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Technical Note N-482

PIONEER POLAR STRUCTURES
SPECIFICATIONS FOR JAMESWAY SHELTER ACCESSORIES

15 April 1963

U. S. NAVAL CIVIL ENGINEERING LABORATORY
PORT HUENEME, CALIFORNIA

PIONEER POLAR STRUCTURES
SPECIFICATIONS FOR JAMESWAY SHELTER ACCESSORIES

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Type B

Compiled by

G. E. Sherwood

ABSTRACT

Accessories were developed for improving the Jamesway in order to provide a suitable, lightweight, quick-erecting shelter for use as quarters, messing, galley, utilities, administration and other such applications in pioneer polar camps. These accessories include: A heavy duty floor and foundation system; a wall extension kit; special entry kits; an improved electrical distribution system; and special utility accessories. This technical note contains the specifications for the Jamesway shelter accessories presented in the Naval Civil Engineering Laboratory Technical Report TR-241, "Pioneer Polar Structures - Accessories for the Jamesway Shelter."

INTRODUCTION

Experience has shown that a warm, comfortable shelter for use as quarters, messing, galley, utilities, administration and medical care is required for efficient and effective performance of a work force in a polar environment. Shelters for use when pioneering these regions must be lightweight and quick-erecting. Based on fulfillment of the above requirements and several years of successful use in Arctic and Antarctic operations, the Army Quartermaster Corps Tent, frame-type, insulated, commonly known as the Jamesway, was selected as the basic building to be used for development of a suitable shelter for pioneer polar camps.[1] Although the Jamesway basically fulfills the requirements of shelters for pioneer polar operations, continued usage of the structure has revealed certain limitations. This technical note contains the specifications* for accessories developed for the Jamesway to overcome these limitations.[2]

DESCRIPTION OF THE ACCESSORIES

The accessories developed for the Jamesway are detailed in the drawings contained in the Appendix. Accessories developed are:

1. A heavy duty floor which supports large concentrated loads without excessive deflection. Y&D Drawing No. 936916.

2. A special foundation system which provides structural steel support under the center of a building where cavitation is most critical. Y&D Drawing No. 936916.

3. A wall extension kit which raises the roof arches two feet above the standard position providing adequate headroom along the edges of the building. Y&D Drawing Nos. 936903 through 936905.

4. A side entry kit which is an entry vestibule for the side of a building. Y&D Drawing Nos. 936907 through 936912.

5. A standard vestibule end entry kit which permits direct entry through a standard vestibule. Y&D Drawing No. 936913.

6. An improved electrical distribution system which provides adequate lighting and convenience outlets for general use and flexibility for special applications. Y&D Drawing No. 936906.

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* Developed by King, Benioff and Associates, Consulting Engineers, Sherman Oaks, California under Contract NBy-32208.

7. Water storage tanks which permit elevated water storage. Y&D Drawing No. 936915.

8. A snow melter which can be supplied with snow and used inside a building. Y&D Drawing No. 936917.

9. A dry head kit which permits placement of a toilet inside a building. Y&D Drawing No. 936914.

10. A special roof vent which can be placed anywhere in a building. Y&D Drawing No. 936902.

SPECIFICATIONS FOR THE ACCESSORIES

The specifications in the following paragraphs apply as appropriate to the Jamesway shelter accessories.

1. Scope. The work shall include the furnishing of all material and equipment, and performing all labor for the complete fabrication of the items indicated on the drawings and described and specified herein. The contractor's proposal shall be based on the drawings and specifications herewith and no deviations shall be accepted except as approved in writing by the Contracting Officer.

2. Materials

A. Wood

(1) Lumber. (Referred to on drawings as "Wood"). All lumber shall thoroughly and uniformly be dried to a moisture content not more than 12 percent at time of fabrication determined in accordance with Specification MIL-W-6110, and shall be free from decay, case bordering, shakes, checks, or any other defect which may affect the strength, wear or serviceability of the member. Not more than two small round knots 1/4 to 1/2 inch in diameter or one 3/4 inch knot will be permitted per square foot. Members shall be finished on all sides to drawing dimensions. Any of the following species of wood may be used, unless otherwise specified:

Fir, Douglas, Coast Region
Hemlock, Western
Pine, Norway or Ponderosa
Pine, (White) Northern or Western
Spruce (Eastern, Sitka)
Pine, Southern (long leaf, slash, short leaf and loblolly)

(2) Plywood. Plywood shall conform to Specification NN-P-530a for all plywood, and shall be grade marked to indicate conformance with the following requirements.

(a) Douglas Fir, Exterior Type, Grade AC, sanded 2 sides, as per Commercial Standard CS-45 of latest date.

B. Steel

(1) Sheet or Strip. Conform to Specification QQ-S-640 FS-1020 unless noted otherwise.

(2) Bar stock. Conform to Specification QQ-S-633a.

(3) Structural. Conform to "Standard Specifications for Structural Steel for Bridges and Buildings," Serial Designation A-7 of the American Society for Testing Materials.

C. Aluminum

(1) For structural purposes. Alloy 6061 or 6062, T-6 Temper, conform to Specification QQ-A-270a. Alloy and use as indicated on the drawings.

(2) For tanks. Alloy 5052, zero Temper, conform to Specification QQ-A-318c. Alloy and use as indicated on the drawings.

(3) Welding Wire. 5154 or 5356 for Alloys 6061 and 6062; 5356 for Alloy 5052.

(4) For vent roof flashing. Conform to Specification MIL-A-52174, .025 inches thick.

D. Fastenings

(1) Nails. The nails shall be steel, cement coated, either standard (coolers) or countersunk head (sinkers) and size as indicated on the drawings, and shall conform to Specification FF-N-105.

(2) Screws

(a) Wood. Wood screws shall be steel, of the size indicated on the drawings and of style 2c (Flat (countersink) head with cross recess drive) and shall conform to Specification FF-S-111b. Wood screws shall be used only where length requirements are in excess of two (2) inches.

(b) Screws, threaded full length. All screws screwing wood to wood or other materials to wood and where the length requirement is not in excess of two (2) inches shall be a type of screw that is threaded full length. These screws shall be cadmium plated with cross recess drive and head type as indicated on the drawings. Type A, Parker Kalon, cadmium plated screws with Phillips slot conforms to these requirements.

(3) Fasteners, Corrugated. Corrugated fasteners shall be standard commercial of size indicated on the drawings.

(4) Bolts, nuts, washers

(a) Bolts, carriage, square neck, and nuts. Conform to Type C-2 Table X, of Specification FF-B-571a, and nuts Type A1 and Table XII.

(b) Bolts, and nuts, hexagonal. Conform to Specification FF-B-571a, Type B1 and Table V and nuts Type A1 and Table XII.

(c) Nuts, wing. The wing nuts shall be standard commercial, of the type and size as indicated on the drawings.

(d) Washers. The washers shall be standard commercial cut steel of the type and size indicated on the drawings.

(e) Finishes. All bolts, nuts, and washers shall be finished with a zinc coating conforming to type II or III, class 2 of Specification QQ-Z-325a or cadmium plating type II or III, class 2 of Specification QQ-P-416a.

(5) Rivets. Rivets for attaching metal to wood shall be standard commercial, of type and size as indicated on the drawings and finished the same as specified for bolts in Section (D) (4) (e).

(6) Adhesive A - wood to wood. The adhesive used for adhering wood to wood (other than the manufacture of plywood) shall conform to Type I, Grade A Class 1 of Specification MIL-A-397B.

E. Insulation

(1) Blanket. The insulation material shall be composed of glass fibers firmly bonded with a thermo-setting plastic resin into a mat structure of thickness as indicated on the drawings, (plus 1/2 inch, minus 0), with a density of 1# per cubic foot plus or minus 10 percent. The blanket shall be faced on each face with bright aluminum foil, 2 mils thick, and applied with a fire retardant adhesive. The thermal

conductivity shall not exceed 0.25 B.T.U. per hour, per square foot, per degree Farenheit taken at a mean temperature of 70 F; when tested in accordance with the ASTM Specification D 1518-57T.

(2) Felt. Gaskets indicated as felt shall be composed of a wool felt, specially impregnated with an anti-corrosion and anti-electrolysis compound. It shall have a tacky, pressure sensitive adhesive on one side as an application aid. Size shall be as indicated on the drawings.

F. Straps

(1) Webbing, cotton. The webbing for straps shall conform to Specification MIL-W-530B and shall be Type III, Class 4 of width indicated on the drawings. Webbing shall be dyed to olive drab shade No. 7.

(2) Clips, end. The end clips on webbing straps shall be brass, black chemical finish conforming to type I, (ball type) of Specification JAN-C-496.

(3) Buckles, slide, with hook. The buckles shall be made of steel, hot rolled sheet or strip, condition optional as indicated on the drawings. The buckle shall be heat treated to a hardness of RC-16-22 and shall be free from cracks, scale, and other injurious defects. Case hardening will not be permitted. The buckles shall be given a finish consisting of a phosphate treated zinc-plate, conforming to Class 3, Type III of Specification QQ-Z-325, followed by bake enameling. The enamel shall conform to Type II, Specification JAN-E-480, in a black color. The coatings shall level out to a uniform dry film thickness of 0.25 mils minimum, without objectionable orange peel, wrinkles, drops, streaks, or areas of thin or no film.

G. Coating

(1) Galvanizing. Conform to Specification QQ-Z-325a, Type II, Class I zinc coating.

(2) Cadmium Plating. Conform to Specification QQ-P-416a, Class I, Type II.

H. Paint

(1) Primer. The primer shall conform to Specification TT-P-636b.

(2) Enamel. The enamel shall conform to Specification TT-E-529a, Class A. The color shall be No. 24087, Table VI of Standard FED-STD-595.

J. Hardware

(1) Hinges. All hinges shall conform to Specification FF-H-116c of the following types and sizes as indicated on the drawings.

Doors - type 2171H
Tie down assembly bar - Strpa hinge, type 2203
Dry Head Lid - Tee hinges, type 2209
Dry Head Access Door - Type 2203, 4" strap
Snow Melter Chute - Type 2203, 4" strap

(2) Latch and Keeper. Latch and keeper for doors shall be a type easily operated from either inside or outside of the door. Latch and keeper shall be substantially the type indicated on the drawings, easily operated by a person wearing polar type mittens, but any acceptable latch that meets the necessary requirements, may be used upon the approval of the contracting officer. The Vonnegut No. 25 latch, as manufactured by Vonnegut Hardware Company, Indianapolis, Indiana, meets the requirements of this specification.

(3) Barrel bolt. Conform to Specification FF-H-111a, Type F1012C, 4 inches long.

(4) Sash fasteners. Conform to Specification FF-H-111a, Type F1142.

(5) Suitcase fasteners. Standard commercial as detailed, cadmium or zinc plated.

(6) Link lock. Medium duty, spring locking device. Load carrying capacity 1,000 pounds tension, operated by cam action with large wing-nut handle. (No. 2 Spring-Loaded Link-Lock as manufactured by Simmons Fastener Corporation, Albany, New York, conforms to this specification.)

(7) Chain bolt. Conform to Specification FF-H-111a, Type F 1023AC-6.

K. Toilet Seat

(1) Standard commercial, regular, solid wood core with plastic white finish, without cover.

L. Cloth

(1) For Vent Roof Flashing. A closely woven glass fabric coated on one side with cloroprene containing fire retardant. Material shall be resistant to acids, alkalies, gasoline and grease and will withstand a constant temperature of 250 F. (Ventglas, LA, manufactured by Ventfabrics, Inc., 640 North Kedzie Avenue, Chicago 12, Illinois, conforms to this specification.)

M. Plumbing Materials

(1) Pipe fittings - for steel pipe. Conform to Specification WW-P-521d.

N. Electrical Materials

(1) Materials listed below shall conform to Specifications as noted.

Materials	Specification
(a) Conduit outlets	W-C-586a
(b) Type VI, Design 27, Form 2	
(c) Wire connectors	W-S-610
Types I, Class B Style 3 or 4, Type II, Class A	
(d) Fittings, cable and conduit	W-F-406a
Type I Class 1, Style A; Type I, Class 3, Style A; Type V, Class 1, Style A.	
(e) Outlet Boxes	W-J-800a
Type I Size A Style 1; Type I, Size C, Style 8;	

Materials	Specification
Type II, Size E, Style 13; Type II, Size G, Style 18; Type IV Size K Style 29; Type VIII, Size S, Style 43; Type VIII, Size S Style 44; Type VIII, Size U, Style 52, 54, 56, 57, 58; Type VIII, Size S, Style 49	
(f) Panel Boards	WW-P-131a(2)
Class A-1, A-2, and A-4 as indicated on drawings and conform to Table III.	
(g) Receptacles and Plugs	W-C-596
Style, Series D except with pressure type terminals.	
(h) Switches, (surface mounted)	W-S-865c
Type NDD, Design 4, Box 1	
(i) Switches, toggle	W-S-896a
Table III, Style 62	
(j) Conduit, Steel, flexible	WW-C-566a
Sizes as indicated	
(k) Conduit, steel, rigid	WW-C-581c
Sizes as indicated	

Materials	Specification
(l) Nipples	WW-C-351a
Type 1, sizes as indicated	
(m) Tubing, metallic	WW-T-806b
Sizes as indicated	

(2) Conductors

(a) Conductors in buildings shall be copper, of size indicated, color coded; insulation to be of a type to withstand bending at -50 F without damage.

(3) Lighting Fixtures. Conform to Specification 9Yg.

3. Jamesway Wall Extension Kits (Y&D Drawings 936903, 936904 and 936905)

(a) The Wall Extension Kits consist of prefabricated, insulated plywood panels two feet (2') high of length indicated used for increasing the head room of the Jamesway Structure by two feet (2'). Included in the kit is the necessary material for modification of the end walls. The side and end wall panels connect to the floor units by means of bolts and link-lock fasteners. The end walls must be modified in the field in accordance with the drawings. Separate kits are listed for 32' long and 48' Jamesway Structures.

(b) Fabrication. All panels and items for end wall modification shall be fabricated in accordance with the drawings. Materials to conform to paragraph 2. All joints, wood to wood, and plywood to wood, shall be nail-glued with Adhesive A. All exposed surfaces of wood and plywood and all surfaces of steel shall receive one coat of Primer and two (2) coats of Enamel.

4. Jamesway General Electrical (Y&D Drawing 936906)

(a) The General Electrical plan provides a general lighting system with convenience outlets on each fixture. Separate designs are indicated for the 32' long and 48' long Jamesway Structure. This electric system is included as part of the Basic Building indicated on Y&D Drawing 936902.

(b) Fabrication. Materials to conform to paragraph 2-N. Assemblies shall be shop assembled with all parts as indicated and with wire ends cleaned ready for connecting.

5. Jamesway Side Entry Kit - For use with wall extensions (Y&D Drawing 936907, 936908, 936909)

(a) The Side Entry Kit provides a method of entering the Jamesway Structure along either side. It fits between arches and makes a vestibule with outer and inner doors. A four foot (4') long wall extension panel is furnished to replace one of the standard wall extension panels.

(b) Fabrication. Materials to conform to Paragraph 2. All joints, wood to wood, and plywood to wood, shall be nail-glued with Adhesive A. All exposed surfaces of wood and plywood, steel and hardware, shall receive one (1) coat of Primer and two (2) coats of Enamel.

6. Jamesway Side Entry Kit - For use with standard unit (Y&D Drawing 936910, 936911, 936912)

(a) The Side Entry Kit provides a method of entering the Standard (without wall extension) Jamesway Structure on either side. It fits between arches and makes a vestibule with outer and inner doors.

(b) Fabrication. Materials to conform to Paragraph 2. All joints, wood to wood, and plywood to wood, shall be nail-glued with Adhesive A. All exposed surfaces of wood and plywood, steel and hardware, shall receive one (1) coat or Primer and two (2) coats of Enamel.

7. Jamesway Vestibule End Entry Kit (Y&D Drawing 936913)

(a) The Vestibule End Entry Kit provides a door in the end of the standard vestibule. The kit consists of a frame and door, all assembled, ready for installation.

(b) Fabrication. Materials to conform to Paragraph 2. All joints, wood to wood and plywood to wood, shall be nail-glued with Adhesive A. All exposed surfaces of wood, plywood, steel and hardware shall receive one (1) coat or Primer and two (2) coats of Enamel.

8. Jamesway Dry Head Kit (Y&D Drawing 936914)

(a) The Dry Head Kit is used in conjunction with a Jamesway Side Entry Kit to provide a toilet stall. It is furnished in a "knock-down" condition and must be assembled in the field. It is so arranged that the waste can be removed from the exterior of the building.

(b) Fabrication. Materials to conform to Paragraph 2. All shop fabricated joints, wood to wood and wood to plywood, shall be nail-glued with Adhesive A. All surfaces of wood, plywood, steel and hardware shall receive one (1) coat of Primer and two (2) coats of Enamel.

9. Jamesway Tanks and Supports (Y&D Drawing 936915)

(a) The Tanks and Supports provide a 190 gallon Water Storage Tank, with cover, and Tank Support.

(b) Water Storage Tanks shall be formed of aluminum in accordance with details. Joints shall be full butt welds, ground smooth. Edges of sheared sheets shall be ground smooth. Holes in tank for piping shall be reinforced as detailed. Materials to conform to Paragraph 2.

(c) The Tank Support shall be fabricated as detailed ready for field assembly, including all erection bolts. Materials to conform to Paragraph 2.

(d) Welding shall be by inert gas process.

10. Jamesway Special Foundations (Y&D Drawing 936916)

(a) The Special Foundation provides steel supports, for the floor units, spanning 16 feet (16') to continuous timber sills. Included with each Special Foundation is insulation material to be placed over the snow below the foundation members and vent pipes to prevent or delay cavitation by heat from the building. The Special Foundation is to be used under floor areas where excessive heat may be generated. Special Foundations are provided for 16', 32' and 48' long structures. They may be used under the entire building or only a portion of the length.

(b) The Strengthening Members (SM) are pre-cut 2 x 6's for strengthening standard floor units where excessive loads may occur. They are to be field installed.

(c) Fabrication - Steel Beams and Angles. Shall be fabricated in accordance with American Institute of Steel Construction Specification for the Design, Fabrication and Erection of Structural Steel for Bridges and Buildings.

Steel Joists shall be fabricated of the members indicated in accordance with the specifications of the Steel Joist

Institute. Wood sills require no fabrication. Vent Pipes shall be fabricated of galvanized steel of gage indicated. Seams shall be of the single grooved seam type. Parts shall be separate ready for field assembly. Strengthening Members shall be cut to dimensions indicated.

(d) Painting. All surfaces of steel and wood shall receive one (1) coat of Primer and two (2) coats of Enamel. Steel members shall be dipped.

11. Snow Melter Tank and Chute (Y&D Drawing 936917)

(a) The Snow Melter consists of a melting tank and chute. The tank is constructed of plywood, insulation and aluminum liner. Immersion type electric water heaters are used for melting snow. The chute is constructed of lumber and plywood and requires modification of the end wall of the Jamesway Structure for installation. The door frame in the end wall and the entire vestibule must be discarded. The chute, when raised, provides a closure for the new opening.

(b) The Tank, shall be fabricated of the materials and to the dimensions as indicated on the drawings. The aluminum liner shall fit snugly into the plywood box and be secured only at the top. Joints in liner shall be full butt welded and ground smooth. Sheared edges shall be ground smooth. Fittings for pipe outlet shall be installed as detailed. Materials to conform to Paragraph 2. Joints, wood to wood and wood to plywood, shall be screw-glued with Adhesive A. Exposed surfaces of wood or plywood shall receive one (1) coat of Primer and two (2) coats of Enamel.

(c) The Chute and End Wall Modification shall be fabricated of materials and to dimensions indicated on the drawings ready for field installation. Joints, wood to wood and plywood to wood, shall be screw-glued with Adhesive A. Exposed surfaces of all material, except felt, shall receive one (1) coat of Primer and two (2) coats of Enamel.

(d) Welding shall be by inert gas process.

REFERENCES

1. NCEL Technical Note N-422, Erection of Quarters Building for Pioneer Polar Camp, by R. W. Hansen, C. R. Hoffman and E. H. Moser. 26 September 1961.

2. NCEL Technical Report R-241, Pioneer Polar Structures - Accessories for the Jamesway Shelter, by G. E. Sherwood. Port Hueneme, California, to be published in June 1963.

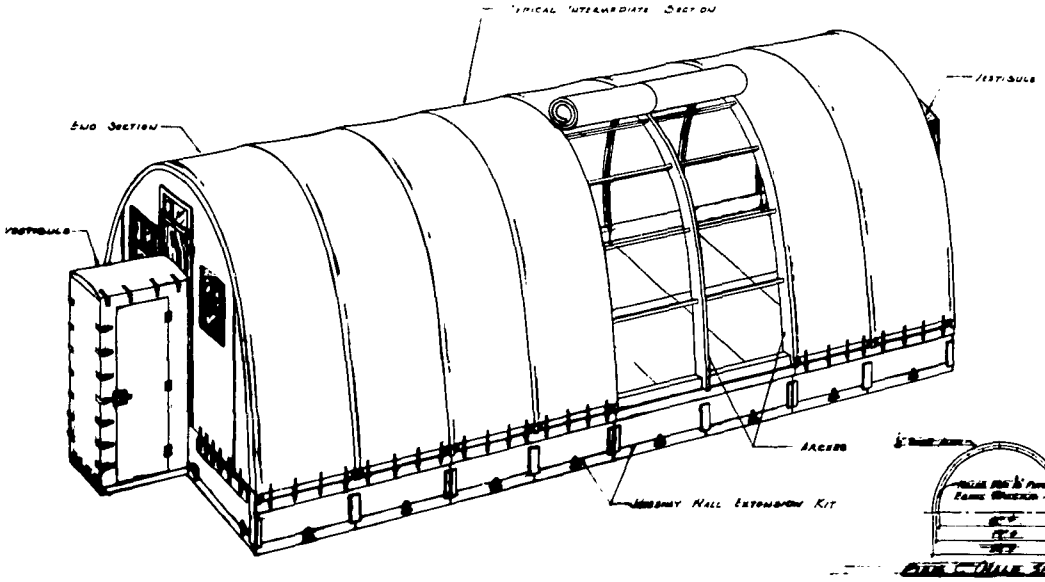
APPENDIX

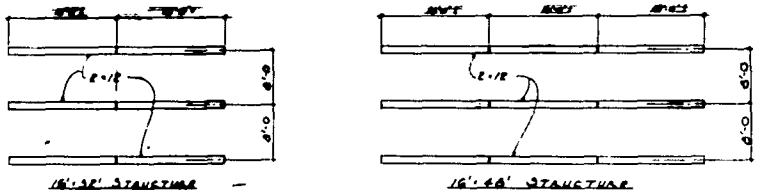
Drawings For The Jamesway Shelter Accessories

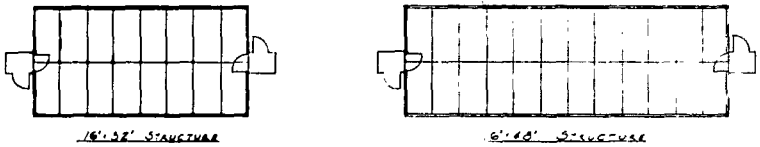
The original of the drawings listed below and shown at reduced scale are available at the Naval Civil Engineering Laboratory, Port Hueneme, California. All drawings are 28 by 40 inches.

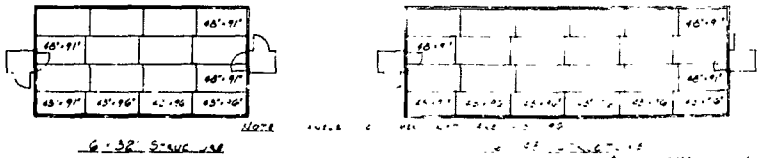
Y&D Drawing No.	Title
936902	Jamesway Structure Basic Building
936903	Jamesway Wall Extension Kit Fabrication - Walls
936904	Jamesway Wall Extension Kit Fabrication - Door Frame
936905	Jamesway Wall Extension Kit Erection Details
936906	Jamesway General Electrical 32' and 48' Buildings
936907	Jamesway Side Entry Kit (For use with wall extensions) Fabrication Details
936908	Jamesway Side Entry Kit (For use with wall extensions) Fabrication Details
936909	Jamesway Side Entry Kit (For use with wall extensions) Erection Details
936910	Jamesway Side Entry Kit (For use with standard unit) Fabrication Details
936911	Jamesway Side Entry Kit (For use with standard unit) Fabrication Details

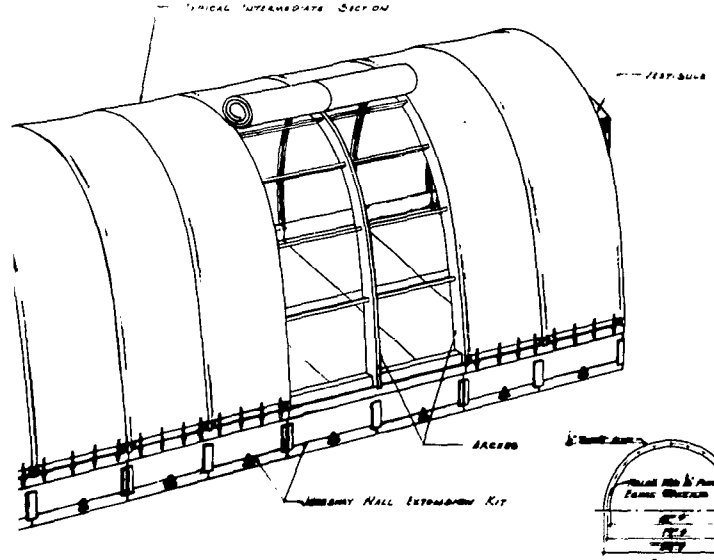
Y&D Drawing No.	Title
936912	Jamesway Side Entry Kit (For use with standard unit) Erection Details
936913	Jamesway Vestibule End Entry Kit Fabrication and Erection Details
936914	Jamesway Dry Head Kit Fabrication and Erection
936915	Jamesway Tanks and Supports Fabrication and Erection
936916	Jamesway Special Foundations Fabrication and Erection
936917	Snow Melter Tank and Chute Fabrication and Erection


END SECTION
VESTIBULE
ARCHES
PERSPECTIVE (1 UNIT)

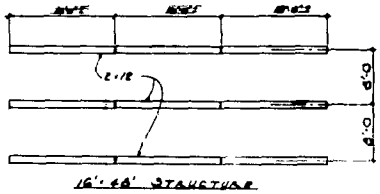

16'-32' STRUCTURE
16'-48' STRUCTURE
FOUNDATION PLANS


16'-32' STRUCTURE
16'-48' STRUCTURE
FLOOR BOX PLANS


16'-32' STRUCTURE
FLOOR CHECK

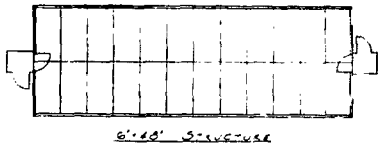


PERSPECTIVE (1 UNIT)



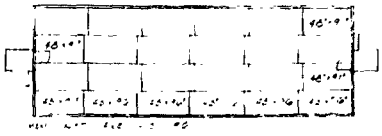
16'-48' STRUCTURE

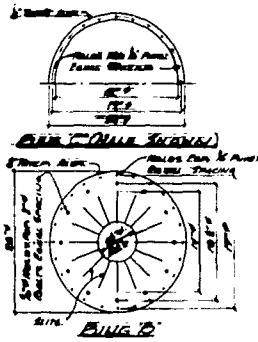
TION PLANS

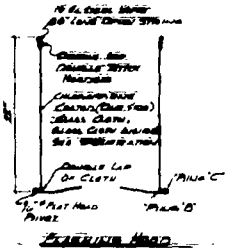


6'-48' STRUCTURE

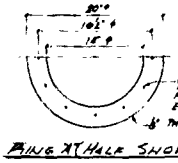
OR 0 LENS



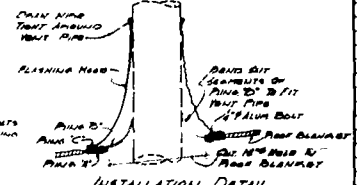




FLASHING HEAD



RING "A" (HALF SHOWN)



INSTALLATION DETAIL

(1) VENT ROOF FLASHING

16'-48'

NOTE: THIS ITEM IS NOT INCLUDED IN THE "BASIC BUILDING" PROCUREMENT CONTRACT. MUST SPECIFY QUALITY REQUIRED FOR ENGINE ROOM II. REFER TO GENERAL ARRANGEMENT DRAWING FOR THE 25' VAL PIONEER POLAR CAMP.

ITEM	DESCRIPTION	UNIT	NUMBER	STOCK NO	QTY
16'-48'	BASIC BUILDING				
	SECTION, END COMPLETE	EA	6360-377-2609		2
2	SECTION, INTERMEDIATE COMPLETE	EA	6360-377-2611		6
3	VESTIBULE COMPLETE	EA	6360-377-2612		2
4	ARCH, COMPLETE	EA	6360-[illegible]		9
5	JAMESWAY HALL EXTENSION KIT 6'-48'	EA	[redacted]		1
1-6	JAMESWAY GENERAL ELECTRICAL 6'-48'	EA	740 [illegible]		1
1-7	JAMESWAY FLOOR OVERLAY KIT 6'-48'	EA			1
	CONSISTING OF 1/8" TEMPERED				
	HARDBOARD OF FOLLOWING SIZES				
	9 - 45" x 96"				
	3 - 45" x 91"				
	1 - 63" x 91"				
	3 - 63" 96"				
8	BUILDING PAPER, REINFORCED, WATERPROOFED	S.F.			[illegible]
1-9	ALUMINUM HEAD FRAMING NAILS 1 1/2" LONG	LB			4
1-10	TYPICAL FOUNDATION				
	CONSISTING OF THE FOLLOWING				
	8'-16'-0"	EA.			8
	8'-18'-0"	EA			9
16'-48'	BASIC BUILDING				
2-1	SECTION, END COMPLETE	EA	6360-377-[illegible]		2
2-2	SECTION, INTERMEDIATE COMPLETE	EA	6360-377-[illegible]		10
2-3	VESTIBULE COMPLETE	EA	6360-377-[illegible]		2
2-4	ARCH, COMPLETE	EA	6360-[illegible]		10
2-5	JAMESWAY HALL EXTENSION KIT 16'-48'	EA	[redacted]		1
2-6	JAMESWAY GENERAL ELECTRICAL 16'-48'	EA	[redacted]		1
2-7	JAMESWAY FLOOR OVERLAY KIT 6'-48'	EA			1
	CONSISTING OF 1/8" TEMPERED				
	HARDBOARD OF FOLLOWING SIZES				
	15 - 48" x 96"				
	3 - 48" x 91"				
	1 - 48" x 91"				
	3 - 48" x 96"				
2-8	BUILDING PAPER, REINFORCED, WATERPROOFED	S.F.			[redacted]
2-9	ALUMINUM HEAD FRAMING NAILS 1 1/2" LONG	LB			[redacted]
2-10	TYPICAL FOUNDATION				
	CONSISTING OF THE FOLLOWING				
	8'-16'-0"	EA.			8
	8'-18'-0"	EA			8

REFER TO NCEL TR ____ FOR ADDITIONAL INFORMATION AND SPECIFICATION

SYMBOL	DESCRIPTION	DATE	APPROVED
	REVISIONS		

DEPARTMENT OF THE NAVY — U.S. NAVAL CIVIL ENGINEERING LABORATORY — PORT HUENEME, CALIFORNIA

KING, BENIOFF & ASSOCIATES — CONSULTING ENGINEERS — INDIAN WELLS, CALIFORNIA

PIONEER POLAR STRUCTURES

JAMESWAY STRUCTURE

BASIC BUILDING

APPROVED: [illegible] DATE: 8/8/62

SCALE: AS NOTED SPEC.

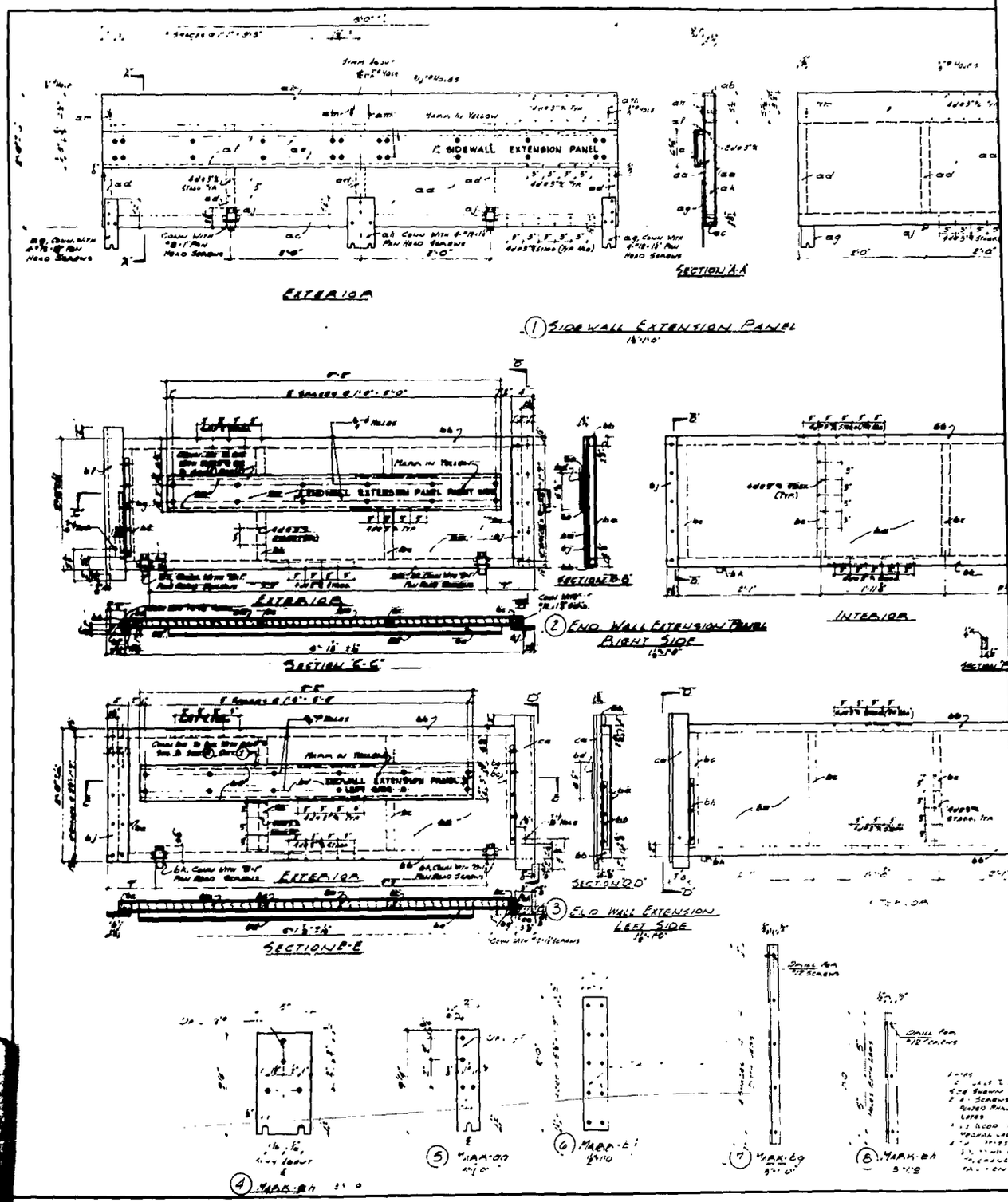
SHEET 1 OF 19

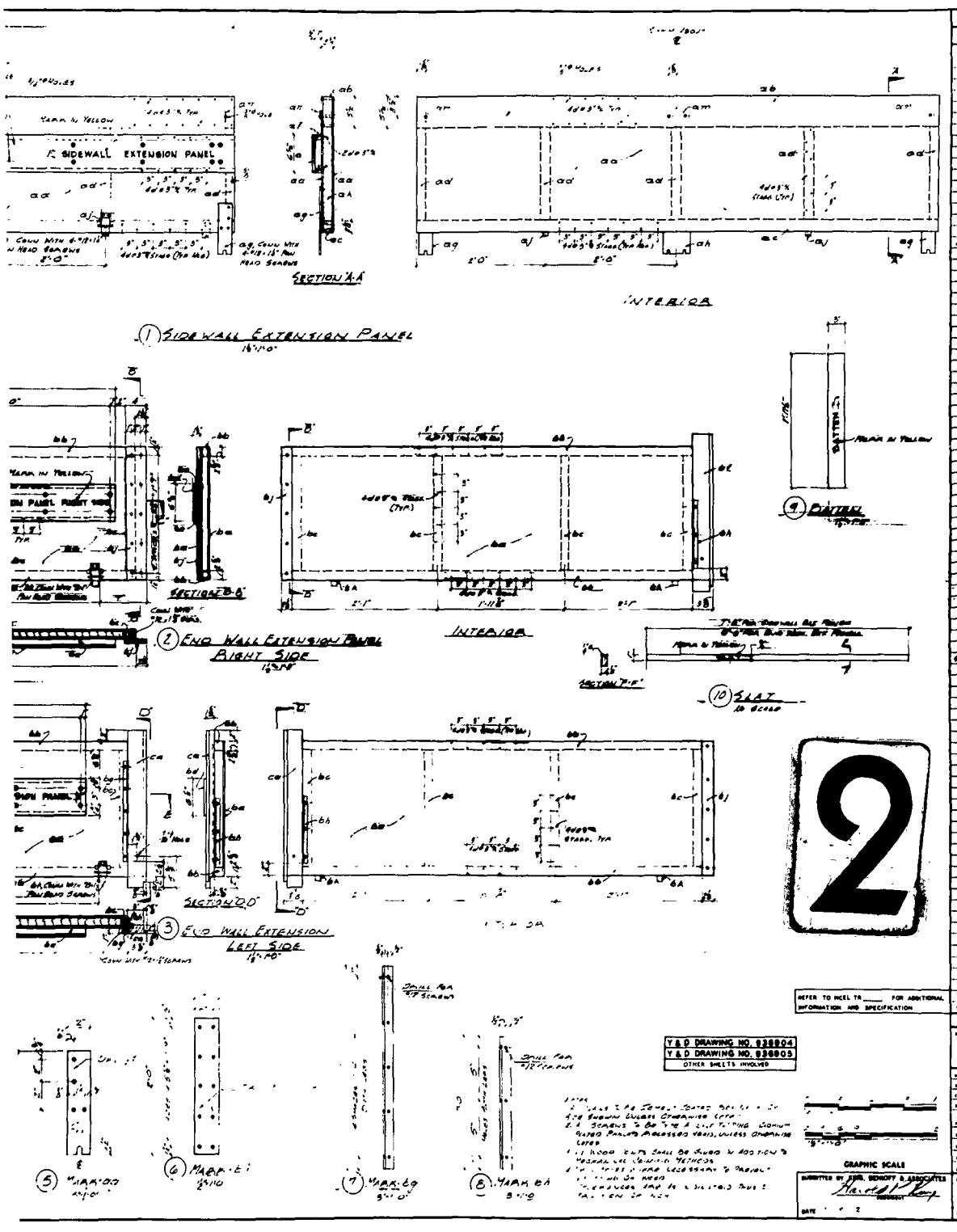
T & D DRAWING NO. 23[illegible]

GRAPHIC SCALE

SUBMITTED BY: KING, BENIOFF & ASSOCIATES — Harold J. Tang — DATE 8-8-62

APPROVED FOR BUREAU OF YARDS & DOCKS — FOR CHIEF OF BUREAU — DATE


SIDEWALL EXTENSION PANEL
EXTERIOR
SECTION X-X
(1) SIDEWALL EXTENSION PANEL
SECTION B-B
EXTERIOR
SECTION C-C
(2) END WALL EXTENSION PANEL RIGHT SIDE
INTERIOR
SECTION D-D
EXTERIOR
SECTION E-E
(3) END WALL EXTENSION LEFT SIDE
(4) MARK: ah
(5) MARK: ad
(6) MARK: ae
(7) MARK: bg
(8) MARK: bh



ITEM	MARK	DESCRIPTION	SIZE	MATL	NO. REQ'D	REMARKS
1	AA	EXTERIOR PANEL				
	aa	WEST PANEL	4'-10"x8'-0"	PLYWOOD	2	
	ab	HEAD	3"x5"x8'-0"	WOOD	1	
	ac	SILL	3"x5"x8'-0"	WOOD	1	
4	ad	VERTICALS	3"x5"x7'-3"	WOOD	5	
5	ae	TIEDOWN BAR	1"x2"x8'-0"	PLYWOOD	1	SEE DET
6	af	TIEDOWN BAR PANEL	1"x1"x8'-0"	WOOD	2	
7	ag	ANCHOR "B"	2"x1/2"x0'-9"	STEEL	2	SEE DET (5)
8	ah	WEDGE ANCHOR	5"x1"x0'-9"	STEEL		SEE DET (6)
9	ai	LINK-LOCK		STEEL	2	SEE SHEET 9
10	aj	INSULATION	1" THICK SHEET PANEL			SEE SPECIFICATIONS
11	am	TAMP BOLT	1/2"x5" LONG	STEEL	4	WITH WING NUT
END WALL EXTENSION PANEL, RIGHT SIDE						
12	ba	WEST PANEL	4'-10"x6'-1/16"	PLYWOOD	2	
13	bb	HEAD & SILL	1 1/2"x3"x6'-1/16"	WOOD	2	
14	bc	VERTICALS	1 1/2"x3"x1'-6 1/2"	WOOD	4	
15	bd	TIEDOWN BAR	1"x2"x5'-2"	PLYWOOD	1	SEE DETAIL (7)
16	be	TIEDOWN BAR SPACER	3/4"x1"x5'-2"	WOOD	2	
17	bf	JAMB EXTENSION	1 1/2"x3"x1'-8"	WOOD	1	SEE DET (7)
18	bg	EXT JAMB ANGLE	1"x1"x1/8"x1'-6"	STEEL	1	SEE DET (8)
19	bh	INT JAMB ANGLE	1"x1"x1/8"x1'-6"	STEEL	1	SEE DET (8)
20	bj	CORNER PANEL PL	3"x3"x1'-6"	PLYWOOD	1	SEE DET (8)
21	bk	LINK-LOCK		STEEL	2	SEE SHEETS 8
22	bm	INSULATION	1" THICK SHEET PANEL			SEE SHEET
END WALL EXTENSION PANEL, LEFT SIDE						
24	ca	WEST PANEL	4'-10"x6'-1/16"	PLYWOOD	2	
25	cb	HEAD & SILL	1 1/2"x3"x6'-1/16"	WOOD	2	
26	cc	VERTICALS	1 1/2"x3"x1'-6 1/2"	WOOD	4	
27	cd	TIEDOWN BAR	1"x2"x5'-2"	PLYWOOD	1	SEE DETAIL (7)
28	ce	TIEDOWN BAR SPACER	3/4"x1"x5'-2"	WOOD	2	
29	cf	JAMB EXTENSION	1 1/2"x3"x1'-8"	WOOD	1	SEE DET (7)
30	cg	EXT JAMB ANGLE	1"x1"x1/8"x1'-6"	STEEL	1	SEE DET (8)
31	ch	INT JAMB ANGLE	1"x1"x1/8"x1'-6"	STEEL	1	SEE DET (8)
32	cj	CORNER PANEL PL	3"x3"x1'-6"	PLYWOOD	1	SEE DET (8)
33	ck	LINK-LOCK		STEEL	2	SEE SHEET 8
34	cm	INSULATION	1" THICK SHEET PANEL			SEE SHEET
MISCELLANEOUS						
35		SLAT	3/4"x1"x3'-0"	WOOD	1	SEE DET (10)
36		SLAT	3/4"x1"x6'-0"	WOOD	1	SEE DET (10)
37		PATTERN	3/4"x8"x1'11 1/2"	PLYWOOD	1	SEE DET (9)

6 - CONNECTING SCREWS & FERRULE PATTERN & LATCH TO BE PICKED FOR EQUIPMENT WITH PROSPECTING WALL PROTOTYPE UNIT

STEEL	DESCRIPTION	DATE	APPROVED

REVISIONS

DEPARTMENT OF THE NAVY — U.S. NAVAL CIVIL ENGINEERING LABORATORY — PORT HUENEME, CALIFORNIA

KING, BENIOFF & ASSOCIATES — CONSULTING ENGINEERS — SAN FRANCISCO, CALIFORNIA

DESIGNED E. FRANKEL
DRAWN B. FRANKEL
CHECKED W. FRANK
SUPERVISED W. FRANK
PROJ. ENGR. [illegible]
DATE [illegible]
DWG. CHK. [illegible]
DATE [illegible]
DWG. NO. [illegible]
APPROVED [illegible] DATE [illegible]
APPROVED FOR BUREAU OF YARDS & DOCKS — FOR CHIEF OF BUREAU — DATE

PIONEER POLAR STRUCTURES
JAMESWAY WALL EXTENSION KIT
FABRICATION - WALLS

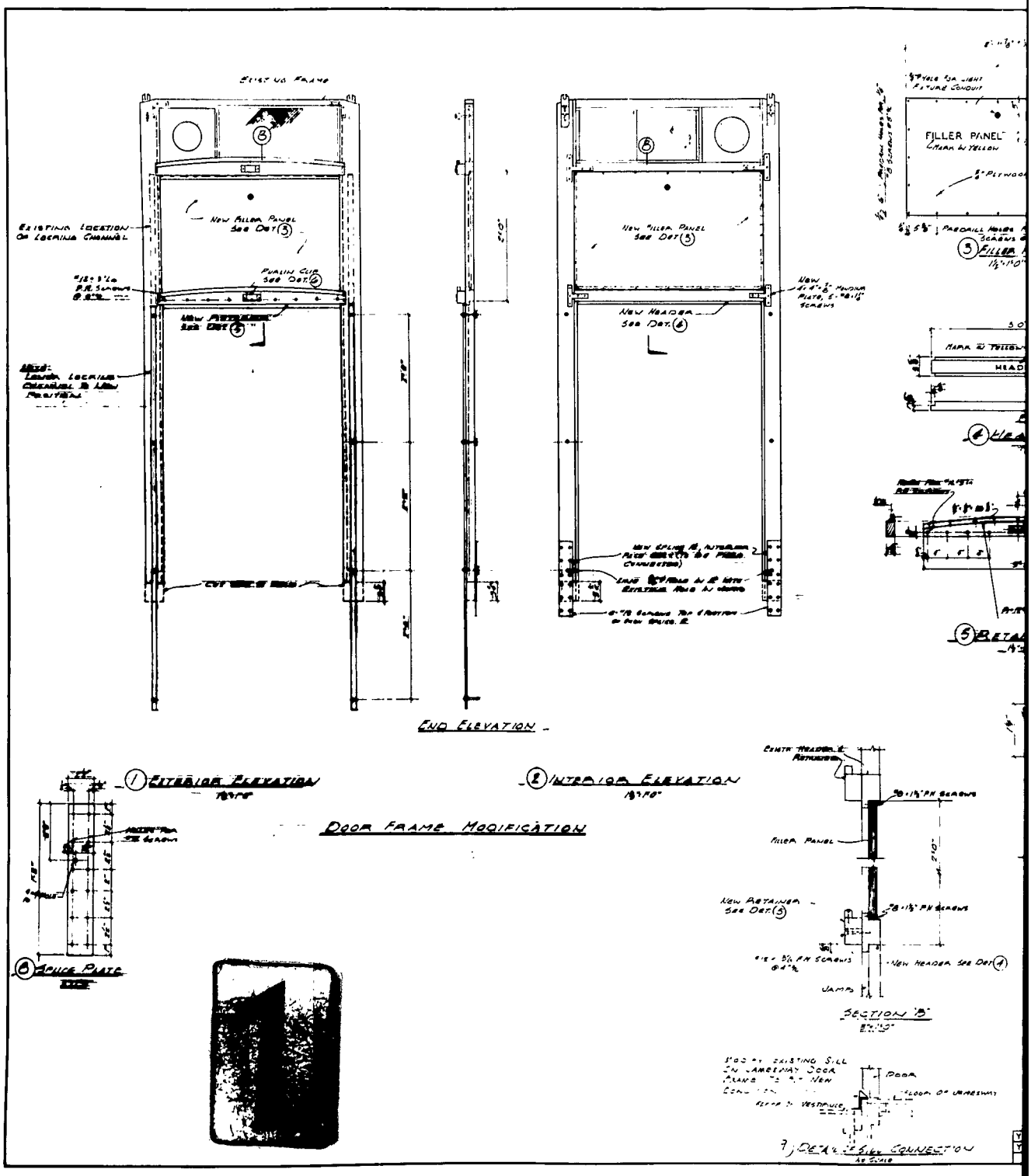
SCALE AS NOTED SPEC
SHEET 2 OF 19 SHEETS
Y & D DRAWING NO. 938903

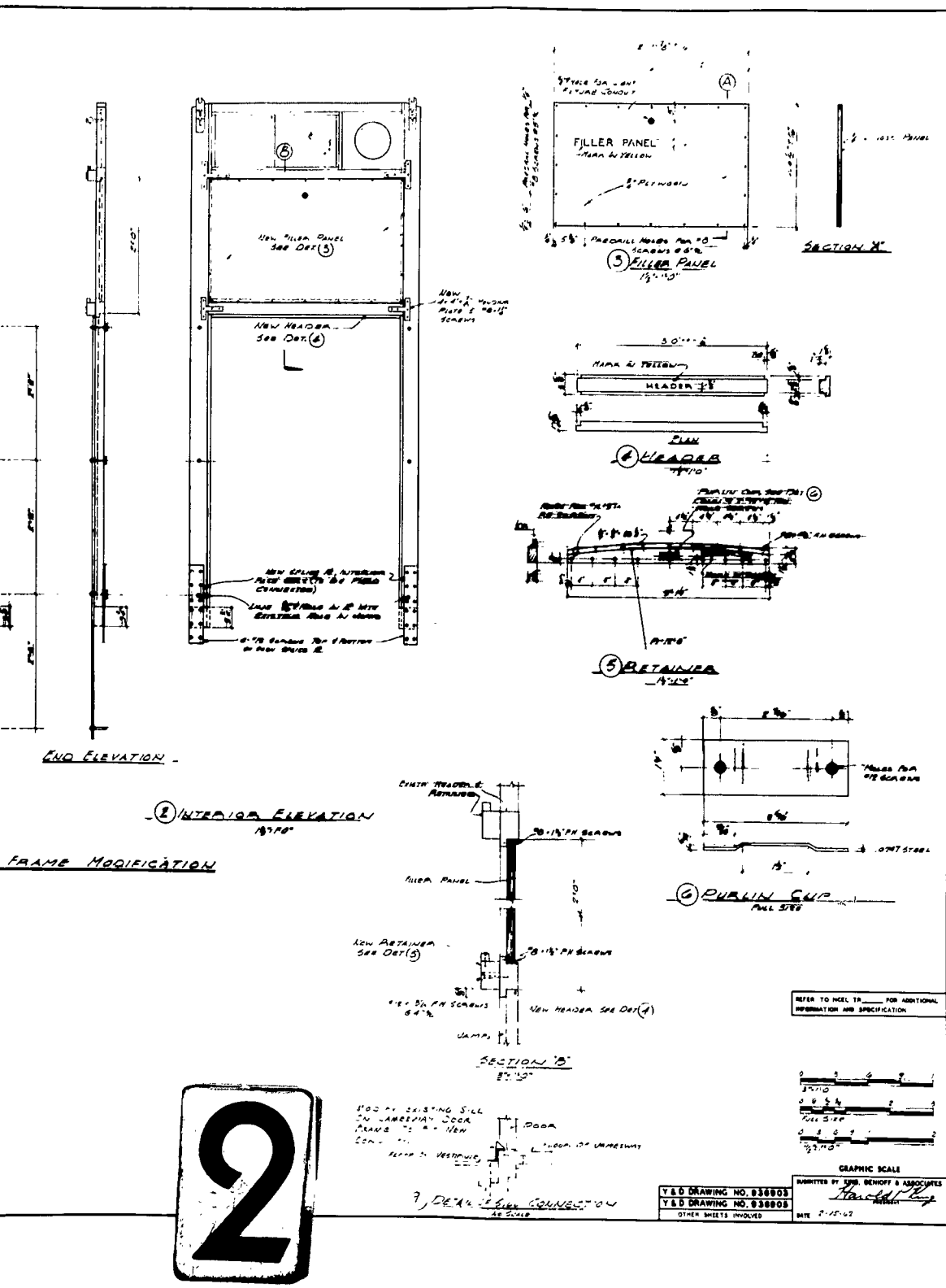
Y & D DRAWING NO. 938904
Y & D DRAWING NO. 938905
OTHER SHEETS INVOLVED

REFER TO NCEL TR ____ FOR ADDITIONAL INFORMATION AND SPECIFICATION

GRAPHIC SCALES

SUBMITTED BY KING, BENIOFF & ASSOCIATES
DATE


EXIST'G FRAME
NEW FILLER PANEL SEE DET. 3
EXISTING LOCATION OF LOCKING CHANNEL
PURLIN CLIP SEE DET. 6
NEW HEADER SEE DET. 6
END ELEVATION
1 EXTERIOR ELEVATION
2 INTERIOR ELEVATION
DOOR FRAME MODIFICATION
FILLER PANEL
3 FILLER
4 HEAD
5 RETAI
8 SPLICE PLATE
NEW RETAINER SEE DET. 5
NEW HEADER SEE DET. 4
JAMB
SECTION "B"
DOOR
FLOOR OF UNDERPASS
7 DETAIL SILL CONNECTION



BILL OF MATERIAL

ITEM NO.	MARK	ITEM	SIZE	MAT.	WEIGHT	REMARKS
HEADER ASSEMBLY						
		HEADER	[illegible]	WOOD	1	SEE DET. 4
		MOULDING 2	[illegible]	[illegible]	2	[illegible]
RETAINER ASSEMBLY						
3		RETAINER	[illegible]	WOOD		SEE DET. 5
4		[illegible]	[illegible]	WOOD		SEE DET. 5
5		PURLIN CLIP	[illegible]	STEEL		SEE DET. 6
6		SCREWS	[illegible]	STEEL	12	FLAT HEAD
7						
8						
FILLER PANEL						
9		PANEL	[illegible]	PLYWOOD	1	SEE DET. 3
10		SCREWS	[illegible]	STEEL	80	FLAT HEAD
SPLICE PLATE						
11		SPLICE PL	[illegible]	STEEL	2	SEE DET. 7
12		SCREWS	[illegible]	STEEL	30	FLAT HEAD

ITEM NO.	DESCRIPTION	UNIT	REMARKS	QTY.
DOOR FRAME MODIFICATION ASSEMBLY				
A1	HEADER ASSEMBLY	EA	SEE ITEM 1 ON BILL OF MATERIAL	1
A2	RETAINER ASSEMBLY	EA	SEE ITEM 2 ON BILL OF MATERIAL	1
A3	FILLER PANEL	EA	SEE ITEM 3 ON BILL OF MATERIAL	1
A4	SPLICE PLATE	EA	SEE ITEM 4 ON BILL OF MATERIAL	2

G. TO BE SHIPPED AT FABRICATOR AND REMOVED FROM SHIPMENT WITH JAMESWAY WALL EXTENSION KIT.

REFER TO NCEL TR_____ FOR ADDITIONAL INFORMATION AND SPECIFICATION

SYMBOL	DESCRIPTION	DATE	APPROVED

REVISIONS

DEPARTMENT OF THE NAVY — U.S. NAVAL CIVIL ENGINEERING LABORATORY — PORT HUENEME — CALIFORNIA

KING, BENIOFF & ASSOCIATES — CONSULTING ENGINEERS — SHERMAN OAKS, CALIFORNIA

PIONEER POLAR STRUCTURES

JAMESWAY WALL EXTENSION KIT

FABRICATION - DOOR FRAME

SCALE AS NOTED SPEC.

SHEET 3 OF 19

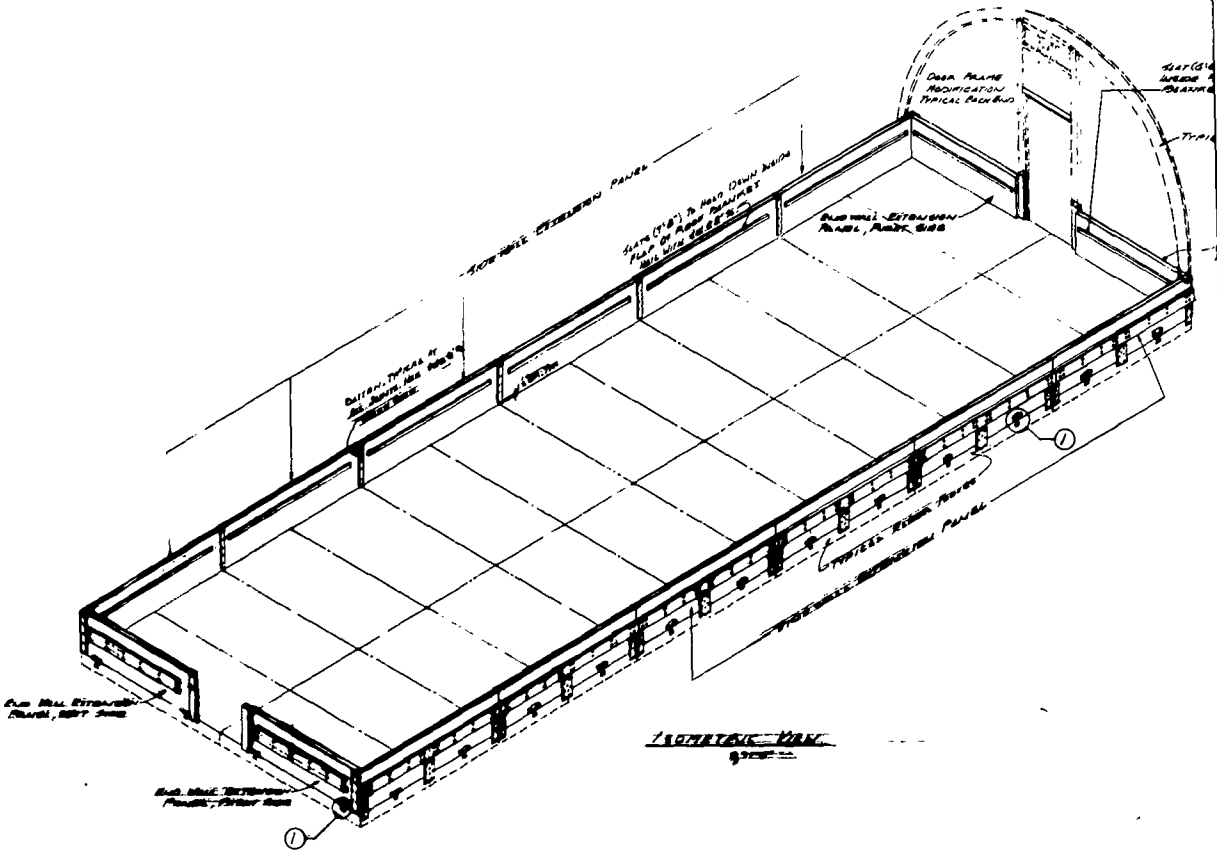
Y & D DRAWING NO. 936903

Y & D DRAWING NO. 936905

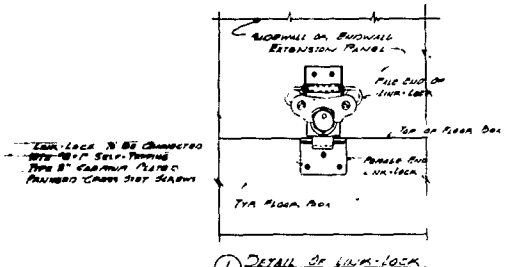
OTHER SHEETS INVOLVED

Y & D DRAWING NO. 936904

2

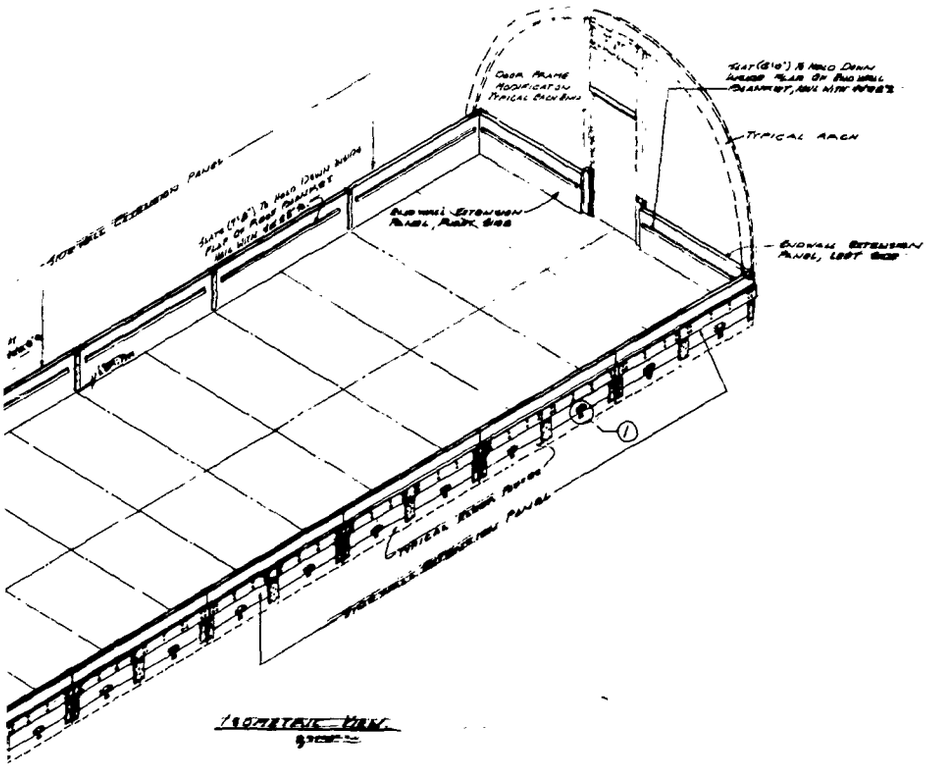


ISOMETRIC VIEW

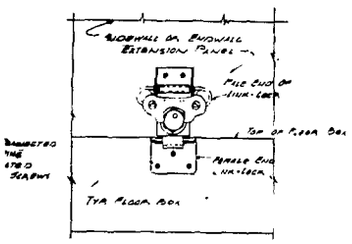


1 DETAIL OF LIN-LOCK FASTENER

NO SCALE



ISOMETRIC VIEW



(1) DETAIL OF LINK-LOCK FASTENER

NO SCALE

2

ITEM	DESCRIPTION	UNIT	REMARKS	QTY
	Sidewall Wall Extension Kit 4' x 8'			
1	Sidewall Extension Panel	Ea	T&D Dwg. No. 936903	2
2	Sidewall Extension Panel Assy. 4	Ea	T&D Dwg. No. 936903	2
3	Sidewall Extension Panel Assy. 5-6	Ea	T&D Dwg. No. 936903	2
4	Door Frame Mod. Extension Assembly	Ea	T&D Dwg. No. 936904	2
5	Slat 7-8	Ea	T&D Dwg. No. 936903	12
6	Slat 2-6	Ea	T&D Dwg. No. 936903	4
7	Batten	Ea	T&D Dwg. No. 936903	10
	Endwall Wall Extension Kit 4' x 8'			
2-1	Endwall Extension Panel	Ea	T&D Dwg. No. 936903	8
2-2	Endwall Extension Panel, Right Side	Ea	T&D Dwg. No. 936903	2
2-3	Endwall Extension Panel Left Side	Ea	T&D Dwg. No. 936903	2
2-4	Door Frame Modification Assembly	Ea	T&D Dwg. No. 936904	2
2-5	Slat (7'-8")	Ea	T&D Dwg. No. 936903	8
2-6	Slat (6'-0")	Ea	T&D Dwg. No. 936903	4
2-7	Batten	Ea	T&D Dwg. No. 936903	6

SYMBOL	DESCRIPTION	DATE	APPROVED

REVISIONS

REFER TO NCEL TR ____ FOR ADDITIONAL INFORMATION AND SPECIFICATION

DEPARTMENT OF THE NAVY — U.S. NAVAL CIVIL ENGINEERING LABORATORY — PORT HUENEME, CALIFORNIA

KING, BENIOFF & ASSOCIATES — CONSULTING ENGINEERS — THOUSAND OAKS, CALIFORNIA

DESIGNED B.T. Faulkner
DRAWN B.T. Faulkner
TRACED H.P. Ho
SUPERVISED H.P. Ho
PROJ. MGR. [illegible]
DESIGN CHIEF [illegible]
DEPT. HEAD [illegible]
DIV. HEAD [illegible]

PIONEER POLAR STRUCTURES
JAMESWAY WALL EXTENSION KIT
ERECTION DETAILS

APPROVED [illegible] DATE 4/4/62

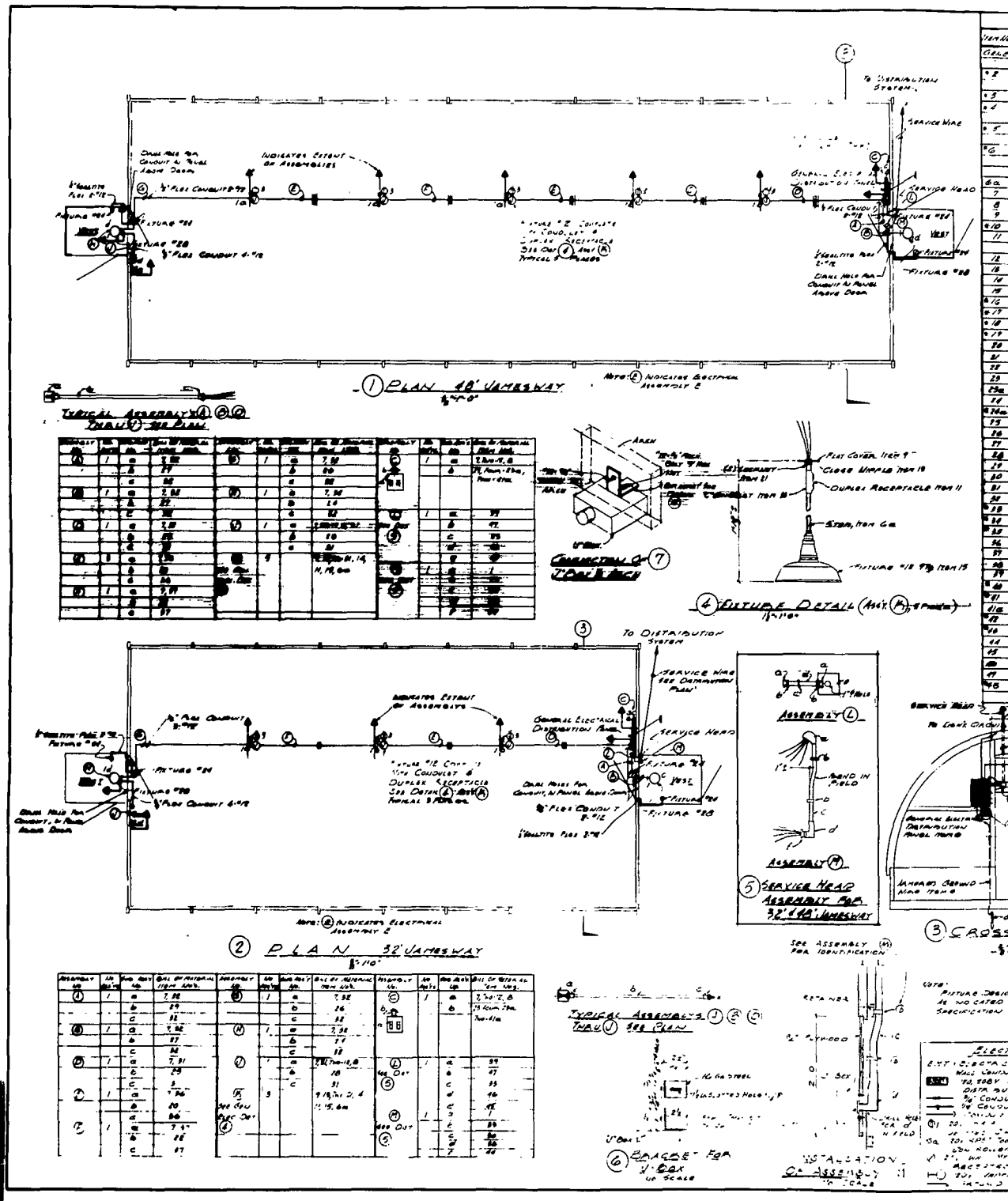
APPROVED FOR BUREAU OF YARDS & DOCKS — FOR CHIEF OF BUREAU — DATE

SCALE AS NOTED SPEC.
SHEET 4 OF 19 SH.
T & D DRAWING NO. 936905

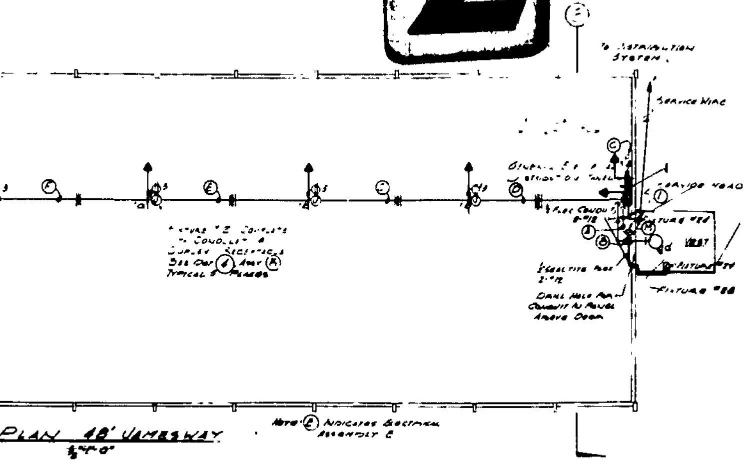
GRAPHIC SCALE

SUBMITTED BY KING, BENIOFF & ASSOCIATES — DATE 8-15-61

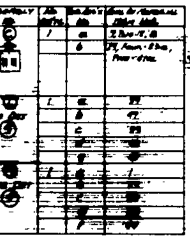
T & D DRAWING NO. 936903
T & D DRAWING NO. 936904
OTHER SHEETS INVOLVED

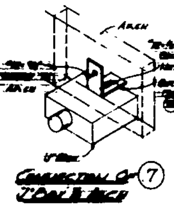

1 PLAN 48' JAMESWAY
2 PLAN 32' JAMESWAY
3 CROSS
4 FIXTURE DETAIL
5 SERVICE HEAD ASSEMBLY FOR 32' & 48' JAMESWAY
6 BRACKET FOR 4" BOX
7 CONNECTION OF 1" CONDUIT
TYPICAL ASSEMBLY
THRU
SEE PLAN
TO DISTRIBUTION SYSTEM
SERVICE WIRE
SERVICE HEAD
INDICATES EXTENT OF ASSEMBLIES
GENERAL ELECTRICAL DISTRIBUTION PANEL
DRILL HOLES FOR CONDUIT IN PANEL ABOVE DOOR
FLEX CONDUIT
FIXTURE
ASSEMBLY
BOND IN FIELD
SEE ASSEMBLY (M) FOR IDENTIFICATION
INSTALLATION OF ASSEMBLY
NOTE: (E) INDICATES ELECTRICAL ASSEMBLY E

2

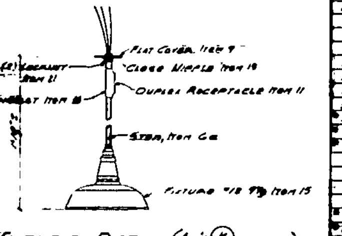


PLAN 48' JAMESWAY
1/4"=1'-0"

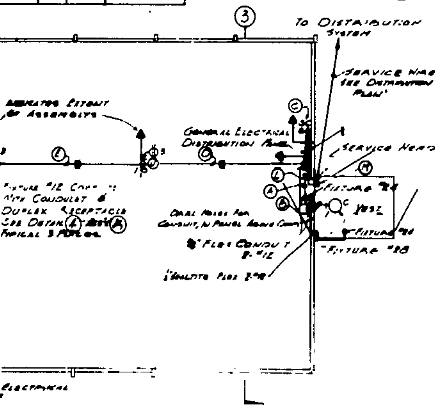




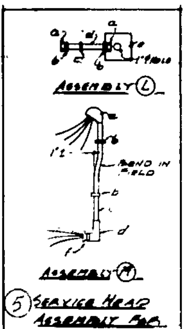
CONNECTION OF J BOX TO ARCH ⑦



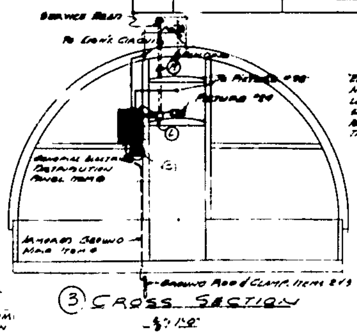
④ FIXTURE DETAIL (Ass'y Ⓚ, 5 Places)
1/2"=1'-0"



32' JAMESWAY



⑤ SERVICE HEAD ASSEMBLY FOR 32' & 48' JAMESWAY



③ CROSS SECTION
1/2"=1'-0"

GROUNDING NOTE
Electric System of Each Bldg. Need Not Be Grounded if Located on Snow Field. Grounding Shall Be Installed as Shown if Building is Located on Other Than Snow or Ice.

Note: Ⓛ Indicates Electrical Ass'y L

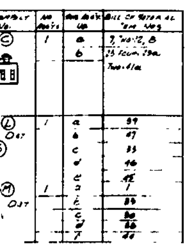
Item No	Item	Size	No. Req'd	Remarks
General Electrical 32' Building				
1	Service Head	1"	1	
*2	Ground Rod	3/4"x8'0" Copper Clad	1	
*3	Ground Clamp	Type J, Copper	1	
*4	Armored Ground Wire	#8x7'0"	1	
*5	Armored Cable Connector	1/2"		
*6	10 Circuit Panel / Surface Cover 120/208V, 3φ 4W S/N	50A	1	Provide 3-150V, 20A, 1P CKT Breakers, 7 Spaces [illegible]
6a	Rigid Conduit	3/4"x12"	3	3-#12x3'0" B, R & W
7	Outlet Box	4x5x4PL	11	
8	Surface Cover	4" Sq 2 Toggle	7	
9	Flat Cover	4" Sq	3	With 1/2" K.O
*10	Plaster Ring	4" Sq	6	
11	Duplex Recept For C Condulet	120V, 15A, 3P	4	
12	SP Toggle Sw	120V, 15A	4	
13	Nipple	1/2"x2"	3	
14	"C" Condulet	1/2"	3	
15	Fixture #12		3	Navdocks Spec 979
*16	Fixture #84		4	Do.
*17	Fixture #88		2	Do.
*18	Seal Tite Flex Connector	1/2"	4	Vestibule Light
*19	Seal Tite Flex	1/2"x5'0"	2	2-#12x6'0" R, W
20	E.M.T	1/2"x9'9"	1	4-#12x8'9" Y, B, R, W
21	Locknut	1/2"	6	
22	E.M.T.	1/2"x7'9"	1	3-#12x8'9" B, R, W
23	Nipple	3/4"x3 1/2"	1	4-#12x6' (2)B, (2)R
23a	Locknuts	3/4"	4	
24	Flex Conduit	1/2"x2'6" Steel	1	3-#12x3'6" B, W, R
*24a	Machine Bolts with Hex Nuts	#12x1/2"	8	Round Head
25	Flex Conduit	1/2"x12'0" Steel	1	[illegible] Y, B, W, R
26	Flex Conduit	1/2"x[illegible] Steel	1	[illegible] B, R, W
27	Flex Conduit	1/2"x[illegible] Steel	1	[illegible] B, R, W
28	Flex Conduit	1/2"x9'6" Steel	1	[illegible]
29	Flex Conduit	1/2"x[illegible] Steel	1	[illegible]
30	Rigid Conduit	1"x[illegible] Steel	1	[illegible]
31	Flex Connectors	1/2" Steel	2	
32	Flex Connectors	3/4" Steel	9	
*33	Cond. Strap	1" Steel	4	2 Hole Strap
*34	Flex Cond. Strap	1/2" Steel	4	1 Hole Strap
*35	Flex Cond. Strap	3/4" Steel	10	1 Hole Strap
36	[illegible]	1/2" Steel	8	
37	[illegible]	3/4" Steel	[illegible]	
38	L.B. Condulet	1"	1	[illegible]
39	Bushing	1"	1	
*40	Wire Connectors	For 4-#12	16	
*41	Screws	[illegible]	25	[illegible]
41a	[illegible]	[illegible]	8	
*42	Nails	[illegible]	1/4 Lb.	
*43	Elect Tape	3/4"x.007"	1 Roll	Black (Plastic)
44	Chase Nipple	1"	1	
45	"J" Box	[illegible]	1	
46	Rigid Conduit	1"x[illegible]	1	
47	Locknuts	1"	4	
*48	"J" Box Bracket	See Det. ⑥	3	

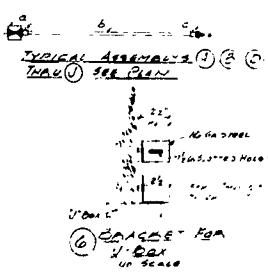
Item No	Item	Size	No. Req'd	Remarks
General Electrical 48' Building				
1	Service Head	1"	1	
*2	Ground Rod	3/4"x8'0" Copper Clad	1	
*3	Ground Clamp	Type "J" Copper	1	
*4	Armored Ground Wire	#8x7'0"	1	
*5	Armored Cable Connector	1/2"	1	
*6	10 Circuit Panel & Surface Cover 120/208V 3φ 4W	50A	1	Provide 3-150V, 20A, 1P CKT Breakers, 7 Spaces for 150V 20A, Max CKT Bkr
6a	Rigid Cond.	3/4"x2"	5	3-#12x3'0" B, R & W
7	Outlet Box	4x5x4PL	13	
8	Surface Cover	4 Sq Two Toggles	2	
9	Flat Covers	4" Sq	5	With 1/2" K O
*10	Plaster Ring	4" Sq	6	
11	Duplex Recept For 'C' Condulet	120V, 15A, 3P	5	
12	SP Toggle Switch	120V, 15A	4	
13	Nipple	1/2"x2"	5	
14	"C" Condulets	1/2"	5	
15	Fixture #12		5	Navdocks Spec 979
*16	Fixture #84		4	Do
*17	Fixture #88		2	Do
*18	Seal Tite Flex Connector	1/2"	4	Vestibule Light
*19	Seal Tite Flex	1/2"x5'0"	2	2-#12x6'0" R, W
20	E.M.T	1/2"x7'9"	3	4-#12x8'9" Y, B, W, R
21	Locknut	1/2"	10	
22	E.M.T	1/2"x7'9"	1	3-#12x8'9" B, R, W
23	Nipple	3/4"x3 1/2"	1	4-#12x6'6" (2) B, (2) R
23a	Locknuts	3/4"	4	
24	Flex Conduit	1/2"x2'6" Steel	1	3-#12x3'6" B, W, R
25	Flex Conduit	1/2"x12'0" Steel	7	4-#12x15'6" Y, B, W, R
26	Flex Conduit	1/2"x10'6" Steel	1	3-#12x10'6"
27	Flex Conduit	1/2"x5'6" Steel	1	3-#12x[illegible]
28	Flex Conduit	1/2"x15'6" Steel	1	4-#12x[illegible]
29	Flex Conduit	1/2"x3'6" Steel	1	3-#12x4'6" B, R, W
30	Rigid Conduit	1"x1'0" Steel	1	[illegible]
31	Flex Connector	1/2" Steel	6	
32	Flex Connector	3/4" Steel	9	
*33	Cond Strap	1" Steel	4	2 Hole Strap
*34	Flex Cond. Strap	1/2" Steel	6	1 Hole Strap
*35	Flex Cond. Strap	3/4" Steel	10	1 Hole Strap
36	[illegible]	1/2"	14	
37	[illegible]	3/4"	16	
38	L.B. Condulet	1"	1	[illegible]
39	Bushing	1"	1	
*40	Wire Connectors	For 4-#12	31	
*41	Screws	#10x3/4"	30	[illegible]
41a	Bushing	3/4"	2	
*42	Nails	6d Box	1/4 Lb	
*43	Elect Tape	3/4"x.007"	1 Roll	Black (Plastic)
44	Chase Nipple	1"	1	
45	"J" Box	4"x4"x6"	1	
46	Rigid Conduit	1"x8"	1	
47	Locknuts	1"	4	
*48	"J" Box Bracket	See Det ⑥	4	
*49	Machine Bolts with Hex Nuts	#12x1/2"	12	Round Head

Note:
All Wire Sizes To Be American Wire Gauge.
Abbreviations in "Remarks" Col. Are As Follows: B = Black Bl = Blue
W = White
R = Red
Y = Yellow
These Refer To Color Of Insulation On Wire.

* Package Equipment In Carton (Not Part Of Assemblies)

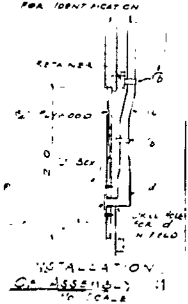
Note: All Screws To Be Type "Z" Self-Tapping Cadmium Plated Phillips Recessed Head Unless Otherwise Noted.





TYPICAL ASSEMBLYS ① ② ⑤ THRU ⑦ SEE PLAN

⑥ BRACKET FOR J-BOX
No Scale

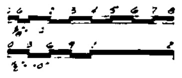


INSTALLATION OF ASSEMBLY Ⓜ
No Scale

Note
Fixture Designation Numbers Are As Indicated in Bureau of Yards & Docks Specification No. 979

ELECTRICAL SYMBOLS
EMT = Electrical Metallic Tubing (Thin Wall Conduit)
120/208V 3φ 4W S/N Surface Mtd Distribution Panel
1/2" Conduit Exposed #12
1/2" Conduit Exposed 3-#12
Circuit Turned Down
20A 125V Duplex Receptacle, No. Indicates Circuit
20A 125V Toggle Switch Letter Denotes Controlled Device
Fixture Complete with Receptacle
Wall Mtd Fixture

REFER TO NCEL TR____ FOR ADDITIONAL INFORMATION AND SPECIFICATION



GRAPHIC SCALE

SYMBOL	DESCRIPTION	DATE	APPROVED

REVISIONS

DEPARTMENT OF THE NAVY
U.S. NAVAL CIVIL ENGINEERING LABORATORY
PORT HUENEME
BUREAU OF YARDS AND DOCKS
CALIFORNIA
KING, BENIOFF & ASSOCIATES CONSULTING ENGINEERS

DESIGNED R. [illegible]
DRAWN DEMANTYAN
CHECKED R. [illegible]
SUPERVISOR [illegible]
NCEL
PROJ. ENGR. J P Carey
[illegible] B [illegible]
DEPT HEAD [illegible]
[illegible]
DEPT HEAD [illegible]

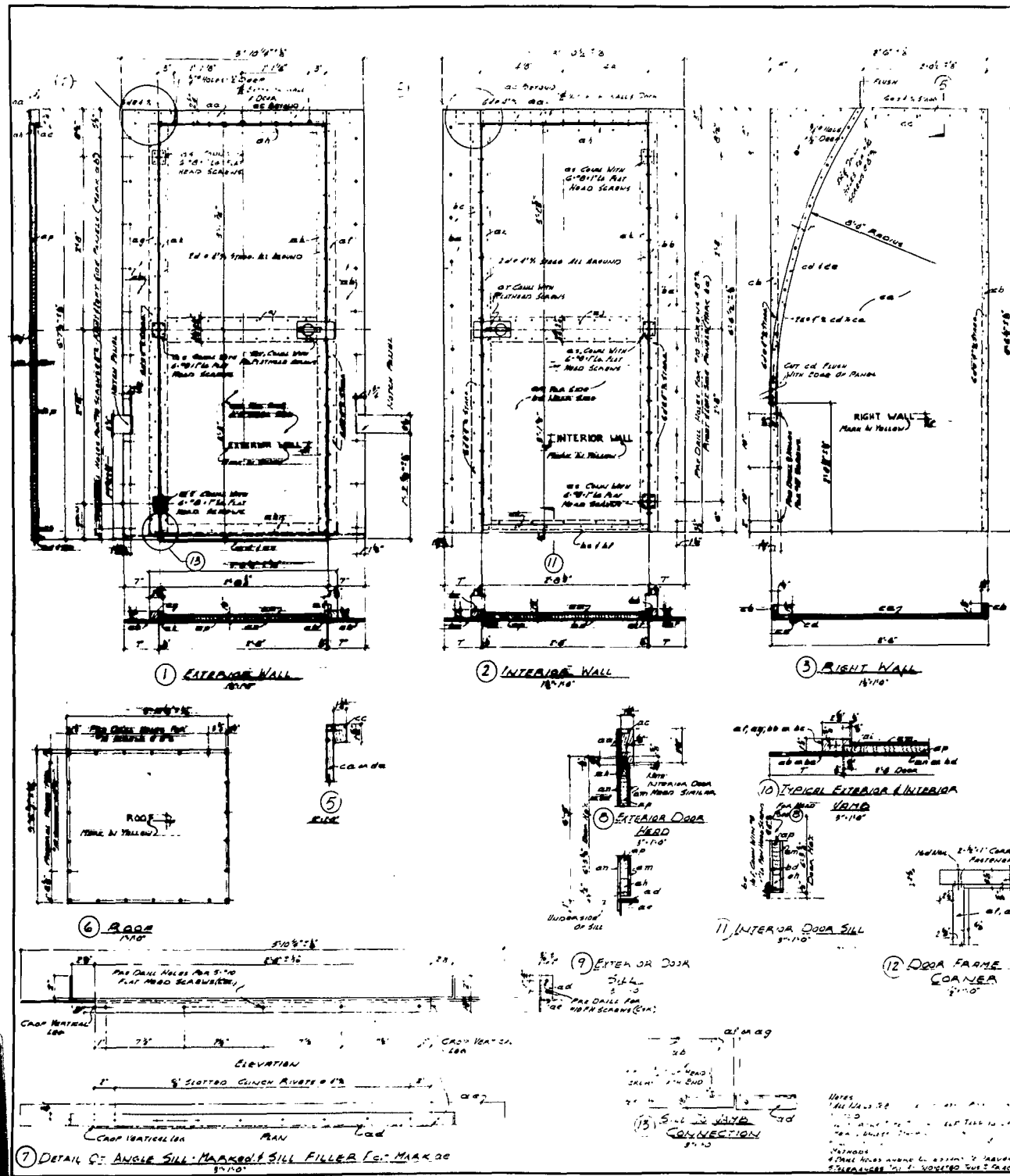
PIONEER POLAR STRUCTURES
JAMESWAY GENERAL ELECTRICAL
32' & 48' BUILDINGS

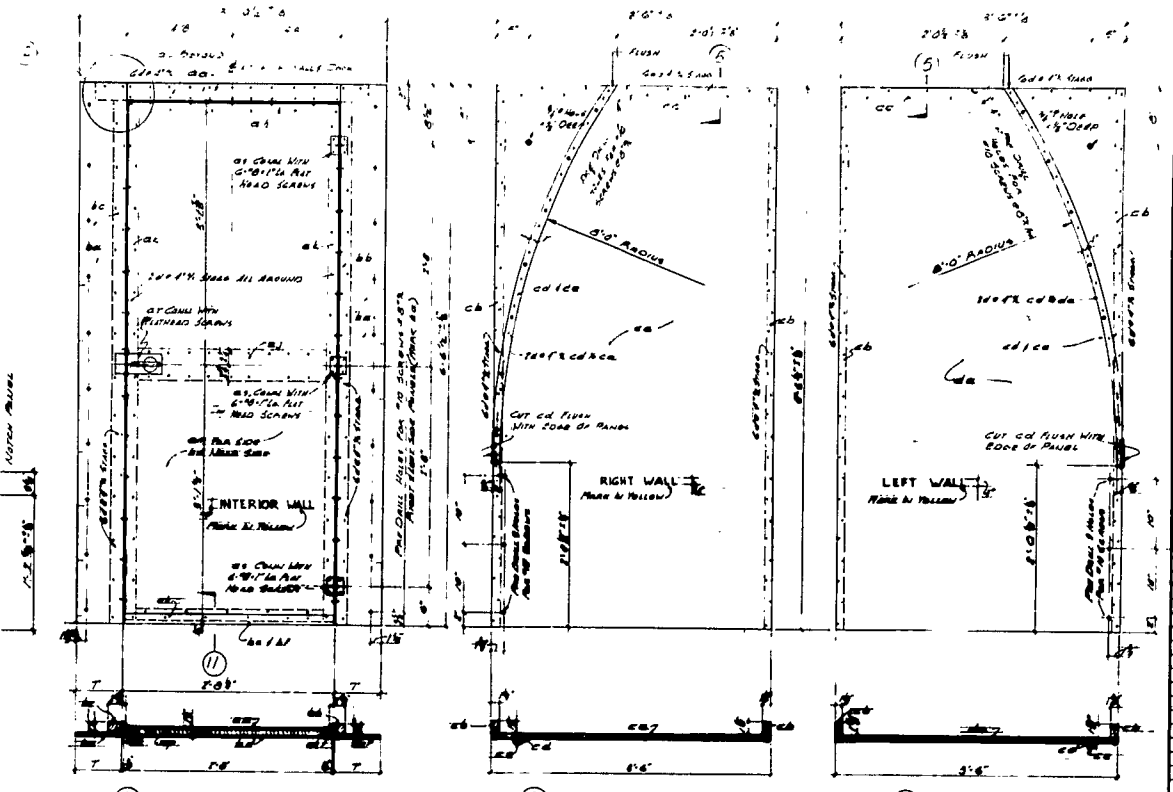
APPROVED [illegible]
COMMANDING OFFICER AND DIRECTOR
DATE [illegible]

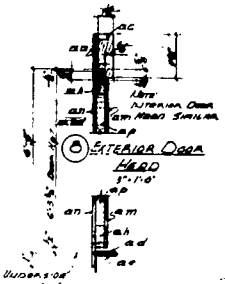
SUBMITTED BY KING, BENIOFF & ASSOCIATES
Harold P King
PRESIDENT
DATE

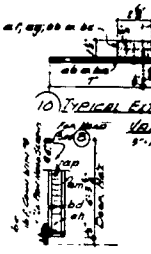
APPROVED FOR BUREAU OF YARDS & DOCKS
FOR CHIEF OF BUREAU
DATE

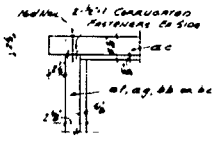
SCALE AS NOTED SPEC
SHEET 3 OF 19 SH
Y & D DRAWING NO. 936906

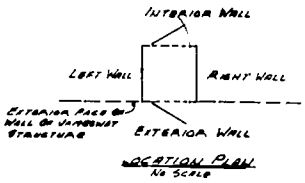

1 EXTERIOR WALL
2 INTERIOR WALL
3 RIGHT WALL
INTERIOR WALL
RIGHT WALL
ROOF
5
6 ROOF
8 EXTERIOR DOOR HEAD
10 TYPICAL EXTERIOR & INTERIOR JAMB
11 INTERIOR DOOR SILL
12 DOOR FRAME CORNER
9 EXTERIOR DOOR SILL
ELEVATION
PLAN
7 DETAIL OF ANGLE SILL, MARKED & SILL FILLER FOR MARK 06
13 SILL TO JAMB CONNECTION

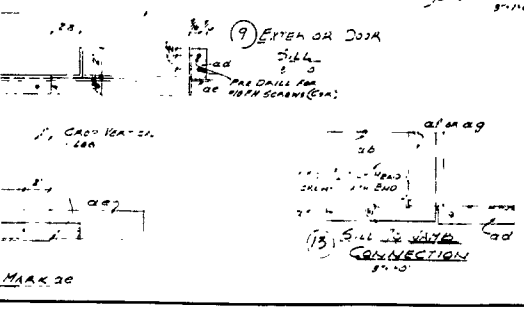












		EXTERIOR WALL					
1	aa	TOP PANEL	3/4 × 2'-2 1/2" × 8'-6 1/2"	PLYWOOD	1	SEE DET.	
2	ab	SIDE PANEL	3/4 × 1'-6 1/2" × 6'-6 1/2"	PLYWOOD	2	SEE DET.	
3	ac	HEAD	1 × 3 1/2" × 3'-3 1/2"	WOOD	1	SEE DET. (2) (12)	
4	ad	SILL	1 × 1 1/2" × 2'-3 1/2"	STEEL		SEE DET.	
5	ae	[illegible] FILLER R	1/4" × 1" × 3'-10 1/2"	PLYWOOD		SEE DET.	
6	af	[illegible] JAMB	1 × 1 1/2" × 3'-3 1/2"	WOOD		SEE DET. (7) (8)	
7	ag	LEFT JAMB	1 × 1 1/2" × 3'-3 1/2"	WOOD	1	SEE DET. (8) (10)	
8	ah	OR [illegible]	3/4 × 1 1/2" × 1'-4 1/2"	PLYWOOD	2		
9	ai	WINDOW [illegible]	3/4 × 1'-2" × 1'-4 1/2"	PLYWOOD			
10	aj	[illegible]	1 × 1 1/2" × 2'-3 1/2"	WOOD	2		
11	ak	[illegible] PANEL	3/4 × 2'-6 1/2" × 6'-2 1/2"	PLYWOOD	1		
12	al	EXT DOOR PANEL	3/4 × 2'-8 1/2" × 6'-8 1/2"	PLYWOOD	1		
13	am	INSULATION	SEE SHEET [illegible]			SEE SPECIFICATION	
14	an	LATCH & CLOSING		STEEL		SEE SPECIFICATION	
15	ao	HINGE, SHT. METAL	2 1/2" × 2 1/2"	STEEL	5		
		INTERIOR WALL					
16	ba	TOP PANEL	3/4 × 2'-2 1/2" × 2'-8 1/2"	PLYWOOD	1	SEE DET. (2)	
17	ba	SIDE PANEL	3/4 × 1'-6 1/2" × 6'-6 1/2"	PLYWOOD	2	SEE DET. (2)	
18	bc	HEAD	1 × 3 1/2" × 3'-3 1/2"	WOOD	1	SEE DET. (3) (13)	
19	bb	LEFT JAMB	1 × 2 1/2" × 6'-4"	WOOD	1	SEE DET. (3) (10)	
20	bc	RIGHT JAMB	1 × 2 1/2" × 6'-4"	WOOD	1	SEE DET. (3) (12)	
21	ch	TOP & BOTT RAIL	3/4 × 3/4 × 2'-4 1/2"	WOOD	2		
22	cj	MIDDLE RAIL	3/4 × 4 1/2" × 2'-4 1/2"	WOOD	1		
23	ck	STILES	3/4 × 3/4 × 6'-3 1/2"	WOOD	2		
24	cm	INT DOOR PANEL	3/4 × 2'-8 1/2" × 6'-8 1/2"	PLYWOOD			
25	bd	EXT DOOR PANEL	3/4 × 2'-8 1/2" × 6'-8 1/2"	PLYWOOD			
26	ap	INSULATION	FIBER, SEE SHEET [illegible]			SEE SPECIFICATION	
27	be	DOOR STRIP	3/4 × 1'-8" × 2'-8"	[illegible]	1	SEE DET. (11)	
28	bf	DOOR STOP MOULD	1 × 0'-8 1/2" × 2'-8"	STEEL		SEE DET. (11)	
29	br	LATCH & CLOSING		STEEL	1	SEE SPECIFICATION	
30	as	HINGE, SHT. METAL	2 1/2" × 2 1/2"	STEEL	5		
		RIGHT WALL					
31	cg	WALL PANEL	3/4 × 3'-6 1/2" × 6'-6 1/2"	PLYWOOD	1	SEE DET. (3)	
32	cb	JAMBS	1 1/2" × 3'-6 1/2"	WOOD	2		
33	cc	HEAD	1 1/2" × 3'-3 1/2"	WOOD			
34	cd	CLOSING STRIP	3/4 × 1 × 5'-0 1/2"	PLYWOOD	1	BAND SAWN	
35	ce	GASKET	1/8 × 1 × 5'-0 1/2"	FELT	1		
		LEFT WALL					
36	dd	WALL PANEL	3/4 × 3'-6 1/2" × 6'-6 1/2"	PLYWOOD	1	SEE DET. (3)	
37	cb	JAMBS	1 1/2" × 3'-6 1/2"	WOOD	2		
38	ce	HEAD	1 1/2" × 3'-3 1/2"	WOOD	1		
39	cd	CLOSING STRIP	3/4 × 1 × 5'-0 1/2"	PLYWOOD	1	BAND SAWN	
40	ce	GASKET	1/8 × 1 × 5'-0 1/2"	FELT	1		
		ROOF					
41		ROOF PANEL	3/4 × 3'-6 1/2" × 3'-3 1/2"	PLYWOOD	1	SEE DET. (5)	

2

SYMBOL	DESCRIPTION	DATE	APPROVED
	REVISIONS		

REFER TO NCEL TR ____ FOR ADDITIONAL INFORMATION AND SPECIFICATION

DEPARTMENT OF THE NAVY — U.S. NAVAL CIVIL ENGINEERING LABORATORY — PORT HUENEME, CALIFORNIA — BUREAU OF YARDS AND DOCKS

KING, BENIOFF & ASSOCIATES — CONSULTING ENGINEERS — SHERMAN OAKS, CALIFORNIA

DRAWN A. K. NG
TRACED B. F. ALLEMAN
CHECKED H. R. KING
APPROVED H. R. K. JR.

PIONEER POLAR STRUCTURES
JAMESWAY SIDE ENTRY KIT
(FOR USE WITH WALL EXTENSIONS)
FABRICATION DETAILS

APPROVED — DATE

APPROVED FOR BUREAU OF YARDS AND DOCKS — FOR CHIEF OF BUREAU — DATE

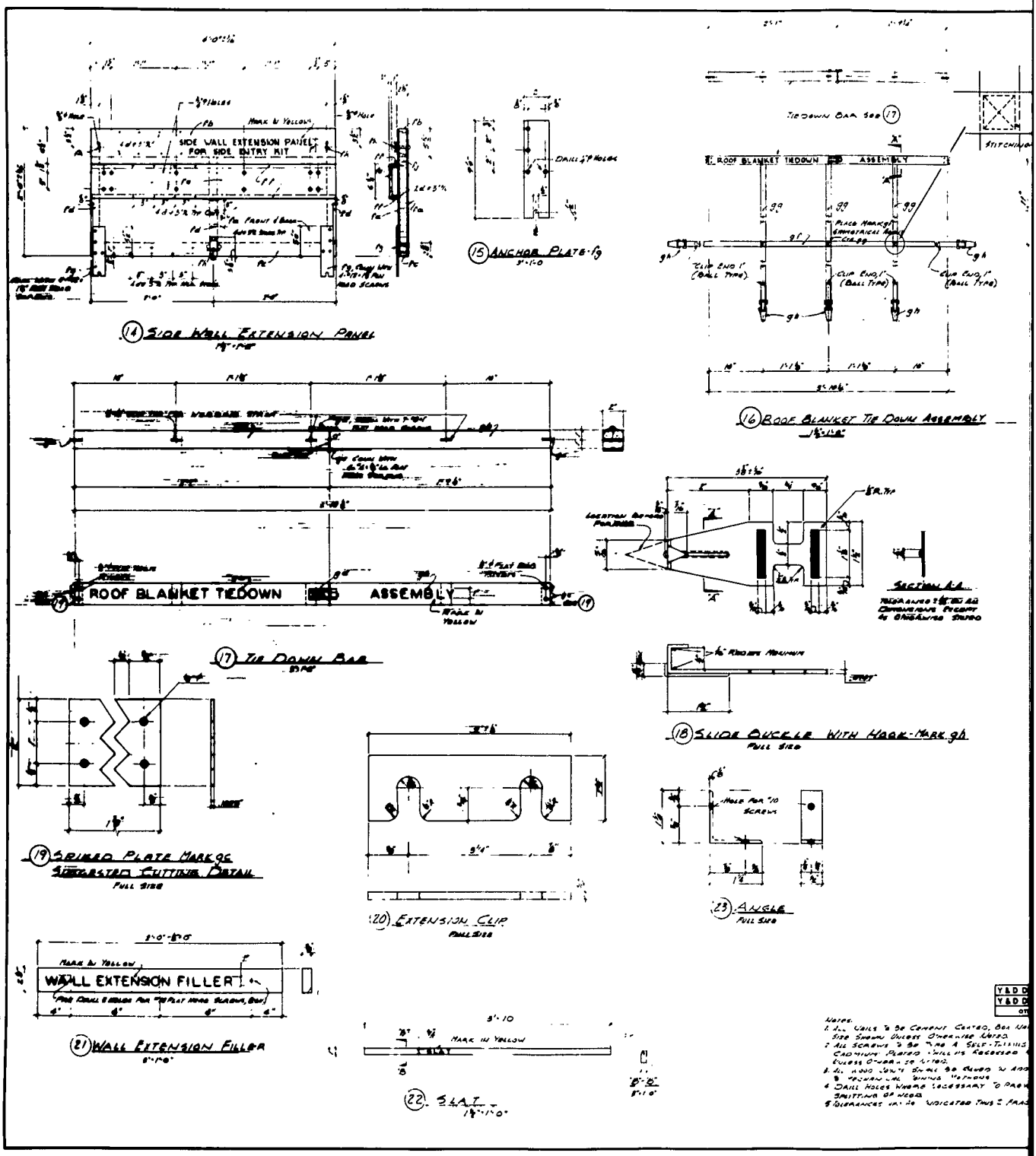
SCALE AS NOTED — SHEET 9 OF 19 — Y & D DRAWING NO. 939907

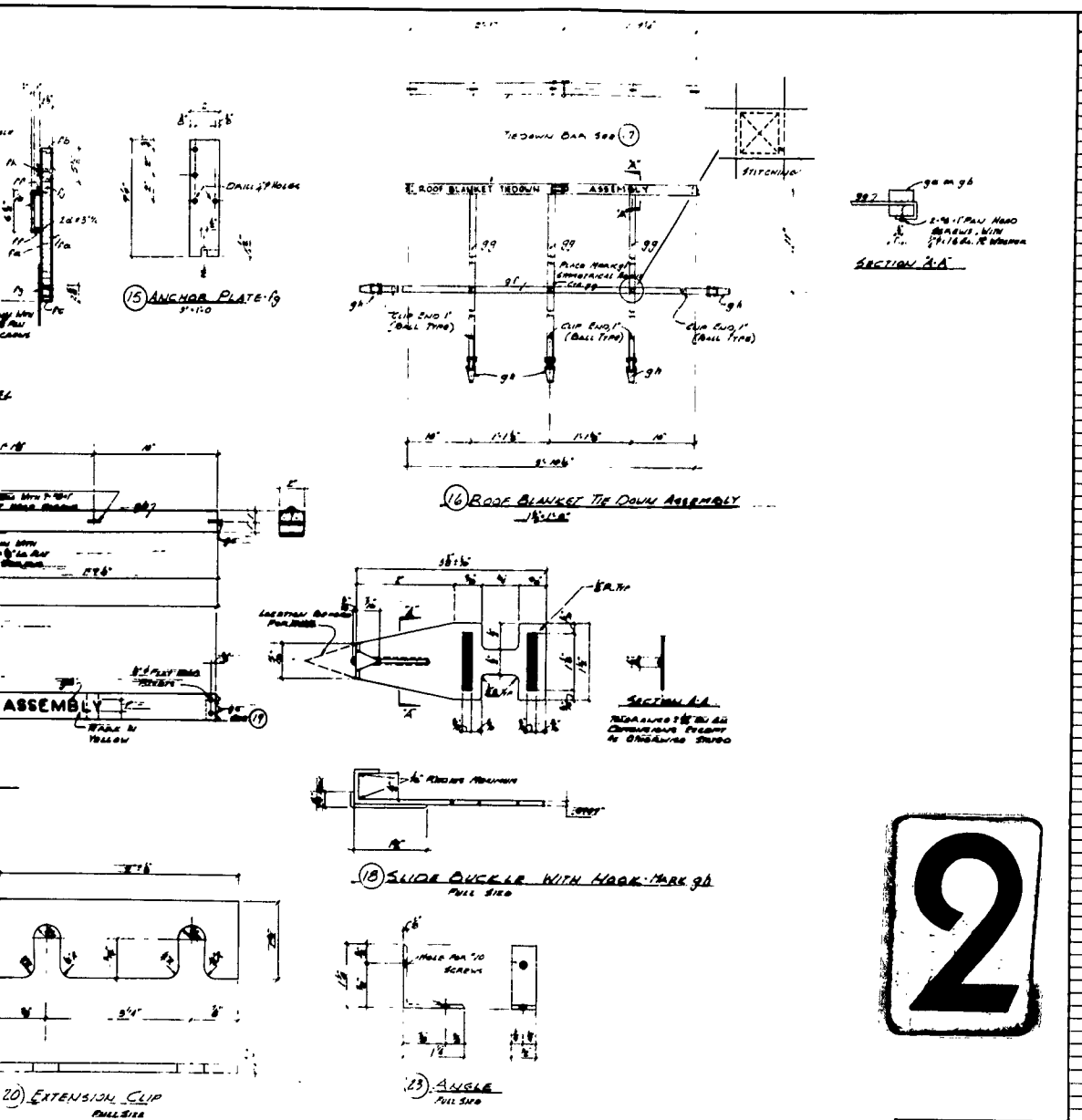
Y & D DRAWING NO. 939908
Y & D DRAWING NO. 939909
OTHER SHEETS INVOLVED

GRAPHIC SCALE

SUBMITTED BY KING, BENIOFF & ASSOCIATES — PRESIDENT — DATE

MARK 20


SIDE WALL EXTENSION PANEL FOR SIDE ENTRY KIT
MARK IN YELLOW
(14) SIDE WALL EXTENSION PANEL
(15) ANCHOR PLATE-fg
TIEDOWN BAR SEE (17)
ROOF BLANKET TIEDOWN ASSEMBLY
STITCHING
CLIP END 1" (BALL TYPE)
(16) ROOF BLANKET TIE DOWN ASSEMBLY
ROOF BLANKET TIEDOWN ASSEMBLY
(17) TIE DOWN BAR
SECTION A-A
(18) SLIDE BUCKLE WITH HOOK-MARK gh
FULL SIZE
(19) SPIKED PLATE MARK gc
SUGGESTED CUTTING DETAIL
FULL SIZE
(20) EXTENSION CLIP
FULL SIZE
(23) ANGLE
FULL SIZE
WALL EXTENSION FILLER
(21) WALL EXTENSION FILLER
MARK IN YELLOW
(22) SEAT
NOTES.



Item	Mark	Description	Size	Mat.	No. req.	Remarks
		Side Wall Sections on Panel				
	1a	Wood Sill	4" × 0 × 4'-0	Plywood	2	
2	1b	Head	3/8 × 5½ × 4'-0	Wood	1	
3	1c	Stile	3/8 × 2¾ × 4'-0	Wood	1	
4	1d	Stiffeners	3/8 × 1¾ × .38	Wood	3	
5	1e	Tiedown Side	4 × 5½ × 4'-0	Plywood	1	See Det. (10)
6	1f	Wood Sill Spacer	4 × 1 × 4'-0	Wood	2	
7	1g	Anchor Plate	2" × 4" × 0.74	Steel	2	See Det. (6)
8						
9	1h	Latch Subassy		Steel		See Specification
10	1i	Tube Bar	1" Pipe, See Note			See Specification
11	1k	Tank Bolt	3/8" × 3" Long	Steel	2	Hex Wing Nut
		Roof Blanket Tiedown Assembly				
12	1a	Tiedown Side Stiffener	2 × 2 × 2'-1	Wood	1	See Det. (11)
13	1b	Tiedown Side Member	2 × 2 × 1'-9¾	Wood	1	See Det. (11)
14	1c	Spreader	1¼ × 1.046 × 2	Steel	2	See Det. (11)
15	1d	Bracket Bolt	4"	Steel		
16	1e	Bracket Shaft Stamp	3"	Steel	1	
17	1f	Longitudinal Member	1 × 2 × 4		1	Hardware Cloth, Type B
18	1g	Transverse Member	1 × 2 × 6		3	Hardware Cloth, Type B
19	1h	Slide Buckle		Steel	5	See Det. (18)
		Miscellaneous				
20		Wall End Filler	3/4 × 2¼ × 2'-0	Wood	2	See Det. (20)
21		Slat	1 × 1 × 4'-0	Wood	1	See Det. (22)
22		Extension Clip	1¼ × 1/16 × 5	Steel	3	See Det. (20)
23		Angle	1¼ × 1¼ × 3/16 × 2	Steel	2	See Det. (23)
24		Screw	#10 × 2" FH		60	#
25		Screw	#10 × 1½" FH		60	#
26		Screw	#10 × ¾" FH		36	#
27		Screw	#10 × 2" RH		12	#
28		Screw	#10 × 1" FH		12	#

Abbreviations: F.H. - Flat Head, R.H. - Round Head

2

REFER TO NCEL TR_____ FOR ADDITIONAL INFORMATION AND SPECIFICATION

Symbol	Description	Date	Approved

REVISIONS

Y & D DRAWING NO. 939907
Y & D DRAWING NO. 939909
OTHER SHEETS INVOLVED

Notes
1. All welds to be continuous, unless otherwise noted.
2. All screws to be type A self tapping, cadmium plated (unless otherwise noted).
3. All wood joints shall be glued in addition to mechanical fastening methods.
4. Drill holes where necessary to prevent splitting of wood.
5. Tolerances unless indicated thus ± fraction or inch.

Full Size

GRAPHIC SCALE

Submitted by: King, Benioff & Associates

Approved for Bureau of Yards & Docks

For Chief of Bureau

Date

Department of the Navy — U.S. Naval Civil Engineering Laboratory, Port Hueneme, California — Bureau of Yards and Docks

King, Benioff & Associates, Consulting Engineers, Emeryville, California

Designed: T.A.W.
Drawn: D.P. Kaufman
Checked: H.P.K.
Approved: H.P.K.

Approved: Officer and Director

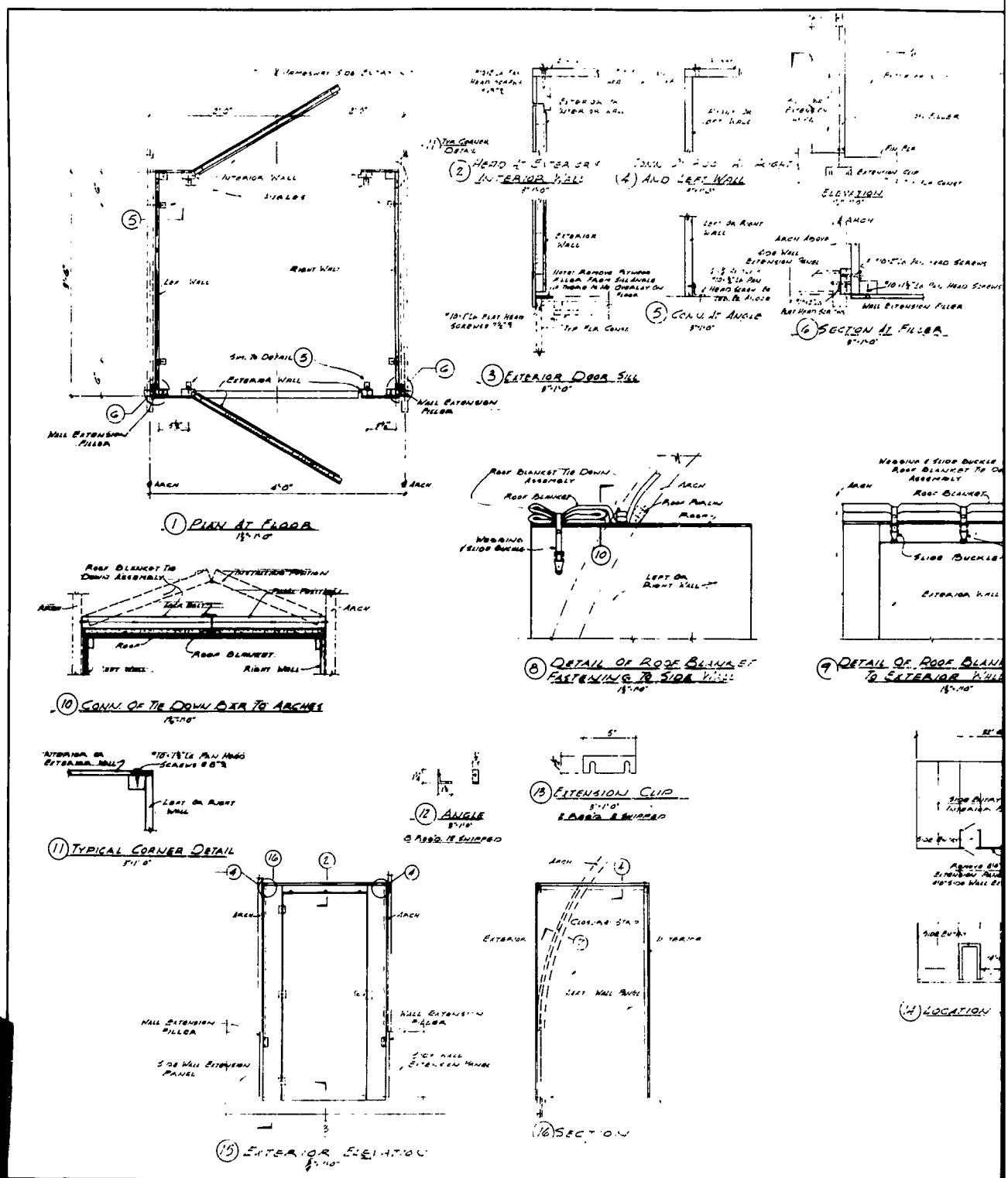
Date: 6-5-62

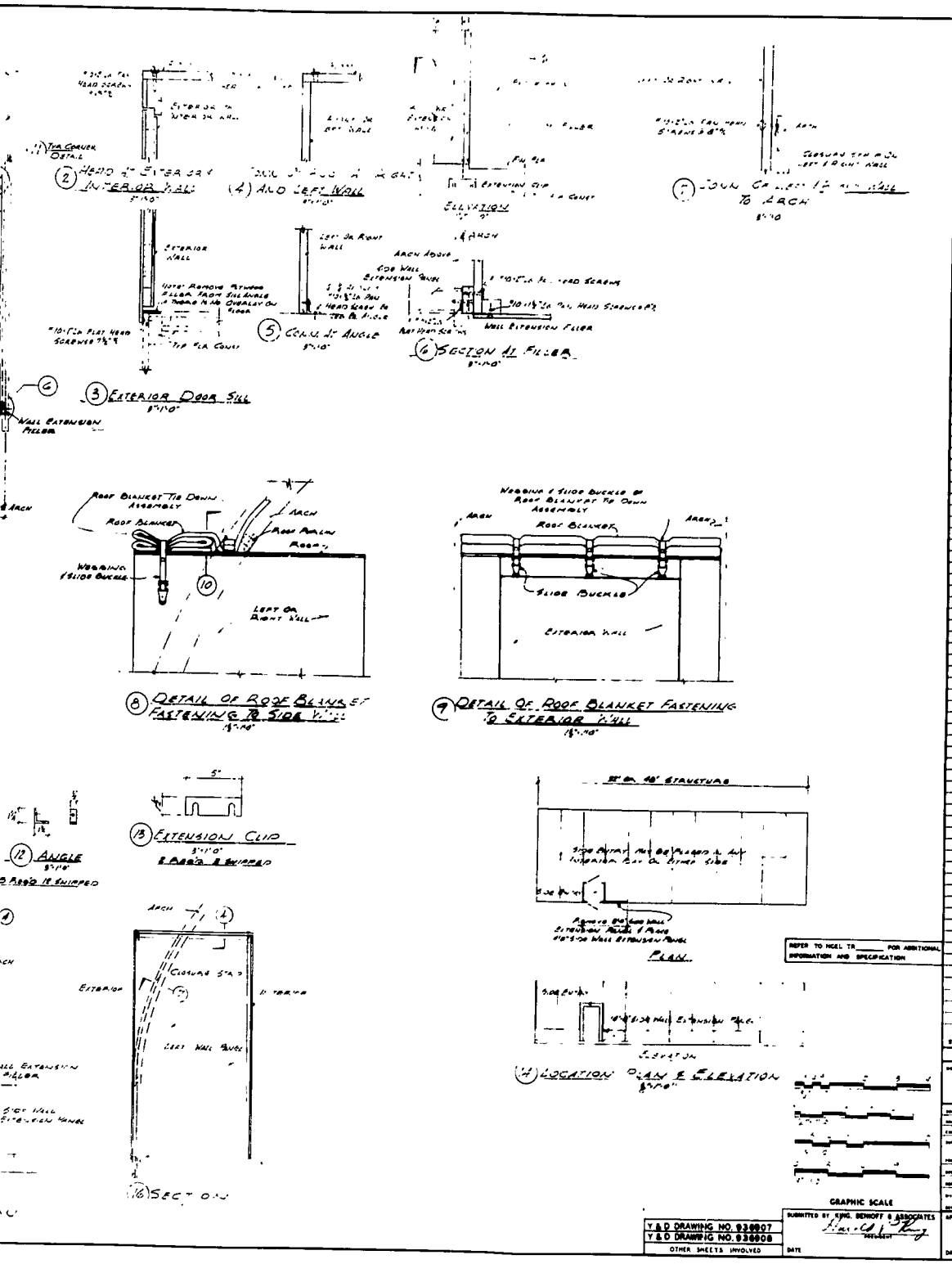
PIONEER POLAR STRUCTURES
JAMESWAY SIDE ENTRY KIT
(FOR USE WITH WALL EXTENSIONS)
FABRICATION DETAILS

Scale: AS NOTED

Sheet 7 of 19

Y & D Drawing No. 939908


1 Plan At Floor
2 Head At Exterior Or Interior Wall
3 Exterior Door Sill
4 Jamb At Left Wall
5 Conn. At Angle
6 Section At Filler
8 Detail Of Roof Blanket Fastening To Side Wall
9 Detail Of Roof Blanket To Exterior Wall
10 Conn. Of Tie Down Bar To Arches
11 Typical Corner Detail
12 Angle
13 Extension Clip
14 Location
15 Exterior Elevation
16 Section
Interior Wall
Right Wall
Left Wall
Exterior Wall
Wall Extension Filler
Arch
Roof Blanket
Roof Blanket Tie Down Assembly
Left Or Right Wall
Slide Buckle
Closing Strip
Left Wall Panel
Side Wall Extension Panel



1				
2				
3				
4				
5				
6				
7				
8	SCREW	#10 x 3/4 PANHEAD	DOZ	5
9	SCREW	#10 x 3/4 PANHEAD	DOZ	5
10	SCREW	#10 x 3/4 PANHEAD	DOZ	5
11	SCREW	#10 x 1/2 FLATHEAD	DOZ	1
12	SCREW	#10 x 1/2 FLATHEAD	DOZ	1

* SLIT TO BE USED TO CONNECT ROOF BLANKET TO WALL EXTENS ON AT INTERIOR OF BLDG. SIMILAR TO BLATS ON REMAINDER OF WALL EXTENSIONS

2

SYMBOL	DESCRIPTION	DATE	APPROVED

REVISIONS

DEPARTMENT OF THE NAVY — U.S. NAVAL CIVIL ENGINEERING LABORATORY — BUREAU OF YARDS AND DOCKS — PORT HUENEME, CALIFORNIA

KING, BENIOFF & ASSOCIATES — CONSULTING ENGINEERS — SAN MATEO, CALIFORNIA

PIONEER POLAR STRUCTURES
JAMESWAY SIDE ENTRY KIT
(FOR USE WITH WALL EXTENSIONS)
ERECTION DETAILS

APPROVED — DATE

APPROVED FOR BUREAU OF YARDS & DOCKS — FOR CHIEF OF BUREAU — DATE

SCALE AS NOTED SPEC

SHEET 8 OF 19

Y & D DRAWING NO. 936909

Y & D DRAWING NO. 936907

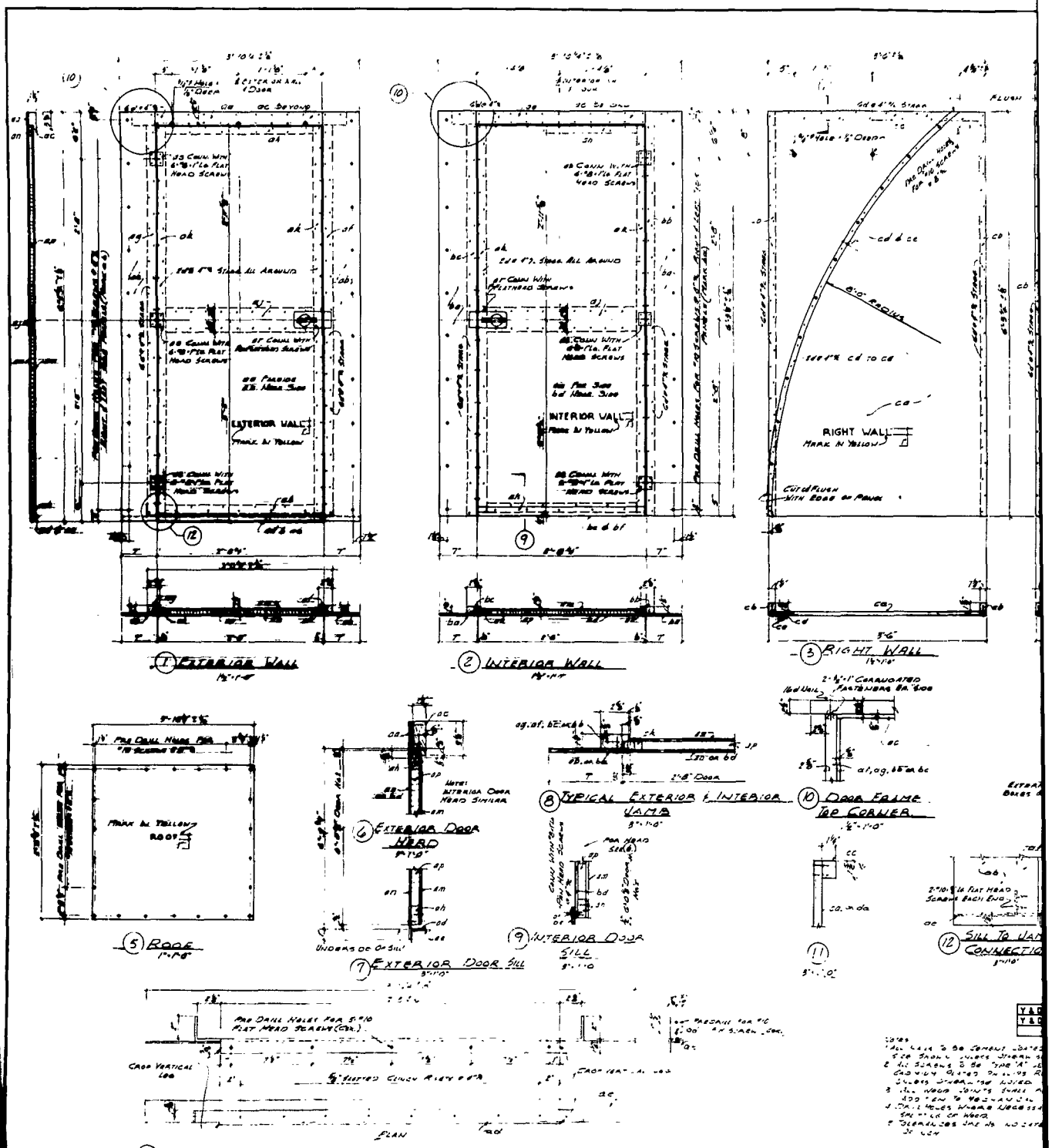
Y & D DRAWING NO. 936908

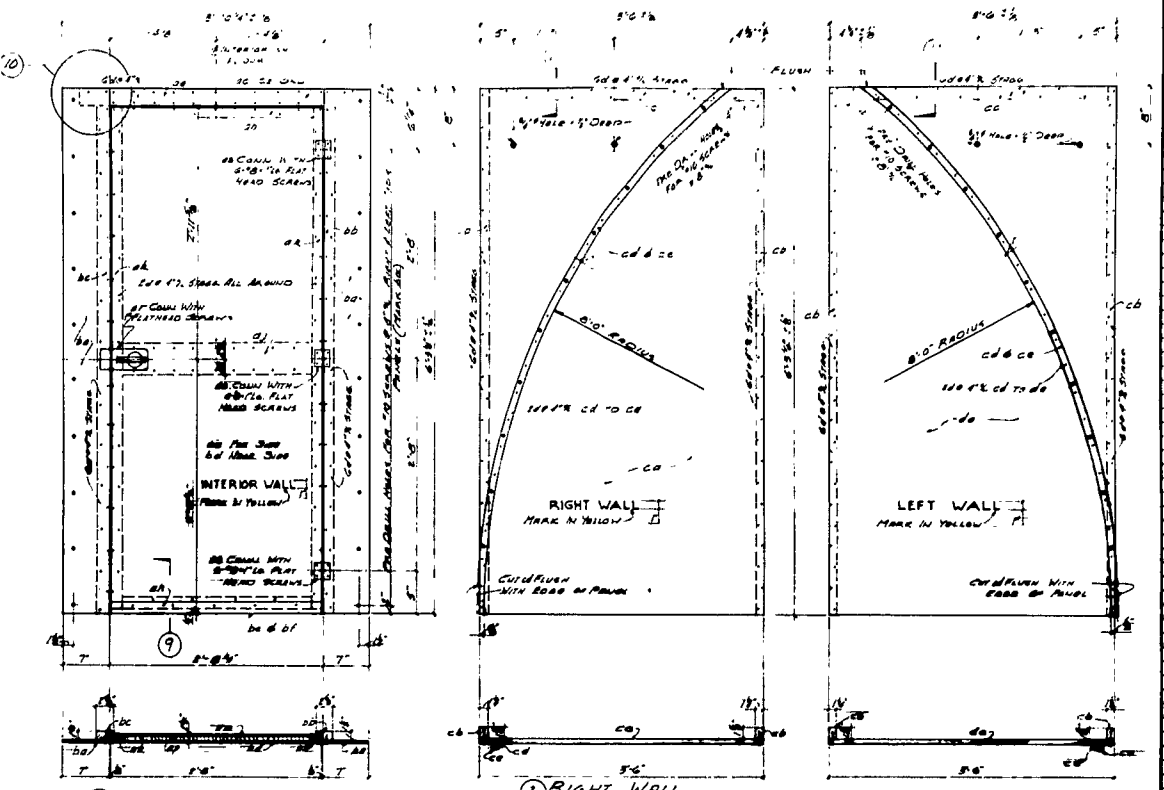
OTHER SHEETS INVOLVED

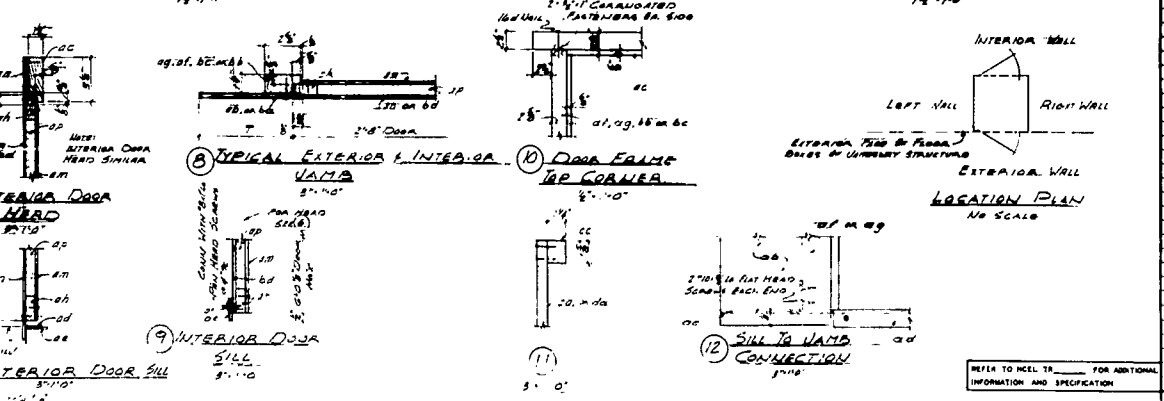
GRAPHIC SCALE

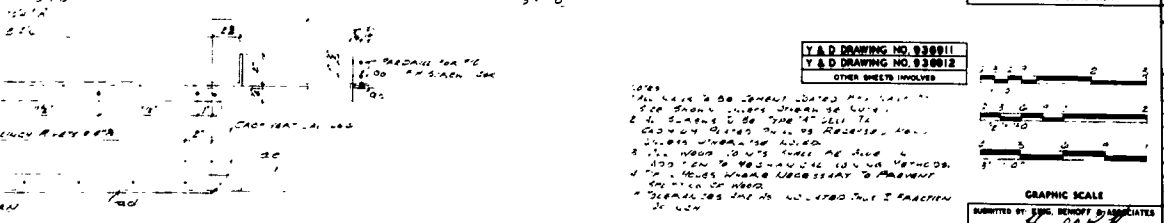
SUBMITTED BY KING, BENIOFF & ASSOCIATES — DATE

REFER TO NCEL TR ____ FOR ADDITIONAL INFORMATION AND SPECIFICATION


1 EXTERIOR WALL
2 INTERIOR WALL
3 RIGHT WALL
INTERIOR WALL
RIGHT WALL
MARK IN YELLOW
8'-0" RADIUS
5 ROOF
6 EXTERIOR DOOR HEAD
7 EXTERIOR DOOR SILL
8 TYPICAL EXTERIOR & INTERIOR JAMB
9 INTERIOR DOOR SILL
10 DOOR FRAME TOP CORNER
11
12 SILL TO JAMB CONNECTION
13 DETAIL OF ANCHOR SILL MARK 1 & SILL FILLER MARK 2
PLAN







1	aa	TOP PANEL	3/4 · 5'-2 · 2'-8 3/4	PLYWOOD	1	SEE DET. 1
2	ab	SIDE PANEL	3/4 · 3'-1 · 2'-6	PLYWOOD	2	SEE DET. 1
3	ac	HEAD	1 · 4 · 3'-2 1/2	WOOD	1	SEE DET. 6 & 10
4	ad	[illegible]	1/4 · 4 · 2'-8 1/8	STEEL	1	SEE DET. 9
5	ae	SILL [illegible]	1/4 · 7 · 3'-0 1/4	PLYWOOD	1	SEE DET. 9
6	af	RIGHT JAMB	1/4 · 2 1/2 · 6'-0 3/8	WOOD	1	SEE DET. 8 & 12
7	ag	LEFT JAMB	1/4 · 2 1/2 · 6'-0 3/8	WOOD	1	SEE DET. 8 & 12
8	ah	TOP & BOTT. RAIL	1/4 · 1 1/2 · 2'-4 1/2	WOOD	2	
9	ai	MIDDLE RAIL	1/4 · 4 · 2'-4 1/2	WOOD	1	
10	aj	STILES	1/4 · 1 1/2 · 6'-0 3/8	WOOD	2	
11	ak	INT. DOOR PANEL	1/4 · 2'-6 1/2 · 5'-11 1/8	PLYWOOD	1	
12	al	EXT. DOOR PANEL	1/4 · 2'-8 1/8 · 6'-1 5/8	PLYWOOD	1	
13	am	INSULATION	1" THICK SIZE IS AS NOTED			SEE SPECIFICATION
14	an	LATCH & KEEPER		STEEL	1	SEE SPECIFICATION
15	ao	HINGE, BUTT, FOR PIN	2 1/2 · 2 1/2	STEEL	3	
	INTERIOR WALL					
16	ap	TOP PANEL	3/4 · 5'-2 · 2'-8 3/4	PLYWOOD	1	SEE DET. 1
17	aq	SIDE PANEL	3/4 · 7 · 6'-3 3/4	PLYWOOD	2	SEE DET. 1
18	ar	HEAD	1/4 · 3 1/2 · 3'-3 1/4	WOOD	1	SEE DET. 6 & 10
19	as	FRAME JAMB	1/4 · 2 1/2 · 6'-0 3/8	WOOD	1	SEE DET. 8 & 12
20	at	LEFT JAMB	1/4 · 2 1/2 · 6'-0 3/8	WOOD	1	SEE DET. 8 & 12
21	au	TOP & BOTT. RAIL	3/4 · 1 1/2 · 2'-4 1/2	WOOD	2	
22	av	MIDDLE RAIL	1/4 · 4 · 2'-4 1/2	WOOD	1	
23	aw	STILES	1/4 · 1 1/2 · 6'-0 3/8	WOOD	2	
24	ax	INT. DOOR PANEL	1/4 · 2'-6 1/2 · 5'-11 1/8	PLYWOOD	1	
25	ay	EXT. DOOR PANEL	1/4 · 2'-8 1/8 · 6'-1 5/8	PLYWOOD	1	
26	az	INSULATION	1" THICK SIZE IS AS NOTED			SEE SPECIFICATION
27	ba	DRAIN STRIP	1/4 · 1 1/2 · 2'-8	FELT	1	SEE DET. 11
28	bb	DRAIN STRIP HANGER	0.06 · 3/4 · 2'-8	STEEL	1	SEE DET. 11
29	bc	LATCH & KEEPER		STEEL	1	SEE SPECIFICATION
30	bd	HINGE, BUTT, FOR PIN	2 1/2 · 2 1/2	STEEL	3	
	RIGHT WALL					
31	ce	WALL PANEL	3/4 · 5'-6 · 6'-3 3/4	PLYWOOD	1	SEE DET. 13
32	cb	JAMB	1/4 · 3 1/2 · 6'-3 3/4	WOOD	2	
33	cc	HEAD	1/4 · 3 1/2 · 3'-3 1/4	WOOD	1	
34	cd	CLOSURE STRIP	1/4 · 1 · 7'-6 1/2	PLYWOOD	1	DRAIN SURFACE
35	ce	GASKET	1/8 · 1 · 7'-6 1/2	FELT	1	
	LEFT WALL					
36	de	WALL PANEL	3/4 · 5'-6 · 6'-3 3/4	PLYWOOD	1	SEE DET. 13
37	cb	JAMB	1/4 · 3 1/2 · 6'-3 3/4	WOOD	2	
38	cc	HEAD	1/4 · 3 1/2 · 3'-3 1/4	WOOD	1	
39	cd	CLOSURE STRIP	1/4 · 1 · 7'-6 1/2	PLYWOOD	1	DRAIN SURFACE
40	ce	GASKET	1/8 · 1 · 7'-6 1/2	FELT	1	
	ROOF					
41		ROOF PANEL	3/4 · 5'-6 · 3'-10 1/2	PLYWOOD	1	SEE DET. 13

2

SYMBOL	DESCRIPTION	DATE	APPROVED
	REVISIONS		

DEPARTMENT OF THE NAVY — U.S. NAVAL CIVIL ENGINEERING LABORATORY — BUREAU OF YARDS AND DOCKS
PORT HUENEME, CALIFORNIA
KING, BENIOFF & ASSOCIATES — CONSULTING ENGINEERS — INDIAN WELL, CALIFORNIA

DRAWN: J.J. Ryan
CHECKED: D.F. Raughan
DESIGNED: H.R. Ryan
PROJ. ENGR.: [illegible]
DIV. ENGR.: [illegible]
SECT. HEAD: [illegible] PE
PROJ. DIR.: [illegible]

PIONEER POLAR STRUCTURES
JAMESWAY SIDE ENTRY KIT
(FOR USE WITH STANDARD UNIT)
FABRICATION DETAILS

APPROVED: [illegible] DATE: 8-2-62
APPROVED: [illegible] CHIEF, DESIGN AND SHELTER
APPROVED FOR BUREAU OF YARDS & DOCKS: FOR CHIEF OF BUREAU — DATE

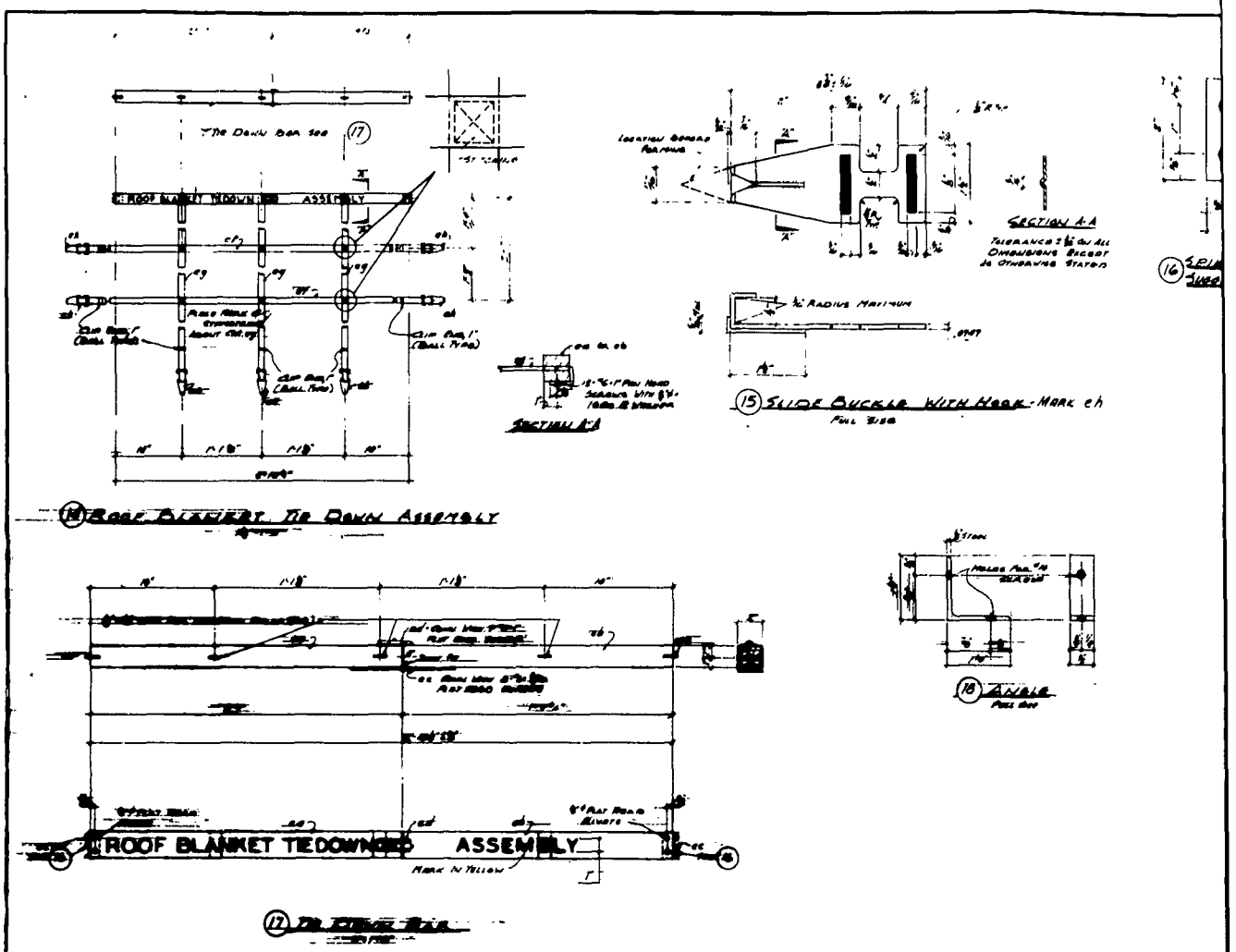
SCALE: AS NOTED SPEC.
SHEET 9 OF 19
Y & D DRAWING NO. 930010

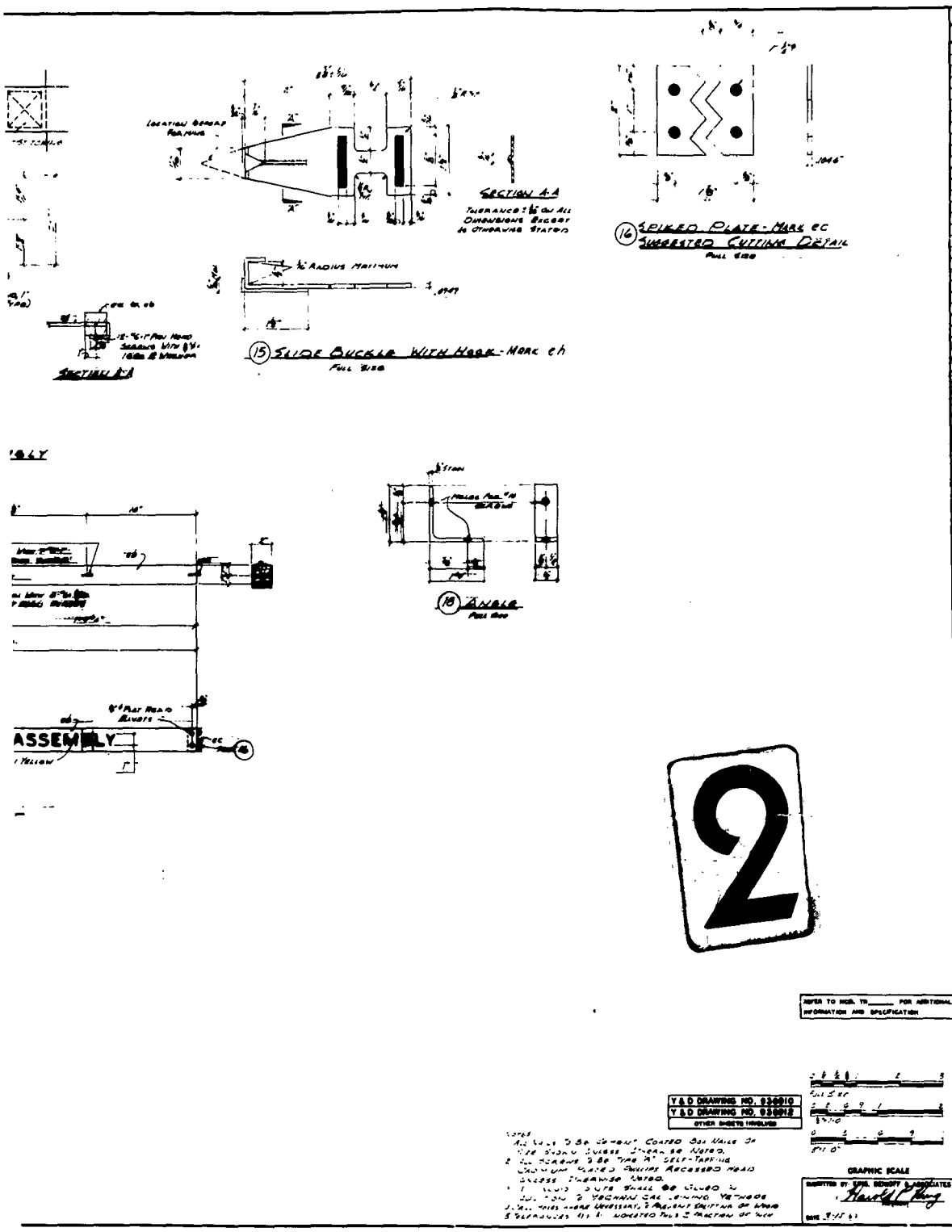
Y & D DRAWING NO. 930011
Y & D DRAWING NO. 930012
OTHER SHEETS INVOLVED

REFER TO NCEL TR_____ FOR ADDITIONAL INFORMATION AND SPECIFICATION

GRAPHIC SCALE

SUBMITTED BY: KING, BENIOFF & ASSOCIATES — Harold P. King, PRESIDENT — DATE


Tie Down Bar See (17)
ROOF BLANKET TIEDOWN ASSEMBLY
Section A-A
Tolerances ± 1/16 on All Dimensions Except as Otherwise Stated
Radius Maximum
Section B-B
(15) Slide Buckle With Hook - Mark ch
Full Size
(14) Roof Blanket Tie Down Assembly
ROOF BLANKET TIEDOWN ASSEMBLY
Mark in Yellow
(17) Tie Down Bar
(18) Anvil
Full Size



No.	Mark	Description	Size	Material	No.	Remarks
		1000# Bolt				
	6a	Round Bolt	2-2-2		1000	1	See Det. (1)
2	6c	Round Bolt	2-2-1		1000	1	See Det. (1)
3	7c	Spiked Plate	1-1-0-0-8	Steel	8	See Det. (6)
4	8d	Square Bolt	8"	Steel	1	
5	8e	Hex. Bolt	5"	Steel	1	
6	8f	Additional Nut	1-6-4		2	Hexagon Cut Type B
7	8g	Jamesway Nut	1-4-0		5	Hexagon Cut Type B
8	8h	Slide Buckle		Steel	7	See Det. (8)
		Miscellaneous				
9		Angle	1½-1½-½-8	Steel	12	See Det. (18)
10		Screw	#10-5" FH		60	"
11		Screw	#10-1½" FH		60	"
12		Screw	#10-¾" RH		96	"
13		Screw	#10-1" FH		24	"

Symbol	Description	Date	Approved

REVISIONS

Refer to Mod. No. ____ for additional information and specification

Y & D DRAWING NO. 936910
Y & D DRAWING NO. 936912
OTHER SHEETS INVOLVED

Notes:
1. All bolts to be cement coated box bolts or like design unless otherwise noted.
2. All screws to be Type A self-tapping countersunk flat head, phillips recessed head unless otherwise noted.
3. Holes to be drilled by machine cut drilling methods. Flame cutting methods shall be used only where necessary, to prevent distortion of work.
4. Dimensions in parentheses are for reference only.

Graphic Scale

Submitted by: King, Benioff & Associates

Approved for Bureau of Yards and Docks

Approved for Bureau of Ships

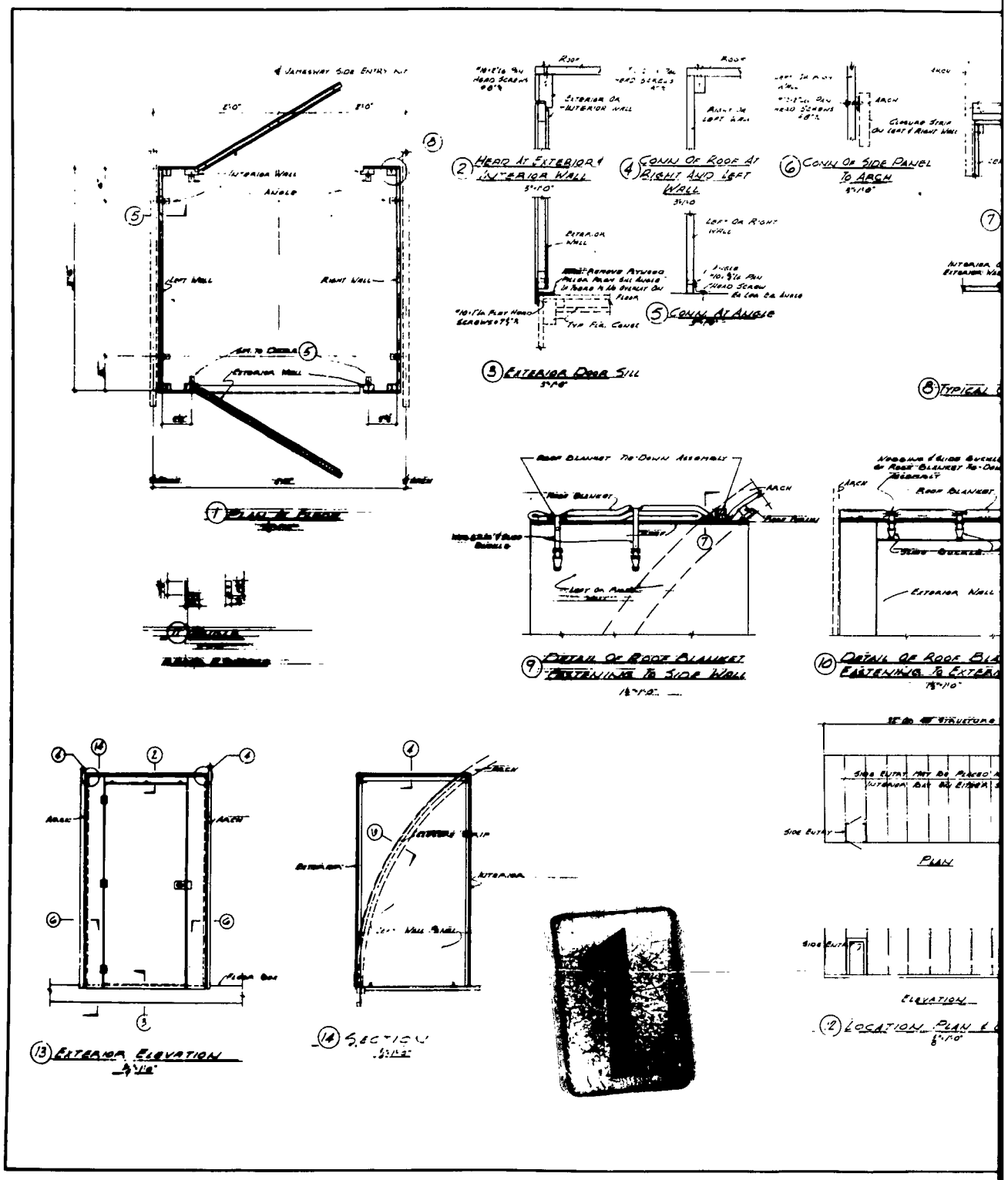
Department of the Navy — U.S. Naval Civil Engineering Laboratory, Port Hueneme, California

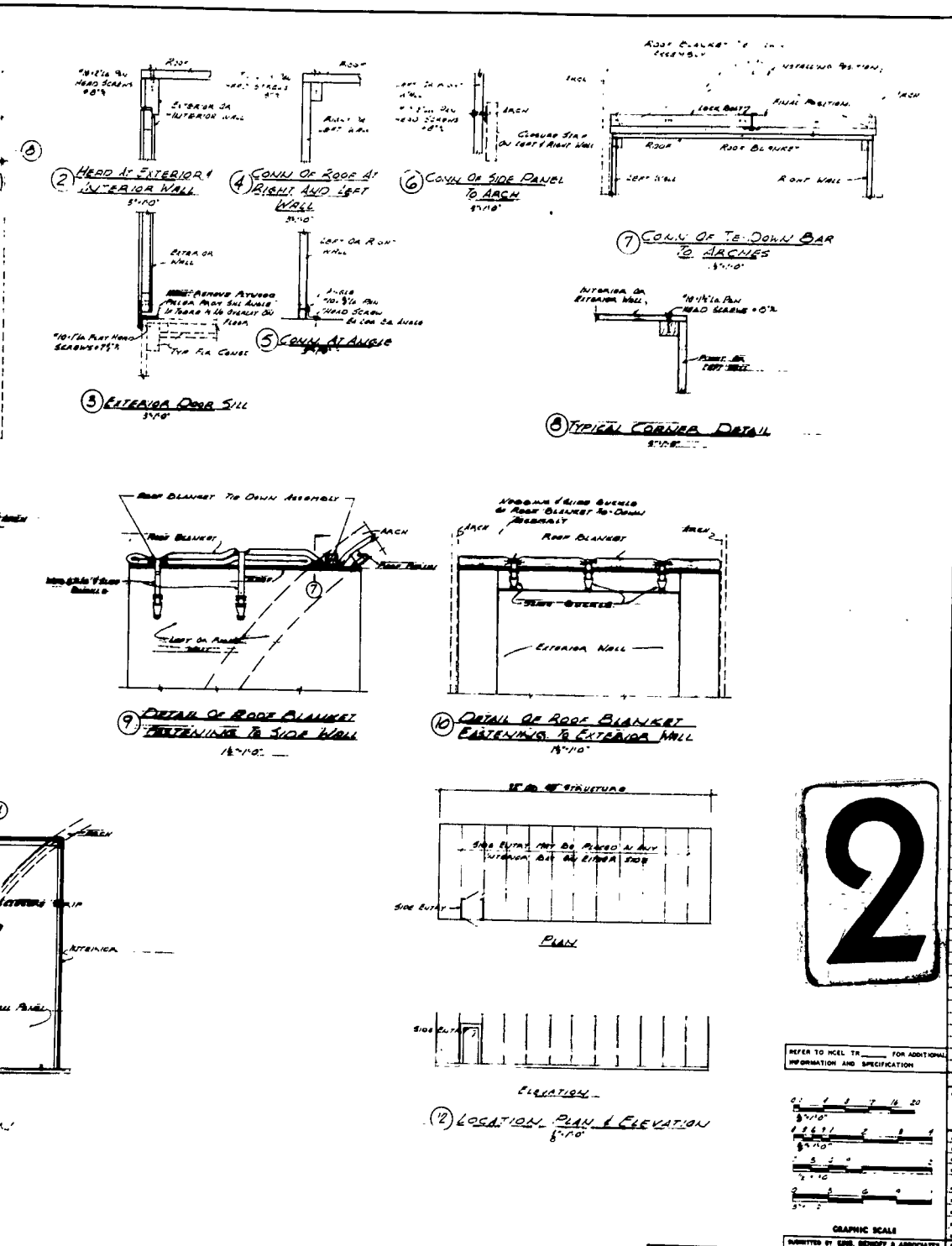
King, Benioff & Associates — Consulting Engineers, Berkeley, California

Drawn: U.A. King
Traced: B.F. Mahoney
Designed: H.R. King
Approved: H.R. King

PIONEER POLAR STRUCTURES
JAMESWAY SIDE ENTRY KIT
(FOR USE WITH STANDARD UNIT)
FABRICATION DETAILS

Scale: AS NOTED
Sheet 10 of 19
Y & D Drawing No. 936911


JAMESWAY SIDE ENTRY KIT
INTERIOR WALL
ANGLE
LEFT WALL
RIGHT WALL
EXTERIOR WALL
HEAD AT EXTERIOR & INTERIOR WALL
CONN OF ROOF AT RIGHT AND LEFT WALL
CONN OF SIDE PANEL TO ARCH
CONN AT ANGLE
EXTERIOR DOOR SILL
TYPICAL
ROOF BLANKET TIE-DOWN ASSEMBLY
ARCH
DETAIL OF ROOF BLANKET FASTENING TO SIDE WALL
DETAIL OF ROOF BLANKET FASTENING TO EXTERIOR WALL
EXTERIOR ELEVATION
SECTION
PLAN
ELEVATION
LOCATION PLAN



ITEM	DESCRIPTION	UNIT WEIGHT	STOCK NUMBER	QUANTITY
1	LEFT WALL	EA	NFD Dwg No 936910	1
2	RIGHT WALL	EA	NFD Dwg No 936910	1
3	RIGHT WALL	EA	NFD Dwg No 936910	1
4	LEFT WALL	EA	NFD Dwg No 936910	1
5	ROOF	EA	NFD Dwg No 936910	1
6	ROOF BLANKET TIE-DOWN ASSEMBLY	EA	NFD Dwg No 936911	1
7	ANGLE TIE DOWN	EA	NFD Dwg No 936911	12
8	SCREW #10 x 1/2 PANHEAD	DOZ		9
9	SCREW #10 x 1/2 PANHEAD	DOZ		9
10	SCREW #10 x 3/4 PANHEAD	DOZ		8
11	SCREW #10 x 1 FLAT HEAD	DOZ		2

REFER TO NCEL TR _____ FOR ADDITIONAL INFORMATION AND SPECIFICATION

GRAPHIC SCALE

SYMBOL	DESCRIPTION	DATE	APPROVED

REVISIONS

DEPARTMENT OF THE NAVY — U.S. NAVAL CIVIL ENGINEERING LABORATORY — PORT HUENEME, CALIFORNIA

KING, DENIOFF & ASSOCIATES — CONSULTING ENGINEERS — SAN DIEGO, CALIFORNIA

DRAWN J.P.L.
TRACED B.F.MAUNAN
CHECKED V.P.MAUN
APPROVED L.P.L.

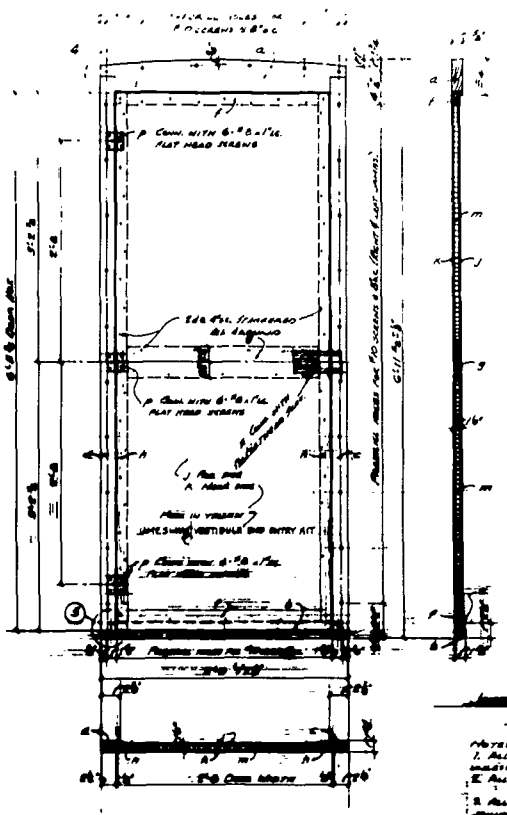
PIONEER POLAR STRUCTURES
JAMESWAY SIDE ENTRY KIT
(FOR USE WITH STANDARD UNIT)
ERECTION DETAILS

APPROVED FOR BUREAU OF YARDS & DOCKS — CHIEF OF BUREAU — DATE

SUBMITTED BY KING, DENIOFF & ASSOCIATES — DATE

Y & D DRAWING NO. 936910
Y & D DRAWING NO. 936911
OTHER SHEETS INVOLVED

SCALE AS NOTED
SHEET 11 OF 19
Y & D DRAWING NO. 936912

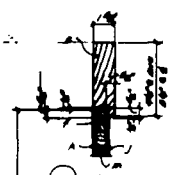


Exterior Elevation

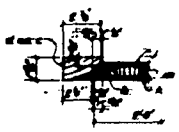
Notes:
End Entry Kit shall be complete assembled including all hardware and supports

Jamesway Vestibule End Entry Kit
Fabrication Details

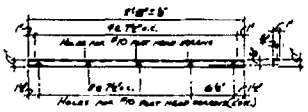
Notes
1. All nails to be cement coated, sizes and spacing unless otherwise noted.
2. All screws to be Flat Head Self Head Wood Screws
3. All wood joints shall be glued in addition to mechanical fastener methods.
4. Drill pilot holes where necessary to prevent splitting of wood
5. Dimensions are in. indicated thus 3" proceeding of mm



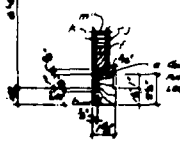
1 Head



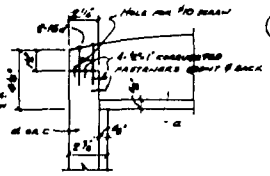
3 Jamb



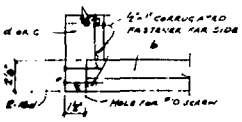
6 Threshold Mark "C" (1"x1"x1/8"L)



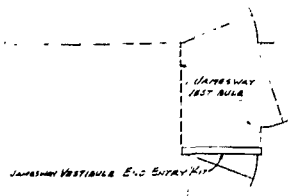
2 Sill



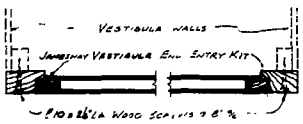
4 Door Frame Top Corner



5 Door Frame Bottom Corner



Location Plan
No Scale



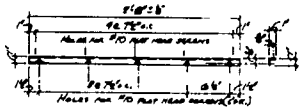
Plan Section

Jamesway Vestibule End Entry Kit
Erection Details

Note:
End Entry Kit shall be completely assembled including doors & hardware for shipment

Jamesway Vestibule End Entry Kit
Fabrication Details

Notes
1. All nails to be cement coated, ring nails or as shown unless otherwise noted.
2. All screws to be flat head sheet metal wood screws
3. All wood joints shall be glued in addition to mechanical fastener, nailing.
4. Shall make holes necessary to prevent splitting of wood
5. Tolerances are as indicated thru erection of kit

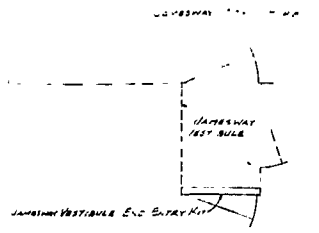


(6) Threshold Mark "C" (1½"×½" L)
1½"=1'-0

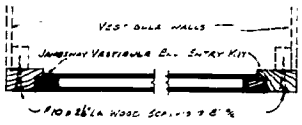
Corner

Side

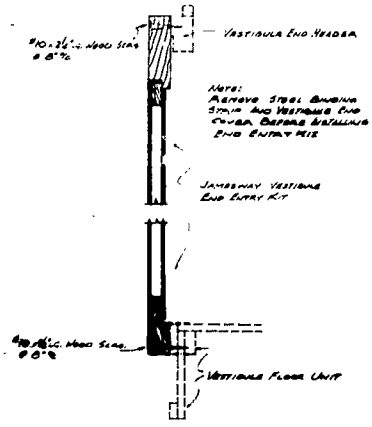
Corner



Location Plan
No Scale



Plan Section
3"=1'-0



Jamesway Vestibule End Entry Kit
Erection Details

Vertical Section
3"=1'-0

Bill of Materials

Item	Mark	Item	Size	Material	No. req'd	Remarks
1	a	Head	3½"×5½"×2'-0"	Wood	1	See Det. 1 & 4
2	b	Sill	1½"×2½"×2'-0"	Wood	1	See Det. 2 & 4
3	c	Rail - Jamb	1½"×3"×6'-8"	Wood		See Det. 3, 4 & 5
4	d	Rail - Jamb	1½"×2½"×6'-8"	Wood	1	See Det. 3, 4 & 5
5	e	Threshold	1½"×1½"×2'-0"	Steel	1	See Det. 6
6	f	Top & bottom rail	3½"×3½"×2'-6"	Wood	2	
7	g	V pole rail	3½"×3½"×2'-6"	Wood	1	
8	h	Stile	3½"×3½"×6'-8"	Wood	2	
9	j	Inside jamb panel	3½"×2'-6"×6'-3½"	Plywood	1	
10	k	Outside jamb panel	4"×2'-6"×6'-3"	Plywood	1	
11	m	Insulation	1" thick size as req'd			See specification
12	n	Latch & keeper		Steel	1	See specifications
13	p	Hinge butt plate	2¾"×2¾"	Steel	3	
14		Screws, wood	#10 × 3½"	Steel	48	@ 55 Angle & 2 Jamb

* These screws to be supplied by manufacturer & packed for shipment with vestibule end entry.

Symbol	Description	Date	Approved
	Revisions		

Refer to NCEL TR_____ for additional information and specification

Graphic Scale

Submitted by King, Benioff & Associates
Harold P. King
Date

Approved for Bureau of Yards & Docks
For Chief of Bureau
Date

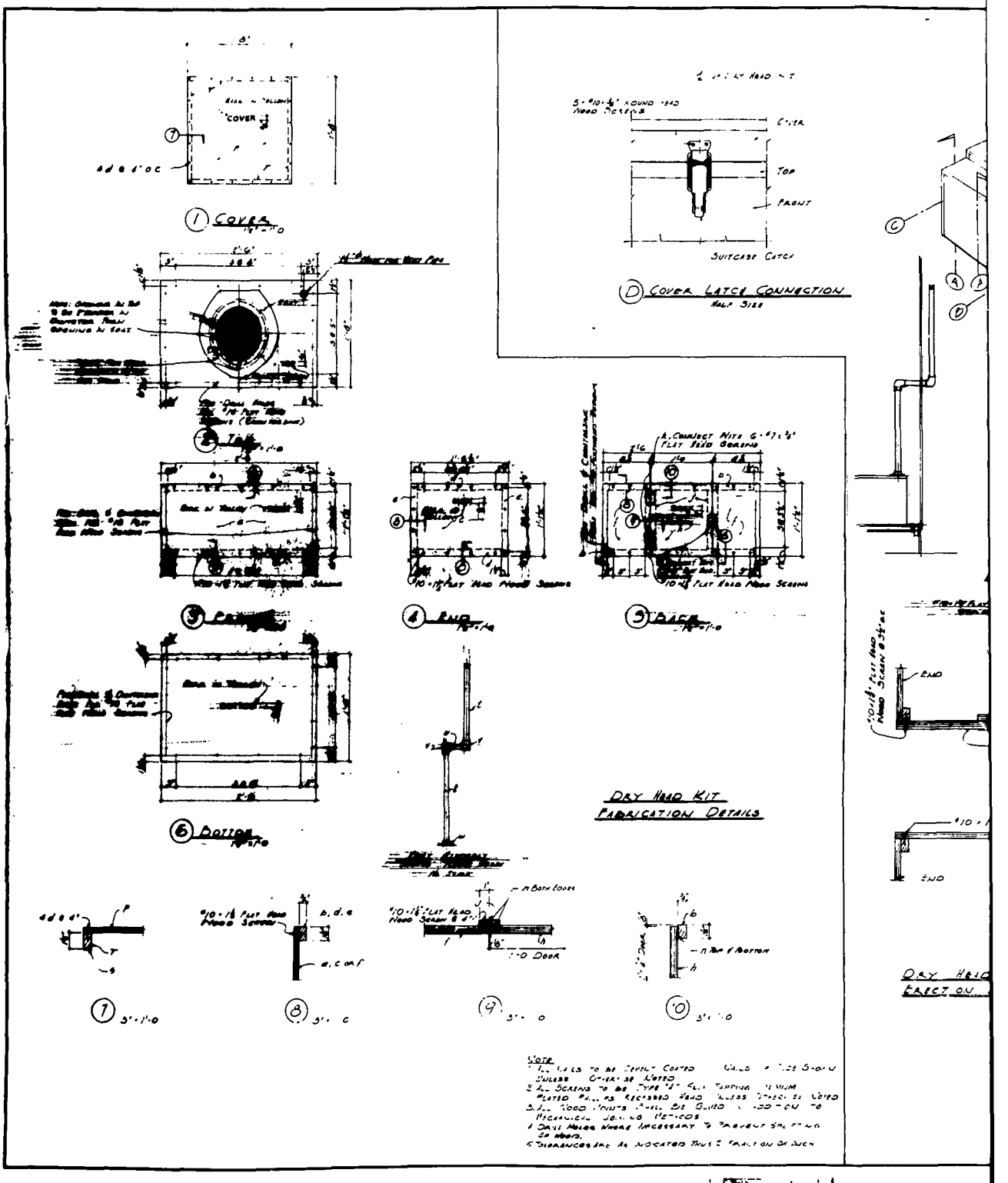
Department of the Navy — Bureau of Yards and Docks
U.S. Naval Civil Engineering Laboratory
Port Hueneme, California
King, Benioff & Associates — Consulting Engineers — Emeryville, California

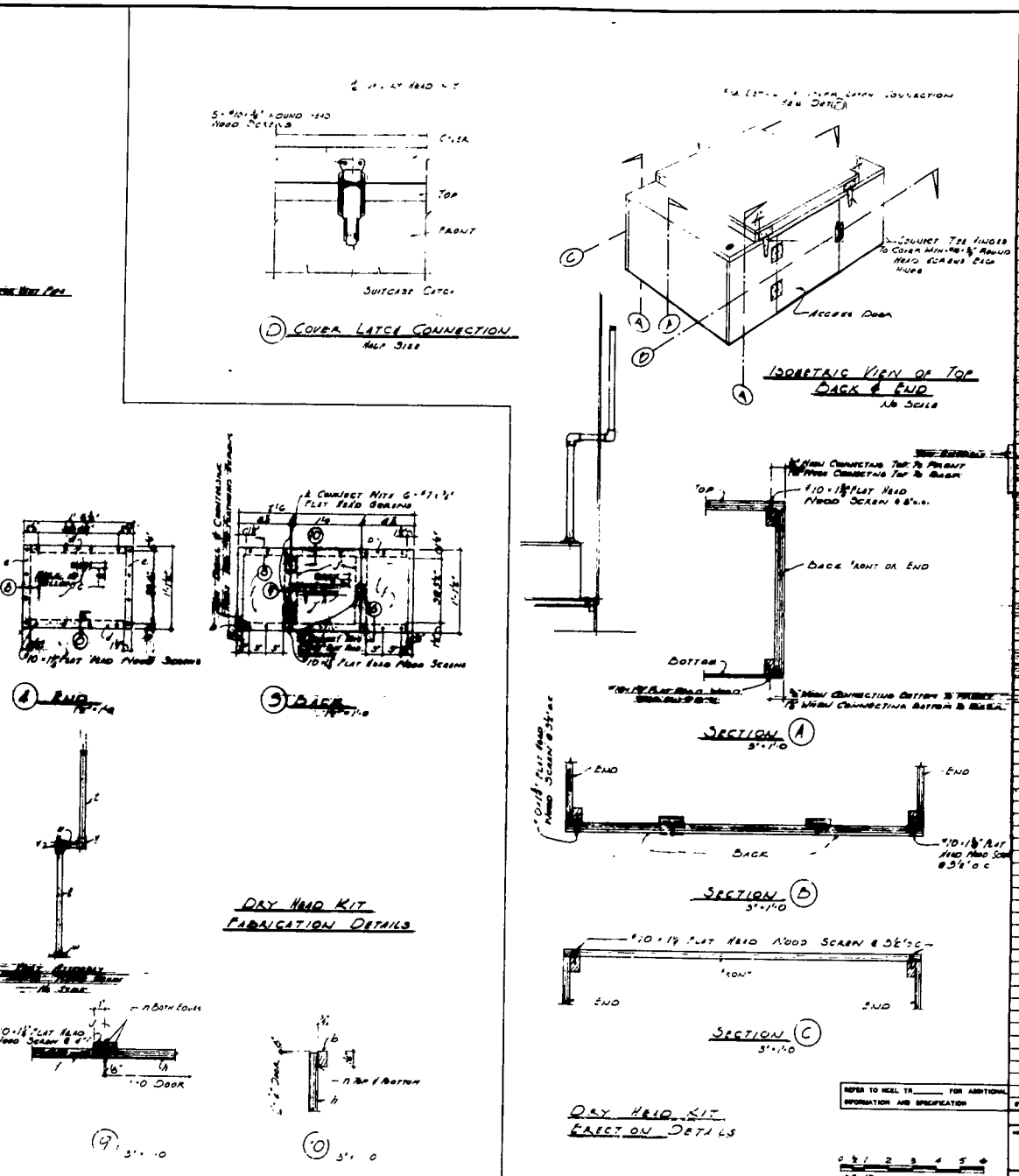
Designed J.F.K. No.
Drawn J.F.K. No.
Checked J.B.A. No.
Approved J.P. No.
Scale
Project Engineer
Design Engineer
Dept. Chief J. Nickel PE
Div. Chief
Dept. Head
Approved
Date 2-2-62

Pioneer Polar Structures
Jamesway Vestibule End Entry Kit
Fabrication & Erection Details

Scale AS NOTED
Sheet 12 of 19
Y & D Drawing No. 936913

2


COVER
1 COVER
D COVER LATCH CONNECTION
HALF SIZE
COVER
TOP
FRONT
SUITCASE CATCH
2 TOP
3 PANEL
4 END
5 DOOR
6 BOTTOM
DRY HEAD KIT
FABRICATION DETAILS
7
8
9
10
END
DRY HEAD
ERECT ON



BILL OF MATERIAL

ITEM NO.	MARK	ITEM	SIZE	MTL	NO. REQ'D	REMARKS
FRONT			FABRICATION			
1	a	PANEL SHELF	1/4 × 1'-6 × 2'-6	PLYWOOD	1	SEE (5)
2	b	CLEAT TOP & BOTTOM	3/4 × 6 × 2'-3	WOOD	2	
END						
3	c	END PANEL	1/4 × 1'-6 × 1'-6	PLYWOOD	2	SEE (4)
4	d	CLEAT TOP & BOTTOM	3/4 × 4 × 1'-3	WOOD	4	
5	e	CLEAT SIDE	3/4 × 3 × 1'-8	WOOD	4	
BACK						
6	f	BACK PANEL	3/4 × 3 × 1'-6	PLYWOOD	2	SEE (5)
7	b	CLEAT TOP & BOTTOM	3/4 × 4 × 2'-3	WOOD	2	
8	h	DOOR	3/4 × 1'-10 × 1'-6	PLYWOOD	1	
9	j	DOOR STOP	1/2 × 2 × 0 3/4	PLYWOOD	2	
10	k	HINGE, BUTT TEST PIN	3 × 2	STEEL	2	
11	m	DISK FASTENER	2 1/2 × DIAM	STEEL		
12	n	GASKET	3/4 × 3/4 × 5'-10"	FELT	1	CUT TO FIT
13						
BOTTOM						
14		BOTTOM PANEL	3/4 × 1'-8 × 2'-6	PLYWOOD	1	SEE (4)
15		TOP PANEL	3/4 × 1'-8 × 2'-6	PLYWOOD	1	SEE (5)
16		SEAT			1	SEE CHART
COVER						
17	p	LID	3/4 × 1'-8 × 1'-8	PLYWOOD	1	SEE (1)
18	r	FRAME	3/4 × 1 1/2 × 1'-7 3/4	WOOD	4	
19	s	GASKET	3/4 × 3/4 × 7'-10"	FELT	1	CUT TO FIT
20						
MISCELLANEOUS:						
21		SCREWS	#10 × 1 1/2" F.H.		56	2
22		SCREWS	#10 × 1 1/2" F.H.		36	2
23						
24		HINGE	5" LIGHT TEE	STEEL	2	
25		SUITCASE CATCH	3/4 × 1 1/2"	STEEL	1	
26	c	PIPE - GALV	1 1/2 × 2'-6	STEEL	2	CUT TO FIT
27	d	NIPPLE - GALV	1 1/2 × 3"	STEEL	1	
28	f	ELL - GALV	1 1/2	STEEL	1	
29	w	[illegible] - GALV	1 1/2	STEEL	1	
30		[illegible]				

ERECTION

ITEM	DESCRIPTION	UNIT	REMARKS
1	TOP	EA	
2	BOTTOM	EA	
3	FRONT	EA	
4	BACK	EA	
5	END	EA	
6	SUITCASE CATCH	EA	
7	COVER	EA	
8	HINGE, 5" LIGHT TEE	EA	
9	SCREWS #10 × 1 1/2" F.H.	DOZ.	
10	SCREWS #10 × 1 1/2" F.H.	DOZ.	
11			
12	SCREWS #10 × 1 1/2" ROUND HEAD	DOZ.	
13	[illegible]	EA	

SYMBOL	DESCRIPTION	DATE	APPROVED

REVISIONS

REFER TO NEEL TR. ____ FOR ADDITIONAL INFORMATION AND SPECIFICATION

DEPARTMENT OF THE NAVY — U.S. NAVAL CIVIL ENGINEERING LABORATORY — PORT HUENEME, CALIFORNIA

KING, BENIOFF & ASSOCIATES — CONSULTING ENGINEERS — SAN FRANCISCO, CALIFORNIA

DRAWN J.A. MING
CHECKED T.P. LEE
REVIEWED H.P. KING
APPROVED H.P. KING

PIONEER POLAR STRUCTURES
JAMESWAY DRY HEAD KIT
FABRICATION & ERECTION

APPROVED — DATE

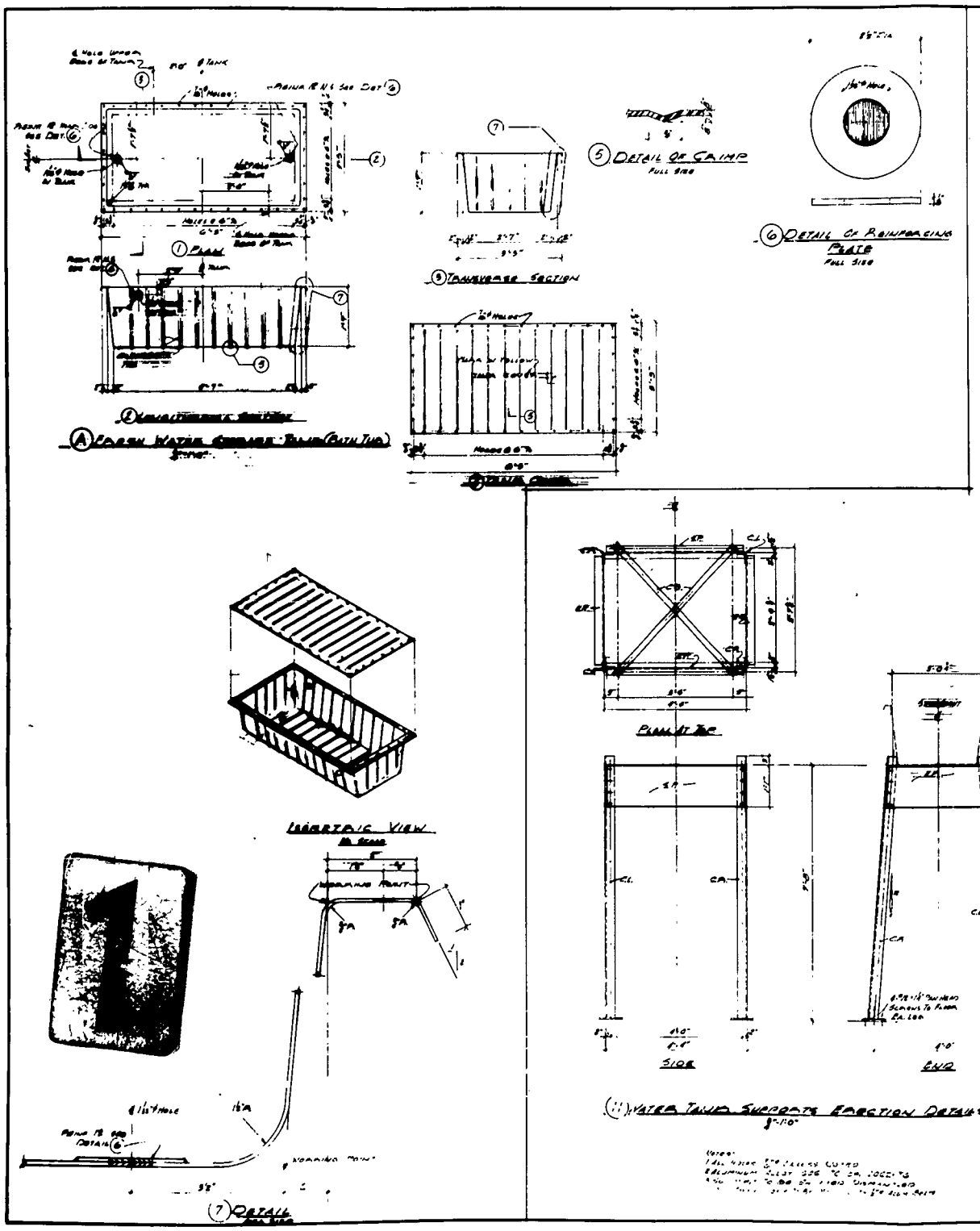
APPROVED FOR BUREAU OF YARDS AND DOCKS — FOR CHIEF OF BUREAU — DATE

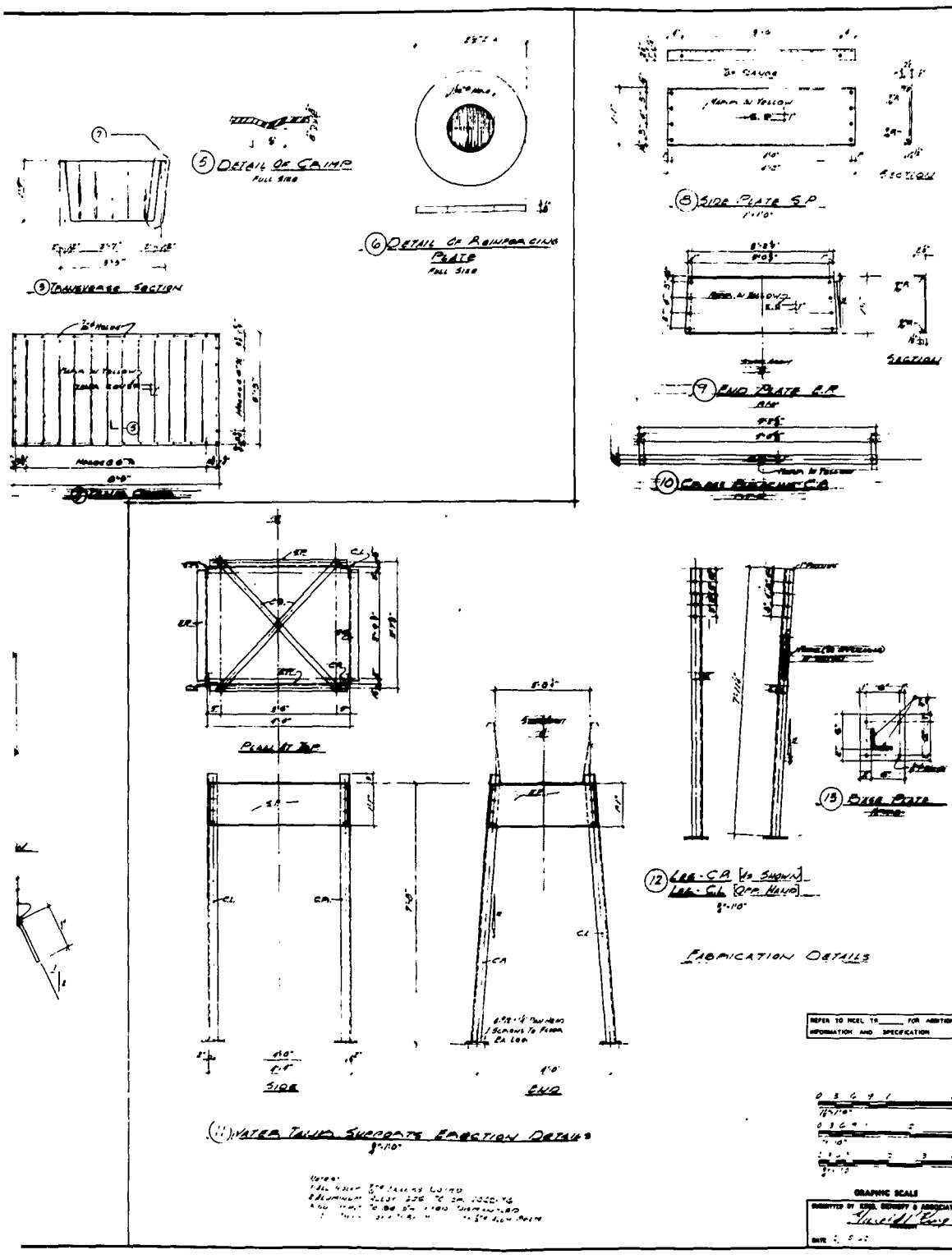
SCALE AS NOTED
SHEET 13 OF 18
Y & D DRAWING NO. 930914

SUBMITTED BY: KING, BENIOFF & ASSOCIATES — Harold P. King — DATE 1-15-52

NOTE
1. ALL PANELS TO BE "SHELF" COATED UNLESS OTHERWISE NOTED
2. ALL SCREWS TO BE "TYPE A" FLAT "SPECIAL" FINISH PLATED BRASS RECESSED HEAD UNLESS OTHERWISE NOTED
3. ALL WOOD PARTS SHALL BE SOUND WOOD FREE OF MECHANICAL DEFECTS
4. DRILL HOLES WHERE NECESSARY TO PREVENT SPLITTING OF WOOD.
5. CLEARANCES ARE AS INDICATED THUS: FRACTION OF INCH

2


PLAN
TRANSVERSE SECTION
DETAIL OF CRIMP
FULL SIZE
DETAIL OF REINFORCING PLATE
FULL SIZE
ISOMETRIC VIEW
PLAN AT TOP
SIDE
END
WATER TANK SUPPORTS ERECTION DETAILS
DETAIL



Mark No.	Quan.	Mat'l	Size	Wt.	Pieces	Remarks
WATER TANK SUPPORTS						
	4	Angle	[illegible]	Alum	2	See Det. 5
2	8	Angle	[illegible]	Alum	2	See Det. 5
3	4	Angle	[illegible]	Alum	2	See Det. 5
4	C.B.	Angle	[illegible]	Alum	2	See Det. 5
5	4	Angle	[illegible]	Alum	2	See Det. 5
6	8	Base Plate	[illegible]	Alum	1	See Det. 13
		Bolts	[illegible]	Alum	28 ea	
		Screws	[illegible]	Steel	76 ea	Flat Head
6 Sets Stainless Steel Screws for Reinforcing Plates Required from Equipment Item						
	WATER TANK SUPPORTS FOR FRESH WATER					
FRESH WATER STORAGE TANK (CONCRETE)						
7		Tank	[illegible]	Alum.	1	See Det. 4
8		Tank Cover	[illegible]	Alum	1	See Det. 4
		Connecting Bolts	[illegible]	Alum	60	
DATA TANK (CONTINUED):						
FRESH WATER STORAGE TANK WITHOUT COVER						

SYMBOL	DESCRIPTION	DATE	APPROVED
	REVISIONS		

REFER TO NCEL TR_____ FOR ADDITIONAL INFORMATION AND SPECIFICATION

GRAPHIC SCALE

SUBMITTED BY KING, BENIOFF & ASSOCIATES

DATE

DEPARTMENT OF THE NAVY — U.S. NAVAL CIVIL ENGINEERING LABORATORY — PORT HUENEME, CALIFORNIA

KING, BENIOFF & ASSOCIATES — CONSULTING ENGINEERS — INGLEWOOD, CALIFORNIA

PIONEER POLAR STRUCTURES

JAMESWAY TANKS AND SUPPORTS

FABRICATION & ERECTION

APPROVED FOR BUREAU OF YARDS & DOCKS

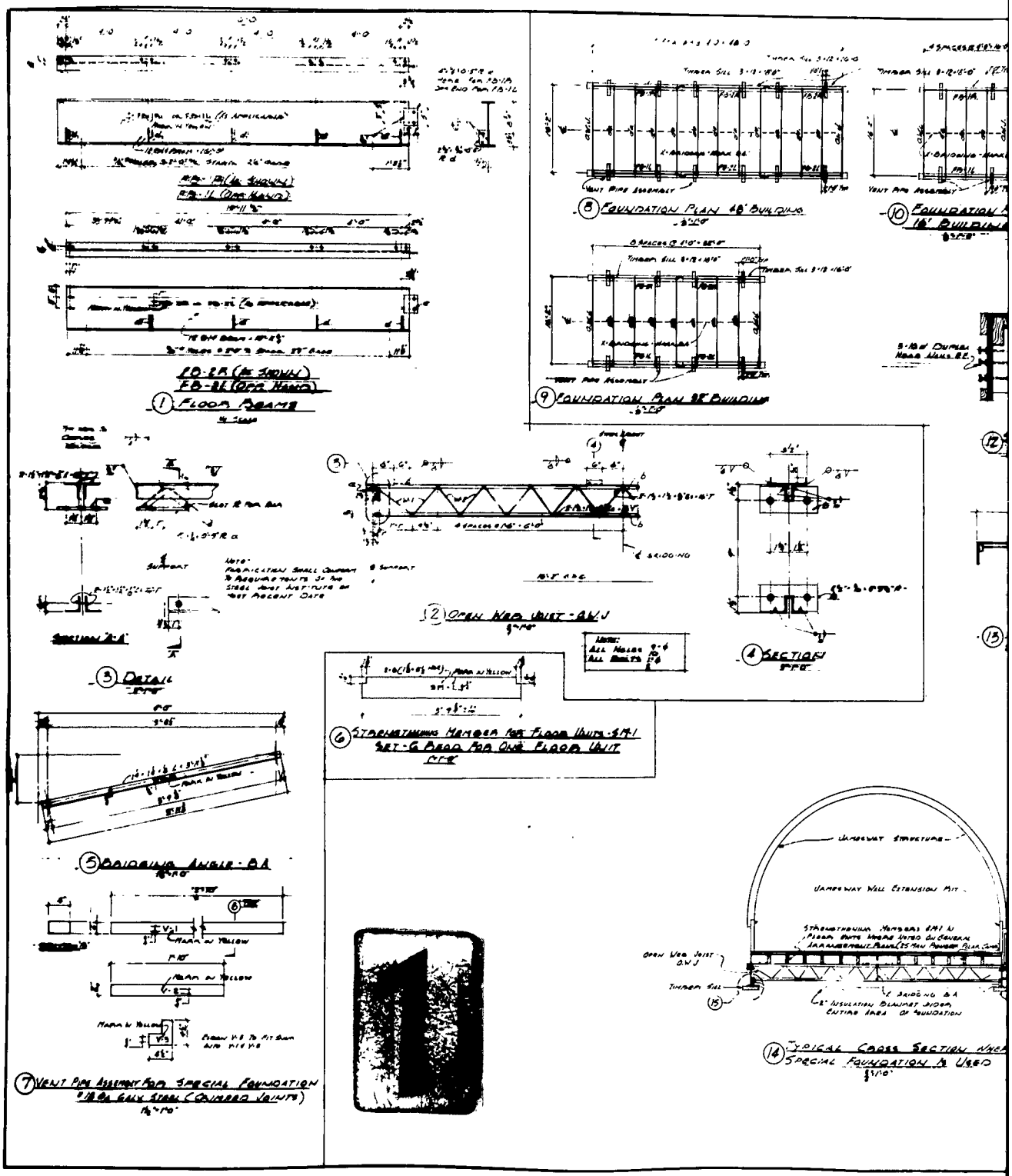
FOR CHIEF OF BUREAU

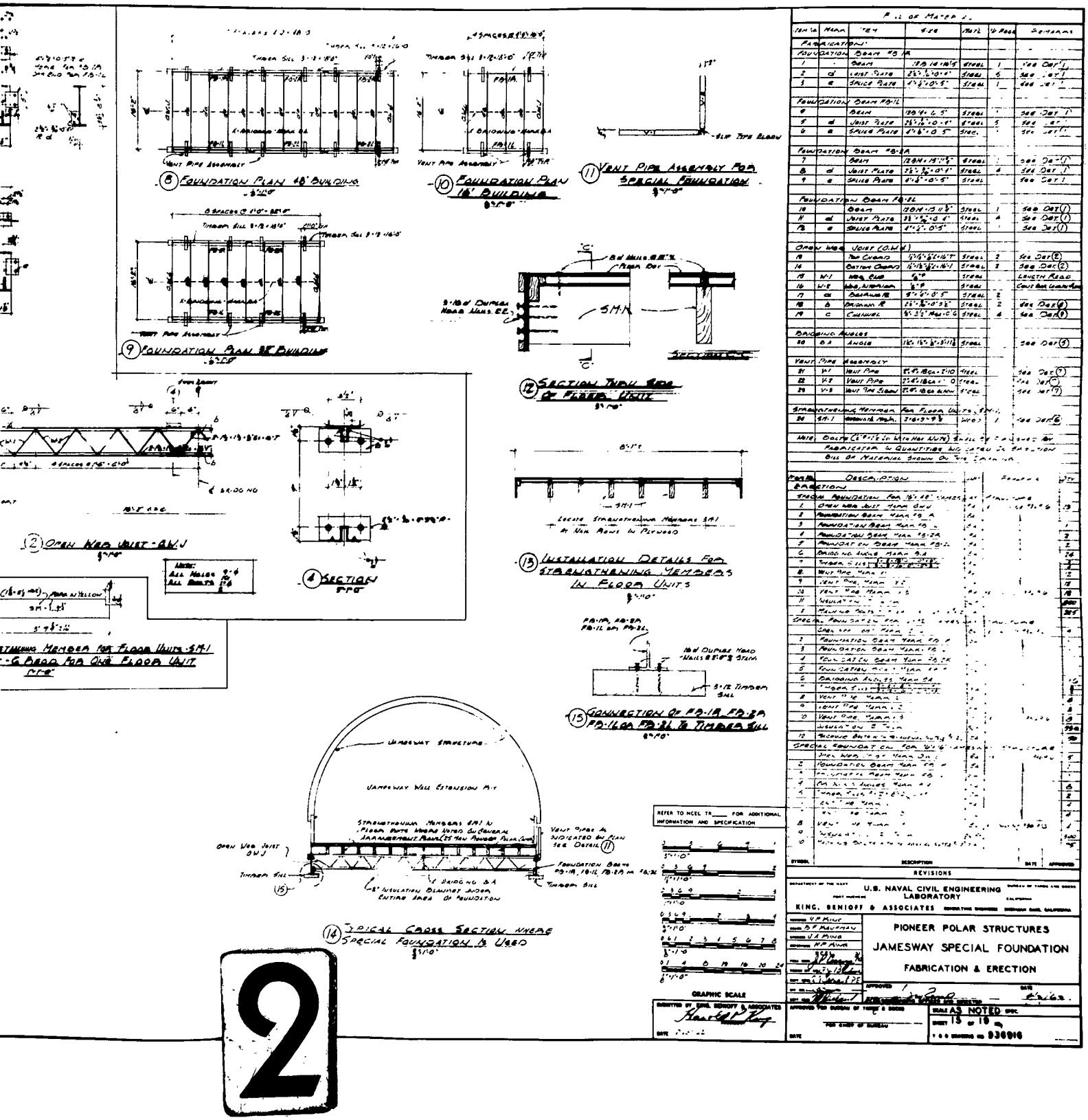
DATE

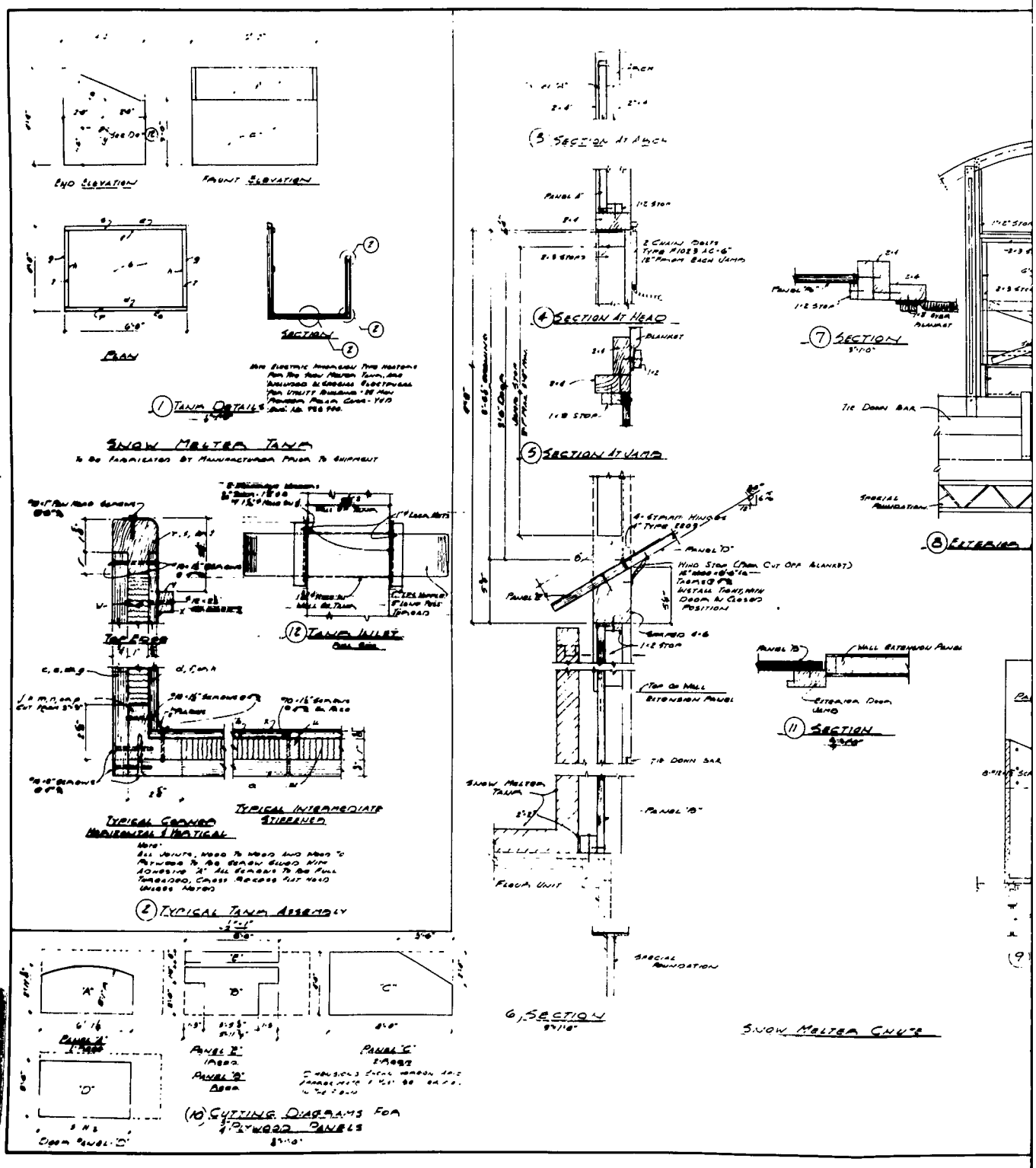
SCALE AS NOTED

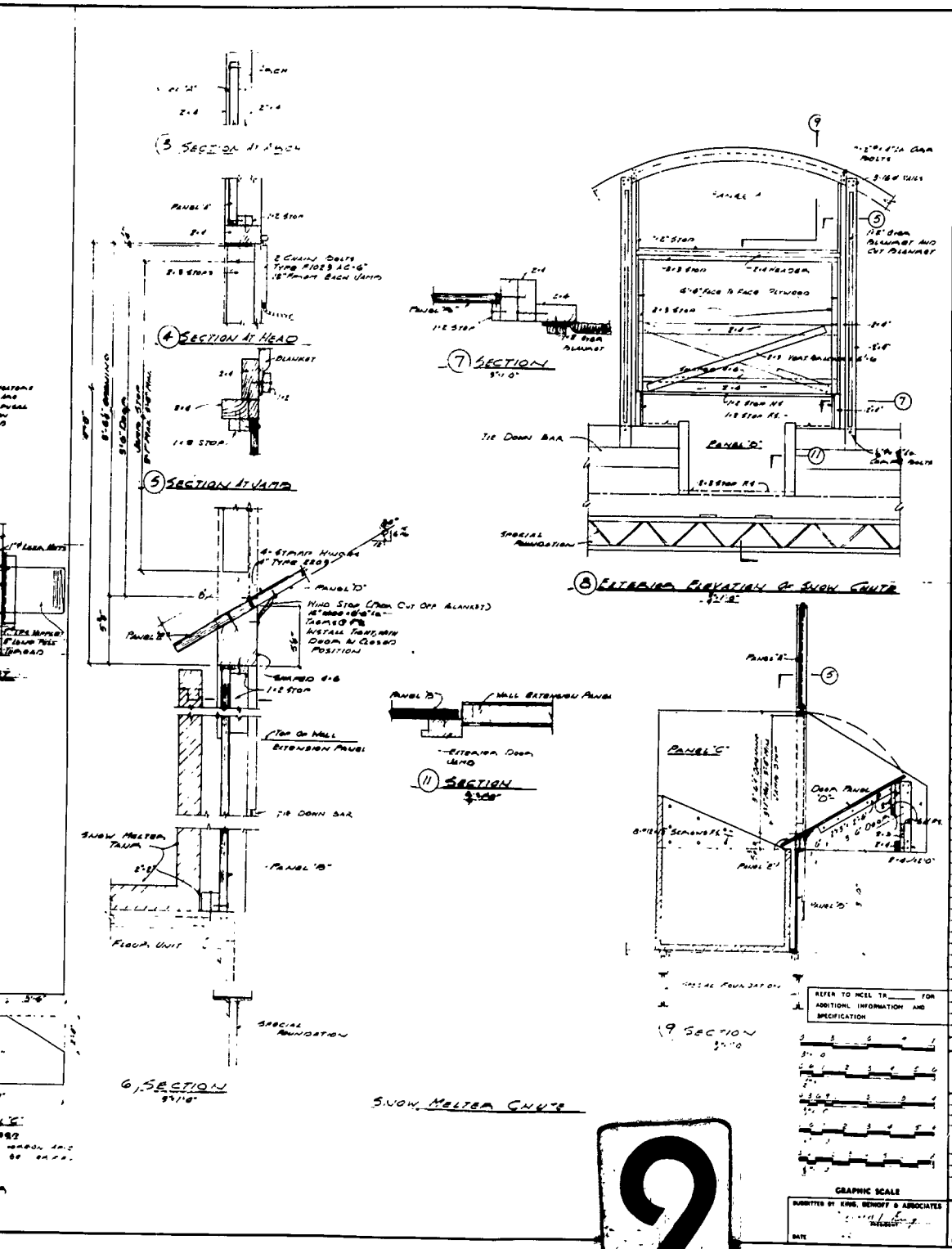
SHEET 14 OF 19

DRAWING NO. 936915


FD-2R (As Shown)
FD-2L (Opp. Hand)
1 Floor Beams
8 Foundation Plan 48' Building
9 Foundation Plan 32' Building
10 Foundation Plan 16' Building
3 Detail
12 Open Web Joist - OWJ
4 Section
6 Strengthening Member for Floor Units - SM1
Set - 6 Req'd for One Floor Unit
5 Bracing Angle - BA
7 Vent Pipe Assembly for Special Foundation
14 Typical Cross Section When Special Foundation is Used


8 FOUNDATION PLAN 48' BUILDING
10 FOUNDATION PLAN 16' BUILDING
11 VENT PIPE ASSEMBLY FOR SPECIAL FOUNDATION
9 FOUNDATION PLAN 32' BUILDING
12 SECTION THRU SPL OF FLOOR UNIT
2 OPEN WEB JOIST - OWJ
4 SECTION
13 INSTALLATION DETAILS FOR STRENGTHENING MEMBERS IN FLOOR UNITS
15 CONNECTION OF FB-1A, FB-2A FB-1L OR FB-2L TO TIMBER SILL
14 TYPICAL CROSS SECTION WHERE SPECIAL FOUNDATION IS USED
BILL OF MATERIAL
REVISIONS
U.S. NAVAL CIVIL ENGINEERING LABORATORY
KING, BENIOFF & ASSOCIATES
PIONEER POLAR STRUCTURES
JAMESWAY SPECIAL FOUNDATION
FABRICATION & ERECTION
SCALE AS NOTED
SHEET 15 OF 19
936916
GRAPHIC SCALE
2


End Elevation
Front Elevation
Plan
Section
1 Tank Details
Snow Melter Tank
To Be Fabricated By Manufacturer Prior To Shipment
Top Edge
12 Tank Inlet
Typical Corner Horizontal & Vertical
Typical Intermediate Stiffener
2 Typical Tank Assembly
3 Section At Arch
Panel 'A'
1:2 Stop
2 Chain Bolts
4 Section At Head
Blanket
5 Section At Jamb
4-Strap Hinges
Panel 'D'
Wind Stop (Prev. Cut Off Blanket)
Install Tank With Door In Closed Position
Top Of Wall Extension Panel
Tie Down Bar
Snow Melter Tank
Panel 'B'
Floor Unit
Special Foundation
6 Section
7 Section
Special Foundation
8 Exterior
Wall Extension Panel
Exterior Door Jamb
11 Section
Snow Melter Chute
Panel 'A'
Panel 'B'
Panel 'C'
Panel 'D'
Door Panel 'D'
10 Cutting Diagrams For 4' Plywood Panels



REFER TO NCEL TR_____ FOR ADDITIONL INFORMATION AND SPECIFICATION

	Mark	Item	Size	Mat'l	No Req'd	Remarks
Snow Melter Tank						
1	a	[illegible]	[illegible]	Plywood	1	
2	b	Bottom [illegible]	[illegible]	Plywood	1	
3	c	[illegible]	[illegible]	Plywood	1	
4	d	Front [illegible]	[illegible]	Plywood	1	
5	e	Back Exterior	[illegible]	Plywood	1	
6	f	Back Interior	[illegible]	Plywood		
7	g	End Exterior	[illegible]	Plywood	2	See Det
8	h	End Interior	[illegible]	Plywood	2	See Det
9	j	[illegible]	3x3x3'-0" *	Wood	2	See Det 2
10	k	Back Vert Cor.	3"x3"x4'-6" *	Wood	2	See Det 2
11	m	Front Horiz Cor.	3x3x4'-0" *	Wood	[illegible]	See Det 2
12	n	Back Horiz. Cor.	3x3x6'-0" *	Wood	1	See Det 2
13	p	End Horiz. Cor.	3x3x4'-0" *	Wood	2	See Det 2
14	r	Top Rail Front	2½"x2½"x16'-0" *	Wood	1	See Det 2
15	s	Top Rail Back	2½"x2½"x16'-0" *	Wood	1	See Det 2
16	t	Top Rail End	2½"x2½"x4'-6" *	Wood	2	See Det 2
17	u	Bottom Spacers	1"x1"x5'-5½"	Wood	2	See Det 2
18	v	Top Block	2"x4"x5'-6"	Wood	1	See Det 2
19	w	Insulation	1" Thick		As Req'd	See Specs
20	x	Lining	⅛" Thick	Alum	As Req'd	See Specs
21	y	Drain Inlet	1"Ø	Brass	[illegible]	See Det 1

* Dimension Is Only Approximate & Is To Be Finally Determined By Manufacturer

Snow Melter Chute

Mark	Item	Size	No Req'd	Remarks
22				
23	Post-Chute Bracing Header	2x4x8'-0"	6	
24	Studs At Cross Bracing	2x4x8'-0"	4	
25	Stops & Cleats	1x2x8'-0"	6	
26	Sill	4x6x8'-0"	1	Shape In Field
27	Plywood	4'x8'x⅝"	5	
28	Hinges Type 2209	4" Strap	4	Spec. FF-H-116a
29	Chain Bolt Type F1023-AC	6"	2	Spec. FF-H-111a

Symbol	Description	Date	Approved

REVISIONS

DEPARTMENT OF THE NAVY
U.S. NAVAL CIVIL ENGINEERING LABORATORY
BUREAU OF YARDS AND DOCKS
PORT HUENEME, CALIFORNIA
KING, BENIOFF & ASSOCIATES CONSULTING ENGINEERS SHERMAN OAKS, CALIFORNIA

PIONEER POLAR STRUCTURES
SNOW MELTER TANK & CHUTE
FABRICATION & ERECTION

APPROVED
OFFICER AND DIRECTOR
DATE 4-2-62

SUBMITTED BY KING, BENIOFF & ASSOCIATES
PRESIDENT
DATE

APPROVED FOR BUREAU OF YARDS & DOCKS
FOR CHIEF OF BUREAU
DATE

SCALE AS NOTED
SHEET 16 OF 19
Y & D DRAWING NO. 938917

2