

Recapitulation of estimated cost

1. Total Cost of Work:		
(a) Direct Cost:		
Total Cost to Contractor.....	\$125,000.00	
Contingencies—10%.....	12,500.00	
Total Direct Cost.....		\$137,500.00
(b) Indirect Cost:		
Survey, Inspection, Engng.....	\$ 6,250.00	
Total Indirect Cost.....		6,250.00
Total Field Cost.....		143,750.00
General Office Overhead.....		9,250.00
Estimated Grand Total Cost to Government.....		153,000.00

This recapitulation is prepared for use in the District only, and is not for distribution to the contractor.

(Signed) Theodore Wyman, Jr.,
THEODORE WYMAN, JR.,
Lt. Col., Corps of Engineers,
District Engineer.

ARMY PEARL HARBOR BOARD EXHIBIT No. 4N

Summary
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WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
Honolulu, T. H., May 27, 1941.

Contract No. W-414-eng-602

Ft. Kamehameha, Oahu, T. H.

Job No. 24.0.

Construct—Structural steel tower instrument building and stairway to existing fire control station.

Est. Cost: \$10,026.41 (to Gov.).

Commencement Date: June 1, 1941.

Est. Date for Completion: June 21, 1941.

Supervision by Area Engineer, 3rd Field Area.

Addendum No. 1 dated Feb. 25, 1942.

Transfers supervision to Area Engr, 2nd Field Area.

Addendum No. 2 dated May 3, 1942.

Cancels Job Order No. 24 and work will be done by Work Order.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
Honolulu, T. H., May 27, 1941.

JOB ORDER No. 24.0.

Contract W-414-eng-602.

To: Hawaiian Constructors, Honolulu, T. H.

You are hereby directed to proceed with the following work:

1. PROJECT TITLE: Fire Control Station, Fort Kamehameha.
2. LOCATION: Fort Kamehameha, Oahu, T. H.
3. OFFICE FILE REFERENCE: 2013.5.
4. WORK TO BE DONE: Construct a Structural Steel Tower Instrument Building complete with ladders and stairway together with Structural Steel Connection (Stairway) to existing Fire Control Station.
5. WORK REQUESTED BY: Commanding General—Hawaiian Department.
6. DRAWINGS AND REFERENCES: Paragraph 1-04 of Specifications.
7. APPROPRIATION CHARGEABLE: Seacoast Defenses, Insular Department, 1941-CAC-131 P99 A-1210-N.

8. ESTIMATED COST: \$7,957.46.
 9. COMMENCEMENT DATE: June 1, 1941.
 10. ESTIMATED DATE FOR COMPLETION: June 21, 1941.
 11. ESTIMATED LABOR AT SITE: See Detailed Estimate Attached.
 12. PLANT REQUIRED: See Detailed Estimate Attached.
 13. MATERIALS: See Detailed Estimate Attached.
 14. SUPERVISION BY: Area Engineer, Third Field Area.

(Signed) Theodore Wyman, Jr.,
 THEODORE WYMAN, JR.,
Lt. Col., Corps of Engineers,
District Engineer.

ESTIMATE OF COST

To Accompany Job Order No. 24.0

Contract No. W-414-eng-602

WORK TO BE DONE: Construct Fire Control Station and Appurtenant Work at Fort Kamehameha.

DISTRICT: Honolulu District, Honolulu, T. H.

The work to be done, as provided for herein, is located at Fort Kamehameha Government Reservation, on the Island of Oahu, T. H., and is limited to the following Specific item:

(1) Furnish all necessary labor and equipment, and perform all work necessary to construct a Structural Steel Tower Instrument Building complete with ladders and Stairway together with Structural Connection (Stairway) to existing Fire Control Station. The work to be done shall be in accordance with Specifications, "The Construction of a Fire Control Station and Appurtenant Work at Fort Kamehameha to Accompany Job Order No. 24.0 to Contract W-414-eng-602", and the details shown on the drawings enumerated in paragraph 1-04 of Specifications.

The cost of the work to be done shall not exceed \$7,957.46.

COST TO CONTRACTOR

1. Materials to be Furnished:

Item No.	Description	Quantity	Unit	Unit cost	Amount
1	Cement.....	8	Bbl.....	\$2.93	\$23.44
2	Fine Aggregate.....	2.5	Cu. Yd.....	2.70	6.75
3	Coarse Aggregate.....	5.0	" "	3.00	15.00
4	Lumber for Forms.....	.100	M Bd. Ft.....	45.00	4.50
5	Lumber for Subflooring.....	.288	" " "	47.00	13.54
6	Lumber for Flooring.....	.288	" " "	55.00	15.84
7	Structural Steel.....	62,620	Lbs.....	0.04	2,504.80
	Angles.....				
	Plates.....				
8	Miscellaneous Metals.....	3,200	"	0.08	256.00
9	1½" Standard Pipe (Galv.).....	395	Lin. Ft.....	.1695	66.95
10	1½" Extra Strong Pipe (Black).....	165	" "	.25	41.25
11	Malleable Iron Ball Pattern Fittings.....	100	Lump Sum.....		157.57
12	2" Conduits.....	65	Lin. Ft.....	.28	18.20
13	1½" Conduits.....	120	" "	.07	8.40
14	Type 1-200 W-Outlets.....	8	Each.....	24.44	195.52
15	No. 12 Electric Wire Conductor.....	240	Lin. Ft.....	.10	24.00
16	No. 16 Signal Wire RC.....	130	" "	.055	7.15
17	Paint.....	29	Gal.....	2.75	79.75
18	4 Light Polished Wire Glass Windows.....	7	Each.....	17.00	119.00
19	Service Switch Box Electric Toggle.....	1	"	.30	0.30
20	1½" Conduit.....	3	Lin. Ft.....	.21	0.63
21	No. 0 Copper Bare Wire.....	24	Lbs.....	.313	7.51
22	Copper Ground Rods (¾" x 8').....	8	Lin. Ft.....	2.66	21.28
23	Entrance Switches.....	2	Each.....	0.98	1.96
24	Anchor Bolts (¾" x 18").....	12	"	.02	0.24
25	Welding Rods, Filler Metal for Structural Iron.....	150	Lbs.....	0.08	12.00
26	Lumber for Scaffold.....	1,900	M. Bd. Ft.....	60.00	114.00
27	Clamps for Ground Rods.....	8	Each.....	0.45	3.60
28	Nails.....	50	Lbs.....	0.08	4.00
29	Miscellaneous Materials & Supplies.....				163.15
	Total Cost of Materials & Supplies.....				3,886.33

2. Day Labor:

(a) <i>Handling and Hauling Materials:</i>			
32 Man Hours	----- @	\$1.50	\$48.00
32 Man Hours	-----	1.25	40.00
64 Man Hours	-----	0.75	44.80
128 Man Hours	-----	0.50	64.00
(b) <i>Excavation:</i>			
1 Man Hour	----- @	1.50	1.50
12 Man Hours	-----	0.50	6.00
(c) <i>Class "A" Concrete for Bases:</i>			
8 Man Hours	----- @	1.50	12.00
8 Man Hours	-----	0.65	5.20
32 Man Hours	-----	0.50	16.00
(d) <i>Structural Steel Fabrication & Erection:</i>			
150 Man Hours	----- @	1.50	225.00
40 Man Hours	-----	1.35	54.00
700 Man Hours	-----	1.25	875.00
150 Man Hours	-----	1.00	150.00
800 Man Hours	-----	0.70	560.00
150 Man Hours	-----	0.65	97.50
800 Man Hours	-----	0.50	400.00
(e) <i>Framing & Carpentry for Structural Steel & Floors:</i>			
16 Man Hours	----- @	1.50	18.00
16 Man Hours	-----	1.00	16.00
32 Man Hours	-----	0.65	20.80
32 Man Hours	-----	0.50	16.00
(f) <i>Electrical Wiring System & Signal System:</i>			
16 Man Hours	----- @	1.50	24.00
16 Man Hours	-----	1.00	16.00
16 Man Hours	-----	0.65	10.40
32 Man Hours	-----	0.50	16.00
(g) <i>Cleaning & Painting Structural Steel and Stairs:</i>			
32 Man Hours	----- @	1.50	48.00
40 Man Hours	-----	1.00	40.00
40 Man Hours	-----	0.65	26.00
(h) <i>Maintenance and Field and Office Force:</i>			
80 Man Hours	----- @	1.50	120.00
50 Man Hours	-----	1.00	50.00
150 Man Hours	-----	0.50	75.00
Total Cost of Day Labor			<u><u>3,065.20</u></u>

3. Plant Operation:

(a) <i>Rental of Equipment:</i>			
1-400 Amp. Elec. Welding Machine	8 da. @	\$3.55	\$28.40
1-Spray Paint Outfit	5 da.	1.00	5.00
1-Jaeger-1 Sack Mixer	1 da.	4.40	4.40
1-¾ Ton Pick Up Truck—Ford	16 da.	2.30	36.80
1-5 Ton Flat Rack Truck—Ford	4 da.	13.57	54.28
1-Power Shovel—With erecting boom	4 da.	105.00	420.00
1-Sedan	8 da.	2.53	20.24
1-Coupe	5 da.	2.33	11.65
Miscellaneous Small Tools—(Lump Sum)			100.00
(b) <i>Gas, oil, and Supplies</i>			<u>75.00</u>
Total Cost of Plant Operation			<u><u>755.93</u></u>

4. Total Plant Operation Cost of Job:

Cost of Material	3,886.33
Cost of Day Labor	3,065.20
Cost of Plant Operation	755.93
Mobilization and Demobilization	250.00
Total Cost of Job to Contractor	<u><u>7,957.46</u></u>

(Signed) Theodore Wyman, Jr.,
 THEODORE WYMAN, JR.,
 Lt. Col., Corps of Engineers,
 District Engineer.

Recapitulation of estimated cost

1. Total Cost of Work:

(a) Direct Cost:

Total Cost to Contractor	\$7,957.46
Contingencies—10%	795.75
Total Direct Cost	<u>8,753.21</u>

(b) Indirect Cost:

Survey, Inspection, Engr. (8% of Total Cost to Contractor)	\$636.60
Total Indirect Cost	<u>636.60</u>
Total Field Cost of Job	9,389.81
General Office Overhead (8% of Total Cost to Contractor)	636.60

Estimated Grand Total Cost to Government 10,026.41

This estimate is prepared for use in the District only, and is not for distribution to the Contractor.

(Signed) Theodore Wyman, Jr.,
THEODORE WYMAN, JR.,
Lt. Col., Corps of Engineers,
District Engineer.

FEBRUARY 25, 1942.

ADDENDUM NO. 1

To Accompany Job Order No. 24.0

Contract W-414-Eng 602

DISTRICT: Honolulu District, Honolulu, T. H.

Addendum No. 1 to accompany Job Order No. 24.0 (Fire Control Station, Ft. Kamehameha) transfers the supervision from the Area Engineer, Third Field Area to the Area Engineer, Second Field Area.

This transfer in supervision conforms to the new designated boundaries for the two above mentioned Areas.

[s] THEODORE WYMAN, JR.,
Colonel, Corps of Engineers,
District Engineer.

MAY 3, 1942.

ADDENDUM NO. 2

To Accompany Job Order No. 24.0

Contract W-414-Eng-602

Office of Department Engineer, Honolulu, T. H.

Addendum No. 2 to accompany Job Order No. 24.0 (Fire Control Station, Ft. Kamehameha) cancels Job Order No. 24.0 and work will be done by Work Order. Cancellation Requested By: Department Engineer by Memo. from Assistant Department Engineer, dated April 18, 1942.

For the Department Engineer:

[s] B. L. ROBINSON,
Lt. Col., Corps of Engineers,
Assistant Department Engineer.

ARMY PEARL HARBOR BOARD EXHIBIT No. 5

Hawaiian Constructors—contract No. W-414-eng-602-Hawaii

[SECRET]

Job orders included	Description	Date of order to proceed	Estimated date to complete	Percentage complete at estimated date	Percentage complete Dec. 1, 1941	Remarks
ORIGINAL CONTRACT DATED DEC. 20, 1940						
<i>To be completed within 6 months</i>						
Schedule A:						Schedule A and 7 additions grouped in progress report and were 52.59 complete Dec. 1.
No. 5.0	Bombproof ammunition storage magazines for airfield	Feb. 24, 1941	Sept. 1, 1941	22.60	52.59	
No. 5.0, addition 2	5 30,000 cubic feet concrete bombproof magazines	May 26, 1941	No estimate			
3	Excavation	June 5, 1941	do			
4	Paving of access road	June 27, 1941	do			
5	4 30,000 cubic feet concrete bombproof magazines	July 1, 1941	do			
6	2 5,000 cubic feet and 3 10,000 cubic feet bombproof concrete magazines	Aug. 14, 1941				
7	4 5,000 cubic feet concrete bombproof magazines	Sept. 2, 1941				
Schedule B:						
No. 2.0	Cableway	Feb. 6, 1941	June 1, 1941	1.0	37.22	
No. 23.1	Aircraft warning stations camp, utilities, and fence	June 18, 1941	Sept. 23, 1941	2.58	48.49	
No. 41.0	Aircraft warning stations camp and road	June 14, 1941	Nov. 30, 1941	80.53	80.53	
No. 46.0	Aircraft warning stations road, buildings, water system, fencing.	June 30, 1941	Sept. 1, 1941			
Schedule C:						No report on progress, canceled May 1, 1942.
No. 18.18.0	Railroad gun position	Apr. 23, 1941	June 21, 1941	22.5	89.0	
No. 22.0	do	Mar. 4, 1941	June 1, 1941	47.7	100.0	
SUPPLEMENTAL AGREEMENT NO. 1, DATED MAR. 22, 1941						
<i>To be completed within 100 days</i>						
Schedule B:						
No. 7.0 (see revision)	10 igloo type magazines	Apr. 25, 1941	Nov. 1, 1941	22.82	77.7	
No. 7.0, addition 1	Electrical distribution system for magazines	May 22, 1941	do	41.37	94.99	
No. 7.1	Access road to magazines	June 16, 1941	Dec. 15, 1941	26.0	7.99	
No. 7.2	Railroad to magazines	do	Aug. 1, 1941	.0	7.81	
No. 7.4	Manproof wire fence and relocation of existing fence	Aug. 15, 1941	Oct. 1, 1941	.0	.0	
<i>To be completed with in 90 days</i>						
Schedule A:						300 shed.
No. 2.1	Access road to cableway	Mar. 5, 1941	May 6, 1941	77.8	100.0	
No. 23.0	Road for aircraft warning installations to be located as directed by the contracting officer.	Apr. 28, 1941	Sept. 25, 1941	60.5	100.0	
No. 23.0 Add 1	Wood frame toolshed and storeroom	June 2, 1941				

ARMY PEARL HARBOR BOARD EXHIBIT No. 5—Continued

Hawaiian Constructors—contract No. W-414-eng-602—Hawaii—Continued

Job orders included	Description	Date of order to proceed	Estimated date to complete	Percentage complete at estimated date	Percentage complete Dec. 1, 1941	Remarks
SUPPLEMENTAL AGREEMENT NO. 1, DATED MAR. 22, 1941—con.	<i>To be completed within 60 days—Continued</i>					
Schedule B:						
No. 14.0	Fire-control station	Mar. 15, 1941	Apr. 10, 1941	0	100	Not important.
No. 15.0	do	Mar. 18, 1941	Apr. 22, 1941	0	100	
No. 24.0	do	May 27, 1941	June 21, 1941	6	7.18	
	<i>To be completed within 90 days</i>					
Schedule J:						
No. 20.1 (See Rev.)	6 50,000-gallon gasoline storage tanks for airfield	July 1, 1941	Jan. 1, 1942	0	0	
No. 21.1	9 50,000-gallon gasoline storage tanks for airfield	Apr. 26, 1941	June 21, 1941	2	67.75	
No. 25.0	do	May 7, 1941	Aug. 1, 1941	.5	37.97	