


IN THE COMMON PLEAS COURT OF MIAMI COUNTY, OHIO
GENERAL DIVISION

CITY OF TROY, : CASE NO. 23 CV 109
PLAINTIFF, : JUDGE STACY M. WALL
and :
EVIL EMPIRE, LLC, *et al.*, : NOTICE AND ENTRY OF THE
INTERVENING PLAINTIFFS, : FILING OF THE COURT
VS. : EXPERT'S REPORT
116 WEST MAIN LLC., *et al.*, :
DEFENDANTS. :

ROB ENGLAND, IN HIS CAPACITY AS : CASE NO. 23 CV 238
CHIEF BLDG. OFFICIAL, :
PLAINTIFF, : JUDGE STACY M. WALL
VS. :
116 WEST MAIN LLC., : NOTICE AND ENTRY OF THE
DEFENDANT. : FILING OF THE COURT
EXPERT'S REPORT

The Court hereby gives notice to the Parties that the report of the Court's Expert, Daniel Geers, P.E., S.E., of Jezerinac Geers & Associates, Inc., which was received on Monday, September 11, 2023, Court Exhibit I, is filed as part of the record. The report is attached hereto.



JUDGE STACY M. WALL

Copies to:

Grant D. Kerber/Steven E. Bacon/Nicholas E. Subashi, Counsel for Plaintiff, City of Troy

Anthony E. Kendell/Christopher L. Englert, Counsel for Plaintiff, Rob England, Chief Building Officer

Jeremy M. Tomb/Wayne E. Waite/Patrick J. Janis, Counsel for Intervening Plaintiffs, Evil Empire LLC and Cheryl Cheadle

David C. Greer/James H. Greer/John A. Gambill/Derek L. Muncy/J. Steven Justice/Glenn R. McMurray, Counsel for Defendants, 116 West Main LLC, Randy Kimmel, and 112-118 West Main Street

Daniel Geers, Jezerinac Geers & Associates, Inc., 5640 Frantz Rd., Dublin, Ohio 43017



September 10, 2023

Judge Stacy M. Wall
Miami County Common Pleas Court
201 W. Main Street

Troy, Ohio 45373

RE: 112-118 West Main Street (Tavern Building) Structural Assessment
JGA Project Number: 23.49.110

Dear Judge Wall,

Per your Order, I performed an assessment of the building(s) located at 112-118 West Main Street in Troy, Ohio, informally known as the Tavern Building, on Friday August 18th, 2023. This assessment has been performed to assess the condition and structural integrity of the building following the collapse of a portion of the north wall parapet onto the public sidewalk, and conflicting engineering reports related to the building's safety.

The Tavern Building is made up of several distinct structures, which jointly occupy the addresses of 112-118 West Main Street. Historical accounts relate that the first of the buildings was constructed as early as 1841 (South Building), with subsequent additions occurring in approximately 1901 (North Building) and after 1950 (one story side buildings). The North and South buildings are primarily constructed of multi-wythe solid loadbearing brick masonry (commonly referred to as Mass Masonry), wood timber trusses and wood joists, beams, and columns, which were standard construction materials for buildings of this era. The design of these types of buildings were largely based on empirical design methods and have a history of performing very well. Buildings like these are well known for lasting hundreds of years when properly constructed, maintained, and protected from the elements.

My review consisted of a visual observation of accessible areas of the buildings. I did not remove any finishes or perform any demolition to gain access to unexposed areas. However, there were several areas of the buildings with existing access openings in the ceiling that were used to view roof framing in the North Building.

North Building Observations

The roof of the North Building is a flat roof with a slight slope from north to south. A roof membrane is for the most part intact apart from a large section near the center of the north wall. At this section, the parapet has been damaged during a previous storm event and is missing. There appears to have been no effort made to repair this damage or secure loose bricks at the top of the wall. The wall and roof structure have been left exposed to the elements since the damage occurred (Photo 1 , Photo 2).

From the adjacent south building roof, the upper portion of the south wall of the north building was observed. At the southeast corner of the north building, it is observed that the top portion of the wall is in quite poor condition. There are large sections of missing wood fascia and many open and de-bonded mortar joints which have been left exposed to the elements for some time (Photo 3). From inside the building, there is clear evidence that water and birds have been entering the building freely for some time.

From an opening previously created in the ceiling at the north wall, the roof framing structure was observed. The roof framing of the north building consists of sloped top chord wood trusses spanning north-south at approximately 15' spacing, with wood roof joists between top chord and wood ceiling joists between bottom chords. This framing allows for a column free space at the third level. From within the ceiling space, it was observed that damage to the roof decking and roof structure has occurred because of uncontrolled water intrusion at the damaged parapet (Photo 4, Photo 5, Photo 6). The roof trusses appear to be in good condition considering their age and are bearing fully on the exterior wall. There was no observable anchorage of these trusses to the wall, and no intentional connection of the roof diaphragm to the exterior wall, which is common construction for buildings of this time period. While the truss end bearing was sound, it was evident that bricks surrounding the truss bearing have become loose over time, most likely due to the restraint the trusses impart on the mass masonry wall as the wall naturally tends to expand and contract to absorb and release moisture.

From the third floor, a large portion of the ceiling was observed to have moderate damage due to water intrusion at the north wall and portions of the ceiling plaster have fallen from the ceiling joists (Photo 7). Similarly, the water intrusion at the north wall has caused damage to the wall plaster at the exterior wall. The plaster is separated from the wall, and portions have fallen to the floor (Photo 7).

The interior of the first, second and third floor of the North Building were walked and nothing of consequence was observed.

There is a small basement in the North Building. The basement walls are stone and appear to be in good condition given their age. No movement or failures were observed. There was some mild charring or coal dust coating observed on some of the first-floor framing, but the members all appear to be sound and performing well.

From the sidewalk along W. Main Street, the exterior façade was observed. It is noted that the outer layer of the exterior wall is a veneer layer and not part of the bearing wall assembly. This is evident by the different brick appearance, thinner mortar joints, and lack of bond coursing (brick headers) (Photo 8, Photo 9, Photo 10). Of concern with the veneer is how it is anchored to the mass masonry bearing wall. Commonly for buildings of its time, there was no mechanical anchorage between the bearing wall and the veneer layers, and the brick mortar alone performed this function. Over time, and with the constant expansion and contraction of these types of walls, this mortar bond can weaken or become completely fractured. The only way to verify this anchorage is by disassembling a portion of wall to investigate.

South Building Observations

The condition of the roof of the South Building is very poor, particularly in the southeast quadrant. The roof sustained damage at some point and no attempt to repair or protect the structure has been made since the damage occurred (Photo 11). There was not a level of comfort sufficient to walk across much of this roof, so observations were primarily made from within the attic / truss space below.

From the attic space, it was determined that the roof structure of the south building is comprised of primary heavy timber (king post over queen post) roof trusses spanning East-West between mass masonry bearing walls. The trusses span approximately 50' and are spaced at approximately 8' on center. Wood roof joists span between the principal rafters of the king post truss and wood ceiling joists span between the bottom chord, or tie beam portion of the king post truss. All joints in these trusses, with the exception of the bottom tie beam connections, are compression (Bearing) connections. Wood pegs visible are used to hold the trusses together when unloaded, but when loaded, the connections are in bearing and the pegs are not intended or required to transfer load. The bottom chord tie beam is connected to the verticals using metal "U" straps around the bottom of the beam and bolted through the vertical tension members. There is some separation between the wood members of these tension joints, but the load path through the straps bolted into the verticals appear to be performing and transferring the loads as intended in the design (Photo 12, Photo 13, Photo 14).

Except for the portions where the roof has failed, the roof structure appears to be in fair condition and appears to have performed well for a long time. The trusses bear on plates resting on the exterior brick walls, and there is no evidence of outward wall movement, which would be evident if trusses were not performing. In the area of the South Building where the roof system has failed and the structure has been left exposed to the elements, the building is in poor condition (Photo 15). The first truss in from the south wall has some moderate decay at the east bearing wall due to the prolonged exposure to the elements (Photo 16). Both the south wall and the south portion of the east wall have extensive damage due to long term exposure to excessive moisture (Photo 17, Photo 18). Adding to the deterioration of these walls, the presence of exterior wall coatings applied to the south

building walls have limited the ability for the mass masonry walls to breathe and release the excessive moisture trapped in the walls (Photo 19).

Conclusion

The brickwork in this building has performed well and is in good condition in areas where the brick has been maintained and protected from the elements. Unfortunately, there is a large amount of brick that will require extensive evaluation, replacement of damaged brick, repointing of mortar joints, repair of copings and lintels, removal of coatings and securing of face veneer to the structure.

The floor structures in the North and South buildings appear to be in good condition where they have been maintained and protected from the elements. Unfortunately, most of the wood elements on the exterior of the building have failed due to prolonged exposure to moisture and will need to be completely removed and replaced. These elements include fascia, roof decking, damaged roof joists and window frames.

At the time of original construction, building codes were not widely developed or used for building design. Historic buildings are generally not required to meet current building code requirements unless they have sustained damage due to wind or seismic events (Section 3405.3.1 of OBC). In the case of these buildings, it is well known that most of the damage sustained was due to wind loading or the effects of wind loading. Therefore, repairs to this building, including extensive attachment of roof and floor framing, would most likely be required to meet the current wind load provisions of the Ohio Building Code.

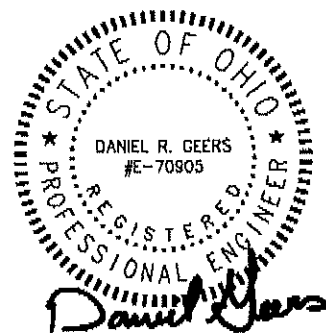
In summary, these are simply old buildings that were very well built for their time but have sustained storm damage and have unfortunately not been cared for in recent years. As a result, they have likely reached the end of their useful service life. If funds were not a concern, they could be restored to their original condition, but this is likely economically unfeasible given the extent of the various deteriorations. Furthermore, the characteristics of these buildings are such that it would be challenging to convert them to a different use under the current Ohio Building Code, without incurring more expense than it would take to tear them down and construct completely new buildings.

I trust that this information is of assistance to you in your decisions concerning these buildings.

Respectfully,

Daniel R. Geers, P.E.
JEZERINAC GEERS & ASSOCIATES, INC.

Jezerinac Geers & Associates, Inc.
5640 Frantz Road, Dublin, OH 43017
614.766.0066
www.jgaeng.com



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Photo 1 – North Building, North wall parapet damage looking East

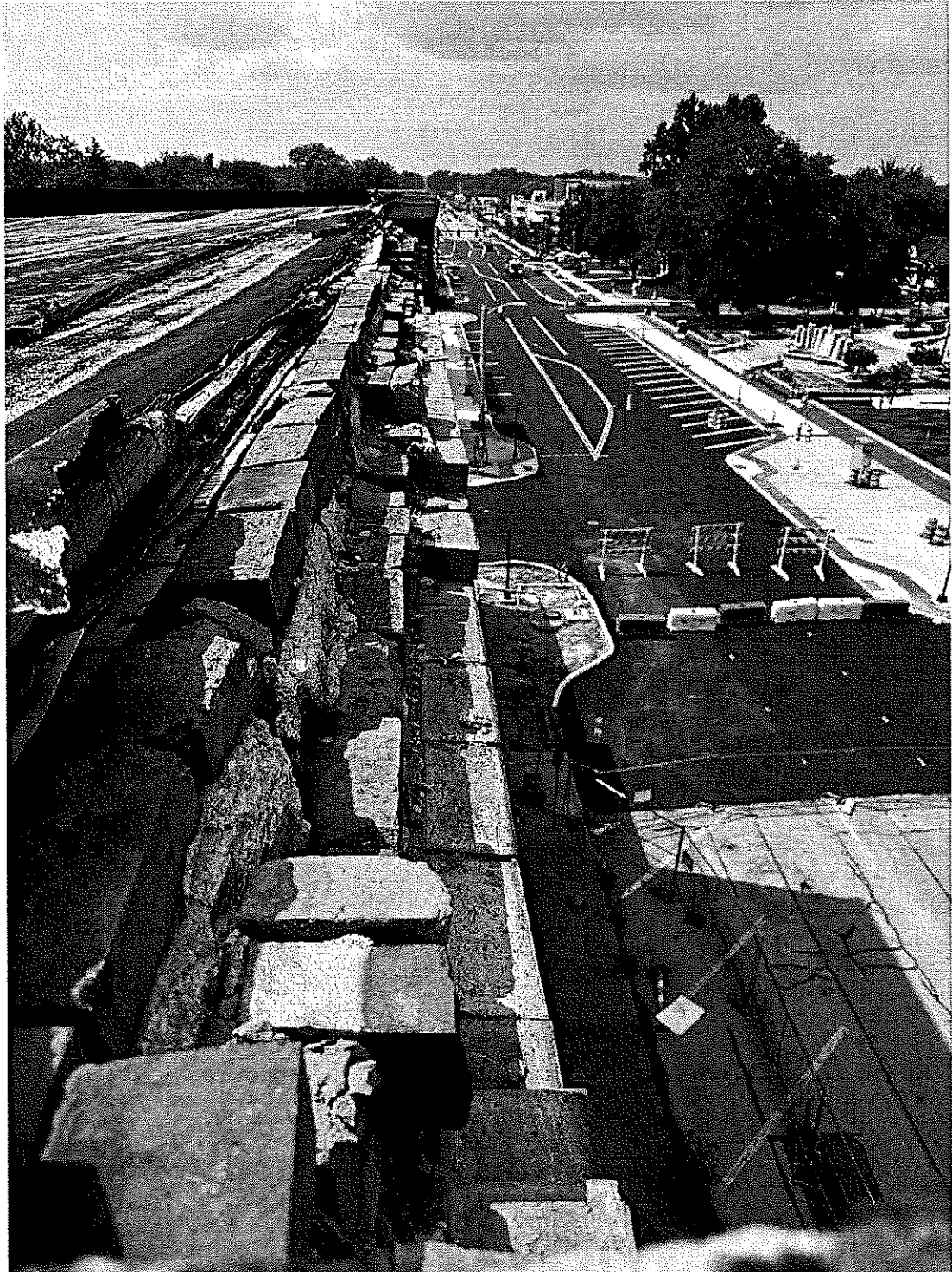


Photo 2 – North Building North wall parapet damage looking West

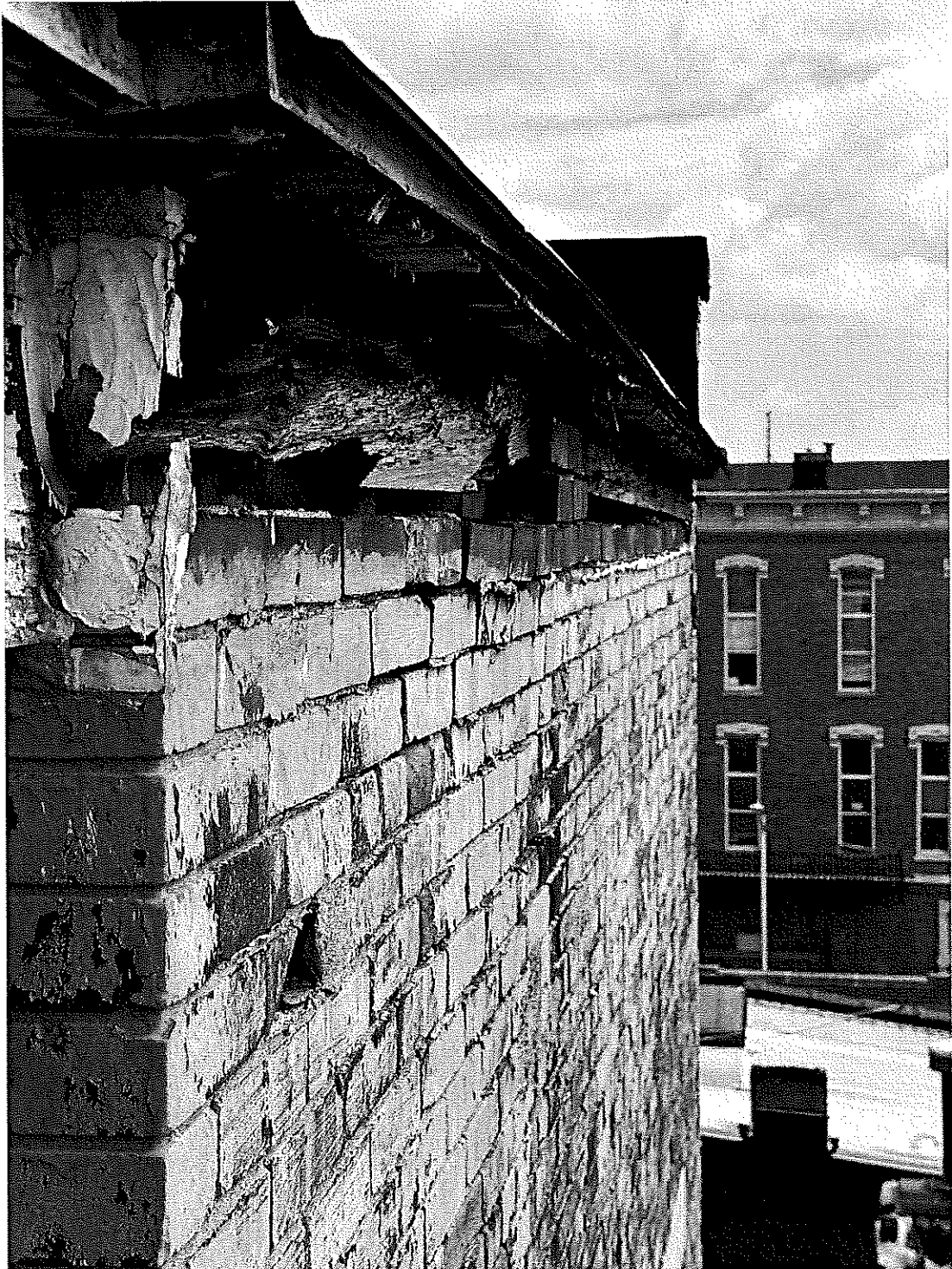


Photo 3 – North Building, South-East corner

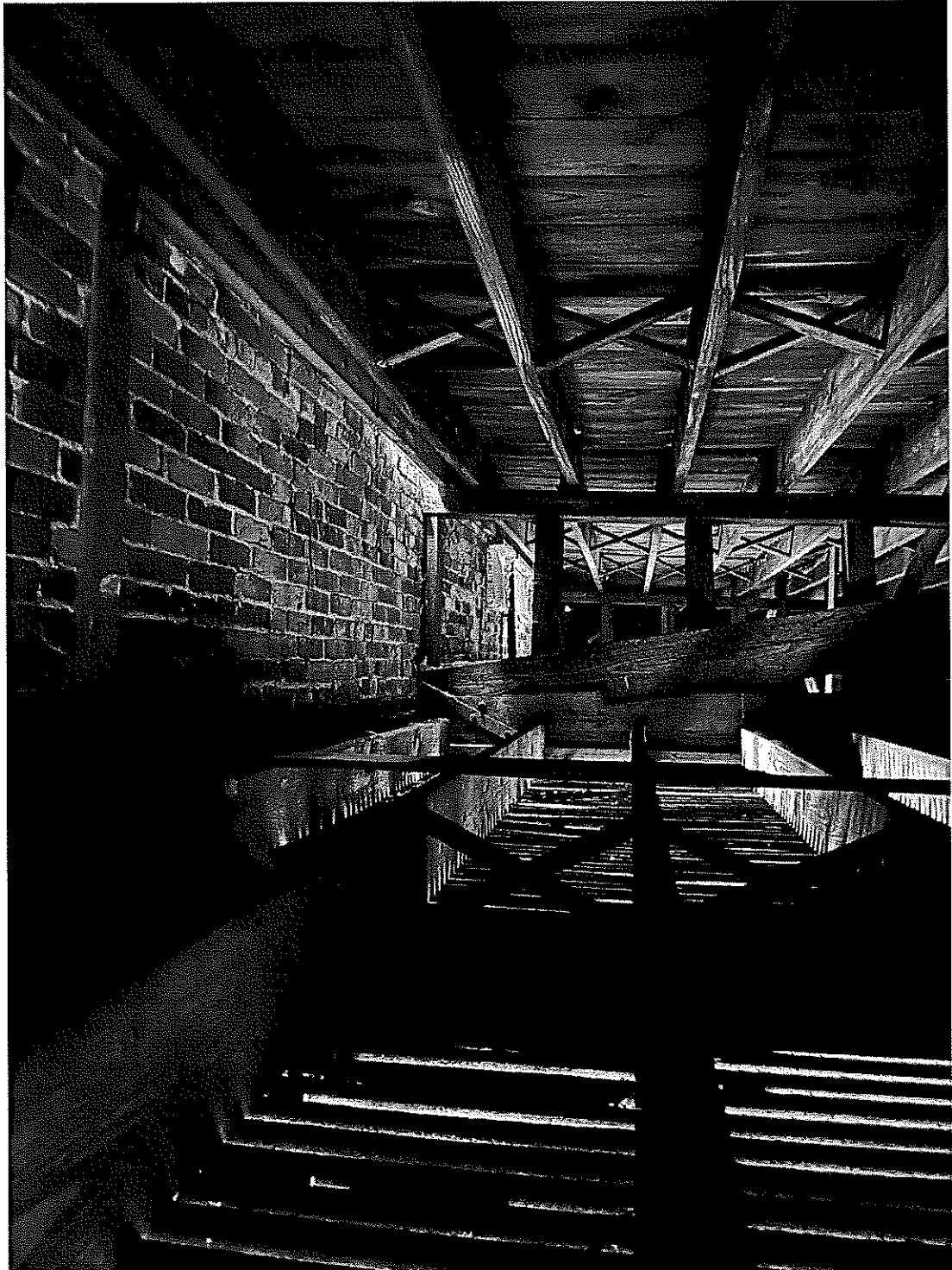


Photo 4 – North Building roof truss bearing at North wall.



Photo 5 – North Building roof truss bearing at North wall.



Photo 6 – North Building roof truss bearing at North Wall looking east.

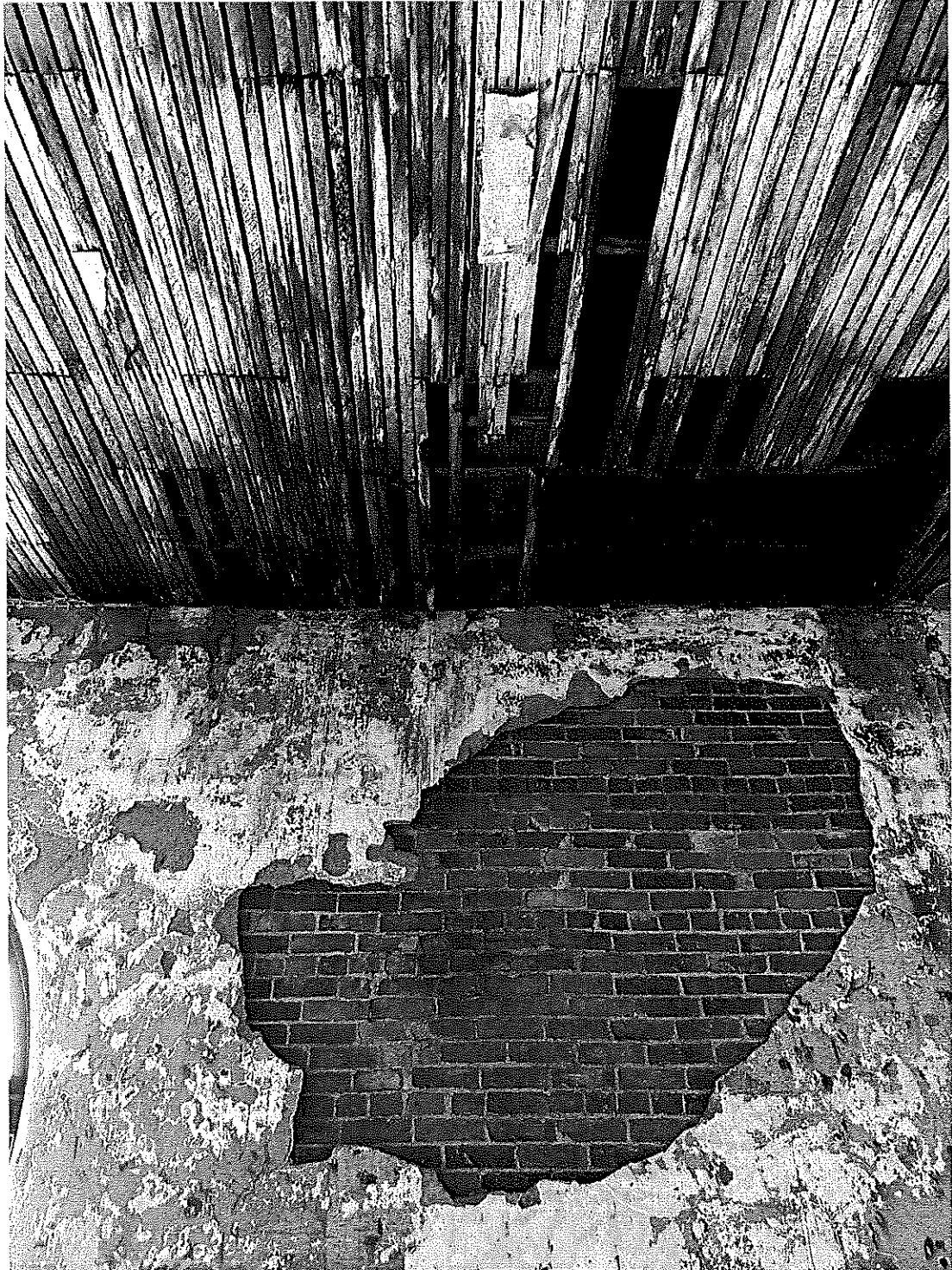


Photo 7 – Ceiling damage at North wall due to water infiltration.

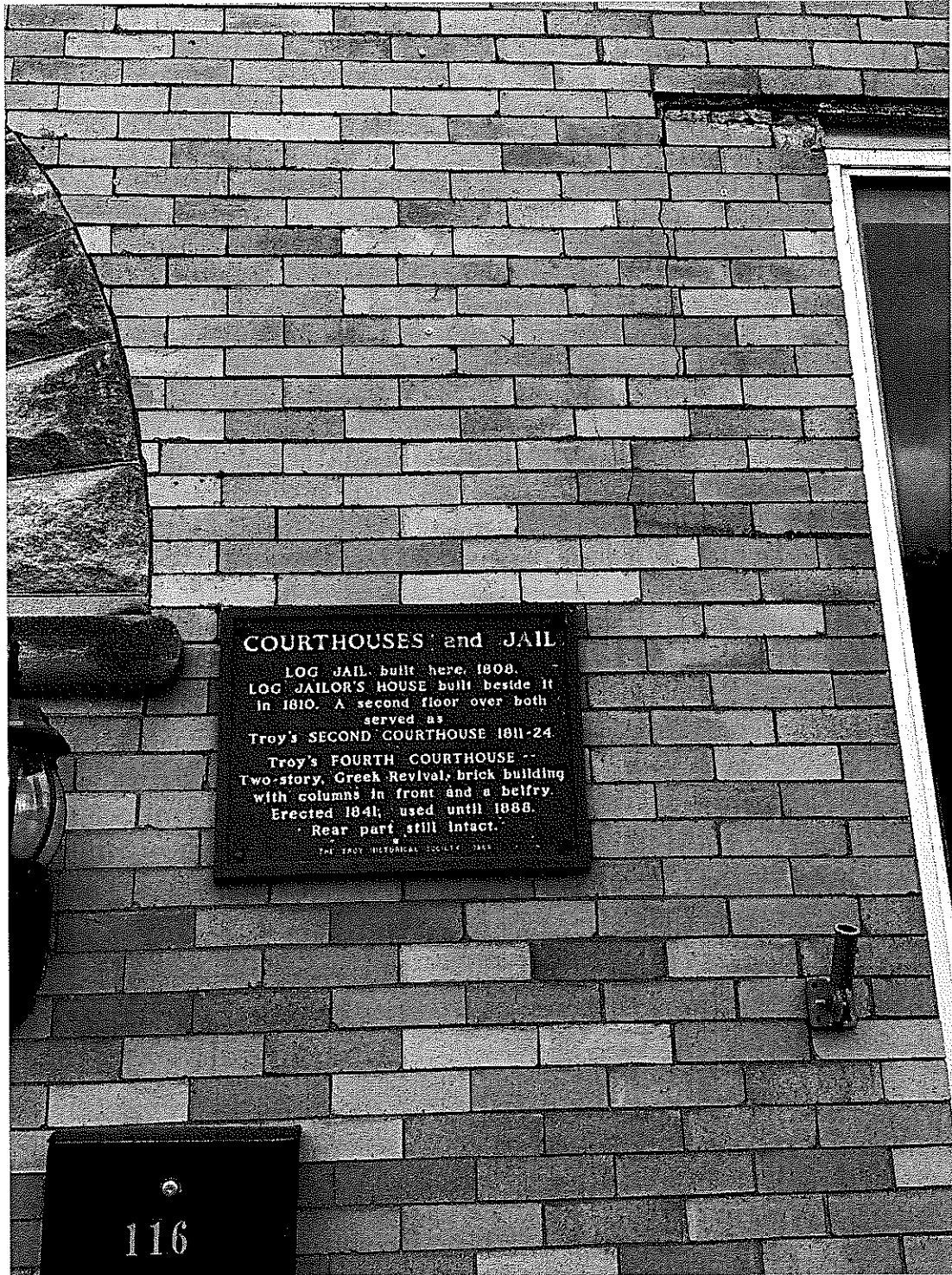


Photo 8 – Exterior Veneer at North wall.

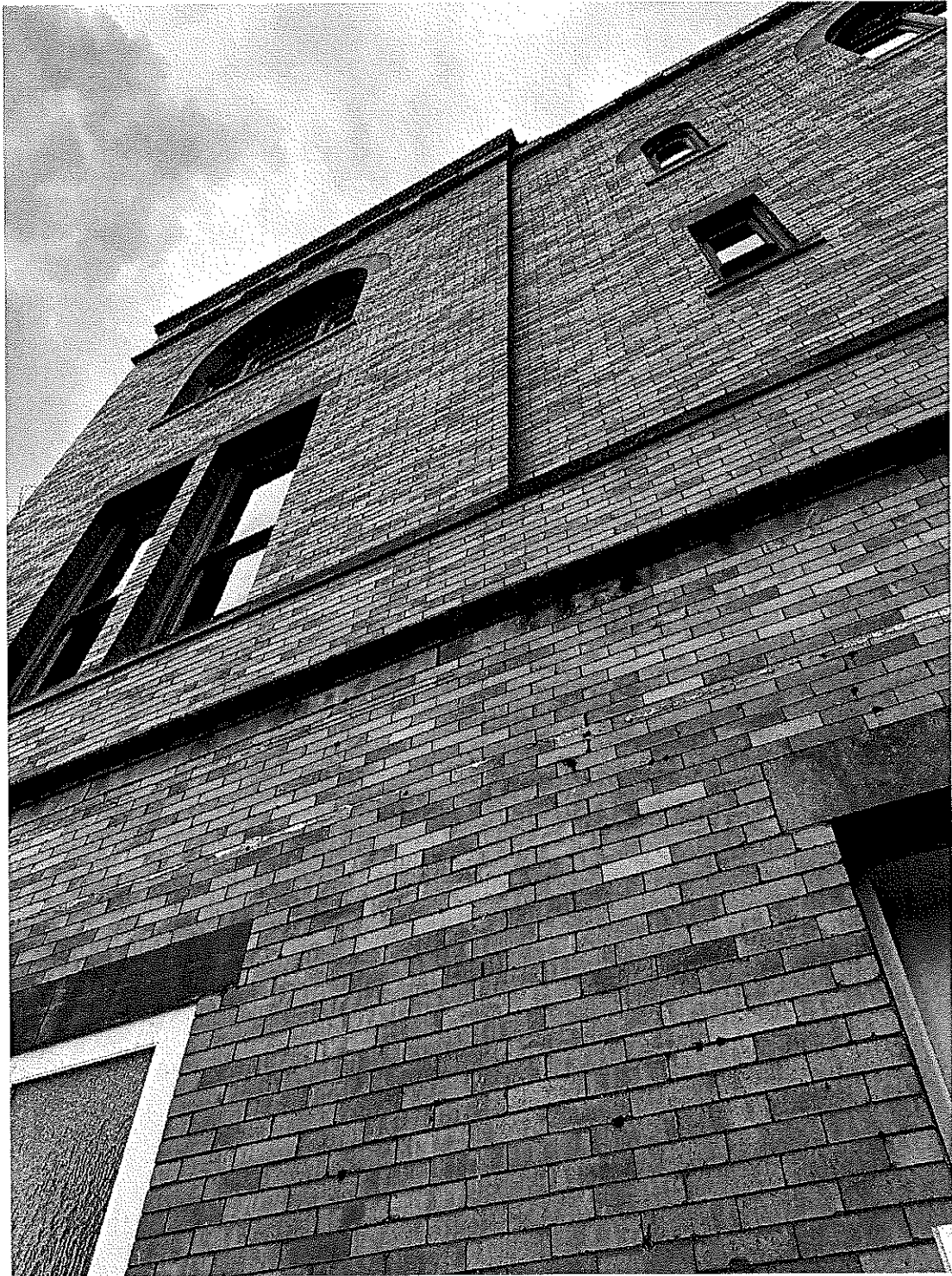


Photo 9 - Exterior Veneer at North wall



Photo 10 - Exterior Veneer at North wall, top of wall damage.



Photo 11 - South Building roof looking South at missing roofing.



Photo 12- South Building Truss, East half



Photo 13 - South Building Truss, center

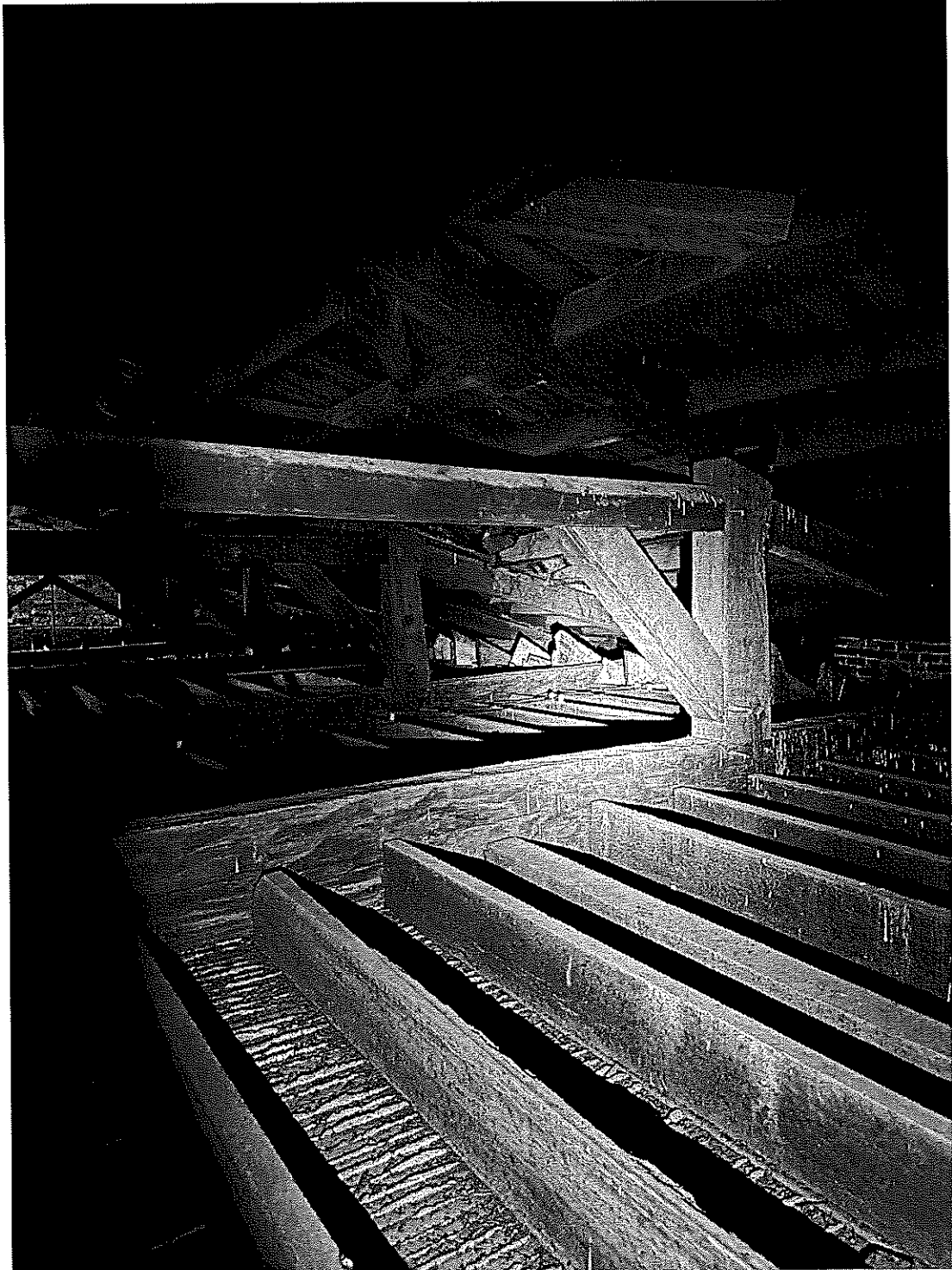


Photo 14 - South Building Truss, West half

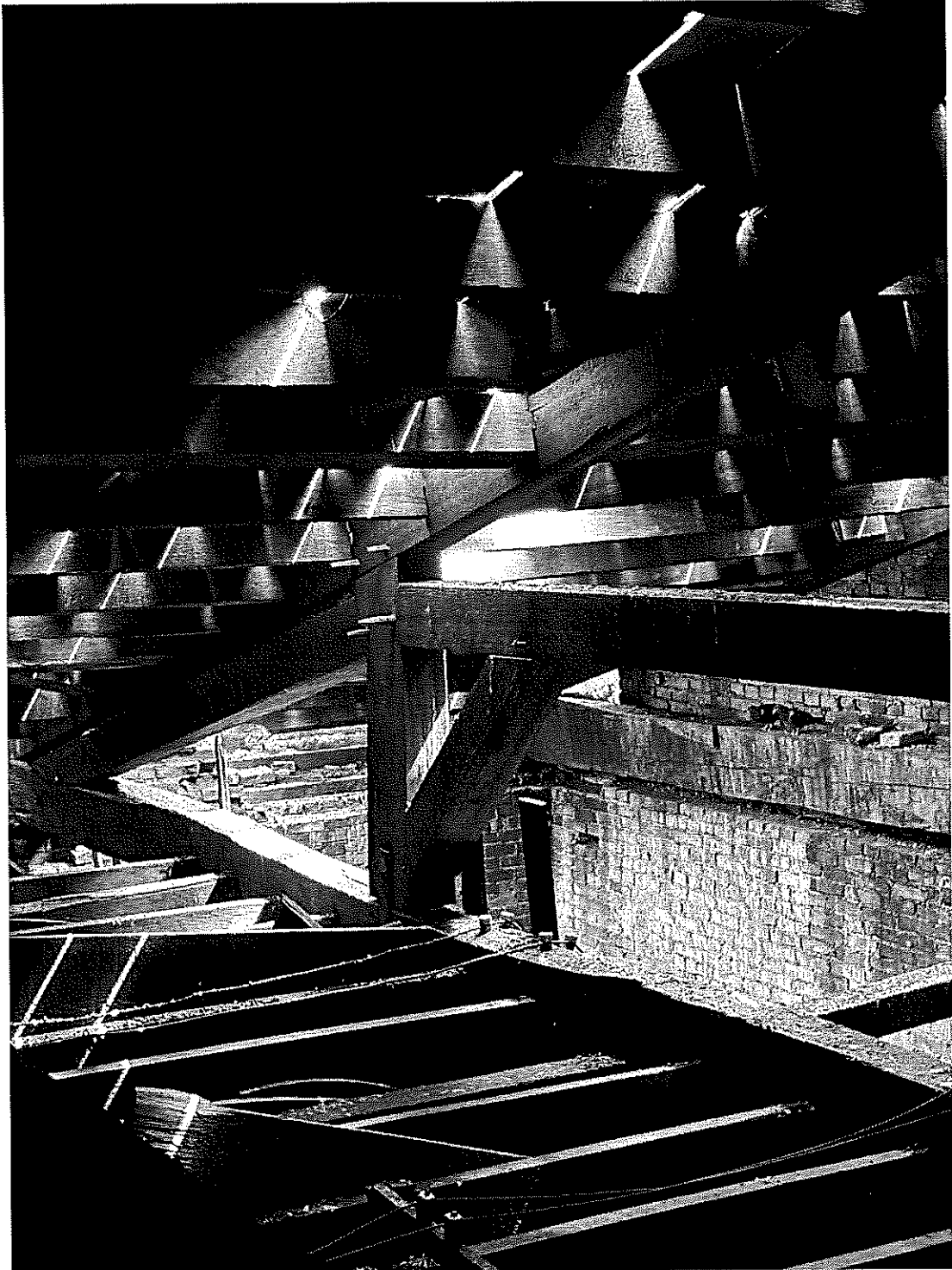


Photo 15 - South Building Truss at damaged roof

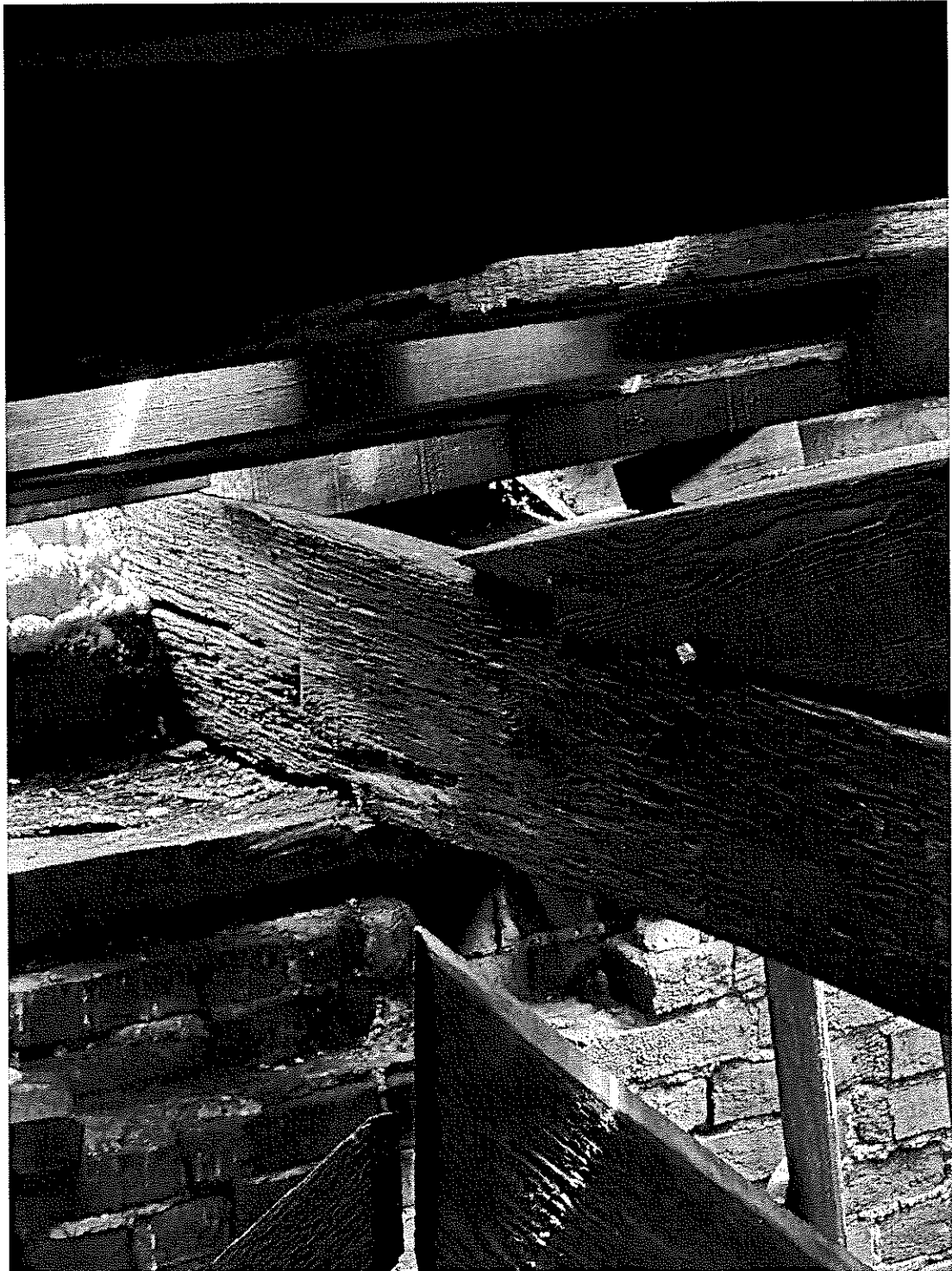


Photo 16 - South Building truss at wall bearing.



Photo 17 – South Building between South Wall and first roof truss



Photo 18 – South Building, south section of east wall damage.

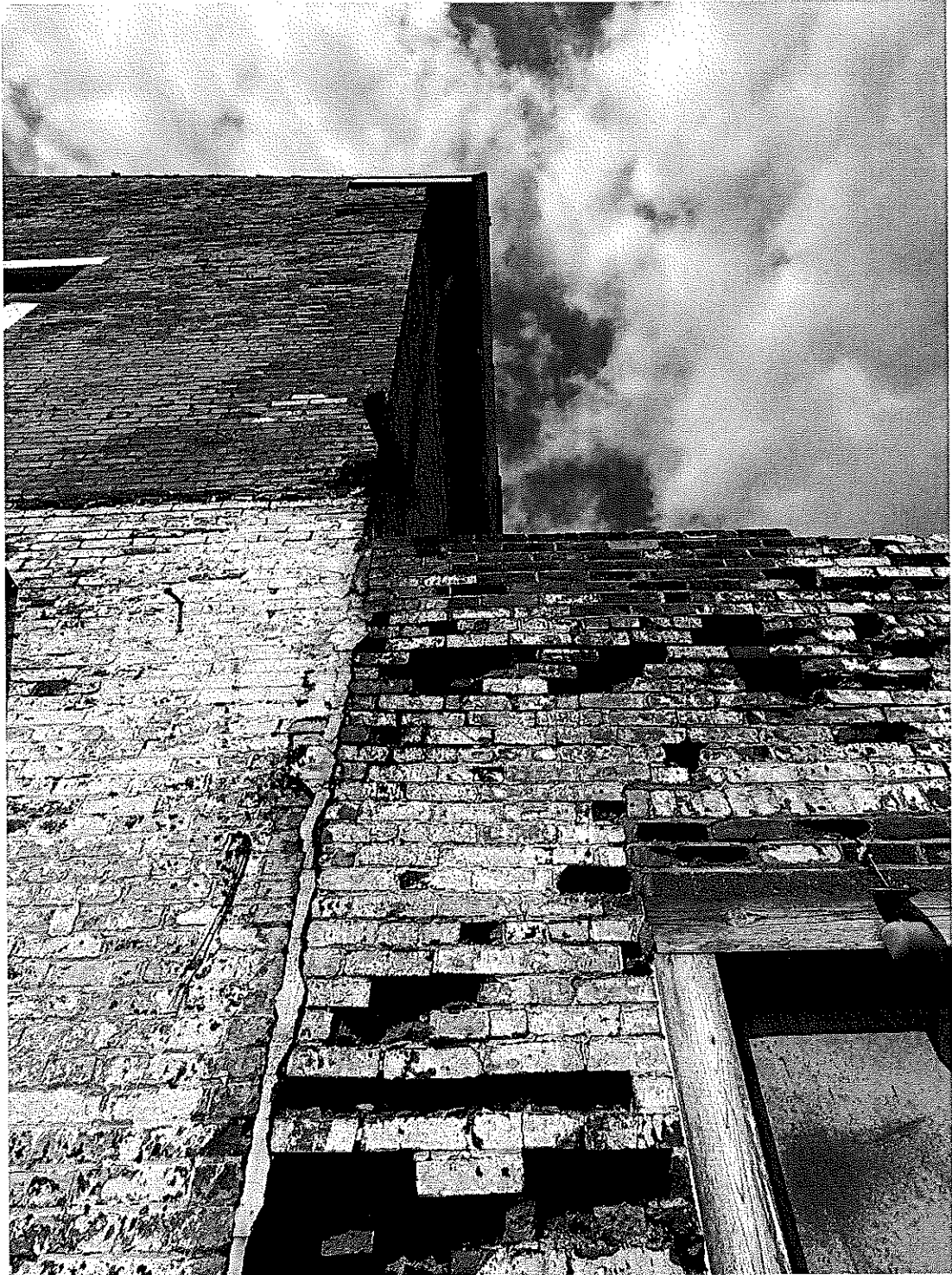


Photo 19 – South Building viewing Southeast Corner.