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298 thru 301
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DRAWING AND SPECIFICATION TRANSMITTAL
LOCKWOOD GREENE ENGINEERS, INC.

SPARTANBURG, SOUTH CAROLINA 29304
P.O. BOX 491 (803)582-235

TO Naval Facilities Engineering
Command
Atlantic Division
Norfolk, Va. 23511

DATE March 7, 1980
JOB NO. 77239.16
JOB NAME Naval Regional Medical Center

TRANSMITTAL NO. 463
SHEET 1 OF 1
ORDER NO.
Contract Number
N-62470-77-C-7526

ATTN: Mr. John Grubbs Code 05

WE ARE SENDING YOU THE FOLLOWING DATA XX HEREWITH _____ UNDER SEPARATE COVER.

QUAN.	DOCUMENT NO.	REV. NO.	DESCRIPTION	VENDOR	CODE
1			Test Reports on Windows	Hope's	R
1	Letter		Of Certification 2/15/80	Hope's	D
1	Sheets 1 A-R		<u>Windows Shop Drawings</u>	Hope's	C
2	B-R-1		Corner with finish #135 Master Light &	Hope's	R
	Samples		Dark Range	Hope's	R
1			Windows Desc. Lit.		

~~not used~~ ADG

CODE FOR

LOCKWOOD GREENE DOCUMENTS

VENDOR DOCUMENTS

- A - INFORMATION
- B - REVIEW
- C - APPROVAL
- D - REVISED DWG. (SEE REVISION)

- E - BID
- F - CONSTRUCTION
- G - PURCHASING
- H -

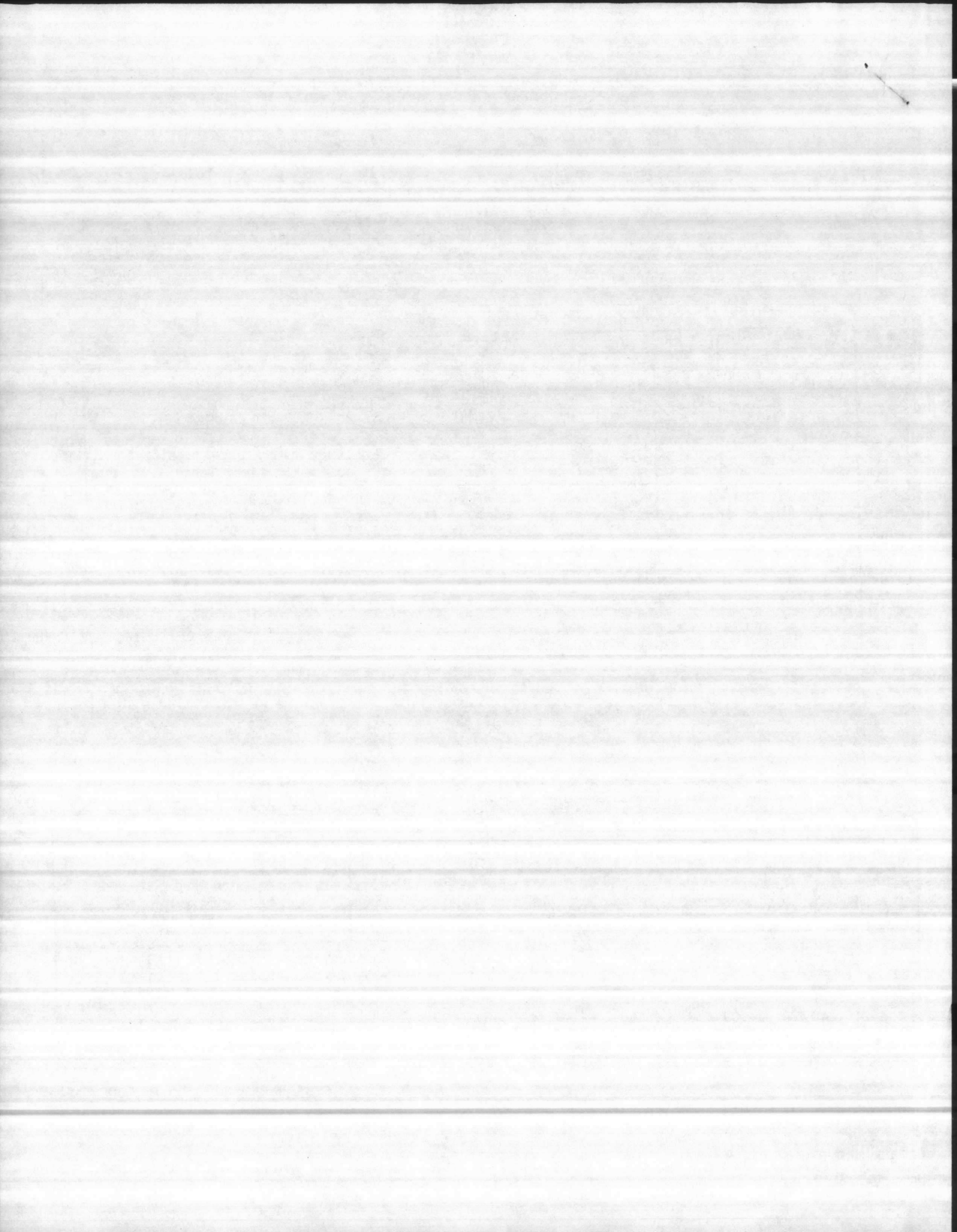
- K - NO CORRECTIONS NOTED
- L - MAKE CORRECTIONS NOTED
- M - REVISE AND RESUBMIT
- N - REJECTED (SEE REMARKS)

COPIES TO				QUAN	TRANS ONLY	CODE	COPIES TO				QUAN	TRANS ONLY	CODE
ROICC				2 &									
Cardinal				Sample									
				1									

REMARKS

PLEASE ACKNOWLEDGE RECEIPT BY IMMEDIATE RETURN OF SIGNED COPY OF THIS TRANSMITTAL

RECEIVED BY _____ DATE _____ TRANSMITTED BY Richard McKnight



CONTRACT NO. **N-62470-77-C-7526** TRANSMITTAL NO. **298-301** DATE **2-20-80** *file*

FROM CONTRACTOR **Cardinal Contr. Co.**

TO **Lockwood Greene Eng'rs.**

PROJECT TITLE AND LOCATION
**NAVAL REGIONAL MED. CTR.
 Camp Lejeune, N.C.**

CONTRACTOR USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

Contractor Approved **463** OICC Approval Deviation/Substitution For OICC Approval

REVIEWER USE ONLY

**ACTION CODES
 A-Approved
 D-Disapproved
 AN-Approved as noted
 RA-Receipt acknowledged.
 C-Comments
 R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
298	3.1	Test Reports - Hopes Windows	7	R	4/5 3/4/80
"	"	Hopes Windows - Letter of Certification 2/15/80	7	D	4/5 3/4/80
299	3.2	Shop Drawings - Hopes Windows Sheets #1, A-R; B-R-1	5	C	4/5 3/4/80
300	3.3	Corner Samples with Finish. #315 - Master, Light & Dark Range	2	R	4/5 3/4/80
301	3.4	Hopes Windows Desc. Lit.	7	R	4/5 3/4/80

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC **2-20-80** CONTRACTOR REPRESENTATIVE (Signature) *Wm J. Haymaker*

DATE RECEIVED BY REVIEWER FROM (Reviewer) TO

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

ITEMS SUBMITTED APPLY TO PORTIONS OF SECTIONS 08515 & 08517 BUT DO NOT MEET THE TOTAL REQUIREMENTS OF EITHER SECTION. PLEASE REVISE SUBMITTALS AS TO COMPLY WITH EACH SECTION INDIVIDUALLY AND SUBMIT ACCORDINGLY

LETTER OF LIMITED CERTIFICATION AS SUBMITTED IS NOT ACCEPTABLE *file/file 3/20/80*

COPIES TO: ROICC (2), LANTDIV (1), A-E (1)

DATE **3/4/80** SIGNATURE *[Signature]*

CONTRACTOR'S SUBMITTAL TRANSMITTAL
SECTION 08517

FROM CONTRACTOR
Cardinal Contr. Co.
TO
Lockwood Greene, Engrs.

CONTRACT NO. *N-62470-77-C-7526* TRANSMITTAL NO. *298-301* DATE *2-20-80*

PROJECT TITLE AND LOCATION
NAVAL REGIONAL MED. CTR. Camp Lejeune, N.C.

CONTRACTOR USE ONLY

REVIEWER USE ONLY

*List only one specification division per form.

**ACTION CODES

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- D-Disapproved
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- R-Resubmit

- Contractor Approved OICC Approval Deviation/Substitution For OICC Approval

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
298	3:1	Test Reports - Hopes Windows	7		
"	"	Hopes Windows - Letter of Certification 2/15/80	7		
299	3:2	Shop Drawings - Hopes Windows sheets #1, A-R; B-R-1	5		
300	3:3	Corner Samples with Finish #315 - Master, Light & Dark Range	2		
301	3:4	Hopes Windows Desc. Lit.	7		

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

2-20-80

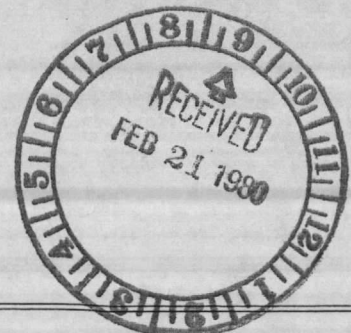
Wm. J. Haymaker

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

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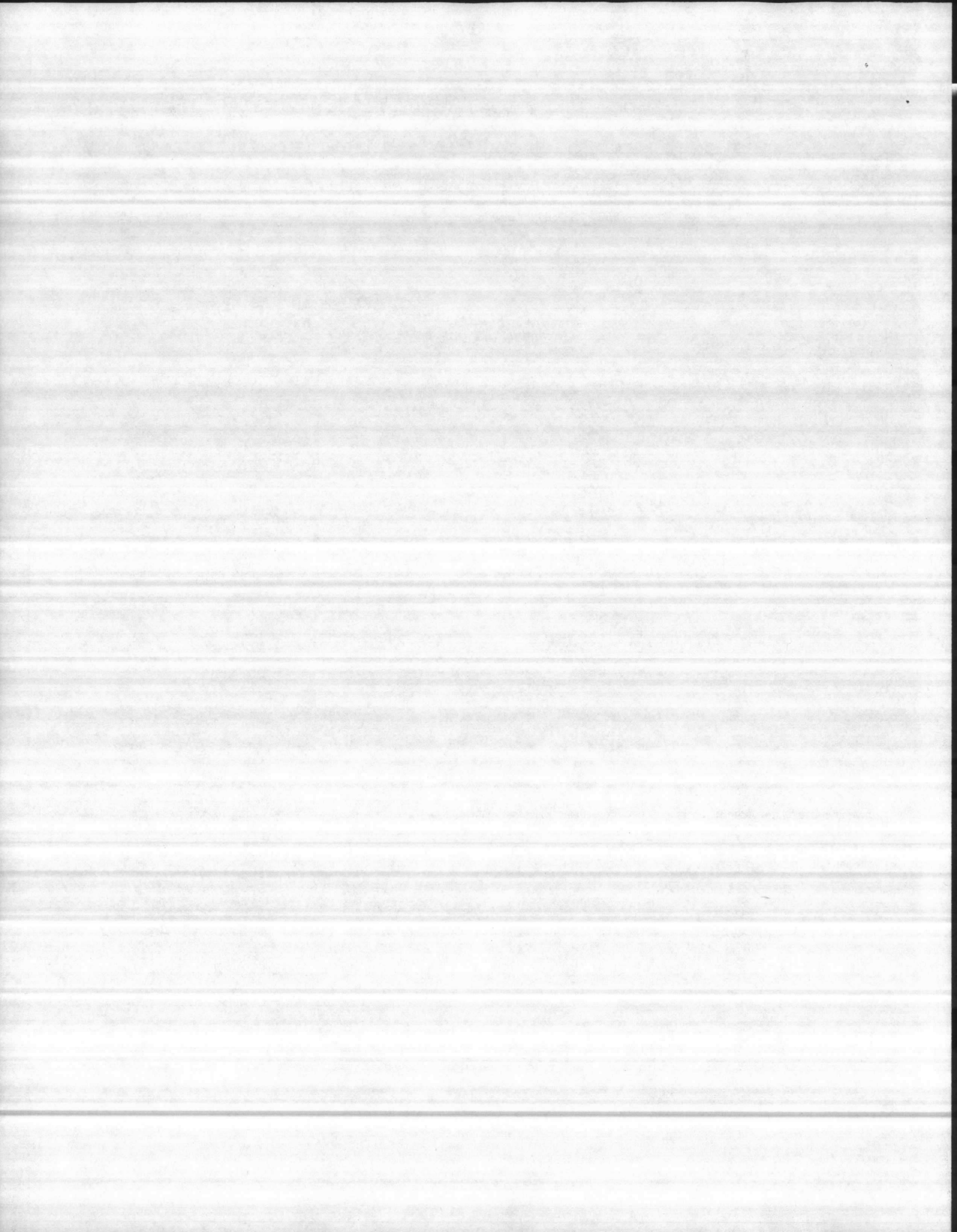
REVIEWER'S COMMENTS



COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

DATE

SIGNATURE



HOPE'S WINDOWS

ROBLIN ARCHITECTURAL PRODUCTS COMPANY
JAMESTOWN, NEW YORK 14701 • AREA CODE 716/665-5124
A Building Products Company of Roblin Industries, Inc.

February 15, 1980
#596K

Cardinal Contracting Co., Inc.
Post Office Box 8408
Camp Lejeune, North Carolina 28542

463

Attention: Mr. William J. Haymaker

Gentlemen:

Re: Naval Regional Medical Center
Camp Lejeune, North Carolina
Your Contract N62470-77-C-7526
Hope's C 15201

In addition to the test reports, corner samples, finish samples and descriptive literature previously furnished, we now certify to the following:-

- A. Hope's Windows have been making metal windows since 1818 and aluminum windows at the present location in Jamestown, New York since 1958. We are members of the AAMA and the type of windows on this project has passed the AAMA performance tests as shown on the reports in your possession.
- B. To the best of our ability and knowledge, we are in compliance with the specifications on this project.

Yours very truly,

HOPE'S WINDOWS

Horace A. Dean

Horace A. Dean
Aluminum Engineering Supervisor

HAD:dmm

State of New York :
SS

County of Chautauqua:

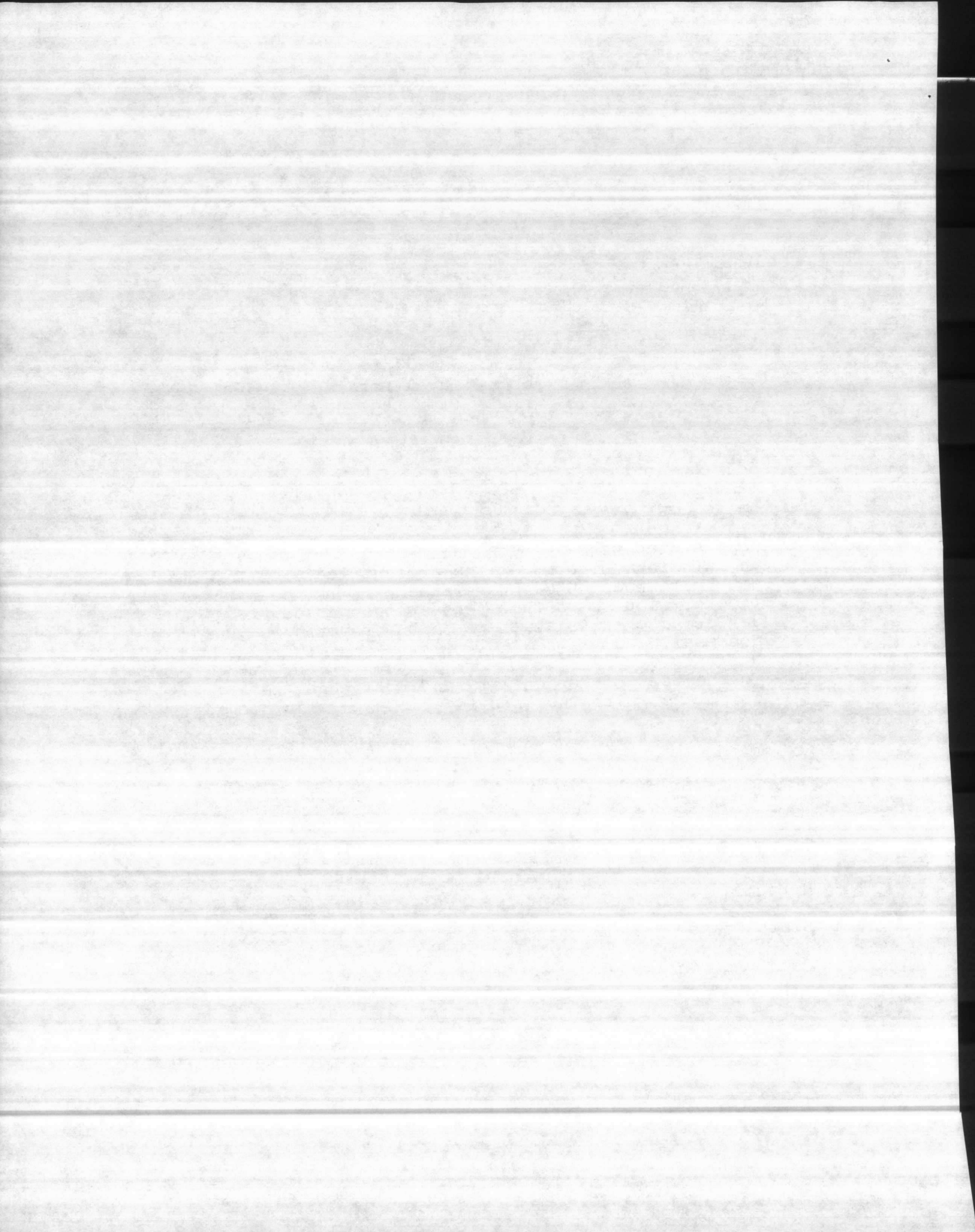
Sworn to before me this

15th day of February, 1980

Robert T. Kidd
(Notary Public)

ROBERT T. KIDD, No 4610481
Notary Public State of New York
Qualified in Chautauqua County
Commission Expires March 30, 1981

*limited certification
not acceptable*



ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511

APPROVED _____
APPROVED AS NOTED _____
DISAPPROVED _____

SUBJECT TO THE REQUIREMENTS OF
CONTRACT NO. R32470-77-C-7525

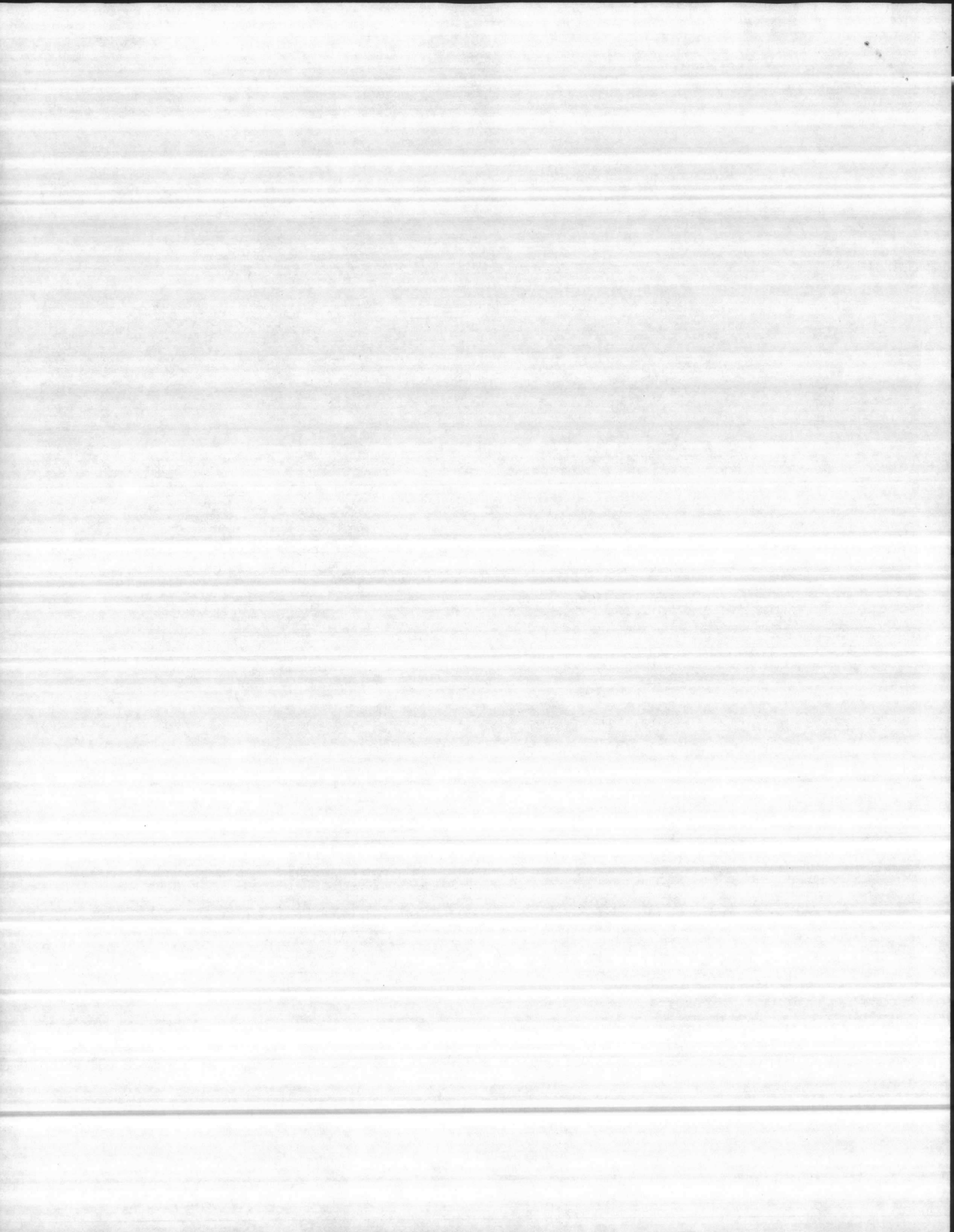
APPROVAL OF A SUBMITTAL DOES NOT INCLUDE
APPROVAL OF ANY DEVIATION FROM THE CON-
TRACT REQUIREMENTS UNLESS THE CONTRACT
TOR CALLS ATTENTION TO AND SPECIFICALLY
DEVIATION. THE CONTRACTOR SHALL BE RE-
SPONSIBLE FOR PROVIDING PROPER PHYSICAL
DIMENSIONS & WEIGHTS, COORDINATION OF
TRADES, ETC., AS REQUIRED

REVIEWER S/S DATE 3/5/80

FOR OFFICER IN CHARGE OF CONSTRUCTION



FILE NO. _____
Lockwood Greene Engineers, Inc.
RECEIVED
FEB 26 1980
REF. TO _____
CHK. _____



INTERNATIONAL
TESTING INC.

#298

C 152
USMC 40

1250 NORTH GLENN STREET
YORK, PENNSYLVANIA 17401
TELEPHONE 717-846-7700

HERMAL PERFORMANCE TEST REPORT

Project: AT1-221-1
Test Date: 8/30/77
Report Date: 9/19/77

CLIENT: Hope's Windows Company
84 Hopkins Avenue
Jamestown, NY 14701

463

does not apply to Section 08517
as submitted

TEST SPECIMEN: Series 250T Vertically Pivoted Window

Test Specimen Description

GENERAL: Aluminum vertically pivoted window 37" wide by 49" high overall. One (1) vertically pivoted vent 32 $\frac{1}{4}$ " wide by 44 $\frac{1}{4}$ " high overall. One (1) key actuated spring loaded bullet lock at mid-span of each jamb. Vent of welded construction with mitered corners. All frame and vent members thermally improved with a poured-in-place thermal barrier.

GLAZING: Interior glazed using 1" insulating glass, adhesive foam tape bedding with a silicone cap and a snap-in-place aluminum glazing bead with a neoprene wedge. Overall glass thickness measured 0.975" with an air space of 0.615".

WSTP: Double strips of neoprene leaf weatherstrip at entire perimeter of vent.

INTERIOR SURFACE FINISH: Bronze anodize.

EXTERIOR SURFACE FINISH: Bronze anodize.

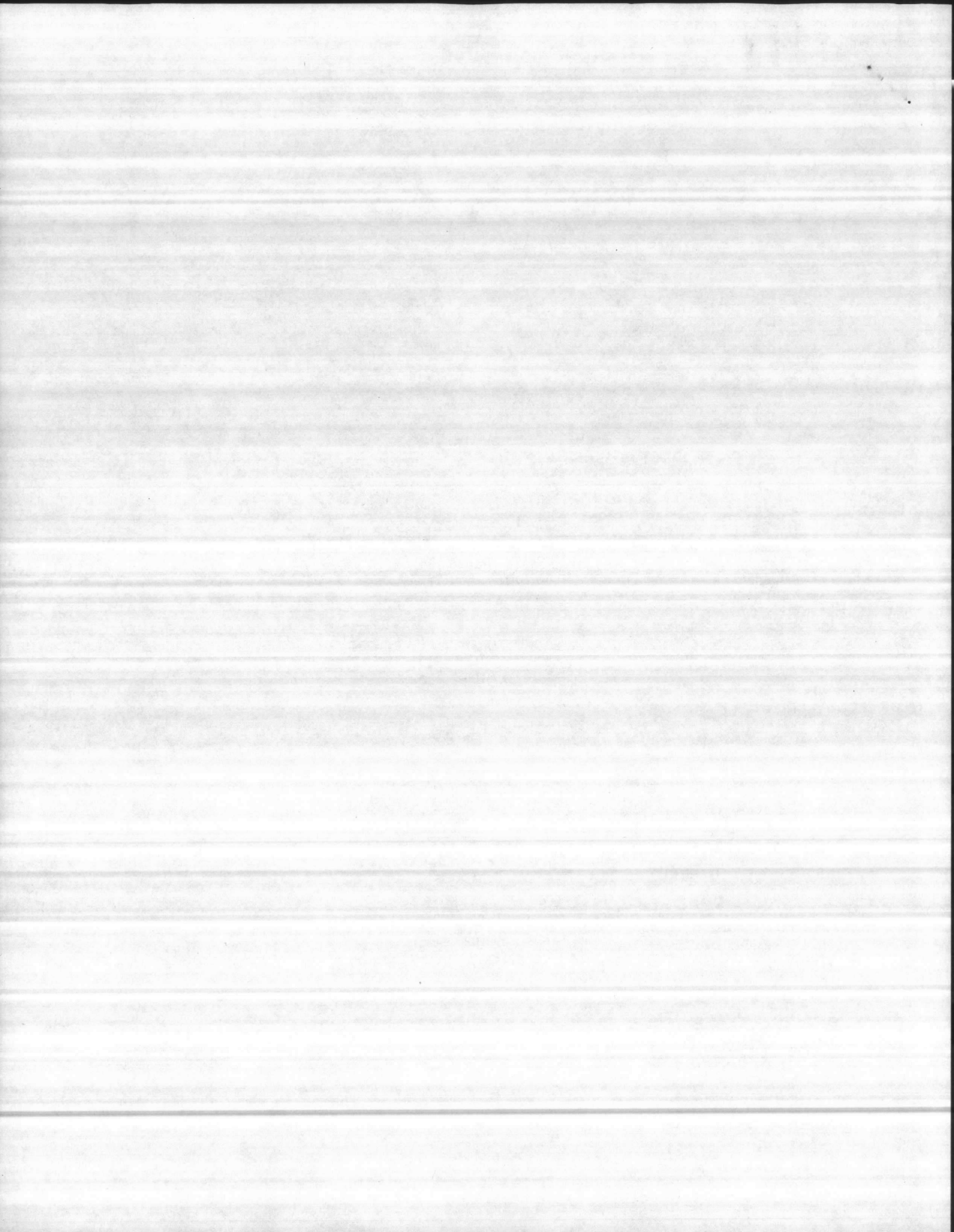
SEALANT: All frame and vent corners sealed with a small joint sealant.

WEEPS: Two (2) punched weep holes through exterior sill leg. One (1) three inches from each end of sill. Each weep approximately 3/16" wide by 1/16" high.

The test specimen was evaluated in general accordance with AAMA specification 1502.6-1976.

AIR INFILTRATION

1. Warm room relative humidity = 30.0 per cent



2. Chamber temperature = 72.2 F
3. Static pressure = 0.112 in. H₂O; equivalent to a wind velocity of 15 mph
4. Barometric pressure = 29.97 in Hg.
5. Test specimen crack length = 12.75 ft.

Air flow measurements taken during this test and corrected for air density were:

Total measured loss = 0.99 cfm

Chamber loss = 0.80 cfm

Test specimen infiltration = 0.19 cfm

Infiltration per foot of crack = 0.02 cfm

CONDENSATION RESISTANCE FACTOR

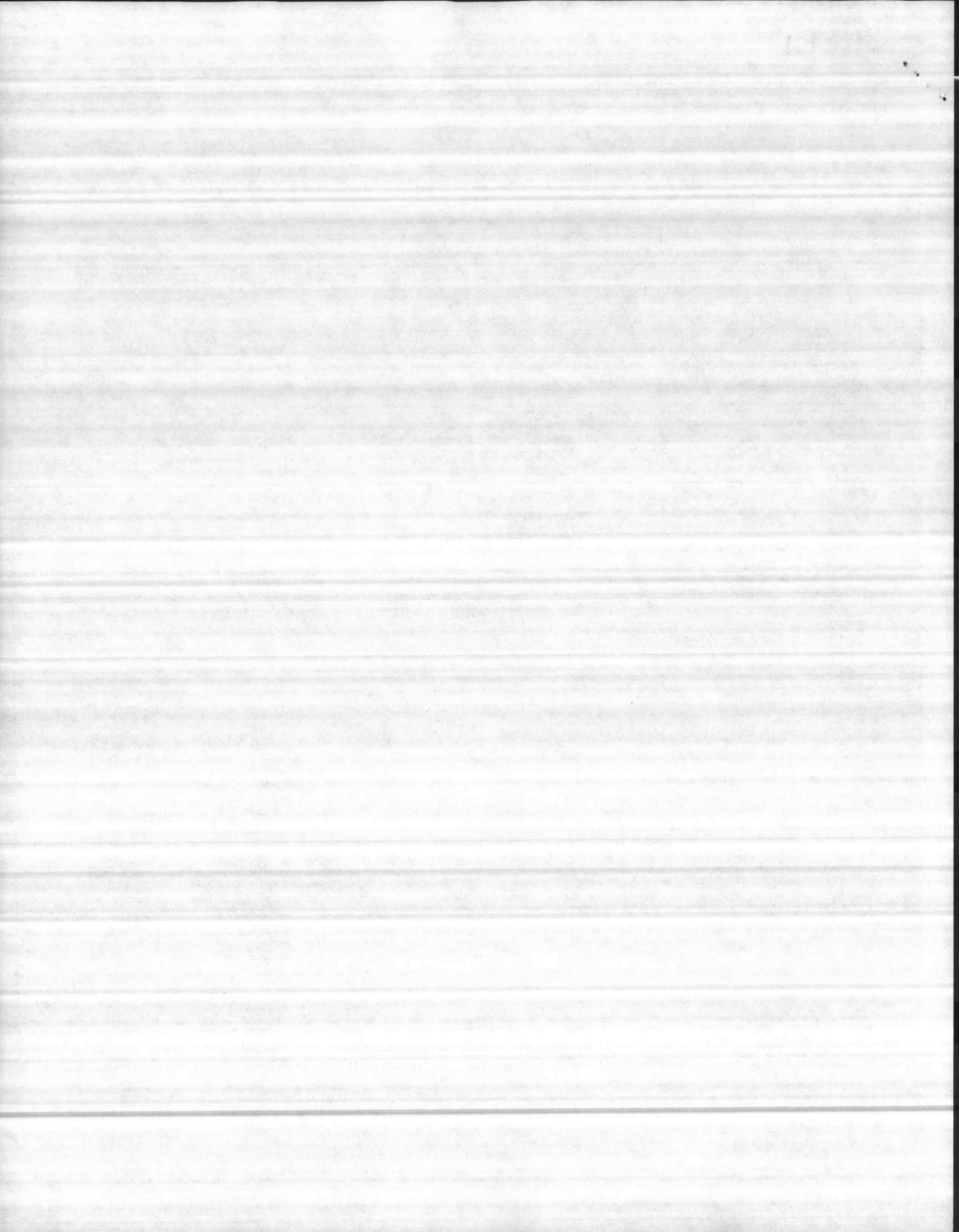
1. Environmental systems started at 0750 hr., 8/30/77.
2. System was determined to be stable between 1100 and 1200 hr., 8/30/77.

The following information is condensed from the test data and used to determine the condensation resistance factor.

TIME =	<u>1300</u>	<u>1330</u>	<u>1400</u>	<u>1430</u>	<u>1500</u>
TW =	68.0	67.9	67.9	68.0	67.9
TC =	18.0	18.0	18.0	18.0	18.0
FT _p =	45.09	45.07	45.07	45.08	45.07
FT _r =	39.58	39.65	39.60	39.55	39.58
W =	0.129	0.127	0.128	0.129	0.129
FT =	44.37	44.38	44.37	44.36	44.36
GT =	45.50	45.52	45.50	45.50	45.43
CRF =	52.75	52.87	52.85	52.73	52.83

WHERE:

- TW = Warm side ambient air temperature
 TC = Cold side ambient air temperature
 FT_p = Average of pre-specified frame thermocouples (14)



FT_y = Average of roving thermocouples (4)

$$W = \frac{0.49 (FT_p - FT_y)}{FT_p - (20 + 10)}$$

FT = $FT_p (1-W) + W (FT_y)$ = Frame temperature

GT = Glass temperature

CRF = Condensation resistance factor

$$CRF = \frac{T - TC}{TW - TC} \times 100$$

WHERE:

T = The lower of FT or GT

Condensation resistance factor (CRF) tests were conducted in general accordance with AAMA 1502.6-1976. Proof of previous ANSI A134.1 tests was not provided. Therefore, the CRF number of 53 determined by this test cannot be considered an official AAMA number.

It should be noted, when reviewing this report, that the frame temperature (FT) was colder than the glass temperature (GT), therefore controlling the CRF number. Attached to this report is a copy of the data sheet compiled during this test and an isometric drawing indicating a surface thermocouple location and average temperature.

"U" FACTOR

Tests to determine thermal transmittance (U factor) were performed in general accordance with ASTM C236, under the following conditions:

TW = Warm side ambient temperature = 67.9 F

TC = Cold side ambient temperature = 18.0 F

P = Static pressure difference across test specimen = 0.0 in. H₂O

15 mph dynamic wind at exterior

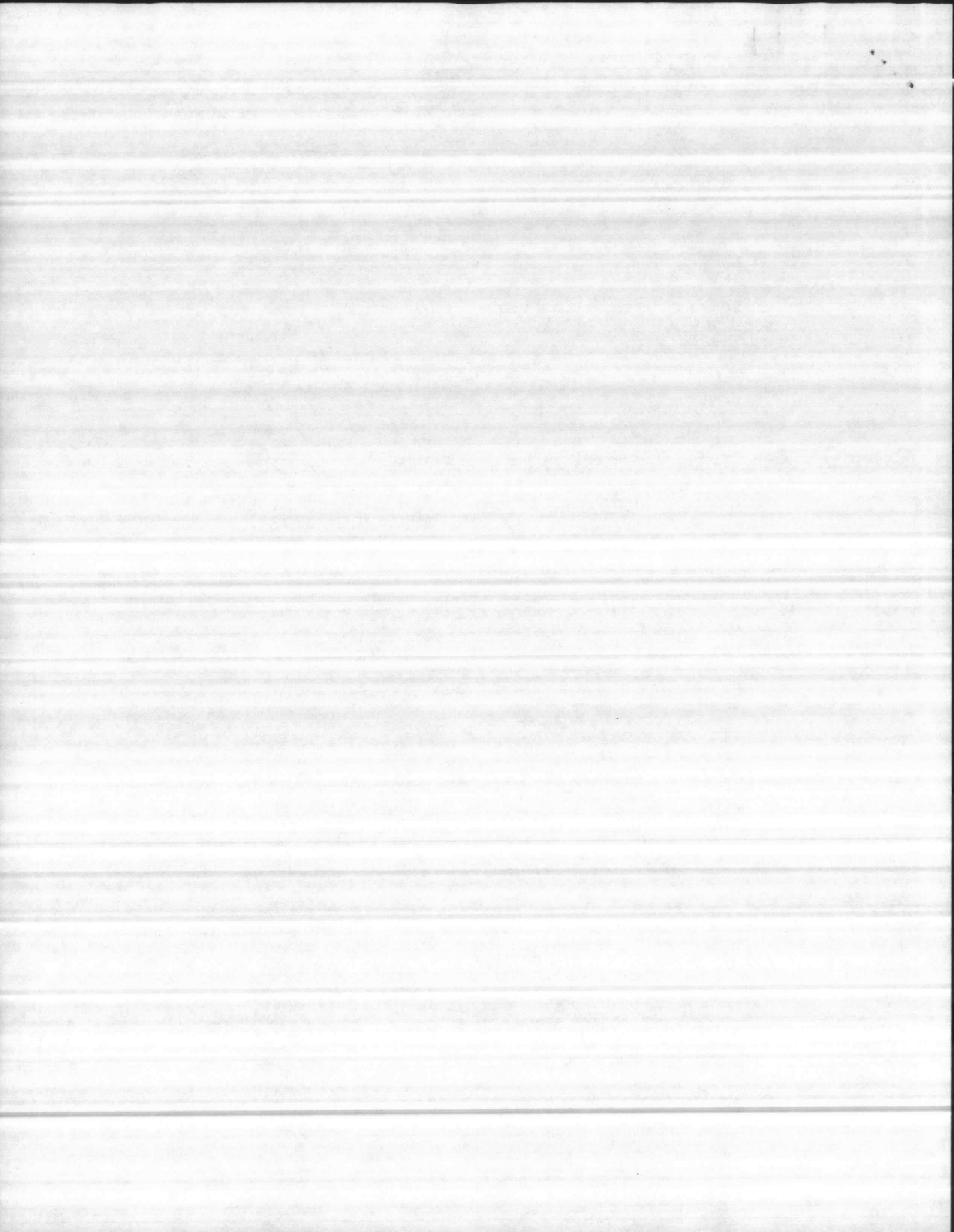
Nominal Sample area 12.0 FT²

Total measured input to calorimeter 656.0 BTU/HR

Calorimeter/buck correction 316.2 BTU/HR

Net specimen heat loss 339.8 BTU/HR

DE





Thermal transmittance (U factor)

- a. Due to conduction 0.57 BTU/HR/FT²/F
 - b. Due to infiltration 0.02 BTU/HR/FT²/F
- Total U factor 0.59 BTU/HR/FT²/F

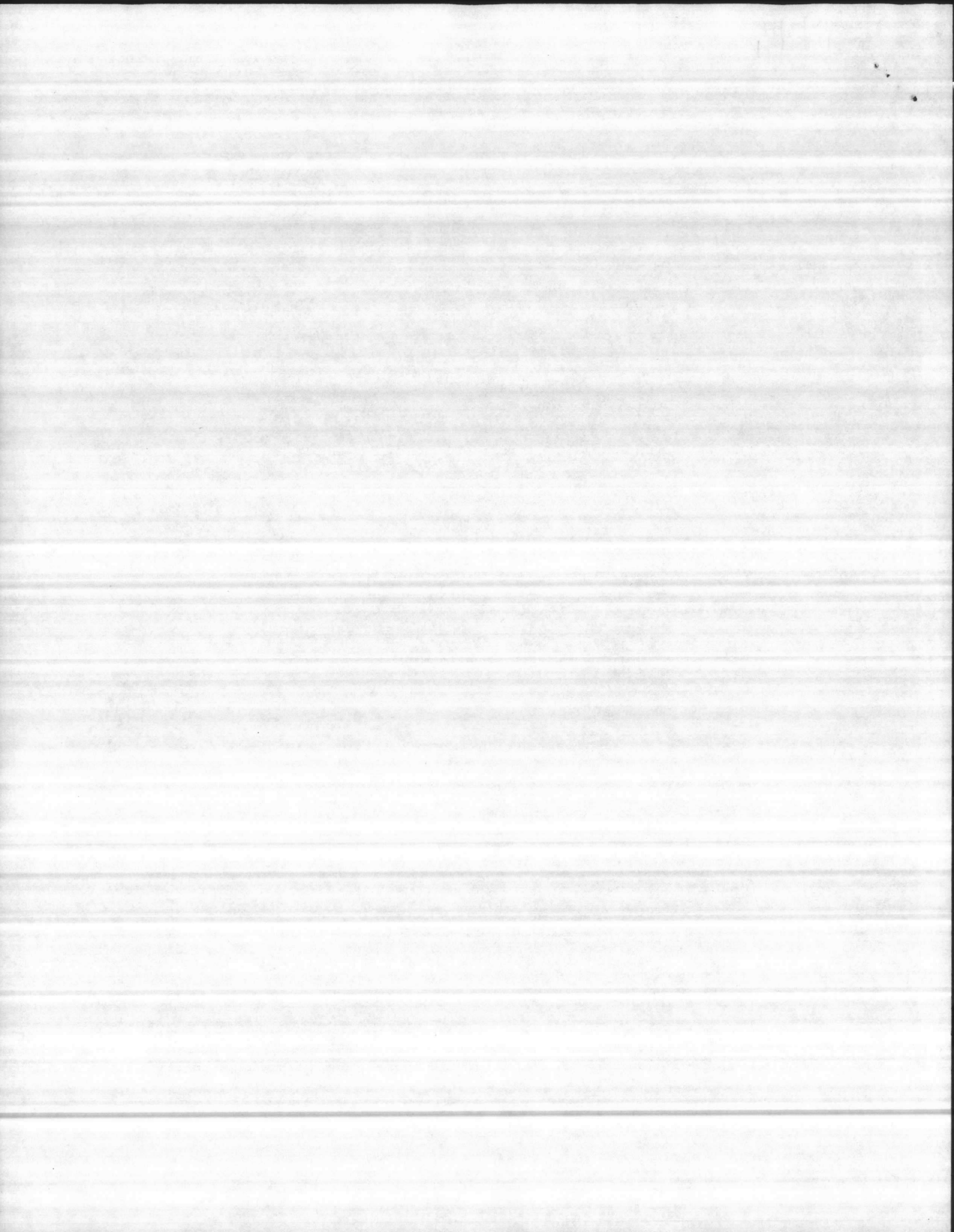
Detailed drawings have been compared to the test specimen and will be retained by ATI with a copy of this report.

ARCHITECTURAL TESTING, INC.


David G. Moyer
Director of Testing Services


Dale E. Hein, P.E.
President

DGM:cf
ATI-221-1
Enc.



ALUMINUM MANUFACTURERS ASSOCIATION
CERTIFICATION PROGRAM

P770562

215201
4536475

SPECIFICATION CONFORMANCE TEST REPORT

VALID ONLY WHEN ADMINISTRATOR'S CERTIFICATION
VALIDATION REPORT NUMBER APPEARS IN BOX A

MANUFACTURER: Hope's Windows
Div. of Roblin-Hope's Ind., Inc.
ADDRESS: Hopkins Avenue
Jamestown, New York 14701

SPECIFICATION TYPE: S VP-A3-HP
SERIES-MODEL: 250

TEST SIZE: 5'0" wide by 8'0" high

DESCRIPTION OF SAMPLE TESTED: Vertically pivoted sash 4'8-15/16" wide by 7'8-7/8" high reversible through 360 degrees in a 5'0-1/8" wide by 8'0-1/8" high frame. Interior glazed with 1/4 in. Arm-R-Clad Falconer Plate Tempered Glass and aluminum snap-in glazing beads. Four removable key operated locks, two on each vertical stile, each 24 in. from respective corners. Wstp: double neoprene, Part No. 335239 on sash perimeter. Two 1/4 in. diameter weep holes with venturi covers on exterior vertical leg of frame sill extrusion, each approximately 2 1/2 in. from respective jambs. Flash welded frame and sash corner construction. Frame corner joint intersections sealed with Tremco Seam Sealer. Sample has been completely disassembled and cut into small representative pieces for storage.

PERFORMANCE TEST RESULTS: AAMA SPECIFICATION NO ANSI A134.1 DATED 1972 IF "HP" TEST ENTER RATING 60 psf

PARAGRAPH NUMBER	TITLE OF TEST	RESULTS	
		MEASURED	ALLOWED
23.5.1	Air Infiltration	0.03 cfm/ft.	0.50 cfm/ft.
23.5.2	Water Resistance 5.0 gph/6.24 psf	No entry	No entry
23.5.3	Uniform Load Strct. Ext. 40 psf	Meets	As stated
23.5.4	Torsion Load	1-5/16" Max.	2 1/2"
23.5.5	Horizontal Concentrated Load	0.048"	0.052"
23.5.6	Vertical Concentrated Load	0.030"	0.031"
1.2.1	Water Resistance (WTP) 5.0 gph/10.67 psf*	No entry	No entry
1.2.2	Uniform Load Strct. Ext. 60 psf**	Meets	As stated
1.2.2	Uniform Load Strct. Int. 30 psf	Meets	As stated

*P Measured **STP Measured

Hope's Windows Attn: Mr. Lyon D. Evans

TL Attn: Mr. Earl J. Gnosser

-73 Report reissued to correct Air Infiltration Allowed to read 0.50 cfm/ft.

TABLED ASSEMBLY DRAWINGS, SECTION AND PART DRAWINGS, CORNER CONSTRUCTION, WALL THICKNESS OF ALL MEMBERS AND BELL MATERIALS ARE ON FILE AND HAVE BEEN COMPARED TO THE SAMPLE SUBMITTED AND ARE IN COMPLIANCE WITH THE AAMA SPECIFICATIONS. TEST SAMPLE WILL BE RETAINED AT THE TEST LABORATORY UNTIL EXPIRATION DATE OF CERTIFICATION. A COPY OF THIS REPORT HAS BEEN FORWARDED TO THE AAMA ADMINISTRATOR OF CERTIFICATION. THE ABOVE RESULTS WERE SECURED BY TESTING IN ACCORDANCE WITH THE PROCEDURE DESCRIBED IN THE CURRENT ISSUE OF AAMA PROCEEDINGS GUIDE 103 AND THEY INDICATE COMPLIANCE WITH THE REFERENCED AAMA SPECIFICATION.

LABORATORY USE ONLY
G-15537
Lab. No. 735811
April 5, 1973

Authorized Signature(s)
Michael J. Boyle
Testing Laboratory
Pittsburgh Testing Laboratory

