



Historic Heard County Jail Refurbishment

November 11, 2020

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Pictures as follows:



1. Overall view of the front of the existing Jail.



2. Typical rotted and damaged wood windows throughout the Jail.



3. Steel security bars that are spalling the face of the brick off at the connection points.



4. Steel security bars that are spalling the face of the brick off at the connection points. And large crack at corner.

November 11, 2020



5. The exterior crack in picture #4 is starting to extend through the brick mass wall to the inside.



6. The exterior crack in picture #4 is starting to extend through the brick mass wall to the inside.



GOODMAN GIANNAVOLA
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September 9, 2020

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Atlanta, GA 30303
RSmith@gsstj.com

Subject: Heard County Historic Jail Brick Crack Assessment – Court Square, Franklin, Georgia

On August 13, 2020, Michael Giannavola PE from Goodman Giannavola Hines Engineers (GGHE) performed a site visit with Randy Smith AIA from GSSTJ to the Heard County Historic Jail building located on Court Square in Franklin, Georgia. The purpose of the site visit was to assess the visible cracks in the load bearing brick walls and attempt to determine the cause of the cracking.

The building is a two story structure with a crawl space and is currently being used as a historic jail museum. The roof is a wood framed gable roof over a concrete ceiling above the second floor. The second floor is a concrete slab. The first floor is wood framed over the crawl space. The exterior walls are load-bearing triple wythe brick walls supported by a large stone foundation wall. The windows are covered on the exterior with a steel bar frame that is embedded into the exterior wythe of brick. Photo 1 is a picture of the southeast corner of the building. Photos 2 and 3 show the steel bar frames that cover the windows embedded in the brick.

Cracking was visible in the brick walls throughout the building with a majority of the cracking occurring in the southeast corner between the second floor and the roof. The majority of the visible cracking appears to start at window openings in the walls, notably where the steel window bars are embedded into the brick. There were no visible cracks at the base of the brick walls and no visible cracks in the large stone foundation wall.

It appears that the majority of the cracking in the brick walls is most likely caused by water infiltration and subsequent rusting of the steel bars embedded in the brick. As the steel bars rust, they expand and push on the brick around them, causing separations and cracks in the brick. Photos 2, 3, 4 and 5 show some of the cracks and displacement of the brick around the locations where the steel bar frames are embedded in the brick.

The southeast corner of the building has the worst displacement and cracks. The displacement and cracks in the brick wall can be seen on both the exterior and interior of the wall at this corner of the building. This corner differs from other areas of the building because there is a window opening approximately 36 inches from the corner. The distance from the other openings to the nearest corner of the building is at least double that dimension. It is likely that because the distance from the window to the corner is smaller here, there is less brick to resist the push from the rusting steel window bars. Because of the displacement and cracks at this corner, the structural capacity of the brick wall is compromised at this localized area of the wall.

GGHE does not know the extent of the structural degradation at this corner or any other location of the building. A more extensive investigation would be required to assess the structural capacity and stability of the building structure. Photo 5 and 6 show some of the displacement and cracks that have occurred at the southeast corner of the building.

After a visual review of the building, GGHE recommends removing all of the embedded steel bar frames from the windows to stop any further deterioration of the brick walls. After the steel bar frames are removed, the brick and mortar should be repaired. The damaged brick and mortar on the top of the southeast corner should be repaired/replaced as needed to get the brick wall back to its original position and bring the wall back to its original load carrying capacity. Prior to starting work on the southeast corner, the second floor slab, second floor ceiling and roof should be shored to grade. The remaining smaller cracks throughout the remainder of the walls should be repaired by replacing any cracked/missing mortar and replacing any broken bricks.

The purpose of the site visit was to assess the visible cracks in the load-bearing brick walls and attempt to determine the cause of those cracks. GGHE performed only a visual assessment of the elements described in this report. GGHE did not assess the structural capacity or stability of the brick walls or any other portion of the structure. GGHE does not have any knowledge of the strength of the brick, mortar, concrete or any other portion of the structure. A more extensive investigation would be required to determine the overall building structural capacity and stability.

Michael Giannavola P.E., LEED AP
Goodman Giannavola Hines Engineers





Photo 1



Photo 2



Photo 3

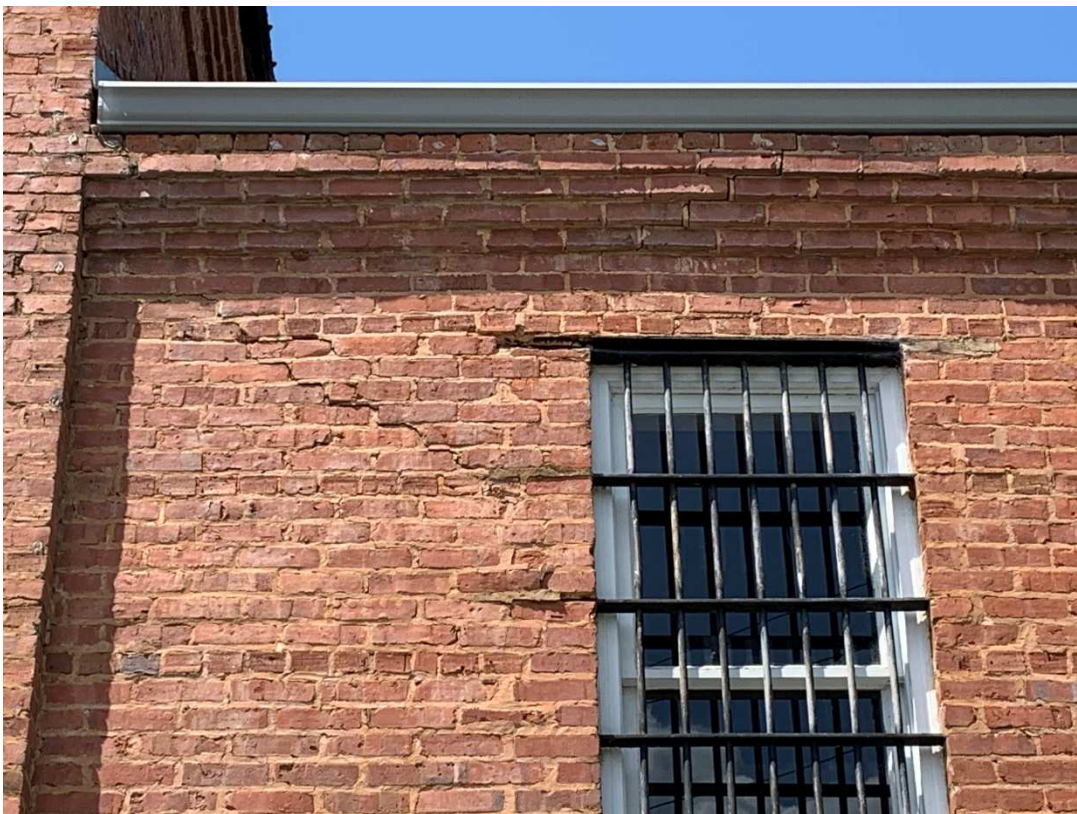


Photo 4



Photo 5



Photo 6

61 Shady Street
Franklin,
Georgia 30217

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[illegible]

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PROJECT NO.

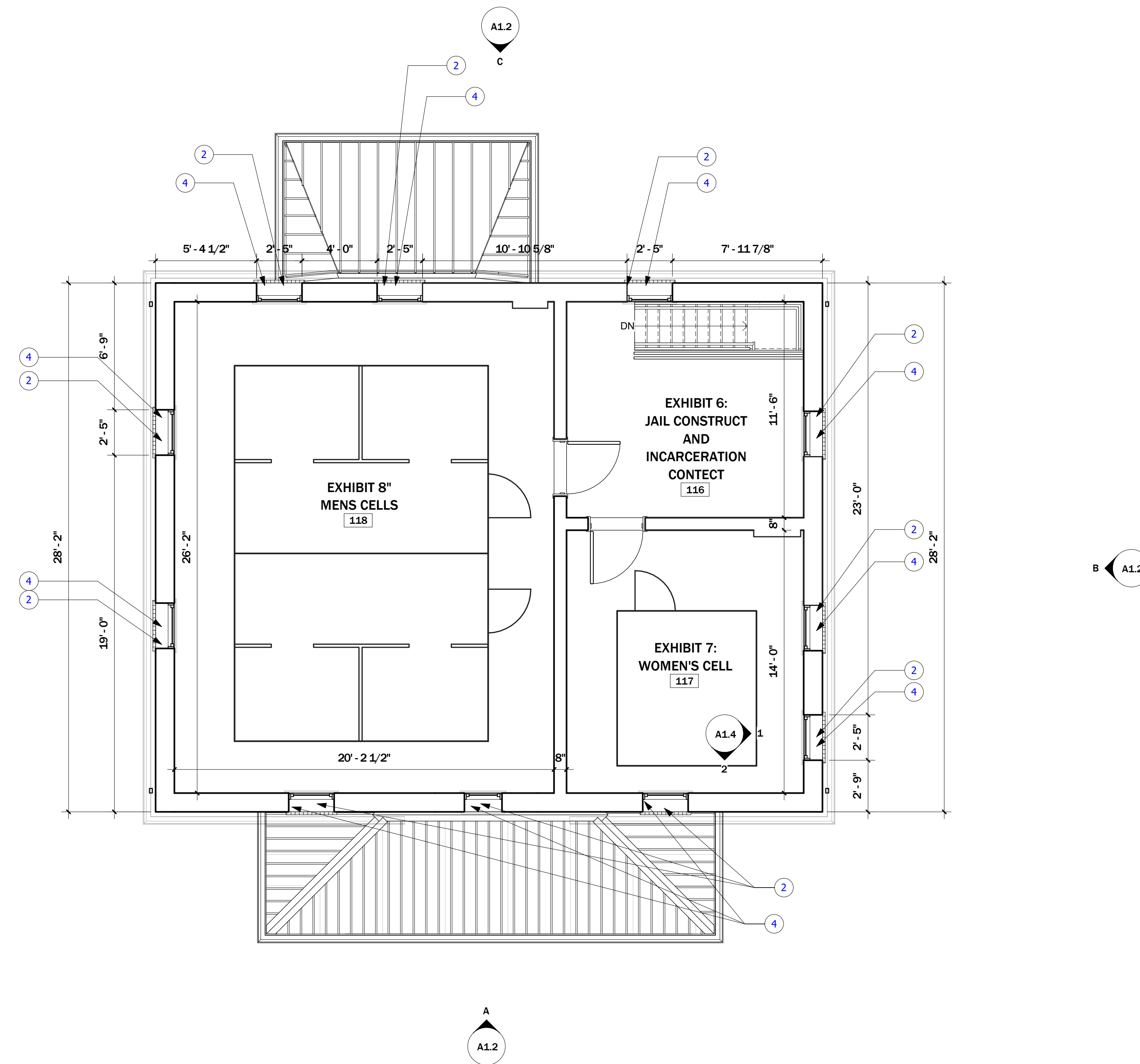
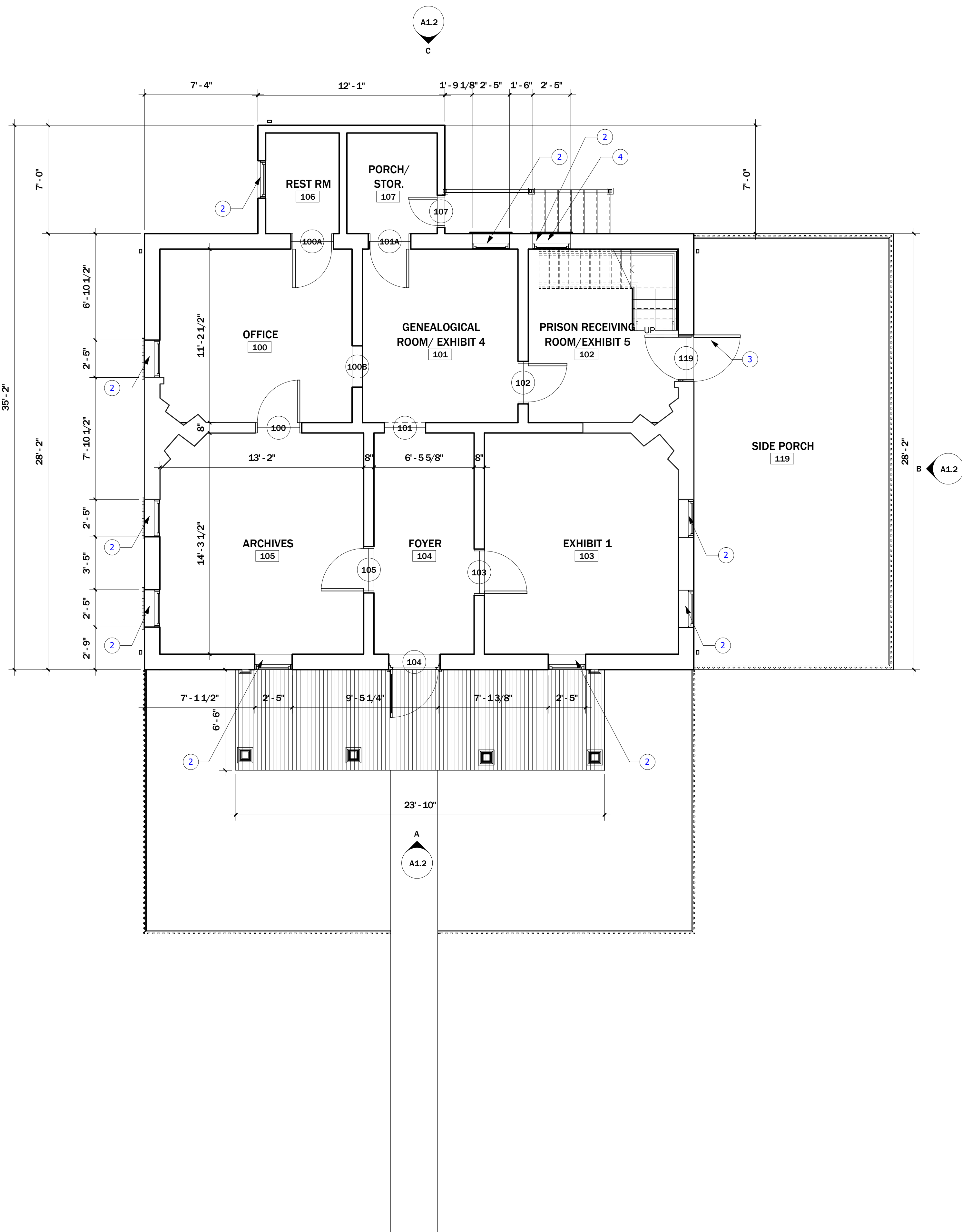
0105

SHEET TITLE

FLOOR PLANS

SHEET NO.

A1.1



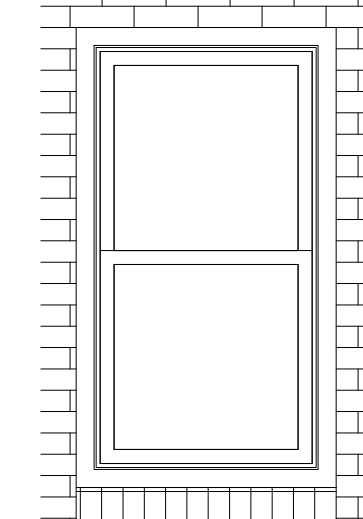
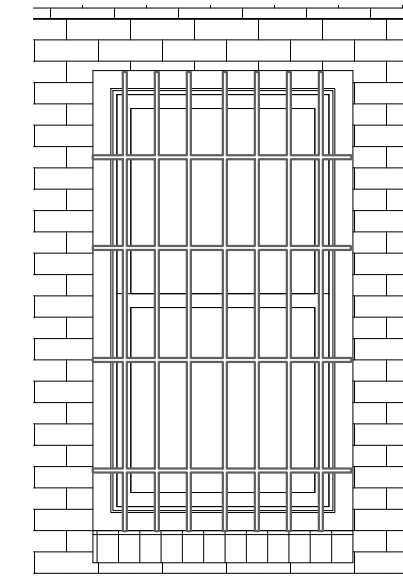
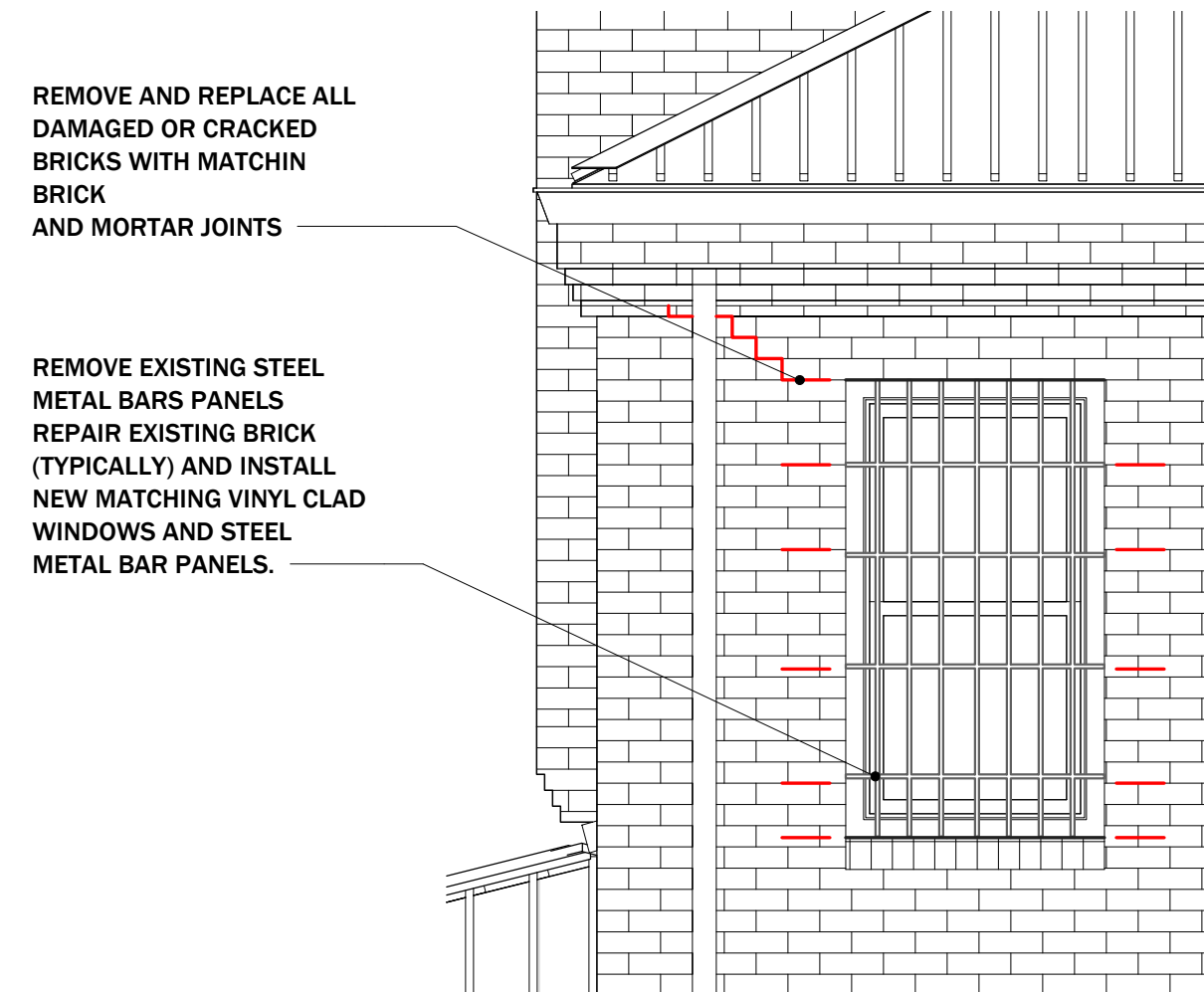
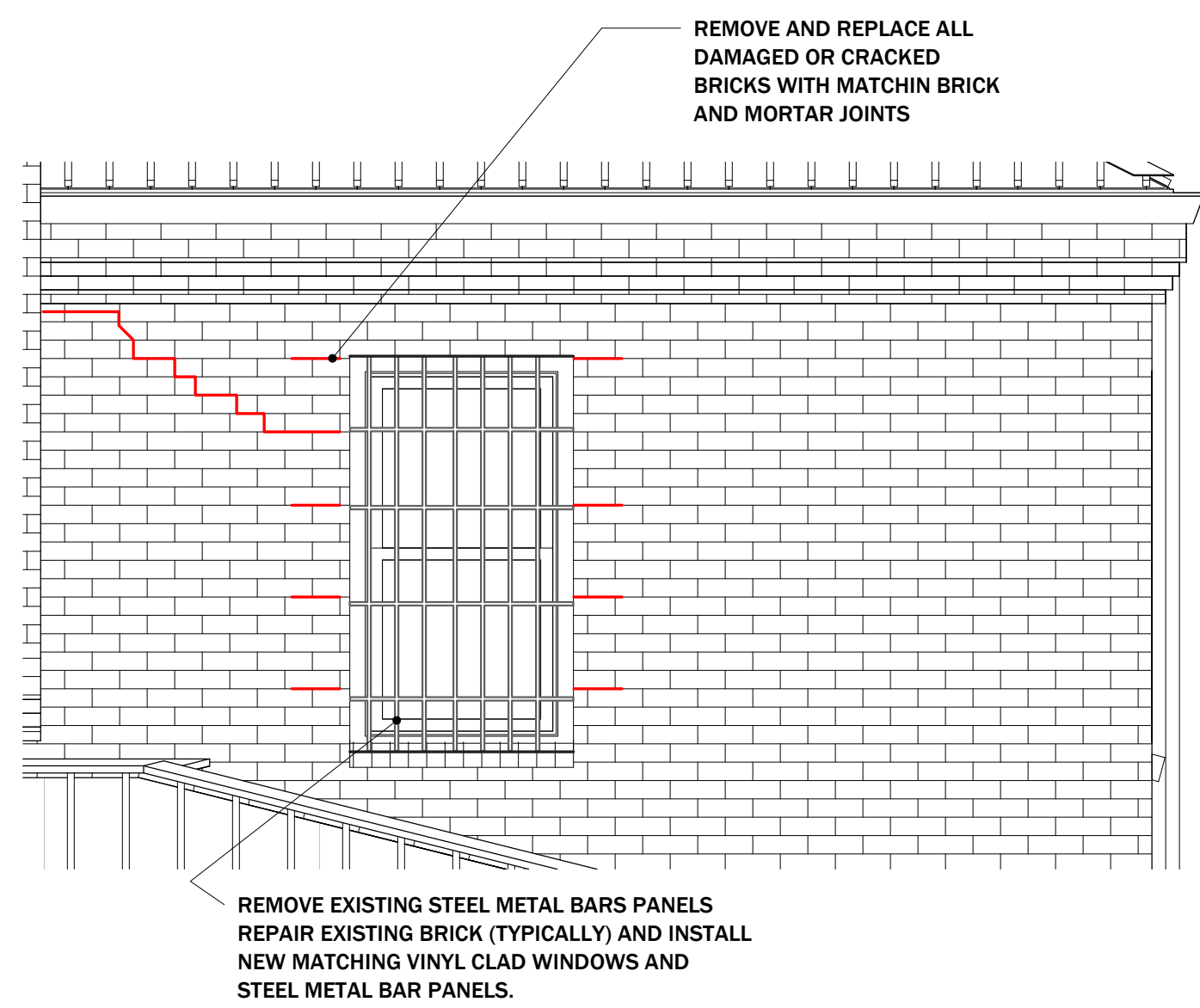
NOTE:

2. REPLACE EXISTING WOOD WINDOWS WITH MATCHING VINYL CLAD WOOD WINDOWS
3. NEW STEEL BAR GATE MATCHING EXISTING (KEEPING EXISTING HARDWARE)
4. REPLACE EXISTING STEEL BAR PANELS WITH MATCHIN STEEL BAR PANELS

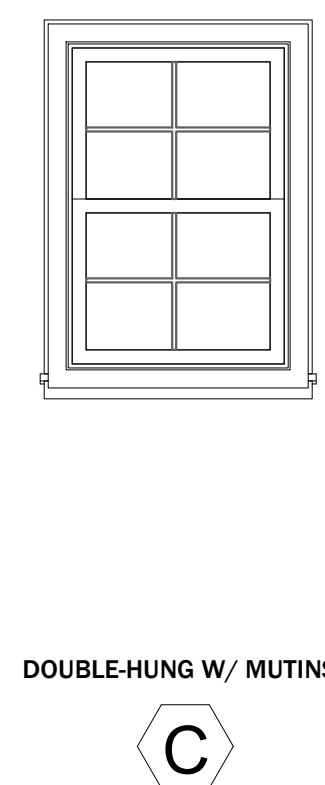
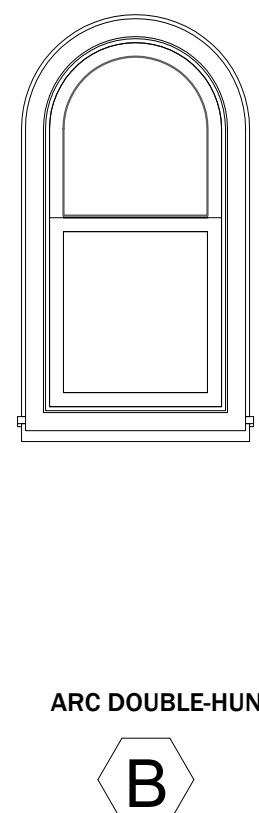
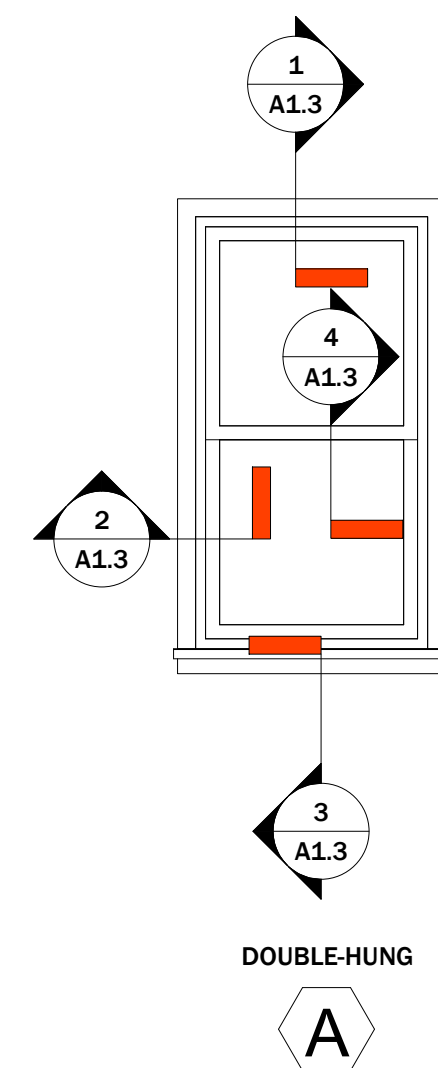


61 Shady Street
Franklin,
Georgia 30217

1	HEAD	6" = 1'-0"	2	JAMB	6" = 1'-0"	3	SILL	6" = 1'-0"	4	CHECK RAIL	6" = 1'-0"
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7	ENLARGED EXTERIOR ELEV. A	1/2" = 1'-0"	8	ENLARGED EXTERIOR ELEV. B	1/2" = 1'-0"	10	TYPICAL WINDOW ELEVATION A	1/2" = 1'-0"	11	TYPICAL WINDOW ELEVATION B	1/2" = 1'-0"
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PROJECT NO.

0105

SHEET TITLE

HEAD / JAMB /
SILL DETAILS &
WINDOW
ELEV.

SHEET NO.

A1.3

