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Title: Conditions Assessment and Preservation Work Plan for Portable Guard Shacks (TA-8-172 and TA-18-111)

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TITLE PAGE FOR LA-UR REQUEST

Title: Conditions Assessment and Preservation Work Plan for Portable Guard Shacks (TA-8-172 and TA-18-111)

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Abstract: This document serves to outline planning for rehabilitation work to Manhattan Project-era guard stations that were transported to a National Park Service (NPS) Historic Preservation Training Center facility in Ft. Vancouver, Washington. The document was produced by a HPTC staff member (non-LANL personnel) through a LANL contract. The document will be shared with the NPS Manhattan Project National Historical Park Superintendent along with the New Mexico State Historic Preservation Office for review and concurrence. Although the author is a LANL employee, an LA-UR number is requested for sharing with outside agencies. Front matter that includes a letter from Triad to the NNSA Cultural Resource Program Manager and the enclosed technical information is authored by J.T. Stark and will accompany the report during the review and consultation process.



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Environmental Stewardship Group

Symbol: EPC-DO: XX-XXX

Date: February 21, 2024,

Mr. Kenny
Cultural Resources Program Manager
NNSA MAPR Site Representative
Department of Energy, National Nuclear Security Administration
MAI, NA-LA, MS A316
Los Alamos, NM 87545
brian.kenny@nnsa.doe.gov

Subject: Proposal to Rehabilitate Two Manhattan Project–Era Guard Stations

Dear Mr. Kenny,

Enclosed for your review and subsequent transmission to the Manhattan Project National Historical Park Superintendent and the New Mexico State Historic Preservation Officer is a conditions assessment and preservation work plan to rehabilitate two Manhattan Project–era guard stations, TA-08-0172 and TA-18-0111. In March of this year, Los Alamos National Laboratory transported the guard stations (HPD Log # 118176) to the Historic Preservation Training Center (HPTC) in Ft. Vancouver, Washington, in preparation of a comprehensive assessment of current conditions. Staff from the HPTC evaluated both buildings and documented the condition through written narrative and annotated photographs. Subsequent treatment recommendations follow each assessment of architectural elements, which included floors, walls, windows and doors, roofs, and interiors.

Treatments will take place at the National Park Service HPTC facility, which specializes in the preservation of historic buildings held throughout the nation's parks. The HPTC staff possess the knowledge and skills necessary to effectively rehabilitate the guard stations as directed by the Secretary of Interior Standards.

The enclosed conditions assessment and preservation work plan report specifies of how the proposal will effectively rehabilitate both Manhattan Project–era guard stations. The information covered represents an outstanding effort by the HPTC to evaluate current conditions and advise best options for preservation. The preservation work plan, as outlined in the enclosed report, leads the historic buildings specialists with Triad's Cultural Resources program to consider the rehabilitation of both guard stations a *No Adverse Effect*, and that a concurrence of *No Adverse Effect* should be reached by the National Park Service and the New Mexico State Historic Preservation Office.

If you have any comments or questions, please contact me (505-695-8834 or clabeyta@lanl.gov) or J.T. Stark (505-396-0730 or jtstark@lanl.gov).

Sincerely,

Christine Bullock
Team Leader for Cultural Resources
Environmental Stewardship Group, EPC-ES

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Enclosures:

Enclosure 1: Conditions Assessment and Preservation Work Plan for Portable Guard Shacks
(TA-8-172 and TA-18-111)

Enclosure 2: Technical Information for the Conditions Assessment and Preservation Work Plan
to Rehabilitate Two Manhattan Project–Era Guard Stations

Copy w/ enclosures:

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Technical Information for the Conditions Assessment and Preservation Work Plan to Rehabilitate Two Manhattan Project–Era Guard Stations

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended and 36 CFR 800, the U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office (NA-LA) proposes the rehabilitation of two Manhattan Project–era guard stations.

NA-LA plans to rehabilitate two Manhattan Project–era guard stations (TA-08-0172 and TA-18-0111) as part of an effort to bring the buildings into a recurring maintenance schedule and provide a safe and historically accurate experience for visitors to the Manhattan Project National Historical Park. Performance of the rehabilitation falls upon the National Park Service’s Historic Preservation Training Center (HPTC). The HPTC conducted a thorough conditions assessment and produced a plan for treatment for both guard stations. The enclosed conditions assessment and treatment plan document stems from a previous consultation to transport the guard stations to a HPTC facility in Fort Vancouver, Washington (*Proposed Plan to Transport Two Manhattan Project–Era Guard Stations to the Historic Preservation Training Center for Rehabilitation*, HPD Log # 118176). Relocating the buildings to the HPTC facility allowed staff to perform a detailed evaluation of existing conditions and develop a plan for appropriate treatments at their own facility.

The enclosed document, titled *Conditions Assessment and Preservation Work Plan for Portable Guard Shacks (TA-8-172 and TA-18-111)* details existing conditions and provides a plan for the rehabilitation of the two guard stations. The guard stations represent a unique Manhattan Project–era resource with the manufacture of both guard stations constituting rectangular-in-plan, wood-framed, single-story buildings. The 08-0172 guard station carries a pitched, shed-type roof, while 18-0111 holds a gabled roof with an extended overhang above a solitary entrance door. Both guard stations accommodate a single walkthrough entrance doorway which opens to a single room.

Rehabilitation work by the HPTC will completely repair failing architecture elements identified in the conditions assessment. These elements include the floors, walls, window and door openings, roofs, and interiors. Repairs have been neglected for decades, requiring a full rehabilitation to bring the guard stations in to a regular maintenance cycle and provide a safe experience for the visiting public.

The rehabilitation work outlined in Enclosure 1 defines critical tasks for the continued preservation of both guard stations. Working closely with the HPTC provides an excellent opportunity to preserve the historical significance of the buildings while providing safe and historically accurate buildings for public interpretation. NA-LA views the work provided by the HPTC as a net benefit to the preservation of the guard stations and hopes that your office concurs with the work as outlined in the enclosed conditions assessment and treatment plan.

Thank you and please contact Brian Kenny, Cultural Resources Program Manager, at (505) 667- or at brian.kenny@nnsa.doe.gov with questions or concerns.

Sincerely,

Theodore A. Wyka
Manager

Enclosure:

Enclosure 1: Conditions Assessment and Preservation Work Plan for Portable Guard Shacks
(TA-8-172) and TA-18-111)

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Concurrence

Concurrence with the determination that the rehabilitation work outlined in the Preservation Work Plan for buildings 08-0172 and 18-0111 will not adversely affect the characteristics that make the buildings eligible for listing in the National Register of Historic Places.

New Mexico State Historic Preservation Officer

Date

Comments:

***Conditions Assessment and Preservation Work Plan for
Portable Guard Shacks (TA-8-172 and TA-18-111)***

Manhattan Project National Historical Park (Department of Interior) &
Los Alamos National Laboratory (Department of Energy)

Los Alamos, New Mexico
FY 2023

Sara Stratte
Exhibit Specialist

National Park Service Historic Preservation Training Center (HPTC)
Pacific West Region Section -- Vancouver, Washington

U.S. Department of the Interior
Washington, D.C.

June 2023

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EXECUTIVE SUMMARY



TA-8-172 in March 2023.



TA-18-111 in March 2023.

The purpose of this report is to document the current state of deterioration and propose repairs for TA-8-172 and TA-18-111, two portable guard shacks from the Los Alamos National Laboratory (LANL) which have been designated as historic resources. This preservation treatment plan has been prepared by the Historic Preservation Training Center (HPTC), a historic preservation program within the National Park Service, to ensure that the treatments comply with guidelines established in *The Secretary of the Interior's Standards for the Treatment of Historic Properties*.

The observations outlined in this report are based on the conditions observed on both structures after being shipped to the HPTC workshop in Vancouver, Washington. Additional historical research, photographs, and construction details have been provided to HPTC by Los Alamos National Laboratory staff. The conditions described are based on visual assessment and limited physical probing. All photographs were collected following March 9, 2023, at the HPTC workshop unless otherwise noted. The structures, window sash, and doors were documented utilizing photography and linedrawings to indicate deterioration conditions. All of the repairs suggested in this report follow the recommendations for preservation and restoration as indicated in the *Secretary of Interior's Standards*.

Treatment Plan Disclaimer

The treatment plan narrative and associated line drawings are composed based only on visual observation, inference, and limited physical probing. For elements which are partially or fully hidden by other elements at present, such as the wall framing or roof decking, our assessments are based partially on the observation of related systems and adjacent materials; thus, the repairs lined out in this report are informed conjecture based on the condition of surrounding materials. Additionally, removing paint from siding, trim, window sash, and doors could expose previously hidden deterioration. We reserve the right to modify planned treatment repairs based on circumstances as they arise over the course of the project; all treatments will be designed and carried out with the philosophy to: repair when possible; replace in kind when necessary; ensure that all modifications will match the existing in material and dimensions; and to stamp new materials inconspicuously to differentiate repairs from historic materials.

DIRECTIONAL NOMENCLATURE

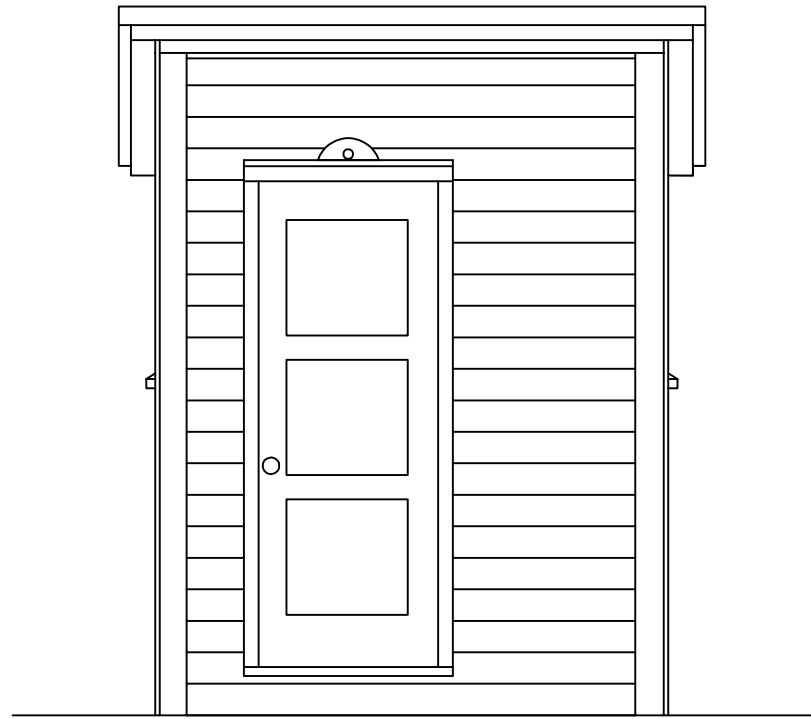
Both guard shacks were designed to be portable structures, and over the course of their period of significance were situated in more than one location. For the purposes of this report, the building elements are named by their orientation to the primary elevation rather than in reference to cardinal directions (i.e., “west elevation”). Thus, the primary elevation is the “front;” if one is outside of the structure facing the door and moves around the structure to the left, that elevation is the “left.” See the elevation drawings for TA-8-172 and TA-18-111 (pages 3 and 4) for reference.



TA-8-172, left, in-situ at its original location in TA-19 (McGehee et al. 2018, 16).

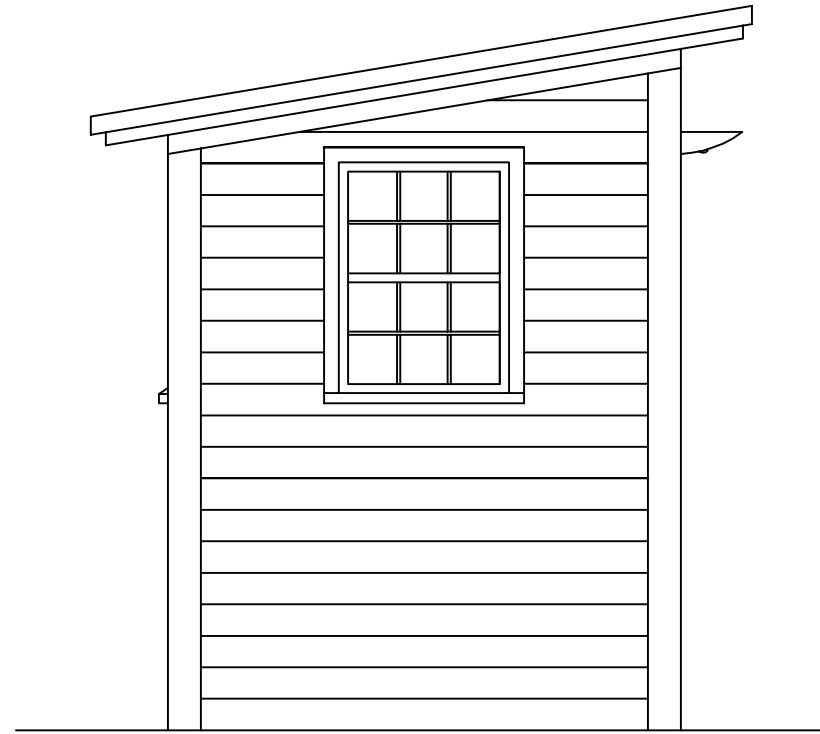
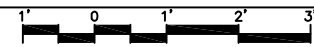


TA-8-172, after relocation to TA-08 in 2006 (McGehee et al. 2018, 19).



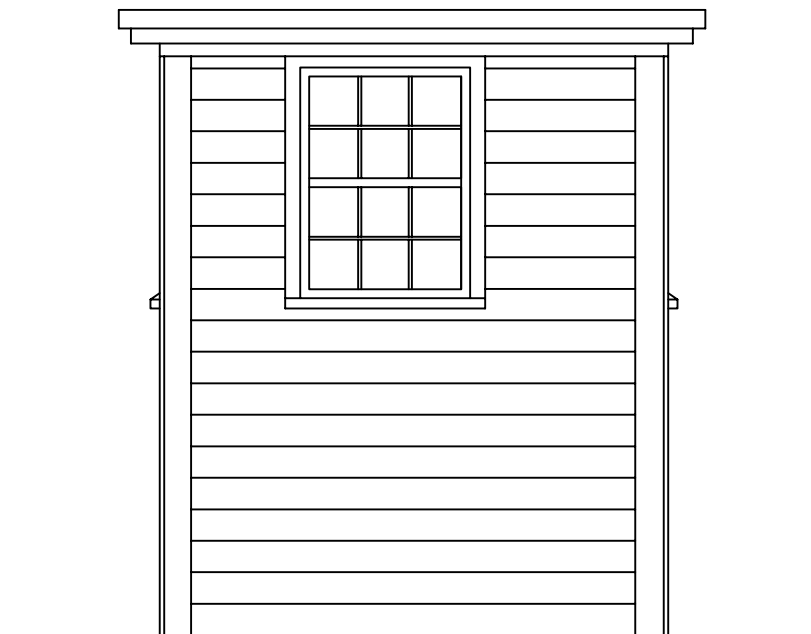
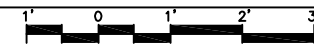
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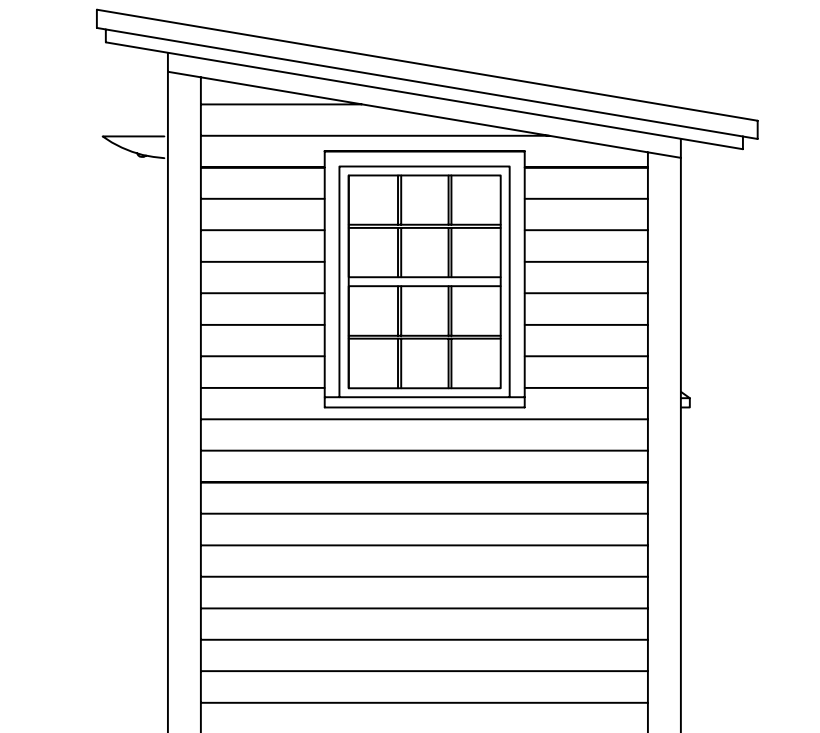
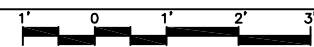
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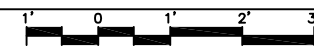
BACK

SCALE:



RIGHT

SCALE:



TITLE OF SHEET:
TA-8-172 --
ELEVATIONS

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

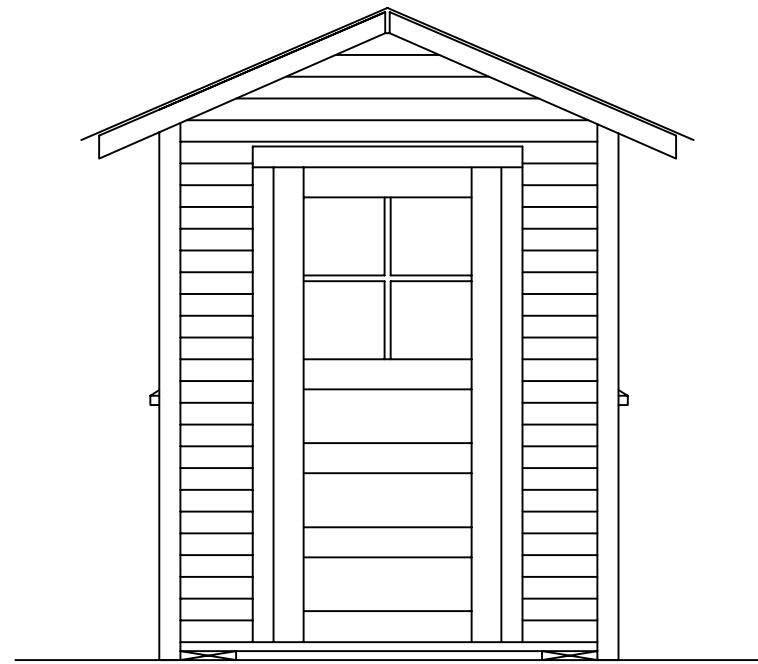
DATE:
MAY 2023

SCALE:
3/8" = 1'- 0"

**UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE**

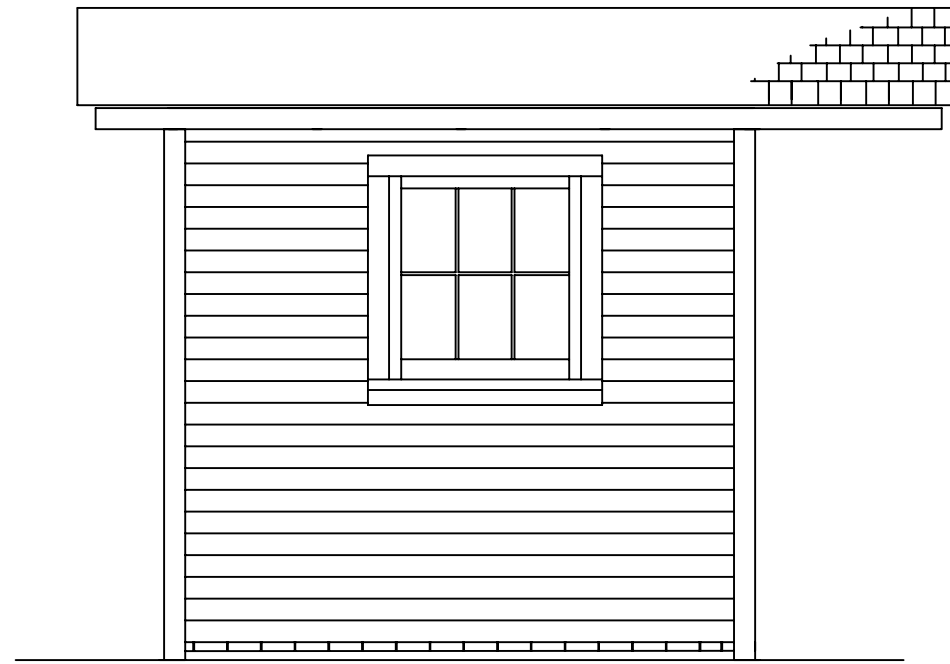
**HISTORIC PRESERVATION
TRAINING CENTER (HPTC)
PACIFIC WEST SECTION**





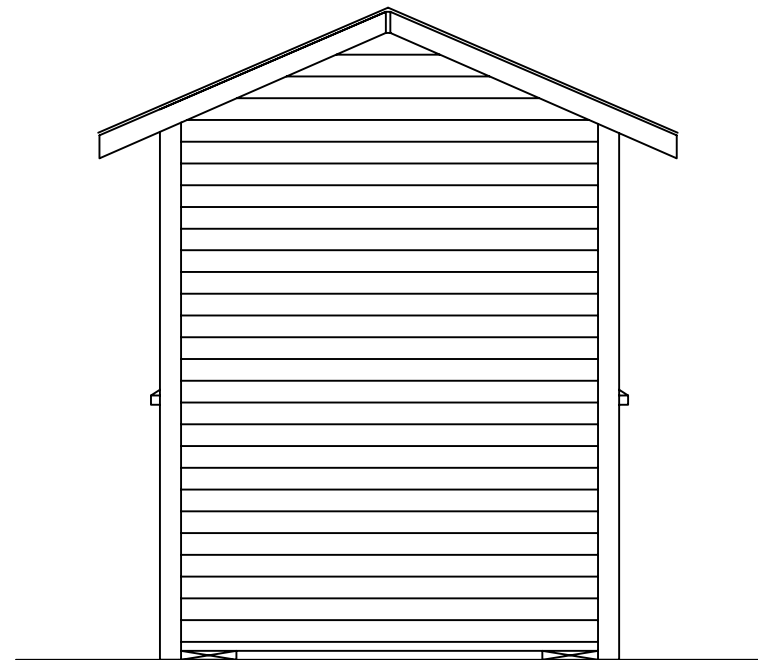
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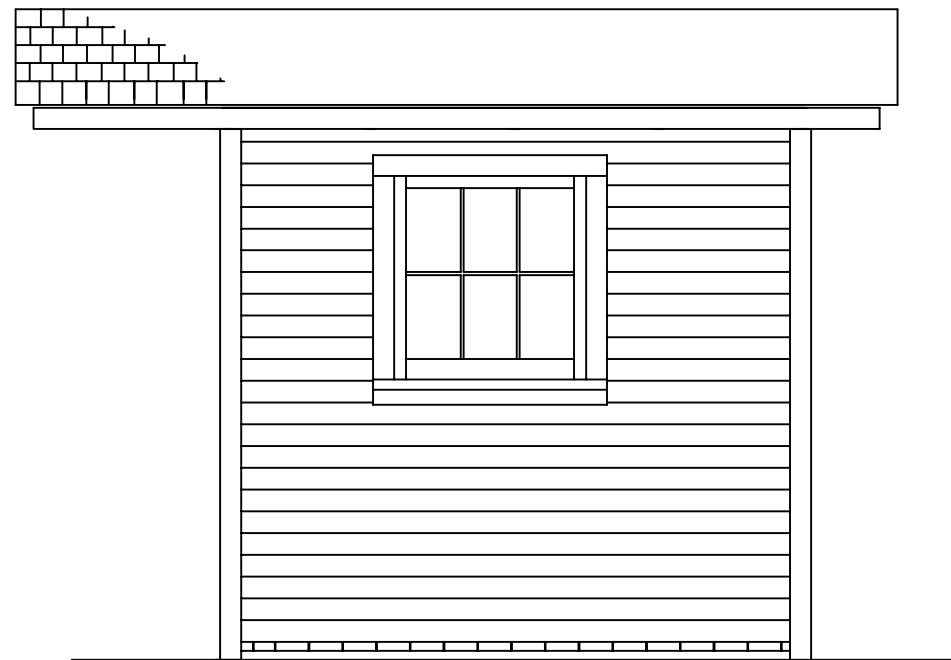
LEFT

SCALE:



BACK

SCALE:



RIGHT

SCALE:

TITLE OF SHEET:
TA-18-111 --
ELEVATIONS

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3/8" = 1'- 0"

**UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE**

**HISTORIC PRESERVATION
TRAINING CENTER (HPTC)
PACIFIC WEST SECTION**



Floor Framing and Flooring

The floor framing of TA-8-172 consists of nominal 2" x 8" floor joists with 2" x 8" blocking between members along the joist ends at the left and right elevations and diagonal cross bracing running from the front to the back of the structure at the center of the joists. Joists at the front and back of the structure consist of two sistered 2" x 8"s. Diagonal floor sheathing (which appears to be variable size, from 1"x 8" to 1" x 12" nominal) is fastened onto the top of the floor framing. The diagonal floor sheathing runs to the extents of the floor framing and the wall framing sill plates are attached to the top of the diagonal floor sheathing. The finished floor consists of 3/4" x 2-1/4" tongue and groove (T&G) flooring, attached to the diagonal floor sheathing; a sheet of tar paper is fixed between the T&G and diagonal sheathing, evident in areas where the T&G is significantly deteriorated. At present, some of the floor framing at the middle and front of the structure is difficult to examine due to the presence of temporary bracing elements attached to the structure. Thus, the conditions described in the following section may be incomplete and treatment may vary based on the encountered conditions when these areas are more accessible.

The flooring structure, consisting of the floor framing, sheathing, and T&G, is in very poor condition. Based on conversations with LANL staff, soil had accumulated at the back portion of the structure before it was donated to LANL in the early 2000's; deterioration conditions support this anecdote, as materials toward the back of the structure are in poorest condition, either highly weathered or completely missing. At least 2 flooring joists located at the back of the structure are highly rotted and have lost over half their cross section. Blocking elements between flooring joists near the back of the structure are either significantly deteriorated or completely missing. At the front of the structure, the flooring assembly is in better condition but still weathered. The joists and blocking with no loss of section or signs of significant rot but are weathered at the end grain and may need to be replaced despite their better condition to provide sound material for structural connections. The diagonal floor sheathing is in variable condition; at the back right corner of the structure, the sheathing is highly degraded and has areas of loss. Other sections of floor sheathing toward the front of the structure appears to be sound but will need to be probed once the deteriorated T & G has been removed to determine actual condition. The T&G flooring is in poor condition overall. In some areas, the flooring has lifted from

the decking due to damage during transport to HPTC and has moisture damage due to where the non-historic felt flooring had trapped moisture. At the back right corner of the structure, the T&G flooring has significant moisture damage in the same proximity as the underlying framing and sheathing.

The aim for repairing the floor framing and flooring on TA-8-172 is to ensure that the structure has a sound foundation and to ensure resiliency in the event that the building has increased visitation; this will include removing any materials which are severely deteriorated and cannot provide sufficient mechanical and structural connections. Thus, much of the floor framing and T&G flooring will need to be re-fabricated to match the existing. To facilitate floor framing repairs, the structure will be jacked up. This may include removing exterior corner trim and siding courses at the bottom of the elevations to facilitate lifting the structure; in this case, the siding pieces will be numbered to facilitate reinstallation later in the same place. Once weight is off the flooring structure, the temporary bracing at the front and back of the structure will be removed to fully observe the flooring structure. Deteriorated joists and blocking will be replaced with new 2" x 8" lumber in a matching species to the historic, stamped with "NPS 2023" in an inconspicuous location and fastened with galvanized framing nails. Deteriorated diagonal cross bracing elements will be replaced in-kind with 2" x 4" lumber in a matching species and stamped. Salvageable existing materials (any remaining joists, blocks, and cripples) will be left in the place it was found. Deteriorated sections of diagonal floor sheathing will be replaced in-kind with similarly sized material and stamped with "NPS 2023" in an inconspicuous location. New sheathing will be attached to the floor framing with a combination of galvanized nails and exterior grade screws. All floor framing elements will be treated with borates to prevent damage from wood-destroying insects. New tar paper will be attached to the top surface of the diagonal sheathing. The damaged tongue and groove flooring will be replaced in kind with new materials to match the existing in dimensions, species, and finish.

Base of the right elevation, where floor framing damage is damaged and missing toward the back (right) side of the elevation.



Base of the left elevation, where floor framing damage is damaged and missing toward the back (left) side of the elevation.

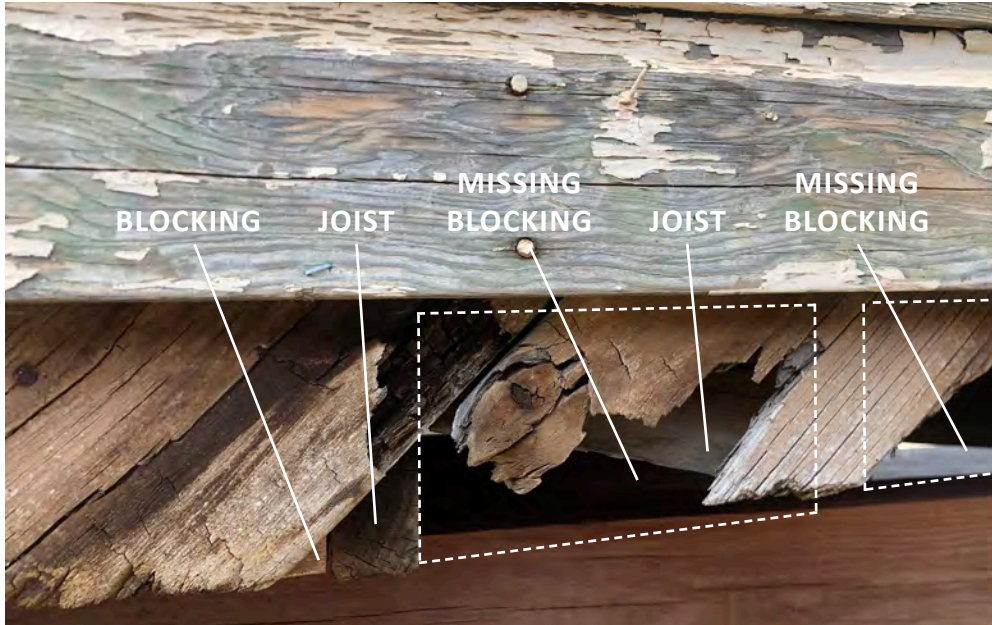


Floor joists along the back of the structure have lost significant section, up to 4"; the connection between a diagonal cripple (at right of photo) and the joist is gone.

Additionally, blocking between joists on the left elevation towards the back of the structure are highly deteriorated (see the knot at left of the image) or missing.



Missing blocking between floor joists on the right elevation, towards to the back of the structure. Missing wall siding and diagonal sheathing have also left the end grain of the joists exposed to moisture and generalized weathering.



The T&G flooring materials in TA-8-172 demonstrate moisture damage, staining, and mechanical damage.



Daylight coming through a hole in the T&G flooring at back right corner of TA-8-172. Moisture damage on the T&G flooring was also encouraged by non-historic felt flooring.



The exterior wall section consists of diagonal wall sheathing (1" x lumber in varying widths) affixed to 2" x 4" stud wall framing. The diagonal sheathing extends down to cover the floor joist ends and blocking. Drop channel lapped siding (3/8" x 5-1/2") is attached to the exterior of the sheathing and appears to have extended to the bottom of the structure to meet the bottom edge of the diagonal sheathing, although the lower course is presently missing. Wooden trim in variable dimensions (3/4" x 4-3/8" up to 3/4" x 5-5/16") encases the exterior corners. The siding and corner trim are painted with at least three coats of paint based on visual observation: at the surface is a cream-colored elastomeric paint; below is a gray-colored material, which may be an elastomeric primer; and the bottom finish observed is a green oil-based paint. Considering the history of the building, the green is likely the original finish; olive drab "OD" green was a common paint color used to camouflage structures during World War II.

The wall system is generally in fair condition, varying by element. It is difficult at this time to know the condition of the wall stud-framing without deconstructing the exterior siding; based on the condition of adjacent elements (such as staining on the interior gypsum boards, localized loss of diagonal floor sheathing) the wall framing in the back right corner of the structure could have some moisture-related damage. The bottom course of lapped siding is damaged or missing on the left and right elevations, which has left the end grain of diagonal sheathing exposed to the elements. The ends of the sheathing are characterized by generalized weathering, splitting, and some dimensional loss, but the extents of damage are hidden by the overlying siding elements. By contrast, the wooden siding appears to be in generally good condition. The bottom course of siding is missing from the right side of the structure and very deteriorated on the left; the condition of this course on the front and back is not accessible for observation due to the temporary framing elements, but these elements are likely deteriorated due to their proximity to grade. There are several holes through the wall section which appear to be related to previous utilities or other nonhistoric uses. A series of holes through the siding extend across the top of the left and right elevations in a linear pattern which appear to be from bracing installed during the transport of the structure back to LANL. The historicity of other holes can only be speculated due to proximity to historic utilities fixtures and whether holes go through the entire wall section. The corner trim on all four corners of the structure are in poor

condition; the ends near grade are missing up to the second or third course of siding and the boards are split along the entire length in some instances. Exterior paint finishes on the siding and corner trim are highly deteriorated due to general weathering and a lack of maintenance; thus, some minor surface checking has developed on the surface of the siding. Historic exterior features, such as the tin light cover, light, and weatherhead may be removed to facilitate repairs and painting and then reinstalled in place; if left in place, it will be protected from damage during repairs and painting.

Repairs for the exterior siding and wall structures will focus on repairing the diagonal sheathing to ensure structural integrity, repairing and replacing deteriorated siding and trim elements, and preparing and painting siding and trim; framing repairs will depend on examination after the siding has been removed. The exterior siding will be numbered for re-attachment and carefully removed to provide workers access to the diagonal sheathing and wall framing. The wall framing will be visually examined and checked for areas of deterioration. If any studs have evidence of deterioration, new 2" x 4" stamped materials will be attached to the existing to improve the structural capacity. Should the sill plate(s) in the back right corner have deterioration, a partial sister or dutchman could be inserted to improve the structural capacity. Once necessary framing repairs have been carried out, the diagonal sheathing boards will be assessed, and a final treatment plan will be made which balances preserving historic fabric with structurally sufficient repairs. Sheathing boards with extensive deterioration will be wholly replaced in-kind with 1" x lumber stamped "NPS 2023". Boards with localized deterioration at the end may be partially salvaged, where deteriorated sections will be cut off to the nearest stud and new material will be inserted. However, extensive use of this method will diminish the lateral strength of the structure and is not recommended on a wide scale. Once diagonal sheathing repairs have been completed, the lapped siding will be re-attached in its original place according to documentation. Missing, broken, or significantly deteriorated siding will be replaced in-kind with new siding milled to the same dimensions and profile. The new material will match the existing in species, and replacement elements will be stamped "NPS 2023" on the interior face. Holes in the siding greater than 1/2" in diameter, whether historic or not, will be documented and then filled to prevent pest intrusion or exposure to the elements. Historic fixtures attached to the siding (including the weather head and light fixture) will be preserved in

place; non-historic elements, including the electric outlet on the front left exterior corner will be documented and removed. The corner trim will be repaired with a variety of approaches. Where the end grain is deteriorated but the rest of the board is intact, the ends will be epoxied or a dutchman will be attached; the dutchman will match in species and dimension and have a stamp on the interior face. Trim with extensive deterioration conditions (splitting, loss, deteriorated end grain) will be completely replaced with new elements, matching in species/dimension and have a hidden stamp. The lapped siding and trim surfaces will be painted to protect the materials from weathering. The wooden surfaces will be prepared prior to painting by removing loose extant paint materials and sanding all surfaces to smooth the surface and promote better adhesion of the new paint. The surfaces will be primed with a coat of boiled linseed oil paint and then painted with two coats of linseed oil paint which match existing traces of the historic paint and archival records.

Condition of exterior wall siding and corner trim on the front elevation.



Condition of exterior wall siding and corner trim on the left elevation.



Condition of exterior wall siding and corner trim on the back elevation.



Condition of exterior wall siding and corner trim on the right elevation.



End grain of trim at the right back corner exhibit checking and loss. These trim pieces are candidates for dutchman repairs and consolidation with epoxy.



The diagonal wall sheathing at the back end of the right elevation are lost, in proximity to interior moisture damage and loss of flooring.

Due to overlapping evidences of moisture damage, HPTC is concerned about the stud framing in the back right corner of the structure. Project staff will examine these elements during repair to ensure that they are sound.



Photo of TA-08-172 prior to acquisition by LANL. The in situ photo shows soil accumulation at the back of the structure; water retained in the soil is the cause for concentrated evidences of moisture damage in this area.



Siding near grade is highly deteriorated, demonstrating significant areas of loss. These are prime candidates for replacement with in-kind materials.



Evidences of an oil-based olive drab (OD) green paint are visible beneath failing paint coatings.



Bracing installed prior to relocating TA-8-172 to LANL. Bolt holes will be documented and filled during siding repairs.

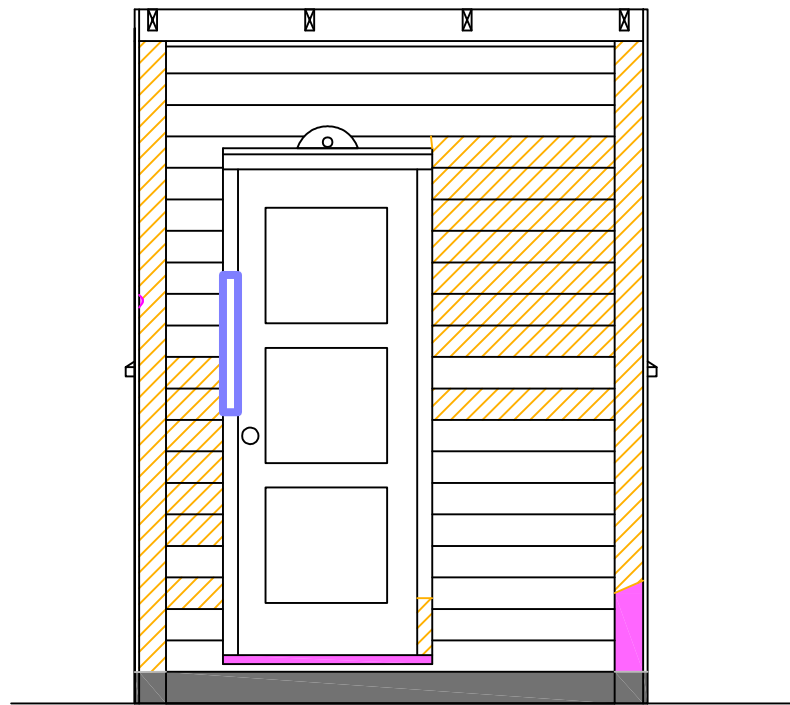


Wooden siding with extensive checking, such as sections on the front elevation, may be candidates for epoxy repairs.



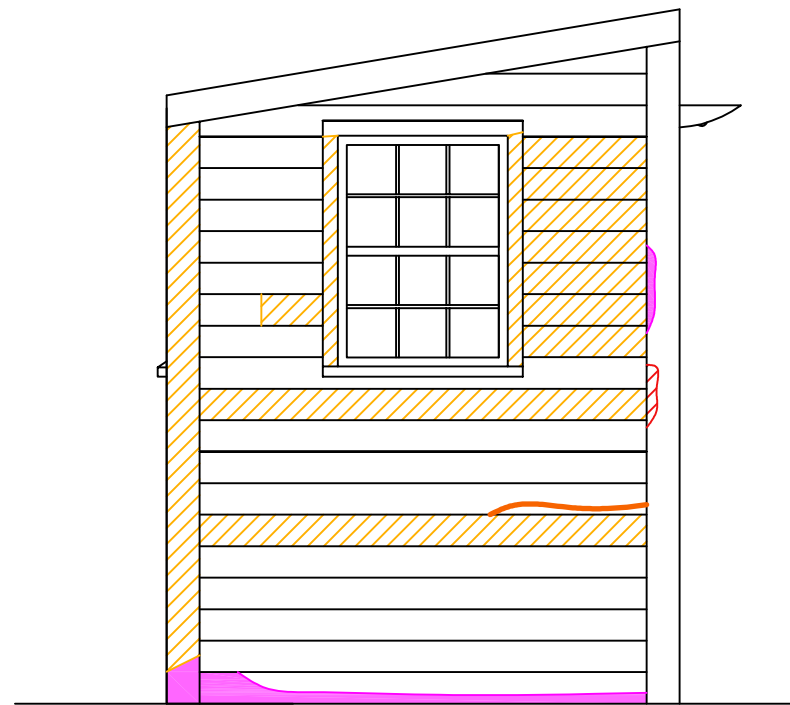
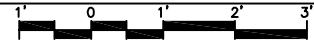
Historic weatherhead, electrical line, and metal staple on the front left corner will be preserved.





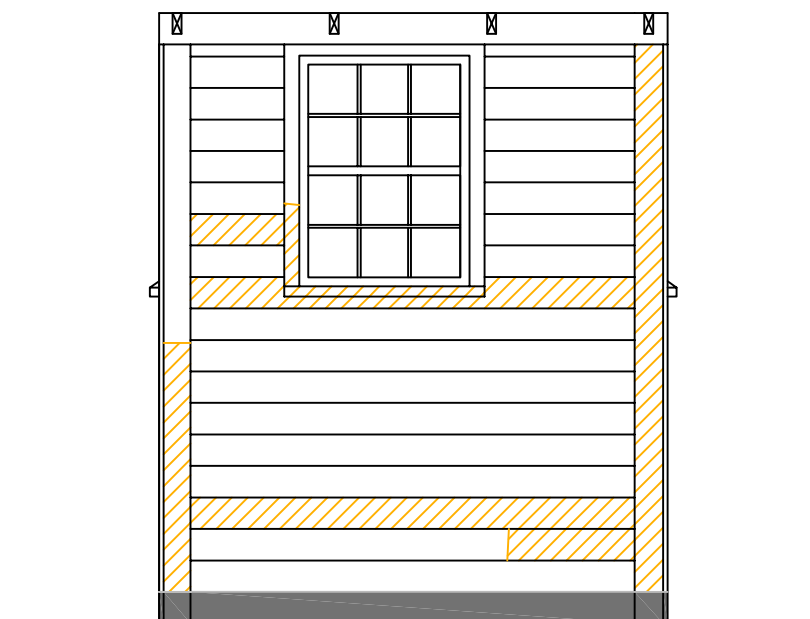
FRONT

SCALE:



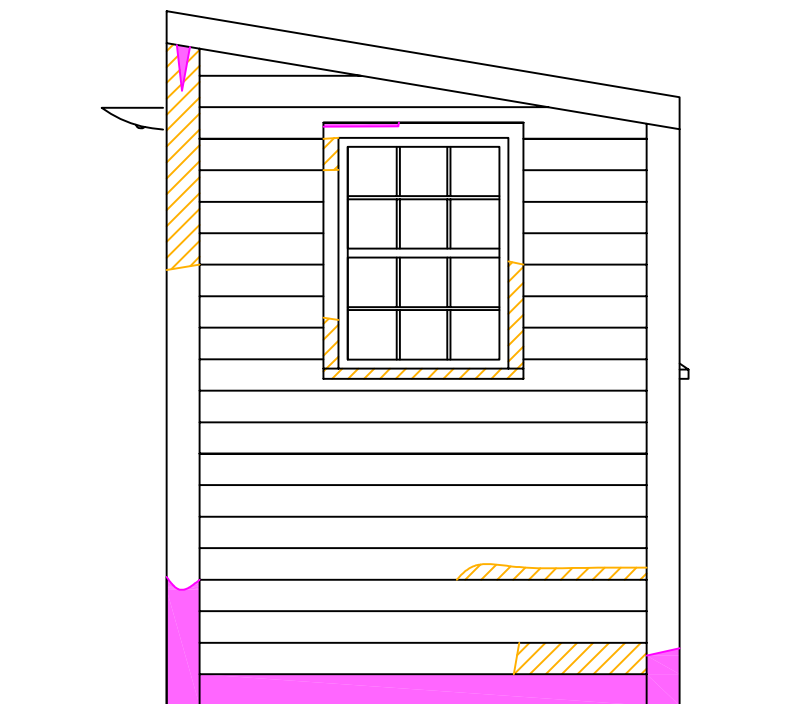
LEFT

SCALE:



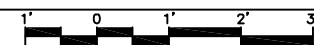
BACK

SCALE:



RIGHT

SCALE:



TITLE OF SHEET:
SIDING AND TRIM
DETERIORATION
CONDITIONS

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY


LOS ALAMOS, NEW MEXICO

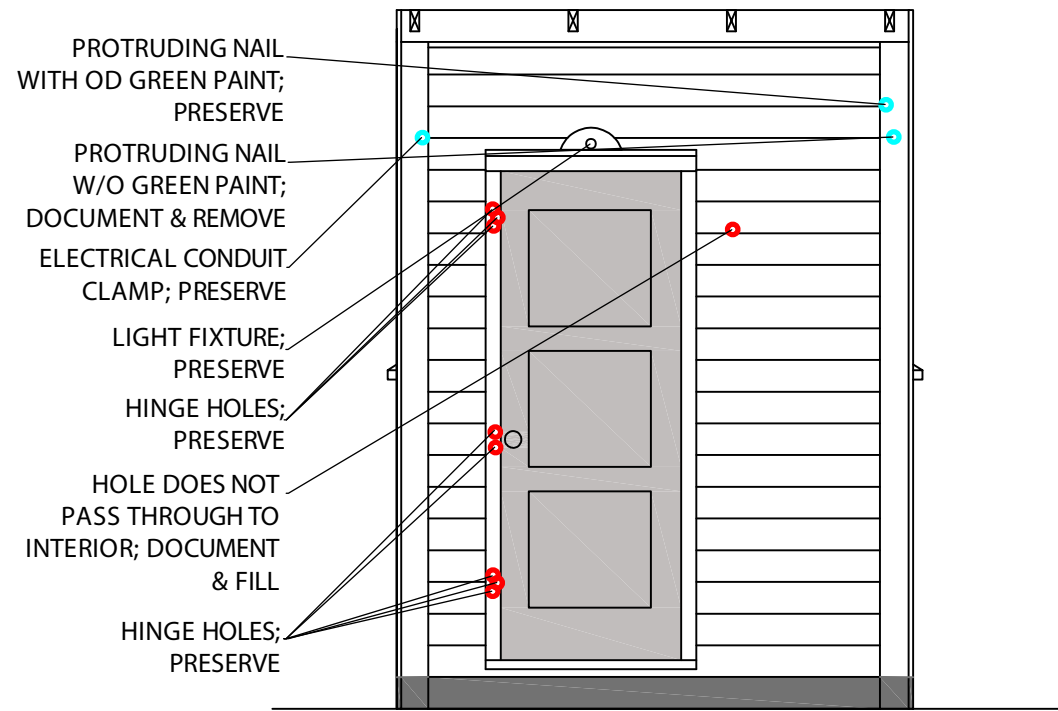
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3/8" = 1'-0"

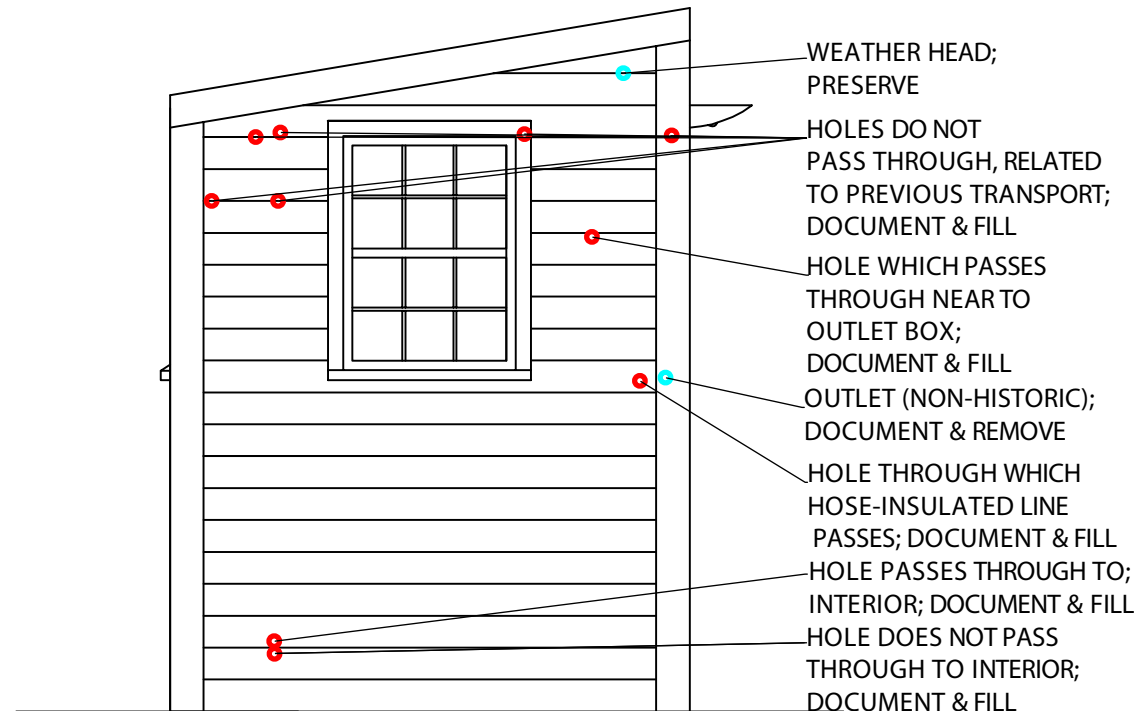
KEY:

-  WEATHERING
-  LOSS
-  GRAFFITI
-  CRACK
-  OBSCURED
-  IMPACT DAMAGE



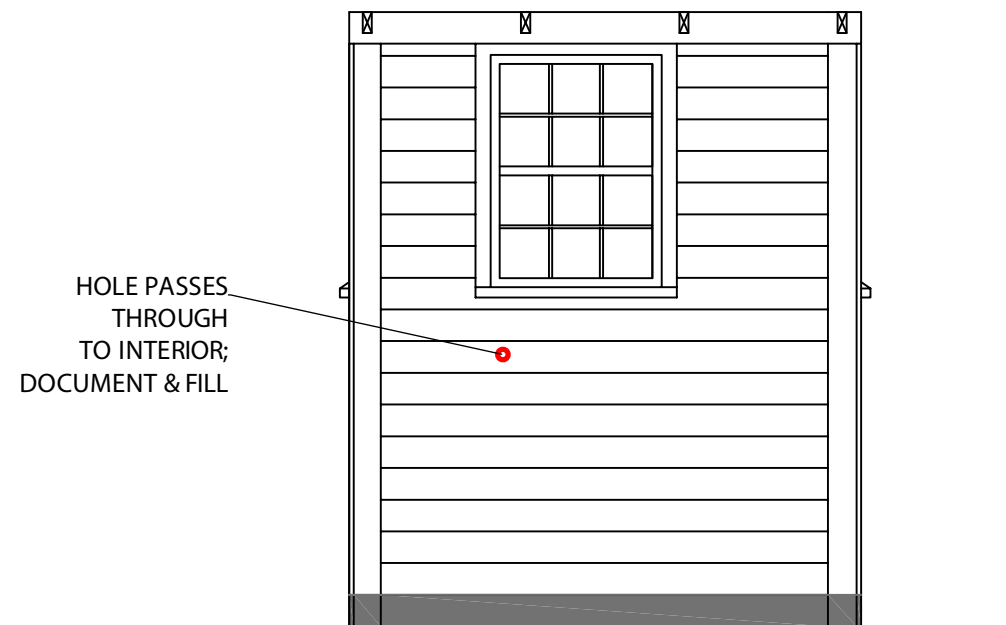
FRONT

SCALE:



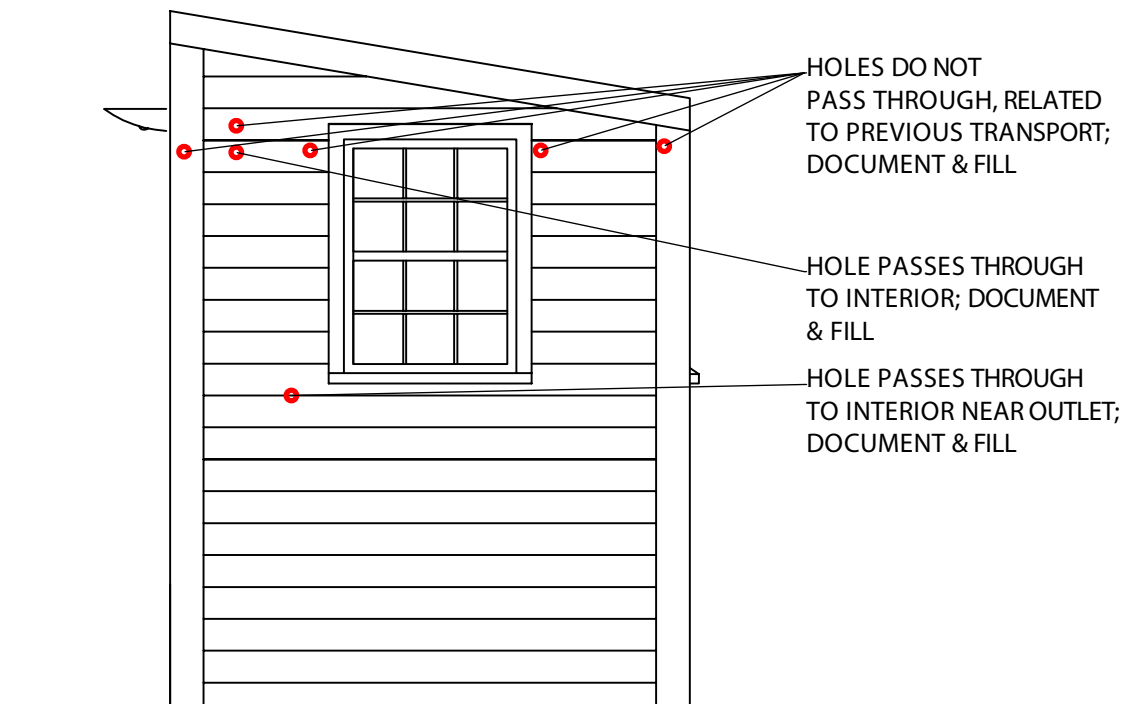
LEFT

SCALE:



BACK

SCALE:



RIGHT

SCALE:

TITLE OF SHEET:
HOLES, FASTENERS, AND
FIXTURES

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3/8" = 1'-0"

KEY:

- HOLE
- HARDWARE
- OBSCURED
- REPLACEMENT

NOTES:

THE DOOR IS NOT HISTORIC
AND WILL BE REPLACED WITH
A REPLICA OF THE DOOR FROM
TA-18-111.

TITLE OF SHEET:
PROPOSED SIDING AND TRIM REPAIRS

STRUCTURE:
 TA-8-172

PARK UNIT:
 LOS ALAMOS
 NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
 S. STRATTE

DATE:
 MAY 2023

SCALE:
 3/8" = 1'-0"

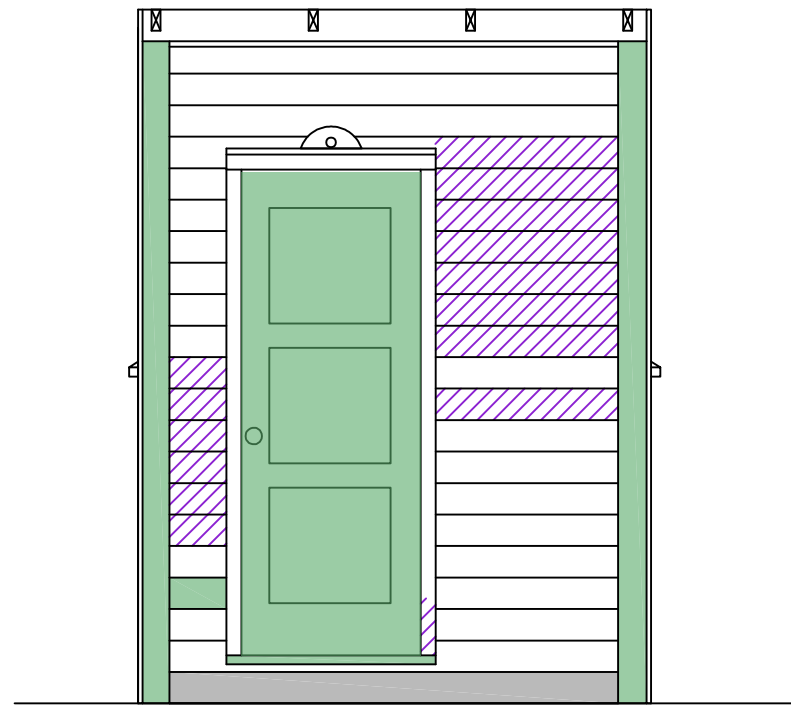
KEY:

-  REPLACE
-  EPOXY
-  DUTCHMAN
-  OBSCURED

NOTES:

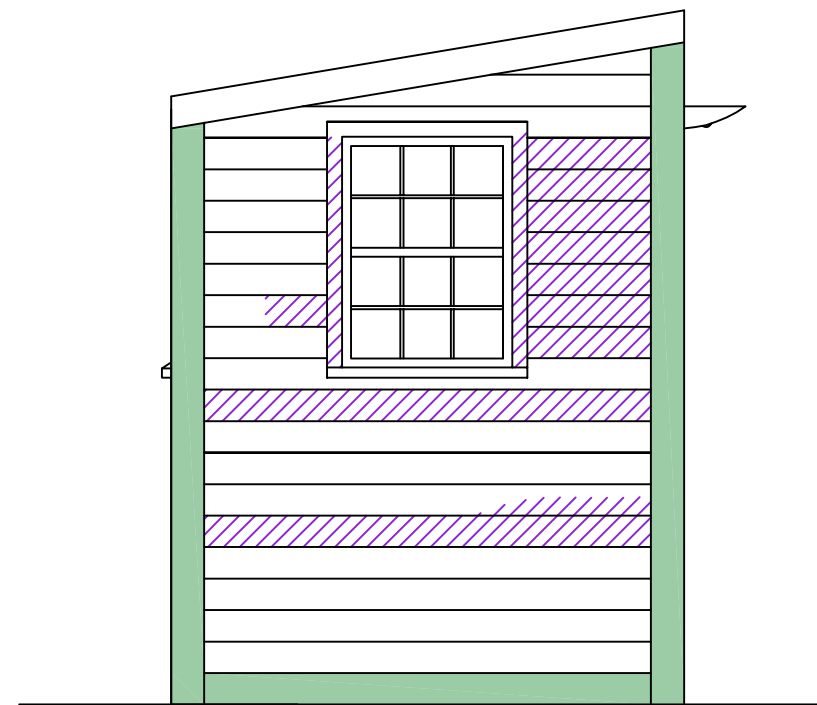
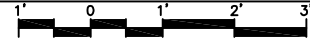
REPAIRS FOR THE OBSCURED SIDING BOARDS WILL BE DETERMINED AFTER EVALUATION.

ACTUAL EXTENTS OF EPOXY REPAIRS MAY VARY FROM WHAT IS INDICATED; REPAIRS WILL DEPEND ON THE CONDITION OF THE BOARDS AFTER REMOVING PAINT AND PRELIMINARY SANDING.



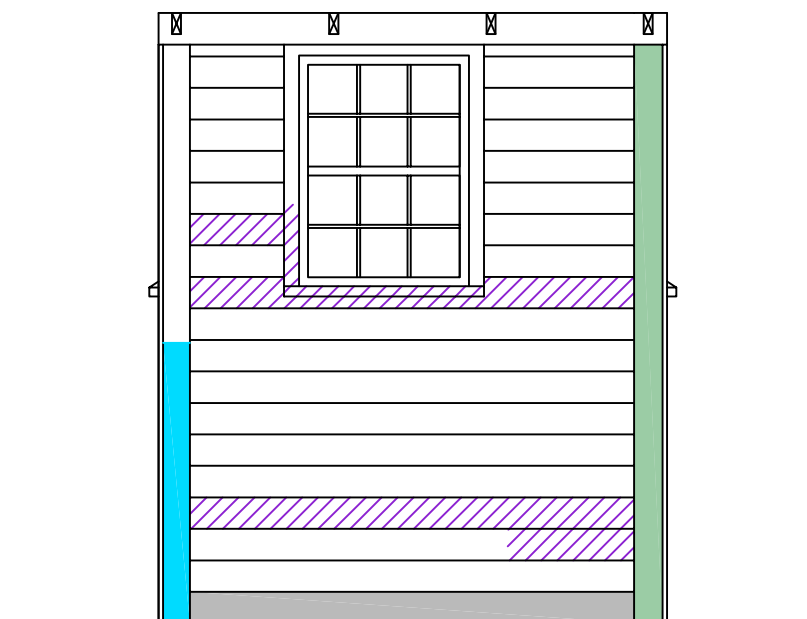
FRONT

SCALE:



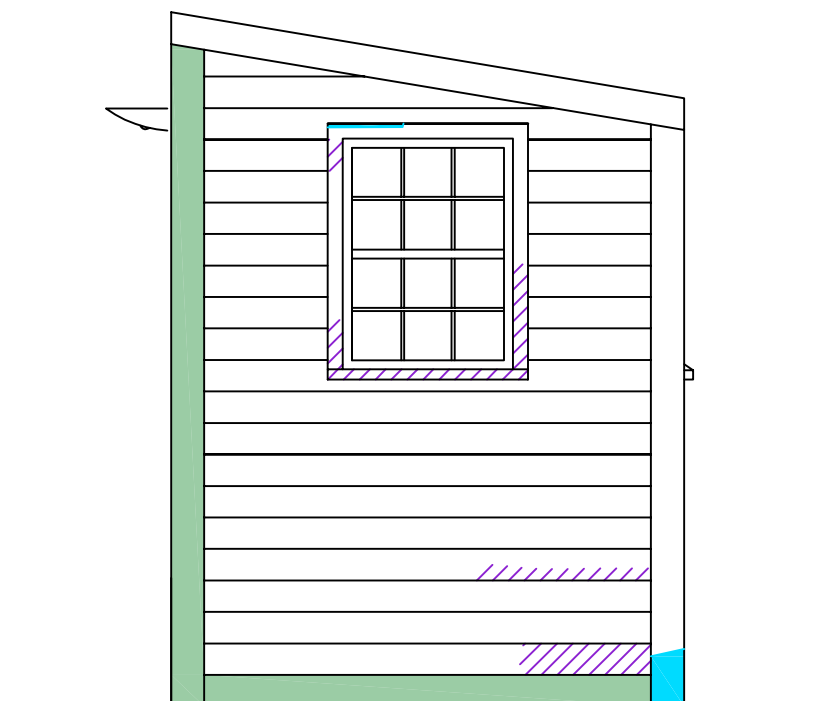
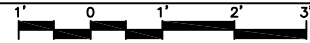
LEFT

SCALE:



BACK

SCALE:



RIGHT

SCALE:



TA-8-172 has three window openings, each containing six-over-six double-hung wooden sash. Based on the paint evidence and historic photos, these appear to be original to the structure. The sash have identical wooden furring strips which extend along the outer face of both stiles, potentially added to make the sash fit into the window openings. The paneled door presently on TA-8-172 does not appear to be original to the structure. The door does not have window lights, which is inconsistent with typical doors observed on other guard shacks at Los Alamos National Lab. Additionally, the exterior and interior faces do not show evidence of the previous paint coatings which would match the other wood surfaces on the building. The wooden casing around the window and door openings are 3/4" x 3-5/8" and have extensive paint stratigraphy, including the original interior sea foam green and exterior green similar to that on the siding. Paint samples will be taken from the interior door casing, window casings, and window sash to be embedded in acrylic for later paint analysis.

The windows and openings from TA-8-172 are in fair condition and can be repaired and preserved without replacing significant portions of wooden elements. Deterioration conditions from generalized weathering, including paint loss, surface checking and ultraviolet radiation degradation, are extensive across most of the exterior surfaces on the window sash and openings. Loss of wooden elements is minimal across the window sash. The wooden rabbet on the muntins have broken off in a few instances, and a few of the wooden furring strips are missing (confirmed by evidence of brad nail holes on the stile, indicating that a strip had previously been there). A parting bead is missing from each of the window openings—likely from when Bandelier National Monument staff removed the window sash—and the door threshold are missing. The door and windows openings are in fair condition. The casings all demonstrate varying degrees of paint loss. The back window apron has cracked, but the pieces remain in place. The door casing has several haphazard drill holes which likely date to the period in which the guard shack was privately owned and used as a gardening shed.

The proposed treatments for the windows, doors, and openings consist of both preservation repairs and replicating missing or historically appropriate elements. Work on the window sash will consist of minor repairs to ensure function and preservation of historic fabric. Openings will similarly be repaired, including filling non-historic holes, using epoxy to stabilize incipient deterioration, and repairing the cracked

stool on the interior casing of the back window. Missing opening elements, including parting bead and threshold, will be re-made based on existing evidence to ensure the function of windows and prevent moisture intrusion through the doorway. The door on TA-8-172, which is not historic, will be recreated based on the style and dimensions of the door on TA-18-111 and re-installed.

Prior to initiating window and opening repair, paint samples will be taken from the interior and exterior faces of select windows and doors. The paint samples will be taken from areas with accretions of paint to best represent the full paint stratigraphy. Samples will be embedded in epoxy for later paint analysis, and sample locations will be noted on window and door drawings. After paint sampling, the windows and doors will be dip-stripped to remove hazardous lead paint materials. Accessory hardware may also be removed; if so, these elements will be placed in labeled baggies to ensure that hardware is reinstalled in the proper location. After paint stripping, window glazing will be removed utilizing steam and the glass removed from the sash and numbered. Once window glass has been removed, the wooden window elements will be repaired by a combination of: epoxy repairs to fill weather-induced surface checking and fastener holes; glue repairs to fix splits and breaks; and small dutchman repairs to repair muntins. Additional repairs may be required/become evident after the windows have been dip stripped. If more extensive repairs or replacements are needed, they will match the existing in dimensions and characteristics. Once completed, glass will be re-inserted into the windows and glazed with a linseed oil-based glazing compound; existing intact panes will be re-inserted in place and broken window glass will be replaced in-kind with matching materials. All wooden surfaces will be painted with new linseed oil paint to match paint evidences on the interior and exterior faces documented prior to stripping; this appears to be olive drab green on the exterior and sea foam green on the interior. Hardware will be reinstalled, and the windows and doors will be put back into their respective openings.

A new door will be fabricated for TA-8-172 based on the dimensions, construction, and sticking details present on TA-18-111. The new rails and stiles will be made from lumber matching in species, and the panels will be paint-grade plywood in matching width; similarly, the new glass panes will be double strength to match those on TA-18-111. Once assembled, the door will be stamped "NPS 2023" in an inconspicuous location along the edge. Hardware matching

Table 1: Window and Door Repairs for TA-8-172

<i>Window ID</i>	<i>Repairs Needed</i>						
	<i>Muntins</i>	<i>Rails</i>	<i>Stiles</i>	<i>Furring Strip</i>	<i>Other Notes</i>	<i>Glass to be Replaced</i>	<i>Hardware needed</i>
172-L-U	Glue in dutchman strip.			Replace broken strip.	Remove interior fasteners.	4 panes	1 pin
172-L-L			Fill miscellaneous fastener holes.		Repair/replace old wood filler.	4 panes	1 pin
172-B-U		Fill miscellaneous fastener holes.	Fill miscellaneous fastener holes.	Replace missing strip.	Remove interior fasteners.		2 pins
172-B-L	Glue cracked muntin.			Replace broken strip; pull interior hardware.	Repair/replace old wood filler.	1 pane	1 pin
172-R-U				Replace missing strip.		4 panes	1 pin
172_R_L	Glue in dutchman strip. Repair inteior hole in stile.	Repair bottom rail.	Fill miscellaneous holes.			4 panes	1 pin
172-D	Door is not historic, make replica based on 111-D.						

that on TA-18-111 will be sourced, or other period-appropriate hardware will be procured and installed. The wooden surfaces will be painted sea foam green on the interior and olive drab green on the exterior in linseed oil-based paints; paint colors will be confirmed with paint analysis.

Prior to re-installing the windows and door, the openings will be repaired, if necessary, and then the surfaces will be prepared and painted. Deteriorated wooden elements will be stabilized with wood epoxy. Similarly, holes and deterioration in the door casing will be filled with epoxy and sanded smooth, careful to preserve remnant graffiti. The door threshold and three parting beads are missing and will have to be re-fabricated; the new elements will be dimensioned to fit into the gaps. Again, any repair parts or replacements will match the existing in dimensions and characteristics in a matching species. Loose paint on the interior and exterior casings will be removed mechanically and the surfaces will be sanded to feather the edges of existing paint. After preparing, surfaces will be primed with linseed oil and painted with linseed oil paint to match the existing colors, sea foam green on the interior and olive green on the exterior, after confirmation.

See Table 1 which details the repairs needed for the window sash and door, window schedule (page 29) and drawing set with deterioration conditions and repairs noted on scaled photographs (pages 30-53); Appendix I contains drawings with anotations marking miscellaneous fasteners, graffiti, and previous repairs onto sash. All repairs and replacements for the windows, doors, and openings will be documented utilizing annotations and line drawings on photograph and included in a completion report.

The door currently installed on TA-8-172 is not historic, and will be replaced with a replica to match that on TA-18-111.

The door opening will be repaired and a new threshold will be fabricated and installed.



The window opening on the right elevation is representative of typical damage to openings on TA-8-172. Deteriorated wooden surfaces will be stabilized with epoxy, sanded, and then repainted.

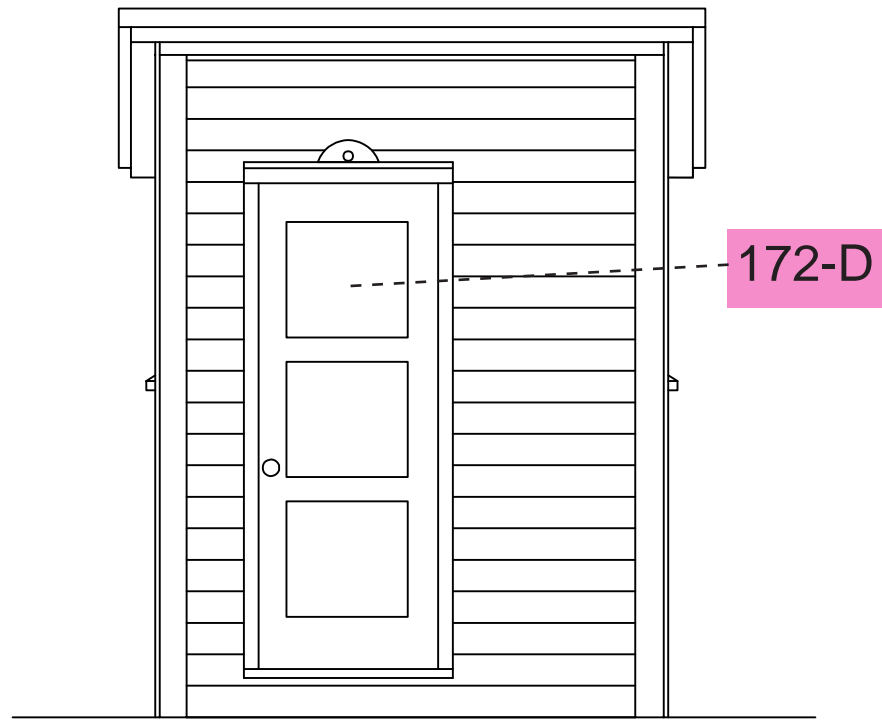


Paint stratigraphy on window sash from TA-8-172 indicate that the exterior surfaces were first painted olive green (left) and interiors were sea foam green (right). Paint samples will be analyzed to confirm colors before re-painting sash and door.



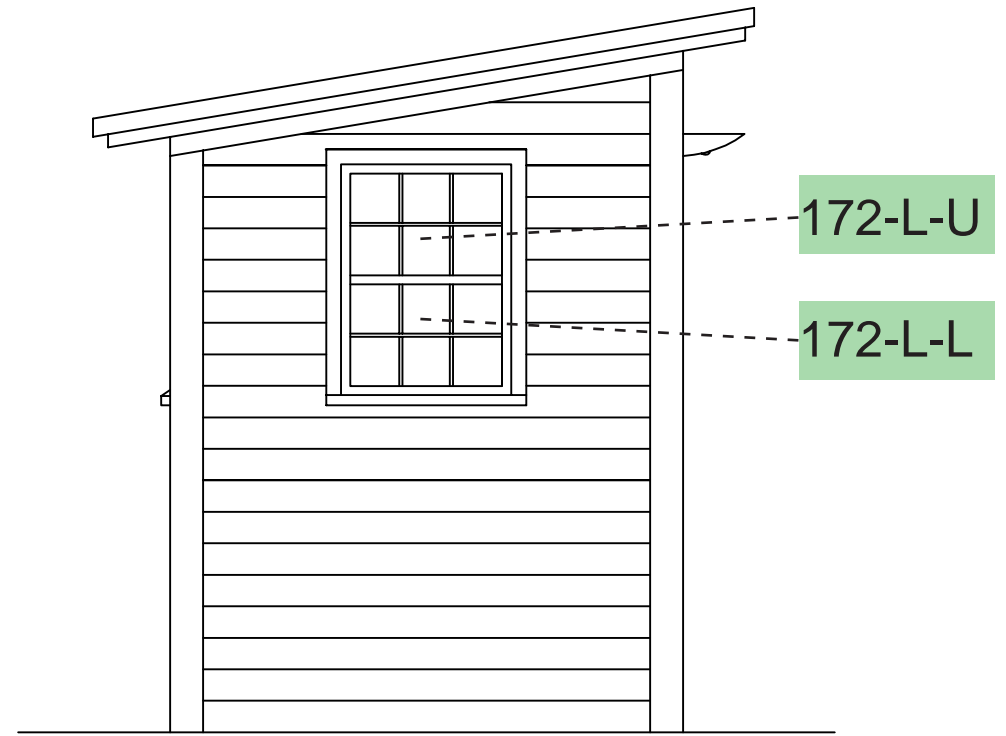
The window opening interior on the back elevation is representative of typical damage to interior casings and openings on TA-8-172. The right blind stop is missing and the paint is deteriorated. The stool is cracked and will be glued.





FRONT

SCALE:



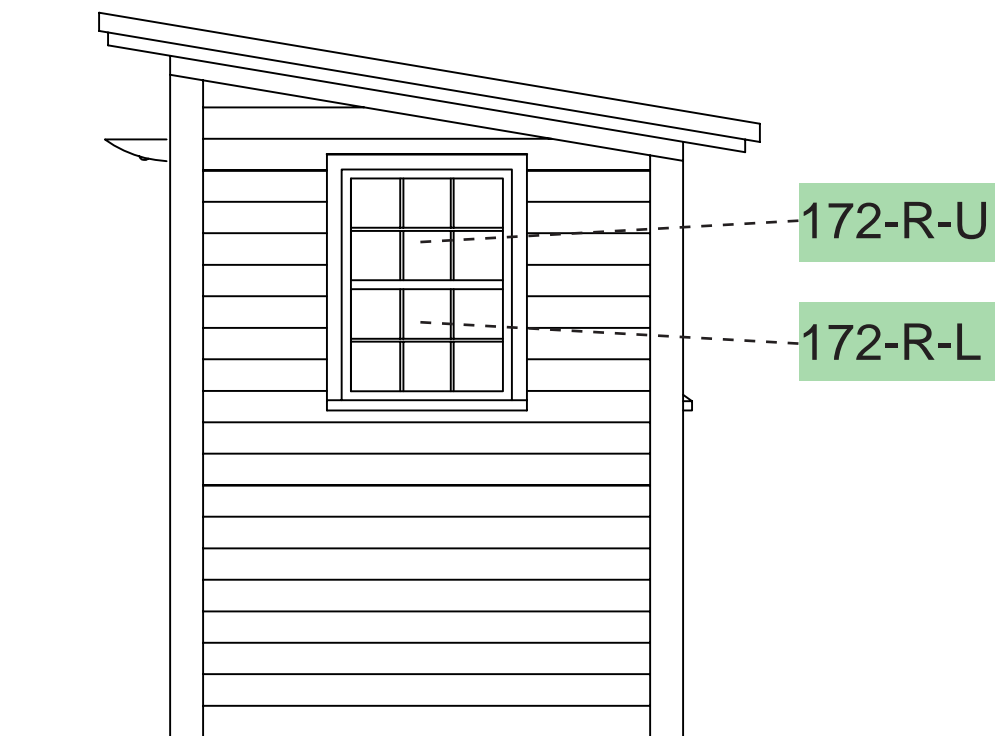
LEFT

SCALE:



BACK

SCALE:



RIGHT

SCALE:

TITLE OF SHEET:
TA-8-172 --
WINDOW AND DOOR
SCHEDULE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY



LOS ALAMOS, NEW MEXICO

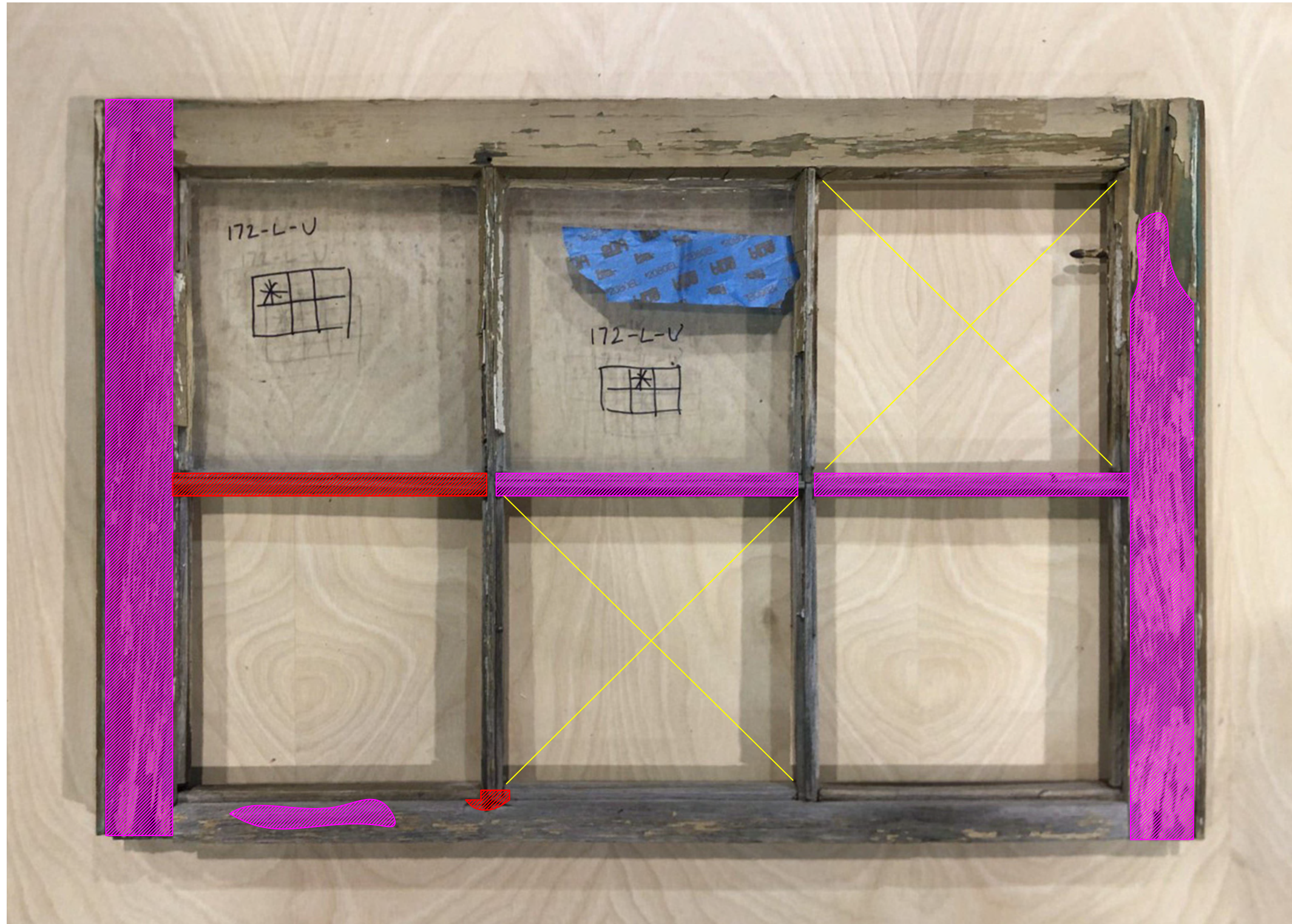
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3/8" = 1'- 0"

KEY:

-  REPAIR
-  REPLACE



TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-L-U, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY



LOS ALAMOS, NEW MEXICO

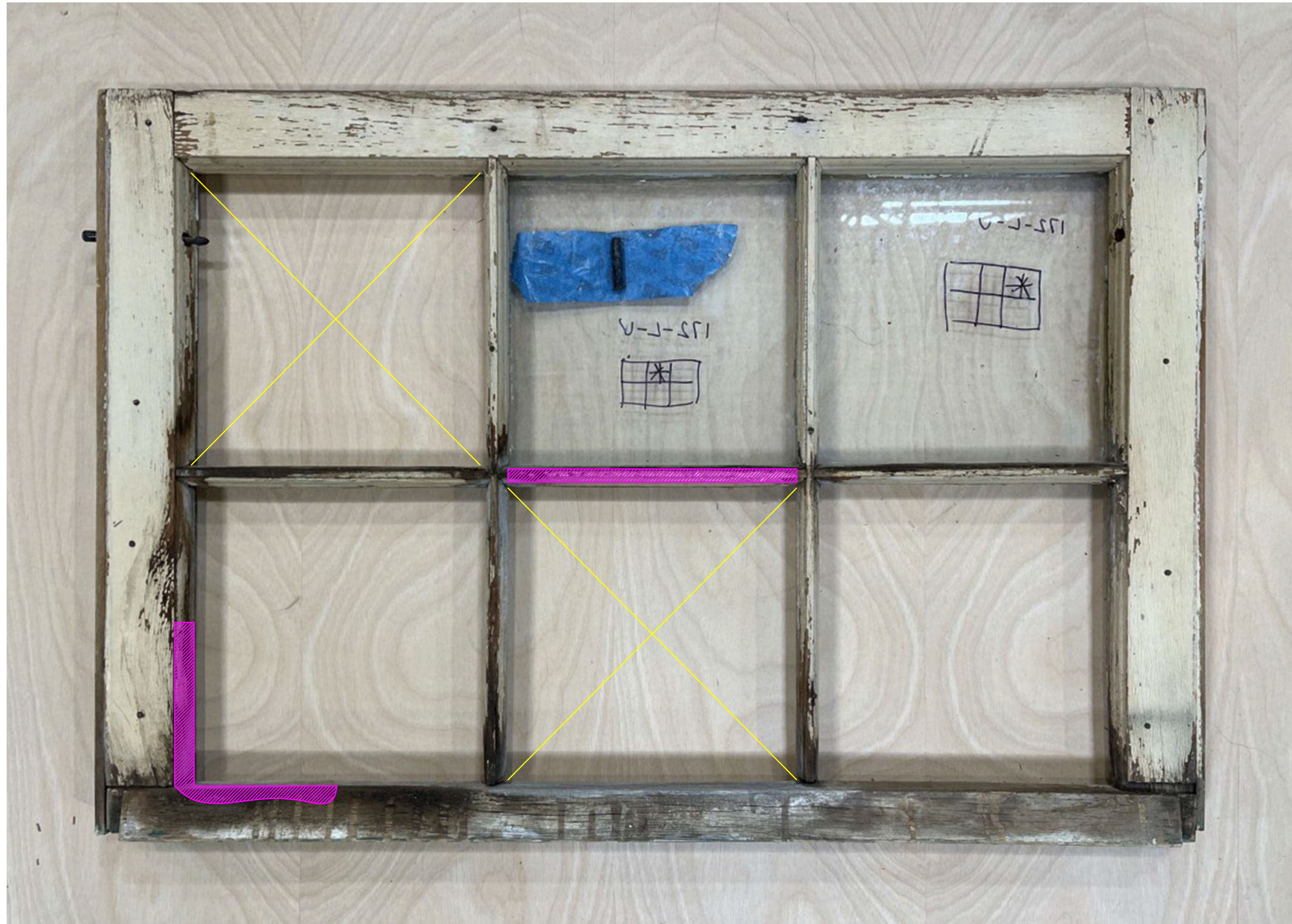
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss



TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-L-U, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss



WOODEN FURRING STRIP BROKEN

TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-L-L, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss

TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-L-L, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY




LOS ALAMOS, NEW MEXICO

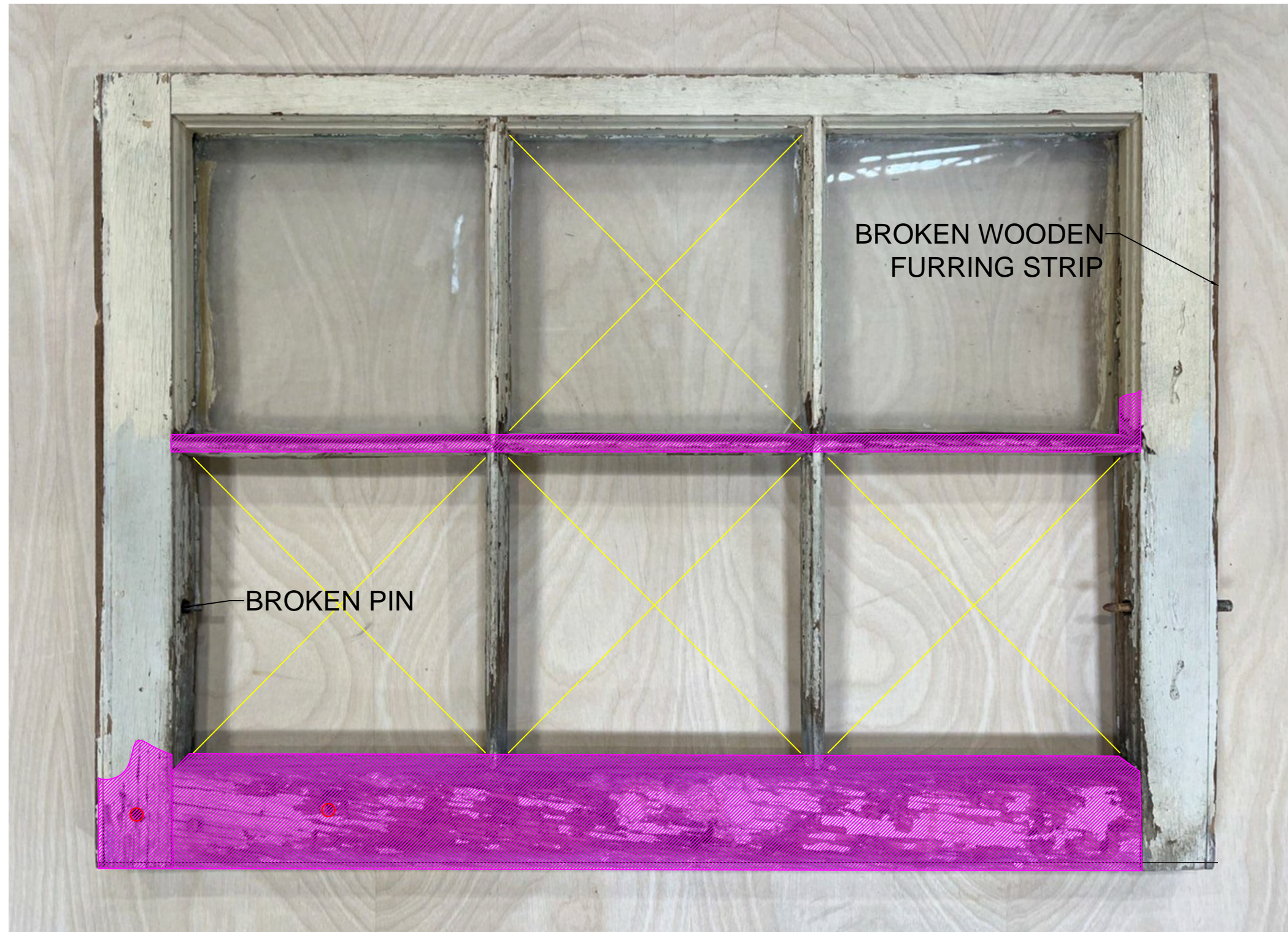
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss





TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-B-U, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss

TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-B-U, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY



LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

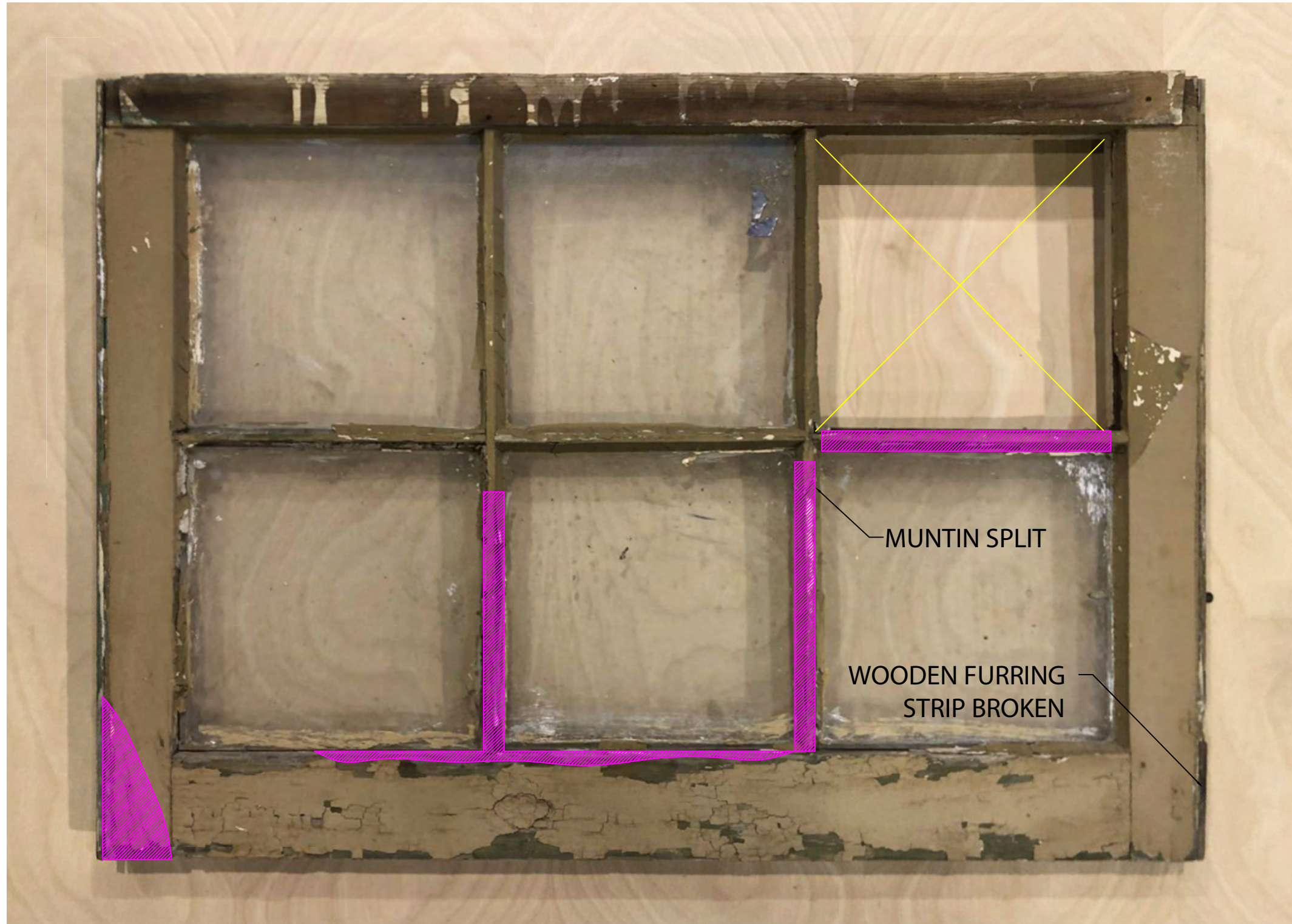
DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss





TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-B-L, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY


LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

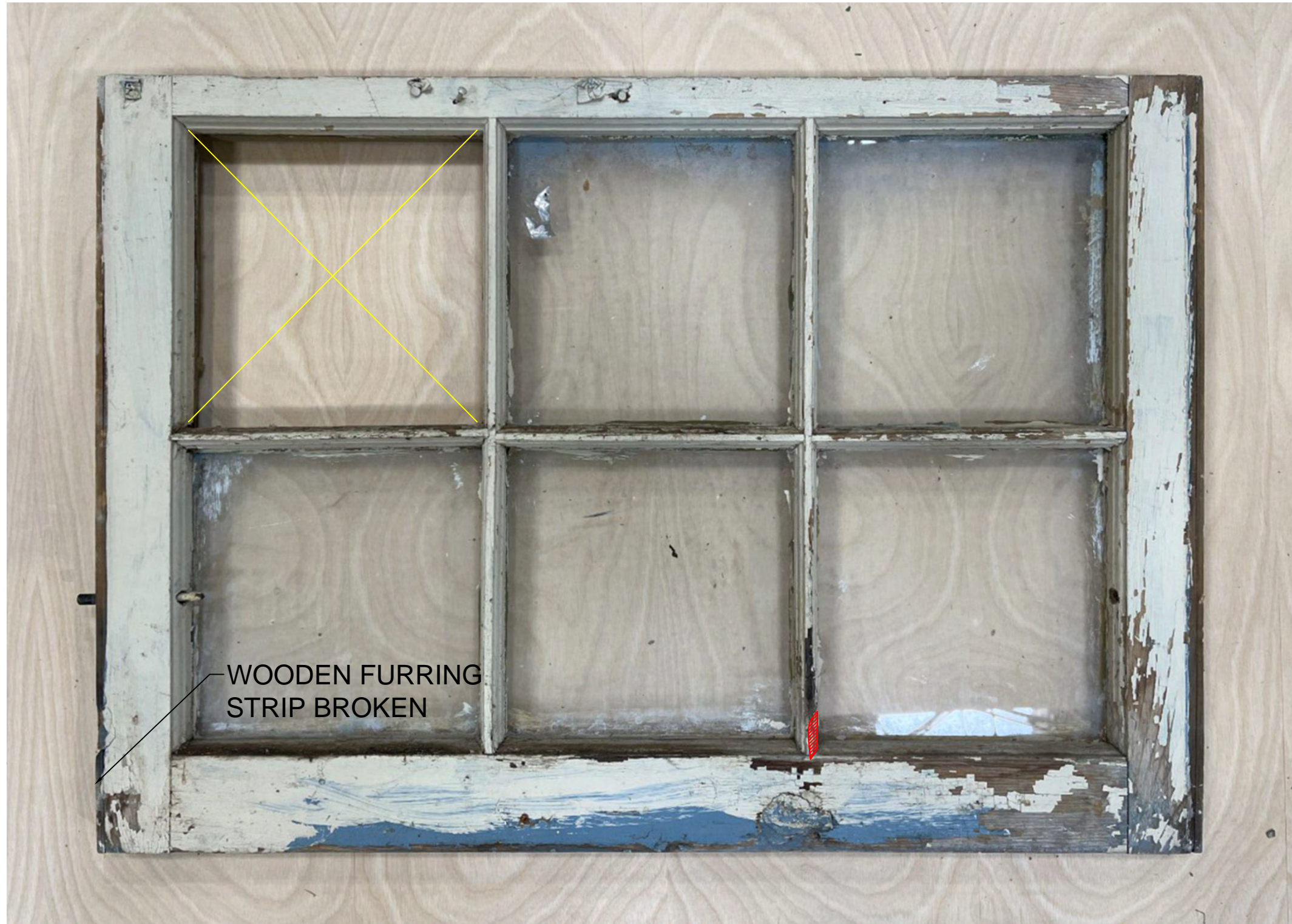
SCALE:
4" = 1'- 0"

KEY:

 Broken light

 Weathering

 Loss



WOODEN FURRING STRIP BROKEN

TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-B-L, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY




LOS ALAMOS, NEW MEXICO

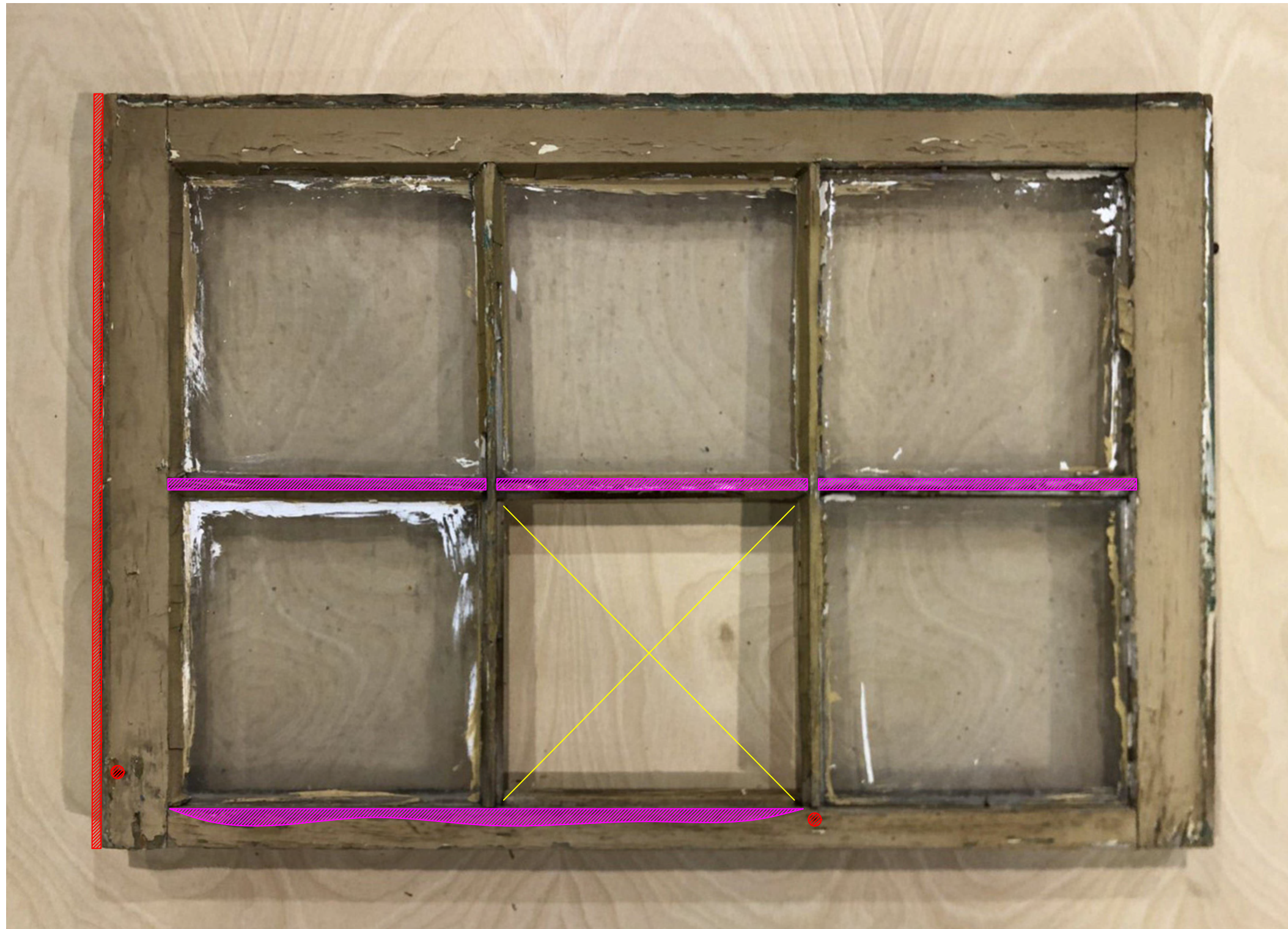
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'-0"

KEY:

-  Broken light
-  Weathering
-  Loss



TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-R-U, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

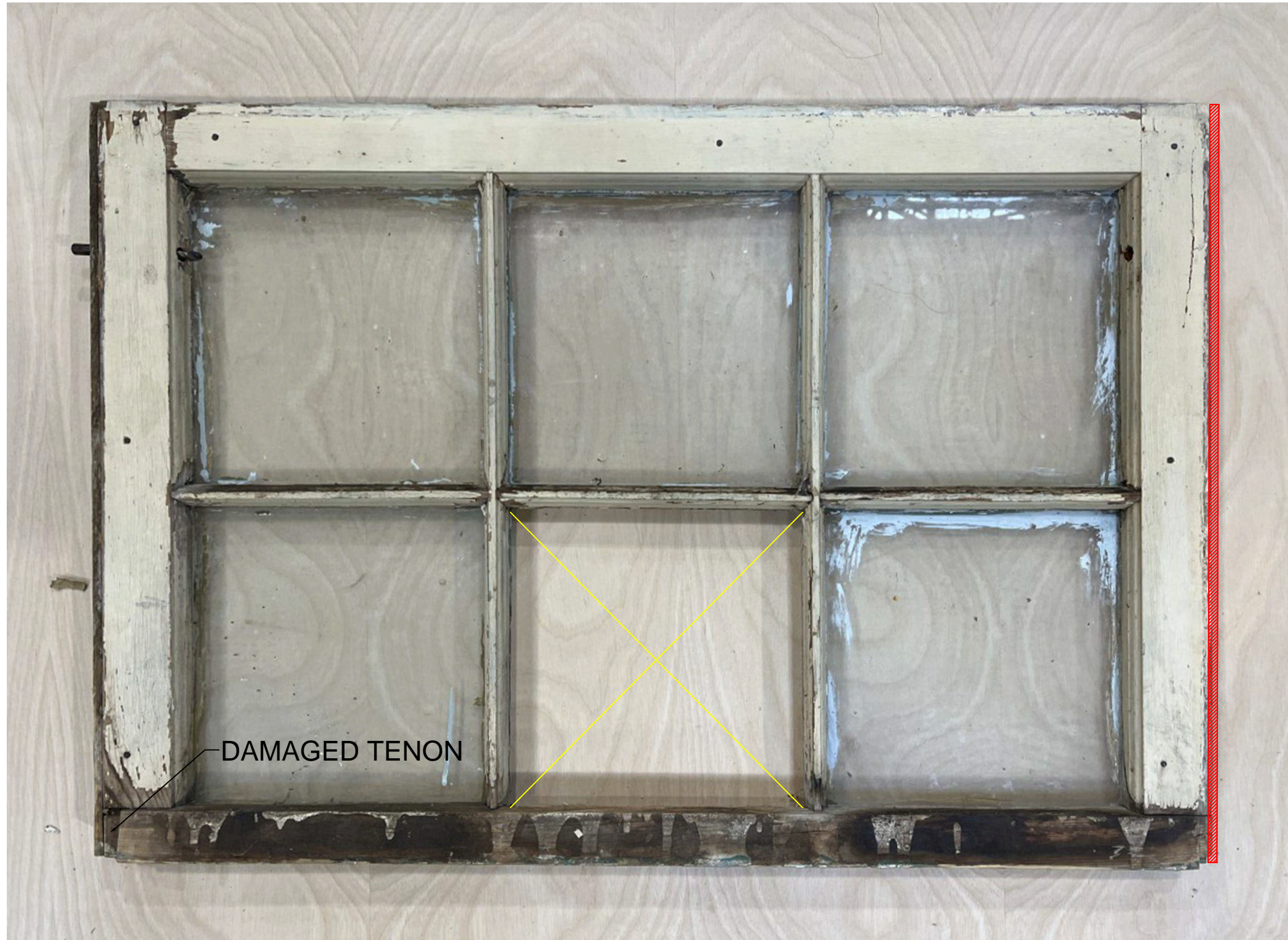
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss



TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-R-U, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss

DAMAGED TENON

TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-R-L, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY



LOS ALAMOS, NEW MEXICO

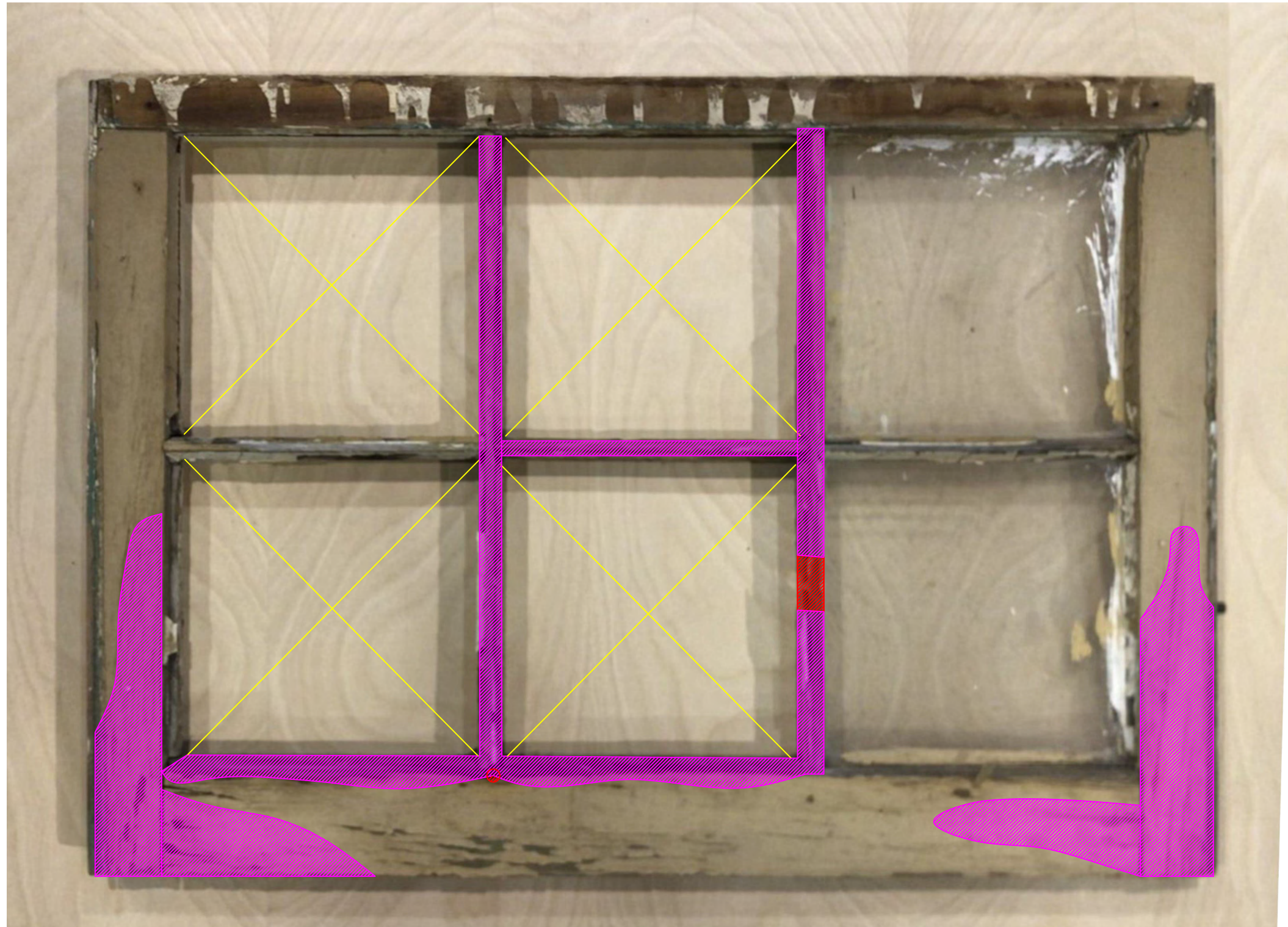
AUTHOR:
S. STRATTE

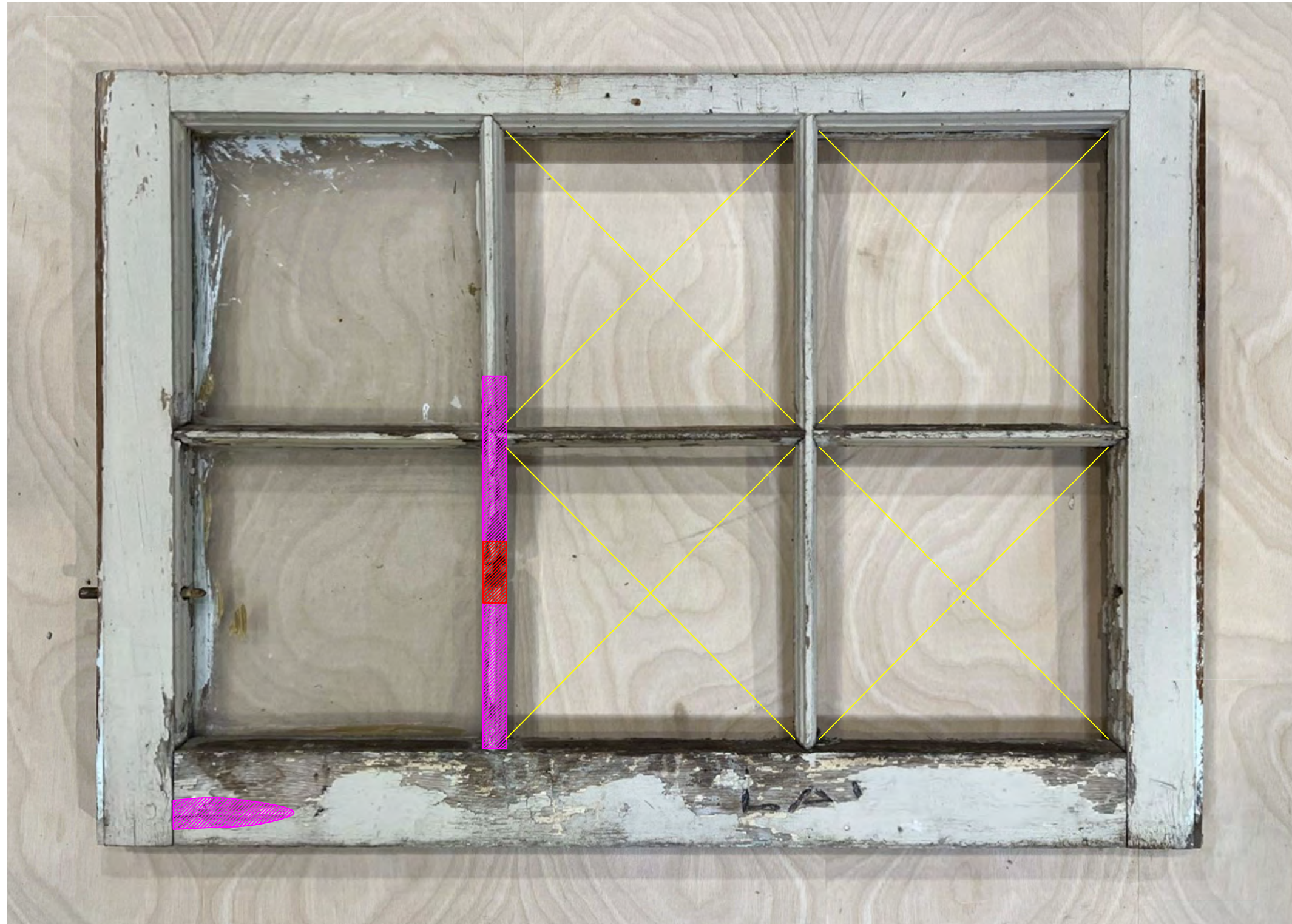
DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss





TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
172-R-L, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY




LOS ALAMOS, NEW MEXICO

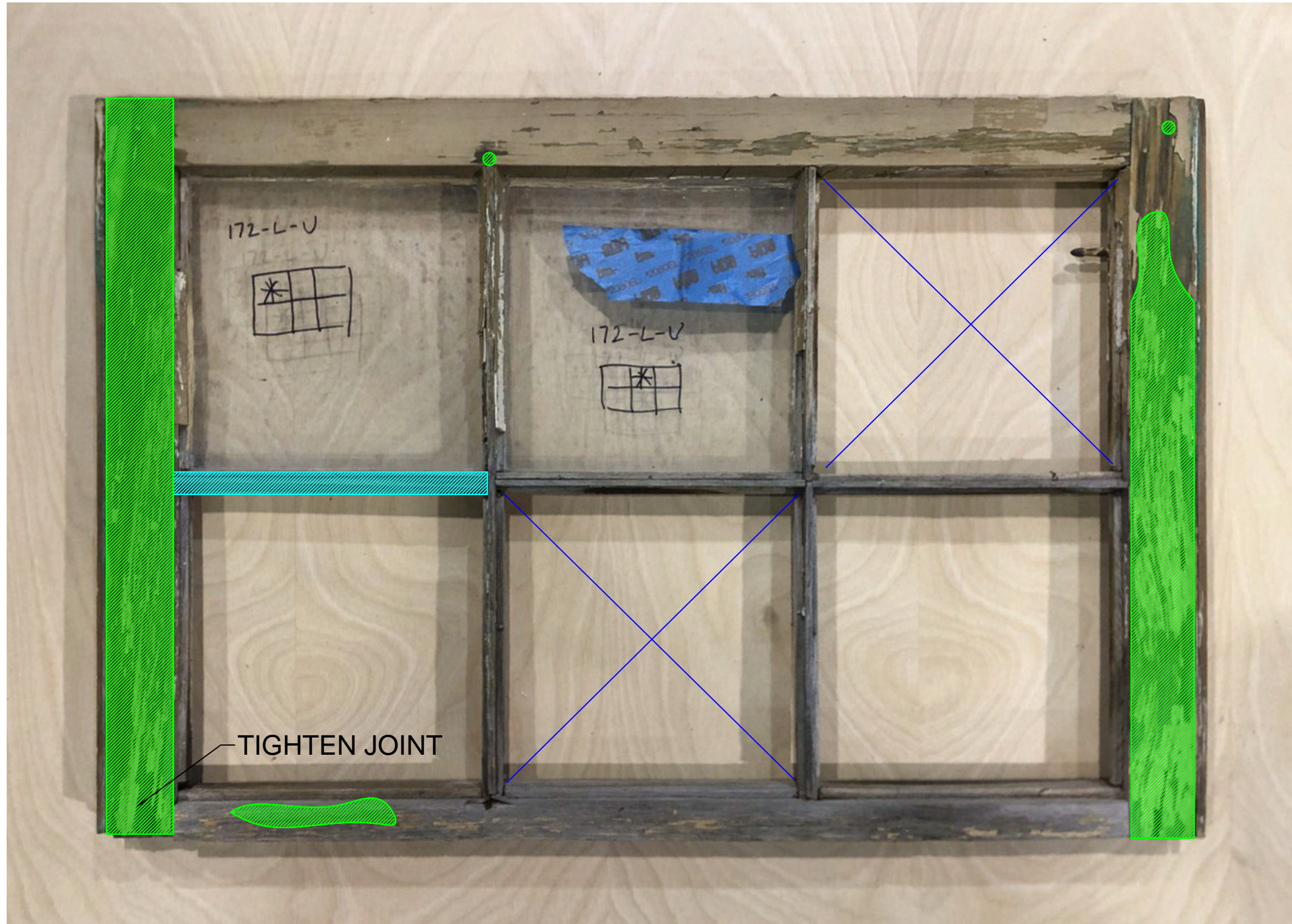
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-L-U, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

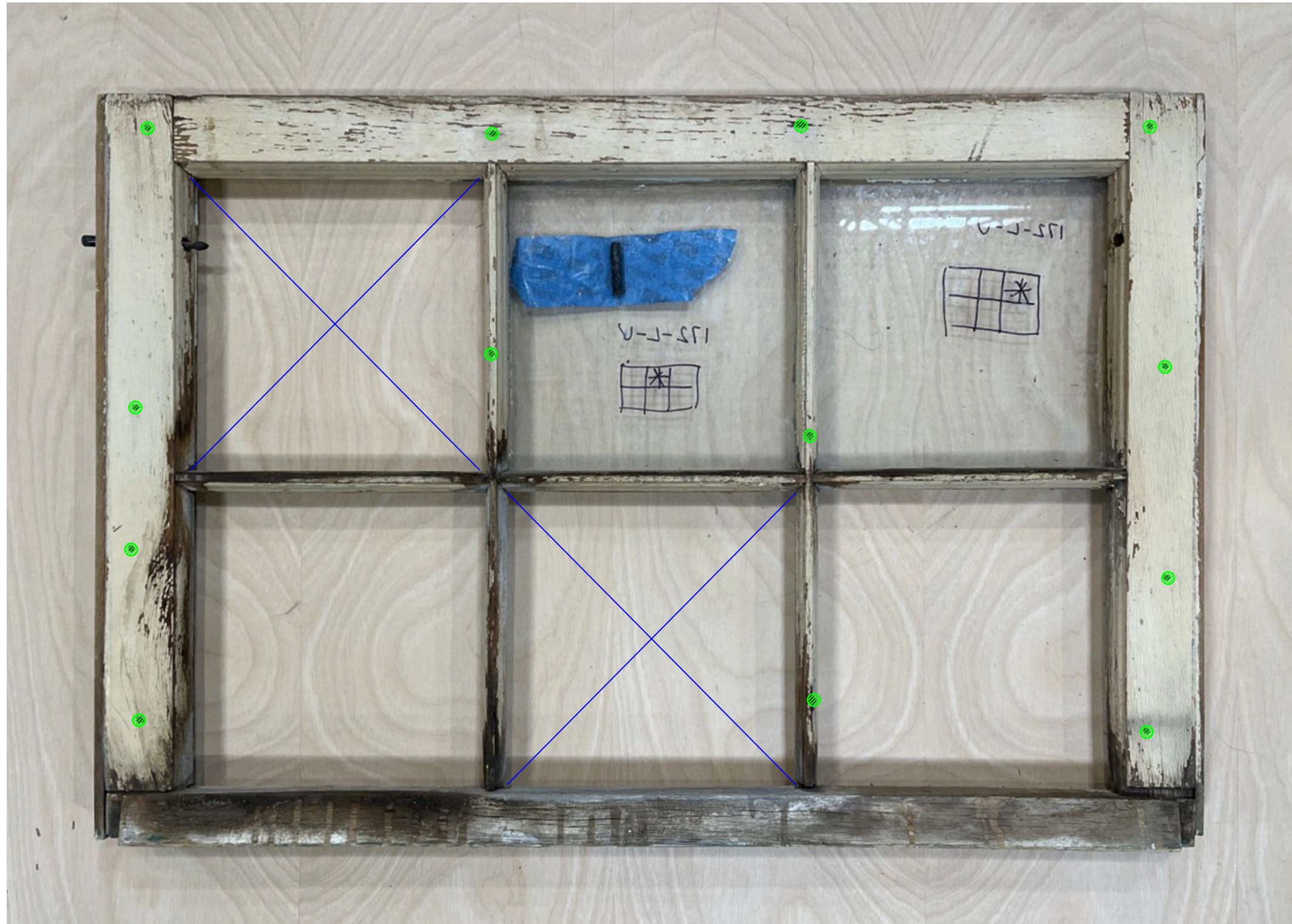
DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy

TIGHTEN JOINT



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-L-U, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

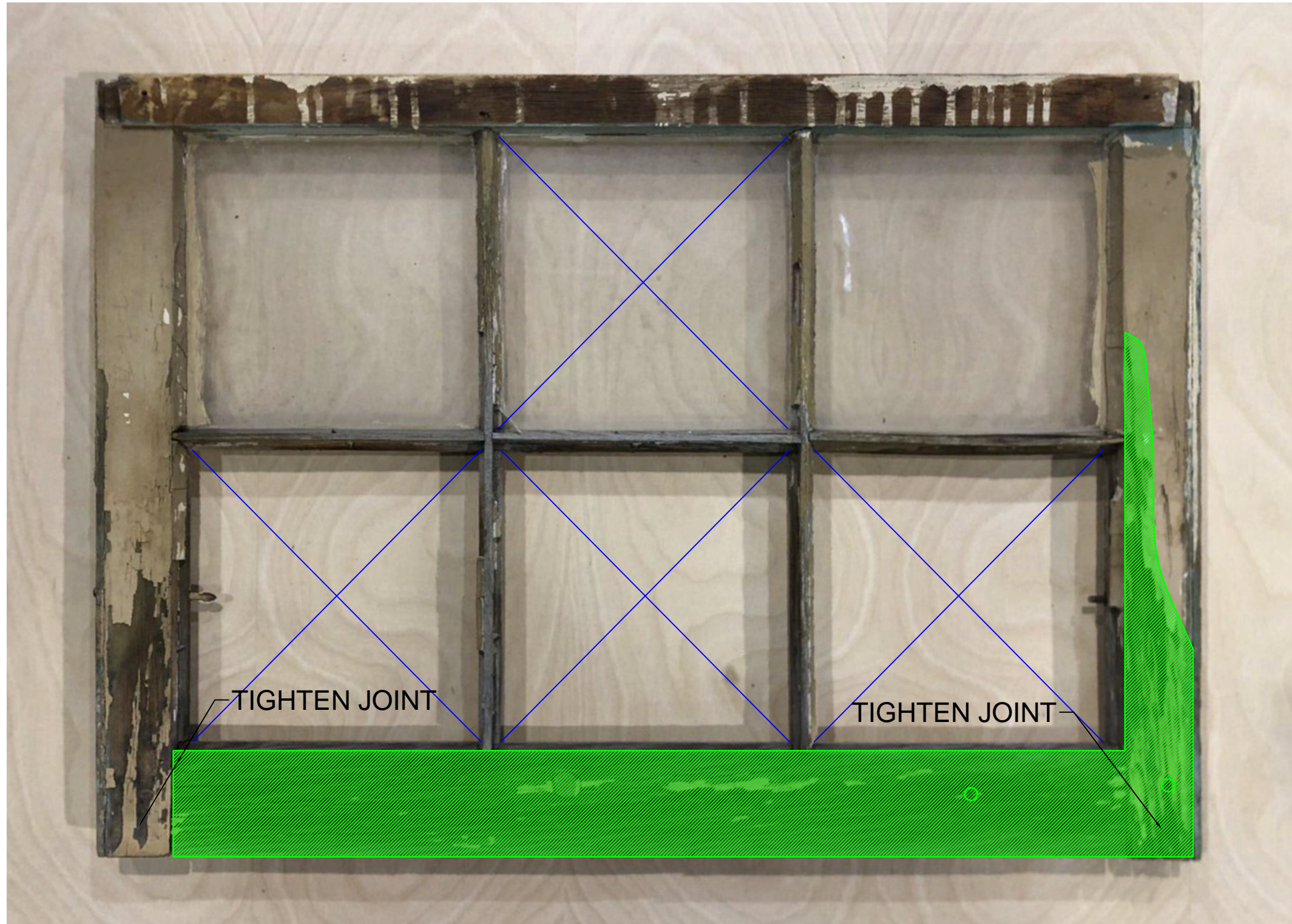
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-L-L, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-L-L, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-B-U, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-B-U, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

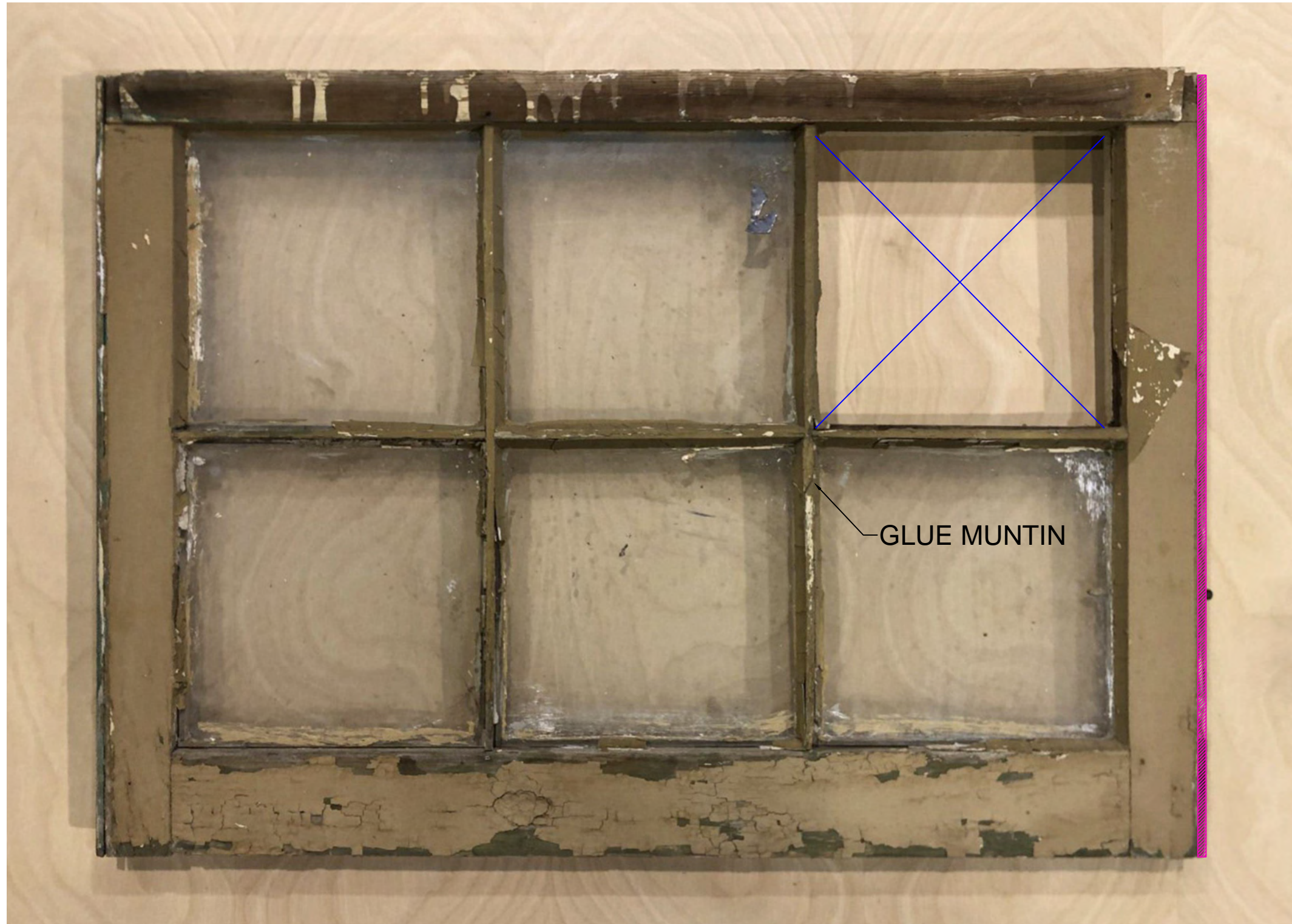
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-B-L, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

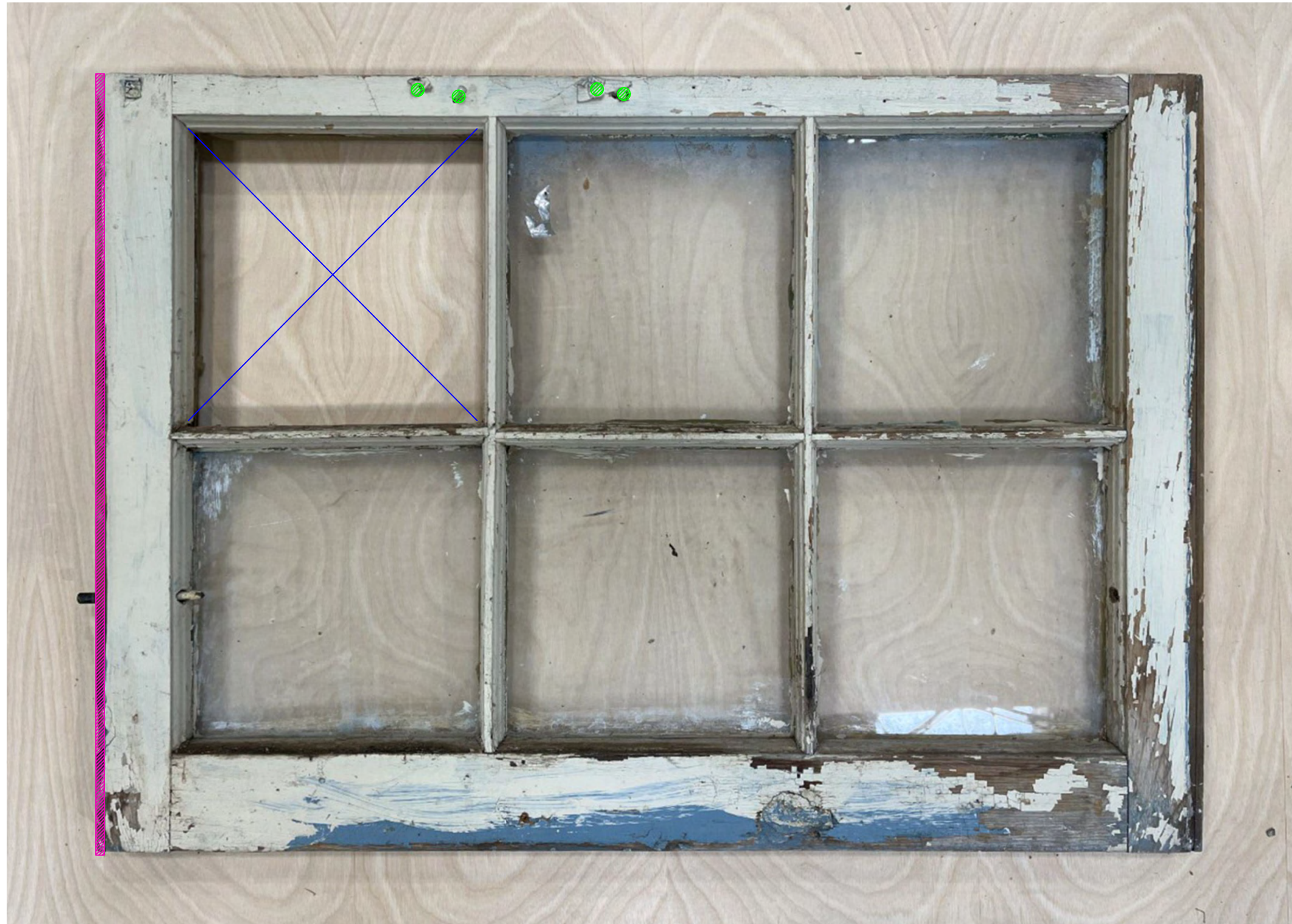
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-B-L, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

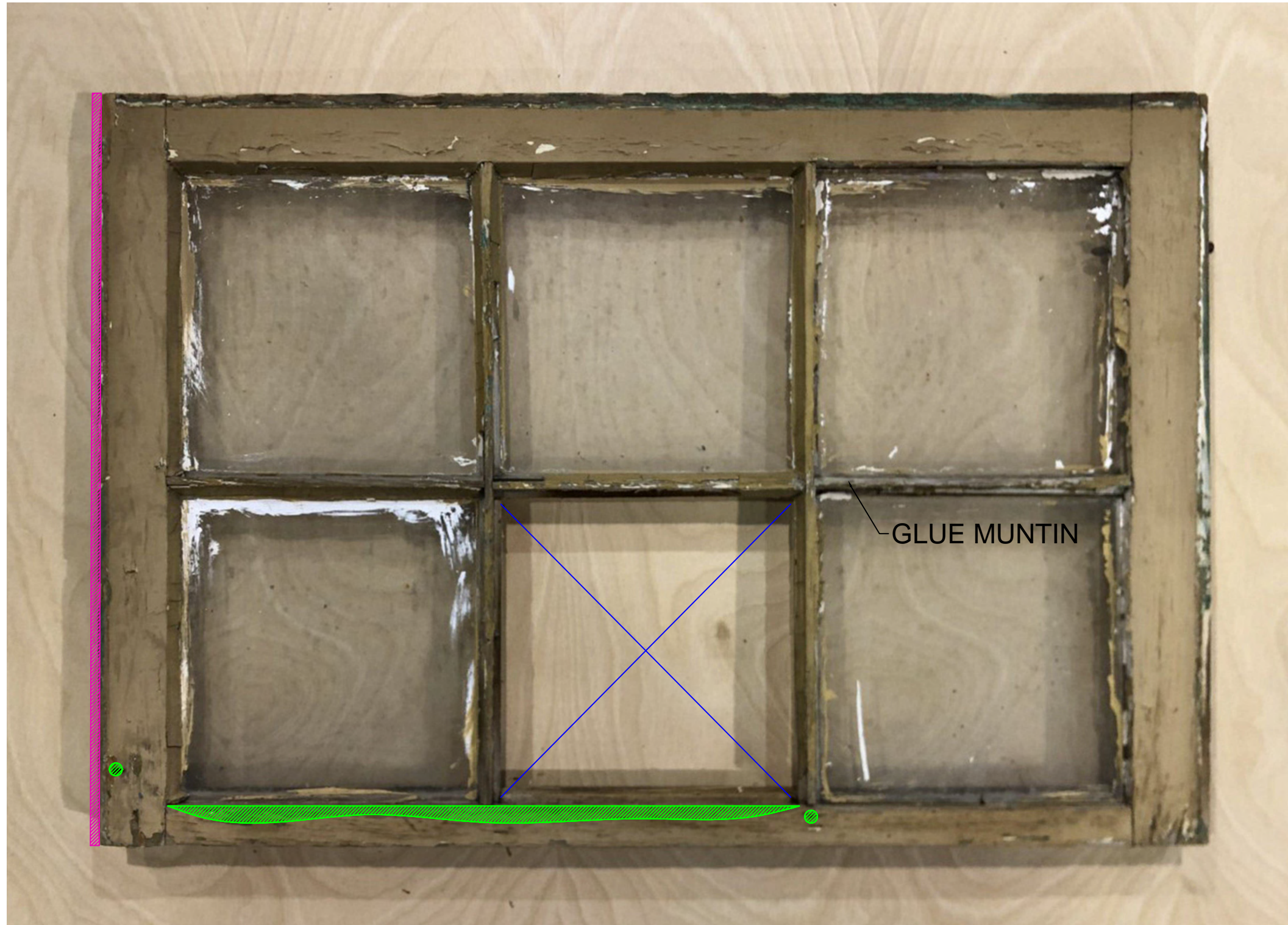
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-R-U, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy

TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-R-U, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

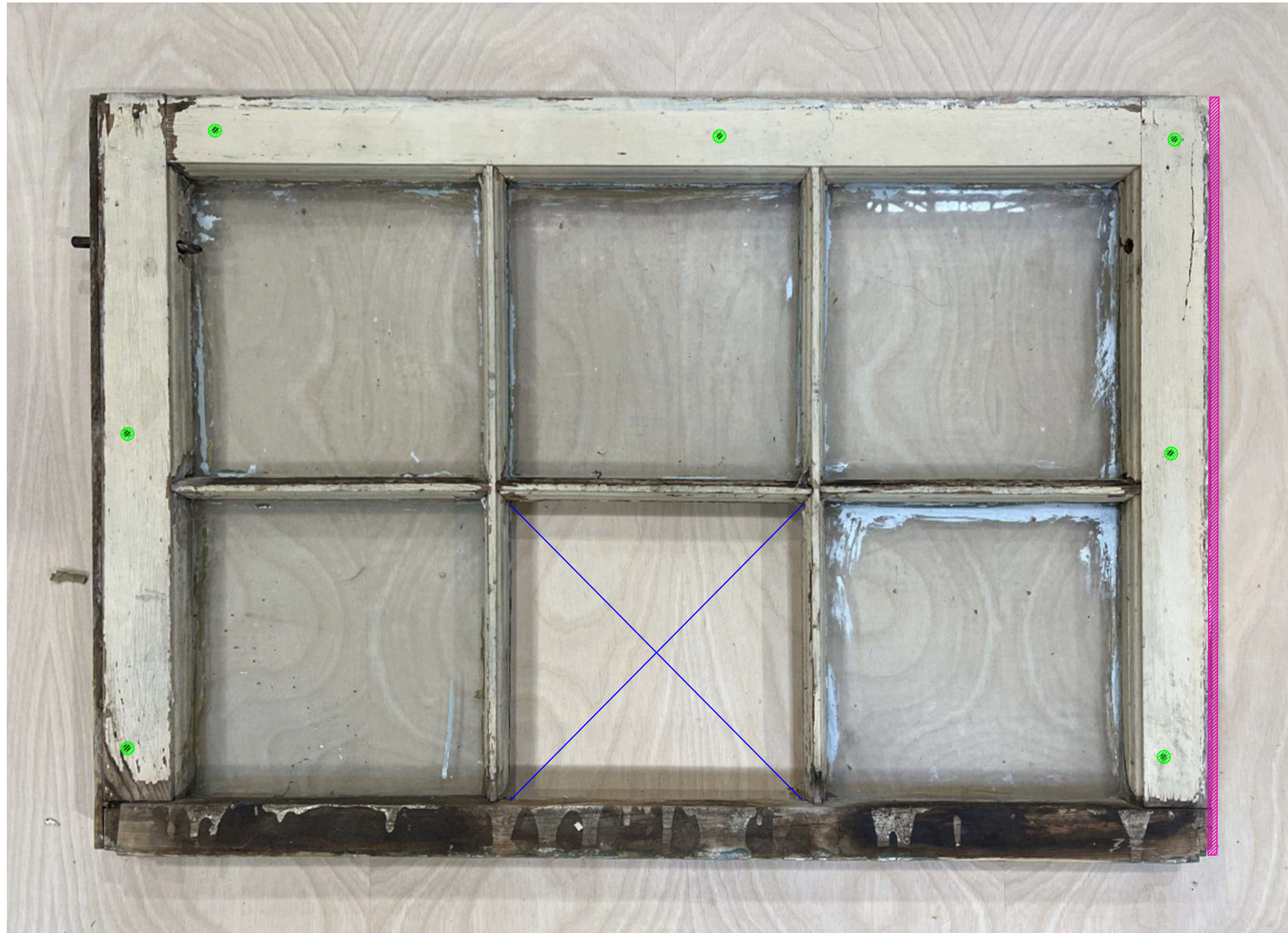
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S. STRATTE

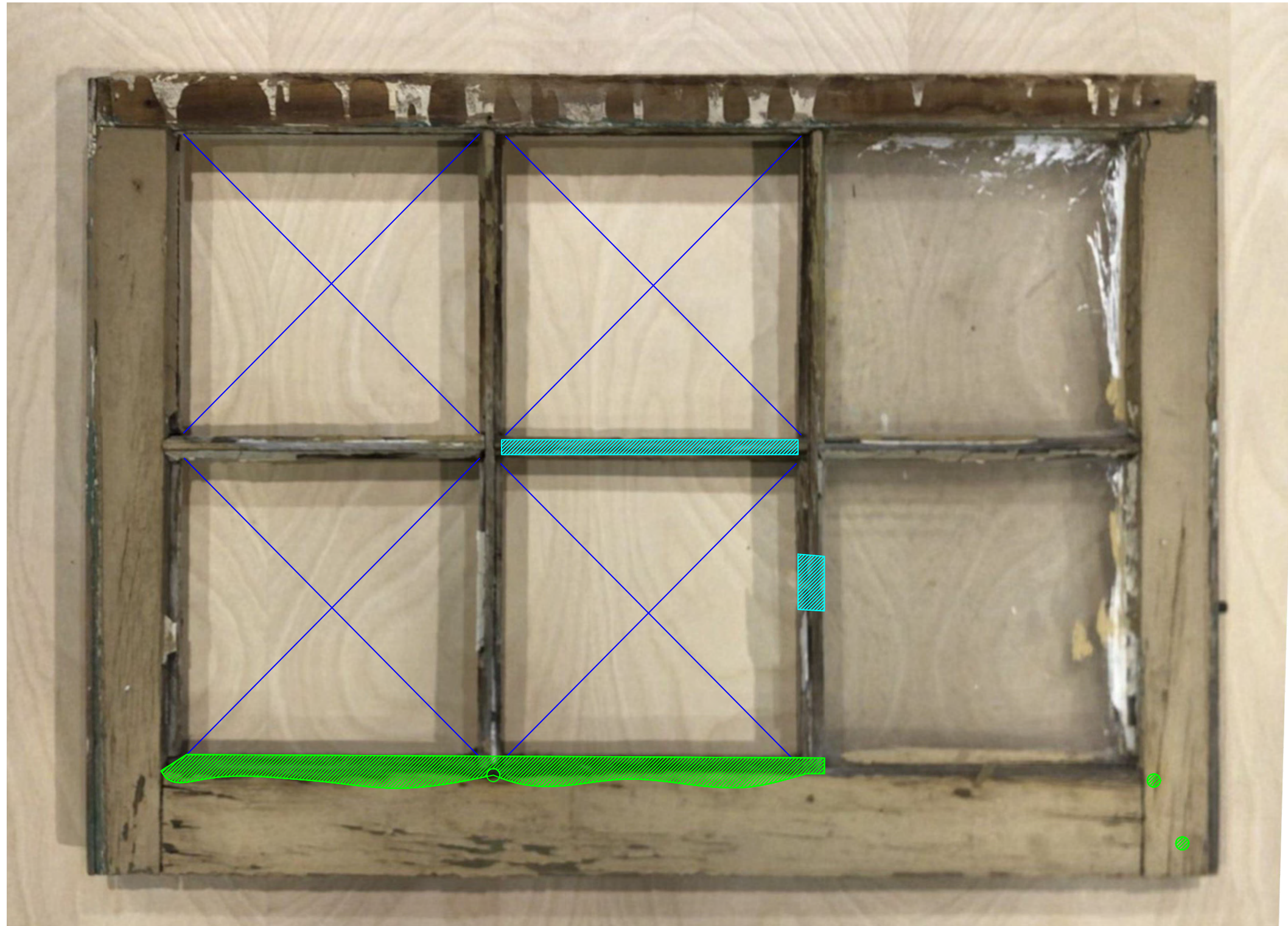
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MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy





TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-R-L, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

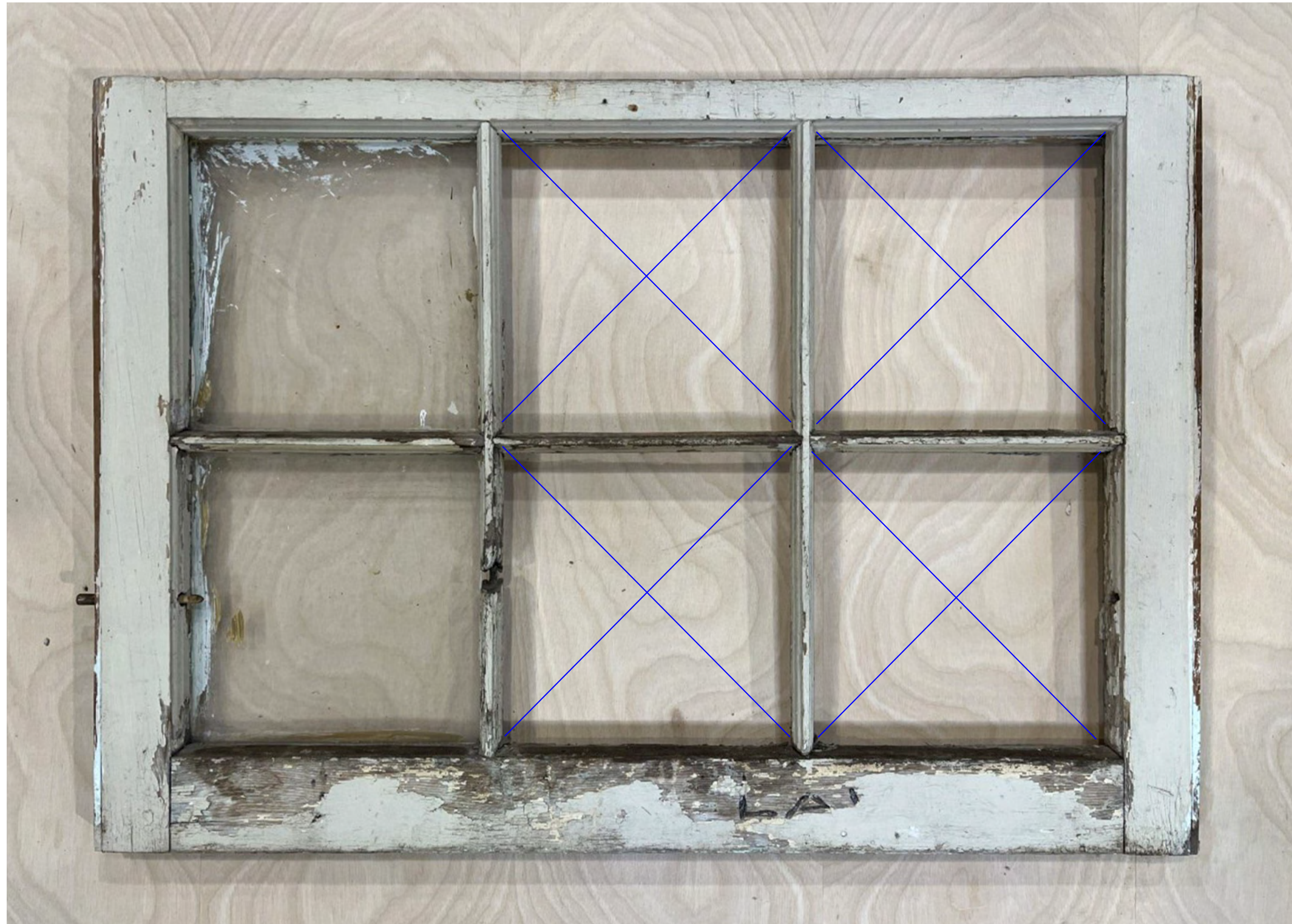
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
172-R-L, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
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LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

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MAY 2023

SCALE:
4" = 1'- 0"

KEY:

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-  Dutchman
-  Replacement
-  Epoxy

TA-8-172 Roof

The shed roof on TA-8-172 consists of 2" x 6" solid roof decking affixed to 2" x 4" rafters; based on the variable weathering of the decking and lack of stove-pipe hole, some of the extant roof decking is replacement. Fascia (1" x 5") are attached to eaves and rake. A 2" x 4" is attached to the outer face of the fascia, flush with the top of the fascia and decking, and a 1" x 4" batten is attached to the outer face of the 2" x 4"; neither the 2" x 4" nor the batten are historic and will be removed. Three layers of asphalt rolled roofing are observable at this time: the outer layer is asphalt rolled roofing with tan-colored aggregate, which was likely put on after it was procured by LANL in 2004; asphalt rolled roofing with gray-colored aggregate, present on the building after it was re-installed at LANL; and the bottom layer is asphalt rolled roofing with green-colored aggregate. All three materials appear to be cleated between the 2" x 4" and the 1" x 4" batten at the present.

The roof on TA-8-172 is in poor condition. The fascia at the back of the structure is heavily weathered and sections are missing; in other areas, the fascia is obscured by the attached 2" x 4" and 1" x 4" batten so determining its full condition is not possible until roofing materials are removed. Most of the roof decking appears to have some water staining based on interior observation, but the extent of deterioration on the exterior faces will only be known once the rolled roofing has been removed; daylight can be seen through the decking along the eave on the front and back sides, so at least two boards will need to be replaced. Similarly, the rafters mostly appear to be in good condition from underneath. The rafter ends adjacent to areas of deterioration on the decking and fascia at the back of the structure especially will need to be examined once the rolled roofing and paper is removed.

Roofing repairs will begin by removing the existing rolled roofing layers to expose the decking and rafters. HPTC craftspeople will examine the wooden elements and document additional deterioration evidence. Deteriorated decking boards will be replaced in kind with new material in matching species and dimensions, stamped on the top with "NPS 2023." If the top portions of the rafters are deteriorated due to moisture or general weathering, the deteriorated sections will either be stabilized and filled with epoxy or replaced in kind depending on the extents of deterioration. The damaged fascia boards will be partially or fully replaced, based on the extent and location of deterioration; replacement materials will match in species and dimension

and be stamped in an inconspicuous location. New roofing underlayment paper will be attached to the decking and 90# mineral roofing in black will be installed to match construction specifications from the period of significance. Painted surfaces on the fascia, decking boards undersides, and rafters will be prepared for painting by removing loose paint mechanically and sanding the remaining paint smooth. The wooden surfaces will be primed with boiled linseed oil and painted with linseed oil paint color-matched to the remaining evidences of green paint.

The visible sections of the fascia and rafter tails on the front elevation appear to be in good condition; roof decking above these elements is highly deteriorated (see below), thus the top faces of the rafters may have some moisture damage.



At the back of the structure, the roof is more deteriorated. The fascia at the back right corner is heavily weathered and will need to be replaced. The adjacent roof decking is missing and will need to be replaced with new in-kind materials. The rafter tails have some evidence of moisture damage as well in this area; whether this damage should be fixed with epoxy repairs or partial dutchmen will be determined after deteriorated roofing elements are removed.



Several layers of mineral rolled roofing are present on TA-8-172, however they are deteriorated and have left the roof decking exposed to weathering and moisture.



The present drip edge detail consists of a fascia (1" x 5"), 2" x 4", and batten (1" x 4"). Repairs will consist of repairing the fascia and removing the 2 x 4's and battens.



Roof decking on TA-8-172 has extensive evidence of moisture staining, both on older and newer boards, likely the result of deteriorated rolled roofing. Boards which are deteriorated will be replaced in-kind with new materials stamped "NPS2023."



TA-8-172 Interior

The interior of TA-8-172 contains some non-historic fixtures, under which the original finishes and furnishings are still somewhat intact. The interior floors, as previously mentioned, are 3/4" x 2-1/4" tongue and groove flooring attached to the diagonal floor sheathing with 7/8" x 3-3/4" rectangular baseboards along each interior elevation. The framed walls and ceiling are finished with 3/8" gypsum sheet rock, which is trimmed with quarter round wood along the wall and ceiling junctures; the seams between the gypsum boards on the walls were left bare. A fire-backer was attached to the walls on the back and left side of the structure, shimmed out 5/8" from the sheet rock. Period electrical conduit runs along the interior of the left, right, and front interior elevations to power outlets and the light fixture above the door on the front elevation. Historic outlets on the left interior wall are affixed to a square piece of 11" x 12-5/8" plywood, roughly 4' from the surface of the flooring. The wooden trim elements, sheet rock, and fire backer surfaces would have been painted sea foam green, and evidence of these coatings is present beneath later, non-historic paint coatings. These elements were identified by LANL cultural resources personnel as being the only finishes and fixtures dating to the period of significance. TA-8-172 was sold by the laboratory in 1950, after which point the guard shack was modified to meet the needs of private owners. Fixtures which date after the period of significance include a wooden shelving system, accessory hardware (a garden hose hanger, metal peg board, mirrored light plate, a pencil sharpener, and nails), a garden hose-insulated electrical line, and felt-based floor covering. At some point the interior wooden trim, gypsum board, and fire backer were painted with a cream-colored paint. Paint samples will be taken from the interior trim and gypsum board to be embedded in acrylic for later paint analysis.

The interior is in poor condition. Moisture intrusion at the back right corner has damaged the sheet rock, including disintegration of the paper facing and molding. The sheet rock ceiling has fallen, leaving just the edges of the sheet secured at wall junctions; crucially, a portion of the cut for the stove pipe is still intact and can be replicated when replaced. The wooden corner trim and baseboards are in good condition and can be preserved in place.

To preserve the interior, the extant original finishes will be repaired or replaced and the non-historic elements will be removed. Moisture-damaged portions of the sheet rock in

the back right corner will be cut out and new materials in matching thickness re-installed; new studs may need to be inserted to catch the edges of new sheet rock materials. In such cases, new studs will be stamped "NPS 2023". HPTC crafts people will carefully remove the damaged ceiling sheet rock, utilize the fragments with the previous stove pipe hole to cut a matching hole into new sheet rock, and then install the new panel. The baseboard and trim will be removed and reinstalled in its original place to facilitate flooring and sheet rock repairs. Non-historic shelving will be removed, and fastener holes will be filled. All the wooden surfaces will be prepped for painting by mechanically removing loose paint and sanding remaining paint smooth, then primed boiled linseed oil and painted with custom linseed oil paint color-matched to the extant sea-foam green.

A sample of the felt flooring, mirrored light plate, hose-insulated electrical line, pencil sharpener, shelving, hose hanger, and metal peg board will be removed and sent back to LANL once the guard shack repairs have been completed.

The interior of the front left corner.



The interior of the back left corner.



The interior of the back elevation. Note the bare seams between the gypsum board, which is typical throughout the interior of the structure. The gypsum board has moisture-related deterioration in the back right corner and extensive loss of the ceiling boards.



The interior of the back left corner.



The interior of the front right corner.



A section of the stove pipe cut out is present in the ceiling gypsum board in the back left corner. The location and diameter of the cut will be recorded and replicated on the new ceiling gypsum board.



Evidence of sea foam green paint beneath later coats of off-white paint on the interior gypsum board.



Floor Framing and Flooring

The present flooring system on TA-18-111 does not contain any historic materials. At some point, the structure was lifted to remove the historic floor system and it was replaced with 2" x 6" decking resting on top of 2" x 10" pine sleepers. None of the historic tongue and groove flooring is present; however, the baseboard present in the structure appears to be historic as it has evidence of sea foam green paint. Based on conversations with LANL staff, we propose replacing the flooring with materials to match the flooring system on TA-8-172.

Restoring the flooring structure will consist of the lifting the structure to remove the existing materials and inserting a new joist system with diagonal floor sheathing and tongue and groove flooring. Workers will number and remove the corner trim and some of the lower courses of siding to attach lumber to the wall bare framing elements and utilize these members to lift the structure up with jacks. Once weight is off the flooring structure, the extant flooring and sleepers will be removed. A new floor frame with diagonal sheathing will be constructed beforehand and attached to the wall framing. The new frame will consist of new 2" x 8" joists strengthened at the ends with new 2" x 8" blocking and 2" x 4" diagonal bracing running along the centerline. New diagonal floor sheathing will match the existing on TA-8-172 in dimension. All new elements will match the species on TA-8-172 and be stamped with "NPS 2023" in an inconspicuous location. The new floor structure will be fastened to the existing wall framing with a combination of galvanized framing nails and exterior grade screws. All floor framing elements will be treated with Bora-Care to prevent damage from wood-destroying insects. Tongue and groove flooring will be replaced in kind with new 3/4" x 2-1/4" materials to match the existing on TA-8-172. The existing historic baseboards will be salvaged and re-installed in place.

The flooring structure for TA-18-111 presently consists of 2" x 10" sleepers running parallel to the left and right sides which support 2" x 6" flooring. These elements are not original to the structure and will be removed and replaced with an assembly similar to that on TA-8-172.



While the flooring and floor structure was removed from TA-18-111, the historic base molding was left in place as evidenced by traces of sea foam green paint.



The interior 2" x 6" floor deck in TA-18-111.



The wall system on TA-18-111 consists of stud wall frames sitting directly on top of the current floor decking. Drop channel lapped siding (3/8" x 3 3/4 ") directly attached to the stud wall frame. The trim along the corners of the structure all appear to be later replacements, as evidenced by a difference in species (Doug Fir rather than pine), surface treatment (smooth, without evidence of more extensive weathering), and lack of green paint evidence. Based on visual observations, the exterior siding of TA-18-111 has evidence of three paint campaigns: olive drab green on the surface of the wood, a white/off white primer, gray, and the present pink color. Paint samples will be taken prior to the initiation of work and embedded in resin for later paint analysis.

The wall assembly appears to be in good condition. There is no evidence of structural deterioration currently, either due to generalized weathering, moisture, or structural incapacity. The siding is in fair to good condition, with only a few instances of warped or cupping siding pieces, minor mechanical damage, and holes from non-historic hardware. These damaged siding boards will be replaced to prevent the intrusion of moisture or pests. The bottom course of siding on all elevations have some damage due to moisture-related deterioration. Much of the trim is non-historic, but in fair condition and appears to have successfully protected the end grain of the siding. All the exposed wooden surfaces have extensive evidence of minor surface weathering, including minor checking and evidence of previous paint loss.

Repairs for the wall system include replacing damaged siding, filling holes, replacing the non-historic trim, removing non-historic hardware, and preparing and paint the siding and trim. Damaged areas including siding that is cupping or warped, siding along the bottom of the structure, and a section of mechanical damage on the back elevation, will be replaced in kind with new materials milled to match the profile and dimensions of the existing; new siding boards will be milled from new materials matching the existing in species and be stamped with "NPS 2023" in an inconspicuous location. Holes exceeding 1/2" in diameter in the siding will be documented and filled with an epoxy or wooden dowel; smaller fastener holes will not be filled. Non-historic hardware, including the bolts through the back elevation to support interior shelving and screw eyes on the right elevation, will be removed. Historic fixtures and

hardware, including conduit clamps on the right and back elevations and electrical boxes and plates above the door on the front elevation, will be left in place. Similarly, new materials will be milled to replace the non-historic corner trim in the proper dimensions and stamped "NPS 2023" on the back side. The wooden surfaces will be prepared prior to painting by removing loose extant paint materials and sanding all surfaces to smooth the surface and promote better adhesion of the new paint. The surfaces will be primed with a coat of boiled linseed oil paint and then painted with two coats of linseed oil paint to match the remnant olive drab green layers on the structure.

Condition of wall exterior siding and corner trim on the front elevation.



Condition of exterior wall siding and corner trim on the left elevation.



Condition of exterior wall siding and corner trim on the back elevation.



Condition of exterior wall siding and corner trim on the right elevation.



Section of damaged siding on the back of the structure; anecdotal evidence attributes the damage to a boulder rolling down the canyon at Bandelier.

The damaged siding will be replaced with new materials milled to replace the existing in-kind.



Evidence of green paint beneath the pink on the exterior siding.



Corner trim on the front elevation does not appear to be original to the structure, based on paint evidence and finish of the boards.

This exemplifies most of the trim on the structure. These elements will be replaced with new materials which match the existing historic examples of trim in dimension.



On the back elevation, non-historic bolts will be removed and the holes filled. One insulated clamp, which may have held electrical conduit, will be preserved in place.



Three non-historic eyelet screws will be removed from the right elevation. Insulated wires, which may have held electrical conduit or other historic utilities, will be left in place.



A light fixture and junction box above the door on the exterior will remain in place.



TITLE OF SHEET:
SIDING AND TRIM
DETERIORATION
CONDITIONS

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

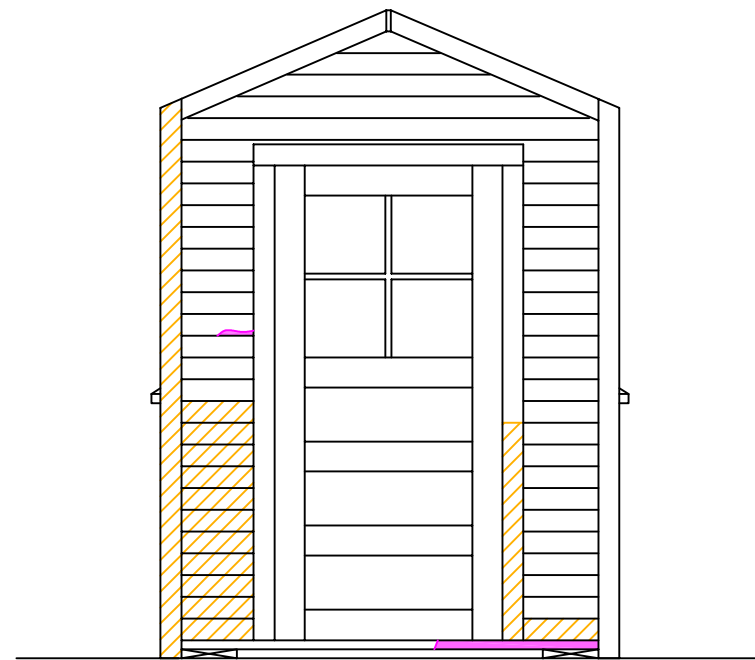
AUTHOR:
S. STRATTE

DATE:
MAY 2023

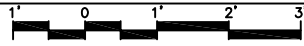
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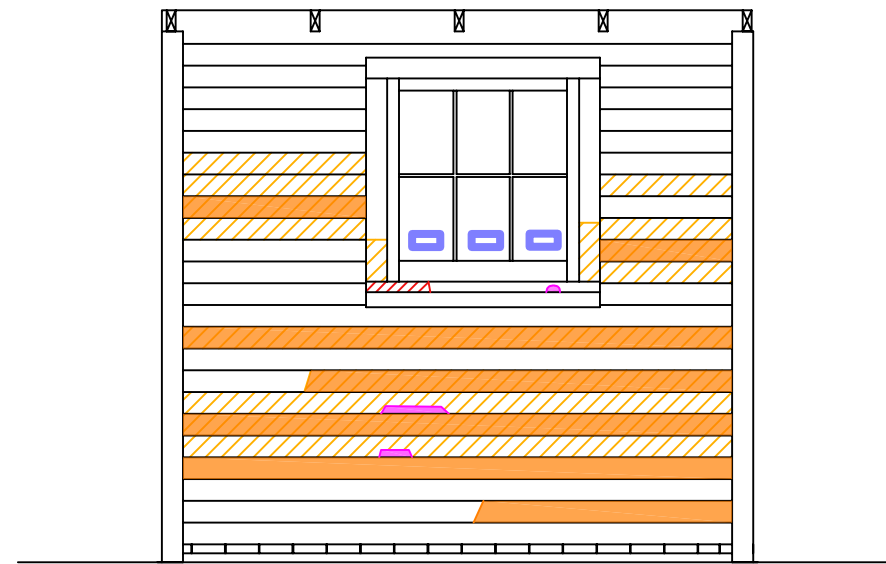
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-  WARPING
-  LOSS
-  IMPACT DAMAGE
-  GRAFITTI

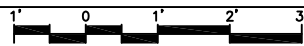


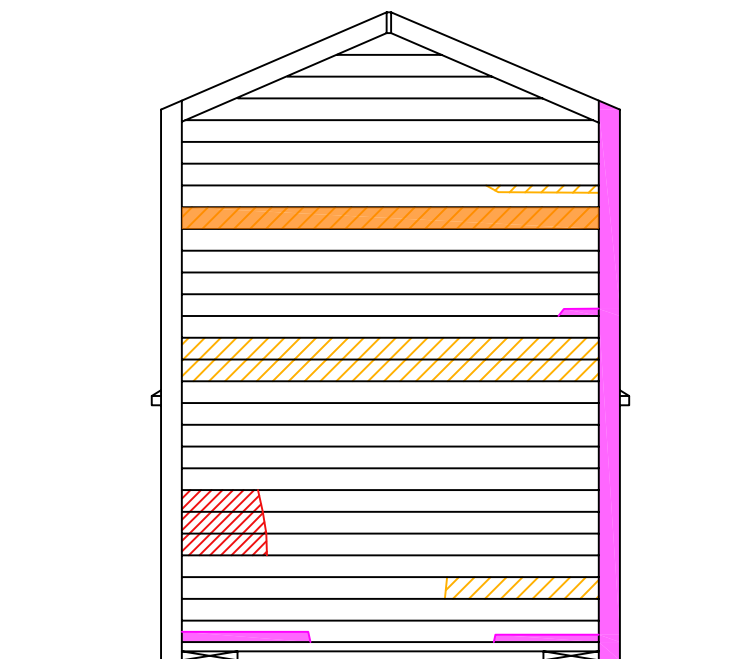
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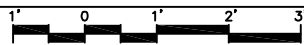


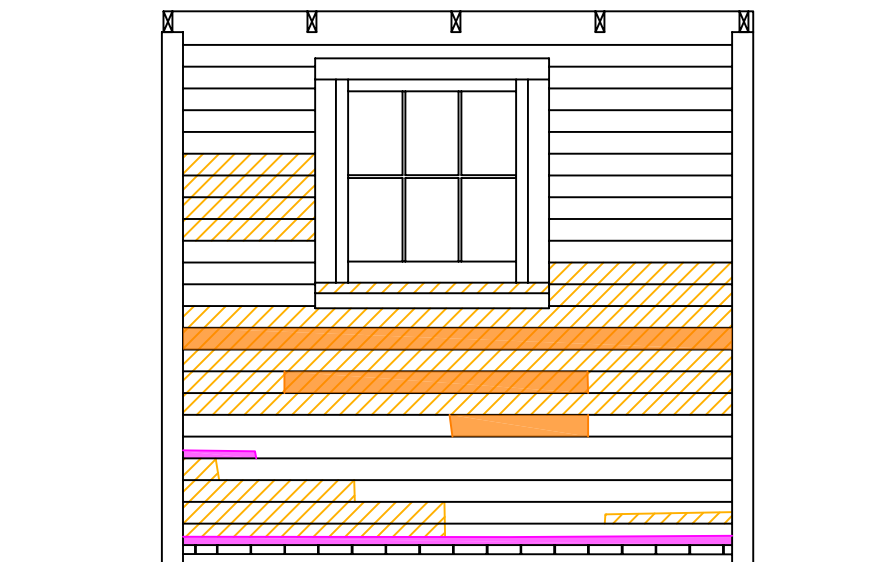
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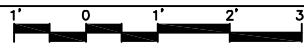


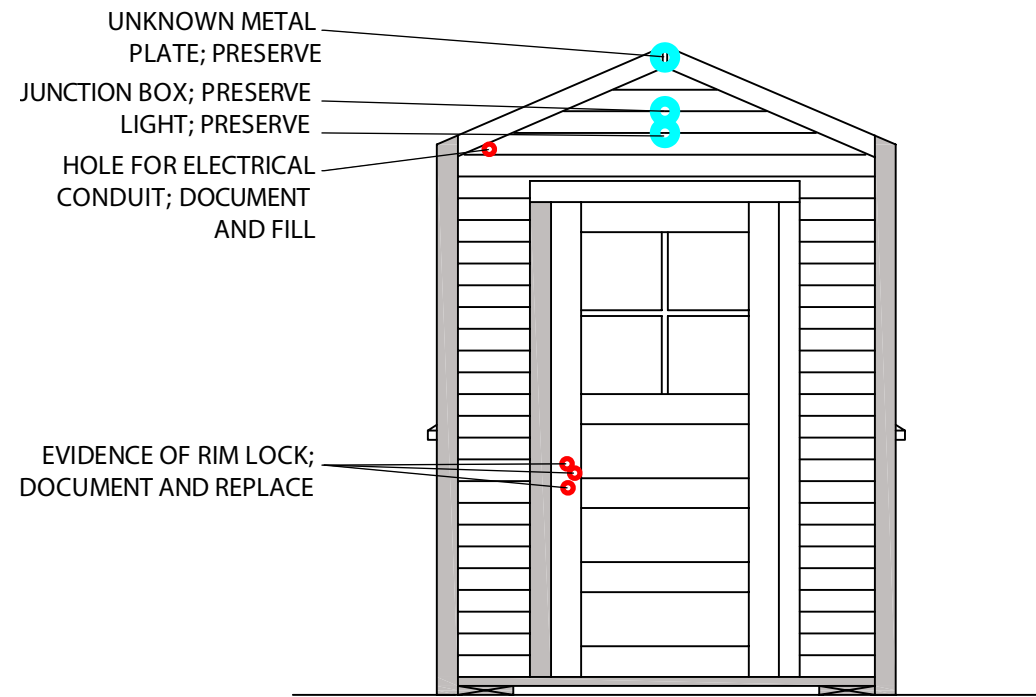
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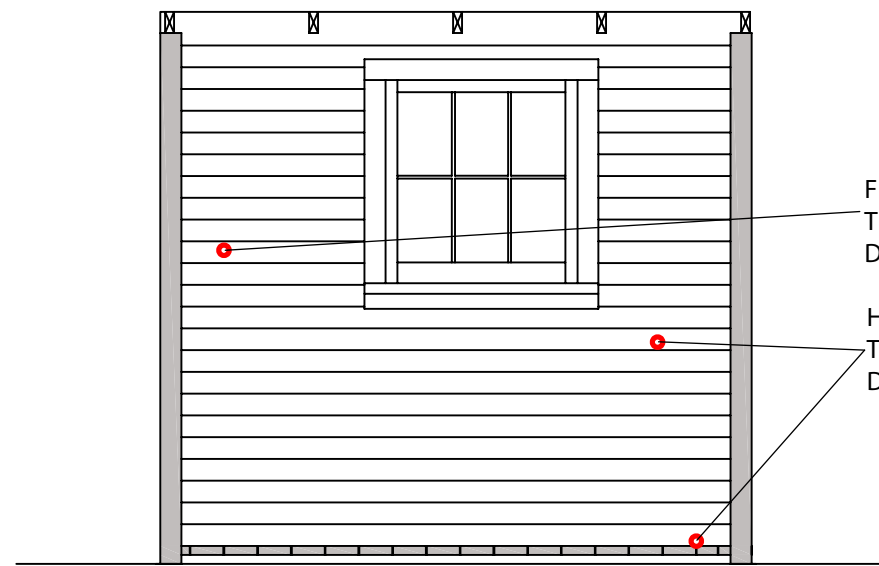
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SCALE: 



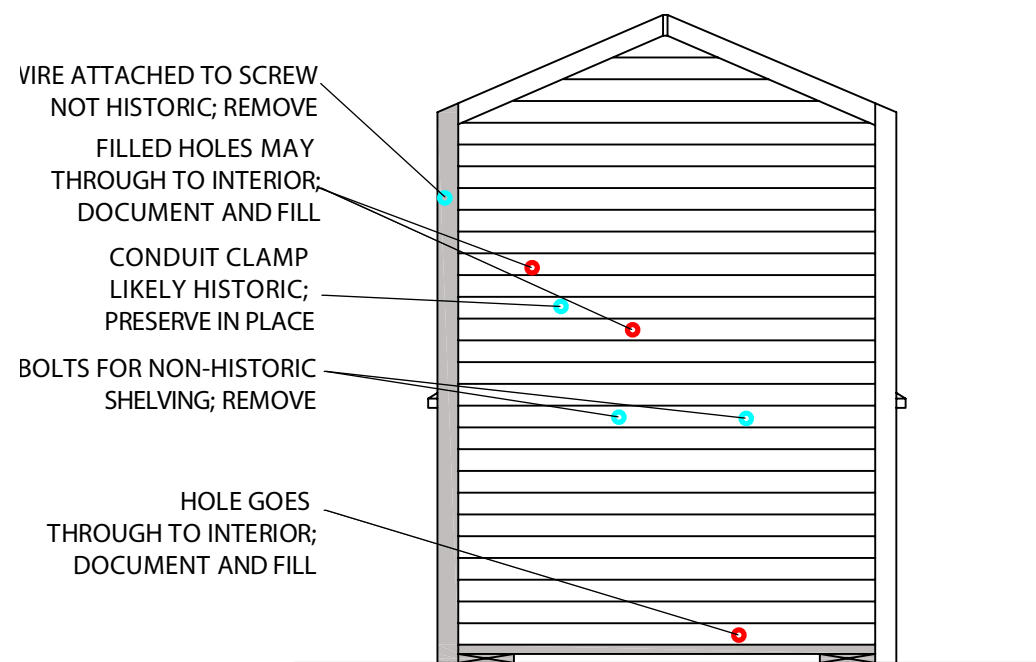
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SCALE:



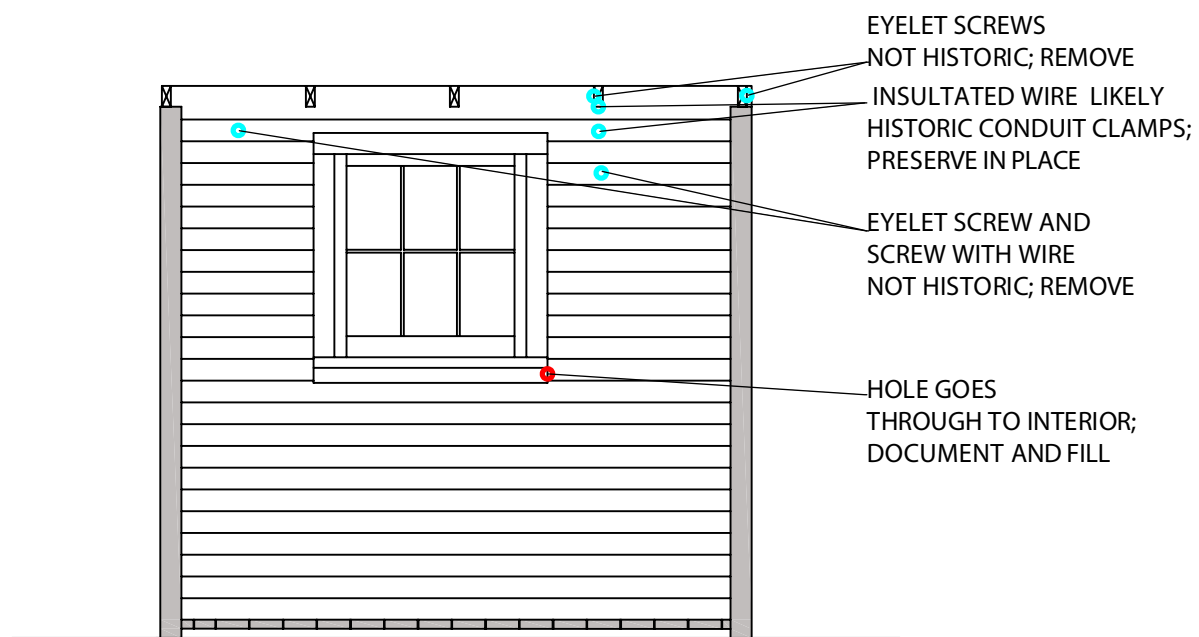
LEFT

SCALE:



BACK

SCALE:



RIGHT

SCALE:

TITLE OF SHEET:
HOLES, FASTENERS, AND FIXTURES

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3/8" = 1'-0"

KEY:

- HOLE
- HARDWARE
- REPLACEMENT

NOTES:

NON-ORIGINAL TRIM AND CASING ELEMENTS WILL BE REPLACED WITH 7/8" STOCK.

THE FLOOR SYSTEM WILL BE REPLACED TO MATCH THE JOIST SYSTEM ON TA-8-172. TO COVER NEW FLOOR JOISTS AND BLOCKING, ONE COURSE OF LAPPED SIDING WILL BE ADDED TO THE BASE OF EACH ELEVATION AND THE CORNER TRIM WILL BE ELONGATED.

TITLE OF SHEET:
TA-18-111 --
PROPOSED SIDING AND
TRIM REPAIRS

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY




LOS ALAMOS, NEW MEXICO

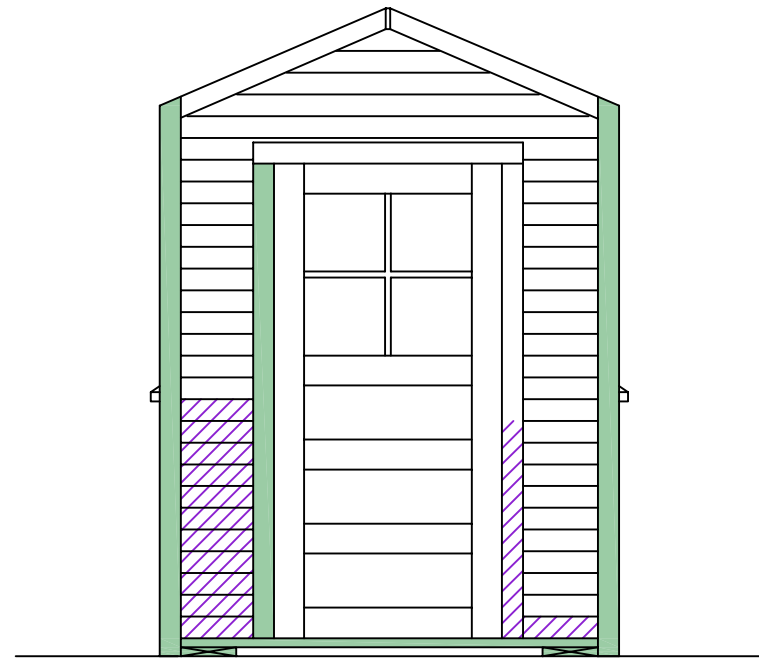
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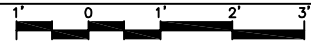
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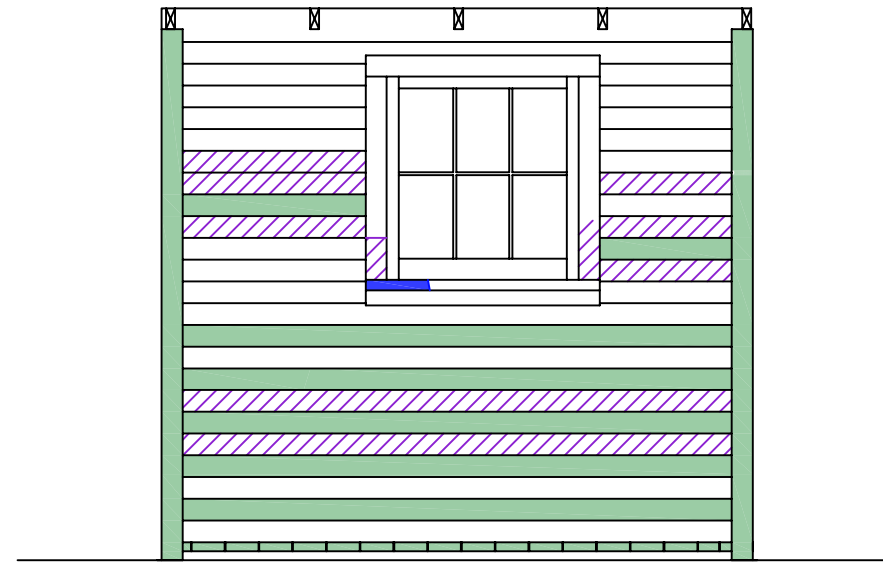
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-  EPOXY
-  GLUE

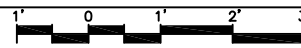


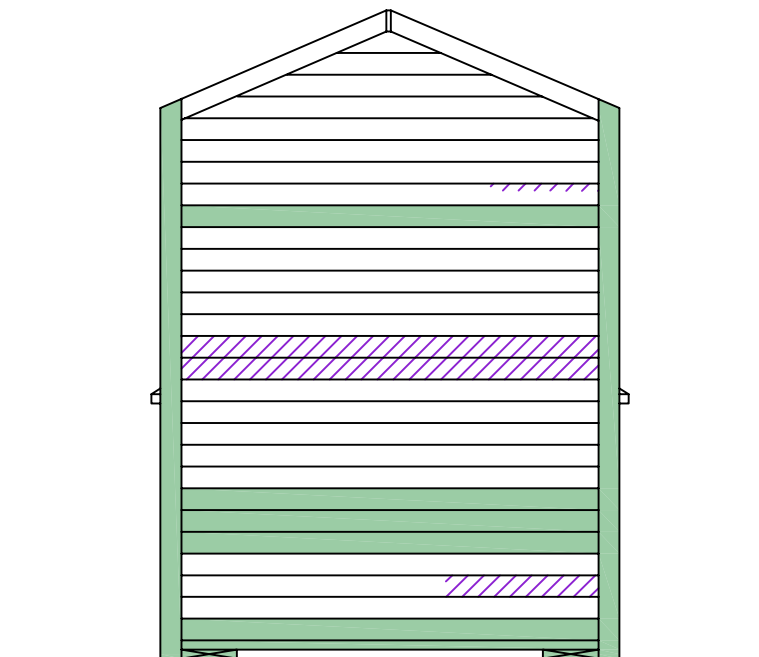
FRONT

SCALE: 

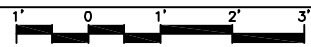


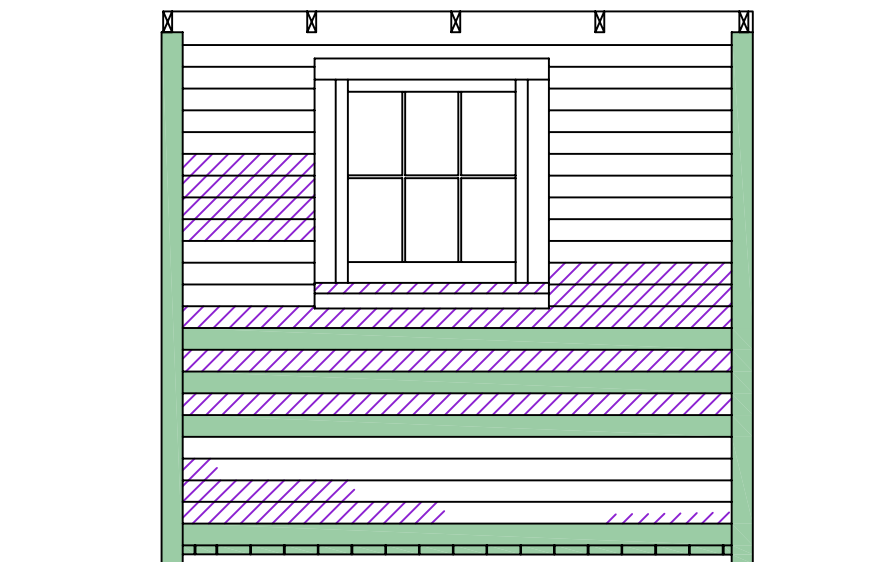
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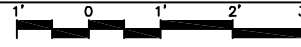


BACK

SCALE: 



RIGHT

SCALE: 

Fenestration on TA-18-111 consists of two six-light hopper windows, one on the left and right elevations, and a four-light panel door on the front elevation. Interestingly, the glass panes in the left elevation window have intriguing graffiti etched onto the exterior surface, including the phrase "Los Alamos." The sash, door, and their openings are all presently painted pink on the interior and exterior. Breaks and exposures in the paint coatings shows that the exterior surfaces were all painted olive drab green and the interiors painted sea foam green; paint samples will be taken from the interiors and exteriors of the sash, door, and openings to confirm this through paint analysis. Hardware, including window latches, window and door hinges appear to be original to the structure; however, the door handle is missing and will have to be replaced. The interior and exterior casings appear to all be original, but nails have been driven into the headers of the interior casings on the window openings for later non-historic uses.

The window sash, door, and openings are in varying conditions. The window sash were well preserved by later paint coatings, and do not require extensive repairs. Brackets were added to the interior of the right sash to reinforce the joints between the rails and stiles, likely because the glue in the joints had deteriorated. Additionally, there are fastener holes on the interior and exterior surfaces of the windows which do not correspond to existing hardware. A few of the glass panes are broken and will need to be replaced or repaired, including the pane with the graffitied "Los Alamos" inscription. The door is in poorer condition than the window sash. The wooden materials of the rails and stiles are in good condition, but the plywood panels are deteriorated. Wooden strips have been added to the top and bottom of the door on the interior and exterior faces, likely to reinforce loose joints between the rails and stiles. The wooden stops which keep the inset glass panes in place exhibit generalized weathering and U.V. deterioration. The window and door openings are in good condition; only one sill on the left elevation is broken, but this occurred at some point during transport to the HPTC shop and the missing piece was retained. The window casing and sills all appear to be original materials, based on wood dimensions and paint evidence. However, the left exterior door casing is a replacement piece and the left interior door casing is missing; both should be replaced with more appropriate materials.

Prior to initiating window and door repair, paint samples will be taken from the interior and exterior faces of select windows and doors. The paint samples will be taken from areas with accretions of paint to best represent the full paint stratigraphy. Samples will be embedded in epoxy for later paint analysis, and sample locations will be noted on window and door drawings. After paint sampling, the windows and doors will be dip-stripped to remove hazardous lead paint materials. Accessory hardware may also be removed; if so, these elements will be placed in labeled baggies to ensure that hardware is reinstalled in the proper location.

After paint stripping, window glazing will be removed utilizing steam and the glass removed from the sash and numbered. Once window glass has been removed, the wooden window elements will be repaired by a combination of epoxy repairs (Smiths Penetrating Epoxy and/or MAS Epoxy System) to fill improper fastener holes, any weather-induced surface checking, and stabilize soft wood. The rails, stiles, plywood panels, and glass panes on the door will be taken apart; new paint grade plywood in matching dimensions will be inserted and the door reassembled. Joints will be put together with a combination of wood glue and metal pins, matching the existing system. Additional repairs may be required/become evident after the windows and doors have been dip stripped. If more extensive repairs or replacements are needed, they will match the existing in dimensions and characteristics. Once completed, glass will be re-inserted into the sash and glazed with a linseed oil-based glazing compound. The glass panes will be re-inserted into the door and wooden stops re-attached with finish nails; damaged stops will be re-fabricated in-kind and stamped in an inconspicuous location. Existing intact glass panes will be re-inserted in place and broken window glass will be replaced in-kind with matching materials; damaged glass panes with graffiti will be repaired and reinstalled if possible. All wooden surfaces will be painted with new linseed oil paint to match paint evidences on the interior and exterior faces documented prior to stripping; this appears to be olive drab green on the exterior and sea foam green on the interior. All wooden surfaces will be painted with new linseed oil paint to match paint evidences on the interior and exterior faces documented prior to stripping; this appears to be olive drab green on the exterior and sea foam green on the interior. Hardware will be reinstalled, and the windows and doors will be put back into their respective openings.

Table 2: Window and Door Repairs for TA-18-111

<i>Window ID</i>	<i>Repairs Needed</i>						
	<i>Muntins</i>	<i>Rails</i>	<i>Stiles</i>	<i>Furring Strip</i>	<i>Other Notes</i>	<i>Glass to be Replaced</i>	<i>Hardware needed</i>
111-L			Fill holes.	N/A	Pull apart and re-glue; remove corner hardware. Repair and re-install graffitied glass.	1 pane	None
111-R		Fill fastener holes.	Glue split stile and fill holes.	N/A	Pull apart and re-glue; remove corner hardware.	3 panes	None
111-D	Replace exterior stops as needed.		Epoxy deteriorated endgrain.	N/A	Pull apart to replace plywood panels. Re-glue joints between rails and stiles.	None	Rim lock

Prior to re-installing the windows and door, the openings will be repaired and then prepared and painted. The broken window sill on the left elevation will be repaired by gluing the loose piece back onto the sill and filling any gaps with wood epoxy. Any other deteriorated wooden elements will be stabilized with wood epoxy. New casing elements should be milled for the interior and exterior door casing; new materials will match the existing in species and dimensions and be stamped "NPS 2023" in an inconspicuous location. Should any other repair needs become evident, the repair parts or replacements will match the existing in dimensions and characteristics in a matching species. Loose paint will be removed mechanically, and the surfaces will be sanded to feather the edges of existing paint. After preparing, surfaces will be primed with linseed oil and painted with linseed oil paint to match the existing colors. Based on observations, the original colors on the exterior sills, window casing, and door casing were olive drab green; portions of the jambs were painted sea foam green to match the interior.

See the table above which details the repairs needed (Table 2), the window schedule for TA-18-111 (page 89), and the drawing set with deterioration conditions and suggested repairs noted on scaled photographs (page 90-99); Appendix I contains drawings with annotations marking miscellaneous fasteners, graffiti, and previous repairs onto sash. All repairs and replacements for the windows, doors, and openings will be documented utilizing annotations and line drawings on photograph and included in a completion report.

The window opening on the left elevation is representative of openings on TA-18-111, save for the damage to the left side of the sill sustained during transport. The piece of sill was retained and will be glued back in place.



The original casing elements on the door opening have some paint loss and minor surface weathering.

Non-original casing elements will be removed and replaced with new materials which match the historic in dimension.



Deterioration on the door includes weathering of the wooden surfaces, checking, and deterioration of the plywood panels.

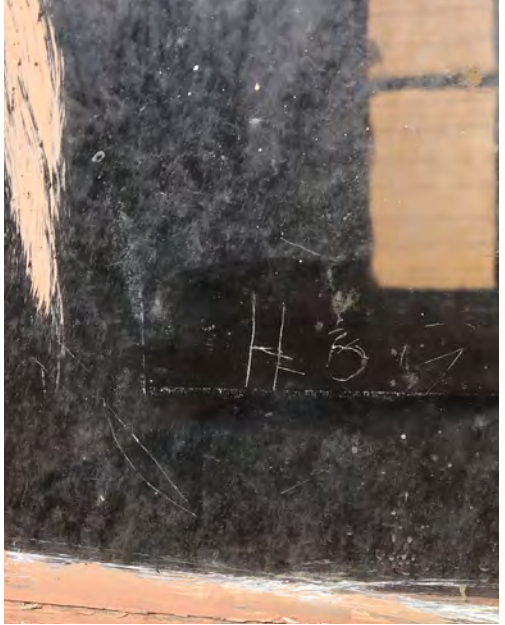
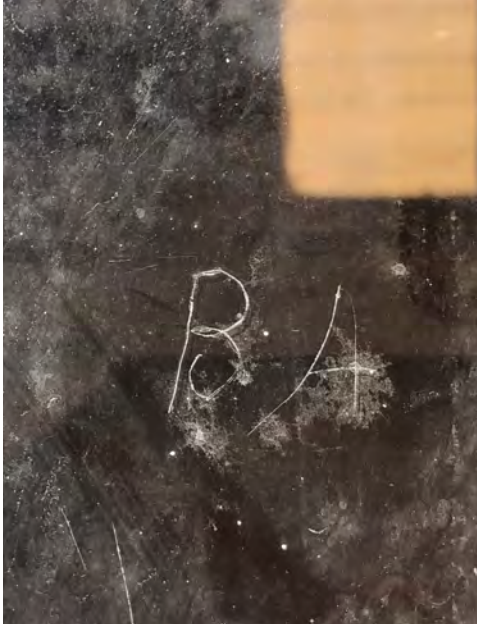


The rail and stile connections at the top and bottom of the door have been reinforced with wooden straps. These elements will be removed and the joints will be repaired.



Graffiti incised onto the exterior surface of glass in the sash on the left elevation. Inscriptions are found on each of the three bottom lights; "BA" on the left pane (left), "HO[?]" on the middle pane (right), and "Los Alamos" on the right pane (bottom).

Glass will be retained and reinstalled in the same location during window repair. Broken panes with graffiti will be repaired with conservation-grade glass epoxy.



Paint evidence on the door casing shows that the exterior of the openings were painted olive drab green (left) and the interiors were sea foam green (right).

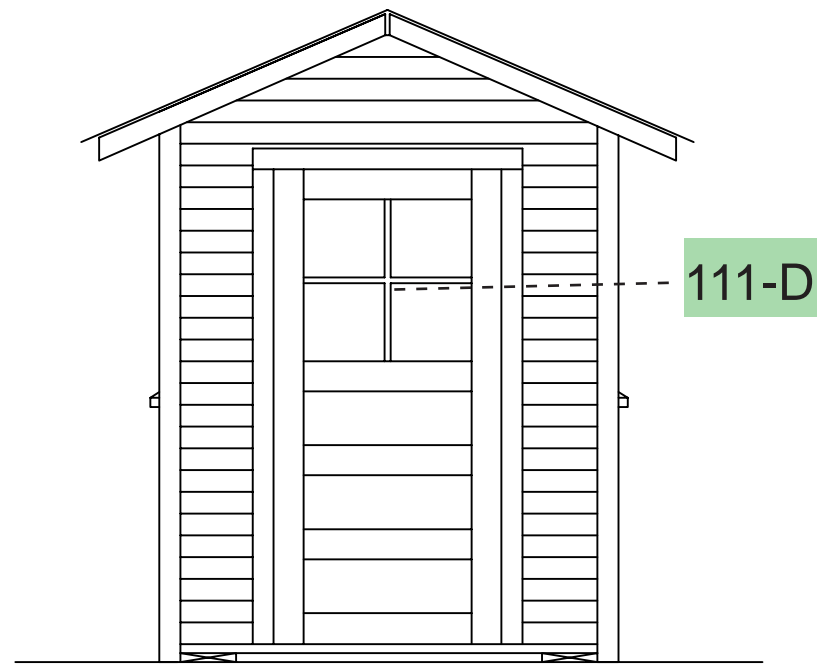


The interior window casing on the left elevation was modified with several nails. These non-historic fasteners will be removed and the holes filled.

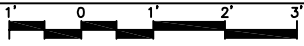


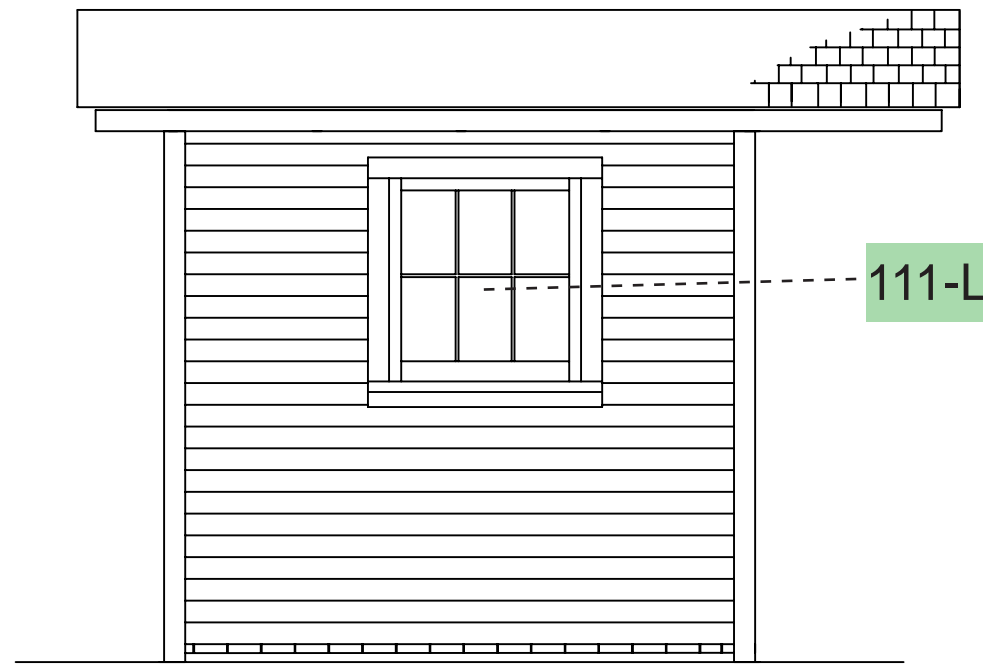
The interior left casing is missing; the other casing boards appear to be historic. New elements will match the existing in kind.



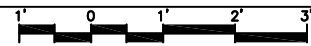


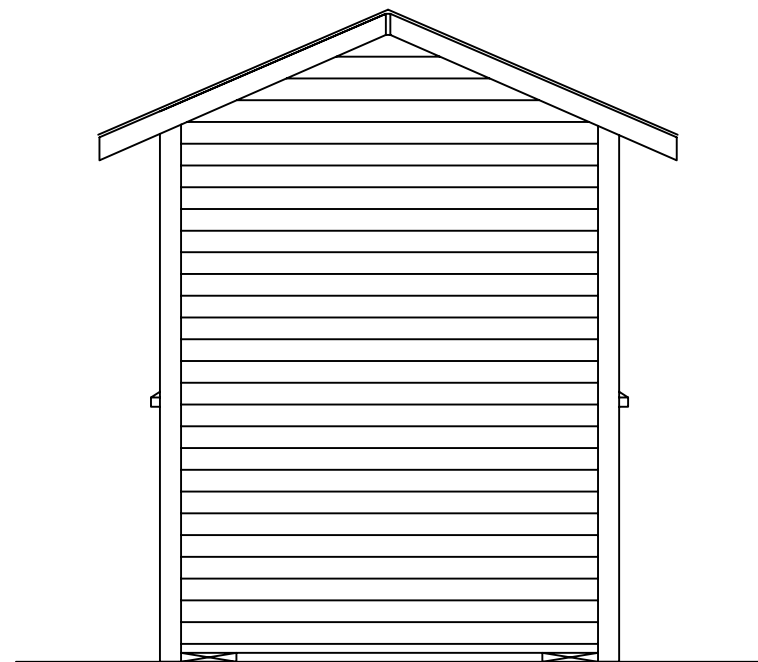
FRONT

SCALE: 

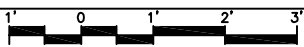


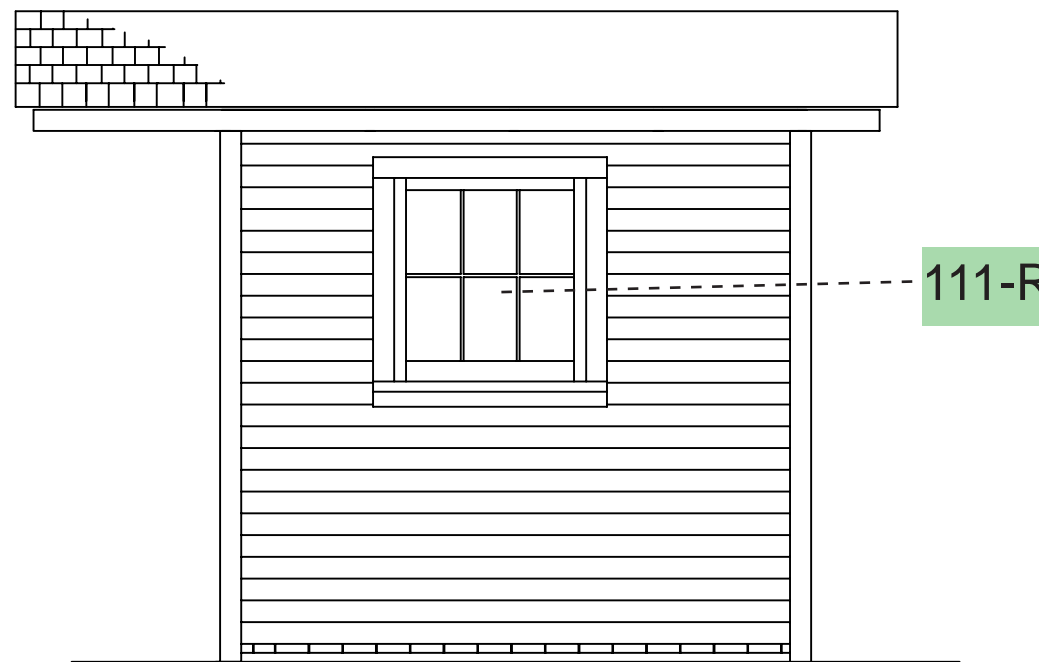
LEFT

SCALE: 

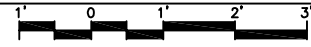


BACK

SCALE: 



RIGHT

SCALE: 

TITLE OF SHEET:
TA-18-111 --
WINDOW AND DOOR
SCHEDULE

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3/8" = 1'- 0"

KEY:

-  REPAIR
-  REPLACE



TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
111-L, EXTERIOR FACE

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY


LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss



TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
111-L, INTERIOR FACE

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY




LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss



TOP OF STILE
IS SPLIT

TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
111-R, EXTERIOR FACE

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss

TOP OF STILE
IS SPLIT



STILE
IS SPLIT

TITLE OF SHEET:
SASH DETERIORATION
CONDITIONS

SASH ID:
111-R, INTERIOR FACE

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss



EXTERIOR



INTERIOR

TITLE OF SHEET:
DOOR DETERIORATION
CONDITIONS

DOOR ID:
111-D

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
1-1/4" = 1'- 0"

KEY:

-  Broken light
-  Weathering
-  Loss
-  Hole from fastener



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
111-L, EXTERIOR FACE

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



GLASS WILL
BE REPAIRED
TO PRESERVE
GRAFFITI

TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
111-L, INTERIOR FACE

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY




LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



TITLE OF SHEET:
PROPOSED REPAIRS FOR
WINDOW SASH

SASH ID:
111-R, INTERIOR FACE

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

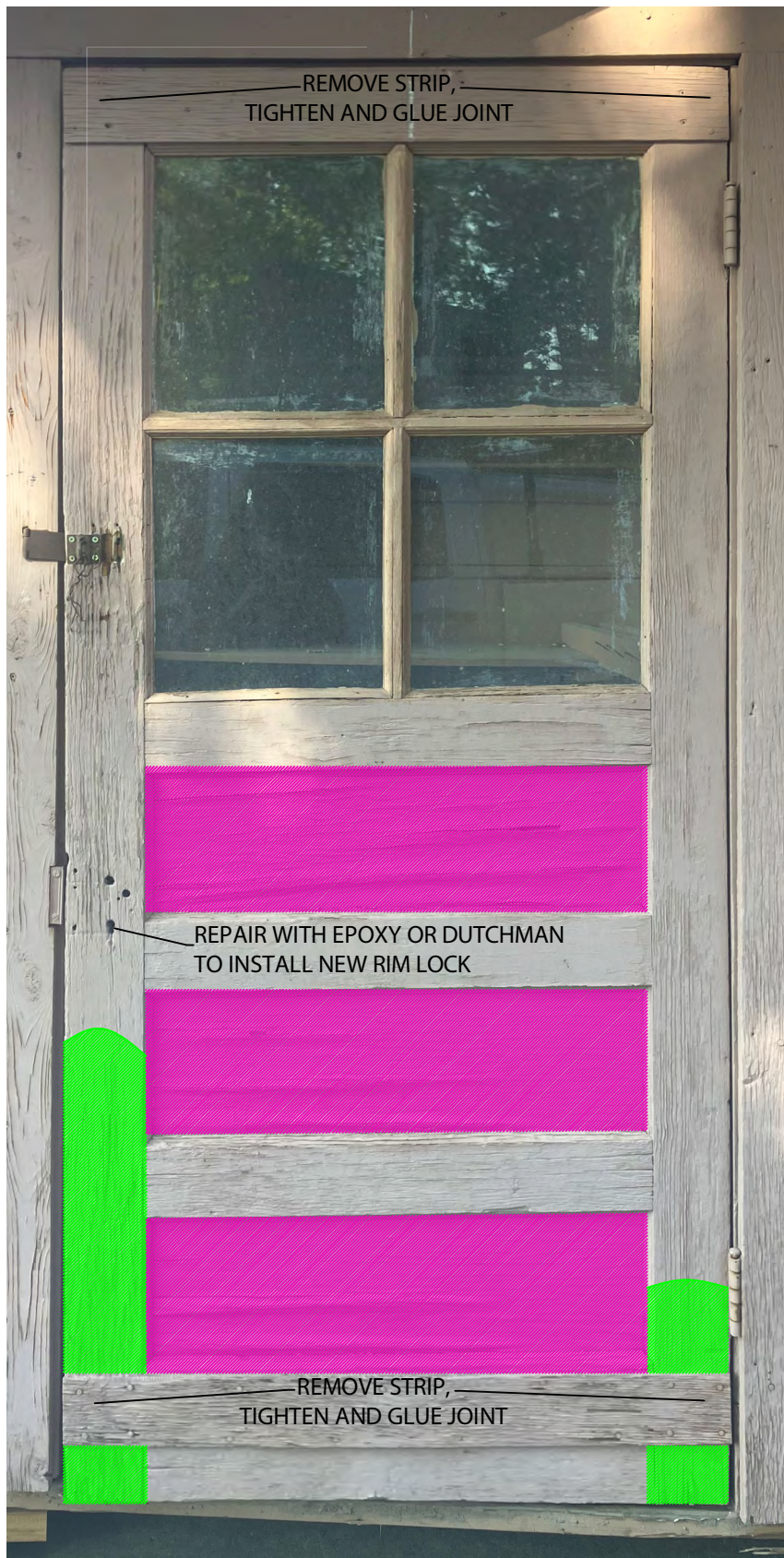
AUTHOR:
S. STRATTE

DATE:
MAY 2023

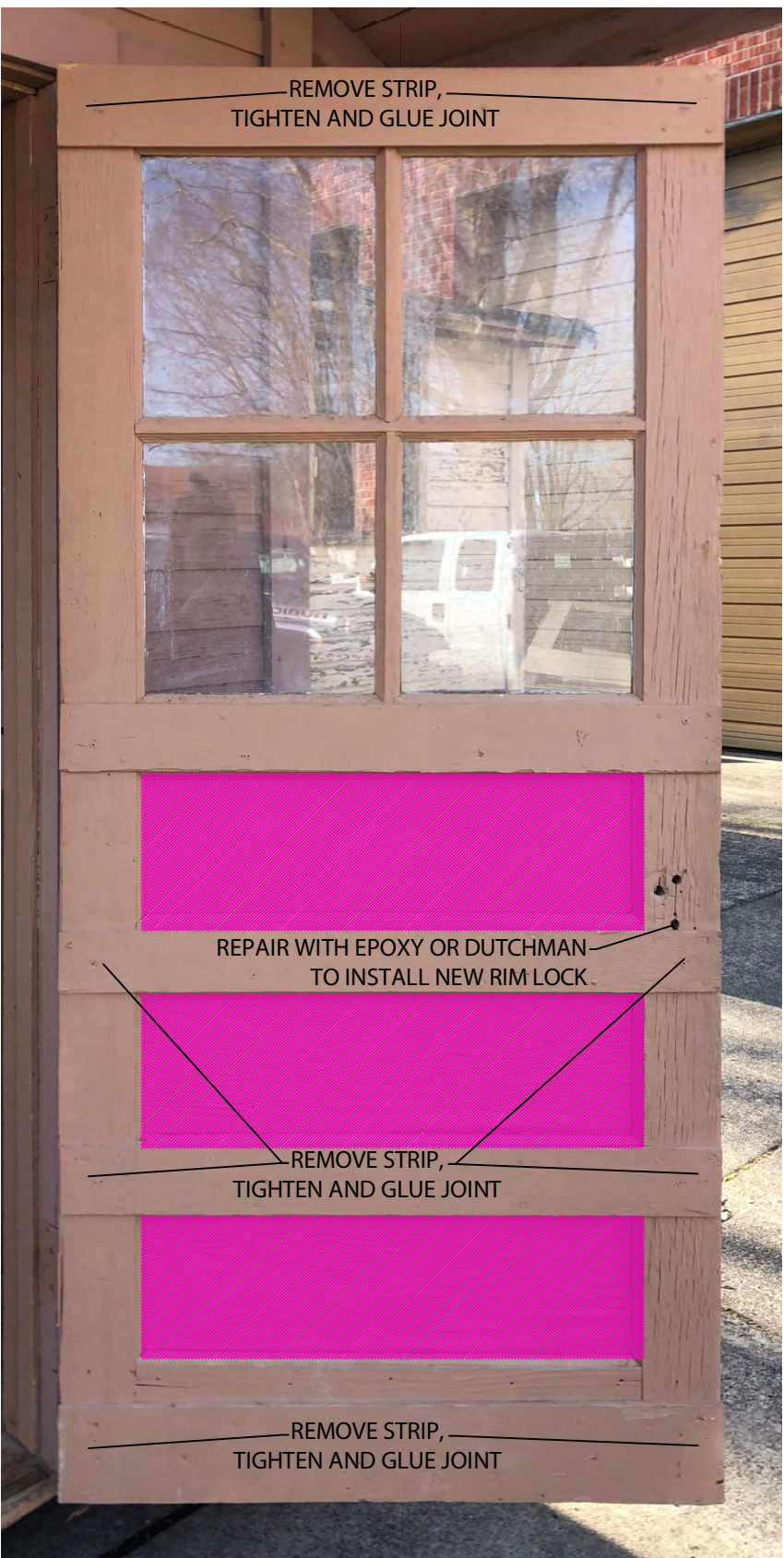
SCALE:
3" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy



EXTERIOR



INTERIOR

TITLE OF SHEET:
PROPOSED REPAIRS FOR DOOR

DOOR ID:
111-D

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
1-1/4" = 1'- 0"

KEY:

-  Replacement Light
-  Dutchman
-  Replacement
-  Epoxy

TA-18-111 Roof

The gabled roof on TA-18-111 consists of 2" x 4" rafters which meet at a 1" x 4" ridge beam with 1" x 5 1/2" tongue and groove solid decking affixed to the top. Fascia (1" x 4") is affixed to the ends of the rafters along the eaves. On the front elevation, the roof extends out from the elevation roughly 2'-6" to provide a covered entry. At some point, plywood decking was attached to the surface of the T&G to extend the roof edge past the fascia to create a drip edge. Similarly constructed guard sheds had what looks like a 1" x 2" trim along the top of the fascia, which would have provided a suitable drip edge detail; nail holes present along the top of the fascia lend support to these elements previously existing on TA-18-111. At the present, the roofing material is 3-tab mineral asphalt shingles with tan-colored aggregate; it is unclear whether any of the original roofing is present under the plywood.

The roof appears to be in fair condition. The maintained 3-tab roofing and plywood decking appears to have protected the fascia, rafters, and T&G decking from deterioration and prevented leaks from damaging the interiors. Based on the exposed elements under the eaves, the T&G may be deteriorated in sections and need to be replaced to ensure a water-tight roof. The rafters and ridge appear to be in good condition based on the appearance of the ridge line and the exposed rafters under the eaves. The non-historic 3-tab shingles and plywood decking will have to be removed to fully examine these elements and determine their full condition.

The intent behind the roof rehabilitation is to restore the roof back to its historic appearance and provide a water-tight roofing envelope to prevent future damage. The non-historic roofing materials and plywood decking will be removed to better examine the T&G decking. Based on the conditions observed, the HPTC staff will replace deteriorated T&G boards in-kind, matching the dimensions, profile, and species of the existing. New 1" x 2" trim will be milled and installed along the top of the fascia to match historic photos and evidences of holes. New materials will be stamped "NPS 2023." Roofing tar paper will be installed, and new 90# black mineral rolled asphalt roofing will be installed with a 1/4" drip edge past the face of the fascia trim.

The 3-Tab asphalt shingle roofing will be removed and replaced with 90# black asphalt felt to match historic construction specifications.



The rafters and fascia on TA-18-111 all appear to be in good condition.



The original T&G roof decking may be seen beneath non-historic plywood materials.

Non-historic plywood and 3-tab asphalt shingle roofing will be removed. Damaged elements will be repaired or replaced in-kind.



The interior of TA-18-111 contains some non-historic fixtures and additions, under which the original finishes are still intact. The interior flooring, as previously outlined, was removed at some date and none of the historic materials remain. However, the historic baseboard are present, as evidenced by the presence of sea-foam green paint in the paint sample stratigraphy. The walls appear to be clad in the same gypsum sheet rock as TA-8-172. Most of the sheet rock is obscured in TA-18-111 on the bottom by fire-backer board (historic) and plywood on the top half of the wall (non-historic). The fire backer board is shimmed out 5/8" from the surface of the sheet rock and is present on the base of all four interior elevations. The top edge of the fire backer is trimmed out with beveled chair rail molding, which appears to be historic based on the presence of sea foam green paint layers. The top half of the wall is obscured by plywood, which appears to have been inserted after the period of significance to provide backing for shelving. The gypsum sheet rock on the walls may be seen above the window openings, at the junction of the ceiling and walls, and in a small gap between the top of the chair rail and the plywood. The ceiling sheet rock has evidence of a previous light fixture and a patch evident in the back left corner of the ceiling, which could be a fill for a stove pipe insertion. The entire interior has been painted pink, matching the exterior, but paint samples and exposures on the interior show that the base, chair molding, and interior casing for the windows and doors were painted sea foam green. Electrical conduit extends through the ceiling sheet rock into a junction box above the interior door casing. No other evidence of electrical services is present on the interior at this time, but more evidence may exist beneath the non-historic plywood.

Aside from the non-historic additions, the interior is presently in good condition aside from minor instances of damage and loss. The fire backer, moldings, and exposed areas of gypsum sheet rock are in good condition and have no evidence of moisture or pest related damage. The only areas of deterioration visible includes the ceiling sheet rock. The sheet at the back half of the structure is bent, either due to a lack of sufficient attachment points or this damage occurred during transport to the HPTC shop; evidence of the cause may become more apparent during repair. The sheet rock panel at the front of the structure has a hole near the junction of the front and left walls, but this appears to have been intentional. Part of the chair rail molding on the interior corners of the left, front, and right walls was

removed to insert non-historic shelving, but fastener holes in the fire backer and portions of remaining trim provide compelling evidence that it existed during the period of significance.

Rehabilitation of the structure's interior will include repairing areas of minor damage, re-fabricating missing elements, removing non-historic shelving and wall coverings, and re-painting the interior surfaces. Prior to repairing the ceiling sheet rock, the evidence of previous light fixtures and cuts/patching will be documented with photography and measured to put onto drawings. Once documented, the ceiling sheet rock will be removed and replaced with materials to match the existing. If additional joists/supports are needed to attach the new sheet rock, inserted materials will be stamped "NPS 2023." The junctions between the ceiling and walls will be re-taped to match the existing. Non-historic plywood and shelving will be carefully removed to expose the underlying sheet rock. The uncovered sheet rock will be documented with photography and examined to come up with an appropriate repair plan. Holes will be patched; areas with more extensive damage—should they exist—will be cut out and replaced in-kind. New chair rail pieces will be milled to match the dimension and profile of the existing in a matching species material. New chair rail will be stamped "NPS 2023" on the interior surface and installed where the trim had been removed on the interior corners. Prior to re-painting, paint samples will be taken from existing trim and sheet rock and embedded in acrylic for later paint analysis. All the wooden surfaces will be prepped for painting by mechanically removing loose paint and sanding remaining paint smooth, then primed boiled linseed oil and painted with custom linseed oil paint color-matched to the extant sea-foam green. Historic paint colors were not observed on the electrical conduit and junction box, so non-historic paint will be removed from these elements as much as possible.

Evidence patching in the ceiling gypsum board at the back of the structure. The patch may have been installed to fill the stove pipe hole. The measurements of the patch and location have been noted. The ceiling board also has a crack extending from the left to the right walls, likely due to insufficient attachments.



Evidence of a fixture on the gypsum board at the center of the ceiling.



The interior front and left corner. The bottom half of the wall appears to be original fire-backer. Above the fire backer, non-historic plywood sheeting and wooden shelves were installed.

Note the missing chair rail molding and the hole in the ceiling gypsum board, which may have been the inlet for electrical conduit.



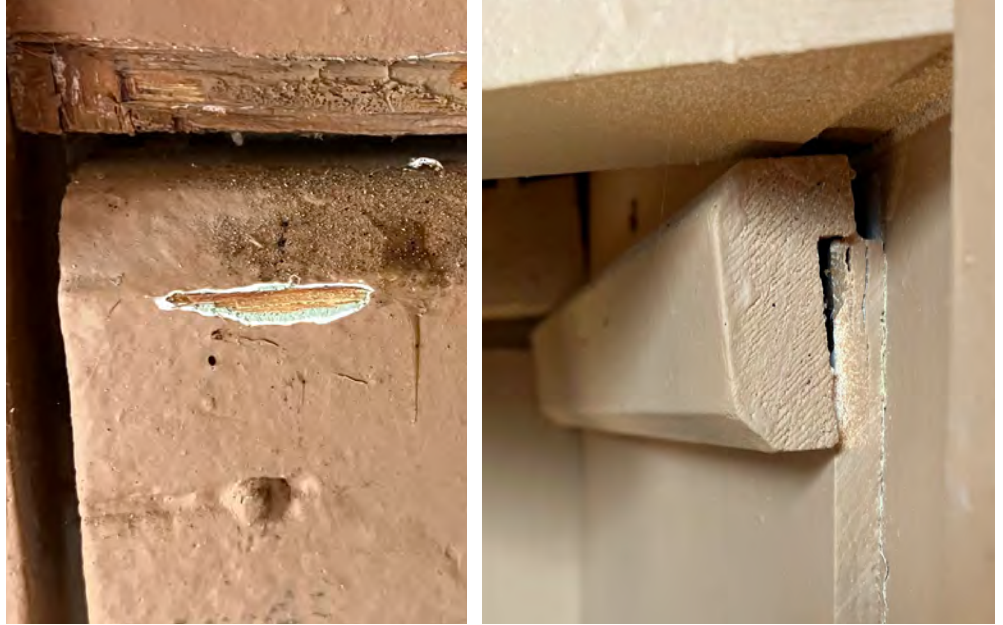
The interior back of the structure. The presumed original fire-backer continues around the interior on bottom half. Above the fire backer, non-historic plywood sheeting and wooden shelves were installed. Intact chair rail molding rests on top of the fire-backer.



The composition and materials in the interior front and right corner is similar to the rest of the room. From this angle, the chair rail can be seen in situ. The left door casing was likely removed to accommodate blocking for the non-historic wooden shelving near the bottom of the image.



The chair rail molding has evidence of sea foam green paint. Enough of the material remains intact from which to fabricate new molding to replace missing sections.



While the historic flooring and floor framing was removed, the base molding appears to be the original due to paint evidences.



A detail from above the window casing on the interior left elevation shows the plywood installed over gypsum board. Drywall tape is evident on the majority of visible seams. Any repairs will maintain or replicate this detail, where necessary.



Remaining evidence of utilities on the interior of TA-18-111: a junction box, electrical conduit clamp, and hole in the ceiling gypsum board through which the conduit may have passed through a hole in the exterior siding.

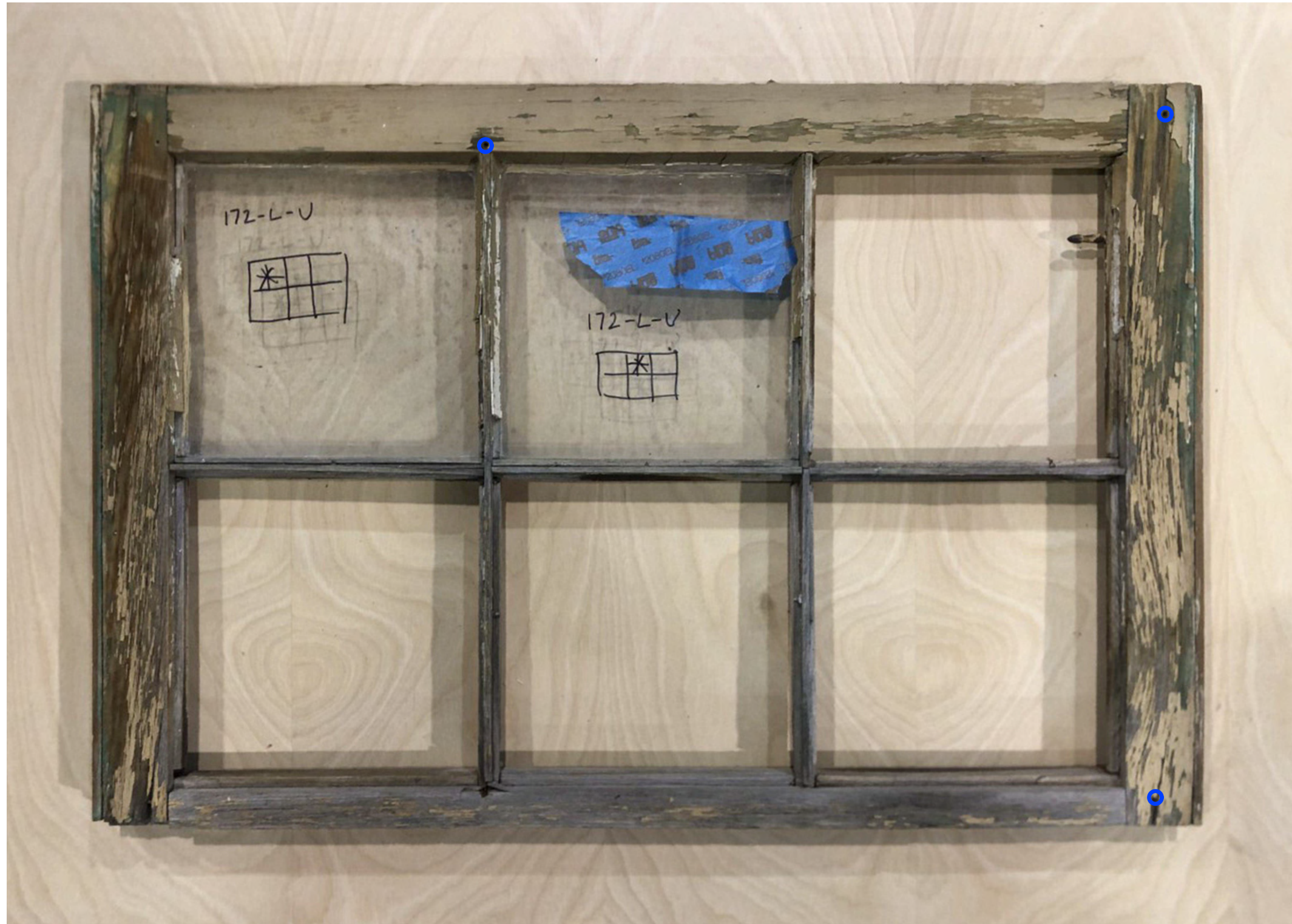


References

McGehee, Ellen D., Jeremy C. Brunette, Elliot M. Schultz, Kari L. M. Garcia, Kenneth R. Towery, Michael A. Bodelson, Kristen A. Honig. 2018. "Security on the Move: An Eligibility Assessment of the Manhattan Project National Historical Park's Portable Guard Shack (TA-8-172)." Los Alamos, NM: Los Alamos National Laboratory (Department of Energy).

APPENDIX 1:

Miscellaneous Documentation for Sash from TA-8-172 and TA-18-111



TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
172-L-U, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Fasteners (add'l)
-  Hole from fastener
-  Previous patch
-  Graffiti



TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
172-L-U, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Fasteners (add'l)
-  Hole from fastener
-  Previous patch
-  Graffiti



TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
172-L-L, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Fasteners (add'l)
-  Hole from fastener
-  Previous patch
-  Graffiti

TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
172-L-L, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

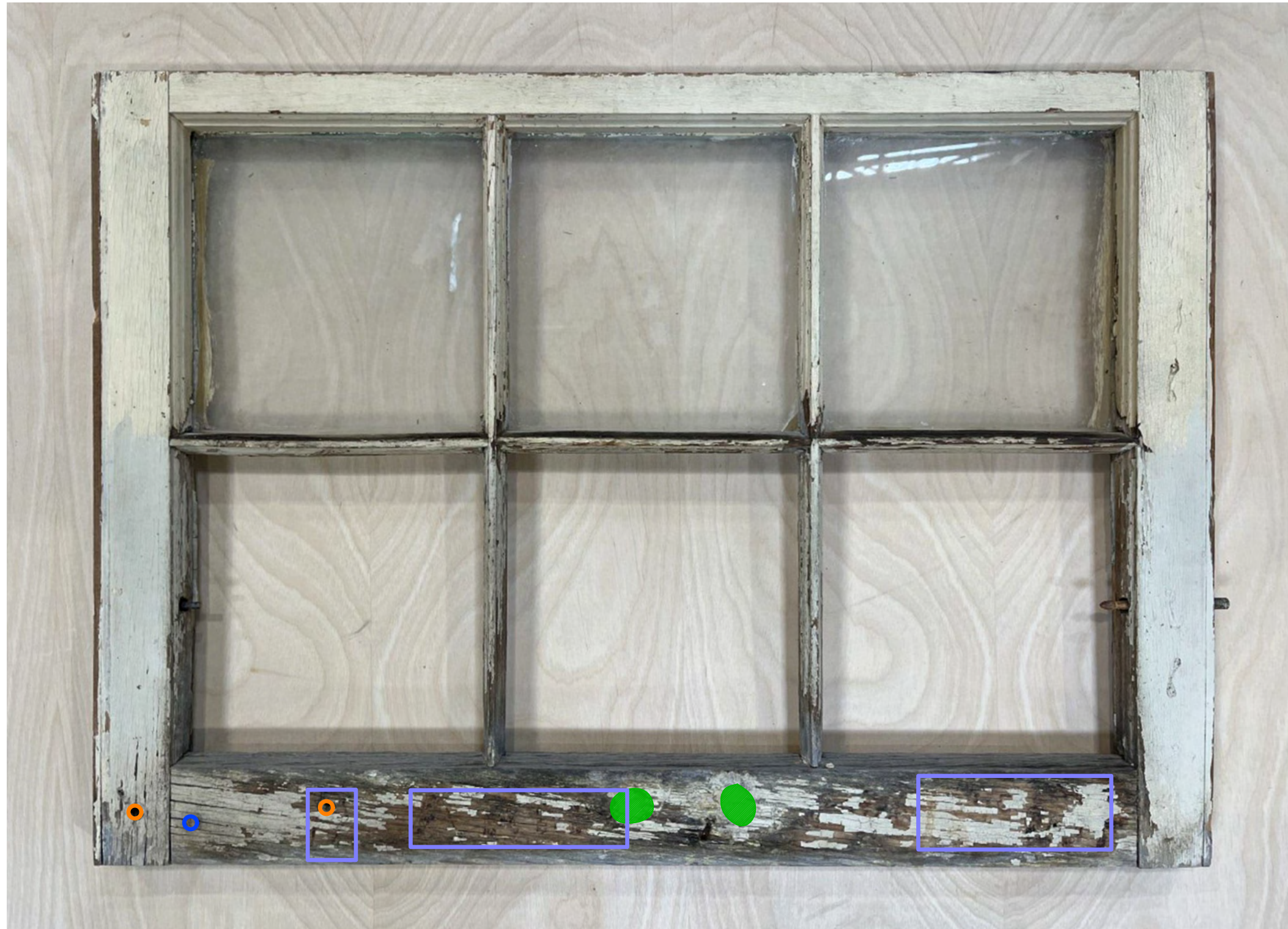
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Fasteners (add'l)
-  Hole from fastener
-  Previous patch
-  Graffiti





TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
172-B-U, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Fasteners (add'l)
-  Hole from fastener
-  Previous patch
-  Graffiti



TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
172-B-U, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

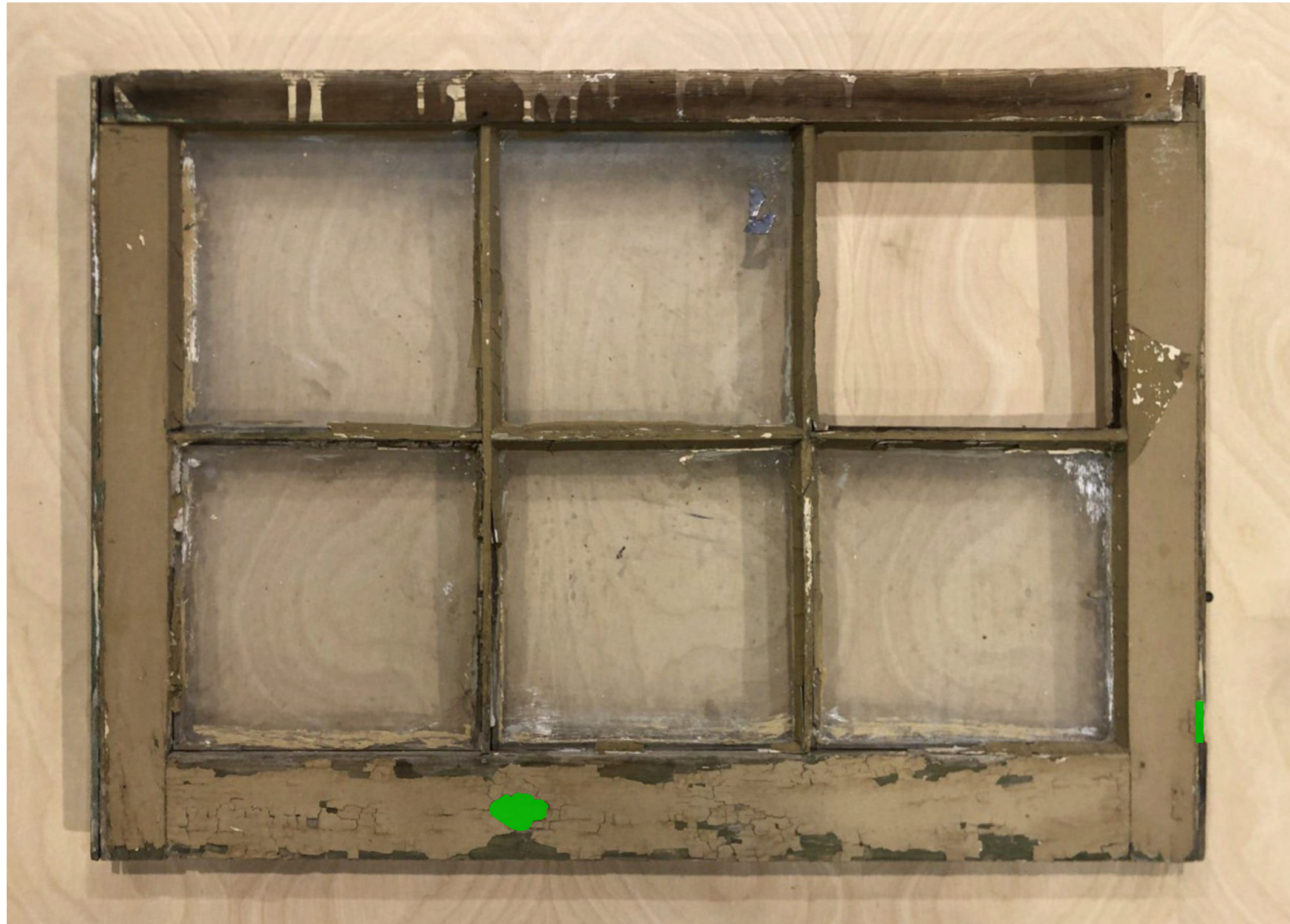
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Fasteners (add'l)
-  Hole from fastener
-  Previous patch
-  Graffiti



TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
172-B-L, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

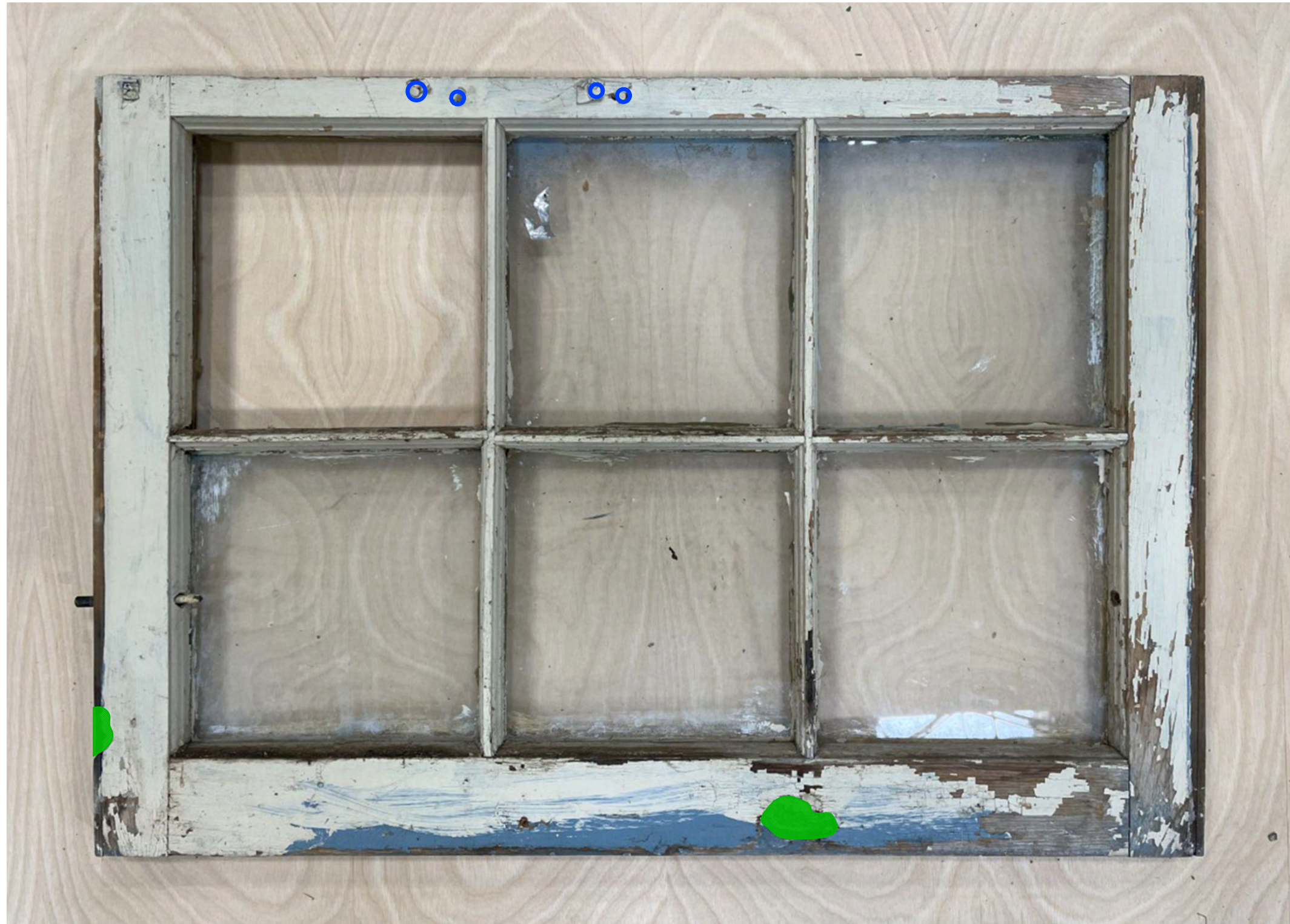
AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
4" = 1'- 0"

KEY:

-  Fasteners (add'l)
-  Hole from fastener
-  Previous patch
-  Graffiti



TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
172-B-L, INTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
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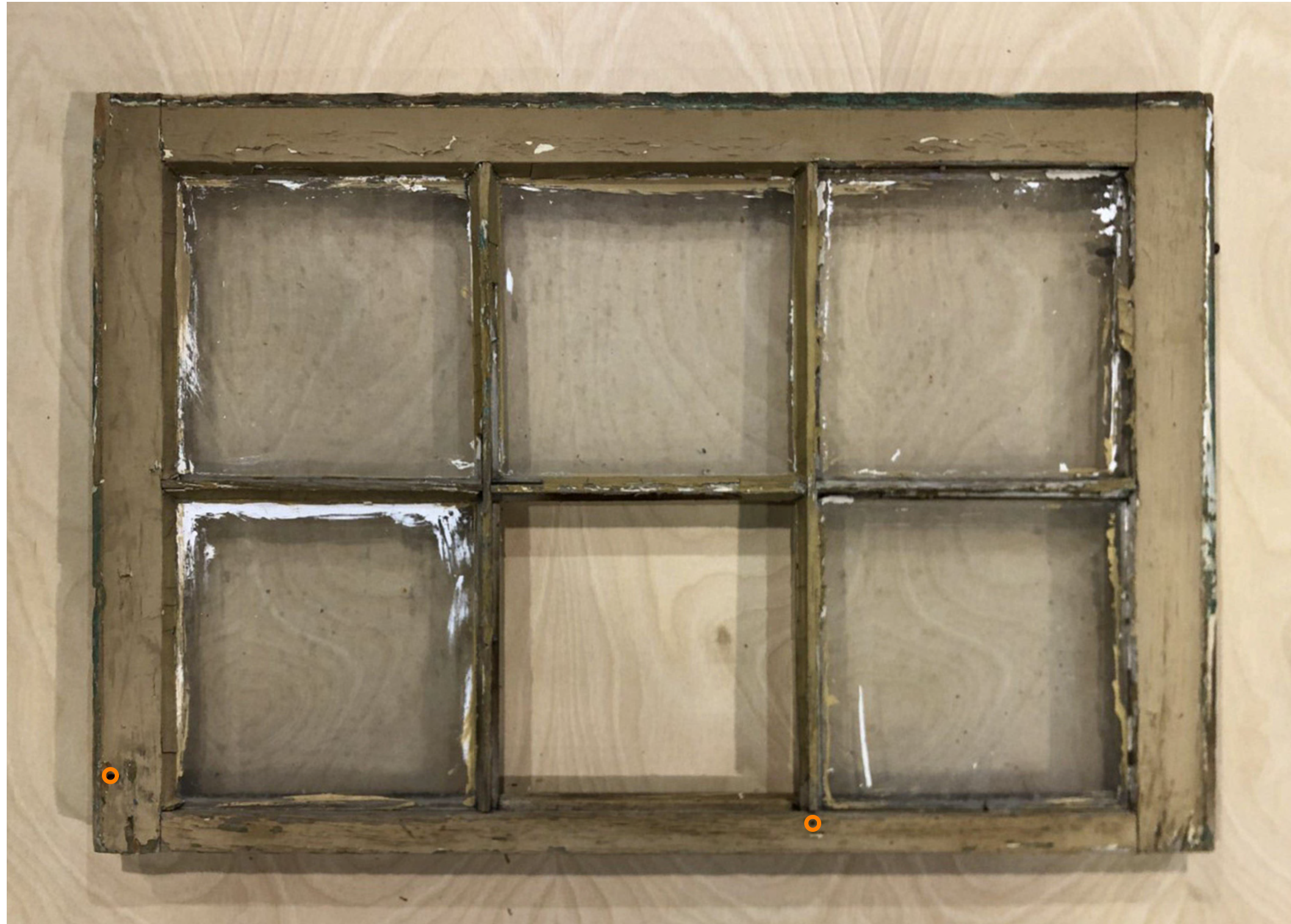
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DATE:
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KEY:

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-  Previous patch
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TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
172-R-U, EXTERIOR FACE

STRUCTURE:
TA-8-172

PARK UNIT:
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NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
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DATE:
MAY 2023

SCALE:
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MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
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LOS ALAMOS, NEW MEXICO

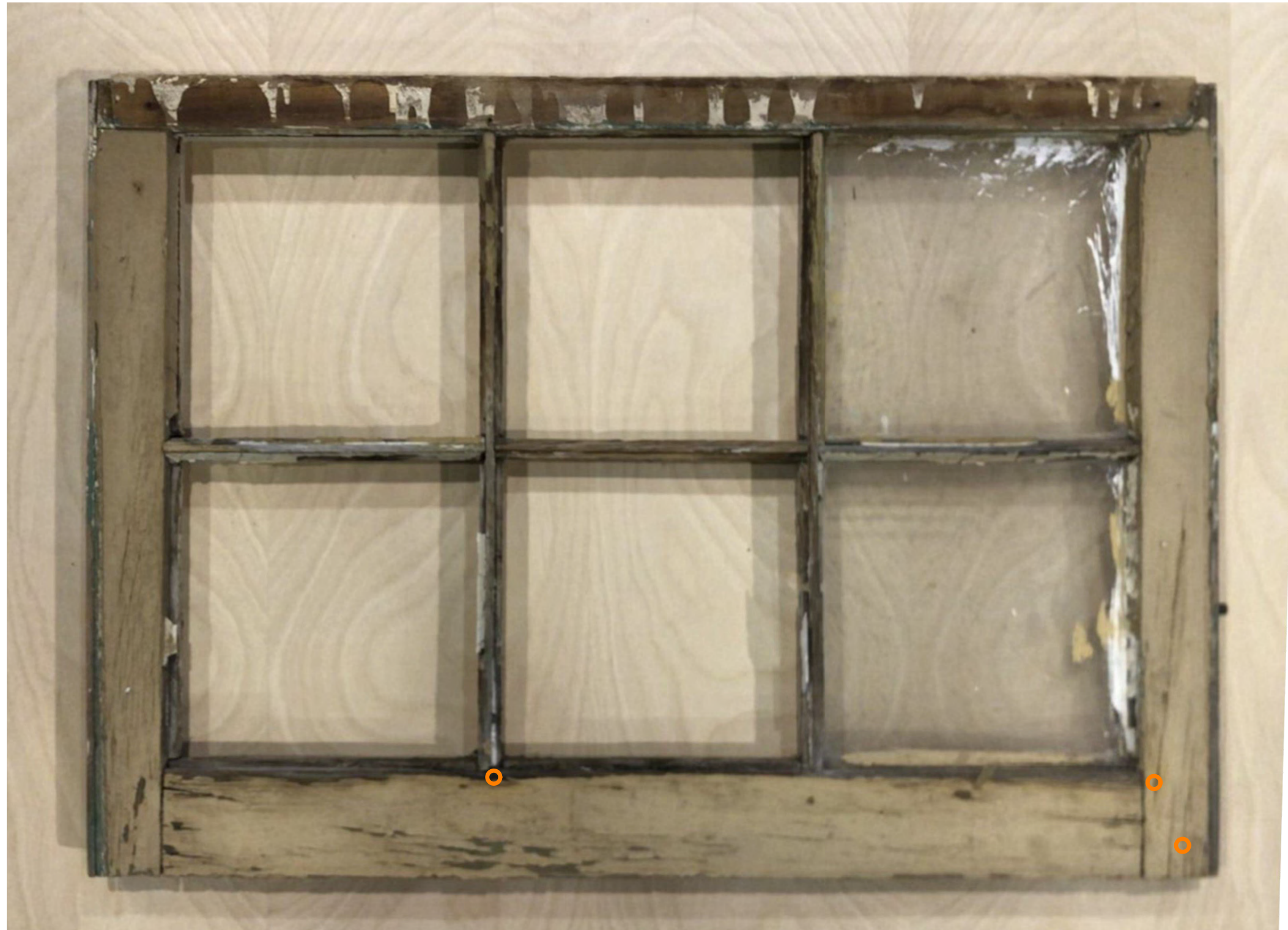
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TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
111-R, EXTERIOR FACE

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
S. STRATTE

DATE:
MAY 2023

SCALE:
3" = 1'- 0"

KEY:

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-  Previous patch
-  Graffiti



TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
111-R, INTERIOR FACE

STRUCTURE:
TA-18-111

PARK UNIT:
LOS ALAMOS
NATIONAL LABORATORY





LOS ALAMOS, NEW MEXICO

AUTHOR:
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DATE:
MAY 2023

SCALE:
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TITLE OF SHEET:
MISCELLANEOUS
DOCUMENTATION FOR
SASH

SASH ID:
111-L, EXTERIOR FACE

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TA-18-111

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