Hanging Systems and the Re-Use of Forsaken Architecture

Andrea Jane Widrick, 2004

Abstract

This thesis explores a ***method of structural design*** whereby major elements are implemented to hang from above. The benefit of this structure is an open plan unrestricted by the space normally allocated to support or load bearing walls. Since the structure exists above useable area, the building could be changed from an original design to accommodate new uses in the future. This structural system requires a support system to transfer loads to the ground. An existing building was chosen to satisfy this structural necessity. Townsend Hall is a vacant building on the South Campus of the State University at Buffalo. The building has been left to deteriorate since it is believed no longer economically feasible to restore.

Argument

- Widrick argues that a new typology of hanging structural systems would allow for the widespread reuse of buildings.
- She relates this logic particularly to underutilized historic buildings as a way to radically alter the use of the building by entirely removing the interior walls to allow for an interior tabula rasa.
- Widrick focuses on Townsend Hall of UB's South Campus as a site for further studies.

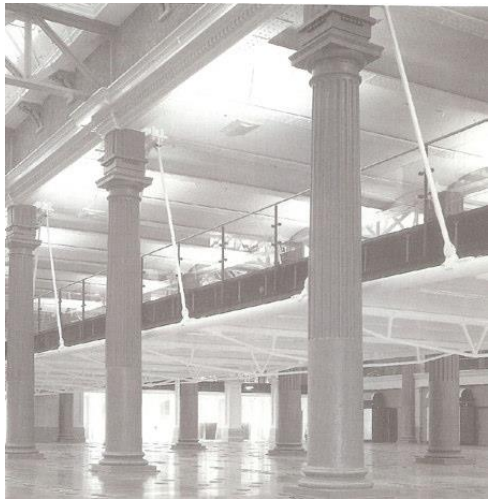
http://ublib.buffalo.edu/libraries/units/archives/buildings

Photo By Andrea J Widrick

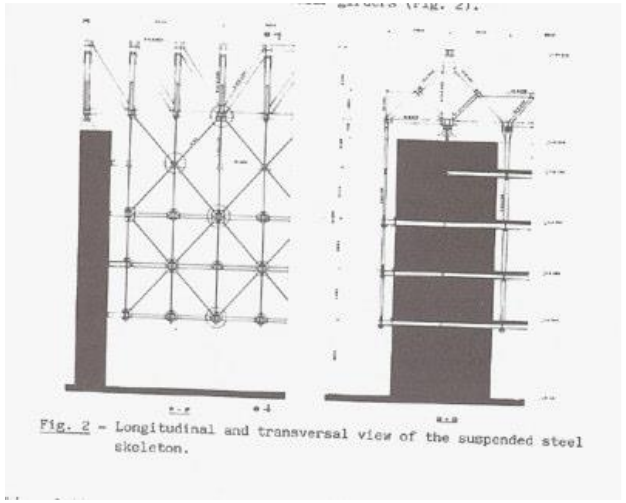
Photo By Andrea J Widrick

Literature Review

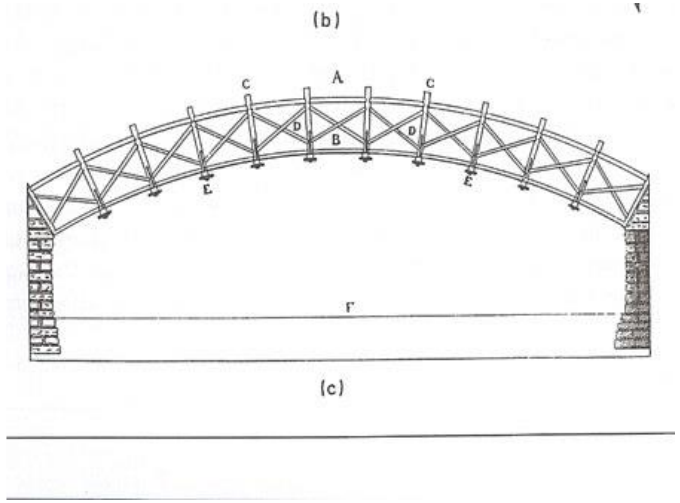
- Focuses mostly on precedent review and how those design may inform the redesign and reuse of Townsend Hall.
- Numerous references to literature are made, however no cohesive analysis or synthesis is made.



The Billingsgate Market Refurbishment, London,
Image from Connections: Studies In Building Assembly,



"Fig 2" from page 399 Steel in Buildings
"Longitudinal and Transversal view of suspended steel skeleton"



Science of Structural Engineering,
Chapter 6, Page 82

Methods and Procedures

- Widrick begins with a model of Townsend Hall in order to understand its “size and scale”.
- After the development of a procedure for designing the hanging system as a space frame is built in the model below, the new program of Townsend Hall is deemed to be a boat museum, specifically antique mahogany boats due to the “close proximity of fresh water in the Buffalo area”.

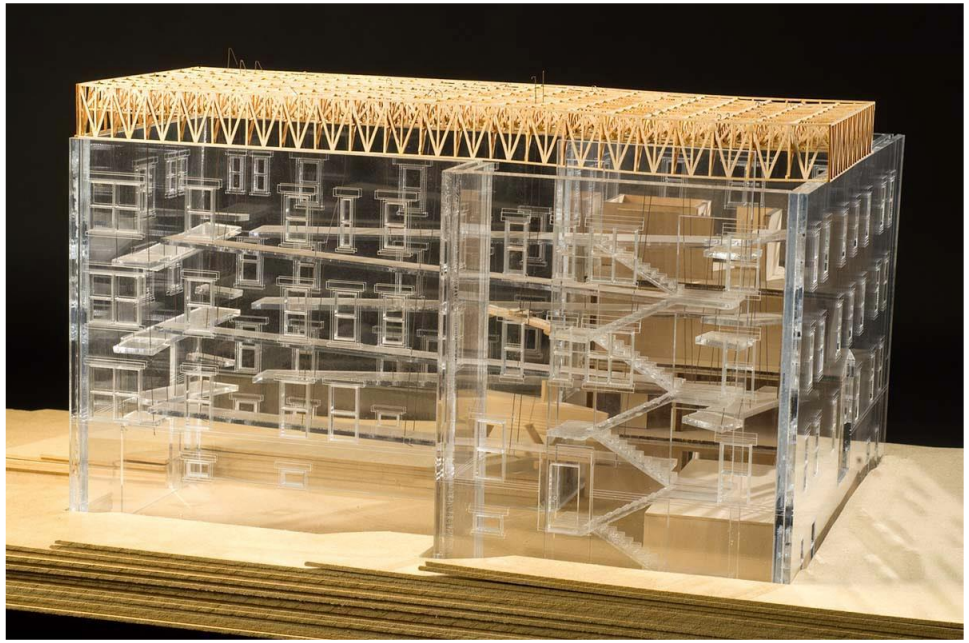


Photo By Bruce Fox
Model By Andrea J Widrick

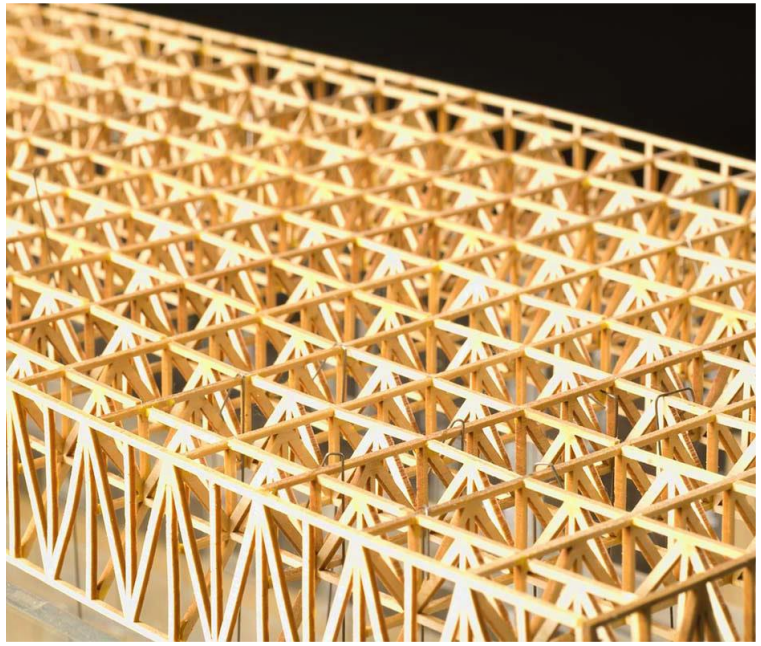
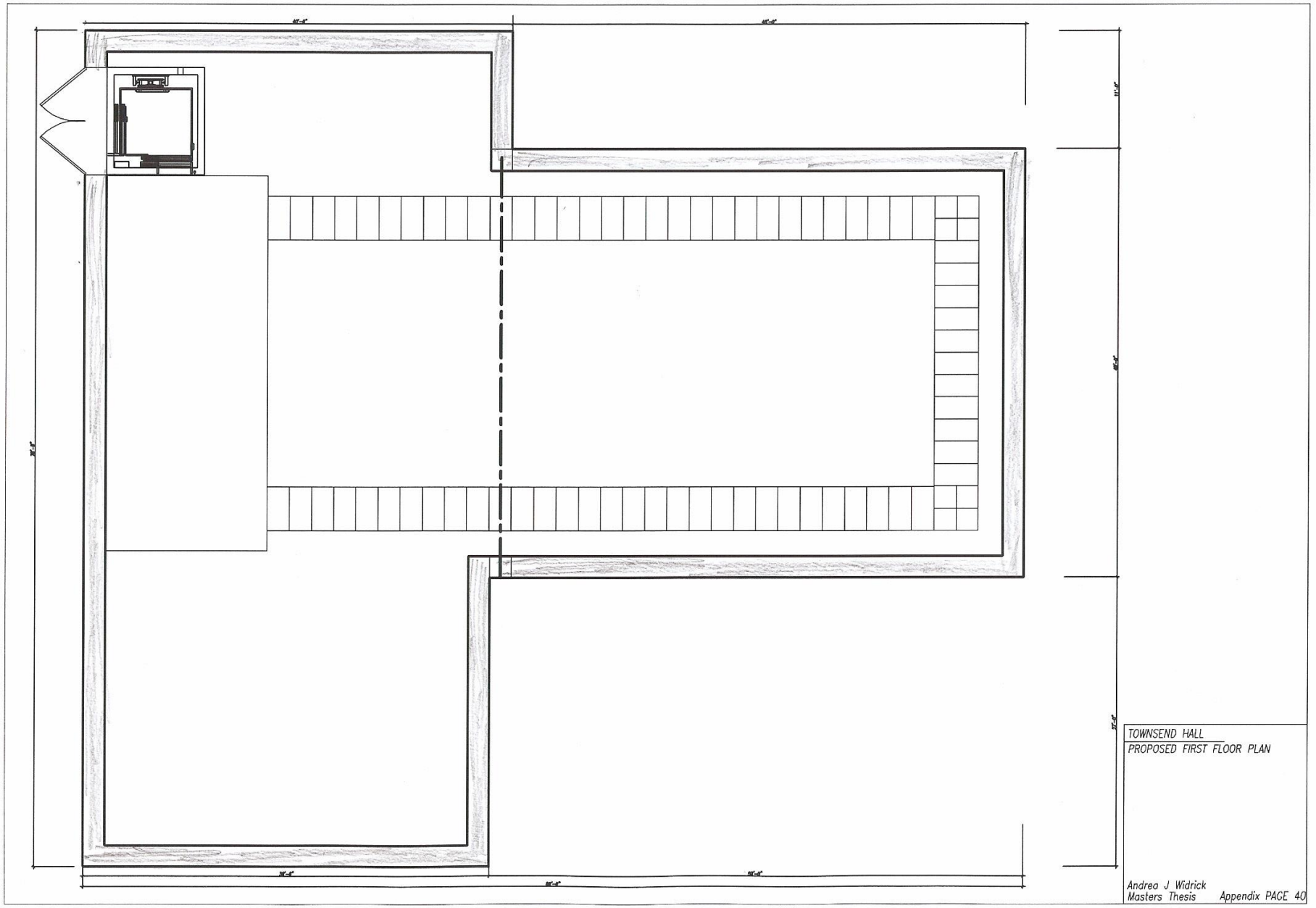


Photo By Bruce Fox
Model By Andrea J Widrick

Methods and Procedures

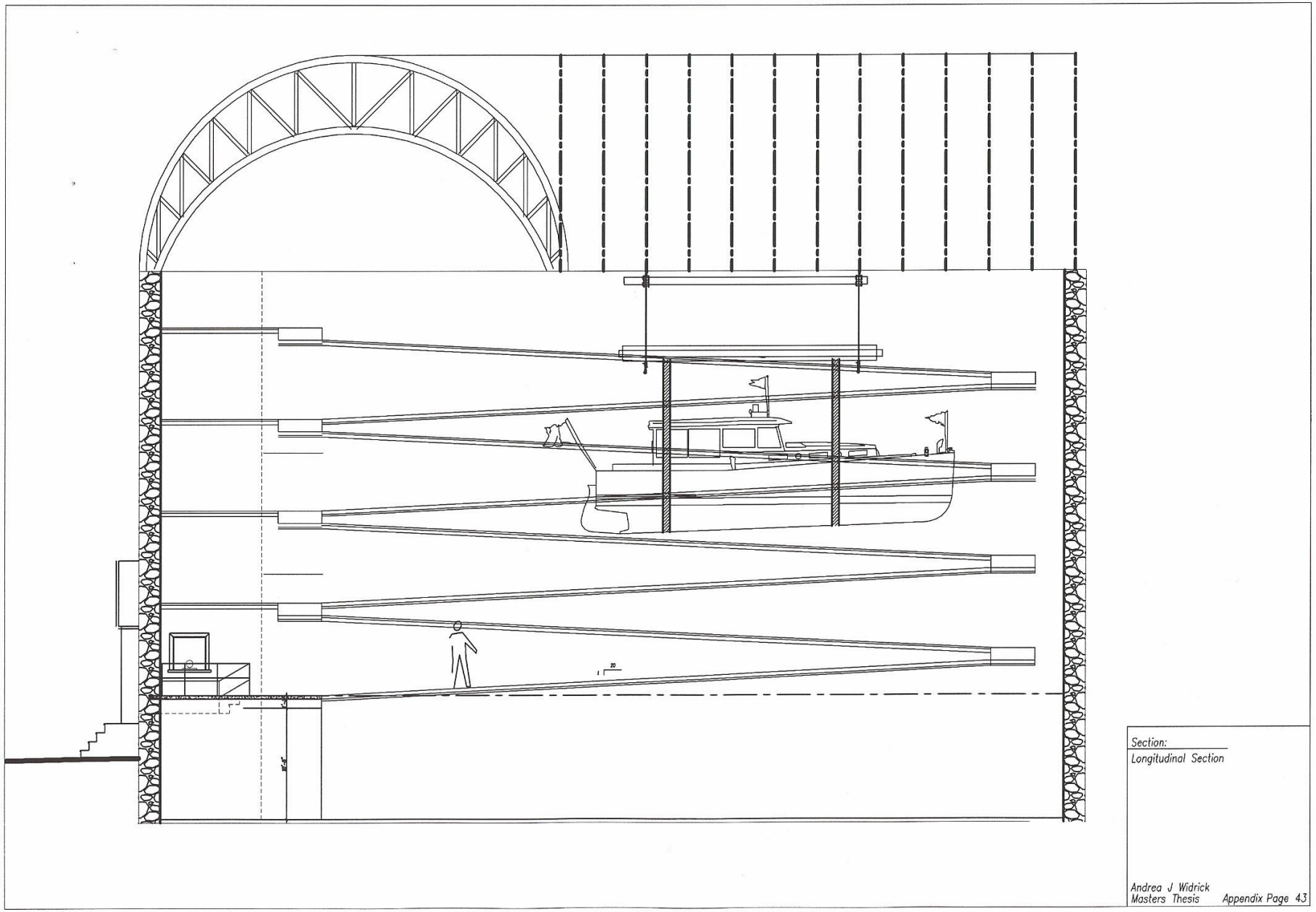
- Widrick proposed that the boats be hung from space frame so that they can be showcased properly.
- Citing concerns about the loaded frame producing unintended lateral force on the stone bearing wall of Townsend Hall, the boats were to be hung from a cable and strap system that connected to the extreme ends of the frame.

Photo By Bruce Fox
Model By Andrea J Widrick



TOWNSEND HALL

PROPOSED FIRST FLOOR PLAN



Section:
Longitudinal Section

Critique

- **This thesis was completed before the research groups were started. The writing of this thesis went on for two years**
- The abstract is fairly intriguing but the follow through is weak.
- There are a number of instances in the text that allude to the position that "if" more research or study was done, the result would substantiate the claim/s made. These claims are typically intrinsic to the development of the thesis.
- The text ends abruptly, as if the author stopped for a break and never resumed work.
- The drawings provided at the end of the thesis make a design jump from the final model that is poorly substantiated in the text. Diagrams of these design decisions would have been helpful.