

MEMORANDUM

GOP Limited
Structural Engineers

DATE <u>March 9, 2015</u>	_____ PHONE _____
CLIENT <u>NKCES Coldspring Facility</u>	_____ MEETING _____
TO <u>Mr. Curtis Hall</u>	xxx _____ FIELD REPORT _____
FROM <u>Doug Crawford</u>	xxx _____ MESSAGE _____
PROJECT NO. _____	_____ RESPONSE REQUESTED _____
PROJECT NAME <u>1929 Building</u>	

SUBJECT Parapet Failure

Mr. Hall:

At your request, I visited the above referenced site on February 25, 2015, for the purpose of reviewing the condition of the upper brick wall and parapet on the west side of the 1929 building on your campus. The concern was created due to a few brick that fell earlier that week.

The building of concern is a load bearing, multi-wythe brick three story building that houses the administration activities of your facility. On Monday, the week of February 23, you noticed a couple brick on the yard around the northwest corner of the building. By observing from the ground and the fire escape, the brick had fallen from the very top of the wall, from under the cap flashing. This portion of the building, along with the entry, were barricaded from pedestrian traffic.

Observing from the roof top, I observed the cap flashing along two-thirds of the west wall and up to the northwest corner was pulled off the top of the wall. It was not apparent what caused this condition, but because of it, nearly a dozen brick were broken from their mortar bed. You and I promptly removed all the loose brick at the corner and checked the remaining length of wall for additional loose brick and re-attached the metal cap flashing. A connection to the wall could not be made this date, but it was snugly replaced on the top of wall.

Observing the remainder of the north and west wall revealed significant deterioration of window lintels and rolling and bulging brick. The poor conditions began at the upper level window lintels that were significantly rusted and were expanding enough to push the brick up and created a rolling affect to the top of the wall. This occurred for most of the length of the west wall and also along the north wall. The roof slopes down from north to south, creating a nearly three foot high parapet at the south wall of the building. This parapet was leaning toward the roof and moved slightly when pulled on by hand. Additional brick were loose in this corner as well and some separation and cracking was occurring on the inside corner below the roof.

In November 2014, I had observed the facility for the purpose of preparing a due diligence condition report. I had noted at that time the condition of this wall and had taken several pictures. Upon leaving the site on this date, I reviewed these older pictures and compared to the current conditions. Based on this review, I have determined that significant movement has occurred in some portions of the wall since November. Therefore, I have am directing you to get this portion of parapet wall removed as soon as is possible. If removal is not an option in the next few weeks, bracing the parapet by means as detailed on the attached sketch is required. If the parapet is removed, temporary roofing will be required to maintain water tightness until permanent repair can be accomplished.

The work options described above are a temporary fix-only, until a permanent repair can be accomplished later in the spring. The maximum time allowed before permanent repairs are required for the "braced" scheme is two to three months. When equipment is on site to remove or brace the west wall, up close review of the north wall upper lintels will be required to further determine the extents of repairs required on this wall.

Once the immediate concerns are addressed, final details and plans can be made to permanently repair the conditions of the west and north walls. This repair will include removing the exterior brick from the upper lintels to the top of wall, replacing the steel lintels and relaying the brick. Also, on the west wall, the wall will need to be tied back into the roof structure by adding wood bridging lines between roof joists, then tying the brick wall to the roof joist. Additionally, depending on the condition and alignment of the inner wythes of the wall, helical anchor brick ties may be required to tie the multi-wythes together. A preliminary sketch of this detail is attached for review and for pricing of the permanent repair. Roofing and cap flashing details are not provided and should be coordinated with Ehmet Hayes.

If there are any further questions or comments to the above conclusions and recommendations, please do not hesitate to call.

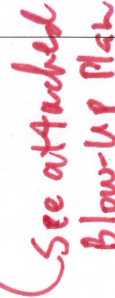
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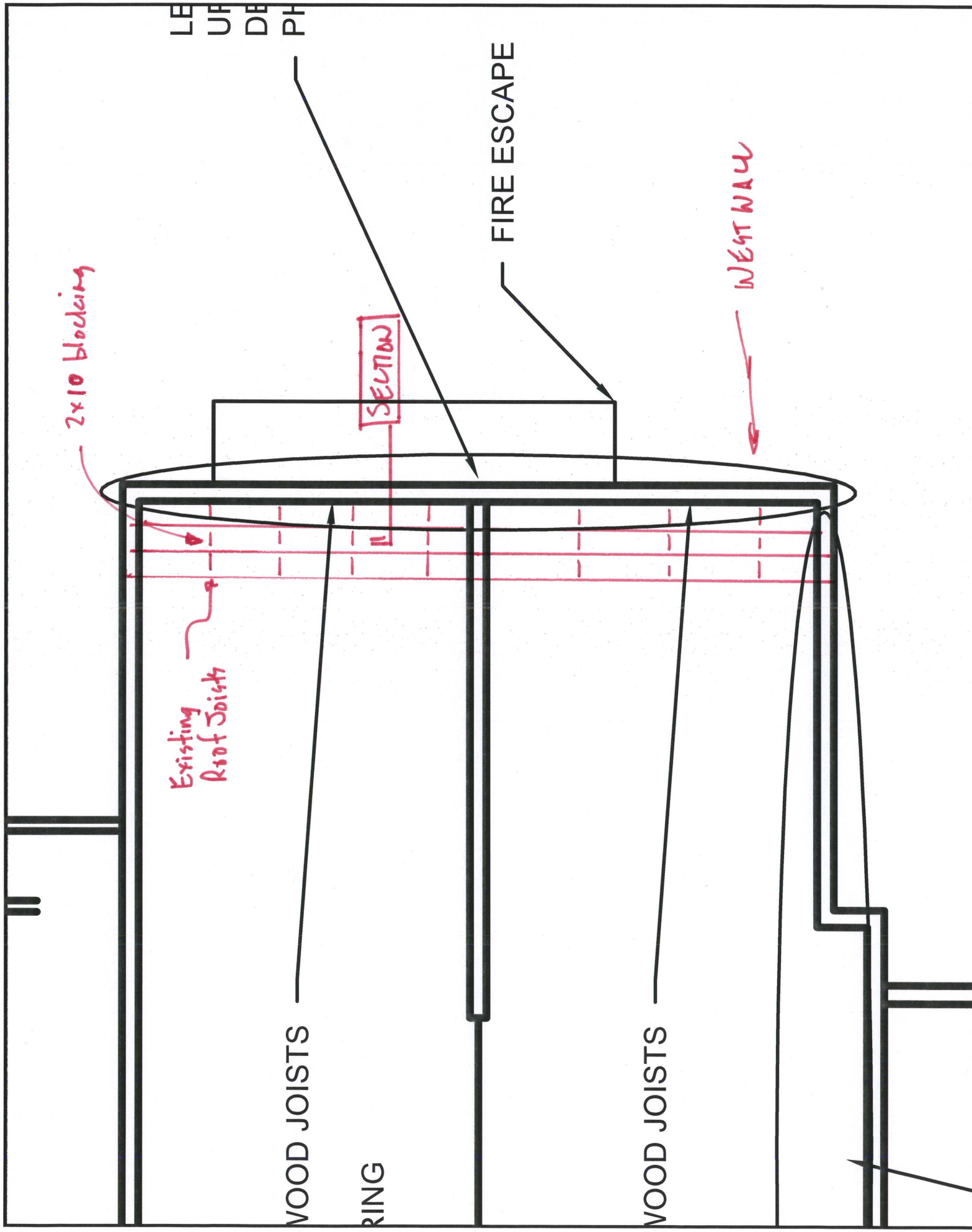
SIGNED 

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LE
UP
DE
PH

FIRE ESCAPE

WEST WALL

SECTION

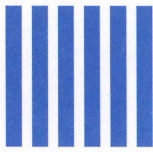
2x10 blocking

Existing
Roof Joists

WOOD JOISTS

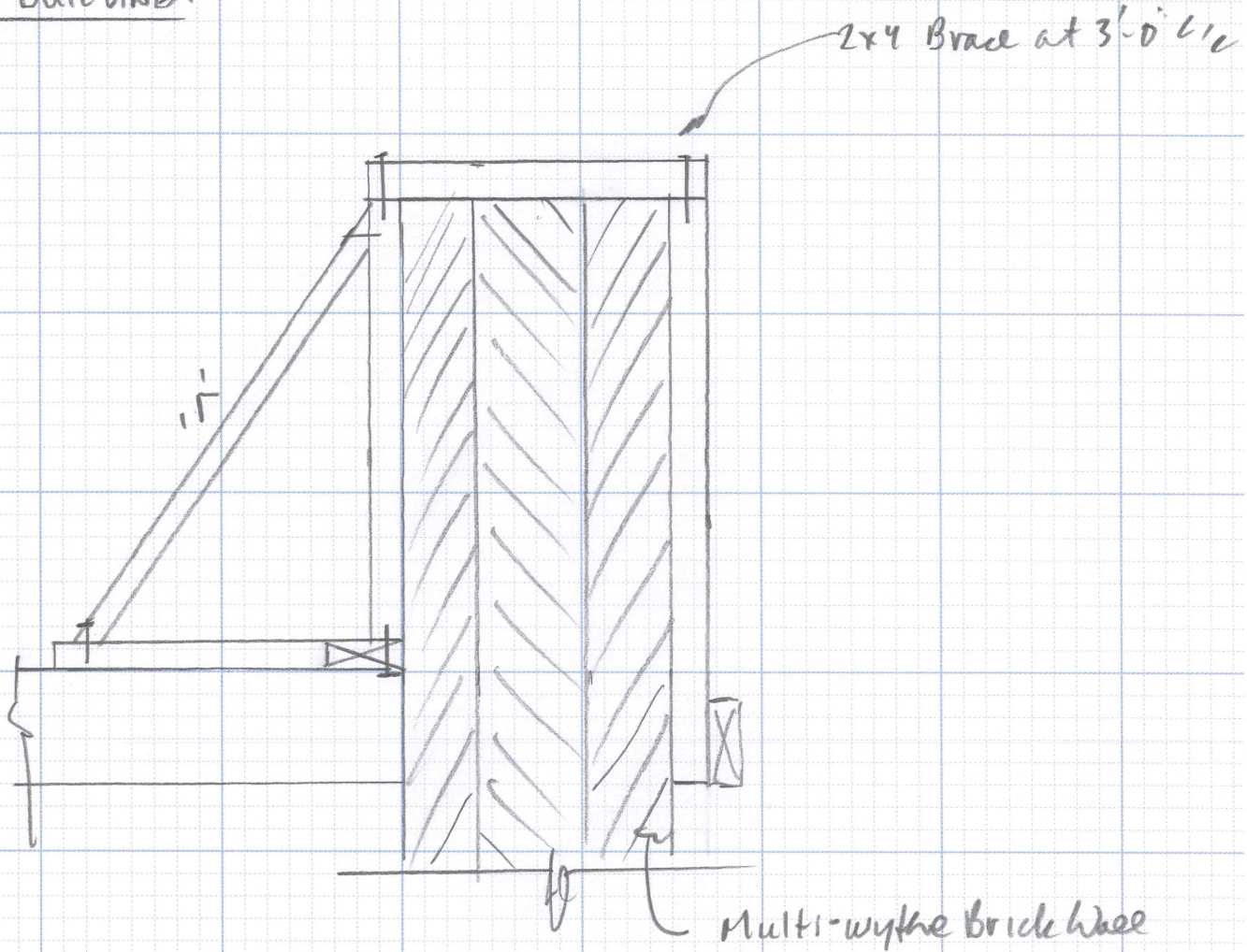
RING

WOOD JOISTS

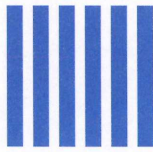


SHEET 1 OF 1 OWNER NKCELS JOB NO. _____
DESIGNED _____ BY _____
FLOOR _____ STRUCTURE _____ CHECKED _____ BY _____
MEMBER _____ ARCHITECT _____ DWG. REFERENCE _____

1929 BUILDING:



TEMPORARY PARAPET BRACE



SHEET _____ OF _____ OWNER NKCE DESIGNED _____ BY _____
FLOOR _____ STRUCTURE _____ CHECKED _____ BY _____
MEMBER _____ ARCHITECT _____ DWG. REFERENCE _____

Preliminary Permanent Fix

