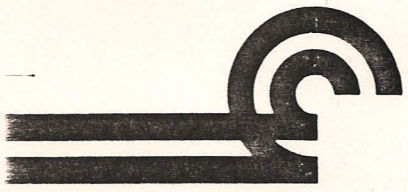


Given directly to Humphreys.

MEMORANDUM

CONRAIL



DATE 2-19-86

TO W.C. HUMPHREYS/CSS FROM J.A. HAWLEY/JFM

SUBJECT INTERMODAL FACILITY, COLUMBUS, OHIO PHONE
- MASONRY WALL SHEET 1 OF 2

CONSIDERATION SHOULD BE GIVEN TO INSTALLING VERTICAL REINFORCING IN THE BLOCK WALL BECAUSE OF THE FLEXIBILITY OF THE STEEL FRAME. THIS FLEXIBILITY ALLOWS LARGE DIFFERENTIAL MOVEMENT BETWEEN ROOF LEVEL AND COLUMN BASE.

AMERICAN BUILDINGS DESIGNS THEIR TYPICAL BUILDINGS FOR AN ALLOWABLE LATERAL DEFLECTION AT THE ROOF LEVEL OF $\frac{H}{45}$. AIRMCO ALLOWS $\frac{H}{50}$. FOR A 30' EAVE HEIGHT THIS MEANS A LATERAL DEFLECTION OF 7"-8" DUE TO DESIGN WIND. OUR TRACTOR TRAILER BUILDING IS PROBABLY SOMEWHAT STIFFER SINCE WE INSISTED ON COLUMNS THAT WERE NOT BRACED AGAINST THE BLOCK WALLS.

EVEN SO, A DIFFERENTIAL DEFLECTION, BETWEEN TOP AND BOTTOM OF THE MASONRY WALL, OF THIS MAGNITUDE COULD CAUSE SIGNIFICANT CRACKING. SUCH CRACKING WOULD SEVERELY

MEMORANDUM

CONRAIL

DATE 2-19-86

TO _____

FROM _____

SUBJECT

INTERMODAL FACILITY, COLUMBUS, OHIO
— MASONRY WALL

PHONE

SHT. 2 OF 2

WEAKEN A MASONRY WALL WITHOUT VERTICAL REINFORCING.

THE NATIONAL CONCRETE MASONRY ASSOC., (NCMA), RECOMMENDS VERTICAL REINFORCING FOR MASONRY WALLS SUPPORTED LATERALLY BY A STEEL FRAME. THEY ARE IN THE PROCESS OF PUTTING TOGETHER A REPORT FOR PUBLICATION. THEY ARE FURNISHING US A PRELIMINARY COPY.

ARMCO HAS BEEN WORKING WITH NCMA ON THIS PROBLEM. AS PER THEIR ENGINEERING OFFICE, THEY RECOMMEND LATERAL DEFLECTION LIMITS FOR "HARDWALL DESIGN" AS THEY CALL MASONRY WALL CONSTRUCTION.

WE CAN PROVIDE REINFORCING DETAILS.

AMERICAN BUILDINGS SHOULD PROVIDE US WITH ANTICIPATED ROOF LEVEL DEFLECTIONS.

MEMORANDUM

G-4 R3 12-76
PRINTED IN U.S.A.

CONRAIL

JM →

DATE February 26, 1986

TO H. J. Barnes

LOCATION F-1200

FROM W.C. Humphreys

LOCATION F-1100

SUBJECT Columbus, Ohio - Intermodal Facility Garage
Building's Masonry Walls
(File: Location-350:GJ-77/JLJ)

American Buildings was informed, at the beginning of the project, that it was to design their frames to support the masonry walls, not have the masonry walls support the frames. This means that the frames are to have sufficient rigidity to resist any deflections that would create any kind of failure of masonry walls e.g. "significant cracking" as mentioned in the attached memo dated 2/19/86, from JAH/JFM.

Contrary to the attached memo of 2/19/86, this is not a "typical American Buildings building." Which brings up the question, did American Buildings design for their allowable deflection of H/45 as stated in the memo or have they adequately considered the design requirements to provide proper support of masonry walls to prevent any excessive movements?

Before any kind of design changes be considered, American Buildings should provide Conrail with the anticipated roof level deflections as mentioned in the attached memo of 2/19/86.

Attach.

cc: J. A. Hawley - F-1115

