

The U.S. Navy commissioned a national estimating firm, U.S. Cost, Inc., to evaluate the actual value of a RediCheck review completed on the hospital's \$30 million major renovation project. See conclusions on Page 4.

QUALITY REVIEW

BUILDING #1 & #215 RENOVATION NAVAL MEDICAL CENTER

Portsmouth, Virginia

Contract No. N62470-94D-2391

Probable Change Order Cost Estimate

26 March 1998

PREPARED FOR:

LANTNAVFACENGCOM.
1510 Gilbert Street
Norfolk, Virginia 23511-2699

PREPARED BY:

U.S. COST INCORPORATED
Atlanta, Georgia

USC# 941023.3

TABLE OF CONTENTS

- BASIS OF ESTIMATE AND RATIONALE
- SUMMARY
- DETAIL ESTIMATE

**BASIS OF ESTIMATE
AND
RATIONALE**

RATIONALE FOR COST ESTIMATE

BUILDING #1 & #215 RENOVATION Naval Medical Center, Portsmouth, VA

Scope of Work:

U.S. Cost was tasked to develop an “Opinion of Probable Cost” for possible “change orders” based on the findings of the Quality Assurance exercise executed by The Redicheck Firm for the Renovation of Building’s #1 and #215 at the Naval Medical Center in Portsmouth, Virginia. The cost were developed based on the reports dated 7 November for Building #1 and 22 December for Building #215. The documents developed by Shriver and Holland Associates and annotated during the Quality Assurance exercise were used as reference in developing the cost.

The estimate has been formatted to match the Quality Review reports. The reports follow the drawing schedule of the construction documents.

Assumptions:

The exercise of applying costs to “probable” change orders is difficult. Certain assumptions must be made as to when errors and omissions in the documents are found. Using a particular assumption as to when the problem is found can make a large difference in the cost to remediate the problem. U.S. Cost attempted to utilize the following assumptions as a guideline. If the estimator felt strongly that the assumption would not be feasible for a particular element, estimator judgement was used.

1. In case of a discrepancy in size or quality, the more expensive item is assumed to be desired and the contractor bid the less expensive item.
2. For new construction, none of the discrepancies caused a situation where the work executed would have to be torn out or reworked.
3. If demolition drawings indicate the removal of any element which was intended to remain, the demolition took place prior to finding the error.
4. The estimator used his judgement on elements which may have been in variance to other documents if standard estimating and construction procedures were used in the bidding of the work as to whether the variance would be found prior to award.

Conclusions:

Approximately 630 RFI’s and 215 change orders were discovered during the Quality Assurance. The estimate includes, in each section, the administrative cost of the contractor to develop and negotiate each “change order” and for the development cost of RFI’s. All costs include a mark-up of 25%, which covers the overhead and profit of all contractors associated with that particular change order. Due to the assumptions aforementioned, this estimate can be considered **very conservative**. The majority of the cost indicated in the estimate is actually the cost of administering the errors and omissions found. It is our opinion that, in order of magnitude, the estimated amount of \$597,418 was avoided as a result of the Quality Assurance process.

RediCheck helped the Navy avoid many RFI's and change orders and provided an estimated savings of almost \$600,000. Given a review fee of \$76,000, this represents a return on investment of nearly 700%!

SUMMARY

BUILDING #215 RENOVATION, NAVAL MEDICAL CENTER

PORTSMOUTH, VA

U.S. COST, INC.

CLIENT:

EXPANDED WBS SUMMARY

JOB # 941023.3

DESIGNER: SHRIVER AND HOLLAND
 ADDRESS: NORFOLK, VA
 DESIGN STAGE
 QUALITY ASSURANCE

PROJECT AREA 1
 DATE 27-Mar-1998

WBS CODE	WBS (ITEM) DESCRIPTION	TOTAL COST	WBS QUANTITY	U/M	UNIT COST
	BUILDING #215 RENOVATION	366,908	1	LS	366,908.13
100	CIVIL	5,791	1	LS	5,791.25
101	LANDSCAPE	6,806	1	LS	6,805.63
102	ENVIRONMENTAL REMEDIATION	38,593	1	LS	38,592.50
103	PHASING	10,375	1	LS	10,375.00
104	TEMPORARY CONSTRUCTION	16,250	1	LS	16,250.00
105	LIFE SAFETY	2,250	1	LS	2,250.00
106	SIGNAGE	9,875	1	LS	9,875.00
107	ARCHITECTURAL	73,938	1	LS	73,937.50
108	NAVAL EXCHANGE	8,875	1	LS	8,875.00
109	VERTICAL TRANSPORTATION	2,438	1	LS	2,437.50
110	STRUCTURAL	6,125	1	LS	6,125.00
111	PEDESTRIAN BRIDGE	19,063	1	LS	19,062.50
112	FIRE PROTECTION	5,325	1	LS	5,325.00
113	PLUMBING	29,663	1	LS	29,662.50
114	MECHANICAL	36,250	1	LS	36,250.00
115	ELECTRICAL	69,544	1	LS	69,543.75
116	SPECIFICATIONS	25,750	1	LS	25,750.00

BUILDING #1 RENOVATION, NAVAL MEDICAL CENTER

PORTSMOUTH, VA

U.S. COST, INC.

CLIENT:

EXPANDED WBS SUMMARY

JOB # 941023.3

DESIGNER: SHRIVER AND HOLLAND
 ADDRESS: NORFOLK, VA
 DESIGN STAGE
 QUALITY ASSURANCE

PROJECT AREA 1
 DATE 27-Mar-1998

WBS CODE	WBS (ITEM) DESCRIPTION	TOTAL COST	WBS QUANTITY	U/M	UNIT COST
	BUILDING #1 RENOVATION	230,510	1	LS	230,509.56
100	ENVIROMENTAL REMEDIATION	19,625	1	LS	19,625.00
101	CIVIL	3,485	1	LS	3,484.56
102	LANDSCAPE	4,500	1	LS	4,500.00
103	ARCHITECTURAL	70,063	1	LS	70,062.50
104	IDENTIFYING DEVICES	6,000	1	LS	6,000.00
105	STRUCTURAL	19,025	1	LS	19,025.00
106	PLUMBING	11,750	1	LS	11,750.00
107	MECHANICAL	13,125	1	LS	13,125.00
108	ELECTRICAL	36,500	1	LS	36,500.00
109	SPECIFICATIONS	46,438	1	LS	46,437.50

DETAIL ESTIMATE

BUILDING #215 RENOVATION, NAVAL MEDICAL CENTER

PORTSMOUTH, VA

U.S. COST, INC.

CLIENT

JOB # 941023.3

DESIGNER SHRIVER AND HOLLAND

DETAIL LINE ITEM REPORT

(TOTAL UNIT COSTS)

PROJECT AREA 1

ADDRESS NORFOLK, VA

DATE 27-Mar-1998

DESIGN STAGE

QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
100 CIVIL				
(Q-2/C-2) - Remove Trash Compactors	2.00	EA	1250.00	2,500
(Q-2/C-22) - Remove Metal Dock 26' x 6'	1.00	LS	750.00	750
(Q-3/C-3) - Demolish 4" Concrete Sidewalk	60.00	SF	0.69	41
(Q-4b/C-4) - Delete LI 1 Tree, 8' to 10' Ht.	(1.00)	EA		(500)
(Q-5a/C-5) - New Tree To Remain - DDT Tree Protection	(1.00)	EA		(119)
(Q-5a/C-5) - New Tree To Remain - Add Removal of Exist	1.00	EA	137.50	138
(Q-5a/C-5) - New Tree To Remain - Add New Tree	1.00	EA	210.00	210
(Q-5b/C-5) - Exist. Tree To Remain - Add Tree Protection	1.00	EA	118.75	119
(Q-5b/C-5) - Exist. Tree To Remain - Deduct Removal	(1.00)	EA		(138)
(Q-5b/C-5) - Exist. Tree To Remain - Deduct New Tree	(1.00)	EA		(210)
RFI and Change Order Development/Schedule	8.00	EA	375.00	3,000
				\$5,791
100 CIVIL SUBTOTAL				
101 LANDSCAPE				
(Q-8/L-8) - Add 4" Dia. Irrigation Sleeve	6.00	LF	8.00	48
(Q-10b/L-10) - Add for Adjustment to wall width	3,446.00	SF	0.44	1,508
RFI and Change Order Development/Schedule	14.00	EA	375.00	5,250
				\$6,806
101 LANDSCAPE SUBTOTAL				
102 ENVIRONMENTAL REMEDIATION				
Environmental Item #3	1.00	LS	942.50	943
Environmental Item #2	1.00	LS	2175.00	2,175
Environmental Item #1	1.00	LS	875.00	875
Environmental Item #4	1.00	LS	4437.50	4,438
Environmental Item #5	1.00	LS	7725.00	7,725

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DETAIL LINE ITEM REPORT

PROJECT AREA 1

ADDRESS NORFOLK, VA

TOTAL UNIT COSTS

DESIGN STAGE

DATE 27-Mar-1998

QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
102 ENVIRONMENTAL REMEDIATION				
Environmental Item #8	1.00	LS	2687.50	2,688
Environmental Item #9	1.00	LS	3125.00	3,125
Environmental Item #10	1.00	LS	1750.00	1,750
Environmental Item #11	1.00	LS	1125.00	1,125
Environmental Item #12	1.00	LS	7000.00	7,000
RFI and Change Order Development/Schedule	18.00	EA	375.00	6,750
102 ENVIRONMENTAL REMEDIATION SUBTOTAL				\$38,593
103 PHASING				
Phasing Items	1.00	LS	6250.00	6,250
RFI and Change Order Development/Schedule	11.00	EA	375.00	4,125
103 PHASING SUBTOTAL				\$10,375
104 TEMPORARY CONSTRUCTION				
Temporary Construction Item #1	1.00	LS	12500.00	12,500
RFI and Change Order Development/Schedule	10.00	EA	375.00	3,750
104 TEMPORARY CONSTRUCTION SUBTOTAL				\$16,250
105 LIFE SAFETY				
Life Safety Item #2	(1.00)	LS		(1,875)
Life Safety Item #3	(1.00)	LS		(125)
Life Safety Item #4	1.00	LS	1875.00	1,875
Life Safety Item #6	(1.00)	LS		(250)
RFI and Change Order Development/Schedule	7.00	EA	375.00	2,625
105 LIFE SAFETY SUBTOTAL				\$2,250

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DESIGNER SHRIVER AND HOLLAND

DETAIL LINE ITEM REPORT

(TOTAL UNIT COSTS)

ADDRESS NORFOLK, VA

PROJECT AREA 1

DESIGN STAGE

DATE 27-Mar-1998

QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
106 SIGNAGE				
Signage Item #2	1.00	LS	62.50	63
Signage Item #4	1.00	LS	62.50	63
Devices Schedule Item #2	1.00	LS	3750.00	3,750
RFI and Change Order Development/Schedule	16.00	EA	375.00	6,000
106 SIGNAGE SUBTOTAL				\$9,875

107 ARCHITECTURAL				
Architectural Item #1	1.00	LS	3812.50	3,813
Architectural Item #8	1.00	LS	625.00	625
Architectural Item #9	1.00	LS	2500.00	2,500
Architectural Item #12	1.00	LS	2500.00	2,500
Architectural Item #14	1.00	LS	1000.00	1,000
Architectural Item #17	1.00	LS	2500.00	2,500
Architectural Item #21	1.00	LS	3750.00	3,750
Architectural Item #22	1.00	LS	5000.00	5,000
Architectural Item #23	1.00	LS	625.00	625
Architectural Item #24	1.00	LS	125.00	125
Architectural Item #28	1.00	LS	562.50	563
Architectural Item #29	1.00	LS	1250.00	1,250
Architectural Item #30	1.00	LS	625.00	625
Architectural Item #33	1.00	LS	8125.00	8,125
Architectural Item #34	1.00	LS	3187.50	3,188
Architectural Item #36	1.00	LS	62.50	63
Architectural Item #37	(1.00)	LS		(250)
Architectural Item #40	1.00	LS	1875.00	1,875
Architectural Item #54	1.00	LS	5000.00	5,000
Architectural Item #59	(1.00)	LS		(1,875)

BUILDING #215 RENOVATION, NAVAL MEDICAL CENTER

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JOB # 941023.3

DESIGNER SHRIVER AND HOLLAND

DETAIL LINE ITEM REPORT

(TOTAL UNIT COSTS)

PROJECT AREA 1

ADDRESS NORFOLK, VA

DATE 27-Mar-1998

DESIGN STAGE
QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
<u>107 ARCHITECTURAL</u>				
Architectural Item #60	(1.00)	LS		(2,500)
Architectural Item #62	1.00	LS	187.50	188
Architectural Item #65	1.00	LS	125.00	125
Architectural Item #71	1.00	LS	6250.00	6,250
RFI and Change Order Development/Schedule	77.00	EA	375.00	28,875
<u>107 ARCHITECTURAL SUBTOTAL</u>				\$73,938
<u>108 NAVAL EXCHANGE</u>				
Naval Exchange Item #6	1.00	LS	2500.00	2,500
RFI and Change Order Development/Schedule	17.00	EA	375.00	6,375
<u>108 NAVAL EXCHANGE SUBTOTAL</u>				\$8,875
<u>109 VERTICAL TRANSPORTATION</u>				
Vertical Transportation Item #1	1.00	LS	625.00	625
Vertical Transportation Item #2	1.00	LS	312.50	313
RFI and Change Order Development/Schedule	4.00	EA	375.00	1,500
<u>109 VERTICAL TRANSPORTATION SUBTOTAL</u>				\$2,438
<u>110 STRUCTURAL</u>				
Structural Item #7	1.00	LS	3125.00	3,125
RFI and Change Order Development/Schedule	8.00	EA	375.00	3,000
<u>110 STRUCTURAL SUBTOTAL</u>				\$6,125
<u>111 PEDESTRIAN BRIDGE</u>				
Pedestrian Bridge Item #1	1.00	LS	1250.00	1,250

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TOTAL UNIT COSTS

PROJECT AREA 1

ADDRESS NORFOLK, VA

DATE 27-Mar-1998

DESIGN STAGE

QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
111 PEDESTRIAN BRIDGE				
Pedestrian Bridge Item #3	1.00	LS	625.00	625
Pedestrian Bridge Item #4	1.00	LS	7500.00	7,500
Pedestrian Bridge Item #8	1.00	LS	1250.00	1,250
Pedestrian Bridge Item #10	1.00	LS	1250.00	1,250
Pedestrian Bridge Item #17	1.00	LS	437.50	438
RFI and Change Order Development/Schedule	18.00	EA	375.00	6,750
111 PEDESTRIAN BRIDGE SUBTOTAL				\$19,063
112 FIRE PROTECTION				
Drawing FP2.4 Extend Pipe	1.00	EA	50.00	50
Drawing FP2.17 Add Tamper Switch	52.00	EA	43.75	2,275
RFI and Change Order Development/Schedule	8.00	EA	375.00	3,000
112 FIRE PROTECTION SUBTOTAL				\$5,325
113 PLUMBING				
Drawing P2.1 Continue Piping	1.00	LS	375.00	375
Drawing P2.2 Continue Piping	1.00	EA	93.75	94
Drawing P2.3 Continue Piping	1.00	EA	375.00	375
Drawing P2.4 Continue Piping	1.00	EA	193.75	194
Drawing P2.5 Continue Piping	1.00	EA	187.50	188
Drawing P2.7 Add Vent Pipe	1.00	EA	250.00	250
Drawing P2.8 Continue Piping	1.00	LS	93.75	94
Drawing P2.9 Add Piping & VTR	1.00	EA	562.50	563
Drawing P2.10 Extend Pipe	1.00	LS	375.00	375
Drawing P2.15 Continue Piping	1.00	LS	218.75	219
Drawing P2.16 Add Vents to Sinks	1.00	LS	468.75	469

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 DESIGNER SHRIVER AND HOLLAND
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DETAIL LINE ITEM REPORT

TOTAL UNIT COSTS

JOB # 941023.3
 PROJECT AREA 1
 DATE 27-Mar-1998

DESIGN STAGE
 QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
113 PLUMBING				
Drawing P2.17 Continue Piping	1.00	LS	281.25	281
Drawing P2.21 Continue Piping	1.00	LS	187.50	188
Drawing P2.36 Add Roof Drain	1.00	LS	375.00	375
Drawing P2.38 Increase Pipe Size	1.00	LS	125.00	125
RFI and Change Order Development/Schedule	68.00	EA	375.00	25,500
113 PLUMBING SUBTOTAL				\$29,663
114 MECHANICAL				
Drawing M1.5 Extend Duct	1.00	EA	250.00	250
Drawing M2.2 Increase Duct Size	1.00	EA	50.00	50
Drawing M2.3 Increase Duct Size	1.00	EA	37.50	38
Drawing M2.7 Increase Duct Size	1.00	EA	50.00	50
Drawing M2.8 Increase Duct Size	1.00	EA	25.00	25
Drawing M2.37 Increase Duct Size & Extend	1.00	EA	187.50	188
Drawing M3.16 Extend Pipe	1.00	EA	37.50	38
Drawing M3.17 Extend Pipe	1.00	EA	62.50	63
Drawing M3.19 Extend Pipe	1.00	EA	62.50	63
Drawing M4.1 Increase Pipe Size & Continue	1.00	EA	156.25	156
Drawing M4.3 Increase Duct Size	1.00	EA	187.50	188
Drawing M4.4 Extend Duct	1.00	EA	250.00	250
Drawing M4.5 Increase Duct Size	1.00	EA	112.50	113
Drawing M4.6 Increase Pipe Size & Continue	1.00	EA	656.25	656
RFI and Change Order Development/Schedule	91.00	EA	375.00	34,125
114 MECHANICAL SUBTOTAL				\$36,250

BUILDING #215 RENOVATION, NAVAL MEDICAL CENTER

PORTSMOUTH, VA

U.S. COST, INC.

CLIENT

JOB # 941023.3

DESIGNER SHRIVER AND HOLLAND

DETAIL LINE ITEM REPORT

(TOTAL UNIT COSTS)

PROJECT AREA 1

ADDRESS NORFOLK, VA

DATE 27-Mar-1998

DESIGN STAGE

QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
<u>115</u> <u>ELECTRICAL</u>				
7 Remove Electrical Panels	1.00	LS	562.50	563
10 Install Transformer And Panels	1.00	LS	1875.00	1,875
11 Remove Transformer And Electrical Panels	1.00	LS	812.50	813
20-B Connect New Fan	1.00	LS	206.25	206
26-A Install Dedicated Circuit For Refrigerator	1.00	LS	218.75	219
28-E Use 112.5 KVA ILO 75 KVA Transformer	1.00	LS	2812.50	2,813
28-F Install Power For Spray Booth	1.00	LS	706.25	706
33 Relocate Electrical Panel	1.00	LS	625.00	625
45-D Connect Added FCU	1.00	LS	156.25	156
58-B Add Lights To Room 1.2-132	1.00	LS	1875.00	1,875
58-C Add Lights To Room 1.2-133	1.00	LS	937.50	938
63-B Special Lights In Room 2.2-164	1.00	LS	1031.25	1,031
63-C Add Occupancy Sensor Room 2.2-146	1.00	LS	125.00	125
72 Add Exit Light	1.00	LS	93.75	94
74 Add Occupancy Sensor	1.00	LS	125.00	125
78-B Add Exit Light	1.00	LS	93.75	94
81-B Add Smoke Detctors In Room B-106	1.00	LS	3331.25	3,331
95-A Connect Flow And Tamper Switches	1.00	LS	262.50	263
96-A&B Connect Flow And Tamper Switches	1.00	LS	456.25	456
103 Add Smoke Detectors In Hall	1.00	LS	750.00	750
105 Add Smoke Detector In Room 9.2-124	1.00	LS	237.50	238
113-C Add Power Cable Feeder For 225KVA Transformer	1.00	LS	2000.00	2,000
RFI and Change Order Development/Schedule	134.00	EA	375.00	50,250
				=====
<u>115 ELECTRICAL SUBTOTAL</u>				<u>\$69,544</u>
				=====

116 SPECIFICATIONS

Specifications Item #8	1.00	LS	250.00	250
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BUILDING #215 RENOVATION, NAVAL MEDICAL CENTER

PORTSMOUTH, VA

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JOB # 941023.3

DESIGNER SHRIVER AND HOLLAND

ADDRESS NORFOLK, VA

DETAIL LINE ITEM REPORT

TOTAL UNIT COSTS

PROJECT AREA 1

DESIGN STAGE

DATE 27-Mar-1998

QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
<u>116</u> <u>SPECIFICATIONS</u>				
Specifications Item #11	1.00	LS	2500.00	2,500
Specifications Item #15	1.00	LS	1875.00	1,875
Specifications Item #16	1.00	LS	1250.00	1,250
Specifications Item #17	1.00	LS	125.00	125
Specifications Item #18	1.00	LS	6250.00	6,250
RFI and Change Order Development/Schedule	36.00	EA	375.00	13,500
				=====
<u>116</u> <u>SPECIFICATIONS SUBTOTAL</u>				\$25,750
				=====
				=====
				PROJECT TOTAL FOR ALL EXPANDED LEVELS
				\$366,908
				=====

BUILDING #1 RENOVATION, NAVAL MEDICAL CENTER

PORTSMOUTH, VA

U.S. COST, INC.

CLIENT

JOB # 941023.3

DESIGNER SHRIVER AND HOLLAND

DETAIL LINE ITEM REPORT

ADDRESS NORFOLK, VA

TOTAL UNIT COSTS

PROJECT AREA 1

DESIGN STAGE

DATE 27-Mar-1998

QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
<u>100 ENVIRONMENTAL REMEDIATION</u>				
Environmental Remediation	1.00	LS	12500.00	12,500
RFI and Change Order Development/Schedule	19.00	EA	375.00	7,125
<u>100 ENVIRONMENTAL REMEDIATION SUBTOTAL</u>				\$19,625
<u>101 CIVIL</u>				
(Q-2/C-24) - Increase height of catch basin 0'-5"	2.00	EA	68.75	138
(Q-2/C-24) -Deduct 12" dia. Pipe	(90.00)	LF		(2,644)
(Q-10/C-29) - Increase thickness of Concrete Apron from 7" to 11"	2,109.00	SF	1.06	2,241
RFI and Change Order Development/Schedule	10.00	EA	375.00	3,750
<u>101 CIVIL SUBTOTAL</u>				\$3,485
<u>102 LANDSCAPE</u>				
RFI and Change Order Development/Schedule	12.00	EA	375.00	4,500
<u>102 LANDSCAPE SUBTOTAL</u>				\$4,500
<u>103 ARCHITECTURAL</u>				
Architectural Item #3	1.00	LS	1250.00	1,250
Architectural Item #4	1.00	LS	437.50	438
Architectural Item #8	1.00	LS	250.00	250
Architectural Item #11	1.00	LS	5875.00	5,875
Architectural Item #12	1.00	LS	3375.00	3,375
Architectural Item #13	1.00	LS	625.00	625
Architectural Item #14	1.00	LS	3500.00	3,500
Architectural Item #15	1.00	LS	187.50	188

BUILDING #1 RENOVATION, NAVAL MEDICAL CENTER

PORTSMOUTH, VA

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DESIGNER SHRIVER AND HOLLAND

ADDRESS NORFOLK, VA

DETAIL LINE ITEM REPORT

(TOTAL UNIT COSTS)

PROJECT AREA 1

DESIGN STAGE

DATE 27-Mar-1998

QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
<u>103</u> <u>ARCHITECTURAL</u>				
Architectural Item #16	1.00	LS	2812.50	2,813
Architectural Item #17	(1.00)	LS		(1,250)
Architectural Item #19	1.00	LS	312.50	313
Architectural Item #20	(1.00)	LS		(1,250)
Architectural Item #22	1.00	LS	250.00	250
Architectural Item #23	(1.00)	LS		(1,250)
Architectural Item #24	(1.00)	LS		(1,250)
Architectural Item #25	1.00	LS	375.00	375
Architectural Item #26	1.00	LS	2500.00	2,500
Architectural Item #28	1.00	LS	6250.00	6,250
Architectural Item #30	1.00	LS	125.00	125
Architectural Item #31	1.00	LS	1875.00	1,875
Architectural Item #35	1.00	LS	625.00	625
Architectural Item #36	1.00	LS	1250.00	1,250
Architectural Item #38	1.00	LS	625.00	625
Architectural Item #40	1.00	LS	1000.00	1,000
Architectural Item #41	1.00	LS	250.00	250
Architectural Item #44	1.00	LS	2562.50	2,563
Architectural Item #46	1.00	LS	1250.00	1,250
Architectural Item #47	1.00	LS	250.00	250
Architectural Item #49	1.00	LS	312.50	313
Architectural Item #51	1.00	LS	625.00	625
Architectural Item #52	1.00	LS	2062.50	2,063
Architectural Item #57	1.00	LS	187.50	188
Architectural Item #64	1.00	LS	1875.00	1,875
Architectural Item #66	1.00	LS	2500.00	2,500
Architectural Item #67	1.00	LS	250.00	250
Architectural Item #70	1.00	LS	625.00	625

BUILDING #1 RENOVATION, NAVAL MEDICAL CENTER

PORTSMOUTH, VA

U.S. COST, INC.

CLIENT

JOB # 941023.3

DESIGNER SHRIVER AND HOLLAND

DETAIL LINE ITEM REPORT

TOTAL UNIT COSTS

ADDRESS NORFOLK, VA

PROJECT AREA 1

DESIGN STAGE
QUALITY ASSURANCE

DATE 27-Mar-1998

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
<u>103 ARCHITECTURAL</u>				
Architectural Item #76	1.00	LS	312.50	313
RFI and Change Order Development/Schedule	76.00	EA	375.00	28,500
<u>103 ARCHITECTURAL SUBTOTAL</u>				\$70,063
<u>104 IDENTIFYING DEVICES</u>				
Identifying Devices Item #1	1.00	LS	625.00	625
Identification Devices Item #2	1.00	LS	1250.00	1,250
RFI and Change Order Development/Schedule	11.00	EA	375.00	4,125
<u>104 IDENTIFYING DEVICES SUBTOTAL</u>				\$6,000
<u>105 STRUCTURAL</u>				
Structural Item #17	1.00	LS	1875.00	1,875
Structural Item #11	1.00	LS	325.00	325
Structural Item #7	1.00	LS	2262.50	2,263
Structural Item #6	1.00	LS	625.00	625
Structural Item #4	1.00	LS	187.50	188
Structural Item #1	1.00	LS	6250.00	6,250
RFI and Change Order Development/Schedule	20.00	EA	375.00	7,500
<u>105 STRUCTURAL SUBTOTAL</u>				\$19,025
<u>106 PLUMBING</u>				
Drawing PD.1 Continue Piping	1.00	LS	62.50	63
Drawing P1.1 Tamper Switch	1.00	EA	43.75	44
Drawing P2.3 Change Fixture	1.00	EA	375.00	375
Drawing P3.1 Add For Vent Piping	1.00	EA	187.50	188
Drawing P3.2 Add Domestic to Area	1.00	EA	625.00	625

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DETAIL LINE ITEM REPORT

(TOTAL UNIT COSTS)

JOB # 941023.3
 PROJECT AREA 1
 DATE 27-Mar-1998

DESIGN STAGE
 QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
106 PLUMBING				
Drawing P3.3 Add Floor Drain	1.00	EA	437.50	438
Drawing P3.3 Continue Piping	1.00	LS	50.00	50
Drawing P4.1 Tamper Switch	1.00	EA	43.75	44
Drawing P4.3 Continue Piping	1.00	LS	125.00	125
Drawing P5.1 Jockey Pump Detail	1.00	LS	500.00	500
Drawing P6.1 Continue Piping	1.00	LS	250.00	250
Drawing P6.2 Increase Pipe Size	1.00	LS	50.00	50
RFI and Change Order Development/Schedule	24.00	EA	375.00	9,000
106 PLUMBING SUBTOTAL				\$11,750
107 MECHANICAL				
Drawing M3.1 Increase Duct Size	1.00	EA	62.50	63
Drawing M3.2 Increase Duct Size	1.00	EA	187.50	188
Drawing M4.3 Increase Duct Size	1.00	EA	25.00	25
Drawing M6.2 Increase Pipe Size	1.00	EA	68.75	69
Drawing M8.1 Add Piping & Hook-up to FCU	1.00	EA	187.50	188
Drawing M10.1 Add Piping	1.00	EA	125.00	125
Drawing M16.4 Add Thermostat	1.00	EA	93.75	94
RFI and Change Order Development/Schedule	33.00	EA	375.00	12,375
107 MECHANICAL SUBTOTAL				\$13,125
108 ELECTRICAL				
2-C Remove Cables Back To Source	1.00	LS	6250.00	6,250
7-A Modify M-H to Match Switchyard And M-H1 Config.	1.00	LS	2500.00	2,500
8-A Change 4" Conduit To 5"	1.00	LS	625.00	625
8-C Add Light Pole	1.00	LS	3750.00	3,750

BUILDING #1 RENOVATION, NAVAL MEDICAL CENTER

PORTSMOUTH, VA

U.S. COST, INC.

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DESIGNER SHRIVER AND HOLLAND
ADDRESS NORFOLK, VA

DETAIL LINE ITEM REPORT

(TOTAL UNIT COSTS)

JOB # 941023 3

PROJECT AREA 1

DESIGN STAGE
QUALITY ASSURANCE

DATE 27-Mar-1998

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
<u>108</u> <u>ELECTRICAL</u>				
18 Remove Existing Lights	1.00	LS	187.50	188
21-A Remove Added Conduit And Wire	1.00	LS	1000.00	1,000
22-C Verical Sleeves For Telephone Closets	1.00	LS	125.00	125
22-H Conduit And Wire For Electrical Door Locks	1.00	LS	875.00	875
28 Add For Smoke Detectors in Command Suite	1.00	LS	1250.00	1,250
35-B Ceiling Mtd. Occupancy Sensor	1.00	EA	437.50	438
RFI and Change Order Development/Schedule	52.00	EA	375.00	19,500
				=====
<u>108</u> <u>ELECTRICAL SUBTOTAL</u>				<u>\$36,500</u>
				=====
<u>109</u> <u>SPECIFICATIONS</u>				
Specifications Item #3	1.00	LS	5000.00	5,000
Specifications Item #10	1.00	LS	625.00	625
Specifications Item #12	1.00	LS	6250.00	6,250
Specifications Item #14	1.00	LS	1875.00	1,875
Specifications Item #15	1.00	LS	3125.00	3,125
Specifications Item #19	1.00	LS	1875.00	1,875
Specifications Item #23	1.00	LS	187.50	188
Specifications Item #25	1.00	LS	500.00	500
Specifications Item #27	1.00	LS	250.00	250
Specifications Item #33	1.00	LS	6250.00	6,250
Specifications Item #34	1.00	LS	2500.00	2,500
Specifications Item #39	1.00	LS	1875.00	1,875
RFI and Change Order Development/Schedule	43.00	EA	375.00	16,125
				=====
<u>109</u> <u>SPECIFICATIONS SUBTOTAL</u>				<u>\$46,438</u>
				=====

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DETAIL LINE ITEM REPORT

TOTAL UNIT COSTS.

PROJECT AREA 1

DESIGN STAGE

DATE 27-Mar-1998

QUALITY ASSURANCE

DESCRIPTION	QUANTITY	U O M	UNIT COST	TOTAL COST
PROJECT TOTAL FOR ALL EXPANDED LEVELS				\$230,510