoration and maintenance (reference: Rock Island Brick Street Plan). It will be the goal of the Public Works Department to coordinate efforts with the Bloomington City Council to find a long term sustainable source to restore brick pavements designated as category one.

The Brick Streets Strategic Plan was outlined by the City of Bloomington Public Works Department Engineering Division. There were four public meetings held to gather input from Bloomington citizens. Two of the public meetings were held through the Bloomington Historic Preservation Commission on August 20, 2009 and September 17, 2009. The plan was formally adopted by the Bloomington City Council on *[Month Date]*, 2009. The Brick Streets Strategic Plan was provided to create a policy and procedure on preserving Bloomington's brick streets by placing them into the categories of restoring, repairing or reconstructing. In addition, the plan also creates a procedure for brick street reconstruction and discusses the cost-sharing procedure between the adjacent property owners and the city. Ten streets were recommended to be placed in category one (restore). Twenty one streets are in category two (repair), which merit preservation. Eight streets are in category three (reconstruct) with no preservation restriction.

Category one and two streets will have the brick surface preserved and/or replaced in instances of excavation. Along with minor street repairs, there will be provisions for long term brick street maintenance as well. A budget item will be included for the repair of brick streets.

History of Brick Streets

BLOOMINGTON'S BRICK STREETS

By 1900 the city of Bloomington was nationally famous for its brick streets. The "Bloomington System" of street paving was standard material in technical manuals and it was discussed nationally in Century Magazine in 1893. Twenty years later, a popular local myth had grown up that Bloomington had built the first block of brick pavement in the United States and later a small monument was erected with what were incorrectly believed to be some of the first brick pavers. Excesses of local enthusiasm aside, brick streets were important in the history of the city. From 1880 until the late 1930s most paved streets in Bloomington were surfaced with brick. The city spent a great deal of time and money on laying brick streets which became the object of great civic pride.

Brick pavement had existed since roman times. In areas like the Netherlands, which had little natural stone, brick had long been the standard street paving material. Philadelphia had brick "pavements" by 1700, although it is not clear if these were streets or only sidewalks and what were called "street crossings." In 1868, the first patent for brick pavement in the United States (No.77, 208) was issued to John T. Perkins of Washington D.C. In 1873 the first full block of brick paving in the country was laid on Summers Street between Virginia and Kanawha, in Charleston, West Virginia. It was put down by Mordecai Levi with financial backing from Dr. Nathan B. Hale. These men were later given a patent on their paving system, which was essentially the same as that later used in Bloomington. Both systems used double layers of common building brick.

The first paving in Bloomington was put down on Grove Street in order to link downtown Bloomington with the Illinois Central Railroad. It was macadam, layers of crushed rock put down in such a way that traffic compacted it into a smooth surface. The city followed with several streets paved in Nicholson blocks, creosote soaked wood with a tar binder. With no natural building stone, Bloomington citizens looked for alternatives to keep their feet out of the mud.

In the spring of 1875, a colorful local brickmaker, Napoleon Bonaparte Heafer, persuaded the City Council to permit him to lay a ten by twelve test patch of brick pavement at the corner of Washington and Center. (Heafer had been born and had done his apprenticeship, in Charleston. This area would later become West Virginia, but it is not known if Heafer was aware of Levi's paving efforts.) Heafer's pavement consisted of a layer of sand topped by bricks laid flat; then more sand and an upper layer of bricks set on edge. At the end of September 1875 dirt was cleared away from the top of the pavement and the upper bricks were examined. The results seemed generally good. Many local officials did not think brick was a good option and two years of debate followed. A city council sub-committee initially recommended re-laying wooden Nicholson blocks over the site of the experiment and on the other streets on the square.

In 1877 Heafer and his partner John McGregor finally persuaded the council to let them pave a full block of Center Street west of the courthouse with their locally manufactured bricks. The pavement gave good service; the upper paving layers were removed when the

street was re-paved in 1892. The pavement was again dug up and replaced in 1922. For the next two decades Bloomington paved many streets with brick using a system that was almost exactly the same as original experimental section. Many miles of brick followed. For a time three local brick makers all guaranteed they would deliver brick at the same price and were each awarded one third of local contracts. Until 1896 almost all brick used in city streets was locally manufactured, laid by local people, and was identical to brick used in downtown buildings. In 1889 a visiting engineer tested samples of Heafer's bricks and asked about their manufacture. He found they were made of glacial clay from a few feet below surface, hand-molded, dried outdoors, and fired in clamps for 96 to 100 hours with a mixture of coal and wood. In short, they had been made exactly as they would have been three-hundred years before. By 1895 Bloomington had nine miles of brick paved streets, about a mile of asphalt streets, and 800 feet of streets paved in "rubble stone."

Eventually technology caught up with local brickmakers. For some time other cities had been producing machine formed, repressed brick, made mainly from ground shale which was greatly superior to Bloomington brick. In 1896 the first contract was issued to an outside contractor John Cherry, of Jacksonville, Illinois. Cherry used special paving brick brought in from other parts of Illinois, was able to lay improved streets for about the same cost as earlier pavements. At first, Bloomington brick was used for the sub-surface layer of horizontal bricks, but this practice soon faded. In the first years of the 1900s a few streets continued to be entirely paved with local bricks, but they were soon replaced with imported bricks. Shortly after this, all local brickworks shut down. The remains of their clay pits, where material was taken for the manufacture of bricks and tile, still can be seen as ponds on the south side of Bloomington.

A great deal of brick paving was put down in the first two decades of the twentieth century. Street surfaces were covered with vitrified paving bricks. These were mainly formed from ground shale, re-pressed with great force and fired to the point where individual particles could not be distinguished. Such bricks were very resistant to crushing, absorbed very little water, were denser than earlier bricks and were extremely hard: a good paving brick will scratch quartz. None were manufactured in McLean County. These vitrified bricks were laid side to side and usually separated from each other by quarter inch spacing lugs formed into the corners of the bricks. When the bricks were put down asphalt was placed into the spaces between the bricks.

The foundation under the pavers evolved slowly. At first a lower course of bricks continued to be used for the foundation, as had been done in earlier streets. Gradually Portland cement came to be favored for the sub-surface of brick paved streets in Bloomington. Starting around 1900, concrete paving was first used for sidewalks, and by 1920 was fairly common as the primary paving material for streets. However, in this era, brick streets still dominated the city. In 1926 Bloomington had over forty-five miles of brick streets, just under seven miles of asphalt streets, and about six miles of concrete streets. As late as 1935, three-quarters of all Bloomington streets were paved in brick. In the 1920s more concrete streets were built than brick, but brick streets were still being made. Brick paving received a great stimulus in the late 1930s when many miles of Bloomington streets were rebuilt by the Works Progress Administration. Often when

local streets were overlaid, earlier paving bricks were left in place and many miles of local concrete and asphalt are simply surface layers resting on earlier brick pavement.

FURTHER READING

A good introduction to traditional brick-making is found in Harley J. McKee, Introduction to Early American Masonry, 1973, and a more complete account is given in Heinrich Ries and Henry Leighton, History of Clay-Working in the United States, 1910. Sidney Poitier's "The Last Brickmaker in America," which was first broadcast in 2001; is highly recommended and is currently available from several video outlets. Brick Making machines are covered in Carroll Pursell, "Parallelograms of Perfect Order", Smithsonian Journal of History (3) (1968), 19-27. Two illustrated articles by William D. Walters, Jr. deal with local brick and tile manufacturing: "Abandoned Nineteenth Century Brick and Tile Works in Central Illinois," Industrial Archaeology Review 4:1 (Winter 1979-80) 70-80 and "Nineteenth Century Midwestern Brick," Pioneer America, 14:3 (1982) 125-134; copies of both are available at the McLean County History Center. The full text of many turn of the century Paving manuals are now online; a few of the many that mention Bloomington are Edward Gurley Love, Pavements and Roads, 1890, which includes an analysis of Heafer's bricks on pages 173 and 174; H. A. Wheeler, Vitrified Paving Brick, 1910; and George Wilson Tilson, A Textbook on Brick Paving, 1917. Brick street Restoration is discussed in William D. Walters, Jr. and Royce Baier "Brick Streets in Illinois," Illinois Preservation Series 12 (1991). Local research into brick pavement should begin with the Engineer's Report and the Paving ordinances contained in the many published volumes of the Bloomington City Council Minutes available in Withers Library and at the McLean County History Center.

Methodology

Bloomington's Public Works Engineering Division staff created a methodology to study brick streets in Bloomington and establish priorities for their preservation. The Public Works Department gathered input from various stakeholders including the City Council, neighborhood groups and the general public. In addition, a survey was completed on how other communities dealt with their brick street infrastructure. All of this information and input was compiled to create the City of Bloomington Brick Streets Strategic Plan. The following is a summary of the brick streets categorization process:

1. Existing exposed brick streets were identified.
2. These streets were analyzed in terms of the condition of the street and given a PASER rating (Pavement Surface Evaluation and Rating). Additional information about the PASER rating methodology can be found in the PASER rating subsection below.
3. The numbers of concrete or asphalt patches were determined for each brick street section, along with the square footage of the patch and total square footage of the section.
4. The percent of the street patched was calculated.
5. Each street was photographed and the historical status of the neighborhood was determined.
6. All of this information for the brick streets was entered into the City of Bloomington's GIS (Geographic Information System) database.
7. After factoring in these variables the brick streets were split into three categories, with separate preservation recommendations for each. These recommendations range from restoration to reconstruction.

Assumptions

In forming the plan methodology and recommendations, the following assumptions were made regarding the preservation of Bloomington's brick streets.

Assumption 1: Streets with few patches are stronger candidates for preservation.

Assumption 2: Streets with poor structural condition are poor candidates for preservation.

Assumption 3: Many utilities beneath a street make it a poor preservation candidate.

Assumption 4: Streets where the curb and gutter is in a poor condition will not be independently prioritized separate from the brick street.

Assumption 5: Streets with a larger percentage of patches but of good riding quality shall be placed in a category 2.

Assumption 6: It is not a feasible option to mill streets currently overlaid with asphalt and make them brick streets again.

Assumption 7: Intersections will be dealt with independently from the remainder of the street because of drainage and possible connection issues to the rest of the street.

PASER rating

The brick streets in Bloomington have been evaluated using the "Paser Brick & Block Manual." The PASER system of rating the condition of various pavement surfaces was developed by the Transportation Information Center at the University of Wisconsin, Madison, in the 1980's. This center is partnered with the Federal Highway Administration. The PASER system is widely used in Wisconsin and has been adopted by cities in other states, as well. The University of Wisconsin website for PASER publications and information is http://tic.engr.wisc.edu/ .

Condition of Brick Streets

The structural condition of each brick street was analyzed. Specifically, each street's base, crown, drainage, and ride-ability were investigated. Then a PASER rating was given. More on the PASER rating system can be found in the "Methodology" section of the report.

A poor base condition indicates repair will be needed in the near future and would be costly.

A brick street with drainage problems is not an optimal candidate for restoring for two reasons:

(1) Moisture on the street, whether in the form of water or ice, causes brick streets to become slippery and hazardous. Poor drainage means this moisture stays on the street for a longer period of time.

(2) Moisture that is trapped on the street due to poor drainage tends to seep into the street's base, where the freeze/thaw cycle will cause the street's base to deteriorate at an accelerated rate.

A poor crown is indicative of drainage problems because the water is not able to drain properly away from the center of the street.

The Bloomington Public Works Engineering Division reviewed the structural condition of the existing brick streets. Their analysis produced the following lists and chart.

Streets with Few Structural Problems

Davis Ave, Jefferson St to Washington St
Division St, Main St to East St
East St, Division St to Kelsey St
East St, Kelsey St to Emerson St
East St, Locust St to Mulberry St
Scott St, Center St to Main St
University Ave, Clinton Blvd to White Pl
White Pl, Emerson St to University Ave
White Pl, University Ave to Empire St

Streets with Some Structural Problems

Allin St, Oakland Ave to Macarthur Ave
Chestnut St, Oak St to Lee St
East St, Chestnut St to Locust St
East St, Emerson St to Beecher St
East St, University Ave to Graham St
Elm St, Madison St to Center St
Evans St, Graham St to Empire St
Evans St, University Ave to Graham St
Evans St, Walnut St to Chestnut St
Jefferson St, Clinton St to Robinson St
Jefferson St, Colton Ave to Towanda Av
Jefferson St, Davis Ave to Colton Ave
Jefferson St, Robinson St and Davis Ave
Monroe St, Clinton St to Robinson St
Scott St, Madison St to Center St
Summit St, Macarthur Ave to Wood St
Taylor St, Willard Ave to Kreitzer Ave
Thompson Ave, Center St to Main St

Streets with Many Structural Problems

Allin St, Macarthur Ave to Wood St
Chestnut St, Eugene St to Colton Ave
Chestnut St, Linden St to Eugene St
Chestnut St, Mason St to Oak St
East St, Graham St to Empire St
Evans St, Chestnut St to Locust St
Evans St, Empire St to Walnut St
Monroe St, Clayton St to Clinton St
Monroe St, Evans St to Clayton St
Monroe St, McLean St to Evans St
Taylor St, Moore St to Mercer Ave
Walnut St, Center St to Main St

Condition of Brick Streets					
Brick Street Section	**Crown Condition**	**Drainage Problems**	**Base Condition**	**Ride-ability**	**PASER**
Allin St., Macarthur Ave. to Wood St.	FAIR	FEW	AVERAGE / POOR	AVERAGE/ POOR	3
Allin St., Oakland Ave. to Macarthur Ave.	FAIR	FEW	AVERAGE	AVERAGE	4
Chestnut St., Eugene St. to Colton Ave.	FLAT	FEW	AVERAGE / POOR	POOR	2
Chestnut St., Linden St. to Eugene St.	FAIR / FLAT	FEW	POOR	AVERAGE/ POOR	2
Chestnut St., Mason St. to Oak St.	FLAT	MANY	AVERAGE / POOR	AVERAGE/ POOR	2
Chestnut St., Oak St. to Lee St.	FAIR	FEW	AVERAGE	AVERAGE	5
Davis Ave., Jefferson St. to Washington St.	GOOD	NONE	GOOD	GOOD	10
Division St., Main St. to East St.	GOOD	FEW	GOOD	GOOD	8
East St., Chestnut St. to Locust St.	FAIR	FEW	AVERAGE	AVERAGE	4
East St., Division St. to Kelsey St.	GOOD	NONE	GOOD / AVERAGE	AVERAGE	7
East St., Emerson St. to Beecher St.	FAIR	FEW	AVERAGE	AVERAGE	4
East St., Graham St. to Empire St.	FAIR	FEW	AVERAGE / POOR	POOR	2
East St., Kelsey St. to Emerson St.	GOOD	NONE	GOOD / AVERAGE	AVERAGE	7
East St., Locust St. to Mulberry St.	GOOD	NONE	GOOD / AVERAGE	GOOD	7
East St., University Ave. to Graham St.	FAIR	FEW	AVERAGE	AVERAGE	5
Elm St., Madison St. to Center St.	FAIR	FEW	AVERAGE	AVERAGE	5
Evans St., Chestnut St. to Locust St.	FAIR	FEW	AVERAGE / POOR	POOR	3
Evans St., Empire St. to Walnut St.	FAIR	MANY	POOR	POOR	3
Evans St., Graham St. to Empire St.	FAIR	FEW	AVERAGE	AVERAGE	5
Evans St., University Ave. to Graham St.	FAIR	FEW	AVERAGE / POOR	POOR	3
Evans St., Walnut St. to Chestnut St.	GOOD	FEW	GOOD / AVERAGE	AVERAGE	6

Brick Street Section	Crown Condition	Drainage Problems	Base Condition	Ride-ability	PASER
Jefferson St., Clinton St. to Robinson St.	FAIR	FEW	AVERAGE	AVERAGE	5
Jefferson St., Colton Ave. to Towanda Ave.	GOOD	FEW	AVERAGE	AVERAGE/ POOR	5
Jefferson St., Davis Ave. to Colton Ave.	FAIR	FEW	AVERAGE	AVERAGE	5
Jefferson St, Robinson St. to Davis Ave.	GOOD	NONE	GOOD / AVERAGE	GOOD	6
Monroe St., Clayton St. to Clinton St.	GOOD	FEW	AVERAGE / POOR	POOR	3
Monroe St., Clinton St. to Robinson St.	FAIR	MANY	AVERAGE	AVERAGE	4
Monroe St., Evans St. to Clayton St.	FAIR	MANY	AVERAGE / POOR	POOR	2
Monroe St., McLean St. to Evans St.	FAIR	MANY	POOR	POOR	2
Scott St., Center St. to Main St.	FAIR	NONE	AVERAGE	AVERAGE	7
Scott St., Madison St. to Center St.	FAIR	FEW	AVERAGE	AVERAGE	6
Summit St., Macarthur Ave. to Wood St.	FAIR	FEW	GOOD / AVERAGE	AVERAGE	6
Taylor St., Moore St. to Mercer Ave.	FLAT	EXCESSIVE	POOR	POOR	1
Taylor St., Willard Ave. to Kreitzer Ave.	FAIR	FEW	AVERAGE / POOR	AVERAGE	4
Thompson Ave., Center St. to Main St.	FAIR	FEW	AVERAGE	AVERAGE	6
University Ave., Clinton Blvd. to White Pl.	FLAT	NONE	GOOD / AVERAGE	GOOD	7
Walnut St., Center St. to Main St.	FAIR	MANY	POOR	POOR	2
White Pl., Emerson St. to University Ave.	FAIR	FEW	AVERAGE	AVERAGE	7
White Pl., University Ave. to Empire St.	GOOD	FEW	AVERAGE	AVERAGE	7

In addition to structural conditions, surface conditions were also analyzed. Concrete or asphalt patching can impact the ride-ability as well as the visual appearance of the street. Most of Bloomington's brick streets are only one to twelve percent patched.

Brick Street Patching Percentages		
Brick Street Section	**Area of Patch (Sq. Ft.)**	**Percent of Street Patched (%)**
Allin St., Macarthur Ave. to Wood St.	633.1	4.1
Allin St., Oakland Ave. to Macarthur Ave.	112.7	1.6
Chestnut St., Eugene St. to Colton Ave.	587.7	5.4
Chestnut St., Linden St. to Eugene St.	555.6	4.8
Chestnut St., Mason St. to Oak St.	376.8	2.9
Chestnut St., Oak St. to Lee St.	558.4	6.3
Davis Ave., Jefferson St. to Washington St.	0.0	0.0
Division St., Main St. to East St.	43.3	1.1
East St., Chestnut St. to Locust St.	375.9	3.7
East St., Division St. to Kelsey St.	324.3	3.1
East St., Emerson St. to Beecher St.	612.6	7.1
East St., Graham St. to Empire St.	1175.0	12.5
East St., Kelsey St. to Emerson St.	85.2	1.4
East St., Locust St. to Mulberry St.	506.8	6.9
East St., University Ave. to Graham St.	541.8	6.9
Elm St., Madison St. to Center St.	0.0	0.0
Evans St., Chestnut St. to Locust St.	188.8	2.2
Evans St., Empire St. to Walnut St.	277.4	2.6
Evans St., Graham St. to Empire St.	111.8	1.5
Evans St., University Ave. to Graham St.	261.3	3.0
Evans St., Walnut St. to Chestnut St.	179.9	2.1
Elm St., Madison St. to Center St.	0.0	0.0
Jefferson St., Clinton St. to Robinson St.	474.3	2.5
Jefferson St., Colton Ave. to Towanda Ave.	1449.0	7.3

Brick Street Section	Area of Patch (Sq. Ft.)	Percent of Street Patched
Jefferson St., Davis Ave. to Colton Ave.	359.0	1.6
Jefferson St., Robinson St. to Davis Ave.	11.9	0.1
Monroe St., Clayton St. to Clinton St.	611.9	8.0
Monroe St., Clinton St. to Robinson St.	653.2	4.0
Monroe St., Evans St. to Clayton St.	200.5	2.6
Monroe St., McLean St. to Evans St.	433.9	4.8
Scott St., Center St. to Main St.	0.0	0.0
Scott St., Madison St. to Center St.	0.0	0.0
Summit St., Macarthur Ave. to Wood St.	223.8	1.8
Taylor St., Moore St. to Mercer Ave.	26.3	0.2
Taylor St., Willard Ave. to Kreitzer Ave.	170.8	2.7
Thompson Ave., Center St. to Main St.	0.0	0.0
University Ave., Clinton Blvd. to White Pl.	0.0	0.0
Walnut St., Center St. to Main St.	59.7	1.2
White Pl., Emerson St. to University Ave.	0.0	0.0
White Pl., University Ave. to Empire St.	0.0	0.0

Historic Distinction

Brick Street Section	Neighborhood	Historical District
Allin St., Macarthur Ave. to Wood St.		
Allin St., Oakland Ave. to Macarthur Ave.		
Chestnut St., Eugene St. to Colton Ave.		
Chestnut St., Linden St. to Eugene St.		
Chestnut St., Mason St. to Oak St.	Northwest Union Neighborhood	
Chestnut St., Oak St. to Lee St.	Northwest Union Neighborhood	
Davis Ave., Jefferson St. to Washington St.	Davis-Jefferson Historical	Davis-Jefferson Historical District
Division St., Main St. to East St.		
East St., Chestnut St. to Locust St.		
East St., Division St. to Kelsey St.		
East St., Emerson St. to Beecher St.		
East St., Graham St. to Empire St.		
East St., Kelsey St. to Emerson St.		
East St., Locust St. to Mulberry St.	Downtown Bloomington	
East St., University Ave. to Graham St.		
Elm St., Madison St. to Center St.	South Hill Neighborhood	
Evans St., Chestnut St. to Locust St.		Greenlee, Robert, House - NHD
Evans St., Empire St. to Walnut St.		
Evans St, Graham St to Empire St		

Brick Street Section	Neighborhood	Historical District
Evans St., University Ave. to Graham St.		
Evans St., Walnut St. to Chestnut St.		
Jefferson St., Clinton St. to Robinson St.	Near East Side Neighborhood	
Jefferson St., Colton Ave. to Towanda Ave.	Davis-Jefferson Historical	Davis-Jefferson Historical District
Jefferson St., Davis Ave. to Colton Ave.	Davis-Jefferson Historical	Davis-Jefferson Historical District
Jefferson St., Robinson St. to Davis Ave.	Davis-Jefferson Historical	Davis-Jefferson Historical District
Monroe St., Clayton St. to Clinton St.	Near East Side Neighborhood	
Monroe St., Clinton St. to Robinson St.	Near East Side Neighborhood	
Monroe St., Evans St. to Clayton St.	Near East Side Neighborhood	
Monroe St., McLean St. to Evans St.	Near East Side Neighborhood	
Scott St., Center St. to Main St.	Northwest Union Neighborhood	
Scott St., Madison St. to Center St.	Northwest Union Neighborhood	
Summit St., Macarthur Ave. to Wood St.		
Taylor St., Moore St. to Mercer Ave.	Founders Grove	
Taylor St., Willard Ave. to Kreitzer Ave.	Founders Grove	
Thompson Ave., Center St. to Main St.	Northwest Union Neighborhood	
University Ave., Clinton Blvd. to White Pl.	White Place Neighborhood	White Place – NHD
Walnut St., Center St. to Main St.	Northwest Union Neighborhood	
White Pl., Emerson St. to University Ave.	White Place Neighborhood	White Place – NHD
White Pl., University Ave. to Empire St.	White Place Neighborhood	White Place – NHD

Brick Streets Prioritization List

The Prioritization List is the handy, short-form of the Brick Streets Strategic Plan. This list includes all of Bloomington's brick streets, their prioritization for preservation in categories one through three, and some short explanations about the extent of preservation for each category.

Category 1 [RESTORE]: These brick streets sections should be repaired, restored and reconstructed to their original appearance. These bricks should be replaced and the disturbed areas restored to their former appearance. Additional efforts should be made to actually restore these brick streets when funds are available.

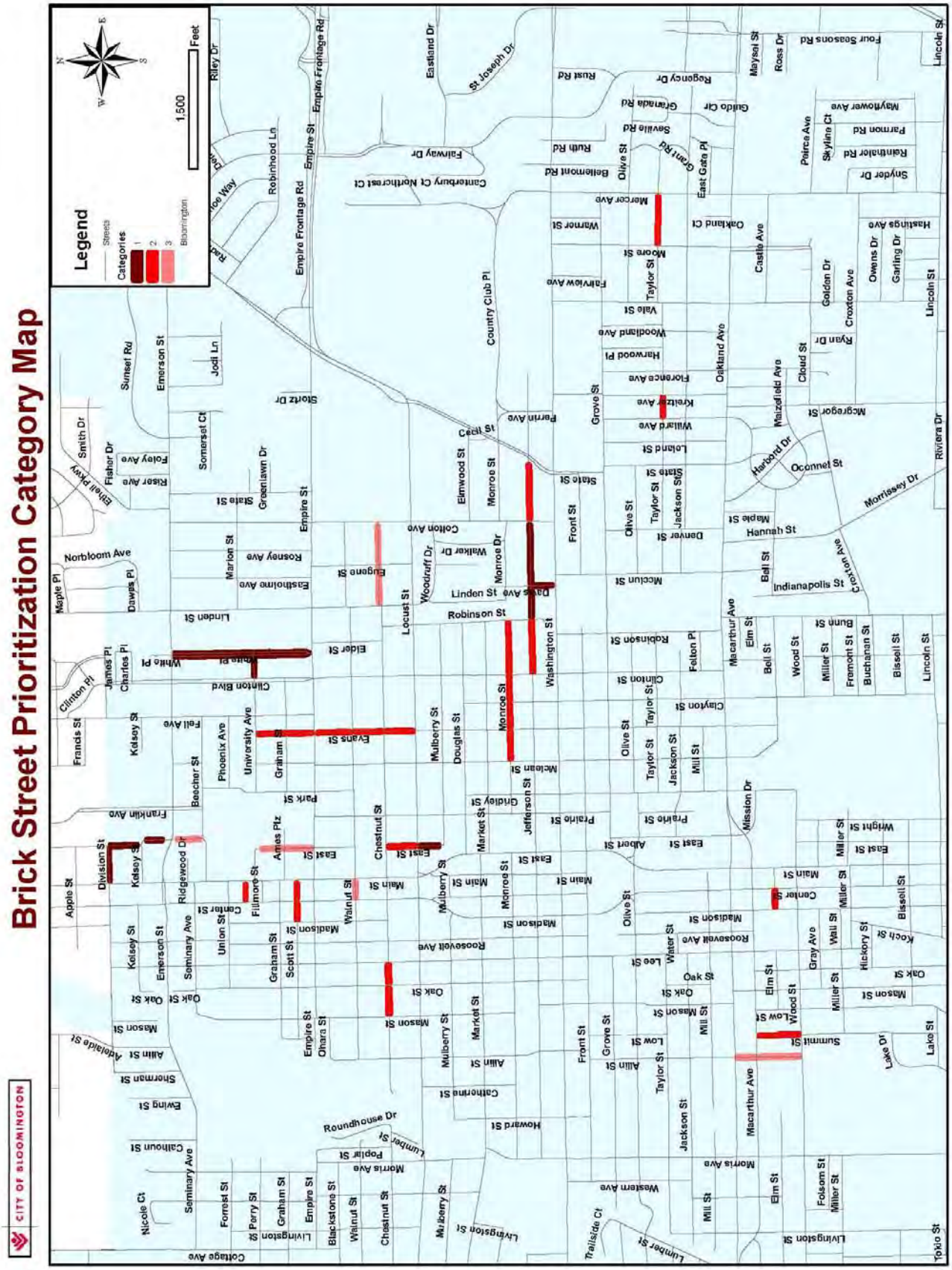
Davis Ave, Jefferson St to Washington St
Division St, Main St to East St
East St, Division St to Kelsey St
East St, Kelsey St to Emerson St
East St, Locust St to Mulberry St
Jefferson St, Davis Ave to Colton Ave
Jefferson St, Robinson St to Davis Ave
University Ave, Clinton Blvd to White Pl
White Pl, Emerson St to University Ave
White Pl, University Ave to Empire St

Category 2 [REPAIR]: These streets are important enough to merit preservation, but not so important as to merit restoration. If any existing brick areas are disturbed, they shall be restored to their original appearance using the standard in this policy. All existing pavement patches on category two brick streets will not be restored unless disturbed areas are adjacent to existing pavement patches.

Chestnut St, Mason St to Oak St
Chestnut St, Oak St to Lee St
East St, Chestnut St to Locust St
Elm St, Madison St to Center St
Evans St, Chestnut St to Locust St
Evans St, Empire St to Walnut St
Evans St, Graham St to Empire St
Evans St, University Ave to Graham St
Evans St, Walnut St to Chestnut St
Jefferson St, Clinton St to Robinson St
Jefferson St, Colton Ave to Towanda Ave
Monroe St, Clayton St to Clinton St
Monroe St, Clinton St to Robinson St
Monroe St, Evans St to Clayton St
Monroe St, McLean St to Evans St
Scott St, Center St to Main St
Scott St, Madison St to Center St
Summit St, Macarthur Ave to Wood St
Taylor St, Moore St to Mercer Ave
Taylor St, Willard Ave to Kreitzer Ave
Thompson Ave, Center St to Main St

Category 3 [RECONSTRUCT]: Resurfacing and patching with materials other than brick are allowed on these streets. These brick streets do not meet the standards required for repair or restoration. The Public Works Department can patch, resurface or reconstruct as budget and conditions dictate.

Allin St, Macarthur Ave to Wood St
Allin St, Oakland Ave to Macarthur Ave
Chestnut St, Eugene St to Colton Ave
Chestnut St, Linden St to Eugene St
East St, Emerson St to Beecher St
East St, Graham St to Empire St
East St, University Ave to Graham St
Walnut St, Center St to Main St


Brick Street Prioritization Category Map
CITY OF BLOOMINGTON
Legend
Streets
Categories
1
2
3
Bloomington
1,500
Feet
N
S
W
E

Utilities and Brick Street Patching

The Brick Streets Strategic Plan ensures the preservation of the surface of category one and category two brick streets. This plan requires that all surfaces disturbed by utility cuts for these category one and two streets be replaced in brick. If existing utility patches are re-excavated on category one and category two streets, they must be replaced with brick if some portion of the newest excavation touches brick.

Though streets with utilities running beneath them are less than optimal candidates for preservation, there are no brick streets in the city that are free of utilities. Nearly all of the brick streets have at least one water main and one sewer line running beneath them.

The Public Works Department shall have the discretion to not replace the brick on Category 1 & 2 streets should a patch be of substantial size beyond the capability of the Operations Division of Public Works or affordability of the Public Works Department to be determined by the Director of Public Works.

Salvaging Bricks

The Public Works Department Operations Division actively salvages bricks just for repair purposes. In an effort to have spare bricks for repair work done by city crews, the City of Bloomington asks that utility companies and excavation companies provide the city with any bricks from category three streets or any streets with bricks under the existing surface and deliver them to our city yards located at the southeast corner of East Street and Jackson Street. If contractors are not able to deliver the brick to the above city location, contractors can contact the Public Works Department at (309)434-2225 and provide notice when a stockpile of clean viable bricks can be picked up. Upon approval of this Brick Streets Strategic Plan, the Public Works Department will send out a letter to the local contractors informing them of this option. In addition, future city contracts will be modified so that the salvation of bricks is included in the contract.

Utility Cuts

Utility cuts are the most common surface disturbance in local streets. Brick patches in category 1 [restore] and category 2 [repair] are handled differently depending on the reason for the patch. The following are the different possibilities for the existing brick streets to be disturbed and the process for patching them:

1. Utility Companies - patches that are made by utility cuts are covered under each utility's franchise agreement.

2. Private Contractor - Street cuts made by private contractors require at a minimum a permit from the Public Works Department and are normally done as a paid service for residents who live along the brick street. Patching the utility cut is accomplished by city contracted crews, with the person who caused the utility cut reimbursing the city for the cost of the surface restoration. The resurfacing material (concrete, asphalt or brick) and cost are determined by the City's Public Works Department through standards referenced in the Brick Streets Strategic Plan.

3. City Maintenance – Street cuts made by the City of Bloomington during the course of maintaining the public utilities shall be placed back according to the standards referenced in the Brick Streets Strategic Plan using City funds.

Restoration of brick pavement costs three to four times as much as patching utility cuts with concrete or asphalt. Further, the difference between the cost of brick patching and asphalt patching becomes greater as the size of the job increases. This is due to the fact that brick replacement, which is labor intensive with relatively fixed per unit costs, cannot compete with the advantage of mechanization and efficiencies of scale allowed through asphalt or concrete patching.

The Public Works Department has estimated, in 2009 dollars, the costs per square yard for different types of patches on brick streets. Here is an estimate of costs:

Patching Material	Cost Installed
Brick	**$ 250 /sq.yd.**
Asphalt	**$ 60 /sq.yd.**
Concrete	**$ 60 /sq.yd.**

Brick Street Restoration Policy

Restoration for category 1 and category 2 streets is clear: If the surface is disturbed, it is to be re-laid with brick meeting the standards laid out in this policy. Any restoration work completed on categories 1 or 2 streets shall be paid for using city funds.

Restoration for category 3 streets is different from categories 1 and 2 in that when the street needs to be restored either partially or completely, the city has the right to place whatever material best suits the needs of the city to maintain public safety. Category 3 streets also differ in that residents will have the ability to choose whether they would like to continue to have a brick street and share some of the cost to restore it to a category 1 brick street.

Being a category 3 street does not automatically place the street in the resurfacing pool. Placement in the resurfacing pool is either determined by the Public Works Department or by a petition of at least 80% of the property owners along the category 3 brick street. The Public Works Department will only place the category 3 brick street in the resurfacing pool if the street is in such condition that it has become a safety hazard and is beyond minor repairs.

At the time adjoining residents or the city determine that a residential brick street is in need of total reconstruction, the residents will be informed by mail of the placement of the street in the pool of citywide streets for evaluation in the street resurfacing program. At the time of this notification, residents will have one year to implement one of the following options:

1. File a petition to have the street remain brick. If the Public Works Department receives a petition from 80% of the adjacent property owners that they wish to keep the street brick, then the Public Works Department will allow the street to remain brick assuming that there are not any major safety issues that exist which cannot be easily addressed. Filing this petition does not guarantee that the brick street will remain a brick street.

2. Coordinate with the City Council to determine if there should be a special service area implemented. Filing of this petition does not guarantee a specific council response. The City Council's response is dependent upon finances and the general direction of the council. This special service area procedure allows for a cost-sharing of the street reconstruction between the city and the adjacent property owners. It will allow adjacent property owners to have a special assessment be placed on their property tax bill so that the street can be upgraded from a resurface project to a brick street restoration project. The adjacent property owners will be responsible for the difference between the estimated resurfacing cost and the actual cost to reconstruct the street using bricks. Once completed, the street would become a category 1 brick street. In order to begin this process, a petition must be filed with the City of Bloomington Public Works Department.

After the year deadline has passed, the City can move forward with the resurfacing or reconstructing of the street as funding priorities and objective resurfacing criteria allow.

Brick Street Patching Standard and Details

This standard pertains to brick streets that will be repaired to their original brick surface appearance because they are in category one or two.

Prior to removal of any of the brick street surface a representative of the Public Works Department will mark the limits for the brick street replacement. During removal of the existing brick street surface, due care shall be exercised to prevent damage to adjacent bricks. No additional measurements will be made for increases in area due to additional removal required for machine curb and gutter, carelessness during removal, or leaving edges of brick pavement or patches exposed to traffic. No additional measurement for payment will be made after the work is completed.

Upon excavation to the depth required for placement of the concrete base course, the existing sub-base shall be re-compacted. If the sub-base is still unstable as determined by a representative of the Public Works Department it shall be over excavated to a depth of 6" and Sub-base Granular Material Type B shall be placed and compacted below the concrete base course. Little over excavation and placement of sub-base granular material is anticipated. However, if required the cost for this work shall be included in the contract unit price per square yard.

All repair areas will require placement of a 6" PCC base course. The cost of the 6" PCC base course shall be included in the bid price.

An uncompacted leveling base of FA-2, Class A, non-plastic, clean sand shall be screeded over the concrete base course to a thickness of 1" to 1½". The leveling base shall not exceed 1½". The bricks are expected to settle ¼" to ½" after compaction.

Bricks shall be laid to follow the adjacent brick pattern with generally the same spacing between bricks as the adjacent bricks. As the bricks are laid they shall be moved back and forth to solidly bed them into the sand leveling base.

When necessary to cut bricks, cutting shall be performed to leave a clean edge to the traffic surface. Bricks shall be cut with either a block splitter or a masonry saw.

Once the bricks are in place, sand shall be placed over the area and worked into the joints between the bricks with a broom, leaving a thin sand layer 1/8" to 1/4" thick over the patch area. A pass shall be made with a vibratory plate compactor over the brick surface. The compactor shall be a plate type soil compactor capable of 3500 to 5000 lb centrifugal compaction force. This equipment shall be similar to Model P-22 as manufactured by Koehring, Master Division, Dayton, Ohio.

Additional passes shall be made over the area with the vibratory plate compactor while simultaneously brushing additional FA-2 sand into the joints. The patch shall then be watered while adding additional FA-2 sand to the area and brooming the sand into the joints. A thin layer (1/4" maximum) of sand shall be left over the patch. All other excess sand shall be removed from the site.

30 days after sand is broomed and watered into the joints, the Contractor shall again broom and water FA-2 sand into the brick joints as directed by the Engineer. Excess sand shall be removed from the site.

This work will be paid for at the bid price per square yard for Brick Patching, which price shall include furnishing all work required to complete the excavation, sub grade improvement if needed, 6" PCC base course, and reconstruction of the brick pavement.

EXISTING ASPHALT OVER BRICK TO BE REMOVED
BRICK
SAND
CONCRETE BASE
NOTES:
1. EXACT DEPTHS ARE UNKNOWN
2. REMOVE ASPHALT TO TOP OF BRICK AS SPECIFIED AND AS APPROVED BY THE ENGINEER
DETAIL OF EXISTING ASPHALT OVER BRICK AREA TO BE REMOVED

BRICK
SAND
CONCRETE BASE
PROPOSED BRICK REPLACEMENT
PROPOSED SAND CUSHION (1" TO 1½")
PROPOSED 6" CONCRETE BASE
NOTES:
1. BRICKS ARE EXPECTED TO SETTLE ¼" TO ½"
2. PROVIDE POSITIVE DRAINAGE
3. AFTER COMPACTION SAND SHALL BE BROOMED, COMPACTED AND WATERED INTO JOINTS, SEE SPECIAL PROVISIONS.
BRICK PAVEMENT REPLACEMENT DETAIL

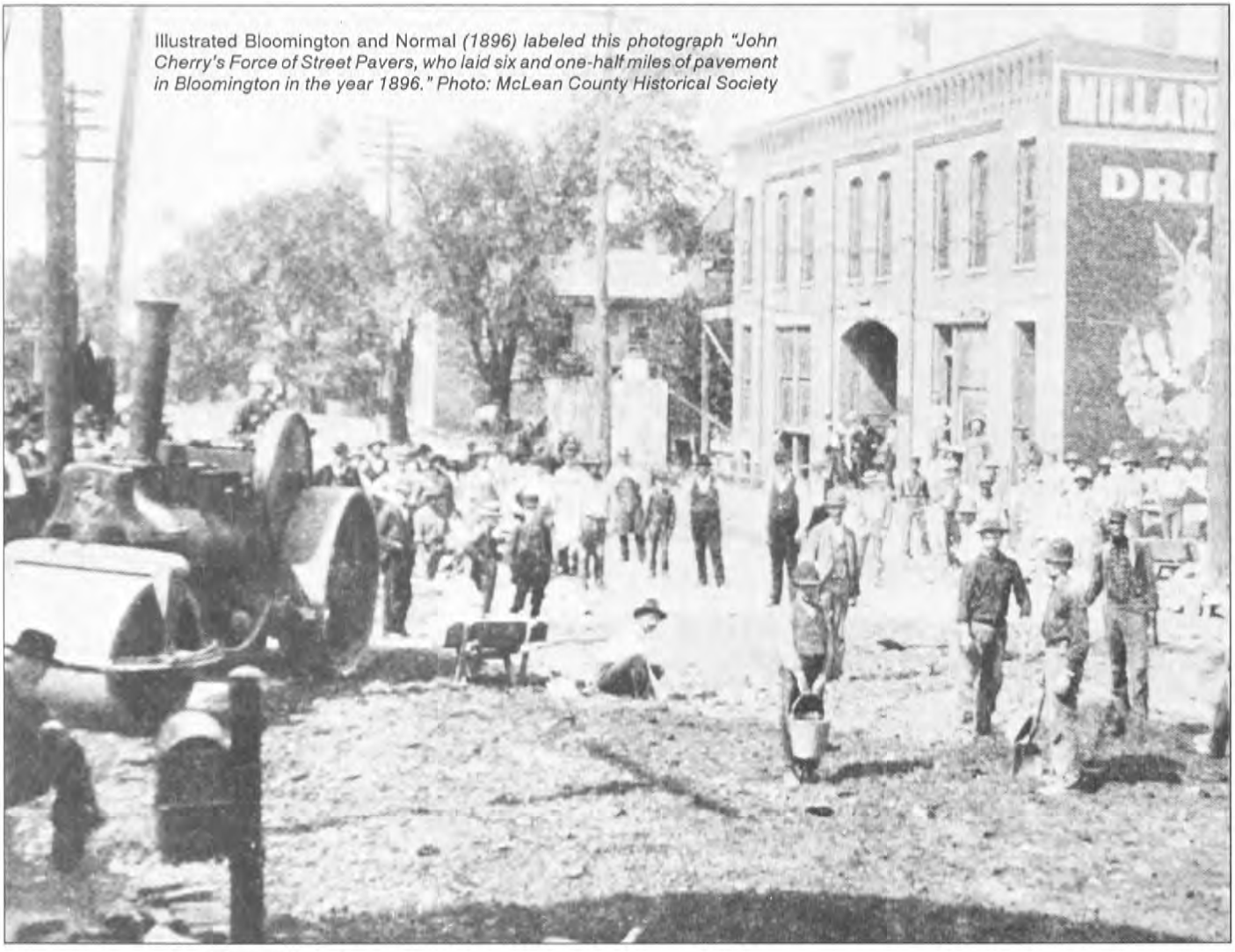
CONCRETE OR ASPHALT PATCH
BRICK
SAND
CONCRETE BASE
FULL DEPTH SAW CUTS
NOTES:
1. EXACT DEPTHS ARE UNKNOWN
2. SAWCUT AND REMOVE FULL DEPTH AS SPECIFIED AND AS APPROVED BY THE ENGINEER
DETAIL OF EXISTING CONCRETE OR ASPHALT PATCH TO BE REMOVED

BRICKS TO BE REMOVED
BRICK
SAND
CONCRETE BASE
FULL DEPTH SAW CUTS
NOTES:
1. EXACT DEPTHS ARE UNKNOWN
2. SAWCUT AND REMOVE FULL DEPTH AS SPECIFIED AND AS APPROVED BY THE ENGINEER
DETAIL OF EXISTING BRICK AREAS TO BE REMOVED

ILLINOIS PRESERVATION SERIES

ILLINOIS HISTORIC PRESERVATION AGENCY
DIVISION OF PRESERVATION SERVICES

NUMBER 12



Illustrated Bloomington and Normal *(1896) labeled this photograph "John Cherry's Force of Street Pavers, who laid six and one-half miles of pavement in Bloomington in the year 1896." Photo: McLean County Historical Society*

Brick Streets In Illinois

A Brief History and Guide to Their Preservation and Maintenance

Royce Baier and William D. Walters, Jr.

Brick paving enjoyed a roughly fifty-year heyday in Illinois that opened in 1877 when Bloomington city fathers ordered the paving of a block-square section of streets in the downtown. Across the Midwest, communities clamored for brick streets, which were prized for their modernity, ease of traffic movement, and cleanliness.

Many cities and villages entered the twentieth century with brick streets that were later replaced or resurfaced. Those that survive are often the focus of restoration efforts, for practical and aesthetic reasons. Brick streets require far less maintenance than their modern counterparts, though the initial cost of restoration is generally higher. In older neighborhoods and historic districts, brick streets are an integral part of a place's character, and many communities have enacted ordinances to protect them from being resurfaced or mutilated when utility lines are laid or repaired.

Brick street construction is relatively simple, and repairs are no more or less complicated. But proper repairs do take money, time, and knowledgeable workers. *Brick Streets in Illinois* is not meant to be a comprehensive guide, rather it is intended to acquaint homeowners, preservation commission members, and city officials with the basic issues surrounding the preservation of brick streets.

Paved streets were a source of civic pride. In Galena a work crew stands behind a group of formally dressed gentlemen who were likely local boosters of the project. This undated photograph is from the Alfred W. Mueller Collection. Photo courtesy Galena State Historic Sites

Brick Streets in Early Illinois

William D. Walters, Jr.

Visitors who pause for a moment on the southwest corner of the square in Bloomington, Illinois, may chance to glance down at a metal plaque set in massive bricks that reads:

FIRST BRICK PAVEMENT IN THE UNITED STATES
INNOVATION TO MODERN HIGHWAYS
INSTALLED 1877 BY NAPOLEON B. HEAFER
THIS PLAQUE SET IN ORIGINAL PAVING BRICK AND
PRESENTED TO THE CITY OF BLOOMINGTON
MAY 11, 1968
BY BLOOMINGTON JUNIOR HIGH SCHOOL STUDENTS
THEIR PARTICIPATION IN ILLINOIS
SESQUICENTENNIAL CELEBRATION

Historians may quibble with the wording of the plaque. Bloomington was not quite the first city to boast brick pavement, nor are the bricks surrounding the brick Heafer originals, rather thay are shale pavers made forty years later. In fact, the city fathers had done to Heafer's original bricks what one would expect any sensible group would do; they had dug them up after a short time to see how they had worn. That aside, the students had captured the spirit of Napoleon Heafer's experiment. And though Napoleon Heafer was not the first to lay brick pavement in the United States, he was certainly an early pioneer, and the problem he was trying to solve was one that had plagued generations.

The world before hard-surfaced streets is only a little difficult to imagine. It is a little past noon, Saturday, on the west side of the courthouse of a central Illinois town in the middle of the 1850s.* A hard rain fell the two previous days, but today the square is crowded. A heavy farm wagon, drawn by a single horse and loaded with lumber from the Chicago and Alton Railroad station, turns the corner from Washington Street onto Center. The wagon's narrow iron wheels are nearly hub-deep in mud.

Driven by curses and blows from the farmer's whip, the exhausted horse strains against the harness and makes slow progress until the wagon reaches the middle of the block, where it sinks up to its bed, immobile in slough that has already come close to trapping a dozen wagons that morning. The farmer lashes the back of the horse to a bloody froth, but the animal simply lacks the strength to proceed. A crowd gathers on the sidewalks. At last the enraged driver jumps down, grabs the broken handle of a shovel that has been half submerged in the street and brings it down with all of his strength between the ears of the horse. He screams in the first language that comes to his tongue, *"Du verdammtes Pferd."* Whap! *"Arbeitest du nicht fur mich, dann fur niemand!"* "Damn horse. If you won't work for me, you won't work for anyone." This is too much for three men on the courthouse steps, who plunge into the muddy street and snatch the shovel handle from the farmer. The farmer's three

*The following is a composite of several incidents.

William D. Walters, Jr., is Professor of Geography at Illinois State University in Normal, Illinois. He is editor of the journal Material Culture, *which deals with the physical remains of the North American past. He is the author of several articles on American bricks and brickmaking.*

nephews rush to Uncle's rescue. A fight appears imminent until the constable—today the most patient man in town—sacrifices boots and trousers as he splashes into the mud to separate the would-be combatants and redirect their efforts toward the less exciting, but more practical, task of getting the wagon out of the mudhole.

For women the battle with mud was even worse. Their long skirts could become mud soaked, hopelessly miring the wearer halfway across a street. If that happened, some gallant might wade into the goo and carry the damsel to the safety of the wooden sidewalks. More likely the crowd of downtown loafers—who generally seemed to have more sympathy for horses than women—would remain where they were, shout crude suggestions to the woman, and hope that her struggles to escape would result in a few inches of exposed calf. In any event, when she returned home, the effort to cross Main Street would mean an hour and a half spent cleaning shoes, petticoat, and dress.

Unpaved streets not only made movement difficult, they were by their very nature impossible to clean. Any object left on the streets, including a wide variety of dead animals, was simply driven deeper into the mud. One writer in the 1850s tallied the objects he found within a few blocks in downtown Bloomington: many small boxes, a broken lamppost, a large barrel with the head knocked out, a small barrel in the same condition, one baby's shoe missing its lace, several granite blocks, three pieces of wood said to be as straight as a politician's course at election time, two stakes driven into the road for unknown reasons, a stone jug minus its spout and handle, a large window frame, a lady's hatbox, a large box with a shovel standing upright in it, several pieces of pig iron, piles of ashes, burnt coal, waste paper, and an immense mound of unidentifiable substance crowned with a broken sawhorse. A visitor to the same place in January of 1859 wrote, "her streets instead of being an honor and an ornament, are her greatest discredit. A continent of mud fathomless and shoreless, they are the terror of strangers and the disgust of her citizens."

Most authorities credit the introduction of modern brick pavement to the Dutch. The Romans much earlier seem to have experimented with paving bricks, but their efforts were largely unsuccessful—the crushing action of narrow cartwheels quickly ground the bricks to powder—and whenever possible the emperor's engineers opted for stone surfaces. But stone was a luxury elsewhere in Europe, and road builders in the Low Countries began to experiment with surfaces made of various kinds of fired clay. In the Dutch province of Gelderland, next to the Ijsel River, lies the village of Moor, long famous for its brickmakers. Traditional authorities argue that it was there that bricks were first used for street paving. In any event, by the seventeenth century, many Dutch towns had brick streets. Young American cities were not far behind. In 1719 Jonathan Dickenson wrote to his brother that in Philadelphia bricks were expensive because so many were being used for paving.

But it was another one hundred fifty years before paving brick caught on in the United States. Charleston, West Virginia, is credited with installing the first modern brick pavement, in 1870. That year Dr. Nathan B. Hale asked the common council to abandon crushed stone in favor of brick pavement, a suggestion the council found absurd.

Undaunted, the doctor proceeded to arrange for the production of specially pressed, hard-burned, dark red brick, which he laid at his own expense on a Charleston street. The bricks wore well, and the council became more receptive. Three years later the city began an extensive paving project that soon resulted in several miles of brick streets.

The system used in Charleston consisted of a layer of planks covered with sand. Hale's special bricks were placed in zigzag fashion over the second layer. By all accounts the system worked well, but it does not seem to have been widely imitated.

Late-nineteenth-century view of Quincy. Wagons have left deep ruts in the streets. Photo courtesy Illinois State Historical Library

Alton's East Second Street in the late 1800s. Unpaved streets often turned into mud bogs, making travel difficult. Photo courtesy Illinois State Historical Library

Five years after Hale's first experiment, national attention switched to Bloomington, Illinois. Late in September 1875, a small knot of people gathered in front of Livingston and Grisheim's store near the corner of Washington and Center streets facing the courthouse. Included were the mayor, several councilmen, the city engineer, and brick manufacturer Napoleon B. Heafer. As they looked on, a hose was attached to a nearby hydrant and a stream of water directed at the center of the street. Then, workmen with spades scraped away remnants of two inches of earth and gravel, revealing a ten-by-twelve-foot square of yellow-red brick.

Earlier that year the wooden paving blocks in that part of the street had been removed and replaced with bricks from Heafer and McGregor's brickyard. The spectators pushed closer to examine the condition of the bricks, which remained exactly as they had been set down, tightly locked in place and apparently unaffected by the steady stream of wagons and drays and omnibuses that had rumbled over one of the most heavily used intersections in town. The council was impressed. Two years later they ordered an entire block paved with Heafer's bricks.

For the next decade Bloomington was the center of considerable attention among those interested in paving. Engineers and town fathers came from all over the Midwest to examine the brick streets, and, if the local press is to be believed, generally left with favorable impressions of the Bloomington experiment.

The man behind that experiment, Napoleon Heafer, was decidedly a product of the frontier. He was born in Charleston, West Virginia, in 1825, but no one has established how much he knew about the later paving experiments in that city. He worked in Kentucky and joined the Pike's Peak gold rush before settling, in the 1850s, into the brick business in Bloomington. He was an outspoken man, with a colorful interpretation of the Sixth Commandment, and his boisterous pioneer sense of fun could not have been always welcome. For example, when his son Edgar scraped up enough money to buy a used brick machine and set up a small brick business, Napoleon went out the night before production began and mixed coal screenings into Edgar's clay

Rural roads were generally paved much later than city streets. This 1922 photograph, taken south of Bloomington, appeared in Places of Pride: The Work and Photography of Clara R. Brian. *Photo: McLean County Historical Society*

supply. As a result, young Heafer's first bricks resembled spaghetti. All the brickmakers, except for Edgar, thought it was hilarious.

No doubt Napoleon Heafer's street-paving method was a good one. First, he smoothed on a four-inch layer of coal cinders covered with sand. Over that he laid the first layer of bricks, which was topped by additional sand and a second layer of bricks. More sand covered the surface. The problem with Heafer's system was the bricks' softness and high porosity, conditions created by impurities in the clay.

Throughout the 1880s, brickmakers and engineers worked diligently to improve the quality of paving brick. The first step was limiting their material to impurity-free clay; they gradually settled on stonelike shale clays as the primary ingredient. The second step was improving firing techniques to ensure more even heating. The results were impressive. Brick made in the early 1880s crushed at pressures between five hundred and forty-five hundred pounds per square inch; some brick produced ten years later could withstand forces up to twenty-two thousand pounds per square inch. When immersed in water for twenty-four hours, Heafer's brick absorbed a little more than four percent of its weight; a shale paver of the early 1890s absorbed virtually no water. Indeed, the American shale paver was surely one of the most indestructible objects created in the nineteenth century; many equal the hardness of high-grade steel and will scratch quartz. As a result, pavers laid in Illinois streets ninety years ago can often be reused with no modification beyond brushing away a surface coating of dirt.

In the 1890s the focus of paving-brick construction in Illinois switched to the Galesburg area. In the valley of Court Creek, in Knox Township, the perfect clays were found. On May 15, 1890, the Purrington Paving Brick Company was founded, and by the end of the decade it was the largest producer of shale pavers in the world, with a capacity of a half-million bricks a day. Hundreds of cities throughout the United States, particularly in the Midwest, began to pave their streets with shale bricks.

In 1893 another milestone was reached when brick pavement was first laid in a rural area—in Monmouth Township, Warren County, Illinois. The news of Monmouth's use of paving brick on rural roads spread rapidly and was even noted in *Scientific American*. By the last decade of the nineteenth century the use of bricks for street paving was widely discussed in popular, as well as technical, literature. The day of the shale paver had arrived. For the next twenty years brick would dominate American paving, and everywhere brick streets would become a symbol of scientific advancement and community pride.

Near Bloomington's city square (100 West Washington Street) in 1904. Pedestrians move easily across the brick-paved street—a far cry from the description of the 1859 visitor who described Bloomington's streets as "the terror of strangers and the disgust of her citizens."

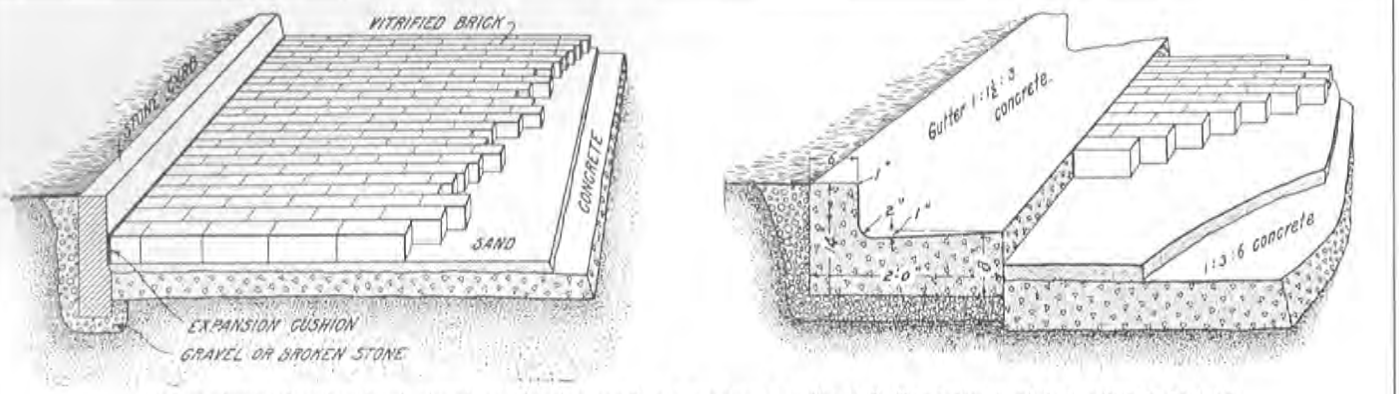
The Preservation and Maintenance of Brick Streets

Royce Baier

Brick paving systems are among the most durable road surfaces known. Streets constructed of properly bonded and supported vitrified paving brick have survived decades of use with little or no maintenance. Paving brick is very durable, and most of the problems found on older streets stem from improper repairs and shifting foundations. When repairs are necessary, they should be undertaken only after an examination of the methods and materials used in the original construction. New materials can be used for repairs with varying degrees of success, but the best patches are made with salvaged brick installed in the same manner as the original.

Properly made repairs will last the lifetime of the street. Brick streets easily withstand normal traffic (though the heaviest trucks are best provided alternate routes), and are so resistant to abrasion that it takes many decades to reduce the thickness to any degree. While brick pavement is durable, the initial expense for its repair is higher than for other surfaces. In many

Royce Baier, a native of Paxton, Illinois, is owner of Brick Street Restorers. Baier undertook his first brick street restoration in 1978, a year after organizing a petition drive to prevent the blacktopping of Paxton's brick streets. He has restored brick streets in Paxton, Belleville, and Onarga.



These views of typical brick street construction methods appeared in the U.S. Department of Agriculture's Bulletin 373 *on brick roads. The drawing at left shows a stone curb, while the one at right illustrates a combination concrete curb and gutter.*

cities, brick streets have required the least maintenance of any road surface. Other types of road surfaces require constant monitoring and maintenance, but a properly constructed brick pavement requires little maintenance.

Paving Brick

All bricks are not created equal. While most brickyards produced brick for building projects, many did not have the clay deposits needed to create the durable blocks for street paving. Clay for paving brick must be both fusible (meltable) and refractory (resistant to heat), otherwise it will not vitrify when heated.

Paving brick is composed of varying combinations of clay, shale, sand, and flux—the latter a mixture of substances that promotes fusion at high temperatures. Shale brick is harder, denser, and more brittle than fire-clay brick, which absorbs more water yet is tougher. Both types were used to construct streets.

Paving brick gains its strength through vitrification, a process that makes brick impervious to water. The term *vitrified* when applied to brick means that a chemical action has coalesced the clay particles and fused them with heat to form a near-liquid substance, which then slowly hardens over a seven- to ten-day period. A thoroughly vitrified brick has no visible pores and breaks with a smooth fracture. The crushing strength of good-quality paving brick is eight to ten thousand pounds per square inch. In comparison, concrete has a strength of thirty-five hundred pounds per square inch.

In 1922 the industry's standard paving brick was four inches wide, eight-and-one-half inches long, and three inches deep. Seven types of pavers were available then, although earlier workers could chose from sixty-six different types. The different types were plain wire cut, repressed lug, wire-cut lug, and repressed hillside. Lugs are small projections on the sides of the brick that make it easy for workers to lay the bricks and keep a uniform spacing. Lugs were produced as part of a mold or through the continuous extrusion and wire-cutting method.

Proper Foundations

A good brick pavement cannot be constructed without a proper foundation that includes a proper crown for good drainage and proper compaction to avoid settlement. The preparation of the base and the grading for brick roads is no different than that for any other road. Beneath the brick surface is the foundation, which supports the bricks and spreads the load uniformly. Bricks have been laid on foundations of sand alone, a combination of sand and boards, crushed gravel, concrete, and combinations of stone and concrete. Sand alone was usually not satisfactory, so sand was usually used in combination with other base preparations.

Some early brick pavements were laid on sand and oak planks that had been soaked in coal tar, a satisfactory method for light loads but one that did not hold up well to heavier street traffic. In Illinois, where crushed limestone is readily available, bricks were commonly placed upon a bed of graded and compacted stone, a technique still used today.

In the first decades of the twentieth century the use of a concrete base was quite common. Bricks were set in place before the concrete had hardened, thereby creating a monolithic brick pavement with the concrete. This was considered to be the most durable construction method, but it was also the most expensive. Brick pavement is practically impervious to water,

What is Vitrified Brick?

The American Public Works Association described vitrified brick in its 1936 Specification for Vitrified Brick Pavement:

Quality. Vitrified paving bricks shall be manufactured from shale, fire clay, or a combination thereof. They shall be annealed, tough, durable, and evenly burned. When broken, they shall show a dense stonelike structure, free from lime, air pockets, and marked laminations. Kiln marks on the wearing surface shall not exceed one-eighth (1/8) of an inch in depth.

Size and Type. Repressed or wire-cut lug bricks shall be three and one-half (3 1/2) inches in width, eight and one-half (8 1/2) inches in length, and may be four or three (4 or 3) inches in depth, as may be specified on the plans.

Allowable variations. Brick shall not vary from the above dimensions more than one-eighth (1/8) of an inch in the width or depth, nor more than one-quarter (1/4) of an inch in length. Dimensions shall be determined by measuring the edges from the face to face of the brick.

Lugs. If the edges of the brick are rounded, the radius shall not exceed three-sixteenths (3/16) of an inch. They shall be provided on one side of the brick with not less than two (2) lugs which shall not be less than one-eighth (1/8) or more than the one-quarter (1/4) of an inch in height. The area of the projections or lugs, measured at the base of the lug, shall not exceed in total area three (3) square inches. No lug shall be continuous from the top to bottom of the brick but shall be of a type to allow free horizontal flow of the filler.

whether sand or cement filler is used as grouting. Consequently, a concrete foundation is not necessary to create a watertight roof to protect the subgrade. Therefore, using concrete as a base for brick pavements acts only as a beam to distribute the wheel load over the subgrade. In fact, studies have shown that a layer of gravel or crushed stone will adequately distribute a concentrated load over a considerable area.

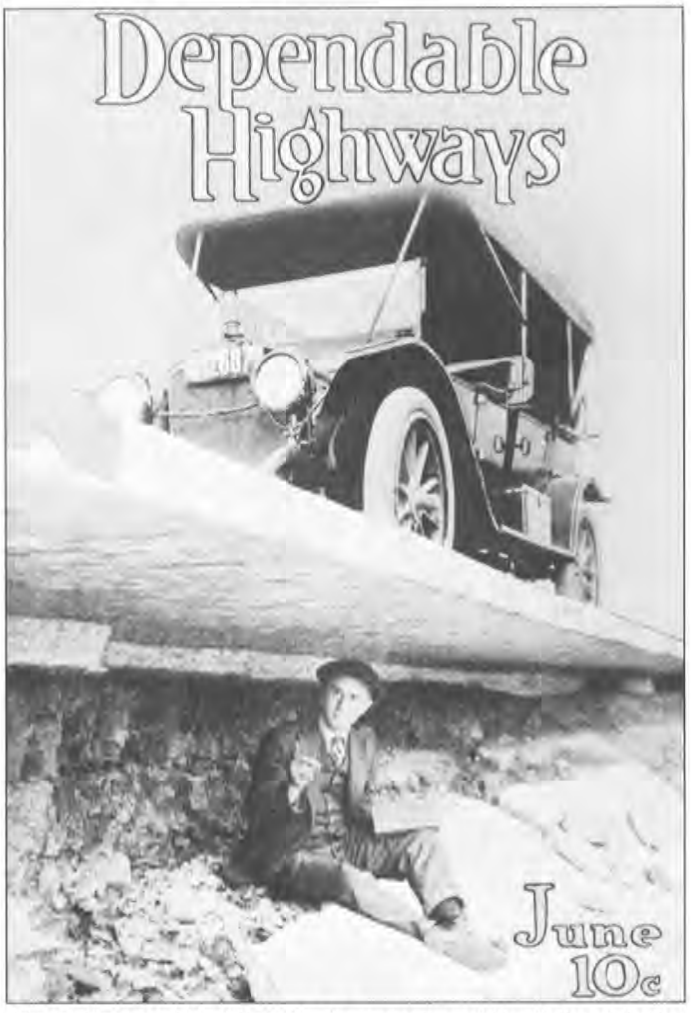
Curbs and Gutters

No brick street restoration is complete without the proper repair or replacement of deteriorated curbs and gutters. Brick pavement is normally constructed with a durable curbing on the sides and ends that add both strength and beauty. Without that framing, the weight of traffic would displace the brick and the street would deteriorate. The curb adds much to a street's appearance. It has, in fact, been compared to framing a picture.

Historically, curbing was generally made of granite, sandstone, limestone, or portland cement. The type of material used often depended upon what was available in the immediate area. Before concrete was accepted as a curb material, it was common practice to use a four-foot-long, five-inch-thick, twenty-inch-deep stone curb. But engineers soon discovered that its weight and depth made it difficult to keep it true to line and grade. Granite was the most serviceable material, but was not common in Illinois. Sandstone, limestone, bluestone, or other local materials were often substituted, sacrificing the wearing quality and appearance.

Concrete was cheaper than granite but not as durable. Concrete had about the same wearing abilities as some of the other stone, and it was cheaper. And on circular curbs, it was cheaper to form concrete on the job than it was to cut stone. Concrete curbs and gutters were usually poured in sections eight to ten feet in length, twenty inches across the base, with an eight-inch-thick gutter and fourteen-inch curb measuring six inches wide at the top. Those sections were either poured in place or molded and set in place like stone.

The shape and detailing of concrete curbing has stayed essentially unchanged over the years. Consequently, the repair and restoration of concrete curbing associated with a brick street is little different than that for any other street. The skills and materials needed to do the work are readily available.



Above: Dependable Highways, *the magazine of the National Paving Brick Manufacturers Association, heavily promoted brick paving from 1916 to the 1920s. This June 1916 cover photograph left no doubt about the strength of a monolithic brick paving system. Below left: This advertisement for the Danville Brick Company appeared in the April 1917 issue of* Dependable Highways.

Grouting the Joints

It is as necessary today as it was at the turn of the century to fill the joints or voids between the bricks after they are laid. Filled joints keeps the bricks in proper position, lessens the wear on the bricks' edges, and helps stop excess water from penetrating the cushion coat and foundation.

There are three basic forms of filler—tar, sand, and a mixture of portland cement and sand. The latter two are the most commonly used in repairs today.

Sand

Sand was the first filler used in the Midwest for brick pavements. For repairs, the sand should be fine, dry, and swept evenly with a stiff straw broom into the joints until they are full. Sand filler has several advantages. It can be easily applied and is inexpensive. Because it does not have to cure like concrete, the pavement can be opened to traffic immediately. Repairs can be made easily without destroying the brick, and the joint is practically watertight in a short time. Yet sand has its disadvantages. The edges of the brick are not protected from chipping, joints may be washed out on steep grades, and the top sand is easily removed by street-cleaning machines, which reduces the smoothness of the road.

Above: Workers prepare the foundation for a brick pavement in rural McLean County about 1925. Photo: McLean County Historical Society. Below: The November 1916 Issue of Dependable Highways *featured a crew setting bricks on a prepared foundation.*

Portland Cement-Sand

A mixture of portland cement and sand was, and is, the joint filler of choice. The chief advantage of sand-cement filler over sand alone is the increased strength and durability of the joint, which protects the edges of the bricks from chipping and helps make the road surface smoother, making it more pleasant to drive on.

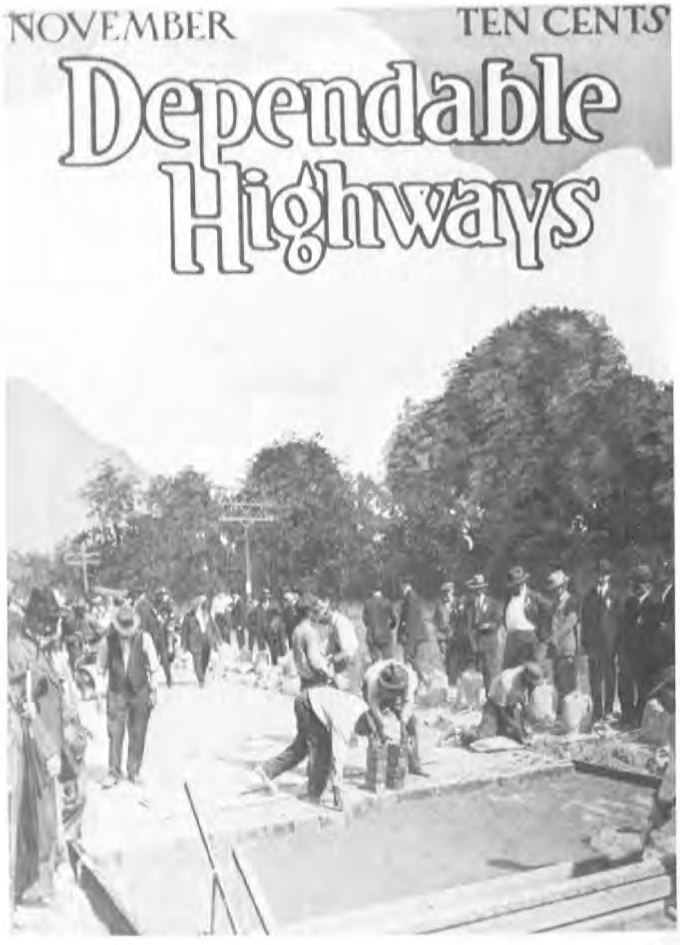
Portland cement filler is mixed in ratios of one part portland to one or two parts sand and spread either wet or dry. The sand and cement should be mixed dry. The dry mixture is spread evenly on brick with a shovel and swept into joints with a stiff straw broom. After all joints are filled, the surface is sprinkled with a light mist, taking care not to wash the filler away. Wetting the joints starts the curing action, but the water causes some settling and wash out. When the brick surface is dry, the steps are repeated, bringing the joints flush with the brick surface. To promote bonding, the first application should still be damp when the second layer is added. Heavy traffic should be kept off of repairs for two to three days, or until the cement has set firmly.

If you fill the joints with a wet mixture, the brick should be wetted prior to spreading, and the mix should be wet enough to flow easily. Since the wet slurry mix will bond to the surface of the brick, the surface should be cleaned with a squeegee as part of the process. The wet-mix method is more difficult to install than the dry-mix method and has not been as popular.

Tar Filler

Tar was occasionally used as a filler for brick pavements, but was more popularly used to fill joints in other types of surfaces, such as wood block. Tar is superior to both sand and cement grout. It makes a watertight joint, yet is not as rigid as cement grout. The tar also acts as an insulator, which makes the street quieter. However, tar is the most difficult material to install and the least commonly used of all filler materials.

Tar filler should be applied at a temperature of approximately 400° Fahrenheit. The brick must be dry, and the tar should be



carefully poured into the joints from a spouted container. Usually, one gallon of tar will seal one square yard of pavement if properly applied.

Determining the Scope of Restoration

Many communities, prompted by preservationists and residents who prefer to retain brick streets, are exploring options for preserving or maintaining their brick streets. Even public works officials have discovered that brick streets have good wearing ability, do not spall or crack, and never develop potholes. A well-maintained brick street is one of the most durable paving systems available and well worth the investment in terms of appearance and serviceability. Communities are finding that there are too many crumbling asphalt surfaces and not enough tax dollars for maintenance.

Feasibility Study

The first step in a brick street restoration project, whether it is a single street or a whole community, is the feasibility study. A feasibility study should follow the basic components of any preservation project—survey, interpret, and protect.

First, make a basic survey of the street or streets involved. Measure and document the areas of sound construction, as well as the areas in need of repair or restoration. The survey results should be examined in light of the contemporary needs of the city and a determination made of which streets require treatment and to what degree. Costs for those different treatments need to be developed and funding sources identified. Finally, a protection program should be put in place. A city ordinance on brick streets that officially adopts the overall restoration program is an excellent approach. Restoration of the first street(s) should also begin at that time.

Survey

The street survey should include a complete description of the historic and existing conditions of the streets. The principle goal of the survey is getting a thorough description of the original construction and the changes that have taken place so that a repair schedule can be developed.

A repair program presumes that the street retains its original cross section and alignment. Streets that have been widened or realigned are not good candidates for a repair program. If the street has already been asphalted, the condition and removal of the asphalt should be investigated. If the asphalt was installed without a tack coat, it may peel off with little damage to the underlying surface. Asphalted streets are a special category of street damage. In most cases, the various types of changes will fall into a few general categories—displacement, cracks, surface deterioration, patches, and curbs or edges.

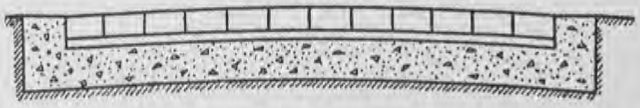
Displacement

Heaving, sinking, buckling, and drainage problems are generally the result of a change in the foundation or subbase, not the brick. A brick street can yield to the underground forces and not develop the cracks or potholes that would occur in other street surfaces. If the deformation does not result in drainage problems and creates only minor changes in the road surface, then it may be an acceptable change, particularly in a low-traffic residential neighborhood.

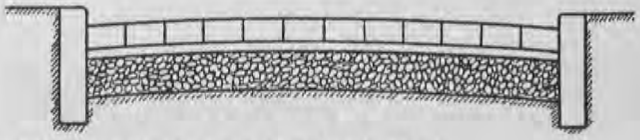
Finding out what type of foundation exists under the street involves a certain amount of detective work. Old records should be checked, but for best results a small section of brick should be removed. (This, by the way, will acquaint you with the intensive work of brick removal.) When removing brick, its thickness and type of grout should be noted. At that point, it may be helpful to enlist the services of a specialist sympathetic to the restoration issue or someone knowledgeable about street construction. The type of subbase should also be noted.

Brick Paving Systems

Local conditions influenced the selection of brick paving systems. Engineers could choose from several types depicted in *Report of Local Conditions in the Design of Brick Pavements*, 1921.

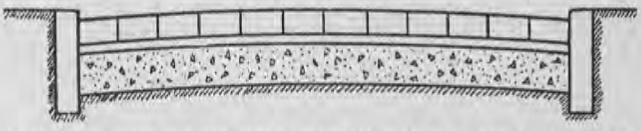


Cross section of a brick pavement over a concrete base typically used for country highways. Bituminous material or sand was used as filler, and sand or a similar material for the roadbed.

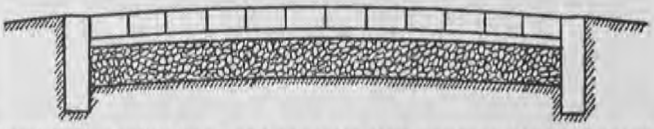


Rolled-base brick pavement, used for city streets

Typical monolithic brick pavement for country roads. In this type of construction, brick were laid in a wet concrete base.



Brick pavement over a concrete base, used in city streets. The base is covered by a bed of sand, or a cement-sand composition if the joints are to be filled with cement grout.



Combination rolled base and separate curb commonly used in country road brick pavement

Installation of a wet cement-sand filler. Brooms and squeegees are used to fill the joints and clean the surface of the brick. This photograph appeared in Dependable Highways.

Cracks

Small cracks through individual bricks, and longitudinal cracks—the sometimes thirty- to forty-foot-long faults that occur in the joints and the brick—are not uncommon. If there is no change in elevation between those two cracks, they do little harm and are easily repairable. Longitudinal cracks are found most often in monolithic brick streets, a system in which bricks are placed in a bed of wet concrete and the joints mortared with portland cement.

Monolithic brick systems were originally considered to be the best brick streets money could buy, and they have held up extremely well—for the most part. But locking the paver in place with mortar means that each brick no longer functions as a separate entity, which of course is the reason brick streets have lasted so long. Unfettered brick can expand and contract with the subbase and foundation, but brick in a monolithic brick street must expand and contract with the attached concrete foundation. Eventually, bricks break in the areas of extreme movement, causing cracks.

Sometimes the subbase, or foundation, breaks down from poor or improper drainage or improper installation of the original base. Bricks suspended in mortar will hold up over the inferior base for years, but eventually they break down, causing huge longitudinal cracks.

The last step in laying a brick pavement, shown in Dependable Highways, *is setting the cut bricks at the curb. There, bricks are custom-cut to fit the gap. These workers are constructing the Lincoln Highway in Dixon.*

Photo by Mike Jackson

Illinois' Oldest State Road is a Brick Road

East of Oregon, Illinois, in Ogle County is a local road called Brick Road. That short stretch of highway, constructed in 1915, was the first state-funded section of rural highway. Selection of the road material was left to county officials, who chose brick over concrete. The brick surface was nine feet wide, with a macadam shoulder three-and-a-half-feet wide on each side. The trade journal *Dependable Highways* announced in 1915 that "The road will be opened for traffic during this month (July 1915) and the general opinion is that it will still be in use in 2015 as a rural highway without being rebuilt."

The road's brick section survives today along with a second lane of gravel. Efforts are currently underway to pave the second lane and establish a scope of work for partial restoration of the brick lane.

Surface Deterioration

Paving brick is extremely durable, but its surface can be damaged, and in rare cases, the bricks may spall. An occasional damaged brick is usually not worth the effort to replace it and can be left as is. However, if a damaged area is to be repaired, remove a few bricks to see if the surface is identical on both sides. If so, it is possible to simply turn over the bricks. Otherwise, a replacement source will be needed. Manufacturers often stamped their names on the back sides of their bricks, and brick layers sometimes laid the brick with the name exposed to the surface. In any restoration project, a few bricks should be installed so that the manufacturer's name is visible.

Curbs and Edges

Missing, displaced, or deteriorated curbs should be noted in the street survey. In most cases, the brick street will have a concrete curb with a variety of drainage openings and driveway cuts. While it is not necessary to change the curbing at the same time that the brick pavement is being repaired, it is best if the jobs are done at the same time. A curb that has shifted away from the road can lead to road and drainage problems and should be repaired.

Patches

Unfortunately, most utility lines—water, sewer, gas—run under community streets, which make street excavations a fact of life. The cuts and repairs that resulted from past excavations are frequently the largest areas of damage. A patched area may be smooth and level, but if it is of different materials (concrete or asphalt), it disrupts the character of the street. All too often, the utility cuts settle differently from the street surface, which results in uneven pavement and drainage problems. (A comprehensive brick street program will eliminate those problems in the future.) Regardless of how or when the patches were made, the survey should note their size, type, and condition.

Planning Considerations

The overall condition of the brick street is the most important factor in undertaking a feasibility study, but other considerations should also be taken into account. Traffic planning, utilities, and the character of the area are three important planning issues.

Traffic

The type, volume, and speed of the traffic on the street can affect the decision. Local residential streets with low traffic volumes

Brick streets lend character to older neighborhoods and historic districts, which makes those early paving systems increasingly the focus of local preservation efforts. Photo by Chris Harbison

and slow speeds are ideal candidates for a brick street restoration program. Busy downtown areas where traffic is heavier but moves slowly have also successfully preserved brick streets.

However, very few brick streets have survived where they are subjected to heavy truck traffic at higher speeds. If constant truck traffic is typical, bypass routes should be investigated. Such routes are often included in a community's long-range planning goals. Related to traffic is the somewhat-difficult-to-quantify factor of a smooth ride. A sound and well-maintained brick street has a different character and feel from an asphalt or concrete street, which is desirable to maintain. However, many utility patches, displacements, and missing grout will create an uneven road surface.

Utilities

Utility cuts are responsible for much disturbed brick pavement. Many community utility offices have records of the utility lines that run beneath the street, and are usually informed of those scheduled for major work. Water and sewer lines are particularly important to research, as they are frequently in the street. Electrical, telephone, and cable television lines are not as likely to affect the street and can be drilled under a street more easily than a sewer line. Local utility companies will be interested in the scope of the brick street study because of its potential impact on their operations.

Neighborhood Character

In historic districts, the sense of neighborhood character has already been determined, and brick streets clearly add to it. However, brick streets can help define other neighborhoods that are not officially designated as historic districts. For nondesignated areas the local preservation survey is a useful tool to assess the overall character of the neighborhood and its potential as a future historic district. In Rock Island, for instance, the ownership of properties was researched as part of the city's brick street survey. Areas with a substantial number of owner-occupied structures were considered to have a higher brick street preservation interest than those areas with nonowner-occupied properties.

A typical concrete-patched utility cut. Photo by Chris Harbison

Author Royce Baier (center) in 1990 leads a work crew on the restoration of East State Street in Paxton. Photo by Ralph Schmanski

Materials and Repairs

Knowing what needs to be repaired on a brick street naturally leads to a discussion about how to do the repairs. What materials and methods of construction should be used? Should brick from one street be salvaged and used to repair and restore other brick streets? Absolutely, but brick pavement makes such an excellent base for asphalt (in fact one of the best bases available) that they are more often covered over than salvaged.

If communities continue to cover up their brick supplies, then how and where do they acquire brick for restoration and repairs? To the author's knowledge, no company is producing a vitrified brick paver with all the properties of size, color, and hardness of the original. A manufacturer with the kilns and proper clay/shale deposits would be popular in preservation-minded communities. But without comparable new brick, there are four alternative materials for repairing brick streets.

Asphalt has been liberally applied to damaged areas of this brick street in Washington (Tazewell County). Photo by Bill Todtz

Salvaged Brick

The first and best material is salvaged brick from streets that are being resurfaced or widened. Brick from sister streets will more likely share size, color, and manufacturer, thus meeting all requirements for a professional repair. Salvage brick is available: one must spend time looking for it. Sometimes alleys were paved with brick, which makes them a good location to "mine" a supply. If some streets are not worth restoring, they provide a likely source of bricks. Each community has enough areas of brick streets that it is generally possible to find a sacrificial area to supply the bricks for the rest of the community. There may be a slight difference in the bricks from other streets, so the dimensions must be checked carefully. Even a fraction of an inch can make it difficult to keep the courses even in a larger patch.

Concrete Brick

Concrete brick specially made and colored to match existing shale/clay brick can be used for patching. The size can be easily duplicated, but the color is more difficult to match. Even the best color match upon installation will fade with a noticeable difference in time. Concrete brick is not as impervious to water as a vitrified paver, nor is it as hard. There is a great range in the durability of concrete pavers, and great care should be exercised in selecting a system.

Concrete

Another technique uses colored concrete poured into the open patches where brick has been removed. Then a special aluminum pattern or template is manually pressed into the surface of the wet, finished concrete to duplicate the jointing pattern of the original brick work. That type of mold, if properly applied, can create a similar appearance in the patches. If the concrete is tinted close to the original color of the brick, the patch is unobtrusive.

Above: This patch was pictured in a 1916 issue of Dependable Highways. *The repair technique is virtually the same today. Below: This brick pavement in the Belleville Historic District was recently patched and sand filler installed.*

The drawbacks to that method are due to the different properties of concrete and of clay/shale paving brick. Vitrified brick has a permanent color that does not fade. Cement, however, must be tinted with pigments that will fade in the sun. Most colors can be created for a match when a patch is new, but the color fades. Also, concrete has a slightly different thermal expansion than the brick. That is usually not a problem for small patches.

Modern Pavers

Pavers today are made of both clay/shale and concrete. They are excellent for use in light to medium traffic areas, and many come in interlocking units that require no mortar. Interlocking units can be installed with great ease and are especially good for patios, driveways, and walk areas. Unfortunately, the size, color, and design of most modern pavers is not compatible with restoration work. The quality of contemporary pavers varies immensely. Something made for a backyard patio will not hold up as a street surface. Materials that work well in a southern climate will not hold up under the stress of the freeze-thaw cycle in Illinois. Pavers are more appropriate as a totally new street system that intends to convey the appearance of a brick street than they are for restoration. Modern pavers have been used in the street systems of Toronto, Ontario, and other cities.

Patching Disturbed Areas

The removal of incompatible patches and the installation of matching materials is the most common restoration technique needed for a brick street. Resulting patches should not impair the strength of the road, nor should the patch be noticed by casual observation. The process begins with the removal of the incompatible materials, and it ends with the installation of a new (or recycled) brick surface. A proper repair will last the lifetime of the rest of the street, but any surface treatment is only as good as the foundation under it.

Before any demolition begins the city streets department and utility department should be consulted to ensure that everyone has a clear understanding of what is underneath the repair and what is expected. Demolition brings with it the question of how much to demolish. For a typical patch, just enough brick should be removed to allow for the installation of a new base and the brick. Only after the patching surface has been removed can the quality (i.e., compactibility) of the subsurface be determined. In most cases, if the current patch has a depression it shows that settlement and compaction have been completed. Only remove enough materials to get to sound, compacted material and go no further.

The kind of base to install varies with the road condition. If the previous base was concrete, a new base of concrete should be installed. If the previous base was crushed stone, concrete can be used as it is the best guarantee that future settlement will not occur. However, concrete is not essential, and there is some possibility that the concrete will expand differently than the surrounding material and cause future displacement. The city should inspect the excavation and dictate the method of backfilling. All fill material should meet engineering specifications for road construction and compaction. Only trained workers should be allowed to replace the brick.

When replacing the brick, there is only one correct way: that is just as they were installed new. There are no short cuts, and there are no machines for the work. The work is labor intensive but not technically complex and can be done properly by anyone with sincere interest and training.

The compacted base should be covered with a sand cushion no more than three inches thick, except when repairing monolithic brick streets. In that case the brick is set in wet concrete. Utility cuts often cause bricks to break. It is best to remove those broken pieces for a nicer finished pattern. The brick must be clean and sawtoothed into place in the same manner as the original. With a monolithic street, it may be necessary to use a masonry saw to remove and clean up the edges of an existing patch.

Matching the brick is an important step. If there is a variation in size or color, the patch will show. After the bricks are in place, they should be grouted with sand or cement. For best results, leave the new brick one-half to three-quarters of an inch above the proper level. Bricks have a tendency to seat themselves. And do not throw away the broken bricks; they can be used at the end of each course.

Cost

Depending upon a number of variables, the cost of complete restoration of a brick street (removal of patches and the preparation and installation of salvaged brick) varies from fifty to one

Note the herringbone pattern at the intersection and straight pattern for the block fronts on turn-of-the-century Main and Monroe streets in Bloomington. Photo: McLean County Historical Society

hundred dollars per square yard. The cost of labor and material will vary from city to city, as will the approach to the work. Because of the labor-intensive work involved in re-laying the brick, the principle difference between the cost of a typical patch (concrete or asphalt) and a brick street is the labor involved in actually installing the bricks.

The work does not require a brick mason, though brick masons can certainly do the work. Qualified workers will have a sincere interest in brick street preservation, possess patience, and be unafraid of work and dirt. Brick street repairs have been made by trade workers such as masons and laborers, but some communities have used volunteers or local street crews.

Volunteers from community organizations have been used in selected salvage projects to acquire and clean the bricks needed for the street restoration. The approach you choose will determine the scope of your project and the number of streets you can repair. Regardless of cost, when your project is complete you will again have a virtually maintenance-free road surface, one that will last fifty to one hundred years.

Protection: Getting Results

Once the survey is complete and all of the planning factors have been investigated, the ideal candidates for restoration must be determined. That decision may be made at the neighborhood level, but ideally it will be a citywide project, which requires an action by the city council. In a number of cases, local governments have adopted a community brick street ordinance. Such an ordinance officially establishes a community's intent to continue its brick street effort. Key provisions of an ordinance should include the identification of brick streets to be restored and the required restoration of utility cuts.

Funding

The next step is to determine what funding is necessary to finance the project. Frequently, brick street restoration projects are prompted by a threat of blacktopping. The following scenario is not uncommon. The city allocates funds for blacktopping.

The Illinois Preservation Series is published by the Illinois Historic Preservation Agency, Division of Preservation Services, Old State Capitol, Springfield, IL 62701. Single copies of Brick Streets in Illinois are available for $1.25. Mike Jackson, AIA, Technical Editor; Evelyn R. Taylor, Editor; Shanta Thoele, Circulation Manager. Printed by authority of the State of Illinois (5M—8-91)

The publication of the Illinois Preservation Series has been financed in part with the federal funds from the National Park Service, Department of the Interior. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior nor does the mention of trade names constitute endorsement or recommendation by the Department of the Interior.

Neighborhood residents decide that they would prefer to keep their brick street and ask the council to use the funds allocated for blacktopping to instead repair the few bad spots of brick. The city agrees not to blacktop the street, and residents start a brick street feasibility study. The survey completed, project leaders compare the cost of repairing the brick street with the cost of asphalt. If repairing the brick surface is more economical, the community realizes an immediate savings. Even if the cost for brick repairs is more, the long life of brick streets makes them a better value. If the cost of restoration is much greater than asphalt, some communities create a special assessment district for local property owners to cover the additional cost.

Fortunately, we live in a time when the nation is preservation conscious. City governments finance many restoration projects, and there are some limited grants available for brick street restoration. Municipal bond projects support larger projects, as do special tax assessments. There is one thing the taxpayers of any town with brick streets have to know. There is no better investment than a brick street. Many communities have spent little or nothing on brick street maintenance. What other municipal project or what other road surface is so virtually maintenance free?

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