



APPENDIX C
COST ESTIMATE BACKUP

COST ESTIMATE WORKSHEET
PACDIV PH 4-4330/14 (3-80)

SHEET 1 OF 1

CONTRACT NO.
N62742-89-C-0069

AREA RED HILL	ACTIVITY FISC PEARL HARBOR	LOCATION OAHU HI	AMENDMENT NO. 3
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PROJECT TITLE
CONSTRUCT NEW OIL TIGHT DOOR/BULKHEAD, RED HILL

Critical Infrastructure

PROJECT 1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COST		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
MOB/DEMOB	1	LS					5600	5600
SAW CUT TUNNEL GUNITE	82	LF					20.00	1640
ROCK/GUNITE EXCAVATION	441	CF					23.40	10319
HAUL/DROPS OF RUBBLE	16.33	CY					104	1698
FORMING FOR WALL	253	SF					35.50	8981
#10 REINFORCING STEEL	4.59	TN					1196	5429
CONCRETE/CONCRETE PUMP	23.16	CY					215	4979
STEEL DOOR & FRAME	1	LS					3360	3360
PAINTING	147	SF					3.50	514
NEOPRENE DOOR SEAL	1	LS					465	465
SUMP PUMP/PIPING TO SUMP	1	LS					3145	3145
SEALS AT EXISTING E. CABLES	1	LS					560	560
DOOR CLOSING MECHANISM AND CONTROLS	1	LS					15000	15000
TRACK MODIFICATIONS OR ALTERNATIVE SEALING MECHANISM	1	LS					8500	8500
PROVIDE FUEL BY-PASS FOR DRAINING TRAPPED FUEL - PIPING, VALVES, TIE-IN	1	LS						12,500
ALARM & CABLE	1	LS						2500
DESIGN OF NEW CLOSURE SYSTEM AND TESTING	1	LS						15,000
							TOTAL	100,270

PREPARED BY (Name) C. TRAN SUE/J. RASMUSSEN	APPROVED BY ALLEN SMITH	TITLE OR ORGANIZATION WILLBROS BUTLER	DATE 6/19/98
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JOB NO. 50253PREPARED BY: C.T.DATE 8/3/94CLIENT N744

CHECKED BY: _____

SHEET 1 OF _____SUBJECT Tunnel Estimate - New Door at**Critical Infrastructure**Lower Tunnel

Critical Infrastructure

COST ESTIMATE WORKSHEET
 PACDIV PH 4-4330/14 (3-80)

SHEET 1 OF 1

CONTRACT NO.
 N62742-89-C-0069

AREA RED HILL	ACTIVITY FISC PEARL HARBOR	LOCATION OAHU HI	AMENDMENT NO. 3
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PROJECT TITLE

REHAB OIL TIGHT Critical Infrastructure N Critical Infrastructure AND
Critical Infrastructure TO CONTROL PIPING LEAKS ONLY. REPAIRS

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COST		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
REVISE ELECT. RELEASE MECHANISM TO FAIL SAFE TYPE	2	EA					1400	2800
REPLACE SEALS ON DOOR	2	EA					485	970
Provide New Power Source FOR Critical Infrastructure From PWC P.S.	150	LF					7.00	1050
Provide New Power Source FOR Critical Infrastructure	800	LF					7.00	5600
REPLACE inoperative FLAPPER VALVE on Under drain w/ SPRING LOADED CHECK OR BUTTERFLY VALVE AND TRIP MECHANISM	2	EA					2352	4704
STRAIGHTEN Critical Infrastructure	1	LS						
REPAINT Critical Infrastructure	2	EA					514	1028
TEST	2	EA					500	1000
						TOTAL		17152

PREPARED BY (Name) RASMUSSEN	APPROVED BY ALLEN SMITH	TITLE OR ORGANIZATION WILLBROS BUTLER	DATE 6/19/98
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PACDIV PH 4-4330/14 (3-80)

CONTRACT NO.

N 62742-89-C-0069

AREA

RED HILL

ACTIVITY

FISC PEARL HARBOR

LOCATION

ОАИИ, Н.И.

AMENDMENT NO.

3

PROJECT TITLE

CONSTRUCT NEW OIL TIGHT DOOR/BULKHEAD-RED HILL

Critical Infrastructure

Project 3

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE
C. TRANSUE/J. RASMUSSEN	ALLEN SMITH	WILLBROS BUTLER	6/19/98

PREPARED BY (Name)

C. TRANSUE / J. RASMUSSEN

APPROVED BY

ALLEN SMITH

1	2	3	4	5	6	7	8	9
TITLE OR ORGANIZATION								

WILLBROS BUTLER

DATE

6/19/98

CONTRACT NO.
N 62742-89-C-0069

AREA RED HILL	ACTIVITY FISC PEARL HARBOR	LOCATION OAHU, HI	AMENDMENT NO. 3
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PROJECT TITLE
CONSTRUCT NEW OIL TIGHT DOOR/BULKHEAD AND DIVERSION WALL

Critical Infrastructure

PROJECT 4

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COST		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
MCD/DEMOL	1	LS					4000	4000
SAWCUT TUNNEL GUNITE	82	LF					20.00	1640
ROCK EXCAVATION	276	CF					23.40	6458
HAUL/DISPOSE OF RIBBLE	10.2	CY					104	1061
FORMING FOR WALL	253	SF					35.50	8981
REINFORCING STEEL	2,868	TN					1196	3420
CONCRETE/CONCRETE PUMP	15.19	CY					175	2658
STEEL DOOR	1	LS					3024	3024
PAINT	1	LS					514	514
SEALS FOR DOOR	1	LS					485	485
SEALS FOR PENETRATIONS	0	0					0	0
TRACK WORK	0	0					0	0
DOOR CLOSING MECHANISM AND CONTROLS	1	LS					6000	6000
DIVERSIONARY WMI ADITS	1	LS					2800	2800
Critical Infrastructure								
PROVIDE DRAIN FOR TRAPPED FUEL	1	LS					3000	3000
TEST DOOR, MECH, & DRAIN	1	LS					500	500
						TOTAL		44,551

PREPARED BY (Name) RASHMUSSEN/CT	APPROVED BY ALLEN SMITH	TITLE OR ORGANIZATION WILLBROS BUTLER	DATE 6/19/98
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PACDIV PH 4-4330/14 (3-80)

CONTRACT NO.
N62742-89-C-0069

AMENDMENT NO. 3

AREA	ACTIVITY	LOCATION	AMENDMENT NO.
RED Hill	FISC PEARL HARBOR	ON H.C. H.I.	3

PROJECT TITLE
CONSTRUCT DIVERSIONARY WALL AT PWC PUMP STATION

PROJECT 5

[illegible]

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE
RASMUSSEN	ALLEN SMITH	Will Bros Butler	6/19/98

COST ESTIMATE WORKSHEET
 PACDIY PH 4-4330/14 (3-80)

SHEET 1 OF 1

CONTRACT NO.
 N62742-89-C-0069

AREA FISC	ACTIVITY PEARL HARBOR	LOCATION OAHU HI	AMENDMENT NO. 3
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PROJECT TITLE
 REPAIR DEFECTIVE AREAS OF TUNNEL GUNITE, CORRODED ARCHES;
 INSTALL CLEAN OUTSON DRAINS AND CLEANOUT DRAINS, CLEAN
 GUTTERS IN LOWER TANK AREA, REPLACE UNSAFE GRATING. PROJECT B

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COST		EQUIPMENT COST	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
REMOVE DETERIORATED GUNITE AT WALL/FLOOR J., IN TUNNEL, PACK VOIDS AND INSTALL COVE	2000	LF	(ESTIMATED)				4.20	8400
REPAIR Tunnel Roof Penetrations	50	EA	(ESTIMATED)				42	2100
Replace Severely Corroded Arches / Roof Stringers IN HARBOR TUNNEL	5	EA	(ESTIMATED)				1908	9540
INSTALL Clean outs ON TUNNEL DRAINS & CLEAR DRAINS.	10	EA	(ESTIMATED)				3038	30,380
STEAM Clean GUTTERS in LOWER TANK AREA including GRATING - Replace ANY UNSAFE GRATING	3000	LF					3.35	10,050
							TOTAL	\$ 60,470

PREPARED BY (Name) RASMUSSEN	APPROVED BY ALLEN SMITH	TITLE OR ORGANIZATION WILLBROS BUTLER	DATE 6/19/98
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PROJECT TITLE

PACDIY PH 4-4230/14 (3-80)

SHEET 1 OF

CONTRACT NO.

N/62 742-69-C-3062

AMENDMENT NO.

3

AREA

Red Hill

ACTIVITY

PEARL HARBOR

LOCATION

ОАНЦ, ННХ АИ

PROJECT TITLE

FIRE PROTECTION OF PIPE SUPPORTS

[illegible]