

DRAWING AND SPECIFICATION TRANSMITTAL
 LOCKWOOD GREENE ENGINEERS, INC.

SPARTANBURG, SOUTH CAROLINA 29304
 P.O. BOX 491 (803)582-2351

See 11757
6/11 thru 6/16
Foley 8/27/80
REC
CS
RIS

TO Naval Facilities Engineering
 Command Building N-26
 Atlantic Division
 Norfolk, Va. 23511
 ATTN: Mr. John Grubbs Code 05

DATE July 23, 1980
 JOB NO. 77239.16
 JOB NAME Naval Regional Medical Center

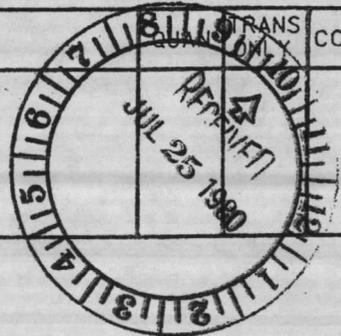
TRANSMITTAL NO. 1574
 SHEET OF
 ORDER NO.
 Contract #
 N-62470-77-C-7526

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

QUAN.	DOCUMENT NO.	REV. NO.	DESCRIPTION	VENDOR	CODE
1	Letter		Of Cert Dated 6/30/80	Xonics	R
1			Wall Openings Serv. Requirements		D
1			Typ. Install		D
1			Cat. Cuts & Specifications		D
1			Arch. Planning Data Physical Properties		D

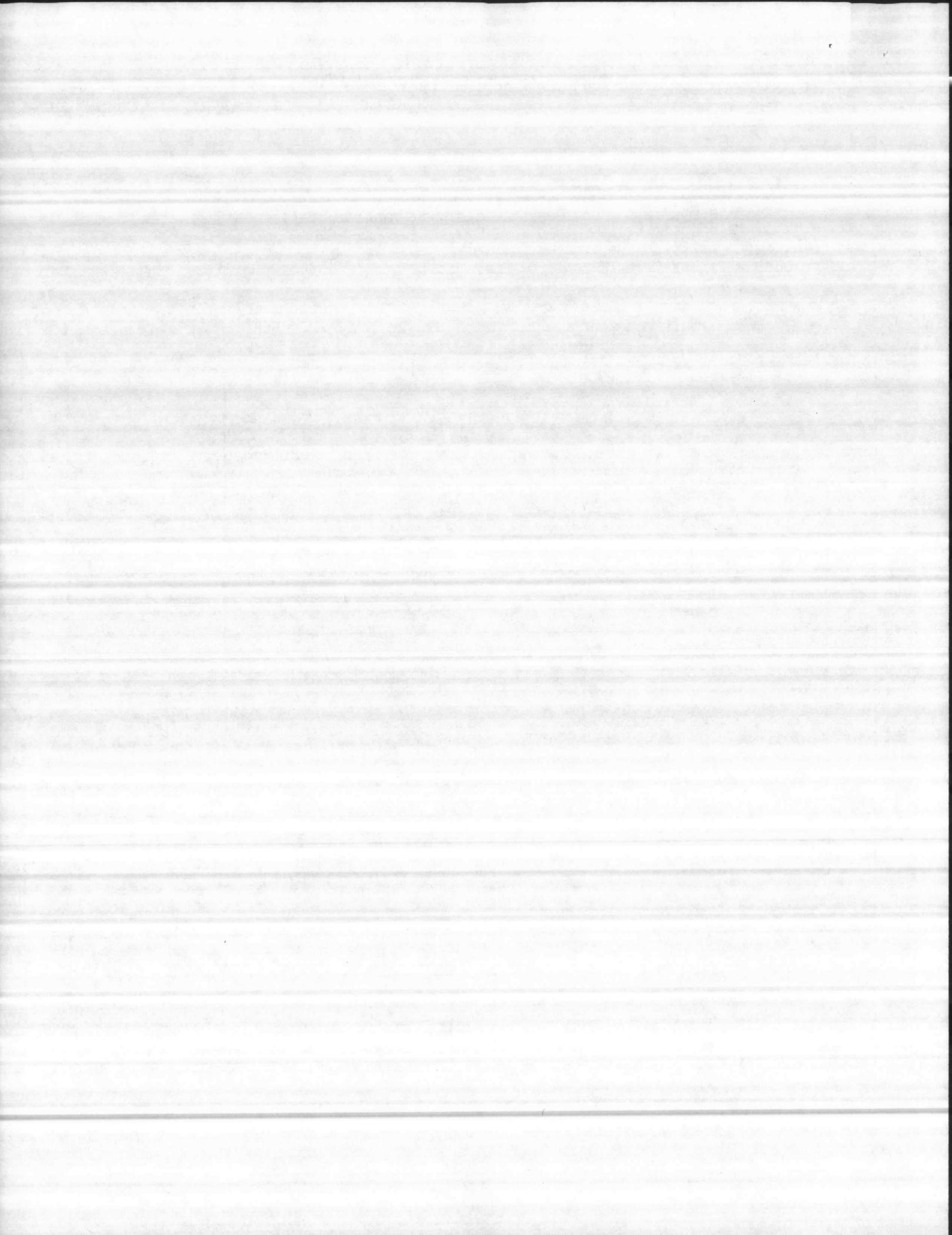
LOCKWOOD GREENE DOCUMENTS			VENDOR DOCUMENTS		
A - INFORMATION	E - BID	K - NO CORRECTIONS NOTED			
B - REVIEW	F - CONSTRUCTION	L - MAKE CORRECTIONS NOTED			
C - APPROVAL	G - PURCHASING	M - REVISE AND RESUBMIT			
D - REVISED DWG. (SEE REVISION)	H -	N - REJECTED (SEE REMARKS)			

COPIES TO	QUAN	TRANS ONLY	CODE	COPIES TO	CODE
ROICC	1				
Cardinal	4				



REMARKS

PLEASE ACKNOWLEDGE RECEIPT BY IMMEDIATE RETURN OF SIGNED COPY OF THIS TRANSMITTAL
 RECEIVED BY _____ DATE _____ TRANSMITTED BY Richard McKnight



DEPARTMENT OF THE NAVY
RESIDENT OFFICER IN CHARGE OF CONSTRUCTION
NAVAL REGIONAL MEDICAL CENTER
FIELD OFFICE
CAMP LEJEUNE, NC 28542

TELEPHONE NO.
919-353-3455

IN REPLY REFER TO:
AEY:jj
N62470-77-C-7526

AUG 13 1980

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

RE: Contract N62470-77-C-7526, 205
Bed Hospital, Naval Regional
Medical Center, Camp Lejeune,
North Carolina

SUBJ: Items X-5300, X-5301, X-5302,
Transmittal No. 611-616

Gentlemen:

This is in response to the inquiry put forth in the subject transmittal.

The Daylight Processing System that the Government is furnishing as Category "E-1" Equipment is the Dupont Cronex Daylight Film Handling System. Item X-5301, X-ray Film Processor, specified in Section 11757, paragraph 7.16 is required to interface with this Daylight Processing System.

The Government Furnished Chest X-ray Apparatus is General Electric Medical Systems Chang Chest Unit, Model B3513F. The Film Receiver and Transport Unit is Model B3513D.

The above information should allow you to determine the interfacing between the processor and Government Furnished Equipment.

If there are any questions, please contact us.

Sincerely,

R. D. COLEY
Assistant Resident Officer in Charge
of Construction

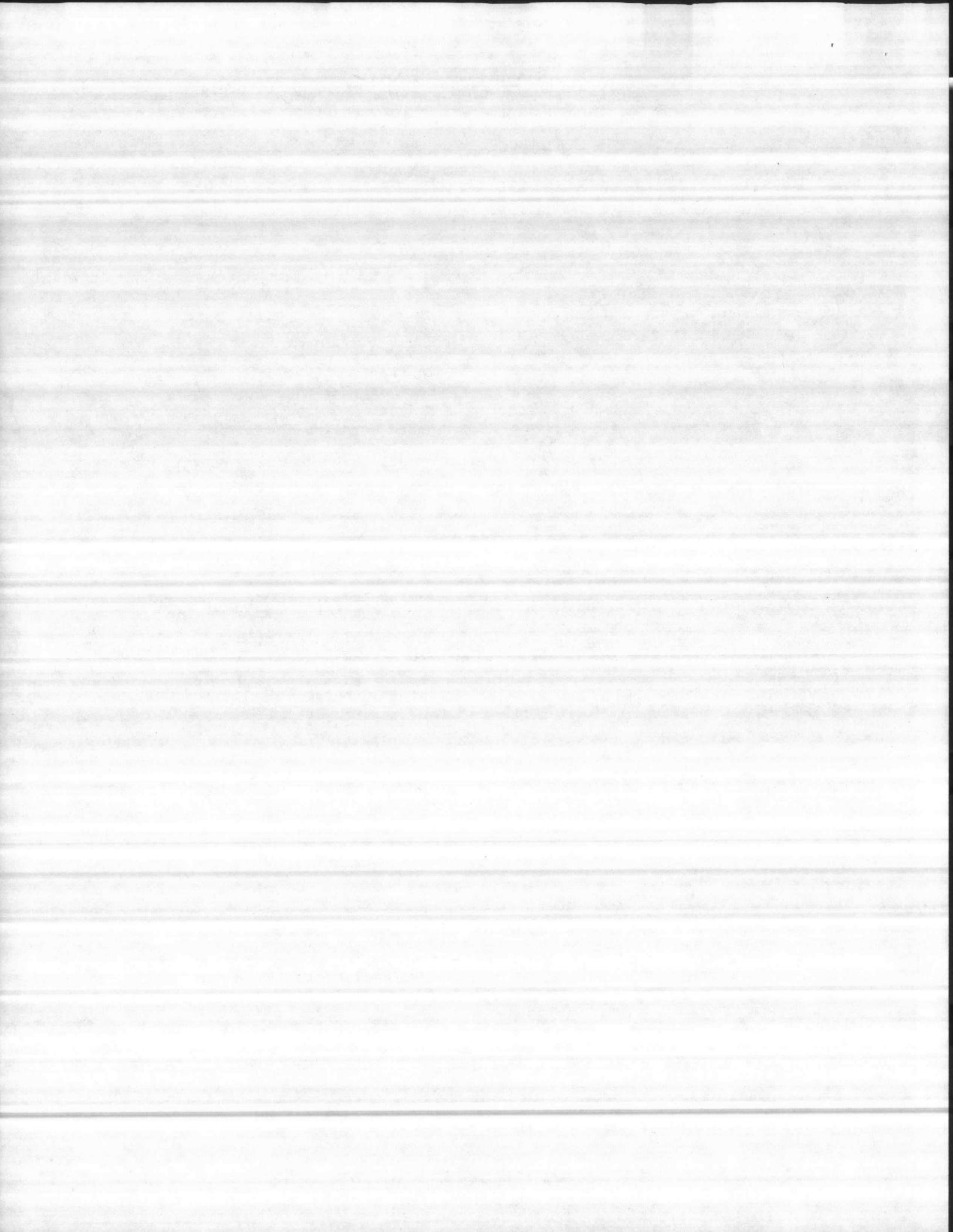
Copy to:

LANTDIV (Code 05)

Gen. Corr.

→ Sub, #611-616

REading



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

SECTION 11757

CONTRACT NO. **N-62470-77-C-7526** TRANSMITTAL NO. **616** DATE **7-7-80**

FROM CONTRACTOR **Cardinal Courts, Co.** PROJECT TITLE AND LOCATION **NAVAL REGIONAL MED. CTR.,**
 TO **Lockwood Group, Fuqrs. Comp Lejeune, N.C.**

CONTRACTOR USE ONLY

REVIEWER 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

1574

- **ACTION CODES**
 A-Approved
 D-Disapproved
 AN-Approved as noted
 RA-Receipt acknowledged.
 C-Comments
 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
		Items X-5300; X-5301 & X-5302			
611	3.1	Xonics Letter of Cert. 6/30/80	7	R	g/s 7/22/80
thru	3.3				
616	"	Secv. Requirements, Wall Openings, Typ. Install	7	D	
"	"	Cont. Cuts & Specifications	7	D	
"	"	Arch. Planning Data-Physical Properties	7	D	

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC **7-7-80** CONTRACTOR REPRESENTATIVE (Signature) **W.M.J. Haymaker**

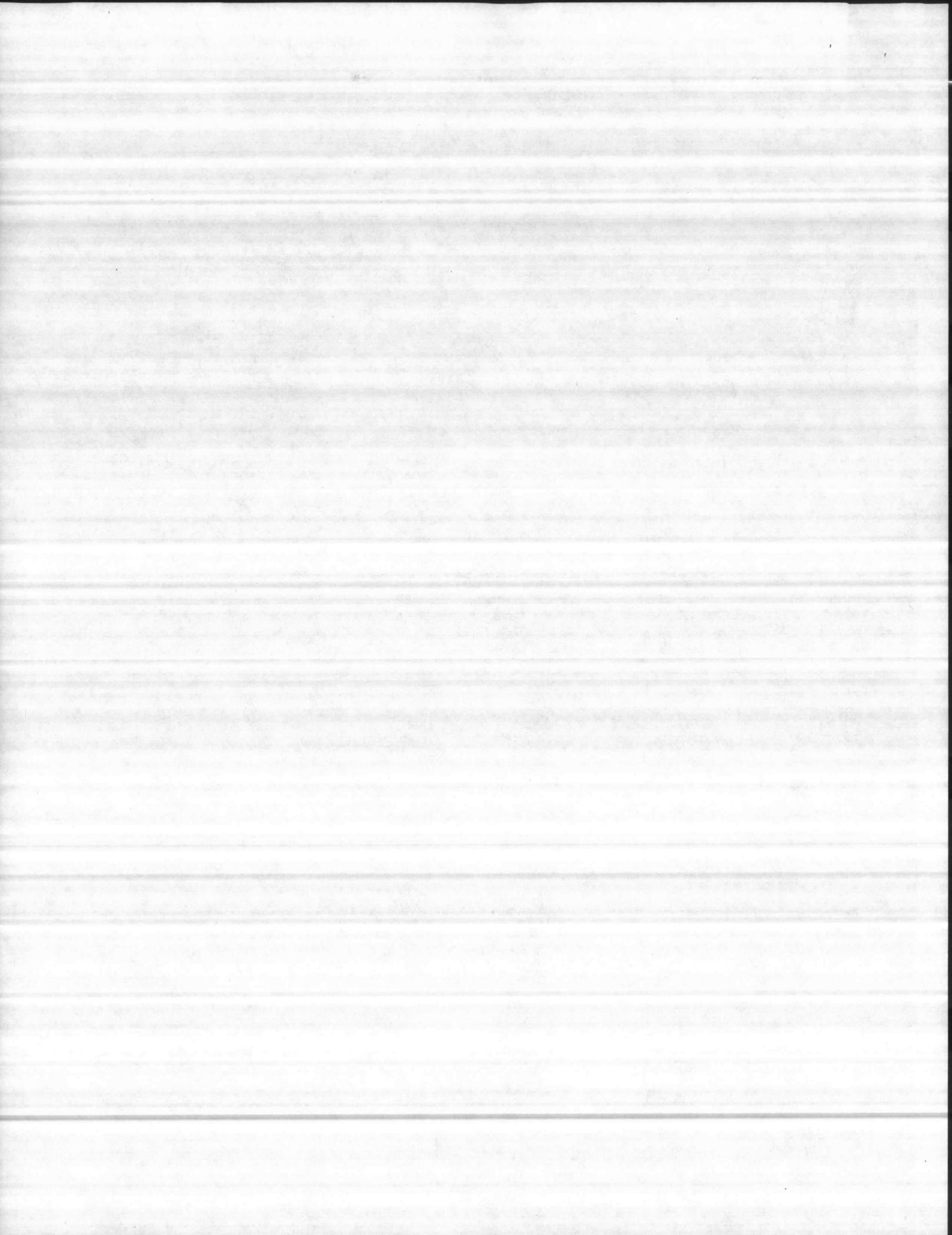
DATE RECEIVED BY REVIEWER FROM (Reviewer) TO

- 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
SEE SUBMITTAL FOR COMMENTS



COPIES TO: ROICC (2), LANTDIV (1), A-E (1) DATE **7/22/80** SIGNATURE **[Signature]**



NAVAL REGIONAL MEDICAL CENTER

CAMP LEJEUNE, N. C. 28542

IN REPLY REFER TO:

MCLO:HEP:ca

17 Jul 1980

MEMORANDUM FOR THE RESIDENT OFFICER IN CHARGE OF CONSTRUCTION, NAVAL REGIONAL MEDICAL CENTER, FIELD OFFICE, CAMP LEJEUNE, NORTH CAROLINA

Subj: X-ray Film Processing Equipment

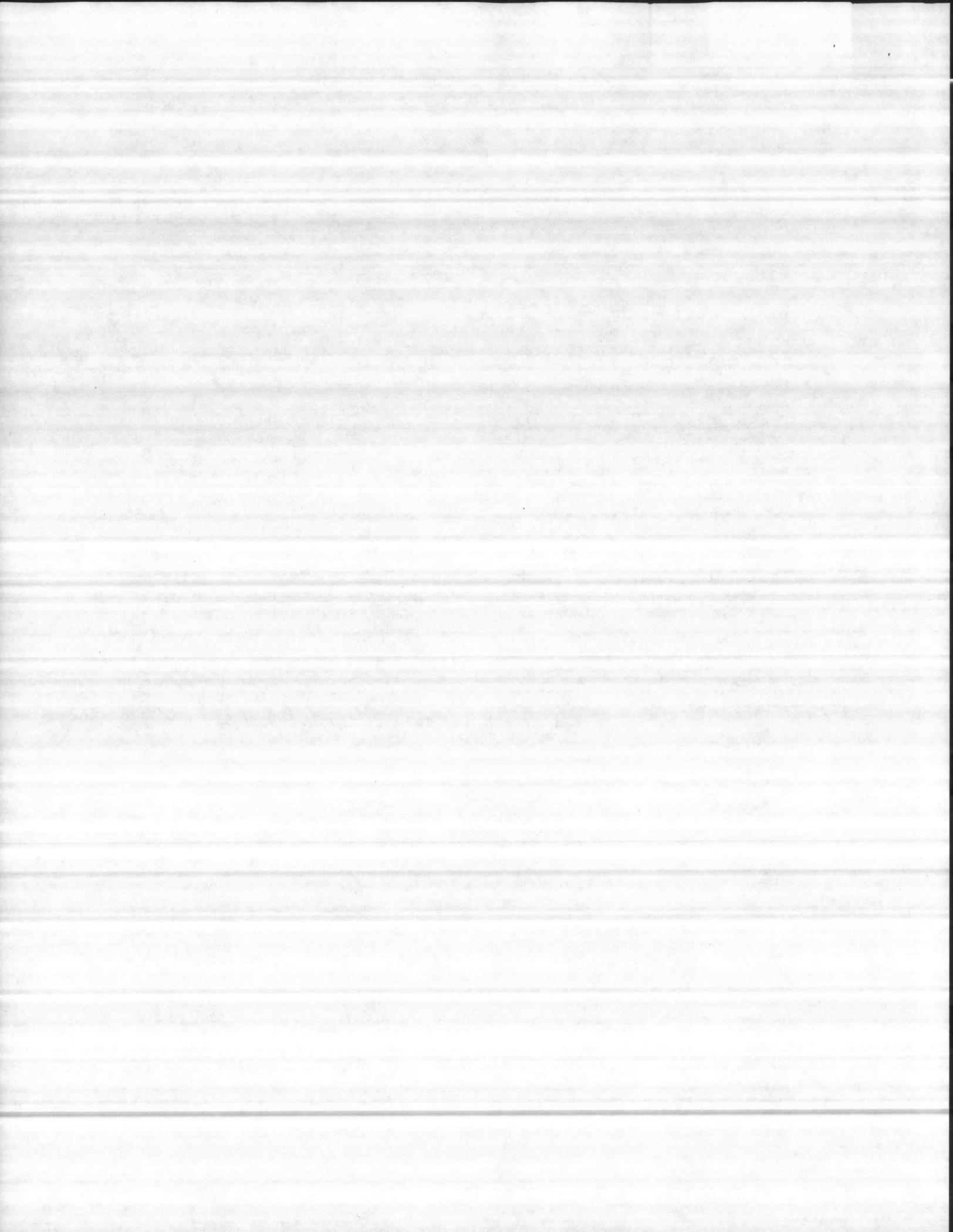
Ref: (a) Contract Specifications
(b) Fonecon btwn Mr. Bill McKinny (DuPont X-ray Systems Engineer, Wilmington, Del., 302-999-4258) and LCDR Phillips of 10 Jul 1980
(c) Fonecon btwn Mr. John Clark (General Electric Medical Systems Office, Charlotte, N.C., 704-537-8544) and LCDR Phillips of 16 Jul 1980

Encl: (1) Cardinal Contracting Co. Submittal No. 611-616 for subject equipment

1. Enclosure (1) has been reviewed and the following comments on the Xonics X-ray Processing Equipment are offered:

a. Section 11757-7.15.1 of reference (a) requires a 90 second per film processing time on all units with the capability of processing at least 230 14" x 17" films per hour. The Xonics information indicates a minimum 140 second process cycle and 220 14" x 17" film per hour capacity. Neither of these meets the Contract requirements. The contractor has lined through the 140 second cycle and inserted 90 seconds. More proof than a pen and ink change is required to substantiate this capability. No modification to the hourly capacity of the Xonics Unit was made. It still does not meet the Contract requirements.

b. The processors offered under Section 11757-7.16 must be capable of interface with the DuPont Cronex Daylight Film Handling System provided by the government as Category "E-1" Equipment. DuPont does not manufacture an Installation Kit that would allow their "CDCA" Daylight Combination Adaptor to be installed on the Xonics Processor. This was confirmed during reference (b). Mr. McKinny indicated that this interface could be achieved, but only through the use of an Installation Kit specially designed and manufactured for this purpose. He also pointed out that this interface would negate the air activated switch in the processor's automatic replenishment system. Sections 11757-7.16.1 and 11757-7.16.2(b), of reference (a), clearly place the responsibility for providing the "adaptors and accessories required for compatible and permanent connection to the Daylight Processing System" on the contractor. Enclosure (1) does not address this requirement.



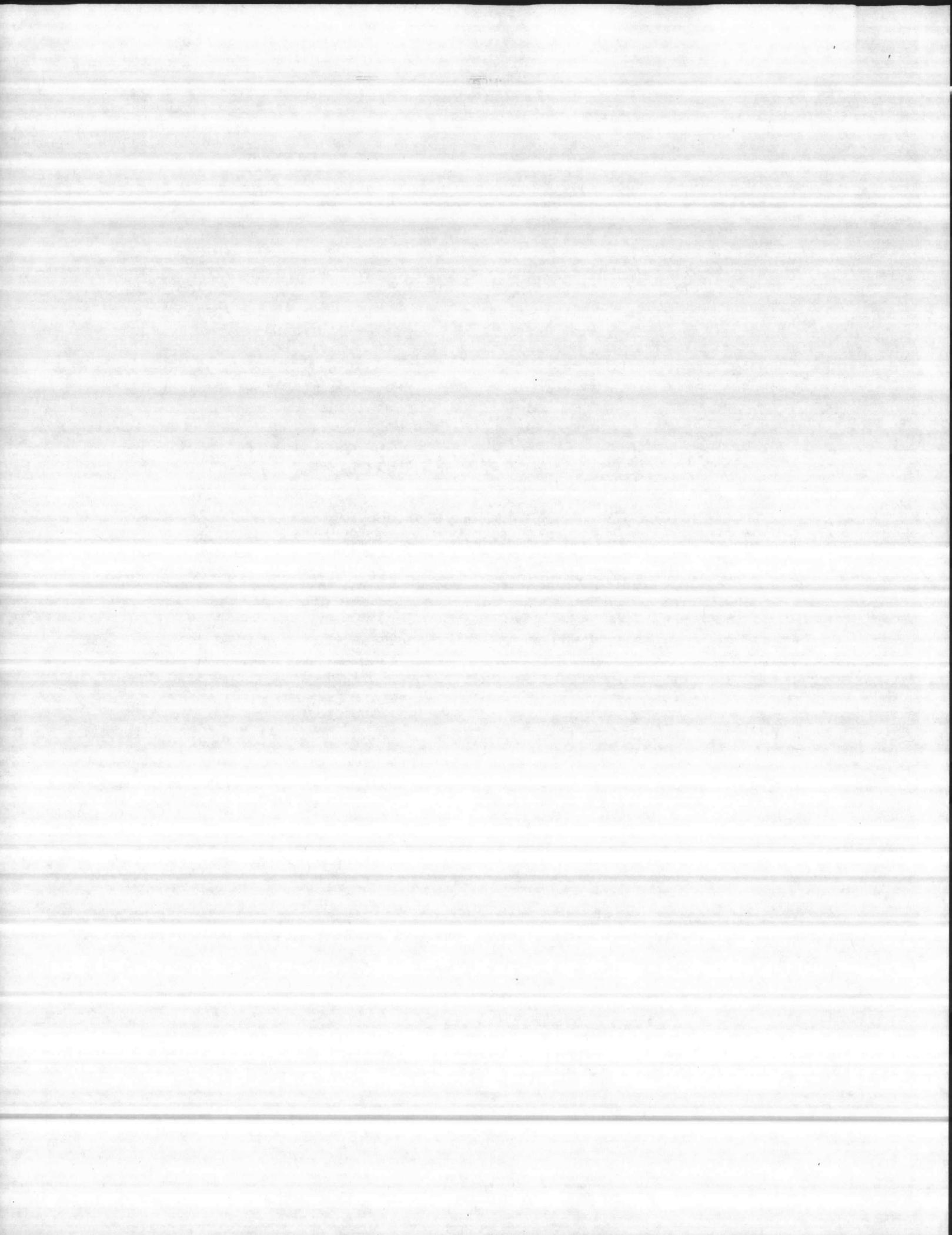
c. The processor offered under Section 11757-7.17 must be capable of interface with a government furnished chest x-ray apparatus (General Electric Medical Systems Chang~~x~~ Chest Unit Mod. B3513F and Film Receiver and Transport Unit Mod. B3513D). This interface was discussed with General Electric personnel during reference (c). G.E. does not have the capability of interfacing with the Xonics Processor. G.E. went so far as to contact the processor manufacturer, Henry Hope. Hope does not have an interface kit either. While nothing is impossible, given sufficient design time and money, Hope indicated that they would not be interested in undertaking the engineering involved to develop an installation kit. The Hope representative also referred to the problem of the air activated switch on the Xonics' replenishment system mentioned by DuPont. Sections 11757-7.17.1 and 11757-7.17.2(b), of reference (a), place the responsibility for the "adaptors and accessories required for compatible and permanent connection to the chest x-ray apparatus" on the contractor. Enclosure (1) does not address this requirement.

2. Thus, the total design burden for what appears to be a significant engineering problem falls completely on Xonics' shoulders. Considering the critical importance of the processor to the effectiveness and efficiency of the hospital's diagnostic x-ray capability, this interface cannot be left to chance. Section 11700-3.2.2, of reference (a), requires that all items of equipment proposed be of the latest design and in current production. Based on information from DuPont and G.E., this is not the case for parts necessary to provide the required interface. If the contractor persists in his offer of the Xonics Processor, it is requested that the government exercise its right under Section 11700-3.2.3 for a factory inspection to determine the qualification of Xonics to provide equipment which will meet the requirements of the Contract Specifications.

3. The DuPont and G.E. representatives listed as references are willing to discuss this problem with any interested party. Due to the critical importance of the processor, please keep this office informed of problems, or progress, in the approval process.



H.E. PHILLIPS
LCDR, MSC, USN
Medical Construction Liaison Officer



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/78)

SECTION 11757

CONTRACT NO. 62470-77-C-7526

TRANSMITTAL NO. 616

DATE

7-7-80

FROM CONTRACTOR

PROJECT TITLE AND LOCATION

TO

Cardinal Conty. Co.

NAVAL REGIONAL MED. CTR.

Lockwood Greene, Engrs.

Comp Lejeune, N.C.

CONTRACTOR USE ONLY

REVIEWER USE ONLY

*List only one specification division per form.

**ACTION CODES

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

- A-Approved
- D-Disapproved
- AN-Approved as noted
- RA-Receipt acknowledged.
- C-Comments
- 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
		Hems X-5300; X-5301 & X-5302			
611	3.1	^{THRU-wall} XONICS Letters of Cert. 6/30/80	7		
	3.2				
thru	3.3				
616	"	Secv. Requirements, ^{Wall openings} Typ. install.	7		
"	"	Cat. Cuts & Specifications	7		
"	"	Arch. Planning Data-Physical Properties	7		

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

7-7-80

W.M.J. Haymaker

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

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

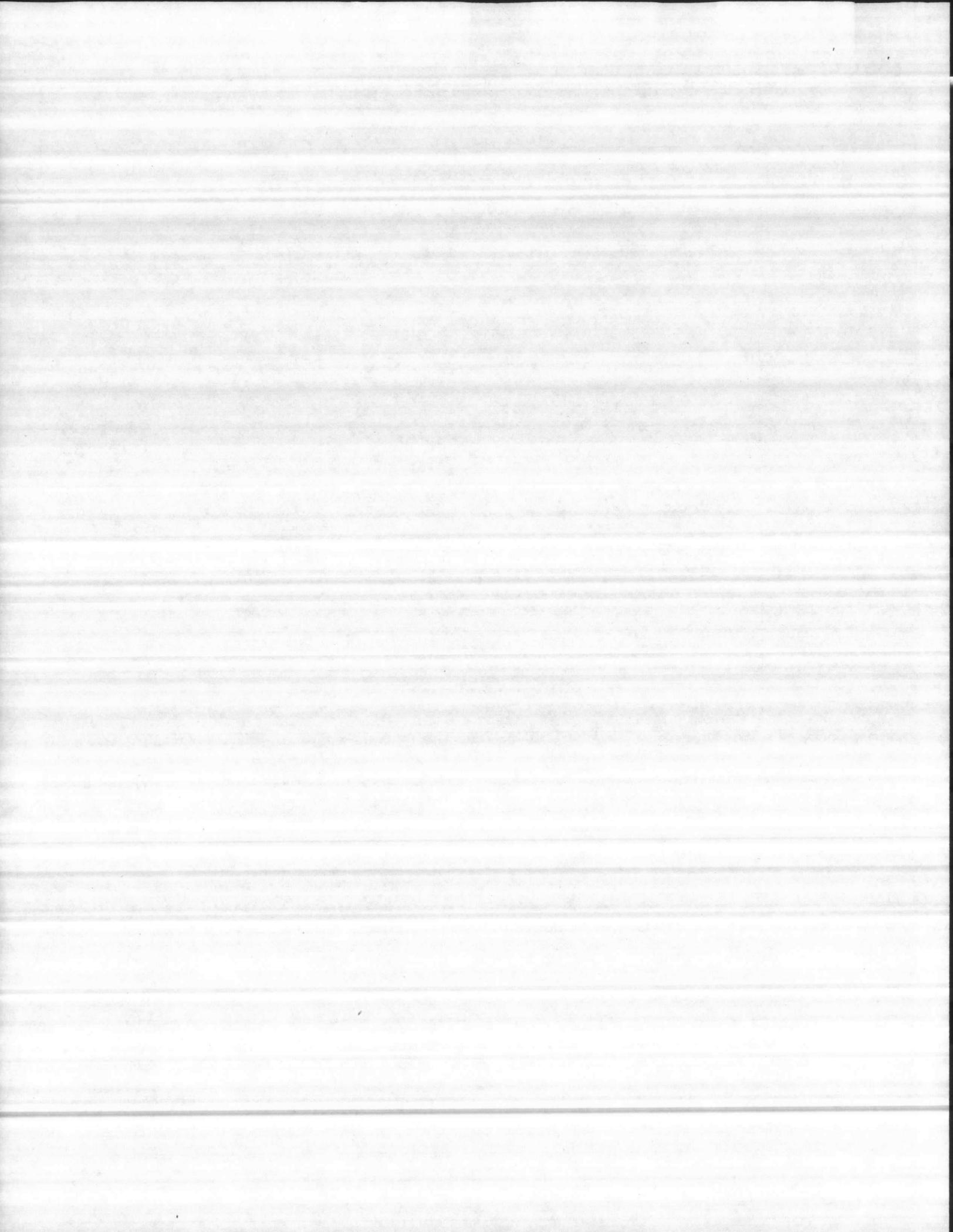


COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

DATE

SIGNATURE

Handwritten notes and initials on the right margin, including 'AC', 'JC', 'AP', 'JR', 'CP', 'CS', 'RH', and a large 'X'.





5039 Country Club Road, P.O. Box 5456, Winston-Salem, North Carolina 27103 919/765-7843

June 30, 1980

Cardinal Contracting Company, Inc.
P.O. Box 8408
Camp Lejeune, North Carolina 28542

ATTN: Bill Haymaker

RE: P.O.NHCL-71118

FILE NO.....
Lockwood Greene Engineers, Inc.
RECEIVED
JUL 10 1980
REF. TO.....
ACK.....

Dear Mr. Haymaker:

Please accept this letter as certification that the Xonics Hi-Cap X-Ray Film Processor will meet the specifications for items X-5300, X-5301 and X-5302 as required by Section 11757 Radiographic Darkroom Equipment.

The only "Grey" area remaining is the connection of the Xonics Processor to the government furnished Chest X-Ray Apparatus. We must have further information regarding manufacturer and model numbers before a final determination can be made.

Xonics presently has local service in the Jacksonville- Camp Lejeune area. Our service engineer, Mr. Ron Kee, is school trained on our processor and has the necessary experience to handle routine servicing. Parts are available from our Durham or Winston-Salem warehouses. Additionally, Mr. Kee will be maintaining a car stock of parts.

The Xonics Hi-Cap Processor is a heavy duty film processor designed to accomodate the heavy workloads anticipated in large X-Ray main departments.

The copies of Manufacturers Literature, Catalog Cuts, Installation Information and Typical Installations are enclosed. If further information is required, please contact this office.

Respectfully,

Dan Osborne

Dan Osborne
Sales Engineer

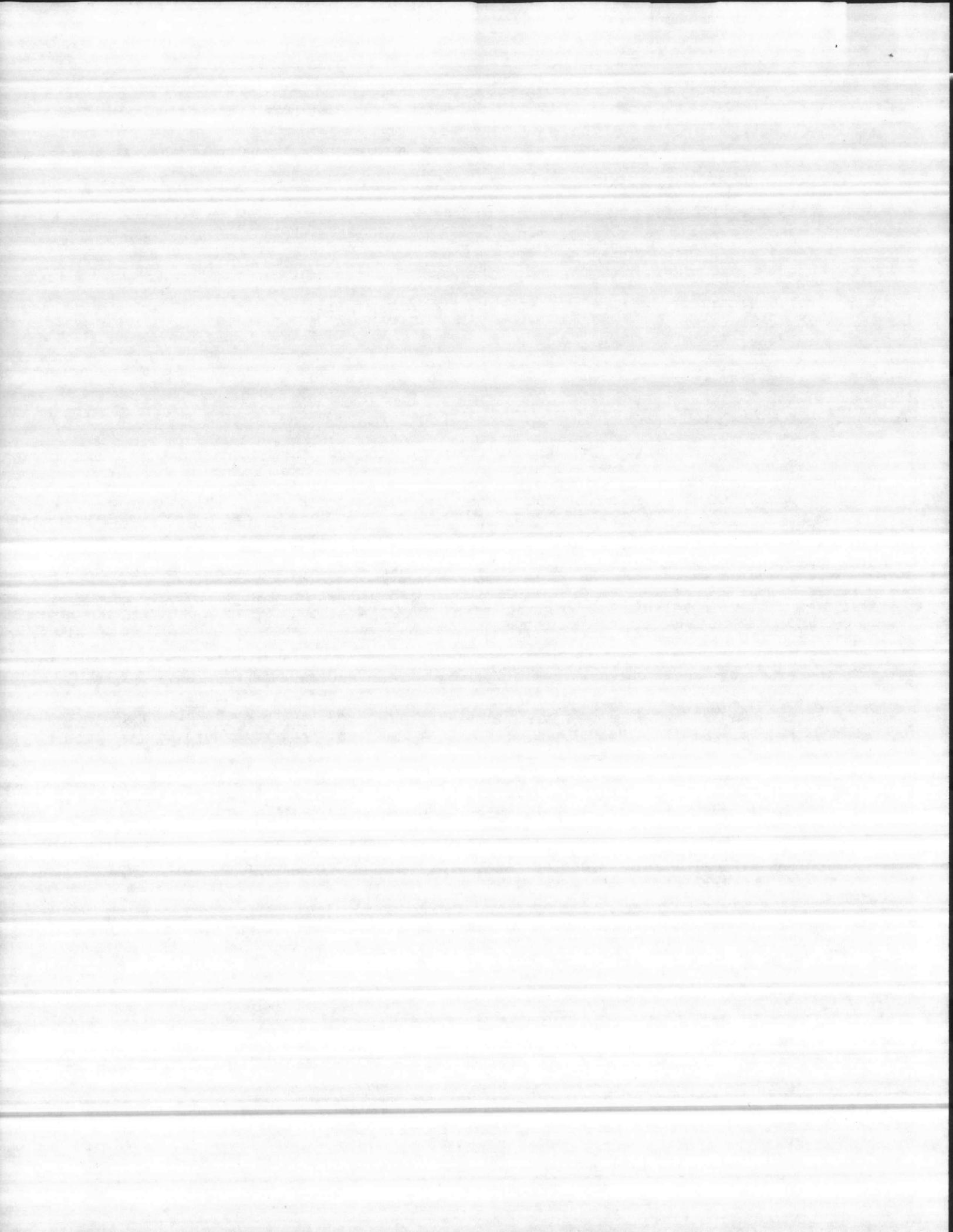
enclosure

*• VERIFIED & APPROVED WITH ALL GOVERNMENT
FURNISHED EQUIPMENT*

*• CERTIFIED 90 SECOND CYCLE CAPACITY IS
140 SECOND CYCLE TIME PUBLISHED IN
PRODUCT DATA*

1574







OFFICE CORRESPONDENCE
WINSTON-SALEM, N. C.

TO: _____ COPIES TO: _____
FROM: _____
SUBJECT: _____ DATE: _____

ITEMS X-5300, X-5301, X-5302

SERVICE REQUIREMENTS, WALL OPENINGS,

TYPICAL INSTALLATIONS

SHEDDING OF EACH
INSTALLATION SHOWING ACTUAL
CONDITIONS, MATERIALS, EQUIPMENT
DETAILS (SEE 11700-2A)

FILE NO. _____
Lockwood Greene Engineers, Inc.
RECEIVED
JUL 10 1980
REF. TO _____
ACK. _____

N-62470-77-C-7526

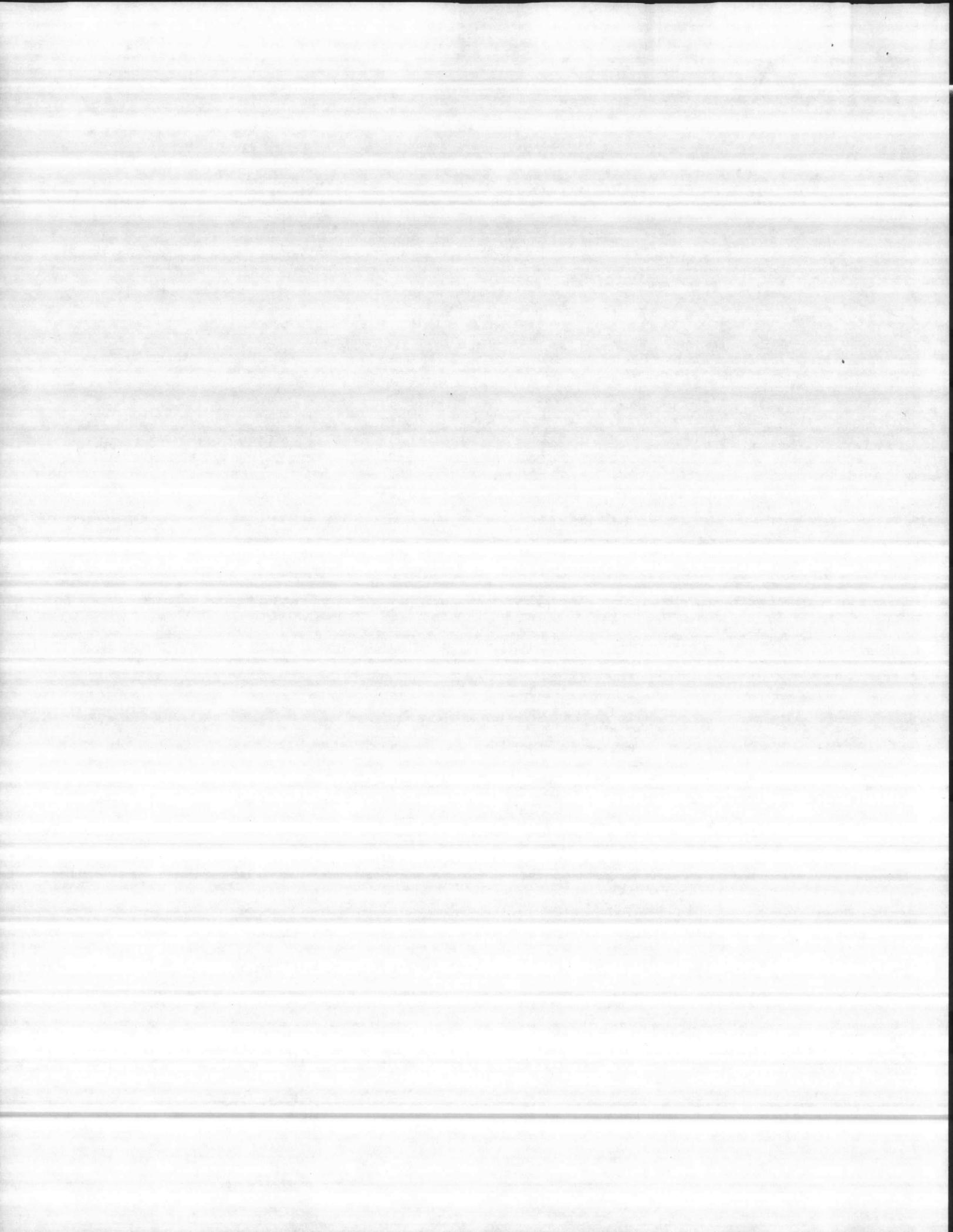
"It is hereby certified that the ~~(material)~~ (equipment) shown and marked in this submittal is that ~~approved~~/proposed to be incorporated into Contract Number _____, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is ~~(approved for use)~~ (submitted for Government approval).

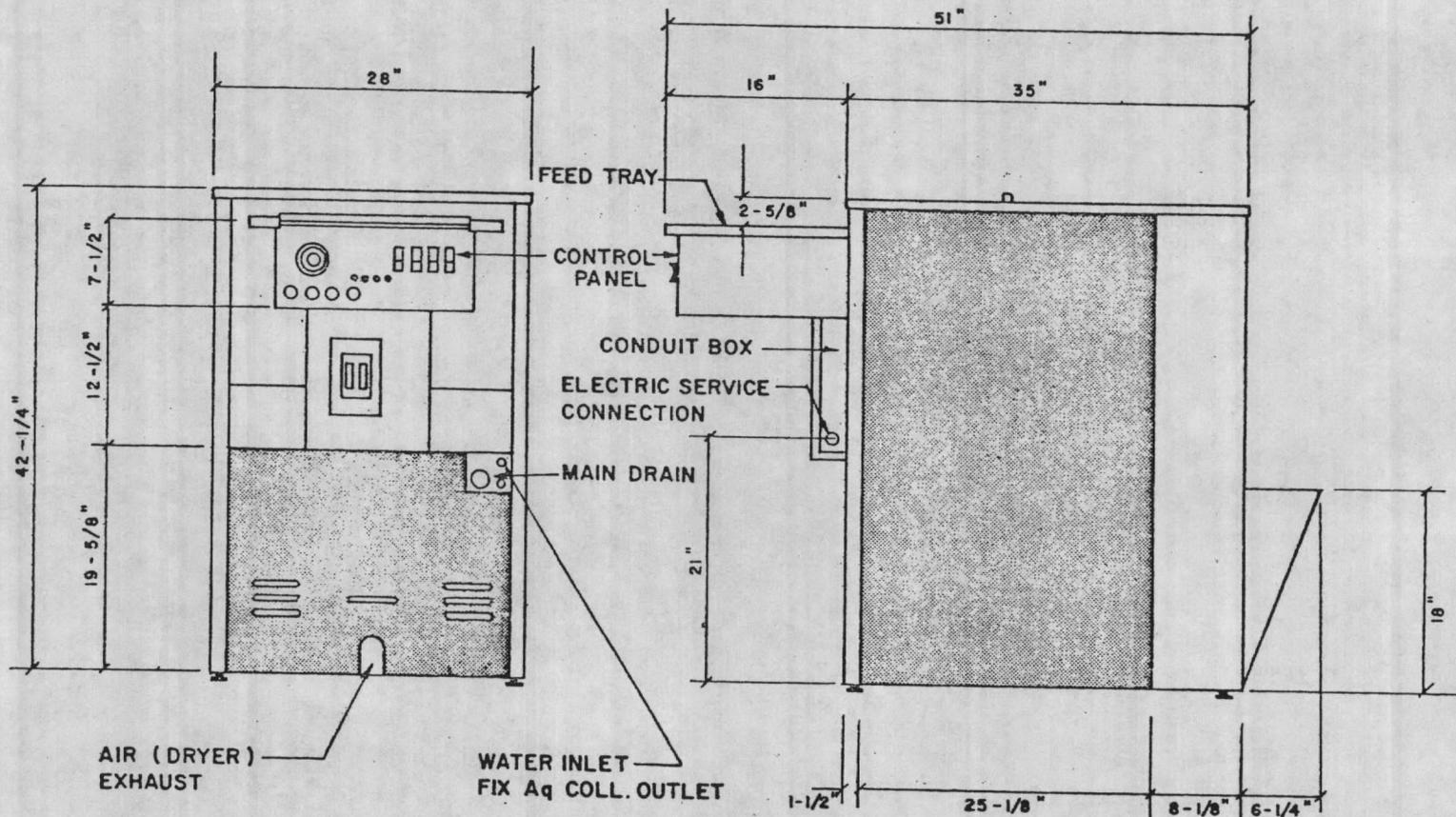
CARDINAL CONTRACTING CO.

Authorized Reviewer _____ Date _____
Signature CQC Rep WH Date 7-7-80."

RECEIVED
JUL 25 1980

1574



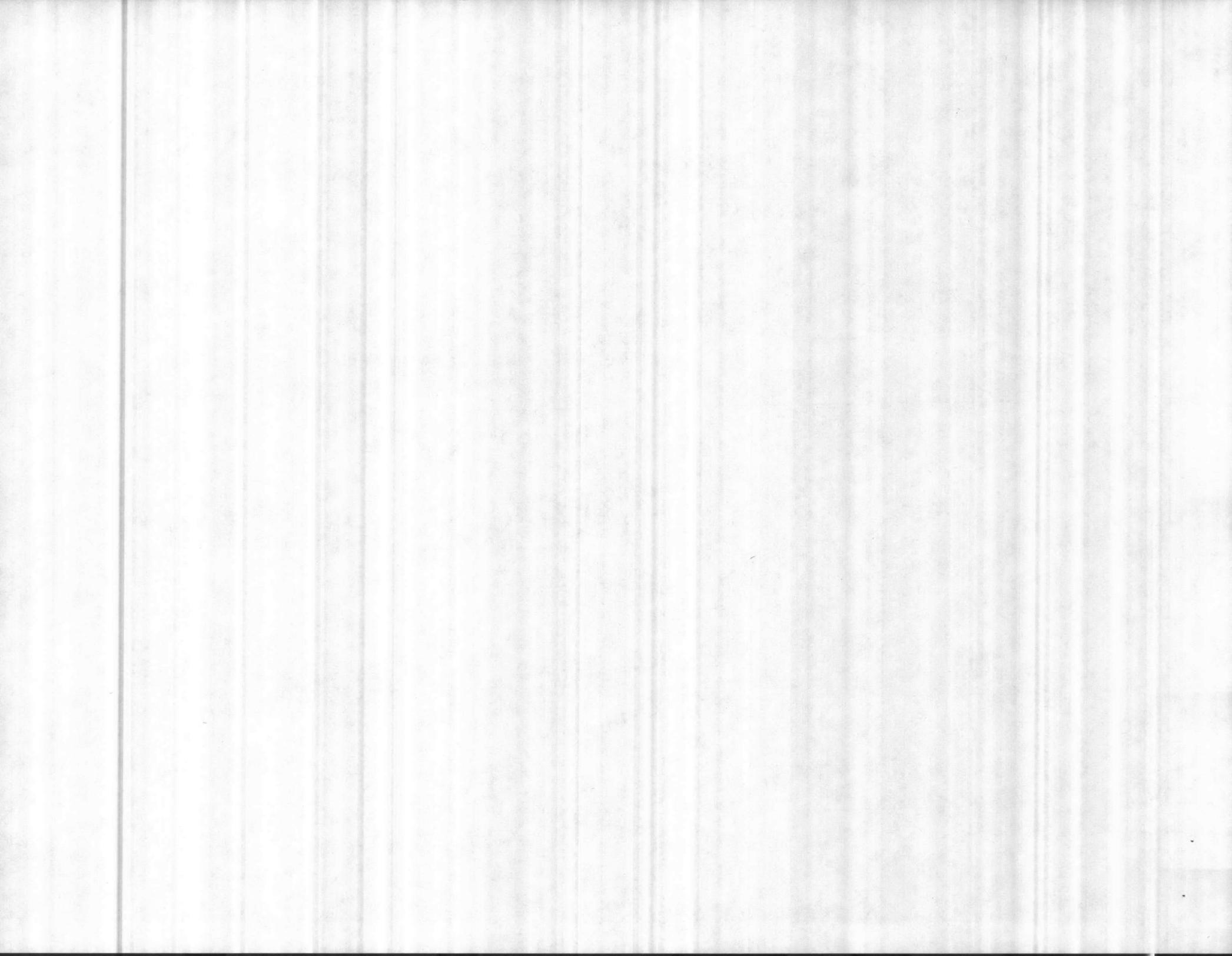


-2-

FIGURE NUMBER 1

NOTES

1. SHADED AREAS REPRESENT EASILY REMOVABLE PANELS
2. ELECTRIC SERVICE MAY BE CONNECTED TO EITHER SIDE OF CONDUIT BOX.



2.0 Scope of Performance:

The Profexray Processor has a continuous roller transport system and may be arranged for "90 second" or "3½ minute" operation. It has a capacity of 325 intermixed films per hour at "90 second" and 160 intermixed films per hour at "3½ minutes".

It is designed to process screen type medical x-ray film, 4" x 4" through 14" x 36"; roll film up to 17" wide; using Profexmatic X-Ray Processing Chemicals, or other standard commercial automatic x-ray processing solutions. Operating temperatures and replenishment rates will depend on the type of film, speed of the processor, and the chemistry being used.

3.0 Architectural Requirements:

3.1 Processor Positions:

The processor may be installed for through-the-wall operation in one of three different positions or completely inside the dark room. The processor can be installed with either or both sides against a wall. It is recommended that space be provided on all sides for service; minimum clearance on all sides should be 12 inches. For ease of cleaning and maintenance, larger clearances are recommended. (Figures No. 2, 3, and 4)

3.2 Replenisher Tanks:

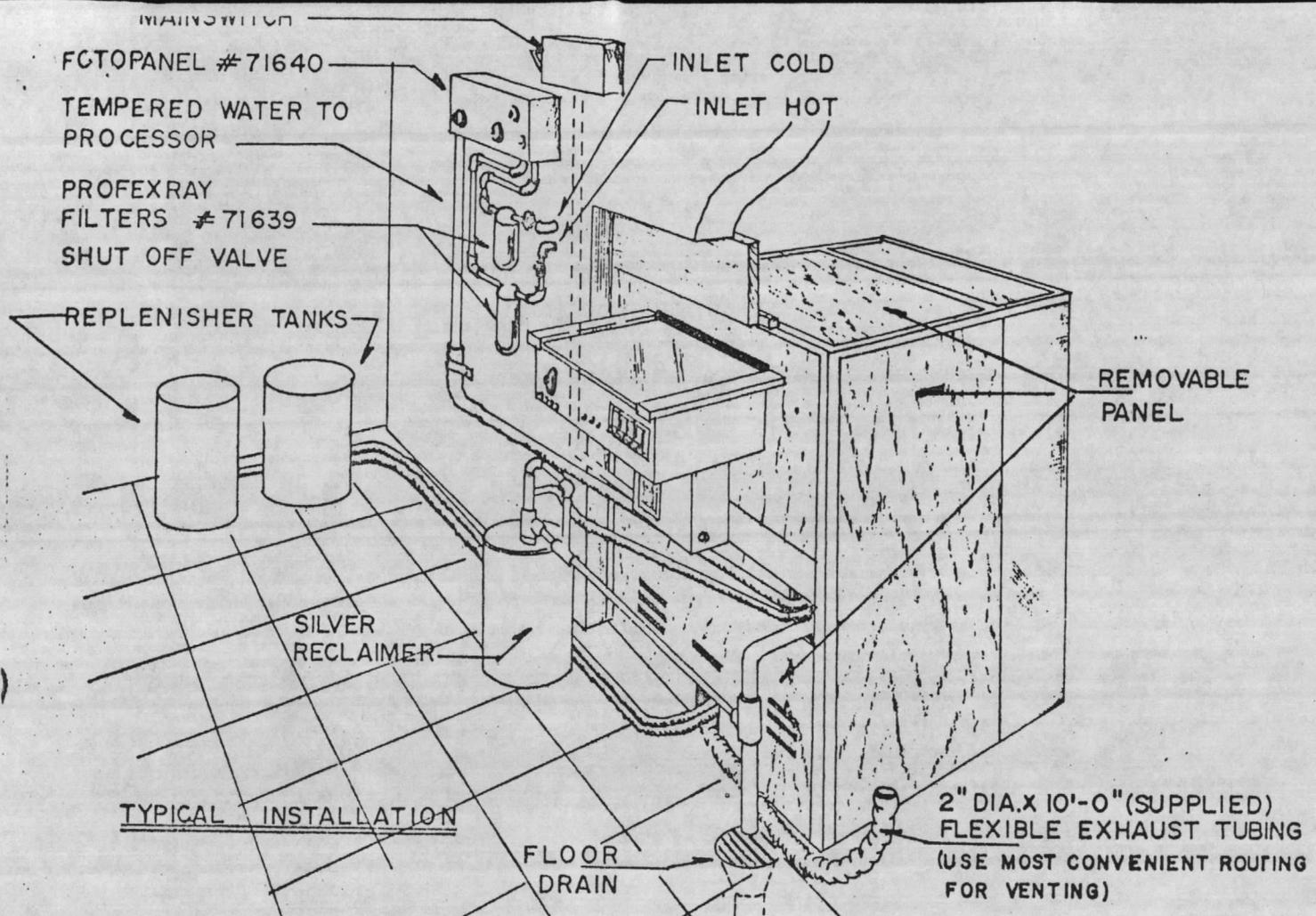
Additional space must be provided for the replenisher tanks; the amount of space necessary is governed by the size of the tanks desired ~~14~~ 14 gallon, 25 gallon, or 50 gallon. The approximate dimensions of the tanks are as follows: 14 gallon - 15" diameter by 21" high; 25 gallon - 18" diameter by 27" high; 50 gallon - 22" diameter by 32" high. (Figure No. 5)

Replenisher tanks should be located on the same floor level as the machine, and should be within 15 feet of the processor. Careful consideration must be given to the routing of the replenisher lines from the replenisher tanks to the processor.

3.3 Plumbing Requirements: (Figure No. 3)

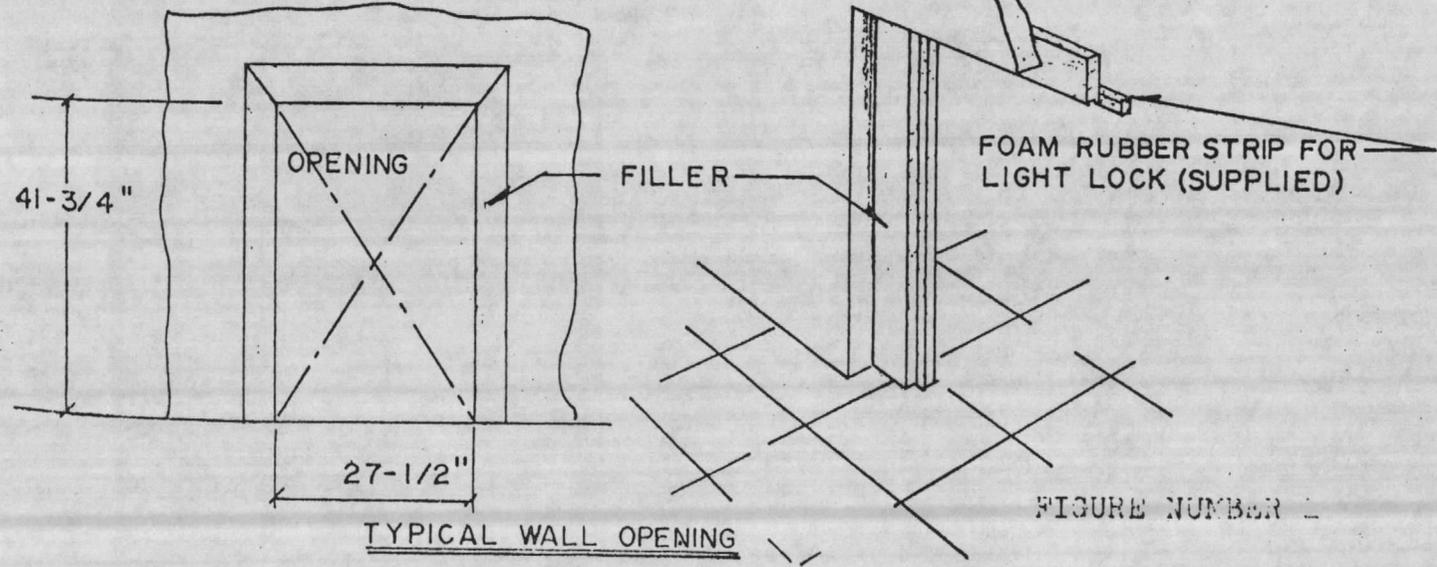
The water requirements are a minimum of one and one-half gallons per minute through a Profexray Fotopanel, P/N 71640, (or a valve of equal quality) a thermostatically controlled mixing valve (not included). It is recommended that Profexray Filter, P/N 71639, (not included) be installed on both the hot and cold incoming water lines before the mixing valve. Water lines must be installed according to local codes. The water is connected to the processor through a ½" male connector which is connected to a 30" x 3/8" I. D. plastic hose.

One 4-inch open floor drain is recommended to be installed on the front (feed end) right side of the processor. However, a drain which will accommodate a normal flow of 1½



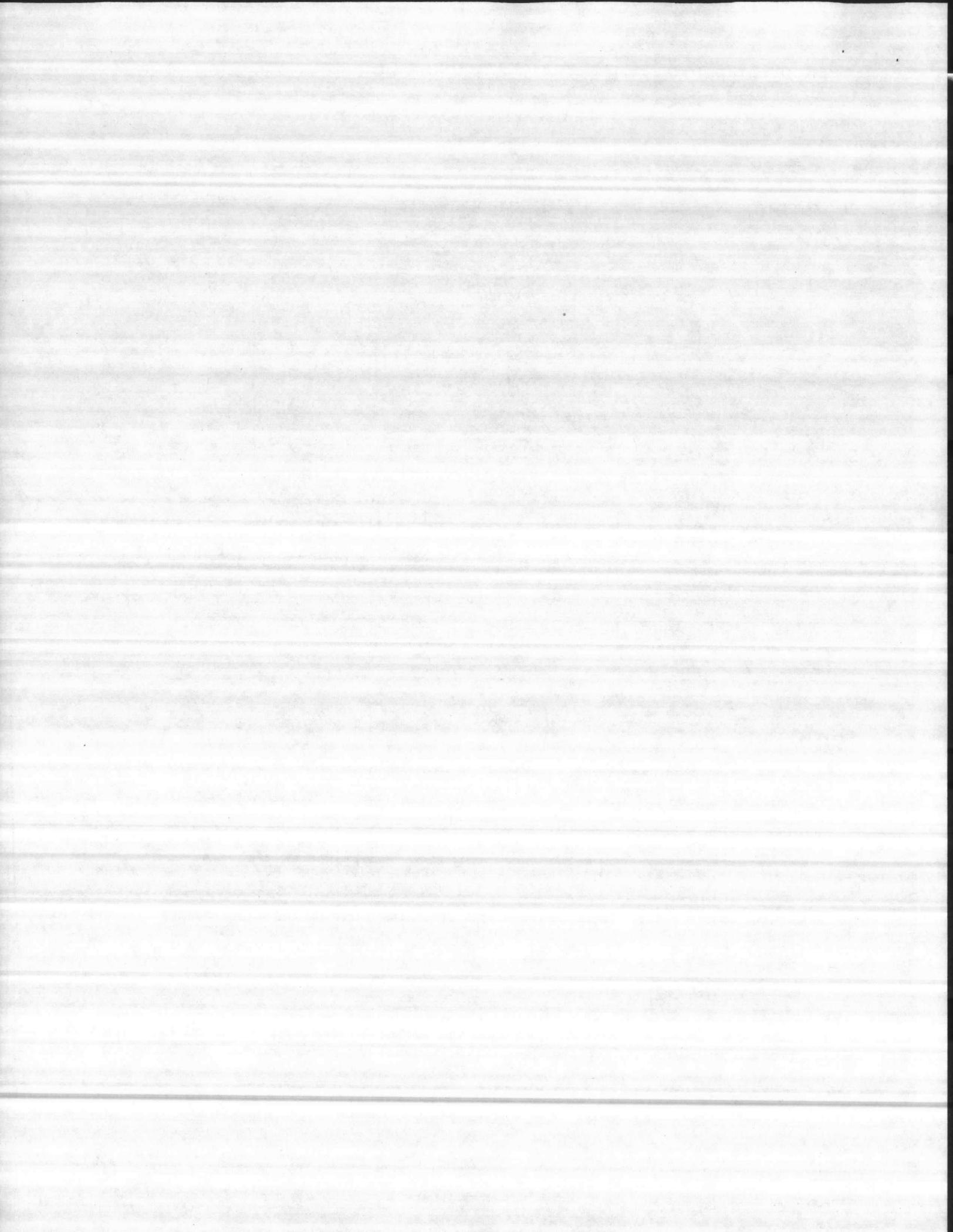
TYPICAL INSTALLATION

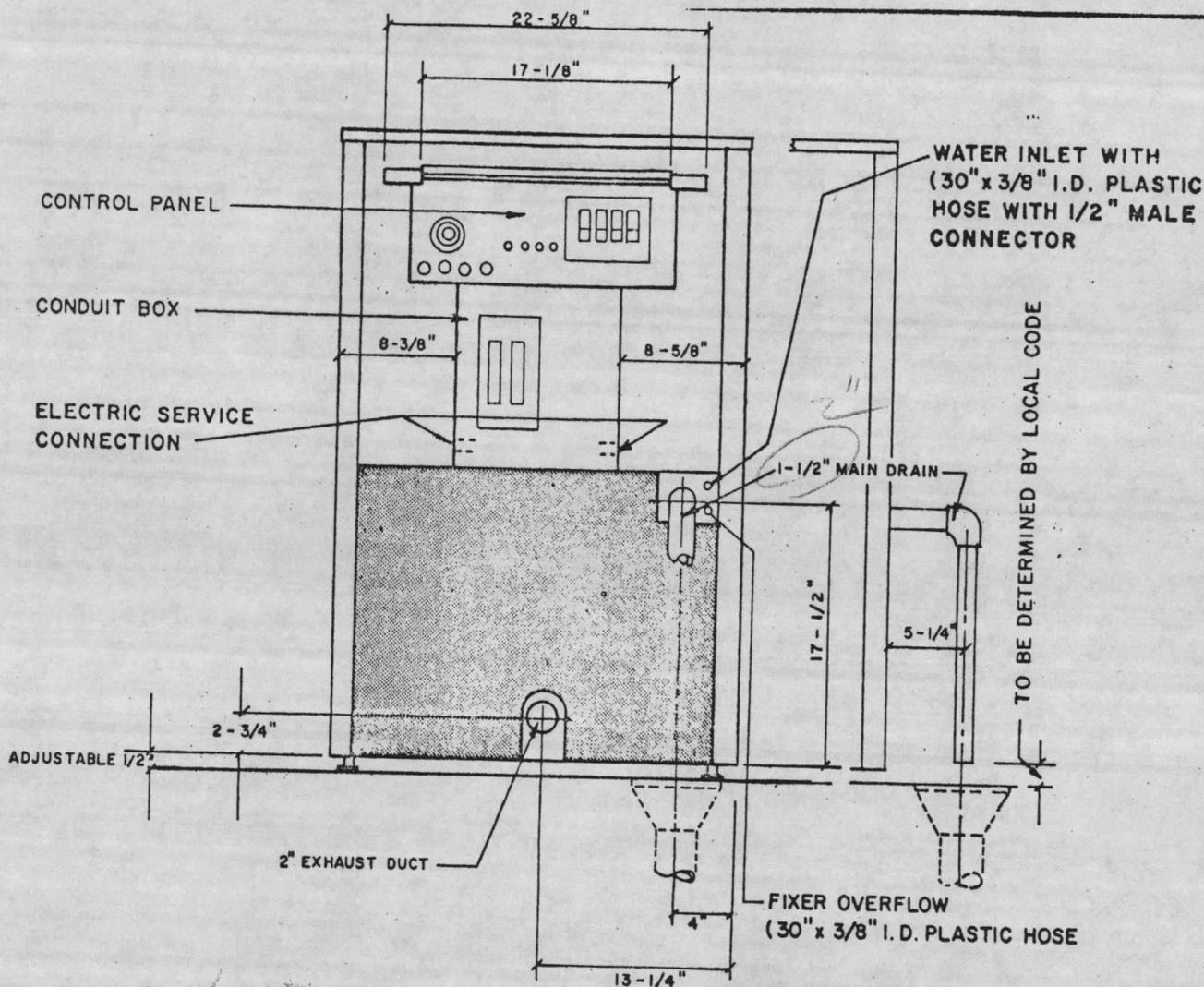
SUGGEST WALL OPENING BE LARGER THAN REQUIRED AND USE 3/4" PLYWOOD OR SIMILAR FOR FILLER



TYPICAL WALL OPENING

FIGURE NUMBER 2





SERVICE REQUIREMENTS

ELECTRICAL

220 VOLT AC, 3 OR 4 WIRE (# 10 MIN. SIZE) SINGLE PHASE AT 60 HZ. 40 AMPS. MAX.; THROUGH A FUSED DISCONNECT SWITCH.

WATER

1-1/2" G.P.M. TEMPERED TO SPECIFIED REQUIREMENTS OF PROCESSOR. SUGGEST USING FOTOPANEL # 71640 (OR VALVE OF EQUAL QUALITY) AND PROFEXRAY FILTERS # 71639 (OR FILTERS OF EQUAL QUALITY) ON INCOMING LINES. BOTH ITEMS SUPPLIED BY CUSTOMER.

DRAIN

1-1/2 G.P.M. (NORMAL); 8 G.P.M. (WHEN DRAINING TANKS)

AIR EXHAUST

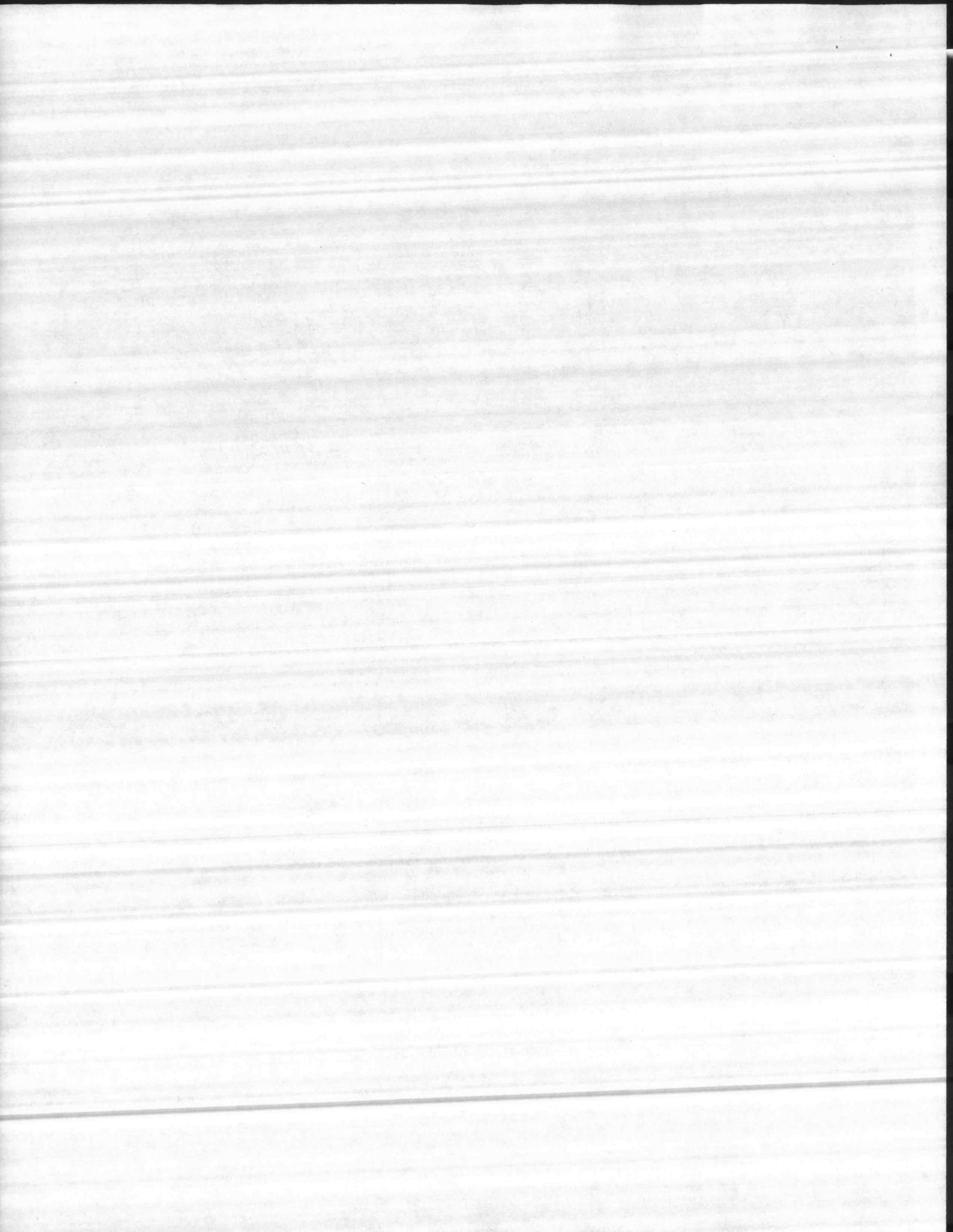
100 C.F.M. MAXIMUM AT 150°F. MAXIMUM 10'-0" LENGTH OF FLEXIBLE TUBING SUPPLIED WITH PROCESSOR FOR AIR EXHAUST.

WEIGHTS

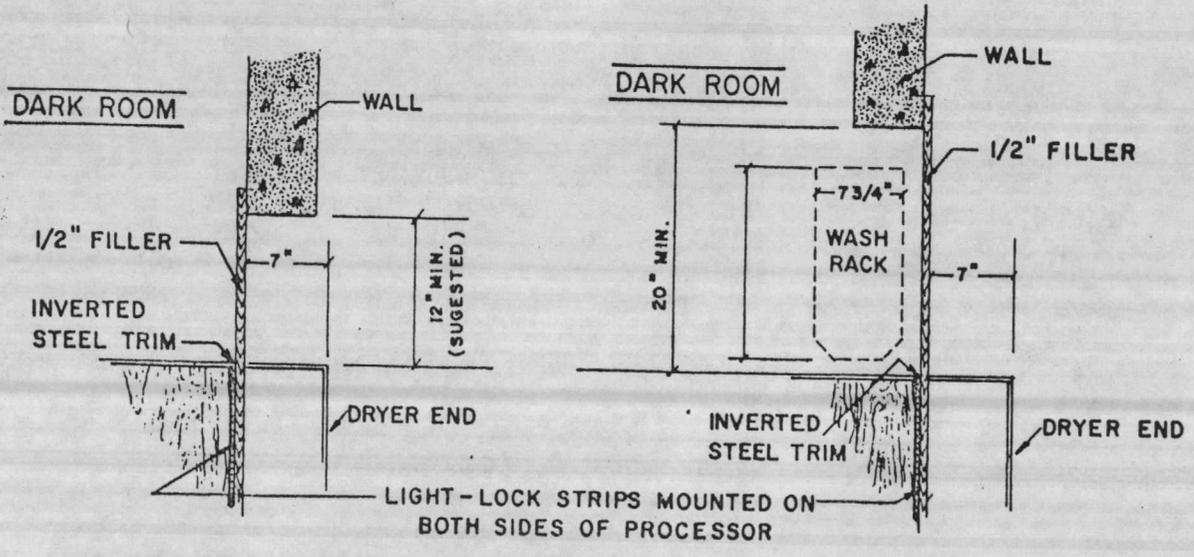
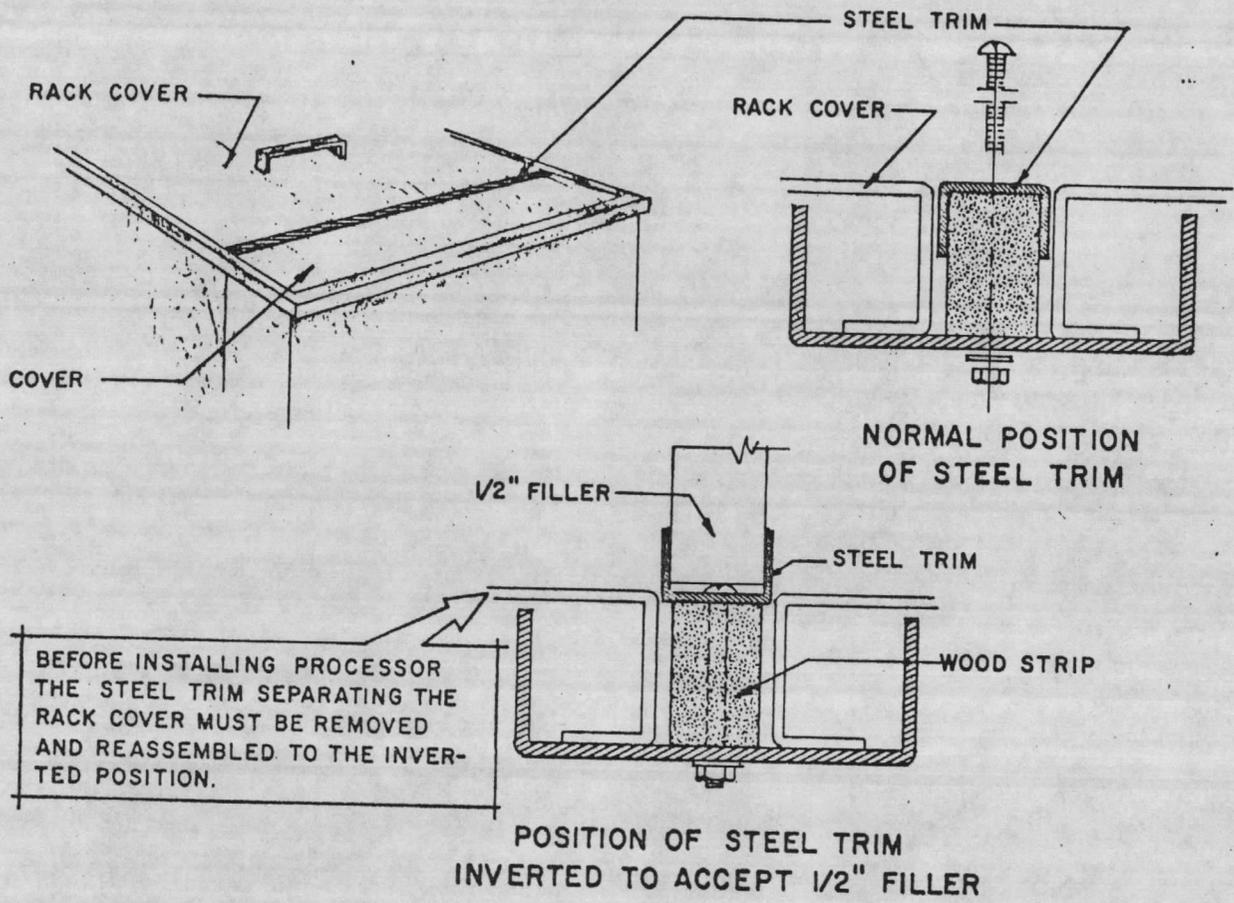
NET WEIGHT (UNCRATED) 425 LBS. APPROX. OPERATING WEIGHT WITH SOLUTIONS 625 LBS. APPROX. SHIPPING WEIGHT (CRATED) 510 LBS. APPROX.

PASSAGE

UNCRATED PROCESSOR WILL PASS THROUGH AN OPENING OF 29" x 44"



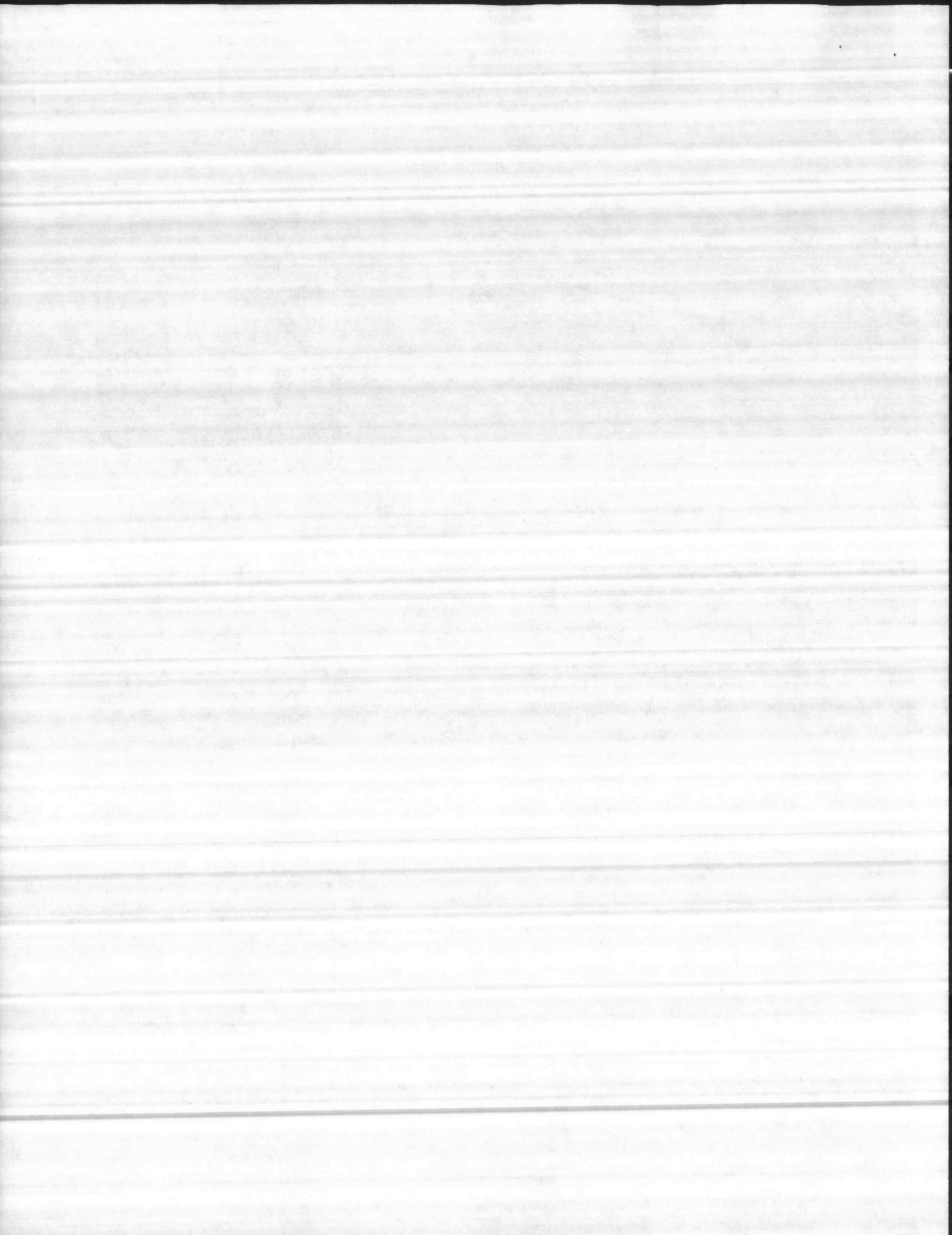
DATE:	DWG. No.
REVISED:	SCALE:

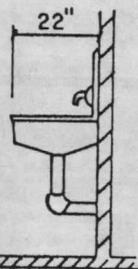
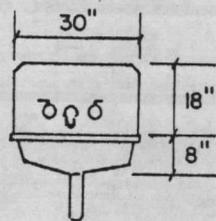
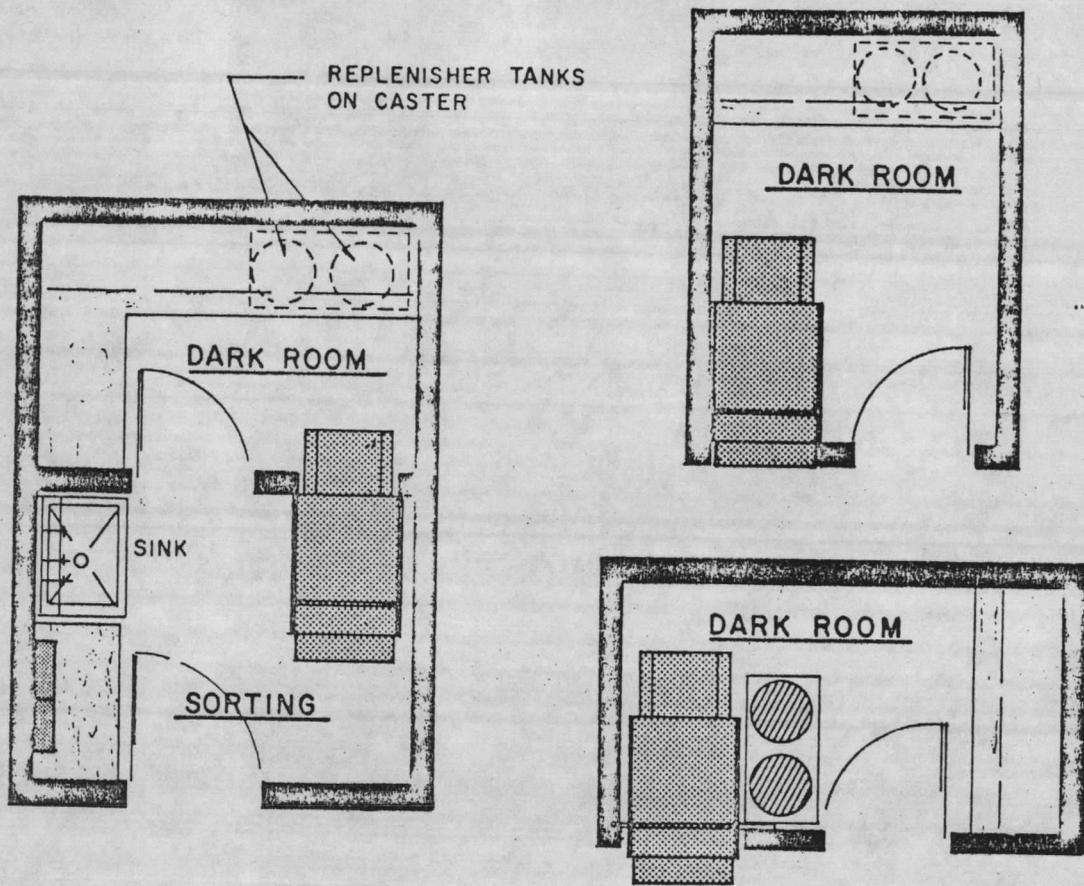


INSTALLATION TYPE "A"

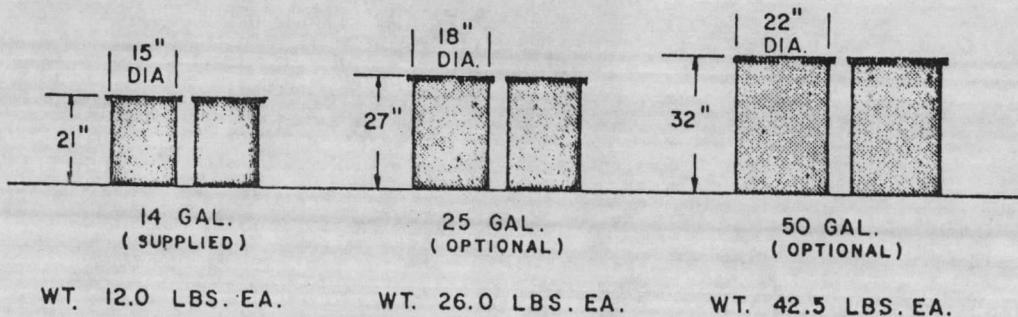
INSTALLATION TYPE "B"

FIGURE NO. 4



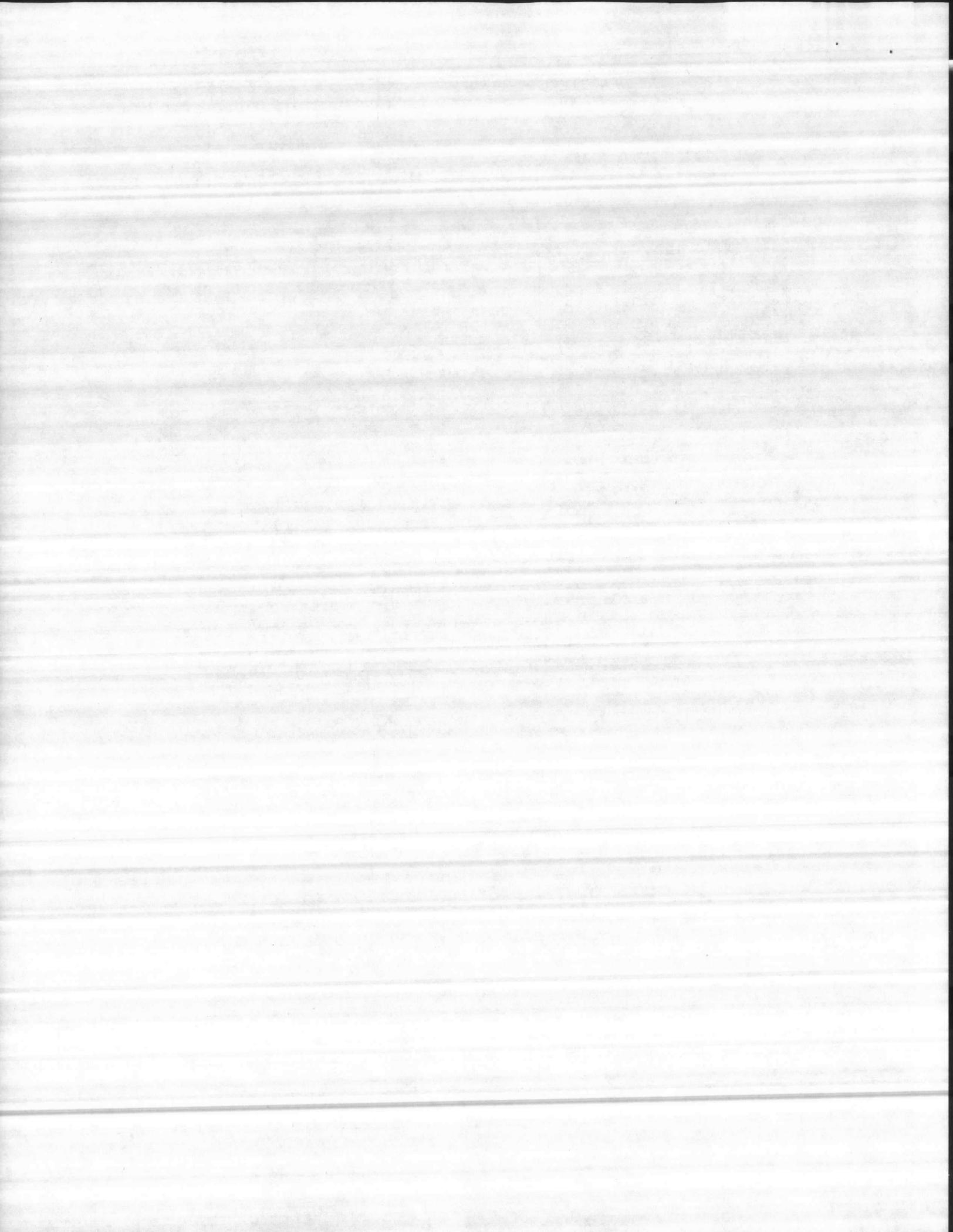


MIN. DIM. FOR
A RACK WASH SINK



REPLENISHER TANKS

FIGURE NO. 5



gallons per minute and a draining flow of 8 gallons per minute will be adequate.

Suitable accommodations, such as a large sink or wash tank with a hose connection, must be installed adjacent to, or near, the processor to facilitate recommended cleaning procedures of the roller racks and components.

A hose connection should be available near the replenisher tanks to facilitate mixing solutions.

NOTE: Do not use brass or copper in the drain lines.

3.4 Exhaust:

A ten foot long by two inch diameter flexible vinyl tube and connector is supplied with the processor. Connect this to the short length of exhaust tubing through the exhaust outlet opening in the center of the access panel. This should be connected to a vent duct to remove excessive heat and moisture from the processor area. (Figure No. 2 and 3)

3.5 Electrical Specifications:

The processor requires 220 volt single phase at 60 Hz. supplied through a 40 amp. fused disconnect switch.

Supply leads should be 2 No. 10 leads for the 220, 1 No. 10 for neutral, and 1 No. 10 for ground. On 3-wire power systems, use 3 No. 10 leads. In all cases, compliance with local, national, and/or UL standards is required.

For connections to the processor, see Figure No. 6.

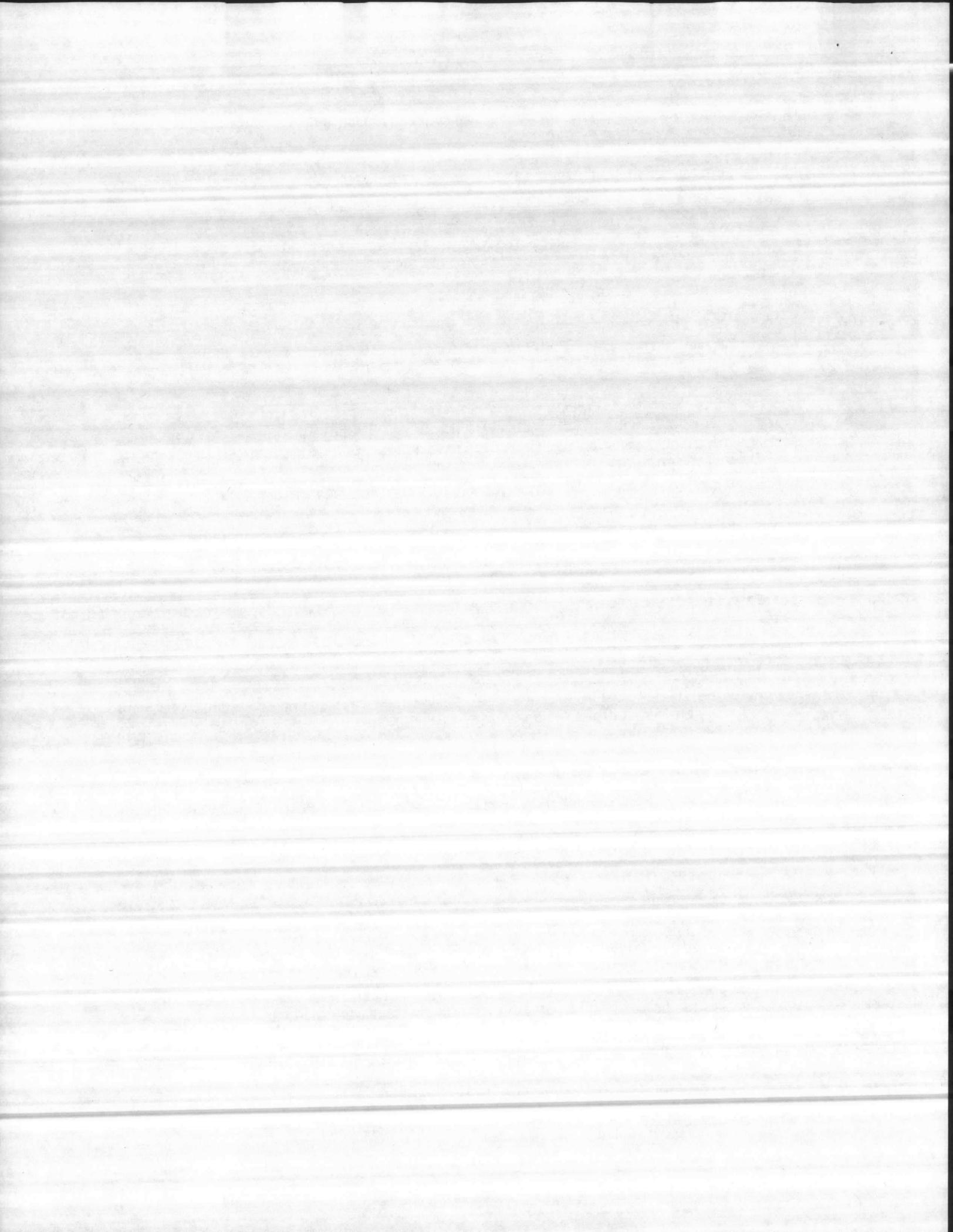
NOTE: The developer thermostat is unplugged; do not connect the plug until solutions are in the processor.

4.0 Unpacking and Handling:

Remove the strapping, open the carton top, and remove the filler material. Lift the carton from the skid. Check the contents of the case against the packing list. Before removing the cross-overs and racks, take note of the position of the various components as the processor is set up for operation before leaving the factory.

NOTE: Follow the installation instructions in Sections 5 and 6 for start up.

Do not remove the processor from the skid until you are close to the installation site. Note that the developer thermostat is unplugged. Do not connect the plug until the solutions are installed in the processor.





OFFICE CORRESPONDENCE
WINSTON-SALEM, N. C.

TO: _____ COPIES TO: _____

FROM: _____

SUBJECT: _____ DATE: _____

ITEMS X-5300, X-5301, X-5302

CATALOG CUTS & SPECIFICATIONS

FILE NO.
Lockwood Greene Engineers, Inc.	
RECEIVED	
JUL 10 1980	
REF. TO

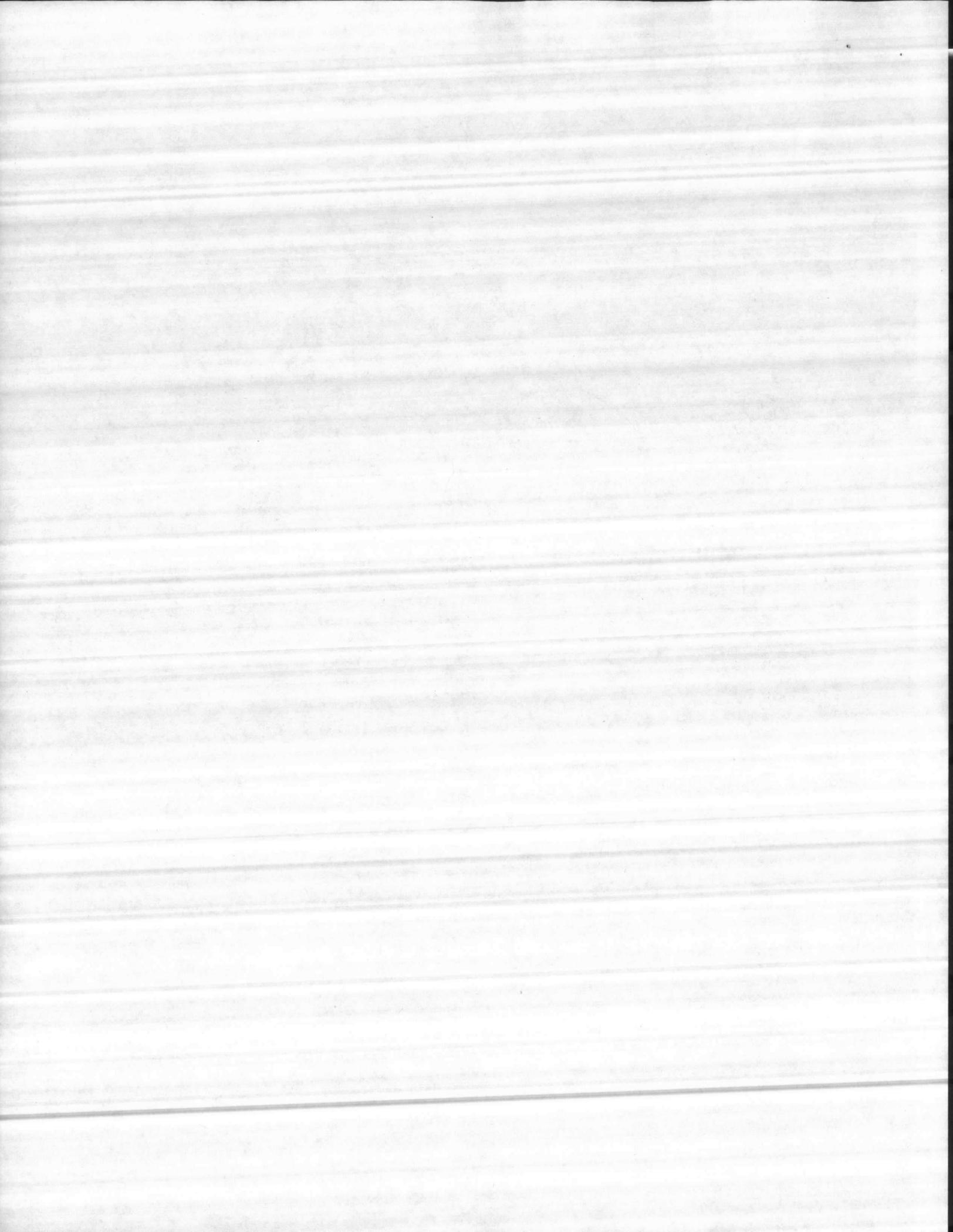
N-62470-77-C-7526

"It is hereby certified that the ~~(material)~~ (equipment) shown and marked in this submittal is that ~~approved~~/proposed to be incorporated into Contract Number _____, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is (~~approved for use~~) (submitted for Government approval).

CARDINAL CONTRACTING CO.

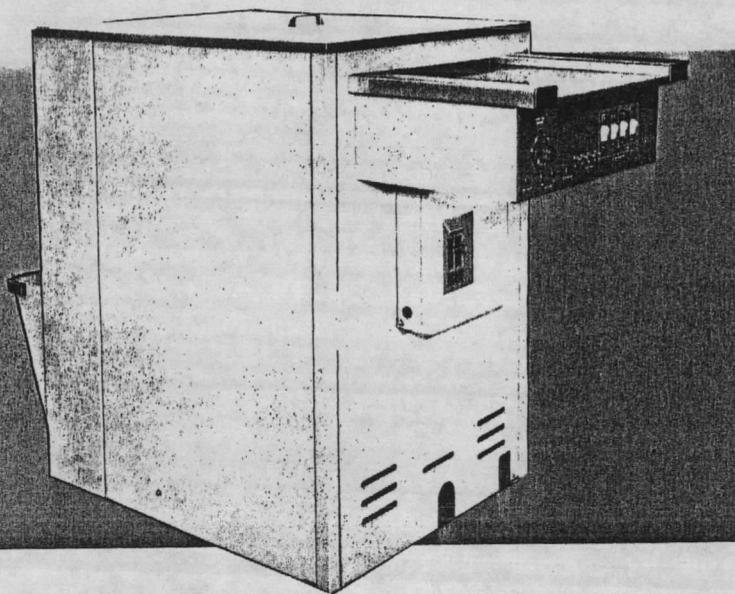
Authorized Reviewer _____ Date _____

Signature CQC Rep WAH Date 7-7-80."



XONICS HI CAP PROCESSOR

**The Rugged Processor—
For Medical or Industrial Use**



When the demands of your x-ray department are large . . . and your present processor is not up to the task, demand the Xonics Hi-Cap Automatic Film Processor.

The Hi-Cap is ruggedly built to withstand the rigors of an active radiology department. It can process up to 400 films of mixed sizes each hour for more efficient patient flow. The continuous film transport system features a simplified rack design which eliminates the need for periodic adjustments.

Virtually all medical x-ray films are easily and efficiently processed by the Hi-Cap. It will accept sheet films from 4" x 5" to 14" x 36", and roll films up to 14" wide. You can order your Hi-Cap with the standard 1.20 second, or optional 3.5 minute or 7 minute processing cycles. There is a variable speed option available.

The automatic replenishment sensor features a unique air-actuated switch which eliminates physical contact with the film. There is no possibility of the films "hanging up" or being scratched.

HI-CAP PROCESSOR FEATURES INCLUDE:

- Accurate developer and dryer temperature controls
- Simplified film path with no crossover rollers.
- Automatic replenishment system.
- Wash water recirculation pump allows low water consumption.
- High output recirculation system maintains solution uniformity and provides optimum mixing throughout the processing cycle.

- Space-saving design for installation in virtually any location, coupled with easy utility hook-up.
- Standard 25 gallon replenisher tanks included. Capacity-increasing 50 gallon tanks available.

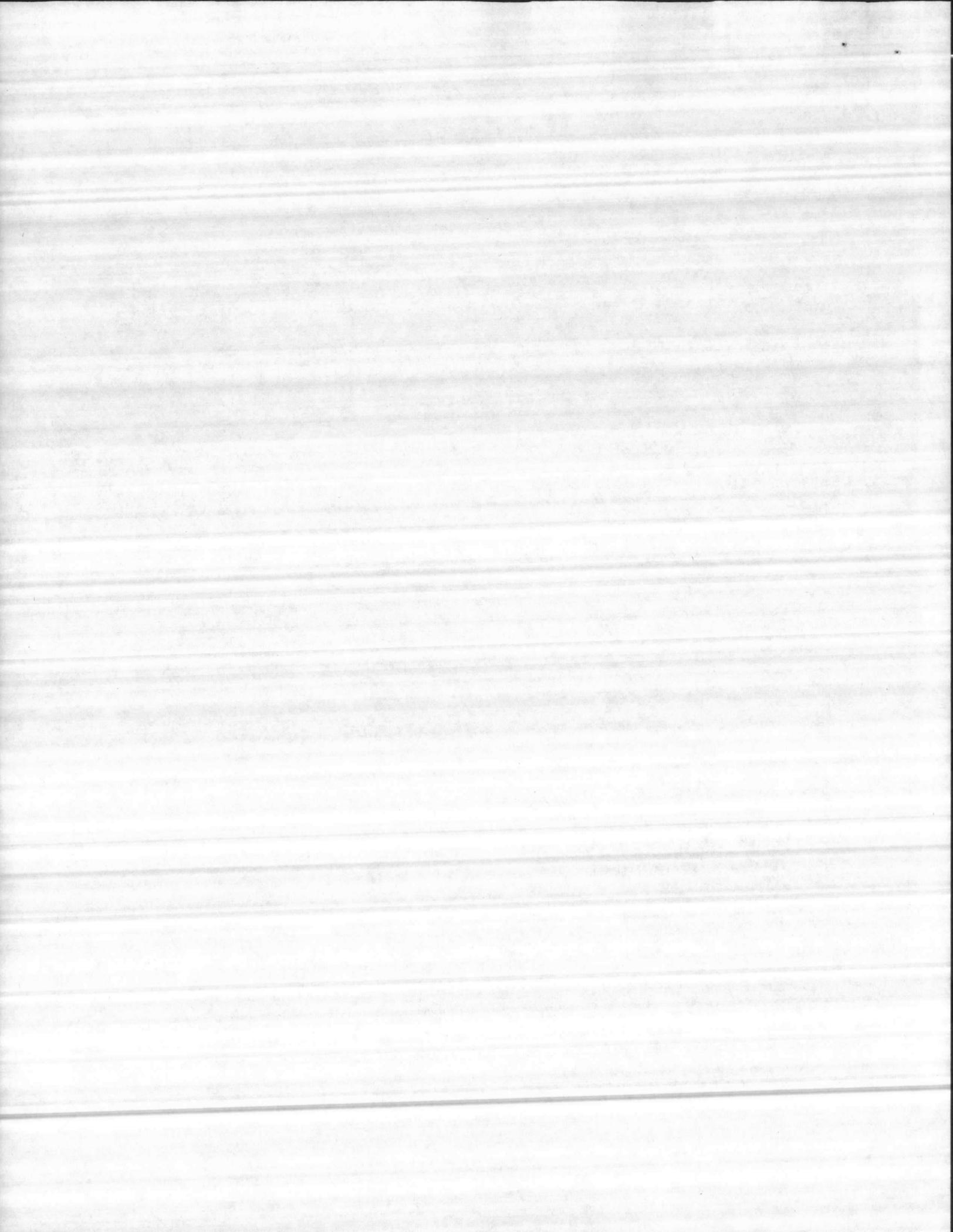
No.	Description
P7166516	Hi-Cap Processor, ⁹⁰ 1.20 second cycle
P7167016	Hi-Cap Processor, Industrial Model.

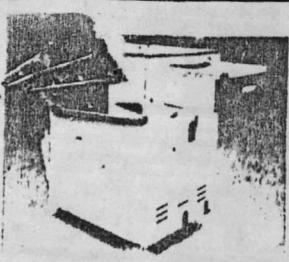
Options & Accessories

P7830516	Variable Speed
P7016616	Cine Roll Film Feed and Take Up
P7016716	Developer Filter
P7831216	Foam Roller Dryer Rack
P7830616	Rack Carrier Tray
P7830716	14-Gallon Replenishment Tanks, Pair
P7830816	25-Gallon Replenishment Tanks, Pair
P7166816	50-Gallon Replenishment Tanks, Pair

SEE 11757-715, 716 & 719 FOR
REQ'D FEATURES

See page 13 for mixing valves, water filter, and automatic standby controls.





Xonics Hi-Cap Automatic Processor

furnish water saver controls

Designed for high-output departments, at a surprisingly low cost

DESCRIPTION

When the demands of your x-ray department are large . . . and your present processor is not up to the task, demand the Xonics Hi-Cap.

Quality and Reliability All the Time

The Xonics Hi-Cap is ruggedly built to withstand the rigors of an active radiology department. And, it's designed to give you consistent radiographs time after time with a minimum of operator attention. And, up to 400 films of mixed sizes can be processed each hour for more efficient patient flow.

Attractive Exterior Resists Day-to-day Abuse

The combination of stainless steel and durable vinyl on the exterior surfaces resists corrosion, and virtually eliminates scuffing and potential clean-up problems. The Hi-Cap maintains its good looks as well as its superior performance for a long, productive time.

Designed for Simplicity of Operation

Convenience was one of the first things that was designed into the Hi-Cap—and it shows. For example, the controls, including the dryer temperature and operational switches, are located on the input feed tray so they're always right where you need them. Dryer and developer temperature gauges are conveniently mounted near the exit tray so these important variables can be continuously monitored from outside the darkroom.

Moisture-free Electrical Environment

Critical electrical components of the Hi-Cap are located in an isolated compartment for easy serviceability, and to protect them from potentially corrosive chemicals. This helps to increase operational reliability by eliminating many of the causes of malfunction.

Automatic Replenishment Sensor

A unique air-actuated switch senses the entrance of film into the processor, automatically signalling the replenishment system to maintain chemical balance and activity. This special switch adds to the reliability of the Hi-Cap by minimizing moving electrical components. You benefit, too, because the air switch does not need physical contact with the film to operate. There's no possibility of the films "hanging up" or being scratched.

Continuous Transport System

The transport system features heavy-duty geared transport rollers to provide dependable film transport. Simplified rack design eliminates the need for periodic adjustments. And, the rollers are constructed of a tough, durable phenolic material and special rubber compounds to minimize film artifacts.

Processes any Standard Film

Virtually all medical x-ray films are easily and efficiently processed by the Xonics Hi-Cap automatic processor. It will accept sheet films from 4" x 5" to 14" x 36", and roll films up to 14" wide. And, depending on your film usage requirements and types, you can order your Hi-Cap with the standard 120 second, or optional 3.5 minute or 7 minute processing cycles. There's a variable speed option available, too.

Low-consumption water wash uses only 1½ gallons of tepid water per minute.

Heavy-duty gear drive transport for trouble-free constant-speed processing of up to 400 mixed film sizes per hour.

High output recirculation system maintains solution uniformity, and provides optimum mixing throughout the processing cycle.

Space-saving design for installation in virtually any location, coupled with easy utility hook-up.

Standard 25 gallon replenisher tanks included. Capacity-increasing 50 gallon tanks available.

Installation Accessories

Choice of high-capacity pressure compensating or medium-capacity thermostatically controlled mixing valves to precisely control the water temperature.

Filter system with replaceable filter element to assure clean water for the processor and mixing valve.

SPECIFICATIONS

Tank Capacities:

Developer: 10 gal.

Fixer: 6.5 gal.

Wash: 6 gal.

Processing Cycle: ⁹⁰140 second

standard: 3.5 minute, 7.0 minute, variable speed options.

Capacity: 400 sheets (mixed film sizes) or 220 sheets (14" x 17") per hour at ⁹⁰140 second cycle.

Sizes and Type of Film: Medical x-ray film from 4" x 5" through 14" x 36". Roll film up to 14" wide.

Temperature Controls:

Developer: Thermostatically controlled heating element with tempering coil.

Drier: Thermostatically controlled heating element.

IMPORTANT HI-CAP PROCESSOR FEATURES INCLUDE:

Automated control of processing variables, including developer and dryer temperatures.

Simplified film path with no crossover rollers eliminates many of the causes of film jams and loss.

Automatic replenishment system keeps processing chemistry at peak balance for radiographic consistency.

90

FURNISH

• replenisher status indicator

• thermostatic valve WW-P-541/7 type T

(2)





OFFICE CORRESPONDENCE
WINSTON-SALEM, N. C.

TO:

COPIES TO:

FROM:

SUBJECT:

DATE:

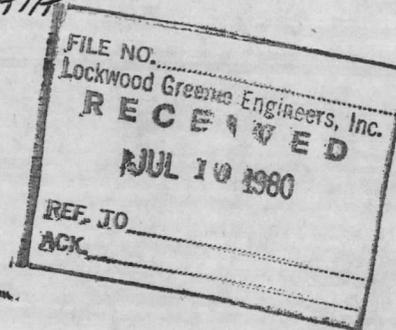
1574

ITEM X-5300, X-5301, X-5302

ARCHITECTURAL PLANNING DATA

PHYSICAL PROPERTIES

SEE "INSTALLATION" FOR
CONTENTS



N-62470-77-C-7526

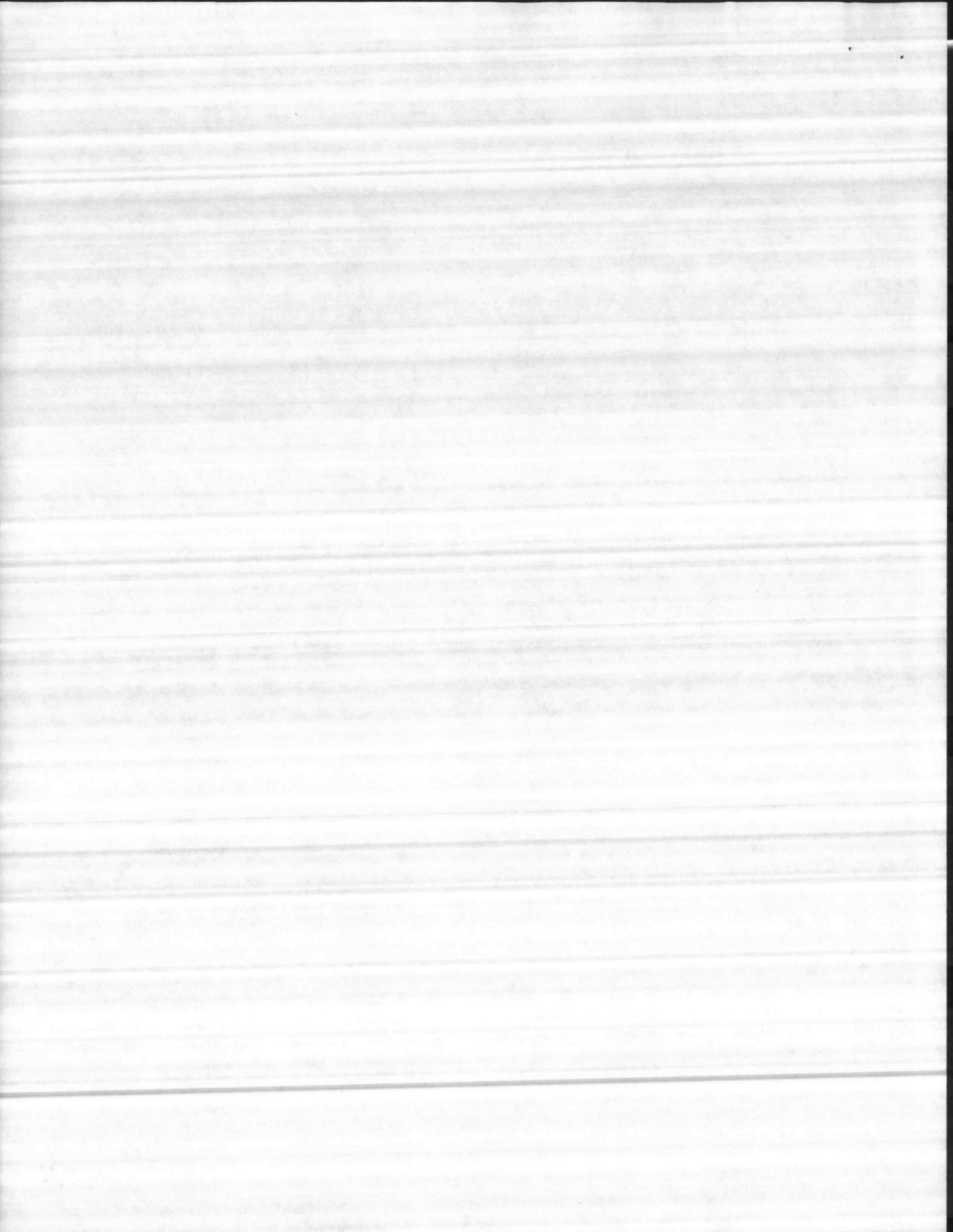
"It is hereby certified that the ~~(material)~~ (equipment) shown and marked in this submittal is that ~~approved/proposed~~ to be incorporated into Contract Number _____, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is ~~(approved for use)~~ (submitted for Government approval).

CARDINAL CONTRACTING CO.

Authorized Reviewer _____ Date _____

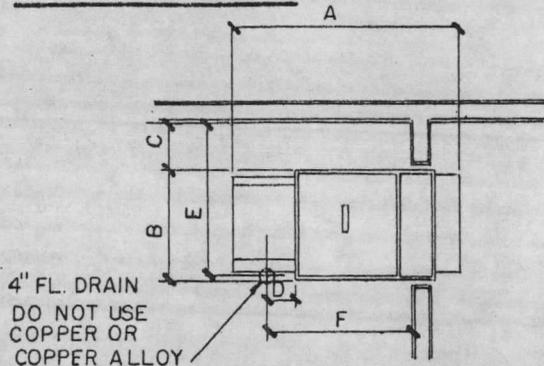
Signature CQC Rep WH Date 7-7-80."

4/10
1574



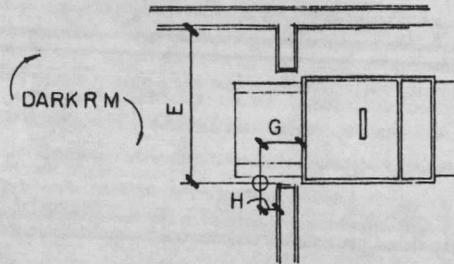
MEDICAL & HIGH CAP

MEDICAL & HIGH CAP



4" FL. DRAIN
DO NOT USE
COPPER OR
COPPER ALLOY

PROCESSOR IN DARKROOM W/
RECEIVING TRAY THRU WALL



PROCESSOR OUTSIDE DARKROOM
W/ FEED TRAY IN DARKROOM

DIMENSIONS

- A 57 1/4"
- B 28"
- C 12"
- D 6"
- E 39"
- F 36"
- G 10"
- H 4"

NET. WT. 425 LB:
OPERATING WT. 625 LB:

ELECTRICAL REQUIREMENTS

220 VAC, 3 OR 4 WIRE SINGLE PHASE, 60 HZ AC, 40 AMP
MAX THROUGH FUSED DISCONNECT SWITCH

PLUMBING REQUIREMENTS

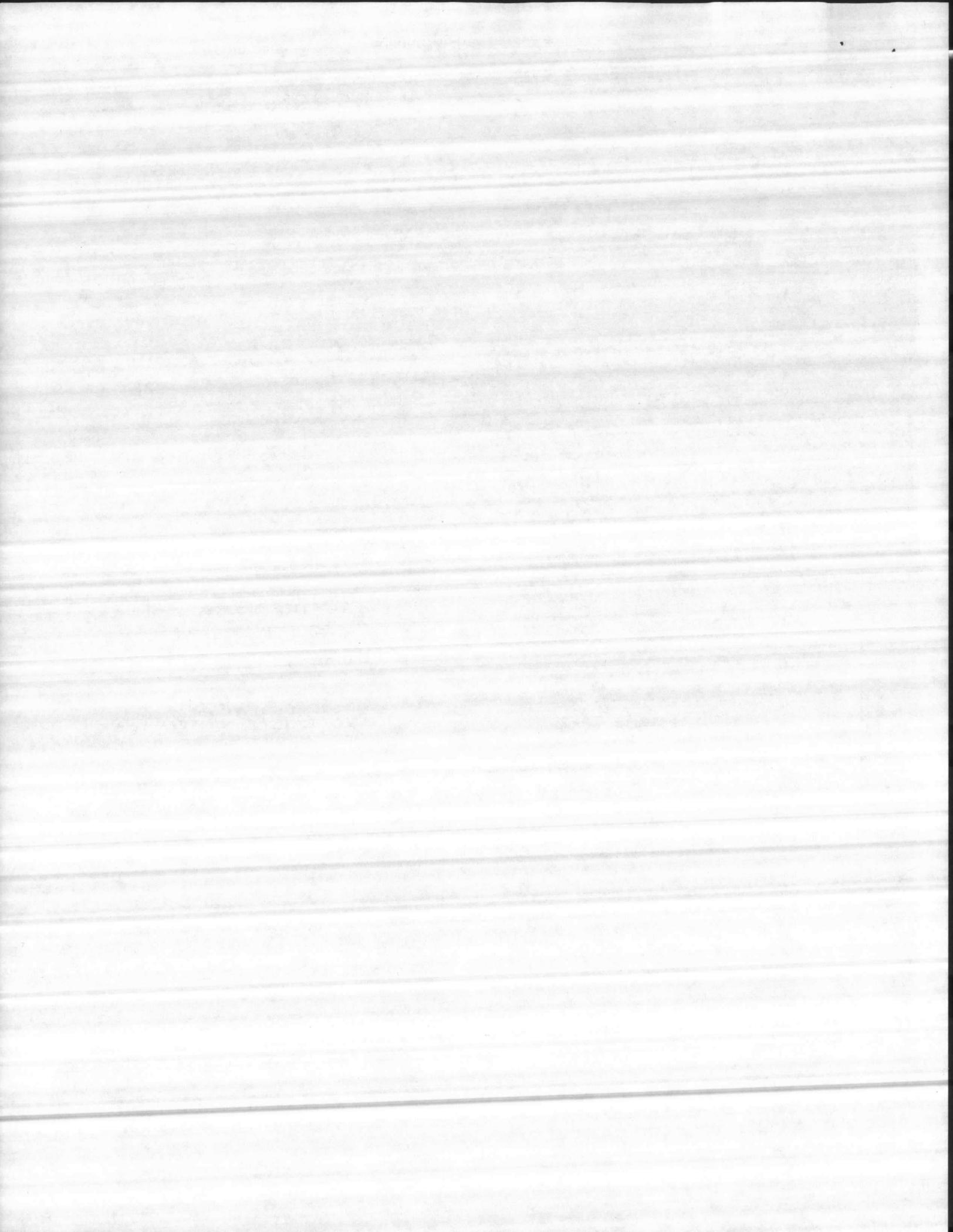
WATER: 1/2 GALS PER. MINUTE (TEPID)

FILTER: TO PROTECT THE PROCESSOR, A
WATER FILTER IS RECOMMENDED FOR INCOMING WATER

VENTING REQUIREMENTS

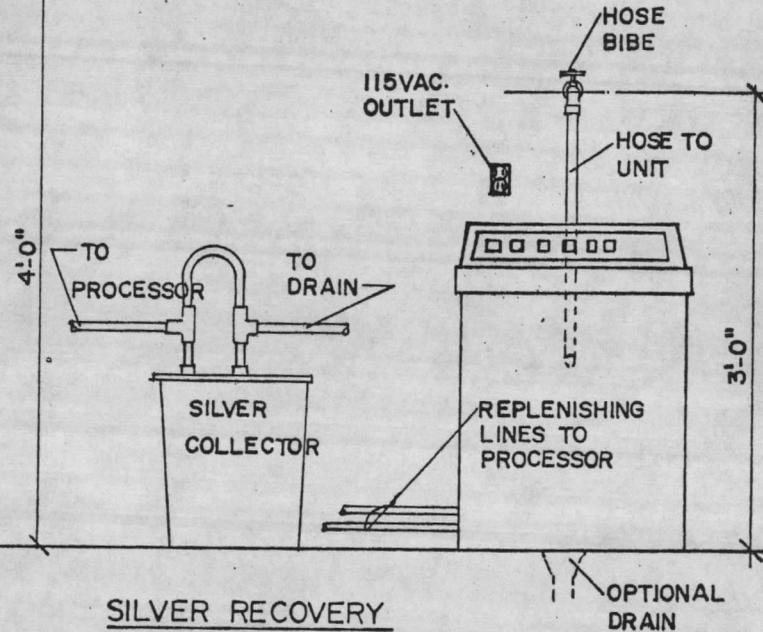
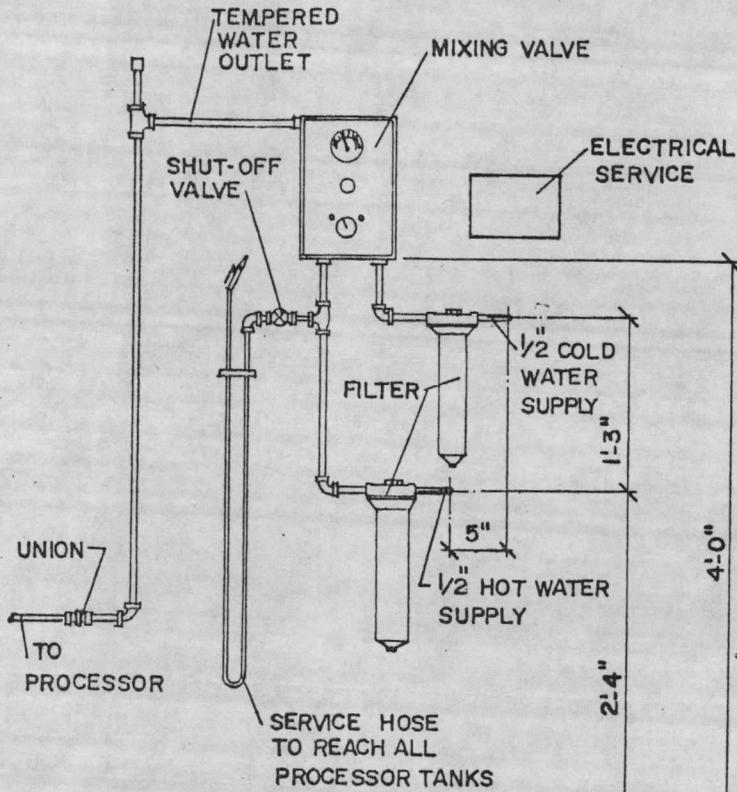
100 CFM MAX. AT 150° F. MAX. 10'-0" LENGTH FLEXIBLE
TUBING SUPPLIED WITH PROCESSOR FOR AIR EXHAUST.
VENT INTO WALL.





DARKROOM EQUIPMENT DETAILS

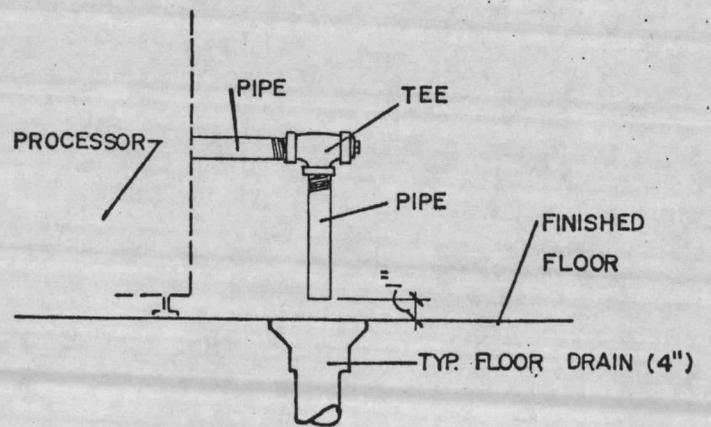
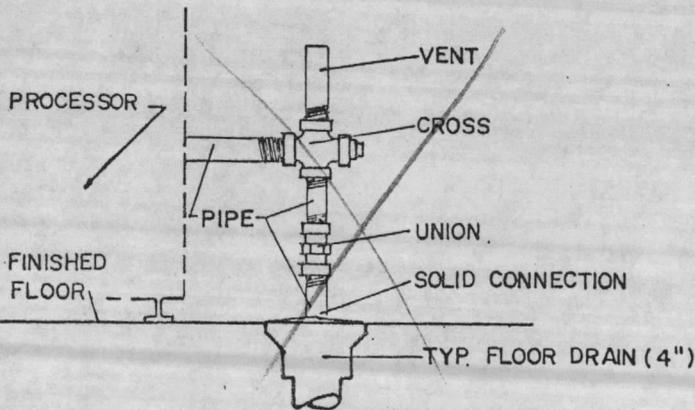
NOTE:
SEE PROCESSOR DETAIL SHEET FOR
EXACT LOCATION OF CONNECTIONS
ON PROCESSOR.



MIXING VALVE DETAIL

SILVER RECOVERY SYSTEM

REDI-CHEM MIXER



SOLID CONNECTION TO FLOOR DRAIN

1" AIR GAP CONNECTION TO FLOOR DRAIN

NOTE
DO NOT USE COPPER OR COPPER ALLOY



DRAWING AND SPECIFICATION TRANSMITTAL

LOCKWOOD GREENE ENGINEERS, INC.

SPARTANBURG, SOUTH CAROLINA 29304
P.O. BOX 491 (803)582-2351

Sheet 11757
611-1
617-1
FAY
BOE
BOE
BOE

file
10/2

TO Naval Facilities
Engrg. Command - Bldg. N26
Atlantic Division
Norfolk, Va. 23511

DATE October 30, 1980
JOB NO. 77239.16
JOB NAME N.R.M.C.

TRANSMITTAL NO. 2378
SHEET 1 OF 1
ORDER NO.

ATTN: Mr. John Grubbs - Code 05

on
CP
CP
CS
DA
PH

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

QUAN.	DOCUMENT NO.	REV. NO.	DESCRIPTION	VENDOR	CODE
1	Letter		Dated 9/12/80	Acker Corp.	A
1	X-3150		Picker Data	" "	AN
1	X-1100		" "	" "	D
1	X-1600		" "	" "	AN
1	X-3800		" "	" "	R
1	X-3830		" "	" "	AN
1	X-3900		" "	" "	AN
1	X-3960		" "	" "	R
1	X-4000		" "	" "	D
1	X-7700		" "	" "	AN
1	X-7951		" "	" "	AN
1	X-7952		" "	" "	AN
1	X-4010		" "	" "	AN
1	X-3930		" "	" "	AN



CODE FOR

LOCKWOOD GREENE DOCUMENTS

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

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

VENDOR DOCUMENTS

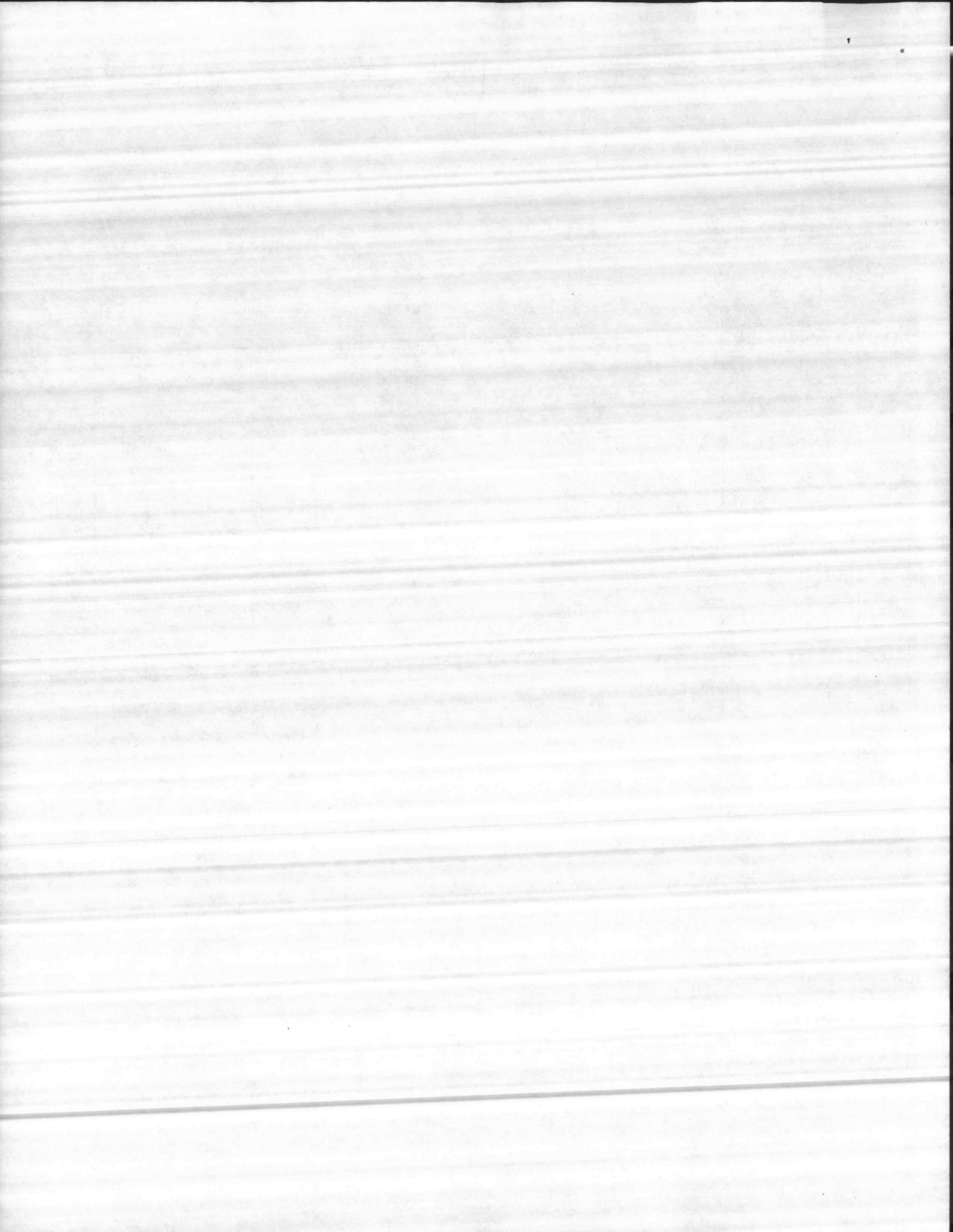
- K - NO CORRECTIONS NOTED
- L - MAKE CORRECTIONS NOTED
- M - REVISE AND RESUBMIT
- N - REJECTED (SEE REMARKS)

COPIES TO		QUAN	TRANS ONLY	CODE	COPIES TO		QUAN	TRANS ONLY	CODE
ROICC		2							
Cardinal Contracting		3							

REMARKS

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

RECEIVED BY _____ DATE _____ TRANSMITTED BY Richard McKnight



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev 6/76)

SECTION 11757

CONTRACT NO. N-62470-77-C-7526

TRANSMITTAL NO

617-1

DATE

10-1-80

FROM CONTRACTOR

Cardinal Contracting Co.
Lockwood Greene, Engrs.

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

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

- A-Approved
- D-Disapproved
- AN-Approved as noted
- RA-Receipt acknowledged.
- C-Comments
- 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
615-1 thru 617-1	3.3	Picker Corp. Letter 9-12-80	7		
611-1 thru 614-1	3.1	Picker Data - X-3150 11757-7.1	7		
"	"	" " X-1100 11757-7.2	7		
"		X-1600 11757-7.3	7		
"		X-3800 11757-7.4	7	1 Rec - Expt Prof	
"		X-3830 11757-7.5	7	1 Surf - Expt Prof	

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

10-1-80

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



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

DATE

SIGNATURE



611-1 thru

CONTRACTOR'S SUBMITTAL TRANSMITTAL
SECTION 11757

5ND LANTDIV 4-4355/3 (Rev. 6/76)

CONTRACT NO. N-62470-77-C-7526	TRANSMITTAL NO. 617-1	DATE 10-1-80
-----------------------------------	--------------------------	-----------------

FROM CONTRACTOR
Cardinal Contracting Co.
TO
LeeKwood Greene, Engrs.

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

CONTRACTOR USE ONLY

REVIEWER USE ONLY

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- C-Comments
- 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
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		" " X-3930	7		
		" " X-3960	7		
		X-4000	7		
		X-4010	7		
		X-7700	7		
		X-7951	7		
		X-7952	7		

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

10-1-80

CONTRACTOR REPRESENTATIVE (Signature)

Wm. J. Haymaker

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

- 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.

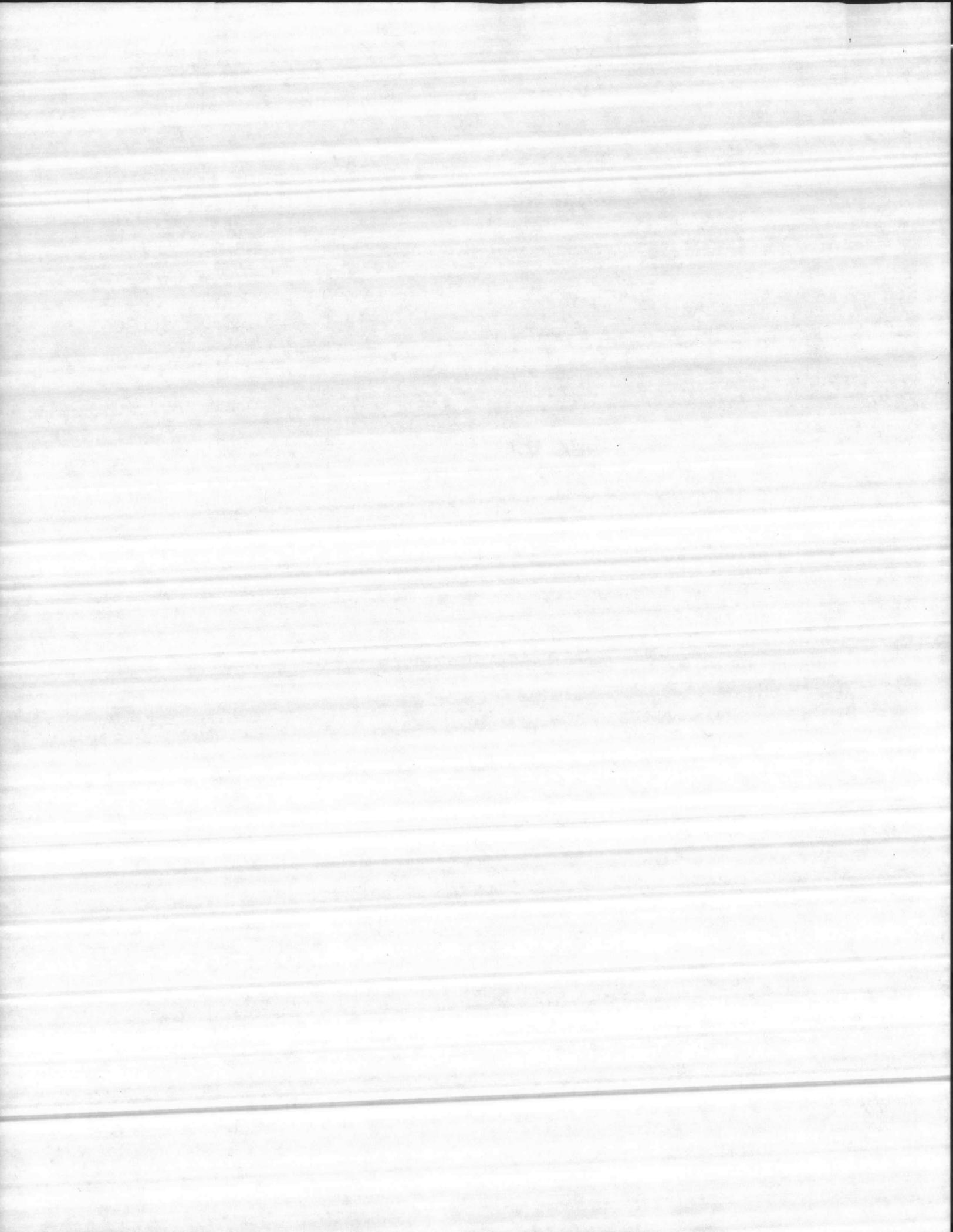
REVIEWER'S COMMENTS



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

DATE

SIGNATURE



2 Sheet #1 of Two 611-1 thru

CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

SECTION 11757

CONTRACT NO. N-62470-77-C-7526

TRANSMITTAL NO. 617-1

DATE 10-1-80

FROM CONTRACTOR
Cardinal Contracting 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

OICC Approval

Deviation/Substitution For OICC Approval

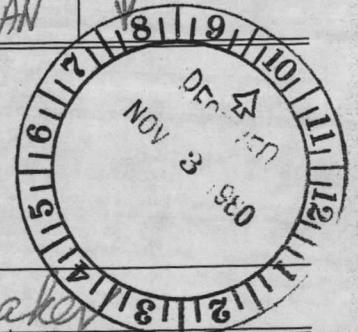
REVIEWER USE ONLY

**ACTION CODES

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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
615-1 thru 617-1	3.3	Picker Corp. Letter 9-12-80	7	A	SM 10/20/80
611-1 thru 614-1	3.1	Picker Data - X-3150	7	AN	
1A		" " X-1100	7	D	
M		X-1600	7	AN	
11		X-3800	7	R	
11		X-3830	7	AN	

CONTRACTOR'S COMMENTS



COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

10-1-80

CONTRACTOR REPRESENTATIVE (Signature)

Wm. J. Haymaker

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

TO

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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

- o GENERAL NOTE: SUBMIT LIST INDICATING LOCATION OF ALL ITEMS PROPOSED
- o SEE SUBMITTAL FOR COMMENTS

2378

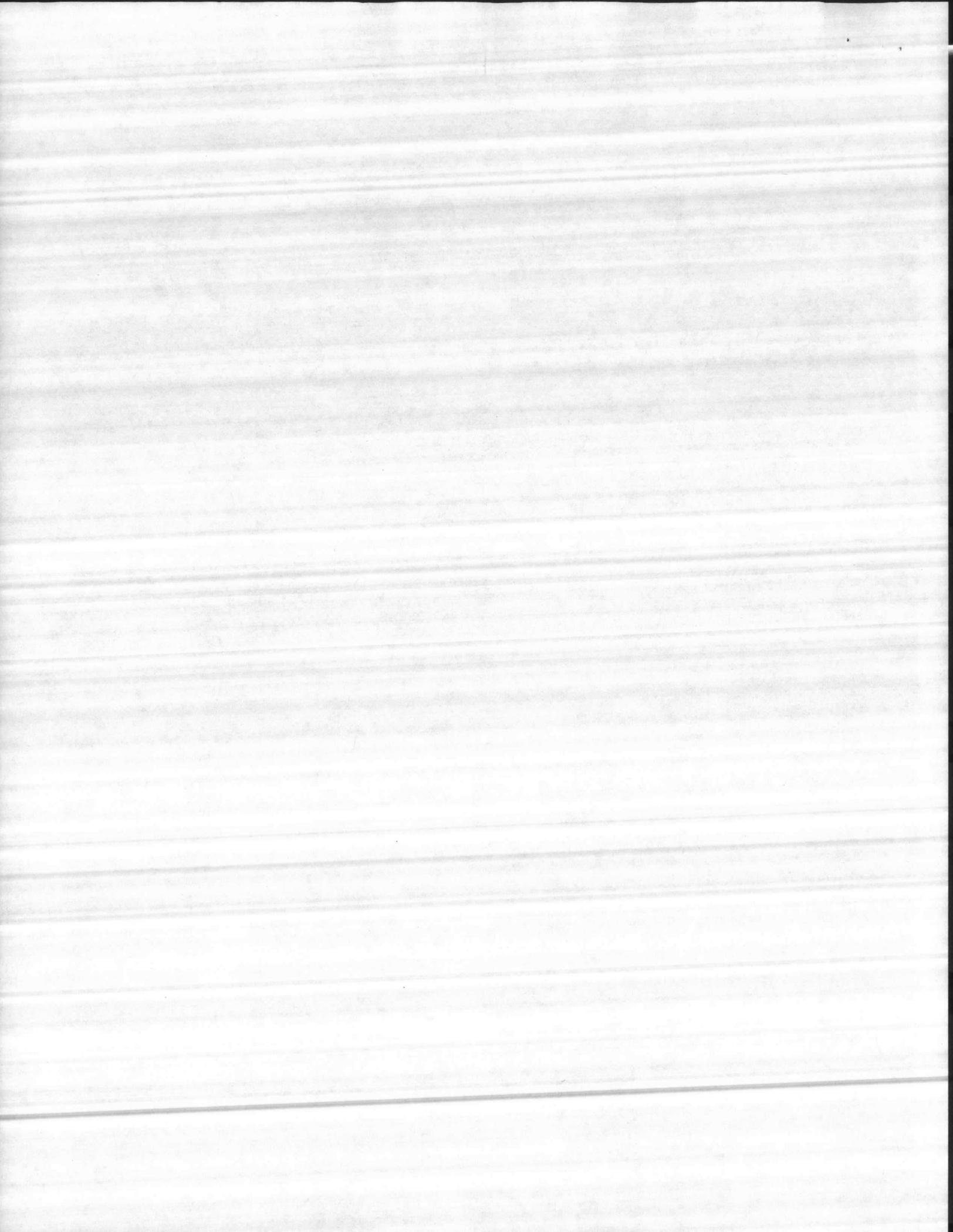
COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

DATE

10/20/80

SIGNATURE

[Signature]



X-7952
X-7951

	Symbol	14 gal	30 gal	55 gal
TANK DIAMETER	"A"	16 3/4"	22"	24"
TANK HEIGHT	"B"	22 1/2"	27 3/4"	35 3/4"

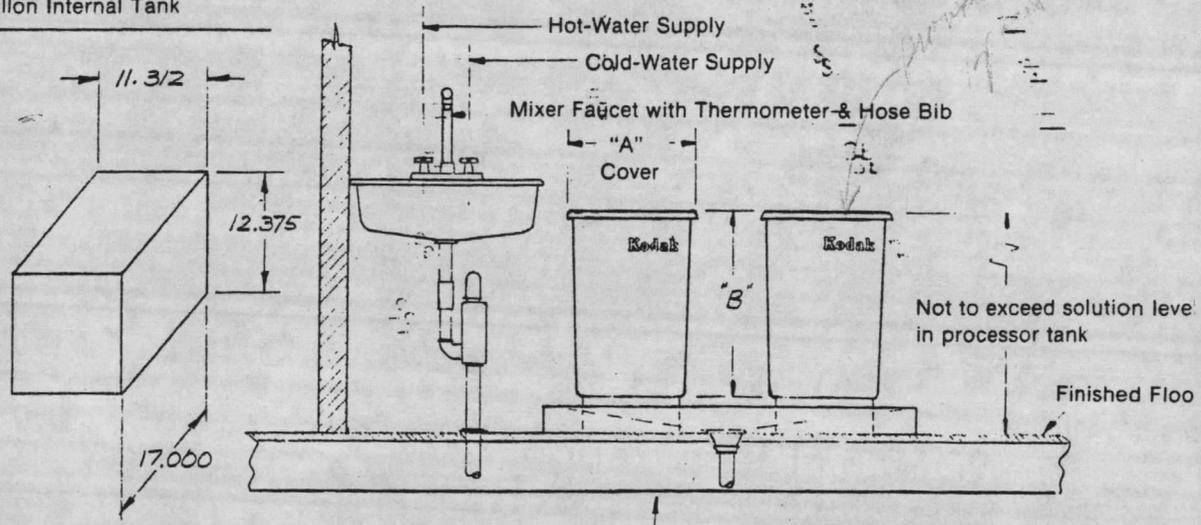
N-62470-77-C-7528

"It is hereby certified that the (material) (equipment) shown and marked in this submittal is that approved/proposed to be incorporated into Contract P... is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is (approved for use) (submitted for Government approval).

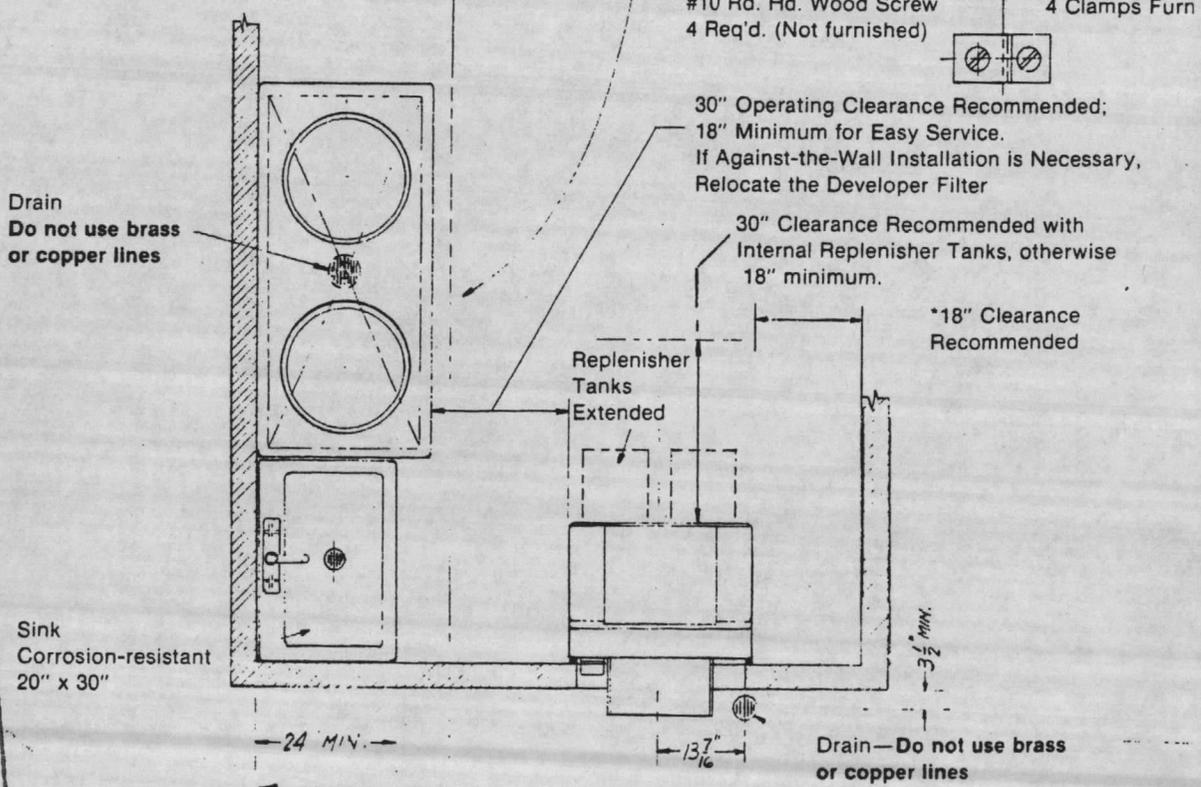
CARDINAL CHEMICALS CO.

Authorized Reviewer _____ Date _____
 Signature CQC Rep *CWH* Date *10-1-80*

8-gallon Internal Tank



This Section Optional



Plan View of Standard Installation
 Alternate Installation May Be Opposite Hand

FILE NO. _____
 Lockwood Greene Engineers, Inc.
 R E G I S T E R E D
 OCT 6 1980
 REF. TO _____
 ACK _____

Against-the-Wall Installation Permissible if All Service Can Be Readily Disconnected or an Access Panel Is Provided.

EQUIPMENT SALE

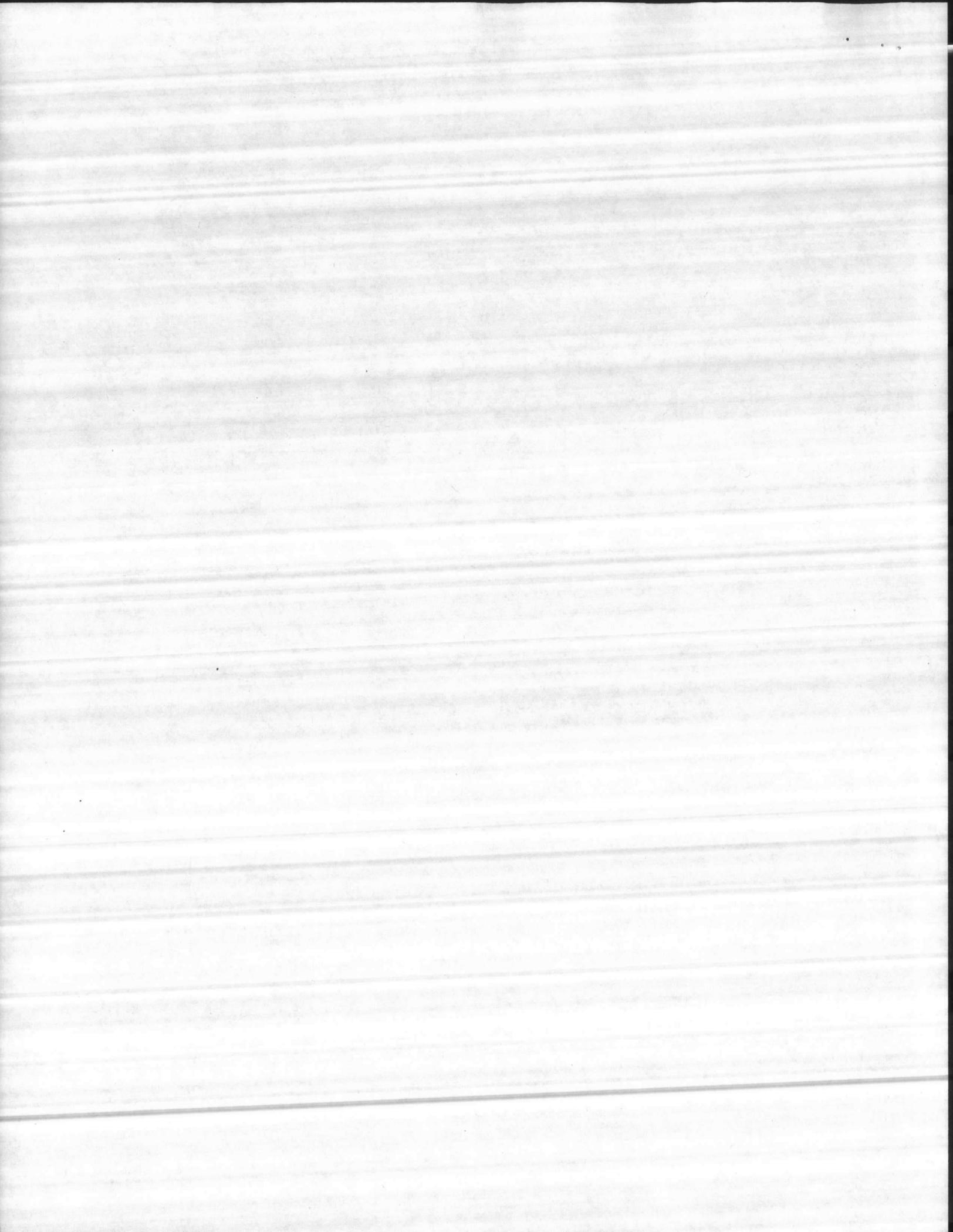
Radiography M

EASTMAN KODAK • R

KODAK and X-OM.

668081
 203-7-78-G

~~2376~~
 2378



PICKER CORPORATION

NORTH AMERICAN SALES & SERVICE

1722 TOAL STREET
P. O. BOX 26368
CHARLOTTE, NORTH CAROLINA 28213

September 12, 1980

Cardinal Construction Company
Post Office Box 8408
Camp LeJeune, North Carolina 28542

Attention: Mr. Bill Haymaker

Dear Mr. Haymaker:

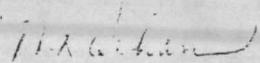
Enclosed you will find the following per your request:

1. Nine(9) copies of specifications and installation requirements for items we are to supply (Section 11757, Items 3.1 and 3.2)
2. Per item 3.3 this is to certify that the items we will supply meet the specifications
3. The maximum ballast leakage for each section of each illuminator does not exceed 25 micro amps. See literature on illuminators(Section 11757, Items 3.3.1).
4. The illuminators quoted meet federal specifications GG-I-00446D(Section 11757, Item 1.1).

If you have any questions or need additional information, please contact me.

Sincerely,

PICKER CORPORATION


Michael R. Vehorn
District Manager

MRV/lj

2378

PICKER



CONTRACTOR'S SUBMITTAL TRANSMITTAL
 5ND LANTDIV 4-4355/3 (Rev. 6/78) **SECTION 11757**

611-2 thru

CONTRACT NO. **N-82470-77-8-7320** TRANSMITTAL NO. **617-2** DATE **12-17-80**

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

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

<p align="center">CONTRACTOR USE ONLY</p> <p align="center">*List only one specification division per form.</p> <p align="center">List only one of the following categories on each transmittal form, and indicate which is being submitted</p> <p><input type="checkbox"/> Contractor Approved <input checked="" type="checkbox"/> OICC Approval <input type="checkbox"/> Deviation/Substitution For OICC Approval</p>	<p align="center">REVIEWER USE ONLY</p> <p align="center">**ACTION CODES</p> <p>A-Approved D-Disapproved AN-Approved as noted RA-Receipt acknowledged C-Comments R-Resubmit</p>
--	---

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
611-2 thru 617-2	7.12	M-5581, Sink, Print, Photograph	7	AN	G/S 1/13/81
	7.13	M-5582, Washer, Print, Auto	7	R	
	7.14	M-5579, Processor, Film, Color	7	AN	
	7.21	M-5580, Processor, Film, B&W	7	AN	
	7.22	M-5583, Water Chiller, Print, Sink	7	AN	

CONTRACTOR'S COMMENTS

*This Equipment is the current offerings of the Specified Items.
 No Extra Cost Involved.*

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC **12-17-80**

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.

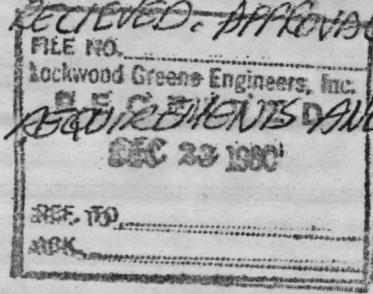
REVIEWER'S COMMENTS

1. CERTIFICATES (ITEM 615 & 616) HAVE NOT BEEN RECEIVED. APPROVAL SUBJECT TO SUBMITTAL OF ACCEPTABLE CERTIFICATES.

2. M-5582 IS A DEVIATION FROM THE CONTRACT REQUIREMENTS AND SHOULD BE SUBMITTED ACCORDINGLY.

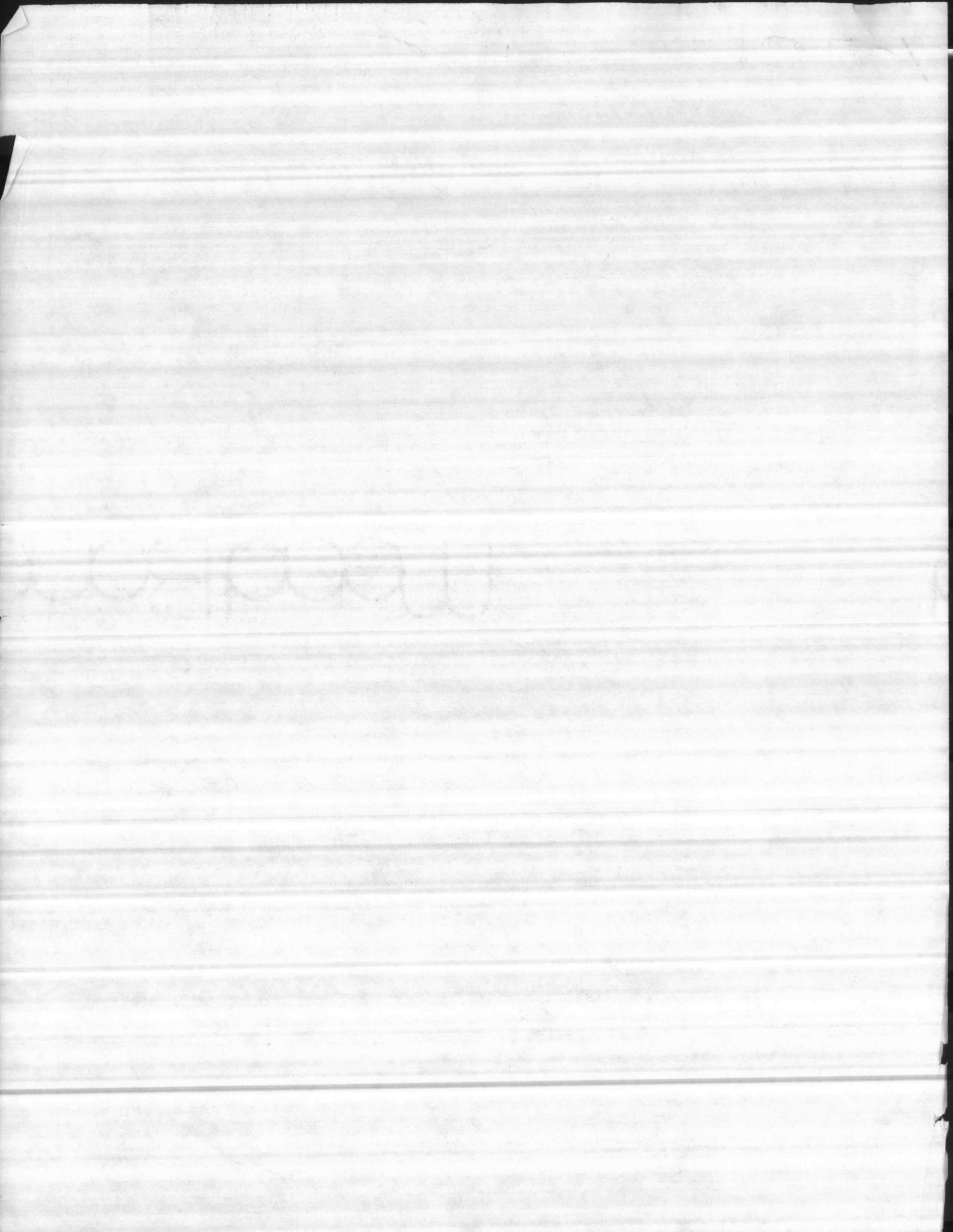
3. SEE QUOTATION SHEET FOR COMMENTS

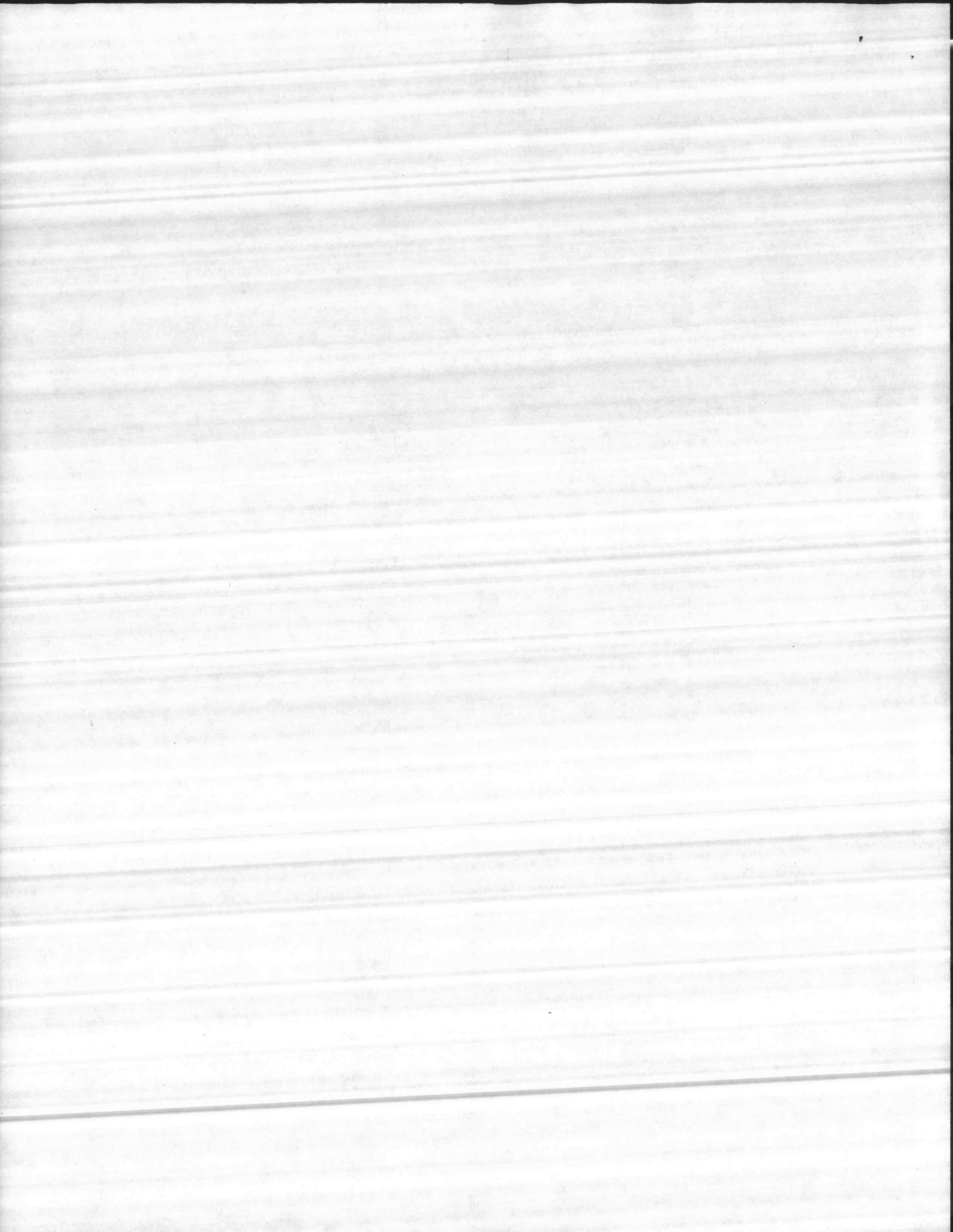
4198



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

DATE **1/13/81** SIGNATURE *[Signature]*

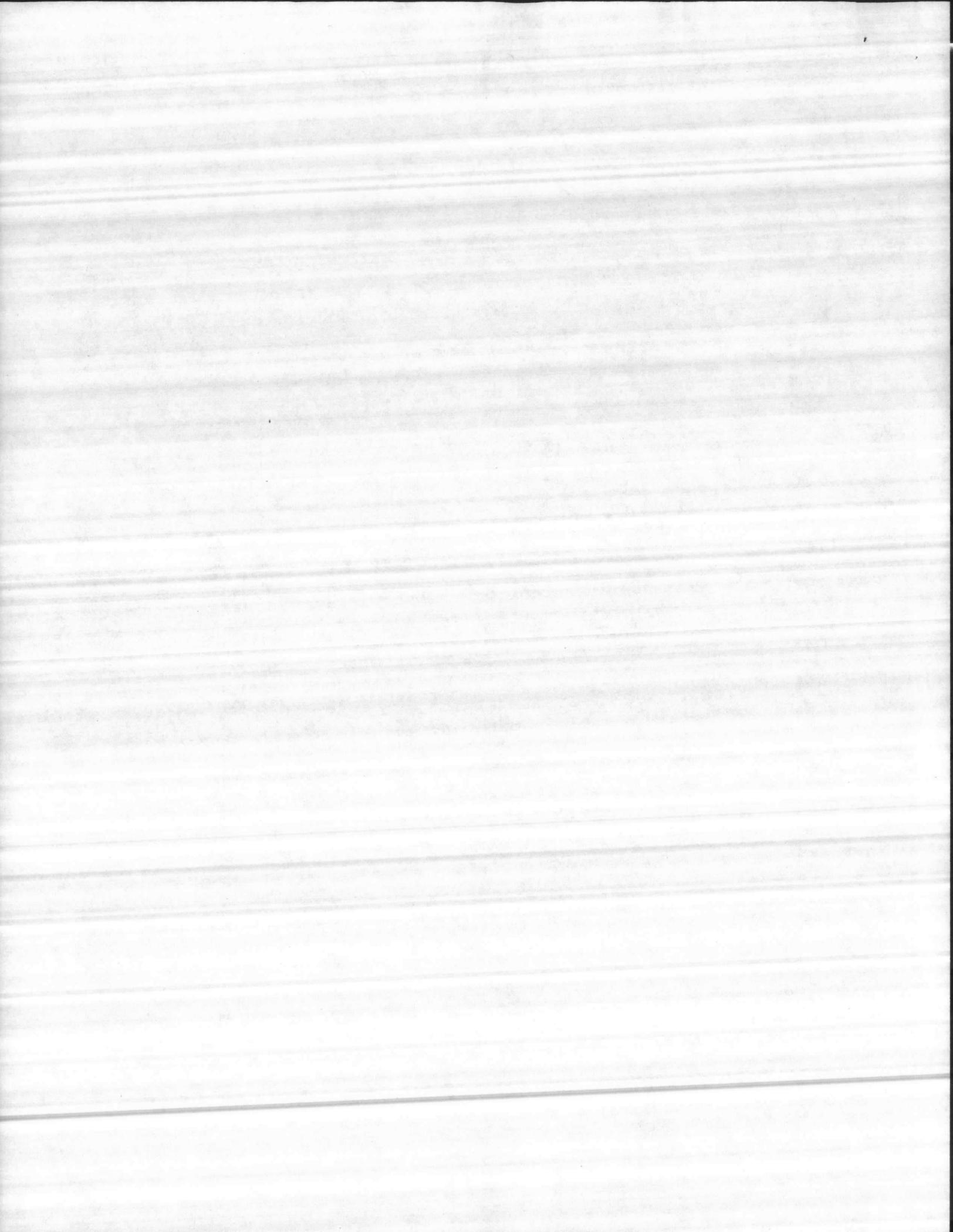






ITEM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENSION
7.12.3		Calumet does not install equipment. Total cost of 7.12 item #M5581 is		
7.13		Item M-5582, Washer, print, automatic:		
7.13.1	150	Automatic print washer; capacity of 125 prints, 8x10 inch, at one time; baked enamel steel stand. Calumet Model 516, #CP5016		
7.13.2		<p>Includes the following:</p> <p>(a) Type 316 Stainless Steel 24x30 interior</p> <p>(b) N/A</p> <p>(c) N/A <i>stainless steel tank included</i></p> <p>(d) A wave action and hydraulic jet from the bottom shuffles the prints continuously, lifts prints off the bottom and flows water between the prints. Small air bubbles introduced into the wash water act as a lubricant to prevent print sticking. Prints are always in motion and separated. The combined air, wave, and hydraulic jet action washed prints in 25 to 45 minutes. The Calumet Automatic Print Washer: uses less water, approximately 2 gallons per minute as compared to equal capacity drum washers using 5 or more gallons per minute.</p> <p>(e) Automatic cycling—a timer with 0-60 minute adjustments turns on the water, starts rocking motion and hydraulic action. Plumbed back-splash with thermostatic mixing valve.</p>		<p>POLYETHYLENE TANK REQ'D</p>

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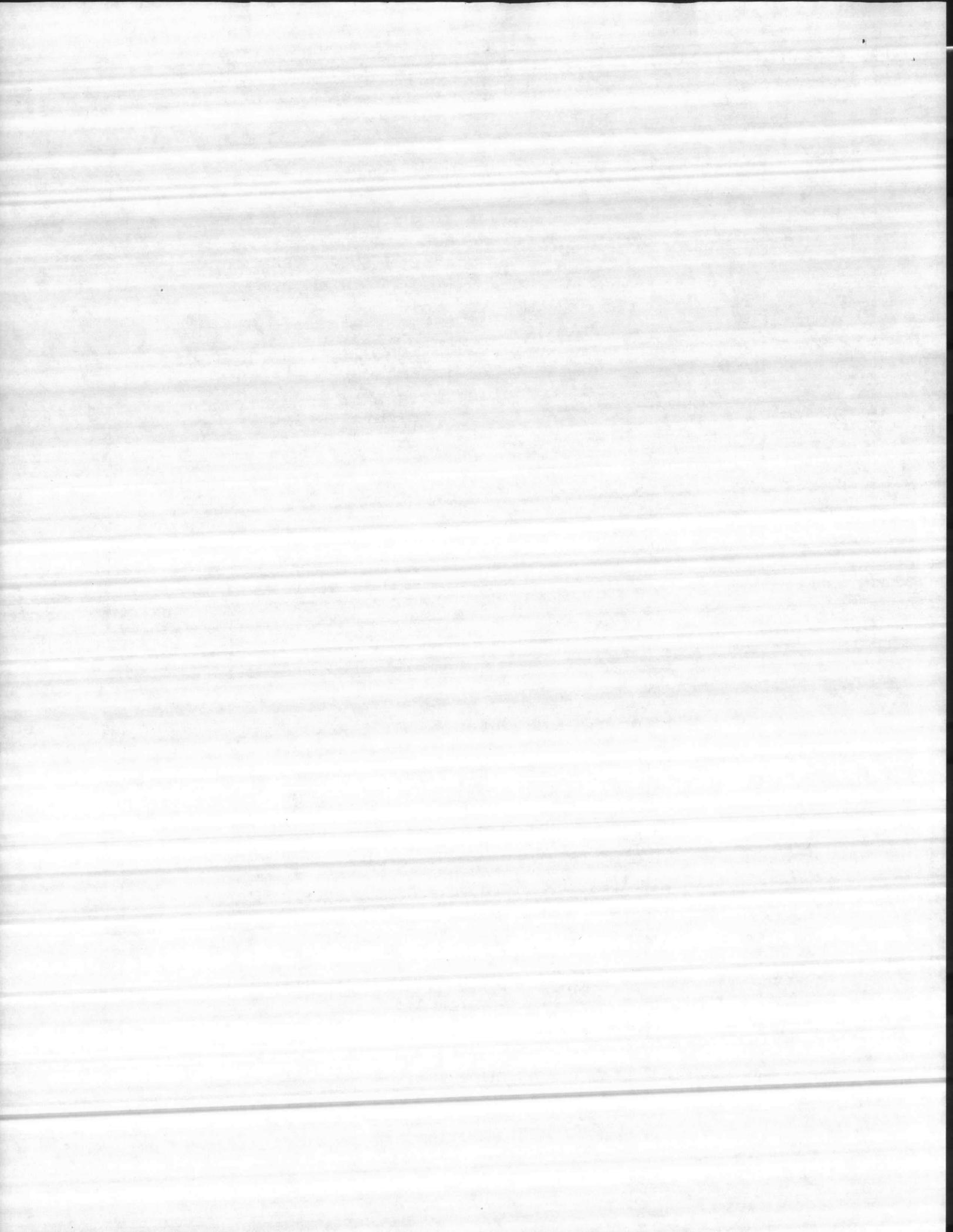
FILM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENSION
		(f) Electrical characteristics, 120 voltage, 60 cycle 1 phase (g) 1/2" cold water, 1/2" hot water line (h) drain, 1 1/2" IPS		
7.13.3		Calumet does not install equipment. Total cost of 7.13 item M-5582 is		
7.14		Item M-5579, Processor, Film, Color:		
7.14.1		Processor for color film for medical photography: 3 1/2 gallon capacity for sheet and roll film. Model CP823 IJ with stainless steel stand and base; 26" deep, 44 1/2" wide, and 54" high. Provide air compressor. Model CP823IJ, cat. #CP1017		
7.14.2		Includes the following: <ul style="list-style-type: none"> (a) Type 316 stainless steel construction. (b) Heliarc welded water jacket and tanks. (c) Automatic 7 GPM thermostatic valve. (d) Process tanks include light tight covers. (e) Quick dump wash tank. (f) P.V.C. drain manifold. (g) Solid state gas burst timer, adjustable. (h) P.V.C. water inlet and recirculation fittings. (i) Gas burst distributors, built-in to each tank. (j) Recirculation system and PVC factory installed fittings model 7000 high temperature recirculator, cat. #CP5025 @ (k) Internal plumbing fittings for nitrogen/air and water; sweat solder copper. 		

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ITEM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENSION
<p>INSTALL FOR 2 REMOTE PROCESSORS</p>	<p>5184</p>	<p>(l) Insulated water jacket (m) adjustable nitrogen/air controls (n) combination rack for sheet and roll film model 859, cat #CP2032 @ 0. (o) Air compressor oil free remote location: cat. #CP9120 @ 00 (1) No installation (2) 5,814 cubic inches of air delivered to a 10 gallon tank. (3) Automatic pressure switch; on at 35 PSIG and off at 50 PSIG. (4) Compressor mounted on 12-gauge ASME tank. (5) Thermal protection on single phase motors. (6) Filter, safety valve, gauge, pressure switch, shut-off valve and check valve. (7) Nitrogen/air timer. (p) Control and starters</p>		
<p>7.14.3</p>	<p>208</p>	<p>Service characteristics: (a) 1/2" cold water line male (processor) (b) 1/2" hot water line, male (processor) (c) 1/2" nitrogen/air lines, compressor to processor. (d) 1 1/2" drain (processor) (e) 115 volt, 50/60 cycle, 5 amp, AC (processor) (f) 115 volt, 1 phase, 60 cycle. (compressor motor)</p>		
<p>7.14.4</p>		<p>Disposition: Calumet does no installation. Total for 7.14 item # M-5579 is</p>	<p>4198</p>	

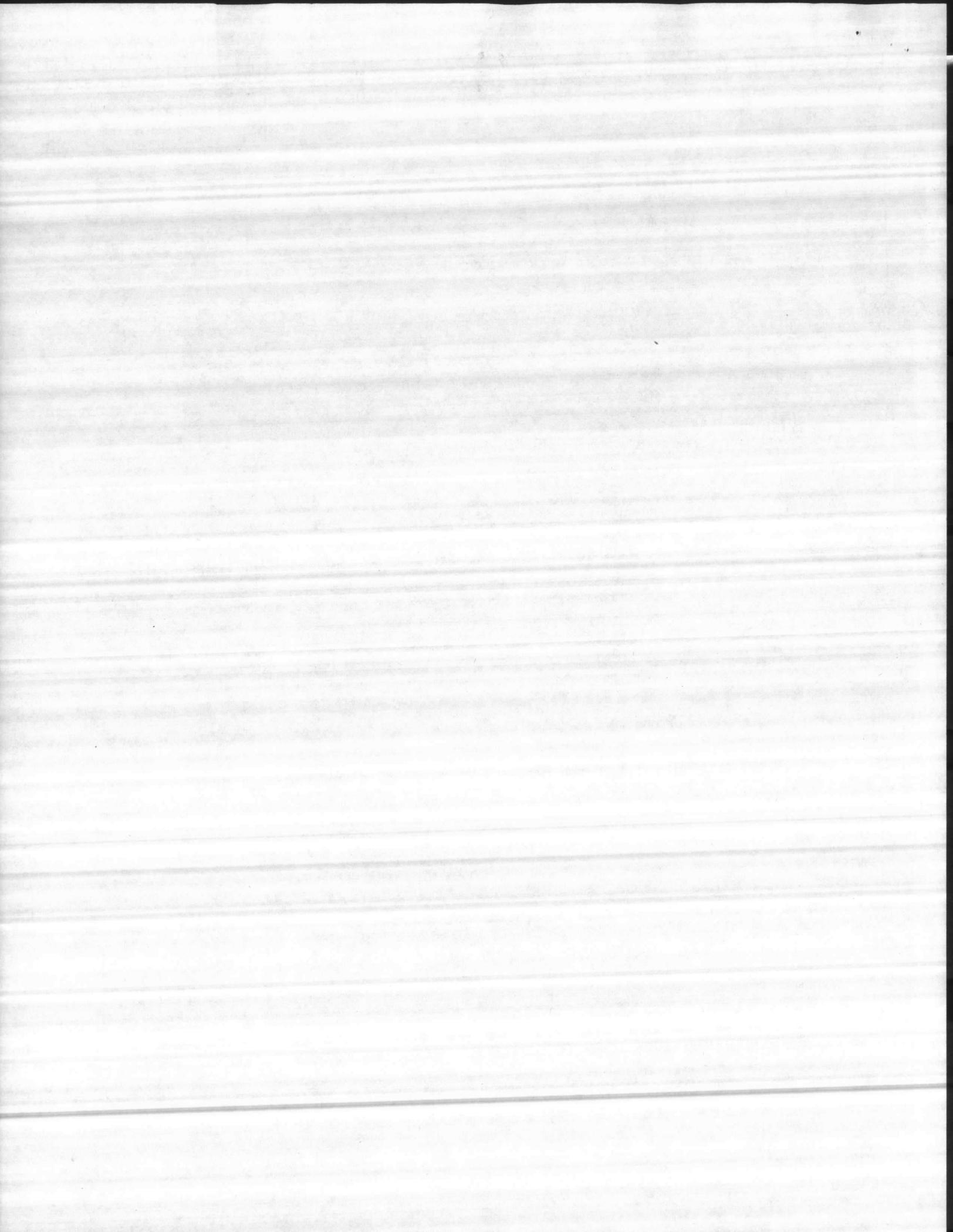




ITEM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENSION
7.21		Item M-5580, Processor, Film, Black and White		
7.21.1		Film Processor, for black and white, sheet or roll film, 3½ gallon capacity. Model BW-814 with stainless steel stand and base; 26 inches deep 44½ inches wide, and 54 inches high. Model BW-814, cat. # CP1010, @ \$.00	
7.21.2		<p>Includes the following:</p> <ul style="list-style-type: none"> (a) Type 316 stainless steel construction. (b) Nitrogen burst system, 3 tanks, one wash. (c) Internally braced, heliarc welded, tank leveling shelves, copper piping with internal fittings connected. (d) P.V.C. burst distributors. (e) Base leveling screws. (f) Four process tanks, one wash. (g) Distributors installed on each tank. (h) Pressure regulator, model #NC-8, cat. # CP9200, 10 ft. pressure hose for above including connectors. Cat. # CP3023 (i) Individual shut-off valves, each gas burst tank. (j) Adjustable timer; off/on continuous switch. (k) Automatic temperature control; water output gauge; volume control valves; auxiliary tempered water outlet; vacuum breakers installed. (l) P.V.C. Drain manifold (m) sheet and roll film racks 		

ROTAERY QUICK
DUMP VALVE

4198



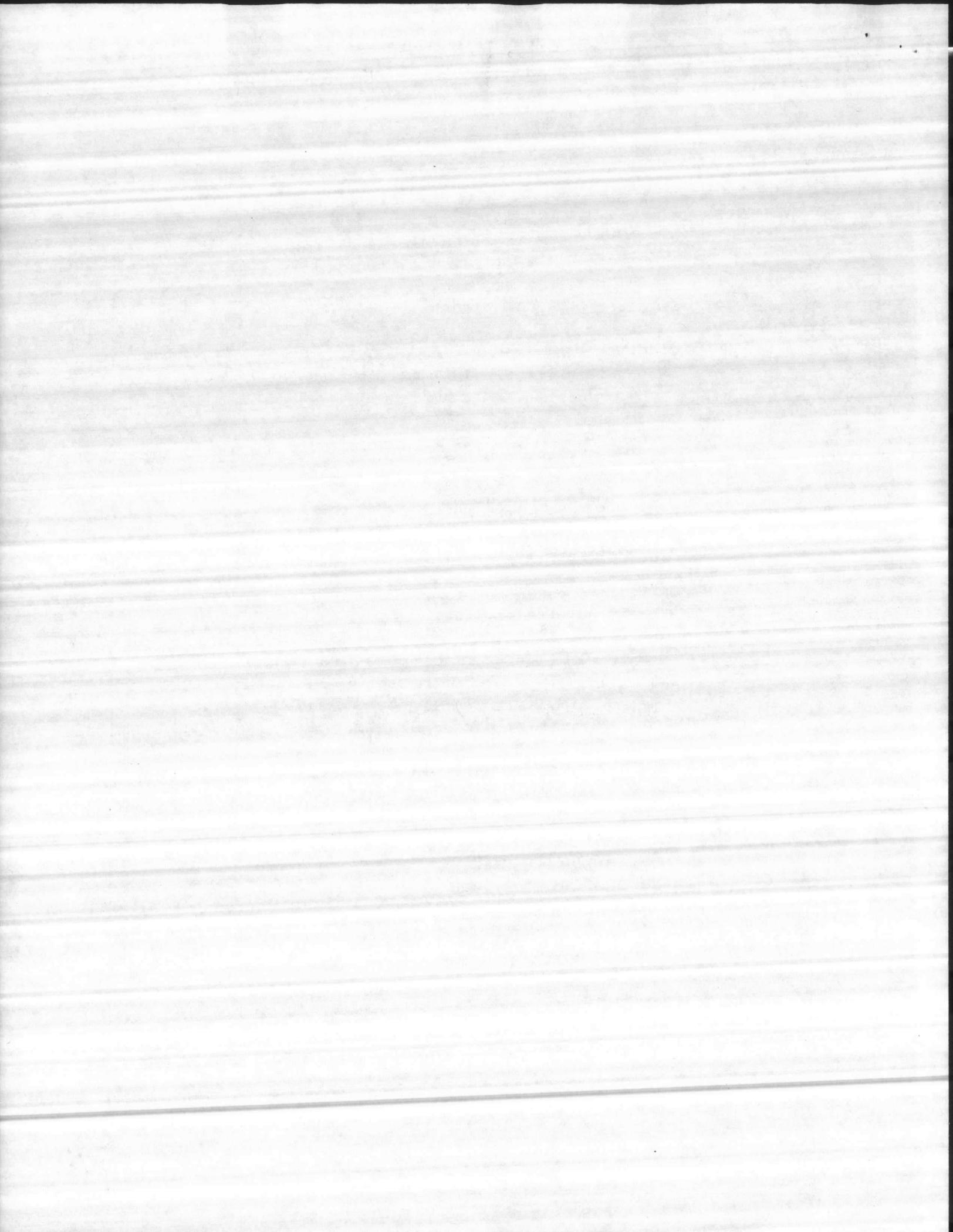


ITEM NO	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENSION
		(1) sheet film rack model 855, cat. #CP2030 @ (2) roll film rack, model 858, cat. #CP2031 @		
7.21.3		Service characteristics: (a) 1/2" hot and cold water lines to temperature control. (b) 1/2" gas connection to remote air compressor (c) 1 1/2" drain I.P.S. (d) 110 volt 60 cycle		
7.21.4		Disposition: Calumet does no in- stallation. Total for 7.21 item M-5580 is		
7.22		Item M-5583, Water Chiller, <u>Print</u> Sink		
7.22.1		Water Chiller for temperature control devices and processing sinks. Unit encased in stainless steel housing, 14 1/4" deep, and 33 3/4" wide and 16 1/8" high. Deliver 68° F water automatically to sinks from 85° in- coming water, factory set. Model 50W cat. # CP9100, @		
7.22.2		Includes the following: (a) Condenser, water cooled com- pressor hermetically sealed. (b) Holding tank, stainless steel, .9 gallon capacity. (c) Temperature control devices (d) Mixing valves and bypass valves can be used. (e) Internal thermostat, adjustable (f) Piping from unit to sinks by others		
7.22.3		Service characteristics: (a) 3/8" water input (b) 3/8" output drain		

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C.C. COORDINATE

COORDINATE CONNECTIONS
 IN BLDG. SERVICES





ITEM NO	QUANTITY	DESCRIPTION	UNIT PRICE	EXTENSION
7.22.4		(c) 115 volt 50/60 cycle, 1 phase, 11 amp. (d) 1/2" input drain, condenser Disposition: Calumet does no in- stallation. Total for 7.22 Item # M-5538 is .00		

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4198



Calumet photographic inc.

1590 TOUHY AVENUE
ELK GROVE VILLAGE, ILLINOIS 60007
(312) 439-9330



CARE OF STAINLESS STEEL EQUIPMENT

Calumet stainless steel equipment is made of the finest grade material for photographic use. It does, however, require maintenance to keep it in first-class condition.

WHY STAINLESS IS STAINLESS

There are two reasons why stainless steel is corrosion resistant. The first is because of the chemical resistance of the various metals alloyed with the steel, and the second is a chemically inert surface film. This film is continually repairing itself as chemical action breaks it down. Where the stainless surface appears free from corrosion or rust, the film is in good condition. Should corrosion appear, the film has broken down and the surface must be cleaned. Upon removal of surface corrosion, the surface film will again be self-repairing.

CARE OF STAINLESS

Clean equipment is equipment that will not break down in use. A weekly schedule of cleaning with household cleaner and daily wiping with a damp cloth is best to maintain the equipment and guard against surface deposits and corrosion. Chemicals that splash up on the dry surface of stainless steel should be wiped off with a damp cloth or sponge, because as the chemicals dry, they leave a chemical residue which once dried is hard to remove and invites corrosion. Chemical tanks should be cleaned each time chemicals are changed. With a cleaning schedule as outlined, Calumet equipment will give a lifetime of use.

REMOVING STAINS

The best way to remove chemical deposits is scouring them with an abrasive cleaner, such as Bon Ami or Bab-O. Care should be taken to rub with the grain of polished steel. Steel wool or steel brushes should never be used as particles of these materials will adhere and cause immediate rusting and breaking down of the stainless steel.

ACID CLEANING

Chemically removing surface deposits is another recommended method of cleaning. Frequently soap and water will remove chemical deposits. Where more stubborn conditions exist, such as corrosion or rust, we recommend applying a 20% solution of nitric acid. The area should then be rinsed with a 10% solution of baking soda or sodium carbonate, to neutralize the acid. A thorough flushing with water will then be necessary.

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ENEMIES OF STAINLESS

Free iron is stainless steel's worst enemy. Nails, iron filings, or iron pipe fittings should never be in contact with stainless steel. In areas where the water contains high quantities of iron oxide, water filtration and/or constant inspection should be maintained. There are available on the market filtering devices for removal of iron and other salts, which may be installed in the water line and will assure chemically pure water for photographic use.

ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511

APPROVED _____

APPROVED AS NOTED RX

DISAPPROVED _____

SUBJECT TO THE REQUIREMENTS OF

N62470-77-C-7526

CONTRACT NO. _____

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

REVIEWER [Signature]

DATE

 1/13/81

FOR OFFICER IN CHARGE OF CONSTRUCTION

DRAWING AND SPECIFICATION TRANSMITTAL
 LOCKWOOD GREENE ENGINEERS, INC.

SPARTANBURG, SOUTH CAROLINA 29304
 P.O. BOX 491 (803)582-2351

File *Sheet 11757*
611-2 thru
617-2

TO Naval Facilities
 Engineering Command Bldg N 26
 Atlantic Division
 Norfolk Va 23522

DATE January 14, 1981
 JOB NO. 77239.16
 JOB NAME R M C

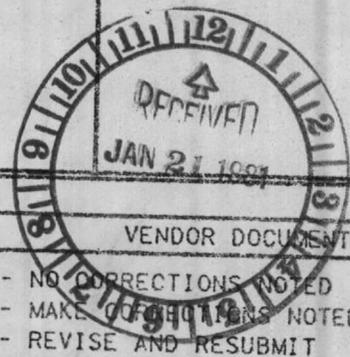
TRANSMITTAL NO. 4198
 SHEET OF
 ORDER NO. N-62470-77-C-7526

ATTN: Mr. Jonh Grubbs Code 05

WE ARE SENDING YOU THE FOLLOWING DATA xxx HEREWITH UNDER SEPARATE COVER

QUAN.	DOCUMENT NO.	REV. NO.	DESCRIPTION	VENDOR	CODE
1	M-5581		Sink Print Photograph	CALUMET PHOT INC	AN
1	M-5582		Washer, Print Auto		R
1	M-5579		Processor, Film, Color		AN
1	M-5580		Processor, Film		AN
1	M-5583		Water Chiller Sink		AN

Deleted
MC 20



LOCKWOOD GREENE DOCUMENTS				VENDOR DOCUMENTS			
A - INFORMATION	E - BID			K - NO CORRECTIONS NOTED			
B - REVIEW	F - CONSTRUCTION			L - MAKE CORRECTIONS NOTED			
C - APPROVAL	G - PURCHASING			M - REVISE AND RESUBMIT			
D - REVISED DWG. (SEE REVISION)	H -			N - REJECTED (SEE REMARKS)			

COPIES TO	QUAN	TRANS ONLY	CODE	COPIES TO	QUAN	TRANS ONLY	CODE
ROICC	2						
Cardinal Constr	3						

REMARKS

PLEASE ACKNOWLEDGE RECEIPT BY IMMEDIATE RETURN OF SIGNED COPY OF THIS TRANSMITTAL
 RECEIVED BY _____ DATE _____ TRANSMITTED BY Richard Mcknight

