

Memo

To: Ed Confair and Matt Connors, E&LP, Project Manager/Design Team Leaders

From: Patrick Harshbarger and James Lee

cc: Gianfranco Archimede, City of Paterson
Darren Boch, National Park Service
Chiara Palazzolo, National Park Service

Date: October 21, 2019

Re: Quarry Lawn and Riverwalk Concept Design Options
Alternatives Considered for Building No. 21 (Jig Dye House)

The purpose of this memorandum is to document alternatives considered by the design team for treatment of the remains of Building No. 21 (Jig Dye House) at the Allied Text Printers (ATP) Site in the Paterson Great Falls National Historical Park.

The project is located on City-owned property and is being directed by the City of Paterson's Historic Preservation Division, Department of Economic Development. The project is receiving funding and administrative support from the National Park Service, which has been closely involved in all aspects of the project. Funding is also being provided by the County of Passaic and the NJDEP Green Acres Program. The project also falls within a state-designated Brownfields Development Area (BDA) and funding will be procured through NJDEP's Site Remediation Program. The project is subject to review under the New Jersey Register of Historic Places Act (N.J.A.C. 7:4) and Section 106 of the National Historic Preservation Act (36 CFR 800).

The project design team is led by Engineering and Land Planning Associates (E&LP) with Edward Confair, PLA, PE, and Matt Connors, PE, serving as Senior Project Managers. The multi-disciplinary design team includes Andropogon Associates (landscape architecture), Quinn Evans Architects (historic preservation, architecture and cultural landscape design), Silman (structural engineering), Hunter Research (archaeology and cultural resources), Tillet Lighting (outdoor lighting design), PHASE Associates (industrial hygiene) and VJ Associates (cost estimating).

Background

Building No. 21 is a ruin and a remnant of a complex of buildings that was constructed in the former Mount Morris quarry from *circa* 1899 to 1950 to house the expansion of textile dyeing and finishing. The expansion occurred southward into the quarry from the mill lot located to the north along Van Houten Street, historically referred to as the Colt Gun Mill lot. The buildings within the quarry have been identified as Building Nos. 18, 20, 21, 22, 24, 25 and 26, based on a numbering system adopted in the 20th century by Allied Textile Printers (ATP). Today, the ruins consist mainly of low foundation walls and concrete floor slabs due to a series of fires that devastated the site during the 1980s. Building No. 21, located in the far northeastern corner of the quarry, survived with its four walls and its roof framing intact, while all other buildings were either entirely removed down to their foundations or as in the case of Building Nos. 18 and 22 left with only partial walls and no roofs.

Building No. 21 was built *circa* 1915 and had been incorporated along its south and west elevations into the much larger Building No. 20 by the 1920s (Figure 1). Building No. 20 is entirely gone except for its floor slab. Building No. 21 housed jig dyeing machinery from at least as early as the 1950s and may have had other uses in earlier years. Jig dyeing was a more mechanical, less labor intensive method of dyeing that relied on machines to spool rolled fabric back and forth through a tank of dye stuff. It was a less expensive method of dyeing that was technically preferable in some specific circumstances.



Figure 1. ATP Site in 1974. Showing Building No. 21 (outlined in red) in its historic context prior to the fires that destroyed the adjacent buildings.

Building No. 21 has a rectangular plan of 50 ft. x 38 ft. enclosed by four concrete and brick walls that stand 18 ft. tall (Figures 2 and 3). The upper 6 ft. of the walls are composed of concrete block while the lower 12 ft. section is poured concrete between brick columns that likely encase steel I-beams. The upper concrete-block section appears to be related to a modification made at a later date to raise the building's roof, possibly to accommodate the jig dyeing process. The north and east sides of the building back close to the rock face of the former Mount Morris quarry. The steel I-beam roof joists survive but the roof has collapsed. All windows and doors are missing with some window openings below the roof line having been blocked up at a later date. There are double-wide door openings near the corners of the south and west elevations. No machinery related to jig-dyeing process survives but the building's size is suggestive of the scale of the operations and the basins and machinery mounts in the concrete slab floor relate to the location of the machines and the capturing and directing away of waste water from the dyeing process.



Figure 2. Building No. 21's East Elevation. The door is visible at the lower left corner.



Figure 3. View of the interior of the eastern wall and roof.

Building No. 21 was researched and documented in 2009-10 as part of the Cultural Resources Investigation of the Allied Textile Printers (ATP) Site (Farewell Mills Gatsch Architects, et. al. 2010). At that time, the building was identified as a moderate preservation priority with preservation potential, although no specific uses or preservation strategies were called out. Additional research and documentation, including completion of comprehensive digital photography and existing condition drawings, as well as development of an understanding of the jig dyeing process, was undertaken in 2019 as part of an Archaeological Documentation and Investigation technical report (Hunter Research, Inc. 2019). The findings of historical and archaeological investigations have been used to inform the following goals and alternative treatments for Building No. 21.

Overall Project Goals

Preservation treatment of Building No. 21 is being considered within the overall context of the project to rehabilitate the ATP Site as a historical park within the Paterson Great Falls National Historical Park. The building is in the first phase of the ATP Site's Rehabilitation in an area referred to as the "Quarry Lawn." It is required that all developed alternatives and treatments comply with the General Management Plan (GMP) for the Paterson Great Falls National Historical Park and adhere to the Secretary of the Interior's Standards for Treatment of Historic Properties. The general design concept for the Quarry Lawn is Rehabilitation, as defined by the Standards, from its original use as an industrial site, now an industrial archaeology site and ruin landscape, into a public park.

The GMP involved a high level of public and stakeholder input. The GMP identified the quarry area, along with the remainder of the ATP Site, as an "Evolved Industrial Landscape Area." This envisions industrial landscape and historic structures supportive of contemporary uses and visitor exploration. Specifically, historic structures are to be stabilized, preserved or rehabilitated to adaptive reuse or removed if determined unsafe or if their interpretive value does not support interpretation.

Opportunities and Constraints Related to Building No. 21

In consideration of potential treatments for Building No. 21 as part of the Quarry Lawn project, the following specific goals and constraints were considered by the project team in consultation with the City of Paterson and the National Park Service, consistent with the GMP and the Secretary of the Interior's Standards for Treatment of Historic Properties:

- Building No. 21's treatment should be consistent with the design philosophy and overall treatment of ruins and their interpretation within the Quarry Lawn area.
- Building No. 21 should not be treated in a way that creates a false sense of history and historical prominence within its setting. It is a ruined element of a much larger complex that is largely gone from within the quarry. Building No. 21 was historically encompassed by Building No. 20 and its exterior walls were not visible.
- Building No. 21's interpretive value should be retained. Its value is related to its use as a jig dye house, a specialized process within the overall scope of the much larger textile dyeing and finishing operations that took place at the ATP Site.
- Park offices, public amenities and visitor orientation will be provided in a nearby NPS visitor's center at Overlook Park. This limits the need and opportunities for potential adaptive re-uses of Building No. 21. The Quarry Lawn is not currently serviced by

municipal water, sewer or electric. Based on the GMP, there is no current or future need for visitors services buildings (e.g. bathrooms, program space, etc.) at the Quarry Lawn. Operational space (e.g. storage, offices) is also not required.

- Building No. 21 should be treated in a manner that promotes visitor comfort and safety and does not create potentially dangerous situations (e.g. enclosed spaces with low public visibility, high walls that could be climbed on or reached by jumping from the rock face that abuts the northern and eastern elevations).
- Building No. 21 should be treated in a manner that does not create unnecessarily high future operational or maintenance costs.
- Due to environmental contamination, it is anticipated that the entire Quarry Lawn project area will be capped with clean fill from 18 to 24 inches in depth. This fill will extend across the floor of Building No. 21 preserving in place the slab floor and its evidence of jig-dyeing process.

Current Condition Assessment

Building No. 21's masonry walls are in fair to poor condition. The upper 6 ft. of concrete block is in the poorest condition with some missing blocks and losses of upper courses, particularly around the windows of the east elevation. The original wood substrate with asphaltic membrane roof is a total loss, and along with the deteriorated steel joists, represents a public safety hazard and is in an active state of collapse. There are no extant doors, although two door openings remain. Wood hopper window frames below the roof line are a total loss. There is one larger window opening, missing frame and sash, in the northern elevation adjacent to the door; it is currently boarded over. Another doorway in the southern elevation was bricked up prior to the cessation of industrial activities.

Treatment Alternatives Considered

The project team considered the following options, which were developed over a series of meetings and discussions from June 2019 to October 2019.

1. No Build. This option would leave Building No. 21 as it is with no further intervention. It would be removed from the Quarry Lawn project area and visitor access limited by a fence similar to that used to secure the remainder of the ruins to the north on the ATP site.
2. Full Mothball (Cost Estimate of 9/16/19). This option would "mothball" the building pending future decisions on some further treatment or use as yet unidentified. This would involve removing building debris, removing the structurally unstable roof, fencing off the building, repointing the upper courses of concrete block masonry, repairing window lintels, cleaning of masonry and removal of graffiti, installing anti-graffiti coating, adding a new timber frame roof with rubber membrane, blocking off all window/door opening and providing louver ventilation, and pipe trench to drain from around the building's foundation.
3. Full Stabilization (Cost Estimate of 9/16/19). This option would fully stabilize the building walls including removal of debris and unstable roof, repointing masonry of the upper courses, shoring and repairing window lintels, adding a structural ring beam to the top of the walls for structural stability, cleaning of masonry, removal of graffiti and application of anti-graffiti covering.

4. Full Stabilization Limiting Visitor Access (Cost Estimate, Option 1 of 9/23/19). This option would be a reduced version of the Full Stabilization that would gate one of the entries and block-up other door and window openings to prevent access and promote visitor safety. It would substitute painting of the masonry for costly cleaning of graffiti and application of anti-graffiti covering.

5. Interpreted Partial Walls (Cost Estimate Pending). This option would be a partial removal of the walls, consisting of taking the walls down to a proscribed height, between 48" and 72" above the existing ground level. After a capping material is added to the existing ground level, the lower walls would extend above the new ground level to form seats/benches, other walls might be left slightly higher to indicate the location of door and window openings or provide space for interpretive panels.

6. Full Demolition with Materials Kept on Site (Cost Estimate Option 2 of 9/23/19). This option would result in a complete demolition to ground level. A foundational footprint of the building could be retained as an interpretation of its location. Demolition materials would be crushed and spread on site prior to placing the cap.

7. Full Demolition with Materials Taken Off Site (Cost Estimate Option 3 of 9/23/19). This option would result in a complete demolition of the building to ground level. A footprint of the building could be retained as an interpretation of its location. Demolition materials would be removed off site.

Consideration of Alternatives

1. The No Build option does not meet the GMP's goals of preservation, stabilization or rehabilitation and it will leave an unsafe, deteriorating structure adjacent to the Quarry Lawn area. It will essentially defer a decision on the building to a later date while the building continues to deteriorate. The building would be fenced off from visitor access similar to the fence being used to secure the remainder of the ATP site but determined individuals would still likely be able to gain access and public safety would remain an unaddressed concern.

2. The Full Mothball option would meet a GMP goal of stabilization, however, it would not be consistent with the goal of a historic structure supportive of contemporary uses and visitor exploration. Interventions required for mothballing Building No. 21 would include blocking up or otherwise securing openings to prevent unwanted visitor access, as well as to keep animals and other pests from infiltrating the building. Removing the deteriorated roof system and replacing it with a secure envelope would be desirable from the point of view of protecting the interior from moisture build up, mold and vegetation, as well as preventing access into the building. The tops of the wall/roof would be accessible to someone climbing or jumping from the rock face immediately behind the building creating a safety concern. Ventilation might be required in the form of the addition of louvers or some other system to keep up an appropriate air flow. The masonry would be cleaned, repaired and treated with anti-graffiti coatings. Like the No Build option, the Mothball option would defer a decision on the building to a later date. Interpretation could be provided through exterior signage.

3. The Full Stabilization option would offer a GMP-compatible preservation treatment to retain as much historic fabric as possible given the building's current condition, as well as cleaning the masonry and applying an anti-graffiti coating, and offering the public access to the building. This

option would stabilize the building at its full height and result in removal of the unsafe roof. It would not, however, fully eliminate concerns for visitor safety since the top of the wall and the roof opening would remain accessible from the adjacent rock face. It would also create a fully enclosed space with limited visibility into the interior of the building from nearby within the park raising concerns for safety. From a visual perspective, retention of Building No. 21 as a fully stabilized ruin will make it a very prominent historic architectural feature within the Quarry Lawn. There is some concern that the rehabilitated park setting and the adjacent expanse of lawn will set the building off giving it a false prominence within the cultural landscape since the treatment of all other buildings in this area will be as low profile walls or partial ruins. Interpretation of jig dyeing would be possible either within the shell of the building, on its exterior or on the path leading to the building, supporting visitor exploration.

4. The Full Stabilization Limiting Visitor Access is a modification of the Full Stabilization option. It would eliminate the costly anti-graffiti cleaning and coating in favor of painting the walls a neutral color and repainting as necessary. Public safety would be enhanced by blocking-in all windows and doors except for one door opening that would be fitted with a locked gate that could be opened under staff supervision. This option would be a GMP-compatible preservation treatment since the block of doors/windows would be reversible, but would limit the public's ability to explore. It would not address the building's false visual prominence within a rehabilitated park setting. Visitor exploration and interpretation would be limited to the building's exterior.

5. The Interpreted Partial Walls option would offer a GMP-compatible rehabilitation treatment option consistent with the design concept for Quarry Lawn. While it does have the negative impact of removing the building's upper courses, it would leave original brick and concrete materials representative of the walls of *circa* 1915 up to a height of between approximately 4 ft. and 7 ft. After the addition of cap material to raise the ground level, the lower walls could be used as park seating and as a gathering area for park programs. The door openings with removal of lintels could be maintained as the main entries into the rectangular space, and some sections of wall might be left higher to retain interesting features such as the window in the northwest corner or the sides of doors. The low walls would eliminate the visitor safety issues present in the Full Stabilization options since there would be no access to the top of 18 ft. high walls from the rock face and all areas within the footprint of the building would be visible from the lawn. The Interpreted Partial Wall option would be consistent with the treatment of other ruins within the Quarry Lawn (e.g. Building No. 18 and the low foundations of other buildings along the River Wall), providing a consistent visitor experience. Interpretation of jig dyeing would be possible within the low walls of Building No. 21, supporting visitor exploration.

6. The Full Demolition with Materials Kept on Site option would result in removal of historic fabric to ground level and would not meet the GMP goals of preservation, stabilization or rehabilitation. This option's principal merit is that it would facilitate a treatment of the space occupied by Building No. 21 as part of the "great" lawn, similar to the space once occupied by Building Nos. 20 and 26. By keeping demolition materials on site, costs of transportation and disposal are limited, and the masonry walls would be crushed and spread across the site.

7. The Full Demolition with Materials Taken off Site option would result in removal of historic fabric to ground level and would not meet the GMP goals of preservation, stabilization or rehabilitation. This option's merit is that it would facilitate a treatment of the space occupied by

Building No. 21 as part of the “great” lawn, similar to the space once occupied by Building Nos. 20 and 26.

Estimated Costs

The following table summarizes the engineer’s construction cost estimates for the proposed options.

Future operational costs take into consideration the need for regular maintenance and security, normal repairs that could be expected from aging and weathering, and costs associated with deferred decisions if, for instance, the building were to be left as it is or mothballed. These are rated as High, Moderate and Low relative to the options.

Option	Estimated Construction Cost	Future Operational Costs
1. No Build	\$ 0	High
2. Full Mothball	\$ 490,611	High
3. Full Stabilization	\$ 389,237	High
4. Full Stabilization Limiting Visitor Access	\$ 242,941	Moderate
5. Interpreted Partial Walls	\$Cost Estimate Pending (judged to be less than Option 4 and more than Options 6/7)	Moderate
6. Full Demolition with On-site Disposal	\$39,409	Low
7. Full Demolition with Off-site Disposal	\$53,484	Low

Preferred Option

The project team, in consultation with the City of Paterson and the National Park Service, recommends the Interpreted Partial Wall option as best meeting the project’s goals and offering a compatible design that is consistent with the approach to the rest of the Quarry Lawn project. It achieves the desired goals of offering a visitor experience that promotes exploration and interpretation, reduces safety concerns and balances costs. It does not defer a decision on the use of Building No. 21 to a later date, as would be the case with the No Build and Full Mothball options. It has moderate future operational costs related to maintenance of low walls and pathways, and a construction cost less than Full Stabilization or Full Stabilization Limiting Visitor Access, neither of which fully address public safety and resource security concerns. While the Interpreted Partial Wall option is more costly than No Build or Full Demolition options, neither of these are judged to be satisfactory in light of the project’s goals as set out in the GMP.