THIS ESTIMATE IS BASED ON THE SCOPE CONTAINED IN THE GENERAL REEAVUATION REPORT, DATED: AUGUST 2003

PROJECT: BOAT HARBOR
LOCATION: SAINT PAUL, ALASKA

DISTRICT: ALASKA
P.O.C.: FRANK ANTOLIN, CHIEF, CE

ACCOUNT NUMBER	FEATURE DESCRIPTION	CURRENT MCACES ESTIMATE PREPARED: JANUARY 2001 EFFECTIVE PRICING LEVEL: JANUARY 2001 COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)	EFFECTIVE PRICING LEVEL: OCT 03 COST ($K)	CNTG ($K)	TOTAL ($K)	.....FULLY FUNDED ESTIMATE..... EFFECTIVE PRICING LEVEL: AUG 06 COST ($K)	CNTG ($K)	FULL ($K)
10	MOB DEMOB & PREWORK	$1,454	$291	20%	$1,745	$1,534	$306	$1,840	$1,635	$326	$1,961
10-00.46	BREAKWATER AND SEAWALLS	$599	$120	20%	$719	$632	$127	$759	$674	$135	$809
12-	NAVIGATION PORTS & HARBORS	$4,812	$962	20%	$5,774	$5,130	$1,026	$6,155	$5,468	$1,093	$6,562
	TOTAL CONSTRUCTION COSTS ====	$6,865	$1,373	20%	$8,238	$7,296	$1,458	$8,754	$7,777	$1,554	$9,332
01---	LANDS AND DAMAGES	$34	$0	0%	$34	$34	$0	$34	$34	$0	$34
30---	PLANNING, ENG. & DESIGN	$825	$0	0%	$825	$870	$0	$870	$928	$0	$928
31---	CONSTRUCTION MANAGEMENT	$726	$0	0%	$726	$766	$0	$766	$816	$0	$816
	TOTAL PROJECT COSTS ==========	$8,450	$1,373	20%	$9,823	$8,966	$1,458	$10,424	$9,556	$1,554	$11,110

TOTAL FEDERAL COSTS ==========> $0

TOTAL NON-FEDERAL COSTS ==========> $0

THIS TPCS REFLECTS A PROJECT COST CHANGE OF $ ~~~ ~~~~~~ ~~~~~~~~~~~~~~

THE MAXIMUM PROJECT COST IS =======> $ ~~~~~~~~~~~ ~~~~~~~~~~~~~~

DISTRICT APPROVED:

_____ CHIEF, COST ENGINEERING

_____ CHIEF, REAL ESTATE

_____ CHIEF, PLANNING

_____ CHIEF, ENGINEERING

_____ CHIEF, CON-OPS

_____ CHIEF, PROGRAMS MANAGEMENT

_____ PROJECT MANAGER

_____ DDE (PM)

DIVISION APPROVED:

_____ CHIEF, COST ENGINEERING

_____ DIRECTOR, REAL ESTATE

_____ CHIEF, PROGRAMS MANAGEMENT

_____ DIRECTOR OF PPMD

APPROVED DATE: _____

THIS ESTIMATE IS BASED ON THE SCOPE CONTAINED IN THE GENERAL REEAVUATION REPORT, DATED: AUGUST 2002

PROJECT: BOAT HARBOR
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ACCOUNT NUMBER	FEATURE DESCRIPTION	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)		COST ($K)	CNTG ($K)	TOTAL ($K)	FEATURE	COST ($K)	CNTG ($K)	FULL ($K)
10-	MOB DEMOB & PREWORK	522	104	20%	626	1.0550	551	$110	660	1.0660	587	117	704
10	BREAKWATER AND SEAWALLS	599	120	20%	719	1.0551	632	$127	759	1.0660	674	135	809
12-02	NAVIGATION PORTS & HARBORS	1,007	201	20%	1,208	1.0526	1,060	$212	1,272	1.0660	1,130	226	1,355
	TOTAL CONSTRUCTION COSTS	$2,128	$425	20%	$2,553		$2,243	$448	$2,691		$2,391	$477	$2,868
01---	LANDS AND DAMAGES	$15	$0	0%	$15	0.0000	15	$0	$15	0.0000	$15	0	$15
30---	PLANNING, ENG. & DESIGN	$256	$0	0%	$256	1.0550	270	$0	$270	1.0660	288	0	$288
31---	CONSTRUCTION MANAGEMENT	$226	$0	0%	$226	1.0550	238	$0	$238	1.0660	254	0	$254
	TOTAL COSTS	$2,625	$425	20%	$3,050		$2,766	$448	$3,214		$2,948	$477	$3,425

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DISTRICT: ALASKA
P.O.C.: FRANK ANTOLIN, CHIEF, CE

		CURRENT MCACES ESTIMATE PREPARED: JANUARY 2001 EFFECTIVE PRICING LEVEL: JANUARY 2001				EFFECTIVE PRICING LEVEL: OCT 03				.....FULLY FUNDED ESTIMATE..... EFFECTIVE PRICING LEVEL: AUG 06			
ACCOUNT NUMBER	FEATURE DESCRIPTION	COST ($K)	CNTG ($K)	CNTG (%)	TOTAL ($K)		COST ($K)	CNTG ($K)	TOTAL ($K)		COST ($K)	CNTG ($K)	FULL ($K)
10-	MOB DEMOB & PREWORK	932	186	20%	1,118	1.0550	983	$196	1,179	1.0660	1,048	209	1,257
10-00.46	BREAKWATER AND SEAWALLS	0	0	20%	0	1.0551	0	$0	0	1.0660	0	0	0
12-02.99	NAVIGATION PORTS & HARBORS	3,805	761	20%	4,566	1.0696	4,070	$814	4,884	1.0660	4,338	868	5,206
	TOTAL CONSTRUCTION COSTS ====	$4,737	$947	20%	5684		$5,053	$1,010	$6,063		$5,387	$1,077	$6,463
01---	LANDS AND DAMAGES	$19	$0	0%	$19	0.0000	19	$0	19	0.0000	19	0	19
30-01	PLANNING, ENG AND DESIGN (10%)	569	$0	0%	569	1.0550	600	$0	600	1.0660	640	0	640
31-01	CONSTRUCTION MANAGEMENT (8%	500	$0	0%	500	1.0550	528	$0	528	1.0660	562	0	562
	TOTAL COSTS ==========	$5,825	$947	16%	$6,772		$6,200	$1,010	$7,210		$6,608	$1,077	$7,685

St.Paul Alaska Small Boat Harbor
Alternative #1 (Preferred)
Main Dredging = 12 feet
60 Vessel Harbor

Designed By: Tetra Tech ISG, John Oliver Con.
Estimated By: Tetra Tech ISG

Prepared By: Doug Lantz, P.E.

Preparation Date: 01/29/01
Effective Date of Pricing: 01/01/01

Sales Tax: 0.0%

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St. Paul Alaska Small Boat Harbor - Alternative #1 (Preferred Alternative)
60 Vessel Harbor, 12 foot Depth
MCACES Database: SP1PB0*.*

Project Description:

First Season ---
1) Approximately 140,000 cy of dredging in the entrance channel, maneuvering channel, and boat basin, with disposal adjacent to harbor and in upland areas.
2) Placement of underwater revetment.
3) Construction of a circulation berm.
4) Construction of a breakwater.

Second Season ---
5) Installation of floating docks and boat ramps.
6) Construction of precast concrete docks along the south shore.
7) Boat Lift Trailer.

Basis of Design: General Re-evaluation Report (GRR) Design. January 2001

Overtime: 2 10-hour shifts, 7 days week

Project Construction:

Site Access: Dredging, breakwater, circulation berm, revetment, and floating docks will require marine floating equipment. South side dock will require land based equipment.

Borrow Areas: Rock will be procured on St. Paul Island.

Construction Methodology: Prime contractor will mob the dredging equipment and manpower from the Puget Sound area.

Dredging: Floating crane with a 14 cy bucket and a 10 cy bucket on standby for use during repairs. Two 3000-cy (5000-ton) barges will be used to transport dredged material to spending area. A portion will be off-loaded adjacent to harbor and a portion will be hauled upland.

Breakwater: Rock will be quarried on St. Paul an trucked to breakwater.

Facilities: Floating docks, precast concrete members, and pilings will be fabricated/procured in Seattle/Tacoma area and barged to St. Paul Island. Transport cost is included in Mob/Demob, and is not reflected in the material cost for these itmes.

Pile driving and installation of floating facilities will use a floating crane/piledriving rig. Installation of shoreside facilities will use a combination of land based and floating equipment.

Equipment/Labor Availability & Distance Traveled.
St. Paul Island has a limited amount of heavy equipment and manpower

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available for contractors use. Mobilized equipment will require three tows:

First Season ---
TOW #1 - dredging barge, crane, buckets and one 3000 cy barge.
TOW #2 - one 3000 cy barge with earthmoving equipment.

Second Season ---
TOW #3 - pile driving barge/crane, and one 3000 cy barge with precast concrete members, prefabricated docks.

Skilled labor, including crane/equipment operators, oilers, steel workes, and welders will be mobilized from Seattle and provided with per diem of $90 hotel and $40 food on St. Paul. Semi skilled workers will be drawn from local labor pool.

Labor Rates: MCACES Anchorage Davis Bacon Rates, 2000.
Remote pay adjustment of 30% gives approximate 2001 Davis Bacon rates(provided by TDX)for St Paul Island.

Equipment: Region IX Equipment Rates EP 1110-1-8, 1999.

Prime Contractor's profit of 8.8% based on weighted guidelines.
Prime Contractor's overhead estimated at 15%. Travel and perdiem for crews are added separately under Mob/Demob.
Engineering and Design estimated at 10%
Supervision and Administration estimated at 8%

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10. MOB/DEMOB

1. 1st Seas. - Tows	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
10. MOB/DEMOB											
The equipment mobe cost for the dedging portion of this project (140,000cy) is computed by prorating the total equipment mobe for all dredging (567,700 cy) by the ratio of the two quantities. The factor = 0.25. The adjustment is made to items: 10.25 1st Seas. - Tows 10.30 1st Seas. Equip Cost During Tow 10.35 1st. Season Labor Travel The cost was adjusted downward by 75% using the "Adjust Pricing" option.											
10.25. 1st Seas. - Tows					** ADJUSTED **						
USR AA Mob/Demob Tow #1: Tug, 14 cy dredge, 3000 cy loading barge	50.00	DA		0.00	0.00	0.00	0.00	0.00	2500.00	2500.00	
					0	0	0	0	125,000	125,000	2500.00
USR AA Mob/Demob Tow #2: Tug, 3000 cy loading barge	50.00	DA		0.00	0.00	0.00	0.00	0.00	2500.00	2500.00	
					0	0	0	0	125,000	125,000	2500.00
USR AA Mob/Demob Tugboat from Dutch Harbor or Bethel	2.00	DA		0.00	0.00	0.00	0.00	0.00	750.00	750.00	
					0	0	0	0	1,500	1,500	750.00
TOTAL 1st Seas. - Tows					0	0	0	0	251,500	251,500	
10.30. 1st Seas. Equip Cost During Tow					** ADJUSTED **						
USR AA Hydraulic Shovel	3.00	MO		0.00	0.00	0.00	0.00	0.00	1250.00	1250.00	
					0	0	0	0	3,750	3,750	1250.00
USR AA 14 cy and 10 cy Clam	3.00	MO		0.00	0.00	0.00	0.00	0.00	1250.00	1250.00	
					0	0	0	0	3,750	3,750	1250.00
USR AA 65 CY Off-Highway Truck (3 ea)	9.00	MO		0.00	0.00	0.00	0.00	0.00	4525.00	4525.00	
					0	0	0	0	40,725	40,725	4525.00
USR AA 7 CY FE Loader (2 ea)	6.00	MO		0.00	0.00	0.00	0.00	0.00	3325.00	3325.00	
					0	0	0	0	19,950	19,950	3325.00
USR AA 500-800 ton Dredge Barge	3.00	MO		0.00	0.00	0.00	0.00	0.00	1912.50	1912.50	
					0	0	0	0	5,738	5,738	1912.50
USR AA 3000 cy (5000 ton) Dredge Barge #1	3.00	MO		0.00	0.00	0.00	0.00	0.00	4675.00	4675.00	
					0	0	0	0	14,025	14,025	4675.00
USR AA 3000 cy (5000 ton) Dredge Barge #2	3.00	MO		0.00	0.00	0.00	0.00	0.00	4675.00	4675.00	
					0	0	0	0	14,025	14,025	4675.00
TOTAL 1st Seas. Equip Cost During Tow					0	0	0	0	101,963	101,963	

10. MOB/DEMOB

5. 1st Seas. - Labor Trvl (airfare)	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
10.35. 1st Seas. - Labor Trvl (airfare) Mobe is only for skilled labor. Assume semi-skilled laborers are available on St. Paul.					** ADJUSTED **						
USR AA Crane Ops	5.00	EA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	375.00 1,875	375.00 1,875	375.00
USR AA Heavy & Med Equip Op	4.00	EA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	375.00 1,500	375.00 1,500	375.00
USR AA Oiler	3.00	EA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	375.00 1,125	375.00 1,125	375.00
USR AA Truck Driver - Heavy	6.00	EA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	375.00 2,250	375.00 2,250	375.00
TOTAL 1st Seas. - Labor Trvl (airfare)					0	0	0	0	6,750	6,750	
10.38. 1st Seas. - Per Diem											
USR AA Skilled Labor Per Diem ($90 hotel, $40 food)	439.00	DAY		0.00	0.00 0	0.00 0	0.00 0	0.00 0	130.00 57,070	130.00 57,070	130.00
TOTAL 1st Seas. - Per Diem					0	0	0	0	57,070	57,070	
10.40. 2nd Seas. - Tows											
USR AA Mob/Demob Tow #3: Tug (prefab docks, piles, boat ramps),	50.00	DA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	10000.00 500,000	10000.00 500,000	10000.00
USR AA Mob/Demob Tugboat from Dutch Harbor or Bethel	2.00	DA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	3000.00 6,000	3000.00 6,000	3000.00
TOTAL 2nd Seas. - Tows					0	0	0	0	506,000	506,000	
10.45. 2nd Seas. Equip Cost During Tow											
USR AA Dredge Barge - pile driving	3.00	MO		0.00	0.00 0	0.00 0	0.00 0	0.00 0	7650.00 22,950	7650.00 22,950	7650.00
USR AA Hydraulic Excavator	3.00	MO		0.00	0.00 0	0.00 0	0.00 0	0.00 0	10000.00 30,000	10000.00 30,000	10000.00
USR AA Crane - 125T	3.00	MO		0.00	0.00 0	0.00 0	0.00 0	0.00 0	18000.00 54,000	18000.00 54,000	18000.00
USR AA Pile Driving Hammer/Leads	3.00	MO		0.00	0.00 0	0.00 0	0.00 0	0.00 0	5000.00 15,000	5000.00 15,000	5000.00

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10. MOB/DEMOB

. 2nd Seas. Equip Cost During Tow	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA Air Comp/Hose	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3000.00 9,000	3000.00 9,000	3000.00
USR AA Welder	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	700.00 2,100	700.00 2,100	700.00
USR AA 500-800 ton Dock Material Barge	6.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	7650.00 45,900	7650.00 45,900	7650.00
TOTAL 2nd Seas. Equip Cost During Tow			0	0	0	0	178,950	178,950	
10.50. 2nd Seas. - Labor Trvl (airfare)									
USR AA Crane Ops	2.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1500.00 3,000	1500.00 3,000	1500.00
USR AA Oiler	2.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1500.00 3,000	1500.00 3,000	1500.00
USR AA Structural Steel Workers	4.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1500.00 6,000	1500.00 6,000	1500.00
USR AA Welders	2.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1500.00 3,000	1500.00 3,000	1500.00
TOTAL 2nd Seas. - Labor Trvl (airfare)			0	0	0	0	15,000	15,000	
10.53. 2nd Seas. - Per Diem									
USR AA Skilled Labor Per Diem ($90 hotel, $40 food)	348.00 DAY	0.00	0.00 0	0.00 0	0.00 0	0.00 0	130.00 45,240	130.00 45,240	130.00
TOTAL 2nd Seas. - Per Diem			0	0	0	0	45,240	45,240	
TOTAL MOB/DEMOB			0	0	0	0	1,162,473	1,162,473	
20. HARBOR DREDGING (FED & LOCAL)									
20. 2. Dredging (Federal) ** OVERTIME ** Hydrographic Survey cost from St. Paul Harbor Improvements, Alaska District (1996).									
USR AA Manuevering Channel Dredging	19586 CY ZDDREDGE	300.00	0.00 0	0.02 456	1.55 30,325	1.98 38,870	0.00 0	3.53 69,195	3.53
Mod									

20. HARBOR DREDGING (FED & LOCAL)

2.) Dredging (Federal)	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA Entrance Channel Dredging					0.00	0.02	1.55	1.98	0.00	3.53	
	79414	CY	ZDDREDGE	300.00	0	1,850	122,957	157,605	0	280,562	3.53
USR AS Hydrographic Survey					0.00	0.00	0.00	0.00	35000.00	35000.00	
	2.00	EA	-	0.00	0	0	0	0	70,000	70,000	35000.00
TOTAL Dredging (Federal)	99000	CY			0	2,307	153,282	196,475	70,000	419,757	4.24
20. 5. Dredging (Local) ** OVERTIME ** Hydrographic Survey cost from St. Paul Harbor Improvements, Alaska District (1996).											
USR AA Boat Basin Dredging					0.00	0.02	1.55	1.98	0.00	3.53	
	41000	CY	ZDDREDGE	300.00	0	955	63,480	81,369	0	144,849	3.53
TOTAL Dredging (Local)	41000	CY			0	955	63,480	81,369	0	144,849	3.53
20.10. Disposal - Harbor Adjacent Fill ** OVERTIME **											
CIV AA Hauling, off hwy haulers, 65 CY, 1 mile RT @ 20 mph (4.2 cyc/hr)					0.00	0.00	0.30	0.45	0.00	0.76	
	53600	CY	CTDHB34J	240.00	0	225	16,209	24,265	0	40,473	0.76
CIV AA Excavate & load, wheeled loader, 7 CY, wet rock					0.00	0.01	0.52	0.44	0.00	0.96	
	53600	CY	CODLB10Z	212.50	0	381	27,759	23,739	0	51,499	0.96
TOTAL Disposal - Harbor Adjacent Fill	53600	CY			0	606	43,968	48,004	0	91,972	1.72
20.15. Disposal with haul ** OVERTIME **											
CIV AA Hauling, off hwy haulers, 65 CY, 6 mile RT @ 40 mph (2.1 cyc/hr)					0.00	0.01	0.50	0.74	0.00	1.24	
	86400	CY	CTDHB34J	146.25	0	588	42,880	64,195	0	107,076	1.24
CIV AA Excavate & load, wheeled loader, 7 CY, wet rock					0.00	0.01	0.52	0.44	0.00	0.96	
	86400	CY	CODLB10Z	212.50	0	613	44,747	38,267	0	83,013	0.96
TOTAL Disposal with haul	86400	CY			0	1,201	87,627	102,462	0	190,089	2.20
TOTAL HARBOR DREDGING (FED & LOCAL)	140000	CY			0	5,069	348,357	428,310	70,000	846,667	6.05

22. REVETMENT & EROSION PROTECTION

	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
22. REVETMENT & EROSION PROTECTION $4/CYprice quote for rock at quarry on St. Paul (not gauranteed)										
22. 5. REVETMENT W/BEDDING			** OVERTIME **							
USR AA 18" Rock Rip-rap quarried on St. Paul	2625.00 CY		0.00	4.00 10,500	0.00 0	0.00 0	0.00 0	0.00 0	4.00 10,500	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	3500.00 CY	CODLB10Z	100.00	0.00 0	0.02 53	0.87 3,040	1.04 3,648	0.00 0	1.91 6,687	1.91
USR AA 6" gravel bedding layer, machine placed	875.00 CY	ZDBWATER	100.00	5.00 4,375	0.07 61	3.71 3,247	4.02 3,516	0.00 0	12.73 11,138	12.73
L CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	3500.00 CY	CTDHB34J	100.00	0.00 0	0.01 35	0.57 2,009	1.26 4,393	0.00 0	1.83 6,403	1.83
B CIV AA Handling on barge, wheeled loader, 7 CY, blasted rock	3500.00 CY	CODLB10Z	100.00	0.00 0	0.02 53	0.87 3,040	1.04 3,648	0.00 0	1.91 6,687	1.91
B RSM AA Place Revetment	2625.00 CY	ZDDREDGE	45.00	0.00 0	0.16 408	8.17 21,454	14.52 38,122	0.00 0	22.70 59,576	22.70
TOTAL REVETMENT W/BEDDING	2625.00 CY			14,875	610	32,790	53,327	0	100,992	38.47
22.10. EROSION PROTECTION IN CHANNEL			** OVERTIME **							
USR AA 24" Rock Rip-rap quarried on St. Paul	6500.00 CY		0.00	4.00 26,000	0.00 0	0.00 0	0.00 0	0.00 0	4.00 26,000	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	6500.00 CY	CODLB10Z	100.00	0.00 0	0.02 98	0.87 5,645	1.04 6,774	0.00 0	1.91 12,420	1.91
L CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	6500.00 CY	CTDHB34J	100.00	0.00 0	0.01 65	0.57 3,732	1.26 8,159	0.00 0	1.83 11,890	1.83
B CIV AA Handling on barge, wheeled loader, 7 CY, blasted rock	6500.00 CY	CODLB10Z	100.00	0.00 0	0.02 98	0.87 5,645	1.04 6,774	0.00 0	1.91 12,420	1.91
B RSM AA Erosion Protection Placed	6500.00 CY	ZDDREDGE	45.00	0.00 0	0.16 1,011	8.17 53,124	14.52 94,398	0.00 0	22.70 147,521	22.70
TOTAL EROSION PROTECTION IN CHANNEL	6500.00 CY			26,000	1,271	68,146	116,105	0	210,251	32.35
TOTAL REVETMENT & EROSION PROTECTION	9125.00 CY			40,875	1,881	100,936	169,432	0	311,243	34.11

40. CIRCULATION BERM

	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
40. CIRCULATION BERM				** OVERTIME **							
M RSM AA Fill, borrow, for embankments, load, 1 mile haul, spread w/dozer	2130.00	CY	ZDCBERM	150.00	5.38 11,457	0.03 71	2.38 5,072	3.45 7,352	0.00 0	11.21 23,880	11.21
USR AA Sort Boulders from Dredged Material	600.00	CY	ZDBWATER	32.00	0.00 0	0.22 131	14.65 8,791	11.36 6,814	0.00 0	26.01 15,605	26.01
M MIL AA Cap with rounded excavated boulders - placement	600.00	CY	ZDCBERM	32.00	0.00 0	0.16 94	11.16 6,697	16.18 9,707	0.00 0	27.34 16,404	27.34
TOTAL CIRCULATION BERM	2730.00	CY			11,457	296	20,560	23,873	0	55,890	20.47

50. BREAKWATER (FEDERAL) ** OVERTIME **
Rock Size 2-ton minus

$4/CY price quote for rock at quarry on St. Paul (not gauranteed)

USR AA 2-ton minus, quarried on St. Paul	12653	CY		0.00	4.00 50,612	0.00 0	0.00 0	0.00 0	0.00 0	4.00 50,612	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	12653	CY	CODLB10Z	100.00	0.00 0	0.02 190	1.10 13,926	0.94 11,909	0.00 0	2.04 25,835	2.04
L CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	12653	CY	CTDHB34J	100.00	0.00 0	0.01 127	0.73 9,184	1.09 13,749	0.00 0	1.81 22,932	1.81
B CIV AA handling on barge, loader, 7 CY, blasted rock	12653	CY	CODLB10Z	100.00	0.00 0	0.02 190	1.10 13,926	0.94 11,909	0.00 0	2.04 25,835	2.04
USR AA Place Rock Fill	12653	CY	ZDDREDGE	45.00	0.00 0	0.16 1,969	10.32 130,604	13.23 167,412	0.00 0	23.55 298,016	23.55
TOTAL BREAKWATER (FEDERAL)	12653	CY			50,612	2,475	167,640	204,979	0	423,230	33.45

60. FLOATING DOCK FACILITIES
Floats and Boat Ramps fabricated in Seattle. Transport is covered under mobilization.

60.02. Pile Driving - per Pile ** OVERTIME **
50 foot piles x 17.15/LF = $850 ea
Driving tips for boulders

65 piles driven 30 feet into ground = 1950 vlf

60. FLOATING DOCK FACILITIES

02. Pile Driving - per Pile	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR PD Pile, steel, pipe, 50' L 12" dia, 44 lb/LF, conc filled	65.00 EA		0.00	850.00 66,853	0.00 0	0.00 0	0.00 0	0.00 0	850.00 66,853	1028.50
M MIL PD Pile, steel, pipe, heavy duty points, 12" dia	65.00 EA	SIWWE14	0.43	137.57 10,820	2.35 153	193.87 15,248	24.38 1,918	0.00 0	355.82 27,985	430.54
B MIL PD Pile driving and concrete fill	1950.00 VLF	ZDPLDRVR	20.00	0.00 0	0.30 585	19.60 46,243	27.75 65,481	0.00 0	47.35 111,724	57.29
TOTAL Pile Driving - per Pile	65.00 EA			77,673	738	61,490	67,398	0	206,561	3177.87
60.05. Floating Docks (Main Floats)			** OVERTIME **							
USR AA 1 @ 10' x 25'	250.00 SF	ZDDOCK	50.00	30.00 7,500	0.14 35	9.46 2,365	0.40 101	0.00 0	39.86 9,966	39.86
USR AA 6 @ 10' x 50'	3000.00 SF	ZDDOCK	50.00	30.00 90,000	0.14 420	9.46 28,383	0.40 1,209	0.00 0	39.86 119,592	39.86
USR AA 7 @ 10' x 36'	2520.00 SF	ZDDOCK	50.00	30.00 75,600	0.14 353	9.46 23,842	0.40 1,016	0.00 0	39.86 100,458	39.86
TOTAL Floating Docks (Main Floats)	5770.00 SF			173,100	808	54,591	2,325	0	230,016	39.86
60.10. Finger Floats			** OVERTIME **							
USR AA 12 @ 6' x 60'	4320.00 SF	ZDDOCK	50.00	30.00 129,600	0.14 605	9.46 40,872	0.40 1,741	0.00 0	39.86 172,213	39.86
USR AA 7 @ 6' x 44'	1848.00 SF	ZDDOCK	50.00	30.00 55,440	0.14 259	9.46 17,484	0.40 745	0.00 0	39.86 73,669	39.86
USR AA 10 @ 6' x 25'	1500.00 SF	ZDDOCK	50.00	30.00 45,000	0.14 210	9.46 14,192	0.40 605	0.00 0	39.86 59,796	39.86
TOTAL Finger Floats	7668.00 SF			230,040	1,074	72,548	3,090	0	305,678	39.86
60.17. Float Ramps			** OVERTIME **							
USR AA Float Ramps 2 @ 8' x 60'	960.00 SF	ZDDOCK	50.00	55.00 52,800	0.14 134	9.46 9,083	0.40 387	0.00 0	64.86 62,270	64.86
TOTAL Float Ramps	960.00 SF			52,800	134	9,083	387	0	62,270	64.86

60. FLOATING DOCK FACILITIES

. Floating Bwater East Dock & Ramp	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
60.40. Floating Bwater East Dock & Ramp				** OVERTIME **							
USR AA Floating Ramp 20' x 115'					55.00	0.14	9.46	0.40	0.00	64.86	
	2300.00	SF	ZDDOCK	50.00	126,500	322	21,761	927	0	149,187	64.86
USR AA Floating Dock 20' x 275'					55.00	0.14	9.46	0.40	0.00	64.86	
	5500.00	SF	ZDDOCK	50.00	302,500	770	52,036	2,217	0	356,753	64.86
TOTAL Floating Bwater East Dock & Ramp	7800.00	SF			429,000	1,092	73,797	3,143	0	505,940	64.86
TOTAL FLOATING DOCK FACILITIES	22198	SF			962,613	3,846	271,508	76,344	0	1,310,465	59.04
62. PRECAST CONCRETE DOCK				** OVERTIME **							
$145/sf cost based on 50' x 100' dock installation in 1988 - less mooring dolphins.											
Adjusted to current price level											
USR AA Precast Concrete Dock in Place					0.00	0.00	0.00	0.00	145.00	145.00	
	8000.00	SF		0.00	0	0	0	0	1,160,000	1,160,000	145.00
TOTAL PRECAST CONCRETE DOCK	8000.00	SF			0	0	0	0	1,160,000	1,160,000	145.00
70. PRECAST CONCRETE BOAT RAMP				** OVERTIME **							
M MIL AA Base course, compacted to 6" deep, crushed 3/4" stone, large areas	780.00	SY	COFGB36B	625.00	5.08	0.01	0.70	0.24	0.00	6.02	
					3,960	10	548	184	0	4,692	6.02
M MIL AA Structural precast, slabs, 12" thick, solid, 3000 psi	7000.00	SF	N/A	0.00	14.00	0.00	0.00	0.00	0.00	14.00	
					98,000	0	0	0	0	98,000	14.00
MIL AA Precast erection, 60' max rad, 90 ton crane, 9-10 ton/pc, floor deck	28.00	EA	ZDPCAST	1.75	0.00	4.00	256.84	83.92	0.00	340.76	
					0	112	7,192	2,350	0	9,541	340.76
TOTAL PRECAST CONCRETE BOAT RAMP	7000.00	SF			101,960	122	7,739	2,534	0	112,233	16.03
80. 60 TON BOAT LIFT TRAILER				** OVERTIME **							
Conolift model Y60 Boat Lift Trailer 60 ton											
$100K purchase price in Ontario, plus $100K transport and assembly.											
USR AF Conolift model Y60. $100K Transport					0.00	0.00	0.00	0.00	200000.00	200000.00	
	1.00	LS		0.00	0	0	0	0	200,000	200,000	200000.00
TOTAL 60 TON BOAT LIFT TRAILER					0	0	0	0	200,000	200,000	

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80. 60 TON BOAT LIFT TRAILER

	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
TOTAL St.Paul Alaska Small Boat Harbor					1,167,516	13,688	916,740	905,471	2,592,473	5,582,200	

** PROJECT OWNER SUMMARY - Feature **

	QUANTITY UOM	CONTRACT COST	Contngy	E&D	S&A	TOTAL COST	UNIT COST
MOB/DEMOB							
.25 1st Seas. - Tows		314,633	62,927	37,756	33,225	448,541	
.30 1st Seas. Equip Cost During Tow		127,558	25,512	15,307	13,470	181,847	
.35 1st Seas. - Labor Trvl (airfare)		8,444	1,689	1,013	892	12,038	
.38 1st Seas. - Per Diem		71,396	14,279	6,854	9,253	101,782	
.40 2nd Seas. - Tows		633,020	126,604	75,962	66,847	902,433	
.45 2nd Seas. Equip Cost During Tow		223,871	44,774	26,865	23,641	319,151	
.50 2nd Seas. - Labor Trvl (airfare)		18,765	3,753	2,252	1,982	26,752	
.53 2nd Seas. - Per Diem		56,596	11,319	6,792	5,977	80,684	
TOTAL MOB/DEMOB		1,454,285	290,857	172,801	155,286	2,073,229	
) HARBOR DREDGING (FED & LOCAL)							
). 2 Dredging (Federal)	99000.00 CY	518,056	103,611	62,167	54,707	738,540	7.46
). 5 Dredging (Local)	41000.00 CY	181,210	36,242	21,745	19,136	258,333	6.30
).10 Disposal - Harbor Adjacent Fill	53600.00 CY	115,060	23,012	13,807	12,150	164,029	3.06
).15 Disposal with haul	86400.00 CY	237,806	47,561	28,537	25,112	339,016	3.92
TOTAL HARBOR DREDGING (FED & LOCAL)	140000.00 CY	1,052,132	210,426	126,256	111,105	1,499,919	10.71
2 REVETMENT & EROSION PROTECTION							
2. 5 REVETMENT W/BEDDING	2625.00 CY	126,344	25,269	15,161	13,342	180,115	68.62
2.10 EROSION PROTECTION IN CHANNEL	6500.00 CY	263,030	52,606	31,564	27,776	374,975	57.69
TOTAL REVETMENT & EROSION PROTECTION	9125.00 CY	389,373	77,875	46,725	41,118	555,090	60.83
0 CIRCULATION BERM	2730.00 CY	69,920	13,984	8,390	7,384	99,678	36.51
0 BREAKWATER (FEDERAL)	12653.00 CY	529,473	105,895	63,537	55,912	754,816	59.66
0 FLOATING DOCK FACILITIES							
0.02 Pile Driving - per Pile	65.00 EA	258,414	51,683	31,010	27,288	368,395	5667.61
0.05 Floating Docks (Main Floats)	5770.00 SF	287,756	57,551	34,531	30,387	410,225	71.10
0.10 Finger Floats	7668.00 SF	382,411	76,482	45,889	40,383	545,166	71.10
0.17 Float Ramps	960.00 SF	77,901	15,580	9,348	8,226	111,056	115.68
0.40 Floating Bwater East Dock & Ramp	7800.00 SF	632,945	126,589	75,953	66,839	902,326	115.68
TOTAL FLOATING DOCK FACILITIES	22198.00 SF	1,639,427	327,885	196,731	173,124	2,337,167	105.29
2 PRECAST CONCRETE DOCK	8000.00 SF	1,451,192	290,238	174,143	153,246	2,068,819	258.60
0 PRECAST CONCRETE BOAT RAMP	7000.00 SF	140,407	28,081	16,849	14,827	200,164	28.59
0 60 TON BOAT LIFT TRAILER		200,000	0	0	0	200,000	
TOTAL St.Paul Alaska Small Boat Harbor		6,926,208	1,345,242	805,431	712,001	9,788,882	

** PROJECT INDIRECT SUMMARY - Feature **

	QUANTITY UOM	TOTAL DIRECT	OVERHEAD	PROFIT	TOTAL COST	UNIT COST
10 MOB/DEMOB						
10.25 1st Seas. - Tows		251,500	37,725	25,408	314,633	
10.30 1st Seas. Equip Cost During Tow		101,963	15,294	10,301	127,558	
10.35 1st Seas. - Labor Trvl (airfare)		6,750	1,013	682	8,444	
10.38 1st Seas. - Per Diem		57,070	8,561	5,766	71,396	
10.40 2nd Seas. - Tows		506,000	75,900	51,120	633,020	
10.45 2nd Seas. Equip Cost During Tow		178,950	26,843	18,079	223,871	
10.50 2nd Seas. - Labor Trvl (airfare)		15,000	2,250	1,515	18,765	
10.53 2nd Seas. - Per Diem		45,240	6,786	4,570	56,596	
TOTAL MOB/DEMOB		1,162,473	174,371	117,442	1,454,285	
20 HARBOR DREDGING (FED & LOCAL)						
20. 2 Dredging (Federal)	99000.00 CY	419,757	62,964	35,335	518,056	5.23
20. 5 Dredging (Local)	41000.00 CY	144,849	21,727	14,634	181,210	4.42
20.10 Disposal - Harbor Adjacent Fill	53600.00 CY	91,972	13,796	9,292	115,060	2.15
20.15 Disposal with haul	86400.00 CY	190,089	28,513	19,204	237,806	2.75
TOTAL HARBOR DREDGING (FED & LOCAL)	140000.00 CY	846,667	127,000	78,465	1,052,132	7.52
22 REVETMENT & EROSION PROTECTION						
22. 5 REVETMENT W/BEDDING	2625.00 CY	100,992	15,149	10,203	126,344	48.13
22.10 EROSION PROTECTION IN CHANNEL	6500.00 CY	210,251	31,538	21,241	263,030	40.47
TOTAL REVETMENT & EROSION PROTECTION	9125.00 CY	311,243	46,686	31,444	389,373	42.67
40 CIRCULATION BERM	2730.00 CY	55,890	8,384	5,646	69,920	25.61
50 BREAKWATER (FEDERAL)	12653.00 CY	423,230	63,485	42,758	529,473	41.85
60 FLOATING DOCK FACILITIES						
60.02 Pile Driving - per Pile	65.00 EA	206,561	30,984	20,868	258,414	3975.60
60.05 Floating Docks (Main Floats)	5770.00 SF	230,016	34,502	23,238	287,756	49.87
60.10 Finger Floats	7668.00 SF	305,678	45,852	30,882	382,411	49.87
60.17 Float Ramps	960.00 SF	62,270	9,340	6,291	77,901	81.15
60.40 Floating Bwater East Dock & Ramp	7800.00 SF	505,940	75,891	51,114	632,945	81.15
TOTAL FLOATING DOCK FACILITIES	22198.00 SF	1,310,465	196,570	132,393	1,639,427	73.85
62 PRECAST CONCRETE DOCK	8000.00 SF	1,160,000	174,000	117,192	1,451,192	181.40
70 PRECAST CONCRETE BOAT RAMP	7000.00 SF	112,233	16,835	11,339	140,407	20.06
80 60 TON BOAT LIFT TRAILER		200,000	0	0	200,000	
TOTAL St.Paul Alaska Small Boat Harbor		5,582,200	807,330	536,678	6,926,208	

** PROJECT INDIRECT SUMMARY - Feature **

	QUANTITY UOM	TOTAL DIRECT	OVERHEAD	PROFIT	TOTAL COST	UNIT COST
20% Contingency (not inc. boat lift)					1,345,242	
SUBTOTAL					8,271,450	
10% Eng & Des (not inc. boat lift)					805,431	
SUBTOTAL					9,076,881	
8% Sup & Adm (not inc. boat lift)					712,001	
TOTAL INCL OWNER COSTS					9,788,882	

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St.Paul Alaska Small Boat Harbor
Alternative #2
Main Dredging = 10 feet
60 Vessel Harbor

Designed By: Tetra Tech ISG, John Oliver Con.
Estimated By: Tetra Tech ISG

Prepared By: Doug Lantz, P.E.

Preparation Date: 01/29/01
Effective Date of Pricing: 01/01/01

Sales Tax: 0.0%

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Release 1.2

St. Paul Alaska Small Boat Harbor - Alternative #2
60 Vessel Harbor, 10 foot Depth
MCACES Database: SP2PB0*.*

Changes from preferred alternative include dredging volumes only.
Changes are not significant enough to affect total equipment/labor calculated for 1st year mobe/demobe costs.
No changes in breakwater, circulation berm, revetment, or erosion protection.
No changes in docks, floats, ramps, or boat lift.

Project Description:

First Season ---
1) Approximately 120,400 cy of dredging in the entrance channel, maneuvering channel, and boat basin, with disposal adjacent to harbor and in upland areas.
2) Placement of underwater revetment.
3) Construction of a circulation berm.
4) Construction of a breakwater.

Second Season ---
5) Installation of floating docks and boat ramps.
6) Construction of precast concrete docks along the south shore.
7) Boat Lift Trailer.

Basis of Design: General Re-evaluation Report (GRR) Design. January 2001

Overtime: 2 10-hour shifts, 7 days week

Project Construction:

Site Access: Dredging, breakwater, circulation berm, revetment, and floating docks will require marine floating equipment. South side dock will require land based equipment.

Borrow Areas: Rock will be procured on St. Paul Island.

Construction Methodology: Prime contractor will mob the dredging equipment and manpower from the Puget Sound area.

Dredging: Floating crane with a 14 cy bucket and a 10 cy bucket on standby for use during repairs. Two 3000-cy (5000-ton) barges will be used to transport dredged material to spending area. A portion will be off-loaded adjacent to harbor and a portion will be hauled upland.

Breakwater: Rock will be quarried on St. Paul an trucked to breakwater.

Facilities: Floating docks, precast concrete members, and pilings will be fabricated/procured in Seattle/Tacoma area and barged to St. Paul Island. Transport cost is included in Mob/Demob, and is not reflected in the material cost for these itmes.

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Pile driving and installation of floating facilities will use a floating crane/piledriving rig. Installation of shoreside facilities will use a combination of land based and floating equipment.

Equipment/Labor Availability & Distance Traveled.
St. Paul Island has a limited amount of heavy equipment and manpower available for contractors use. Mobilized equipment will require three tows:

First Season ---
TOW #1 - dredging barge, crane, buckets and one 3000 cy barge.
TOW #2 - one 3000 cy barge with earthmoving equipment.

Second Season ---
TOW #3 - pile driving barge/crane, and one 3000 cy barge with precast concrete members, prefabricated docks.

Skilled labor, including crane/equipment operators, oilers, steel workes, and welders will be mobilized from Seattle and provided with per diem of $90 hotel and $40 food on St. Paul. Semi skilled workers will be drawn from local labor pool.

Labor Rates: MCACES Anchorage Davis Bacon Rates, 2000.
Remote pay adjustment of 30% gives approximate 2001 Davis Bacon rates(provided by TDX)for St Paul Island.

Equipment: Region IX Equipment Rates EP 1110-1-8, 1999.

Prime Contractor's profit of 8.8% based on weighted guidelines.
Prime Contractor's overhead estimated at 15%. Travel and perdiem for crews are added separately under Mob/Demob.
Engineering and Design estimated at 10%
Supervision and Administration estimated at 8%

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10. MOB/DEMOB

. 1st Seas. - Tows	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST

0. MOB/DEMOB
The equipment mobe cost for the dedging portion of this project (120,400cy) is computed by prorating the total equipment mobe for all dredging (548,107 cy) by the ratio of the two quantities. The factor = 0.22. The adjustment
is made to items: 10.25 1st Seas. - Tows 10.30 1st Seas. Equip Cost During Tow 10.35 1st. Season Labor Travel The cost was adjusted downward by 78% using the "Adjust Pricing" option.

10.25. 1st Seas. - Tows ** ADJUSTED **

USR AA Mob/Demob Tow #1: Tug, 14 cy dredge, 3000 cy loading barge	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	2200.00 110,000	2200.00 110,000	2200.00
USR AA Mob/Demob Tow #2: Tug, 3000 cy loading barge	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	2200.00 110,000	2200.00 110,000	2200.00
USR AA Mob/Demob Tugboat from Dutch Harbor or Bethel	2.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	660.00 1,320	660.00 1,320	660.00
TOTAL 1st Seas. - Tows			0	0	0	0	221,320	221,320	

10.30. 1st Seas. Equip Cost During Tow ** ADJUSTED **

USR AA Hydraulic Shovel	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1100.00 3,300	1100.00 3,300	1100.00
USR AA 14 cy and 10 cy Clam	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1100.00 3,300	1100.00 3,300	1100.00
USR AA 65 CY Off-Highway Truck (3 ea)	9.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3982.00 35,838	3982.00 35,838	3982.00
USR AA 7 CY FE Loader (2 ea)	6.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	2926.00 17,556	2926.00 17,556	2926.00
USR AA 500-800 ton Dredge Barge	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1683.00 5,049	1683.00 5,049	1683.00
USR AA 3000 cy (5000 ton) Dredge Barge #1	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	4114.00 12,342	4114.00 12,342	4114.00
USR AA 3000 cy (5000 ton) Dredge Barge #2	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	4114.00 12,342	4114.00 12,342	4114.00
TOTAL 1st Seas. Equip Cost During Tow			0	0	0	0	89,727	89,727	

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10. MOB/DEMOB

. 1st Seas. - Labor Trvl (airfare)	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
10.35. 1st Seas. - Labor Trvl (airfare) Mobe is only for skilled labor. Assume semi-skilled laborers are available on St. Paul.			** ADJUSTED **						
USR AA Crane Ops	5.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	330.00 1,650	330.00 1,650	330.00
USR AA Heavy & Med Equip Op	4.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	330.00 1,320	330.00 1,320	330.00
USR AA Oiler	3.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	330.00 990	330.00 990	330.00
USR AA Truck Driver - Heavy	6.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	330.00 1,980	330.00 1,980	330.00
TOTAL 1st Seas. - Labor Trvl (airfare)			0	0	0	0	5,940	5,940	
10.38. 1st Seas. - Per Diem									
USR AA Skilled Labor Per Diem ($90 hotel, $40 food)	439.00 DAY	0.00	0.00 0	0.00 0	0.00 0	0.00 0	130.00 57,070	130.00 57,070	130.00
TOTAL 1st Seas. - Per Diem			0	0	0	0	57,070	57,070	
10.40. 2nd Seas. - Tows									
USR AA Mob/Demob Tow #3: Tug (prefab docks, piles, boat ramps),	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	10000.00 500,000	10000.00 500,000	10000.00
USR AA Mob/Demob Tugboat from Dutch Harbor or Bethel	2.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3000.00 6,000	3000.00 6,000	3000.00
TOTAL 2nd Seas. - Tows			0	0	0	0	506,000	506,000	
10.45. 2nd Seas. Equip Cost During Tow									
USR AA Dredge Barge - pile driving	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	7650.00 22,950	7650.00 22,950	7650.00
USR AA Hydraulic Excavator	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	10000.00 30,000	10000.00 30,000	10000.00
USR AA Crane - 125T	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	18000.00 54,000	18000.00 54,000	18000.00
USR AA Pile Driving Hammer/Leads	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	5000.00 15,000	5000.00 15,000	5000.00

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10. MOB/DEMOB

. 2nd Seas. Equip Cost During Tow	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA Air Comp/Hose			0.00	0.00	0.00	0.00	3000.00	3000.00	
	3.00 MO	0.00	0	0	0	0	9,000	9,000	3000.00
USR AA Welder			0.00	0.00	0.00	0.00	700.00	700.00	
	3.00 MO	0.00	0	0	0	0	2,100	2,100	700.00
USR AA 500-800 ton Dock Material Barge			0.00	0.00	0.00	0.00	7650.00	7650.00	
	6.00 MO	0.00	0	0	0	0	45,900	45,900	7650.00
TOTAL 2nd Seas. Equip Cost During Tow			0	0	0	0	178,950	178,950	
10.50. 2nd Seas. - Labor Trvl (airfare)									
USR AA Crane Ops			0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00 EA	0.00	0	0	0	0	3,000	3,000	1500.00
USR AA Oiler			0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00 EA	0.00	0	0	0	0	3,000	3,000	1500.00
USR AA Structural Steel Workers			0.00	0.00	0.00	0.00	1500.00	1500.00	
	4.00 EA	0.00	0	0	0	0	6,000	6,000	1500.00
USR AA Welders			0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00 EA	0.00	0	0	0	0	3,000	3,000	1500.00
TOTAL 2nd Seas. - Labor Trvl (airfare)			0	0	0	0	15,000	15,000	
10.53. 2nd Seas. - Per Diem									
USR AA Skilled Labor Per Diem ($90 hotel, $40 food)			0.00	0.00	0.00	0.00	130.00	130.00	
	348.00 DAY	0.00	0	0	0	0	45,240	45,240	130.00
TOTAL 2nd Seas. - Per Diem			0	0	0	0	45,240	45,240	
TOTAL MOB/DEMOB			0	0	0	0	1,119,247	1,119,247	

20. HARBOR DREDGING (FED & LOCAL)

20. 2. Dredging (Federal) ** OVERTIME **
Hydrographic Survey cost from St. Paul Harbor Improvements, Alaska District (1996).

USR AA Federal Dredging			0.00	0.02	1.55	1.98	0.00	3.53	
	88407 CY ZDDREDGE	300.00	0	2,060	136,881	175,453	0	312,333	3.53
Mod									

20. HARBOR DREDGING (FED & LOCAL)

2. Dredging (Federal)	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AS Hydrographic Survey					0.00	0.00	0.00	0.00	35000.00	35000.00	
	2.00	EA		0.00	0	0	0	0	70,000	70,000	35000.00
TOTAL Dredging (Federal)	88407	CY			0	2,060	136,881	175,453	70,000	382,333	4.32
20. 5. Dredging (Local) ** OVERTIME **											
Hydrographic Survey cost from St. Paul Harbor Improvements, Alaska District (1996).											
USR AA Boat Basin Dredging					0.00	0.02	1.55	1.98	0.00	3.53	
	32000	CY	ZDDREDGE	300.00	0	746	49,546	63,507	0	113,053	3.53
TOTAL Dredging (Local)	32000	CY			0	746	49,546	63,507	0	113,053	3.53
20.10. Disposal - Harbor Adjacent Fill ** OVERTIME **											
CIV AA Hauling, off hwy haulers, 65 CY, 1 mile RT @ 20 mph (4.2 cyc/hr)	53600	CY	CTDHB34J	240.00	0.00	0.00	0.30	0.45	0.00	0.76	
					0	225	16,209	24,265	0	40,473	0.76
CIV AA Excavate & load, wheeled loader, 7 CY, wet rock	53600	CY	CODLB10Z	212.50	0.00	0.01	0.52	0.44	0.00	0.96	
					0	381	27,759	23,739	0	51,499	0.96
TOTAL Disposal - Harbor Adjacent Fill	53600	CY			0	606	43,968	48,004	0	91,972	1.72
20.15. Disposal with haul ** OVERTIME **											
CIV AA Hauling, off hwy haulers, 65 CY, 6 mile RT @ 40 mph (2.1 cyc/hr)	66807	CY	CTDHB34J	146.25	0.00	0.01	0.50	0.74	0.00	1.24	
					0	454	33,156	49,638	0	82,794	1.24
CIV AA Excavate & load, wheeled loader, 7 CY, wet rock	66807	CY	CODLB10Z	212.50	0.00	0.01	0.52	0.44	0.00	0.96	
					0	474	34,599	29,589	0	64,188	0.96
TOTAL Disposal with haul	66807	CY			0	929	67,756	79,226	0	146,982	2.20
TOTAL HARBOR DREDGING (FED & LOCAL)	120407	CY			0	4,340	298,150	366,190	70,000	734,340	6.10
22. REVETMENT & EROSION PROTECTION											
$4/CYprice quote for rock at quarry on St. Paul (not gauranteed)											
22. 5. REVETMENT W/BEDDING ** OVERTIME **											
USR AA 18" Rock Rip-rap quarried on St. Paul	2625.00	CY		0.00	4.00	0.00	0.00	0.00	0.00	4.00	
					10,500	0	0	0	0	10,500	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	3500.00	CY	CODLB10Z	100.00	0.00	0.02	0.87	1.04	0.00	1.91	
					0	53	3,040	3,648	0	6,687	1.91

22. REVETMENT & EROSION PROTECTION

. REVETMENT W/BEDDING	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA 6" gravel bedding layer, machine placed	875.00	CY	ZDBWATER	100.00	5.00 4,375	0.07 61	3.71 3,247	4.02 3,516	0.00 0	12.73 11,138	12.73
CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	3500.00	CY	CTDHB34J	100.00	0.00 0	0.01 35	0.57 2,009	1.26 4,393	0.00 0	1.83 6,403	1.83
B CIV AA Handling on barge, wheeled loader, 7 CY, blasted rock	3500.00	CY	CODLB10Z	100.00	0.00 0	0.02 53	0.87 3,040	1.04 3,648	0.00 0	1.91 6,687	1.91
B RSM AA Place Revetment	2625.00	CY	ZDDREDGE	45.00	0.00 0	0.16 408	8.17 21,454	14.52 38,122	0.00 0	22.70 59,576	22.70
TOTAL REVETMENT W/BEDDING	2625.00	CY			14,875	610	32,790	53,327	0	100,992	38.47
22.10. EROSION PROTECTION IN CHANNEL				** OVERTIME **							
USR AA 24" Rock Rip-rap quarried on St. Paul	6500.00	CY		0.00	4.00 26,000	0.00 0	0.00 0	0.00 0	0.00 0	4.00 26,000	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	6500.00	CY	CODLB10Z	100.00	0.00 0	0.02 98	0.87 5,645	1.04 6,774	0.00 0	1.91 12,420	1.91
L CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	6500.00	CY	CTDHB34J	100.00	0.00 0	0.01 65	0.57 3,732	1.26 8,159	0.00 0	1.83 11,890	1.83
B CIV AA Handling on barge, wheeled loader, 7 CY, blasted rock	6500.00	CY	CODLB10Z	100.00	0.00 0	0.02 98	0.87 5,645	1.04 6,774	0.00 0	1.91 12,420	1.91
B RSM AA Erosion Protection Placed	6500.00	CY	ZDDREDGE	45.00	0.00 0	0.16 1,011	8.17 53,124	14.52 94,398	0.00 0	22.70 147,521	22.70
TOTAL EROSION PROTECTION IN CHANNEL	6500.00	CY			26,000	1,271	68,146	116,105	0	210,251	32.35
TOTAL REVETMENT & EROSION PROTECTION	9125.00	CY			40,875	1,881	100,936	169,432	0	311,243	34.11
40. CIRCULATION BERM				** OVERTIME **							
M RSM AA Fill, borrow, for embankments, load, 1 mile haul, spread w/dozer	2130.00	CY	ZDCBERM	150.00	5.38 11,457	0.03 71	2.38 5,072	3.45 7,352	0.00 0	11.21 23,880	11.21
USR AA Sort Boulders from Dredged Material	600.00	CY	ZDBWATER	32.00	0.00 0	0.22 131	14.65 8,791	11.36 6,814	0.00 0	26.01 15,605	26.01
M MIL AA Cap with rounded excavated boulders - placement	600.00	CY	ZDCBERM	32.00	0.00 0	0.16 94	11.16 6,697	16.18 9,707	0.00 0	27.34 16,404	27.34

40. CIRCULATION BERM

	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
TOTAL CIRCULATION BERM	2730.00 CY			11,457	296	20,560	23,873	0	55,890	20.47

50. BREAKWATER (FEDERAL) ** OVERTIME **
Rock Size 2-ton minus

$4/CY price quote for rock at quarry on St. Paul (not gauranteed)

	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA 2-ton minus, quarried on St. Paul	12653 CY		0.00	4.00 50,612	0.00 0	0.00 0	0.00 0	0.00 0	4.00 50,612	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	12653 CY	CODLB10Z	100.00	0.00 0	0.02 190	1.10 13,926	0.94 11,909	0.00 0	2.04 25,835	2.04
L CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	12653 CY	CTDHB34J	100.00	0.00 0	0.01 127	0.73 9,184	1.09 13,749	0.00 0	1.81 22,932	1.81
B CIV AA handling on barge, loader, 7 CY, blasted rock	12653 CY	CODLB10Z	100.00	0.00 0	0.02 190	1.10 13,926	0.94 11,909	0.00 0	2.04 25,835	2.04
USR AA Place Rock Fill	12653 CY	ZDDREDGE	45.00	0.00 0	0.16 1,969	10.32 130,604	13.23 167,412	0.00 0	23.55 298,016	23.55
TOTAL BREAKWATER (FEDERAL)	12653 CY			50,612	2,475	167,640	204,979	0	423,230	33.45

60. FLOATING DOCK FACILITIES
Floats and Boat Ramps fabricated in Seattle. Transport is covered under mobilization.

60.02. Pile Driving - per Pile ** OVERTIME **
50 foot piles x 17.15/LF = $850 ea
Driving tips for boulders

65 piles driven 30 feet into ground = 1950 vlf

	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR PD Pile, steel, pipe, 50' L 12" dia, 44 lb/LF, conc filled	65.00 EA		0.00	850.00 66,853	0.00 0	0.00 0	0.00 0	0.00 0	850.00 66,853	1028.50
M MIL PD Pile, steel, pipe, heavy duty points, 12" dia	65.00 EA	SIWWE14	0.43	137.57 10,820	2.35 153	193.87 15,248	24.38 1,918	0.00 0	355.82 27,985	430.54
B MIL PD Pile driving and concrete fill	1950.00 VLF	ZDPLDRVR	20.00	0.00 0	0.30 585	19.60 46,243	27.75 65,481	0.00 0	47.35 111,724	57.29
TOTAL Pile Driving - per Pile	65.00 EA			77,673	738	61,490	67,398	0	206,561	3177.87

60. FLOATING DOCK FACILITIES

. Floating Docks (Main Floats)	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
60.05. Floating Docks (Main Floats)				** OVERTIME **							
USR AA 1 @ 10' x 25'					30.00	0.14	9.46	0.40	0.00	39.86	
	250.00	SF	ZDDOCK	50.00	7,500	35	2,365	101	0	9,966	39.86
USR AA 6 @ 10' x 50'					30.00	0.14	9.46	0.40	0.00	39.86	
	3000.00	SF	ZDDOCK	50.00	90,000	420	28,383	1,209	0	119,592	39.86
USR AA 7 @ 10' x 36'					30.00	0.14	9.46	0.40	0.00	39.86	
	2520.00	SF	ZDDOCK	50.00	75,600	353	23,842	1,016	0	100,458	39.86
TOTAL Floating Docks (Main Floats)	5770.00	SF			173,100	808	54,591	2,325	0	230,016	39.86
60.10. Finger Floats				** OVERTIME **							
USR AA 12 @ 6' x 60'					30.00	0.14	9.46	0.40	0.00	39.86	
	4320.00	SF	ZDDOCK	50.00	129,600	605	40,872	1,741	0	172,213	39.86
USR AA 7 @ 6' x 44'					30.00	0.14	9.46	0.40	0.00	39.86	
	1848.00	SF	ZDDOCK	50.00	55,440	259	17,484	745	0	73,669	39.86
USR AA 10 @ 6' x 25'					30.00	0.14	9.46	0.40	0.00	39.86	
	1500.00	SF	ZDDOCK	50.00	45,000	210	14,192	605	0	59,796	39.86
TOTAL Finger Floats	7668.00	SF			230,040	1,074	72,548	3,090	0	305,678	39.86
60.17. Float Ramps				** OVERTIME **							
USR AA Float Ramps 2 @ 8' x 60'					55.00	0.14	9.46	0.40	0.00	64.86	
	960.00	SF	ZDDOCK	50.00	52,800	134	9,083	387	0	62,270	64.86
TOTAL Float Ramps	960.00	SF			52,800	134	9,083	387	0	62,270	64.86
60.40. Floating Bwater East Dock & Ramp				** OVERTIME **							
USR AA Floating Ramp 20' x 115'					55.00	0.14	9.46	0.40	0.00	64.86	
	2300.00	SF	ZDDOCK	50.00	126,500	322	21,761	927	0	149,187	64.86
USR AA Floating Dock 20' x 275'					55.00	0.14	9.46	0.40	0.00	64.86	
	5500.00	SF	ZDDOCK	50.00	302,500	770	52,036	2,217	0	356,753	64.86
TOTAL Floating Bwater East Dock & Ramp	7800.00	SF			429,000	1,092	73,797	3,143	0	505,940	64.86
TOTAL FLOATING DOCK FACILITIES	22198	SF			962,613	3,846	271,508	76,344	0	1,310,465	59.04

62. PRECAST CONCRETE DOCK

	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
62. PRECAST CONCRETE DOCK ** OVERTIME **											
$145/sf cost based on 50' x 100' dock installation in 1988 - less mooring dolphins.											
Adjusted to current price level											
USR AA Precast Concrete Dock in Place					0.00	0.00	0.00	0.00	145.00	145.00	
	8000.00	SF		0.00	0	0	0	0	1,160,000	1,160,000	145.00
TOTAL PRECAST CONCRETE DOCK	8000.00	SF			0	0	0	0	1,160,000	1,160,000	145.00
70. PRECAST CONCRETE BOAT RAMP ** OVERTIME **											
M MIL AA Base course, compacted to 6" deep, crushed 3/4" stone, large areas					5.08	0.01	0.70	0.24	0.00	6.02	
	780.00	SY	COFGB36B	625.00	3,960	10	548	184	0	4,692	6.02
M MIL AA Structural precast, slabs, 12" thick, solid, 3000 psi					14.00	0.00	0.00	0.00	0.00	14.00	
	7000.00	SF	N/A	0.00	98,000	0	0	0	0	98,000	14.00
MIL AA Precast erection, 60' max rad, 90 ton crane, 9-10 ton/pc, floor deck					0.00	4.00	256.84	83.92	0.00	340.76	
	28.00	EA	ZDPCAST	1.75	0	112	7,192	2,350	0	9,541	340.76
TOTAL PRECAST CONCRETE BOAT RAMP	7000.00	SF			101,960	122	7,739	2,534	0	112,233	16.03
80. 60 TON BOAT LIFT TRAILER ** OVERTIME **											
Conolift model Y60 Boat Lift Trailer 60 ton											
$100K purchase price in Ontario, plus $100K transport and assembly.											
USR AF Conolift model Y60. $100K Transport					0.00	0.00	0.00	0.00	200000.00	200000.00	
	1.00	LS		0.00	0	0	0	0	200,000	200,000	200000.00
TOTAL 60 TON BOAT LIFT TRAILER					0	0	0	0	200,000	200,000	
TOTAL St.Paul Alaska Small Boat Harbor					1,167,516	12,959	866,533	843,351	2,549,247	5,426,648	

** PROJECT INDIRECT SUMMARY - Feature **

	QUANTITY UOM	TOTAL DIRECT	OVERHEAD	PROFIT	TOTAL COST	UNIT COST
10 MOB/DEMOB						
10.25 1st Seas. - Tows		221,320	33,198	22,359	276,877	
10.30 1st Seas. Equip Cost During Tow		89,727	13,459	9,065	112,251	
10.35 1st Seas. - Labor Trvl (airfare)		5,940	891	600	7,431	
10.38 1st Seas. - Per Diem		57,070	8,561	5,766	71,396	
10.40 2nd Seas. - Tows		506,000	75,900	51,120	633,020	
10.45 2nd Seas. Equip Cost During Tow		178,950	26,843	18,079	223,871	
10.50 2nd Seas. - Labor Trvl (airfare)		15,000	2,250	1,515	18,765	
10.53 2nd Seas. - Per Diem		45,240	6,786	4,570	56,596	
TOTAL MOB/DEMOB		1,119,247	167,887	113,075	1,400,209	
20 HARBOR DREDGING (FED & LOCAL)						
20. 2 Dredging (Federal)	88407.00 CY	382,333	57,350	31,554	471,237	5.33
20. 5 Dredging (Local)	32000.00 CY	113,053	16,958	11,421	141,432	4.42
20.10 Disposal - Harbor Adjacent Fill	53600.00 CY	91,972	13,796	9,292	115,060	2.15
20.15 Disposal with haul	66807.00 CY	146,982	22,047	14,849	183,879	2.75
TOTAL HARBOR DREDGING (FED & LOCAL)	120407.00 CY	734,340	110,151	67,117	911,608	7.57
22 REVETMENT & EROSION PROTECTION						
22. 5 REVETMENT W/BEDDING	2625.00 CY	100,992	15,149	10,203	126,344	48.13
22.10 EROSION PROTECTION IN CHANNEL	6500.00 CY	210,251	31,538	21,241	263,030	40.47
TOTAL REVETMENT & EROSION PROTECTION	9125.00 CY	311,243	46,686	31,444	389,373	42.67
40 CIRCULATION BERM	2730.00 CY	55,890	8,384	5,646	69,920	25.61
50 BREAKWATER (FEDERAL)	12653.00 CY	423,230	63,485	42,758	529,473	41.85
60 FLOATING DOCK FACILITIES						
60.02 Pile Driving - per Pile	65.00 EA	206,561	30,984	20,868	258,414	3975.60
60.05 Floating Docks (Main Floats)	5770.00 SF	230,016	34,502	23,238	287,756	49.87
60.10 Finger Floats	7668.00 SF	305,678	45,852	30,882	382,411	49.87
60.17 Float Ramps	960.00 SF	62,270	9,340	6,291	77,901	81.15
60.40 Floating Bwater East Dock & Ramp	7800.00 SF	505,940	75,891	51,114	632,945	81.15
TOTAL FLOATING DOCK FACILITIES	22198.00 SF	1,310,465	196,570	132,393	1,639,427	73.85
62 PRECAST CONCRETE DOCK	8000.00 SF	1,160,000	174,000	117,192	1,451,192	181.40
70 PRECAST CONCRETE BOAT RAMP	7000.00 SF	112,233	16,835	11,339	140,407	20.06
80 60 TON BOAT LIFT TRAILER		200,000	0	0	200,000	
TOTAL St.Paul Alaska Small Boat Harbor		5,426,648	783,997	520,963	6,731,608	

** PROJECT INDIRECT SUMMARY - Feature **

	QUANTITY UOM	TOTAL DIRECT	OVERHEAD	PROFIT	TOTAL COST	UNIT COST
20% Contingency (not inc. boat lift)					1,306,322	
SUBTOTAL					8,037,930	
10% Eng & Des (not inc. boat lift)					782,079	
SUBTOTAL					8,820,009	
8% Sup & Adm (not inc. boat lift)					691,451	
TOTAL INCL OWNER COSTS					9,511,461	

St.Paul Alaska Small Boat Harbor
Alternative #3
Main Dredging = 8 feet
60 Vessel Harbor

Designed By: Tetra Tech ISG, John Oliver Con.
Estimated By: Tetra Tech ISG

Prepared By: Doug Lantz, P.E.

Preparation Date: 01/31/01
Effective Date of Pricing: 01/01/01

Sales Tax: 0.0%

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Release 1.2

St. Paul Alaska Small Boat Harbor - Alternative #3
60 Vessel Harbor, 8 foot Depth
MCACES Database: SP3PB0*.*

Changes from preferred alternative include dredging volumes only.
Changes are not significant enough to affect total equipment/labor calculated for 1st year mobe/demobe costs.
No changes in breakwater, circulation berm, revetment, or erosion protection.
No changes in docks, floats, ramps, or boat lift.

Project Description:

First Season ---
1) Approximately 100,611 cy of dredging in the entrance channel, maneuvering channel, and boat basin, with disposal adjacent to harbor and in upland areas.
2) Placement of underwater revetment.
3) Construction of a circulation berm.
4) Construction of a breakwater.

Second Season ---
5) Installation of floating docks and boat ramps.
6) Construction of precast concrete docks along the south shore.
7) Boat Lift Trailer.

Basis of Design: General Re-evaluation Report (GRR) Design. January 2001

Overtime: 2 10-hour shifts, 7 days week

Project Construction:

Site Access: Dredging, breakwater, circulation berm, revetment, and floating docks will require marine floating equipment. South side dock will require land based equipment.

Borrow Areas: Rock will be procured on St. Paul Island.

Construction Methodology: Prime contractor will mob the dredging equipment and manpower from the Puget Sound area.

Dredging: Floating crane with a 14 cy bucket and a 10 cy bucket on standby for use during repairs. Two 3000-cy (5000-ton) barges will be used to transport dredged material to spending area. A portion will be off-loaded adjacent to harbor and a portion will be hauled upland.

Breakwater: Rock will be quarried on St. Paul an trucked to breakwater.

Facilities: Floating docks, precast concrete members, and pilings will be fabricated/procured in Seattle/Tacoma area and barged to St. Paul Island. Transport cost is included in Mob/Demob, and is not reflected in the material cost for these itmes.

Pile driving and installation of floating facilities will use a floating crane/piledriving rig. Installation of shoreside facilities will use a combination of land based and floating equipment.

Equipment/Labor Availability & Distance Traveled.
St. Paul Island has a limited amount of heavy equipment and manpower available for contractors use. Mobilized equipment will require three tows:

First Season ---
TOW #1 - dredging barge, crane, buckets and one 3000 cy barge.
TOW #2 - one 3000 cy barge with earthmoving equipment.

Second Season ---
TOW #3 - pile driving barge/crane, and one 3000 cy barge with precast concrete members, prefabricated docks.

Skilled labor, including crane/equipment operators, oilers, steel workes, and welders will be mobilized from Seattle and provided with per diem of $90 hotel and $40 food on St. Paul. Semi skilled workers will be drawn from local labor pool.

Labor Rates: MCACES Anchorage Davis Bacon Rates, 2000.
Remote pay adjustment of 30% gives approximate 2001 Davis Bacon rates(provided by TDX)for St Paul Island.

Equipment: Region IX Equipment Rates EP 1110-1-8, 1999.

Prime Contractor's profit of 8.8% based on weighted guidelines.
Prime Contractor's overhead estimated at 15%. Travel and perdiem for crews are added separately under Mob/Demob.
Engineering and Design estimated at 10%
Supervision and Administration estimated at 8%

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10. MOB/DEMOB

1st Seas. - Tows	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST

. MOB/DEMOB
The equipment mobe cost for the dedging portion of this project (100,611 cy)
is computed by prorating the total equipment mobe for all dredging (528,311 cy) by the ratio of the two quantities. The factor = 0.19. The adjustment
is made to items: 10.25 1st Seas. - Tows . 10.30 1st Seas. Equip Cost During Tow 10.35 1st. Season Labor Travel The cost was adjusted downward by 81% using the "Adjust Pricing" option.

10.25. 1st Seas. - Tows ** ADJUSTED **

USR AA Mob/Demob Tow #1: Tug, 14 cy dredge, 3000 cy loading barge	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1900.00 95,000	1900.00 95,000	1900.00
USR AA Mob/Demob Tow #2: Tug, 3000 cy loading barge	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1900.00 95,000	1900.00 95,000	1900.00
USR AA Mob/Demob Tugboat from Dutch Harbor or Bethel	2.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	570.00 1,140	570.00 1,140	570.00
TOTAL 1st Seas. - Tows			0	0	0	0	191,140	191,140	

10.30. 1st Seas. Equip Cost During Tow ** ADJUSTED **

USR AA Hydraulic Shovel	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	950.00 2,850	950.00 2,850	950.00
USR AA 14 cy and 10 cy Clam	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	950.00 2,850	950.00 2,850	950.00
USR AA 65 CY Off-Highway Truck (3 ea)	9.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3439.00 30,951	3439.00 30,951	3439.00
USR AA 7 CY FE Loader (2 ea)	6.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	2527.00 15,162	2527.00 15,162	2527.00
USR AA 500-800 ton Dredge Barge	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1453.50 4,360	1453.50 4,360	1453.50
USR AA 3000 cy (5000 ton) Dredge Barge #1	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3553.00 10,659	3553.00 10,659	3553.00
USR AA 3000 cy (5000 ton) Dredge Barge #2	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3553.00 10,659	3553.00 10,659	3553.00
TOTAL 1st Seas. Equip Cost During Tow			0	0	0	0	77,491	77,491	

10. MOB/DEMOB

35. 1st Seas. - Labor Trvl (airfare)	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
10.35. 1st Seas. - Labor Trvl (airfare) Mobe is only for skilled labor. Assume semi-skilled laborers are available on St. Paul.			** ADJUSTED **						
USR AA Crane Ops	5.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	285.00 1,425	285.00 1,425	285.00
USR AA Heavy & Med Equip Op	4.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	285.00 1,140	285.00 1,140	285.00
USR AA Oiler	3.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	285.00 855	285.00 855	285.00
USR AA Truck Driver - Heavy	6.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	285.00 1,710	285.00 1,710	285.00
TOTAL 1st Seas. - Labor Trvl (airfare)			0	0	0	0	5,130	5,130	
10.38. 1st Seas. - Per Diem									
USR AA Skilled Labor Per Diem ($90 hotel, $40 food)	439.00 DAY	0.00	0.00 0	0.00 0	0.00 0	0.00 0	130.00 57,070	130.00 57,070	130.00
TOTAL 1st Seas. - Per Diem			0	0	0	0	57,070	57,070	
10.40. 2nd Seas. - Tows									
USR AA Mob/Demob Tow #3: Tug (prefab docks, piles, boat ramps),	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	10000.00 500,000	10000.00 500,000	10000.00
USR AA Mob/Demob Tugboat from Dutch Harbor or Bethel	2.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3000.00 6,000	3000.00 6,000	3000.00
TOTAL 2nd Seas. - Tows			0	0	0	0	506,000	506,000	
10.45. 2nd Seas. Equip Cost During Tow									
USR AA Dredge Barge - pile driving	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	7650.00 22,950	7650.00 22,950	7650.00
USR AA Hydraulic Excavator	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	10000.00 30,000	10000.00 30,000	10000.00
USR AA Crane - 125T	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	18000.00 54,000	18000.00 54,000	18000.00
USR AA Pile Driving Hammer/Leads	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	5000.00 15,000	5000.00 15,000	5000.00

10. MOB/DEMOB

. 2nd Seas. Equip Cost During Tow	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA Air Comp/Hose			0.00	0.00	0.00	0.00	3000.00	3000.00	
	3.00 MO	0.00	0	0	0	0	9,000	9,000	3000.00
USR AA Welder			0.00	0.00	0.00	0.00	700.00	700.00	
	3.00 MO	0.00	0	0	0	0	2,100	2,100	700.00
USR AA 500-800 ton Dock Material Barge			0.00	0.00	0.00	0.00	7650.00	7650.00	
	6.00 MO	0.00	0	0	0	0	45,900	45,900	7650.00
TOTAL 2nd Seas. Equip Cost During Tow			0	0	0	0	178,950	178,950	
10.50. 2nd Seas. - Labor Trvl (airfare)									
USR AA Crane Ops			0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00 EA	0.00	0	0	0	0	3,000	3,000	1500.00
USR AA Oiler			0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00 EA	0.00	0	0	0	0	3,000	3,000	1500.00
USR AA Structural Steel Workers			0.00	0.00	0.00	0.00	1500.00	1500.00	
	4.00 EA	0.00	0	0	0	0	6,000	6,000	1500.00
USR AA Welders			0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00 EA	0.00	0	0	0	0	3,000	3,000	1500.00
TOTAL 2nd Seas. - Labor Trvl (airfare)			0	0	0	0	15,000	15,000	
10.53. 2nd Seas. - Per Diem									
USR AA Skilled Labor Per Diem ($90 hotel, $40 food)			0.00	0.00	0.00	0.00	130.00	130.00	
	348.00 DAY	0.00	0	0	0	0	45,240	45,240	130.00
TOTAL 2nd Seas. - Per Diem			0	0	0	0	45,240	45,240	
TOTAL MOB/DEMOB			0	0	0	0	1,076,022	1,076,022	

20. HARBOR DREDGING (FED & LOCAL)

20. 2. Dredging (Federal) ** OVERTIME **
Hydrographic Survey cost from St. Paul Harbor Improvements, Alaska District (1996).

USR AA Federal Channel Dredging			0.00	0.02	1.55	1.98	0.00	3.53	
	77814 CY ZDDREDGE	300.00	0	1,813	120,479	154,430	0	274,909	3.53
Mod									

20. HARBOR DREDGING (FED & LOCAL)

2. Dredging (Federal)	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AS Hydrographic Survey	2.00	EA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	35000.00 70,000	35000.00 70,000	35000.00
TOTAL Dredging (Federal)	77814	CY			0	1,813	120,479	154,430	70,000	344,909	4.43
20. 5. Dredging (Local) ** OVERTIME **											
Hydrographic Survey cost from St. Paul Harbor Improvements, Alaska District (1996).											
USR AA Boat Basin Dredging	22797	CY	ZDDREDGE	300.00	0.00 0	0.02 531	1.55 35,297	1.98 45,243	0.00 0	3.53 80,540	3.53
TOTAL Dredging (Local)	22797	CY			0	531	35,297	45,243	0	80,540	3.53
20.10. Disposal - Harbor Adjacent Fill ** OVERTIME **											
CIV AA Hauling, off hwy haulers, 65 CY, 1 mile RT @ 20 mph (4.2 cyc/hr)	53600	CY	CTDHB34J	240.00	0.00 0	0.00 225	0.30 16,209	0.45 24,265	0.00 0	0.76 40,473	0.76
CIV AA Excavate & load, wheeled loader, 7 CY, wet rock	53600	CY	CODLB10Z	212.50	0.00 0	0.01 381	0.52 27,759	0.44 23,739	0.00 0	0.96 51,499	0.96
TOTAL Disposal - Harbor Adjacent Fill	53600	CY			0	606	43,968	48,004	0	91,972	1.72
20.15. Disposal with haul ** OVERTIME **											
CIV AA Hauling, off hwy haulers, 65 CY, 6 mile RT @ 40 mph (2.1 cyc/hr)	47011	CY	CTDHB34J	146.25	0.00 0	0.01 320	0.50 23,332	0.74 34,929	0.00 0	1.24 58,261	1.24
CIV AA Excavate & load, wheeled loader, 7 CY, wet rock	47011	CY	CODLB10Z	212.50	0.00 0	0.01 334	0.52 24,347	0.44 20,821	0.00 0	0.96 45,168	0.96
TOTAL Disposal with haul	47011	CY			0	653	47,679	55,750	0	103,429	2.20
TOTAL HARBOR DREDGING (FED & LOCAL)	100611	CY			0	3,603	247,423	303,427	70,000	620,850	6.17
22. REVETMENT & EROSION PROTECTION											
$4/CYprice quote for rock at quarry on St. Paul (not gauranteed)											
22. 5. REVETMENT W/BEDDING ** OVERTIME **											
USR AA 18" Rock Rip-rap quarried on St. Paul	2625.00	CY		0.00	4.00 10,500	0.00 0	0.00 0	0.00 0	0.00 0	4.00 10,500	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	3500.00	CY	CODLB10Z	100.00	0.00 0	0.02 53	0.87 3,040	1.04 3,648	0.00 0	1.91 6,687	1.91

22. REVETMENT & EROSION PROTECTION

. REVETMENT W/BEDDING	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA 6" gravel bedding layer, machine placed	875.00	CY	ZDBWATER	100.00	5.00 4,375	0.07 61	3.71 3,247	4.02 3,516	0.00 0	12.73 11,138	12.73
CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	3500.00	CY	CTDHB34J	100.00	0.00 0	0.01 35	0.57 2,009	1.26 4,393	0.00 0	1.83 6,403	1.83
CIV AA Handling on barge, wheeled loader, 7 CY, blasted rock	3500.00	CY	CODLB10Z	100.00	0.00 0	0.02 53	0.87 3,040	1.04 3,648	0.00 0	1.91 6,687	1.91
RSM AA Place Revetment	2625.00	CY	ZDDREDGE	45.00	0.00 0	0.16 408	8.17 21,454	14.52 38,122	0.00 0	22.70 59,576	22.70
TOTAL REVETMENT W/BEDDING	2625.00	CY			14,875	610	32,790	53,327	0	100,992	38.47
22.10. EROSION PROTECTION IN CHANNEL				** OVERTIME **							
USR AA 24" Rock Rip-rap quarried on St. Paul	6500.00	CY		0.00	4.00 26,000	0.00 0	0.00 0	0.00 0	0.00 0	4.00 26,000	4.00
CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	6500.00	CY	CODLB10Z	100.00	0.00 0	0.02 98	0.87 5,645	1.04 6,774	0.00 0	1.91 12,420	1.91
CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	6500.00	CY	CTDHB34J	100.00	0.00 0	0.01 65	0.57 3,732	1.26 8,159	0.00 0	1.83 11,890	1.83
CIV AA Handling on barge, wheeled loader, 7 CY, blasted rock	6500.00	CY	CODLB10Z	100.00	0.00 0	0.02 98	0.87 5,645	1.04 6,774	0.00 0	1.91 12,420	1.91
RSM AA Erosion Protection Placed	6500.00	CY	ZDDREDGE	45.00	0.00 0	0.16 1,011	8.17 53,124	14.52 94,398	0.00 0	22.70 147,521	22.70
TOTAL EROSION PROTECTION IN CHANNEL	6500.00	CY			26,000	1,271	68,146	116,105	0	210,251	32.35
TOTAL REVETMENT & EROSION PROTECTION	9125.00	CY			40,875	1,881	100,936	169,432	0	311,243	34.11
10. CIRCULATION BERM				** OVERTIME **							
RSM AA Fill, borrow, for embankments, load, 1 mile haul, spread w/dozer	2130.00	CY	ZDCBERM	150.00	5.38 11,457	0.03 71	2.38 5,072	3.45 7,352	0.00 0	11.21 23,880	11.21
USR AA Sort Boulders from Dredged Material	600.00	CY	ZDBWATER	32.00	0.00 0	0.22 131	14.65 8,791	11.36 6,814	0.00 0	26.01 15,605	26.01
MIL AA Cap with rounded excavated boulders - placement	600.00	CY	ZDCBERM	32.00	0.00 0	0.16 94	11.16 6,697	16.18 9,707	0.00 0	27.34 16,404	27.34

40. CIRCULATION BERM

	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
TOTAL CIRCULATION BERM	2730.00 CY			11,457	296	20,560	23,873	0	55,890	20.47

50. BREAKWATER (FEDERAL) ** OVERTIME **
Rock Size 2-ton minus

$4/CY price quote for rock at quarry on St. Paul (not gauranteed)

	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA 2-ton minus, quarried on St. Paul				4.00	0.00	0.00	0.00	0.00	4.00	
	12653 CY		0.00	50,612	0	0	0	0	50,612	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock				0.00	0.02	1.10	0.94	0.00	2.04	
	12653 CY	CODLB10Z	100.00	0	190	13,926	11,909	0	25,835	2.04
L CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)				0.00	0.01	0.73	1.09	0.00	1.81	
	12653 CY	CTDHB34J	100.00	0	127	9,184	13,749	0	22,932	1.81
B CIV AA handling on barge, loader, 7 CY, blasted rock				0.00	0.02	1.10	0.94	0.00	2.04	
	12653 CY	CODLB10Z	100.00	0	190	13,926	11,909	0	25,835	2.04
USR AA Place Rock Fill				0.00	0.16	10.32	13.23	0.00	23.55	
	12653 CY	ZDDREDGE	45.00	0	1,969	130,604	167,412	0	298,016	23.55
TOTAL BREAKWATER (FEDERAL)	12653 CY			50,612	2,475	167,640	204,979	0	423,230	33.45

60. FLOATING DOCK FACILITIES
Floats and Boat Ramps fabricated in Seattle. Transport is covered under mobilization.

60.02. Pile Driving - per Pile ** OVERTIME **
50 foot piles x 17.15/LF = $850 ea
Driving tips for boulders

65 piles driven 30 feet into ground = 1950 vlf

	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR PD Pile, steel, pipe, 50' L 12" dia, 44 lb/LF, conc filled				850.00	0.00	0.00	0.00	0.00	850.00	
	65.00 EA		0.00	66,853	0	0	0	0	66,853	1028.50
M MIL PD Pile, steel, pipe, heavy duty points, 12" dia				137.57	2.35	193.87	24.38	0.00	355.82	
	65.00 EA	SIWWE14	0.43	10,820	153	15,248	1,918	0	27,985	430.54
B MIL PD Pile driving and concrete fill				0.00	0.30	19.60	27.75	0.00	47.35	
	1950.00 VLF	ZDPLDRVR	20.00	0	585	46,243	65,481	0	111,724	57.29
TOTAL Pile Driving - per Pile	65.00 EA			77,673	738	61,490	67,398	0	206,561	3177.87

60. FLOATING DOCK FACILITIES

Floating Docks (Main Floats)	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
60.05. Floating Docks (Main Floats)			** OVERTIME **							
USR AA 1 @ 10' x 25'				30.00	0.14	9.46	0.40	0.00	39.86	
	250.00 SF	ZDDOCK	50.00	7,500	35	2,365	101	0	9,966	39.86
USR AA 6 @ 10' x 50'				30.00	0.14	9.46	0.40	0.00	39.86	
	3000.00 SF	ZDDOCK	50.00	90,000	420	28,383	1,209	0	119,592	39.86
USR AA 7 @ 10' x 36'				30.00	0.14	9.46	0.40	0.00	39.86	
	2520.00 SF	ZDDOCK	50.00	75,600	353	23,842	1,016	0	100,458	39.86
TOTAL Floating Docks (Main Floats)	5770.00 SF			173,100	808	54,591	2,325	0	230,016	39.86
60.10. Finger Floats			** OVERTIME **							
USR AA 12 @ 6' x 60'				30.00	0.14	9.46	0.40	0.00	39.86	
	4320.00 SF	ZDDOCK	50.00	129,600	605	40,872	1,741	0	172,213	39.86
USR AA 7 @ 6' x 44'				30.00	0.14	9.46	0.40	0.00	39.86	
	1848.00 SF	ZDDOCK	50.00	55,440	259	17,484	745	0	73,669	39.86
USR AA 10 @ 6' x 25'				30.00	0.14	9.46	0.40	0.00	39.86	
	1500.00 SF	ZDDOCK	50.00	45,000	210	14,192	605	0	59,796	39.86
TOTAL Finger Floats	7668.00 SF			230,040	1,074	72,548	3,090	0	305,678	39.86
60.17. Float Ramps			** OVERTIME **							
USR AA Float Ramps 2 @ 8' x 60'				55.00	0.14	9.46	0.40	0.00	64.86	
	960.00 SF	ZDDOCK	50.00	52,800	134	9,083	387	0	62,270	64.86
TOTAL Float Ramps	960.00 SF			52,800	134	9,083	387	0	62,270	64.86
60.40. Floating Bwater East Dock & Ramp			** OVERTIME **							
USR AA Floating Ramp 20' x 115'				55.00	0.14	9.46	0.40	0.00	64.86	
	2300.00 SF	ZDDOCK	50.00	126,500	322	21,761	927	0	149,187	64.86
USR AA Floating Dock 20' x 275'				55.00	0.14	9.46	0.40	0.00	64.86	
	5500.00 SF	ZDDOCK	50.00	302,500	770	52,036	2,217	0	356,753	64.86
TOTAL Floating Bwater East Dock & Ramp	7800.00 SF			429,000	1,092	73,797	3,143	0	505,940	64.86
TOTAL FLOATING DOCK FACILITIES	22198 SF			962,613	3,846	271,508	76,344	0	1,310,465	59.04

62. PRECAST CONCRETE DOCK

	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
62. PRECAST CONCRETE DOCK ** OVERTIME **											
$145/sf cost based on 50' x 100' dock installation in 1988 - less mooring dolphins.											
Adjusted to current price level											
USR AA Precast Concrete Dock in Place					0.00	0.00	0.00	0.00	145.00	145.00	
	8000.00	SF		0.00	0	0	0	0	1,160,000	1,160,000	145.00
TOTAL PRECAST CONCRETE DOCK	8000.00	SF			0	0	0	0	1,160,000	1,160,000	145.00
70. PRECAST CONCRETE BOAT RAMP ** OVERTIME **											
M MIL AA Base course, compacted to 6" deep, crushed 3/4" stone, large areas					5.08	0.01	0.70	0.24	0.00	6.02	
	780.00	SY	COFGB36B	625.00	3,960	10	548	184	0	4,692	6.02
M MIL AA Structural precast, slabs, 12" thick, solid, 3000 psi					14.00	0.00	0.00	0.00	0.00	14.00	
	7000.00	SF	N/A	0.00	98,000	0	0	0	0	98,000	14.00
MIL AA Precast erection, 60' max rad, 90 ton crane, 9-10 ton/pc, floor deck					0.00	4.00	256.84	83.92	0.00	340.76	
	28.00	EA	ZDPCAST	1.75	0	112	7,192	2,350	0	9,541	340.76
TOTAL PRECAST CONCRETE BOAT RAMP	7000.00	SF			101,960	122	7,739	2,534	0	112,233	16.03
80. 60 TON BOAT LIFT TRAILER ** OVERTIME **											
Conolift model Y60 Boat Lift Trailer 60 ton											
$100K purchase price in Ontario, plus $100K transport and assembly.											
USR AF Conolift model Y60. $100K Transport					0.00	0.00	0.00	0.00	200000.00	200000.00	
	1.00	LS		0.00	0	0	0	0	200,000	200,000	200000.00
TOTAL 60 TON BOAT LIFT TRAILER					0	0	0	0	200,000	200,000	
TOTAL St.Paul Alaska Small Boat Harbor					1,167,516	12,223	815,806	780,588	2,506,022	5,269,932	

** PROJECT INDIRECT SUMMARY - Feature **

	QUANTITY UOM	TOTAL DIRECT	OVERHEAD	PROFIT	TOTAL COST	UNIT COST
10 MOB/DEMOB						
10.25 1st Seas. - Tows		191,140	28,671	19,310	239,121	
10.30 1st Seas. Equip Cost During Tow		77,491	11,624	7,829	96,944	
10.35 1st Seas. - Labor Trvl (airfare)		5,130	769	518	6,418	
10.38 1st Seas. - Per Diem		57,070	8,561	5,766	71,396	
10.40 2nd Seas. - Tows		506,000	75,900	51,120	633,020	
10.45 2nd Seas. Equip Cost During Tow		178,950	26,843	18,079	223,871	
10.50 2nd Seas. - Labor Trvl (airfare)		15,000	2,250	1,515	18,765	
10.53 2nd Seas. - Per Diem		45,240	6,786	4,570	56,596	
TOTAL MOB/DEMOB		1,076,022	161,403	108,708	1,346,132	
20 HARBOR DREDGING (FED & LOCAL)						
20. 2 Dredging (Federal)	77814.00 CY	344,909	51,736	27,773	424,419	5.45
20. 5 Dredging (Local)	22797.00 CY	80,540	12,081	8,137	100,757	4.42
20.10 Disposal - Harbor Adjacent Fill	53600.00 CY	91,972	13,796	9,292	115,060	2.15
20.15 Disposal with haul	47011.00 CY	103,429	15,514	10,449	129,392	2.75
TOTAL HARBOR DREDGING (FED & LOCAL)	100611.00 CY	620,850	93,127	55,651	769,628	7.65
22 REVETMENT & EROSION PROTECTION						
22. 5 REVETMENT W/BEDDING	2625.00 CY	100,992	15,149	10,203	126,344	48.13
22.10 EROSION PROTECTION IN CHANNEL	6500.00 CY	210,251	31,538	21,241	263,030	40.47
TOTAL REVETMENT & EROSION PROTECTION	9125.00 CY	311,243	46,686	31,444	389,373	42.67
40 CIRCULATION BERM	2730.00 CY	55,890	8,384	5,646	69,920	25.61
50 BREAKWATER (FEDERAL)	12653.00 CY	423,230	63,485	42,758	529,473	41.85
60 FLOATING DOCK FACILITIES						
60.02 Pile Driving - per Pile	65.00 EA	206,561	30,984	20,868	258,414	3975.60
60.05 Floating Docks (Main Floats)	5770.00 SF	230,016	34,502	23,238	287,756	49.87
60.10 Finger Floats	7668.00 SF	305,678	45,852	30,882	382,411	49.87
60.17 Float Ramps	960.00 SF	62,270	9,340	6,291	77,901	81.15
60.40 Floating Bwater East Dock & Ramp	7800.00 SF	505,940	75,891	51,114	632,945	81.15
TOTAL FLOATING DOCK FACILITIES	22198.00 SF	1,310,465	196,570	132,393	1,639,427	73.85
62 PRECAST CONCRETE DOCK	8000.00 SF	1,160,000	174,000	117,192	1,451,192	181.40
70 PRECAST CONCRETE BOAT RAMP	7000.00 SF	112,233	16,835	11,339	140,407	20.06
80 60 TON BOAT LIFT TRAILER		200,000	0	0	200,000	
TOTAL St.Paul Alaska Small Boat Harbor		5,269,932	760,490	505,131	6,535,552	

** PROJECT INDIRECT SUMMARY - Feature **

	QUANTITY UOM	TOTAL DIRECT	OVERHEAD	PROFIT	TOTAL COST	UNIT COST
20% Contingency					1,267,110	
SUBTOTAL					7,802,663	
10% Eng and Des (not inc. boat lift)					758,553	
SUBTOTAL					8,561,215	
8% Sup & Adm (not inc. boat lift)					670,748	
TOTAL INCL OWNER COSTS					9,231,963	

C-48

St.Paul Alaska Small Boat Harbor
Alternative #4
Main Dredging = 12 feet
30 Vessel Harbor

Designed By: Tetra Tech ISG, John Oliver Con.
Estimated By: Tetra Tech ISG

Prepared By: Doug Lantz, P.E.

Preparation Date: 01/31/01
Effective Date of Pricing: 01/01/01

Sales Tax: 0.0%

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Release 1.2

St. Paul Alaska Small Boat Harbor - Alternative #4
30 Vessel Harbor, 12 foot Depth
MCACES Database: SP4PB0*.*

Changes from preferred alternative include harbor dredging and floating docks only. Decrease combined square footage of main and finger floats from 13438 sf to 9696 sf.
Dredging changes will not affect 1st year total mobe - but do affect percentage that is applied to this project.
Assume that 2nd year mobe uses same equipment, same tow, and same number of operators - but decrease duration (and thus per diem) by 39%.
No changes in entrance or manuvering channel dredging volumes, breakwater, circulation berm, revetment, or erosion protection.
No changes in concrete docks, ramps, or boat lift.

Project Description:

First Season ---
1) Approximately 132,500 cy of dredging in the entrance channel, maneuvering channel, and boat basin, with disposal adjacent to harbor and in upland areas.
2) Placement of underwater revetment.
3) Construction of a circulation berm.
4) Construction of a breakwater.

Second Season ---
5) Installation of floating docks and boat ramps.
6) Construction of precast concrete docks along the south shore.
7) Boat Lift Trailer.

Basis of Design: General Re-evaluation Report (GRR) Design. January 2001

Overtime: 2 10-hour shifts, 7 days week

Project Construction:

Site Access: Dredging, breakwater, circulation berm, revetment, and floating docks will require marine floating equipment. South side dock will require land based equipment.

Borrow Areas: Rock will be procured on St. Paul Island.

Construction Methodology: Prime contractor will mob the dredging equipment and manpower from the Puget Sound area.

Dredging: Floating crane with a 14 cy bucket and a 10 cy bucket on standby for use during repairs. Two 3000-cy (5000-ton) barges will be used to transport dredged material to spending area. A portion will be off-loaded adjacent to harbor and a portion will be hauled upland.

Breakwater: Rock will be quarried on St. Paul an trucked to breakwater.

Facilities: Floating docks, precast concrete members, and pilings will be fabricated/procured in Seattle/Tacoma area and barged to St. Paul Island. Transport cost is included in Mob/Demob, and is not reflected in the material cost for these itmes.

Pile driving and installation of floating facilities will use a floating crane/piledriving rig. Installation of shoreside facilities will use a combination of land based and floating equipment.

Equipment/Labor Availability & Distance Traveled.
St. Paul Island has a limited amount of heavy equipment and manpower available for contractors use. Mobilized equipment will require three tows:

First Season ---
TOW #1 - dredging barge, crane, buckets and one 3000 cy barge.
TOW #2 - one 3000 cy barge with earthmoving equipment.

Second Season ---
TOW #3 - pile driving barge/crane, and one 3000 cy barge with precast concrete members, prefabricated docks.

Skilled labor, including crane/equipment operators, oilers, steel workes, and welders will be mobilized from Seattle and provided with per diem of $90 hotel and $40 food on St. Paul. Semi skilled workers will be drawn from local labor pool.

Labor Rates: MCACES Anchorage Davis Bacon Rates, 2000.
Remote pay adjustment of 30% gives approximate 2001 Davis Bacon rates(provided by TDX)for St Paul Island.

Equipment: Region IX Equipment Rates EP 1110-1-8, 1999.

Prime Contractor's profit of 8.8% based on weighted guidelines.
Prime Contractor's overhead estimated at 15%. Travel and perdiem for crews are added separately under Mob/Demob.
Engineering and Design estimated at 10%
Supervision and Administration estimated at 8%

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10. MOB/DEMOB

. 1st Seas. - Tows	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
0. MOB/DEMOB									

The equipment mobe cost for the dedging portion of this project (132,500cy) is computed by prorating the total equipment mobe for all dredging (560,200 cy) by the ratio of the two quantities. The factor = 0.24. The adjustment is made to items: 10.25 1st Seas. - Tows 10.30 1st Seas. Equip Cost During Tow 10.35 1st. Season Labor Travel The cost was adjusted downward by 76% using the "Adjust Pricing" option.

10.25. 1st Seas. - Tows			** ADJUSTED **						
USR AA Mob/Demob Tow #1: Tug, 14 cy dredge, 3000 cy loading barge	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	2400.00 120,000	2400.00 120,000	2400.00
USR AA Mob/Demob Tow #2: Tug, 3000 cy loading barge	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	2400.00 120,000	2400.00 120,000	2400.00
USR AA Mob/Demob Tugboat from Dutch Harbor or Bethel	2.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	720.00 1,440	720.00 1,440	720.00
TOTAL 1st Seas. - Tows			0	0	0	0	241,440	241,440	

10.30. 1st Seas. Equip Cost During Tow			** ADJUSTED **						
USR AA Hydraulic Shovel	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1200.00 3,600	1200.00 3,600	1200.00
USR AA 14 cy and 10 cy Clam	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1200.00 3,600	1200.00 3,600	1200.00
USR AA 65 CY Off-Highway Truck (3 ea)	9.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	4344.00 39,096	4344.00 39,096	4344.00
USR AA 7 CY FE Loader (2 ea)	6.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3192.00 19,152	3192.00 19,152	3192.00
USR AA 500-800 ton Dredge Barge	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1836.00 5,508	1836.00 5,508	1836.00
USR AA 3000 cy (5000 ton) Dredge Barge #1	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	4488.00 13,464	4488.00 13,464	4488.00
USR AA 3000 cy (5000 ton) Dredge Barge #2	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	4488.00 13,464	4488.00 13,464	4488.00
TOTAL 1st Seas. Equip Cost During Tow			0	0	0	0	97,884	97,884	

5. 1st Seas. - Labor Trvl (airfare)	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
10.35. 1st Seas. - Labor Trvl (airfare) Mobe is only for skilled labor. Assume semi-skilled laborers are available on St. Paul.			** ADJUSTED **						
USR AA Crane Ops	5.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	360.00 1,800	360.00 1,800	360.00
USR AA Heavy & Med Equip Op	4.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	360.00 1,440	360.00 1,440	360.00
USR AA Oiler	3.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	360.00 1,080	360.00 1,080	360.00
USR AA Truck Driver - Heavy	6.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	360.00 2,160	360.00 2,160	360.00
TOTAL 1st Seas. - Labor Trvl (airfare)			0	0	0	0	6,480	6,480	
10.38. 1st Seas. - Per Diem									
USR AA Skilled Labor Per Diem ($90 hotel, $40 food)	439.00 DAY	0.00	0.00 0	0.00 0	0.00 0	0.00 0	130.00 57,070	130.00 57,070	130.00
TOTAL 1st Seas. - Per Diem			0	0	0	0	57,070	57,070	
10.40. 2nd Seas. - Tows									
USR AA Mob/Demob Tow #3: Tug (prefab docks, piles, boat ramps),	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	10000.00 500,000	10000.00 500,000	10000.00
USR AA Mob/Demob Tugboat from Dutch Harbor or Bethel	2.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3000.00 6,000	3000.00 6,000	3000.00
TOTAL 2nd Seas. - Tows			0	0	0	0	506,000	506,000	
10.45. 2nd Seas. Equip Cost During Tow									
USR AA Dredge Barge - pile driving	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	7650.00 22,950	7650.00 22,950	7650.00
USR AA Hydraulic Excavator	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	10000.00 30,000	10000.00 30,000	10000.00
USR AA Crane - 125T	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	18000.00 54,000	18000.00 54,000	18000.00
USR AA Pile Driving Hammer/Leads	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	5000.00 15,000	5000.00 15,000	5000.00

2nd Seas. Equip Cost During Tow	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA Air Comp/Hose			0.00	0.00	0.00	0.00	3000.00	3000.00	
	3.00 MO	0.00	0	0	0	0	9,000	9,000	3000.00
USR AA Welder			0.00	0.00	0.00	0.00	700.00	700.00	
	3.00 MO	0.00	0	0	0	0	2,100	2,100	700.00
USR AA 500-800 ton Dock Material Barge			0.00	0.00	0.00	0.00	7650.00	7650.00	
	6.00 MO	0.00	0	0	0	0	45,900	45,900	7650.00
TOTAL 2nd Seas. Equip Cost During Tow			0	0	0	0	178,950	178,950	
10.50. 2nd Seas. - Labor Trvl (airfare)									
USR AA Crane Ops			0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00 EA	0.00	0	0	0	0	3,000	3,000	1500.00
USR AA Oiler			0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00 EA	0.00	0	0	0	0	3,000	3,000	1500.00
USR AA Structural Steel Workers			0.00	0.00	0.00	0.00	1500.00	1500.00	
	4.00 EA	0.00	0	0	0	0	6,000	6,000	1500.00
USR AA Welders			0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00 EA	0.00	0	0	0	0	3,000	3,000	1500.00
TOTAL 2nd Seas. - Labor Trvl (airfare)			0	0	0	0	15,000	15,000	
10.53. 2nd Seas. - Per Diem									
USR AA Skilled Labor Per Diem ($90 hotel, $40 food)			0.00	0.00	0.00	0.00	130.00	130.00	
	212.00 DAY	0.00	0	0	0	0	27,560	27,560	130.00
TOTAL 2nd Seas. - Per Diem			0	0	0	0	27,560	27,560	
TOTAL MOB/DEMOB			0	0	0	0	1,130,384	1,130,384	

:0. HARBOR DREDGING (FED & LOCAL)

20. 2. Dredging (Federal) ** OVERTIME **
Hydrographic Survey cost from St. Paul Harbor Improvements, Alaska District (1996).

USR AA Federal Channel Dredging			0.00	0.02	1.55	1.98	0.00	3.53	
	99000 CY ZDDREDGE	300.00	0	2,307	153,282	196,475	0	349,757	3.53

Mod

20. HARBOR DREDGING (FED & LOCAL)

2. Dredging (Federal)	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AS Hydrographic Survey					0.00	0.00	0.00	0.00	35000.00	35000.00	
	2.00	EA		0.00	0	0	0	0	70,000	70,000	35000.00
TOTAL Dredging (Federal)	99000	CY			0	2,307	153,282	196,475	70,000	419,757	4.24
20. 5. Dredging (Local) ** OVERTIME **											
Hydrographic Survey cost from St. Paul Harbor Improvements, Alaska District (1996).											
USR AA Boat Basin Dredging					0.00	0.02	1.55	1.98	0.00	3.53	
	33500	CY	ZDDREDGE	300.00	0	781	51,868	66,484	0	118,352	3.53
TOTAL Dredging (Local)	33500	CY			0	781	51,868	66,484	0	118,352	3.53
20.10. Disposal - Harbor Adjacent Fill ** OVERTIME **											
CIV AA Hauling, off hwy haulers, 65 CY, 1 mile RT @ 20 mph (4.2 cyc/hr)					0.00	0.00	0.30	0.45	0.00	0.76	
	53600	CY	CTDHB34J	240.00	0	225	16,209	24,265	0	40,473	0.76
CIV AA Excavate & load, wheeled loader, 7 CY, wet rock					0.00	0.01	0.52	0.44	0.00	0.96	
	53600	CY	CODLB10Z	212.50	0	381	27,759	23,739	0	51,499	0.96
TOTAL Disposal - Harbor Adjacent Fill	53600	CY			0	606	43,968	48,004	0	91,972	1.72
20.15. Disposal with haul ** OVERTIME **											
CIV AA Hauling, off hwy haulers, 65 CY, 6 mile RT @ 40 mph (2.1 cyc/hr)					0.00	0.01	0.50	0.74	0.00	1.24	
	78900	CY	CTDHB34J	146.25	0	537	39,158	58,623	0	97,781	1.24
CIV AA Excavate & load, wheeled loader, 7 CY, wet rock					0.00	0.01	0.52	0.44	0.00	0.96	
	78900	CY	CODLB10Z	212.50	0	560	40,862	34,945	0	75,807	0.96
TOTAL Disposal with haul	78900	CY			0	1,097	80,020	93,568	0	173,588	2.20
TOTAL HARBOR DREDGING (FED & LOCAL)	132500	CY			0	4,790	329,138	404,531	70,000	803,669	6.07
22. REVETMENT & EROSION PROTECTION											
$4/CYprice quote for rock at quarry on St. Paul (not gauranteed)											
22. 5. REVETMENT W/BEDDING ** OVERTIME **											
USR AA 18" Rock Rip-rap quarried on St. Paul					4.00	0.00	0.00	0.00	0.00	4.00	
	2625.00	CY		0.00	10,500	0	0	0	0	10,500	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock					0.00	0.02	0.87	1.04	0.00	1.91	
	3500.00	CY	CODLB10Z	100.00	0	53	3,040	3,648	0	6,687	1.91

22. REVETMENT & EROSION PROTECTION

REVETMENT W/BEDDING	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA 6" gravel bedding layer, machine placed	875.00 CY	ZDBWATER	100.00	5.00 4,375	0.07 61	3.71 3,247	4.02 3,516	0.00 0	12.73 11,138	12.73
CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	3500.00 CY	CTDHB34J	100.00	0.00 0	0.01 35	0.57 2,009	1.26 4,393	0.00 0	1.83 6,403	1.83
CIV AA Handling on barge, wheeled loader, 7 CY, blasted rock	3500.00 CY	CODLB10Z	100.00	0.00 0	0.02 53	0.87 3,040	1.04 3,648	0.00 0	1.91 6,687	1.91
RSM AA Place Revetment	2625.00 CY	ZDDREDGE	45.00	0.00 0	0.16 408	8.17 21,454	14.52 38,122	0.00 0	22.70 59,576	22.70
TOTAL REVETMENT W/BEDDING	2625.00 CY			14,875	610	32,790	53,327	0	100,992	38.47
22.10. EROSION PROTECTION IN CHANNEL			** OVERTIME **							
USR AA 24" Rock Rip-rap quarried on St. Paul	6500.00 CY		0.00	4.00 26,000	0.00 0	0.00 0	0.00 0	0.00 0	4.00 26,000	4.00
CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	6500.00 CY	CODLB10Z	100.00	0.00 0	0.02 98	0.87 5,645	1.04 6,774	0.00 0	1.91 12,420	1.91
CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	6500.00 CY	CTDHB34J	100.00	0.00 0	0.01 65	0.57 3,732	1.26 8,159	0.00 0	1.83 11,890	1.83
CIV AA Handling on barge, wheeled loader, 7 CY, blasted rock	6500.00 CY	CODLB10Z	100.00	0.00 0	0.02 98	0.87 5,645	1.04 6,774	0.00 0	1.91 12,420	1.91
RSM AA Erosion Protection Placed	6500.00 CY	ZDDREDGE	45.00	0.00 0	0.16 1,011	8.17 53,124	14.52 94,398	0.00 0	22.70 147,521	22.70
TOTAL EROSION PROTECTION IN CHANNEL	6500.00 CY			26,000	1,271	68,146	116,105	0	210,251	32.35
TOTAL REVETMENT & EROSION PROTECTION	9125.00 CY			40,875	1,881	100,936	169,432	0	311,243	34.11
0. CIRCULATION BERM			** OVERTIME **							
I RSM AA Fill, borrow, for embankments, load, 1 mile haul, spread w/dozer	2130.00 CY	ZDCBERM	150.00	5.38 11,457	0.03 71	2.38 5,072	3.45 7,352	0.00 0	11.21 23,880	11.21
USR AA Sort Boulders from Dredged Material	600.00 CY	ZDBWATER	32.00	0.00 0	0.22 131	14.65 8,791	11.36 6,814	0.00 0	26.01 15,605	26.01
I MIL AA Cap with rounded excavated boulders - placement	600.00 CY	ZDCBERM	32.00	0.00 0	0.16 94	11.16 6,697	16.18 9,707	0.00 0	27.34 16,404	27.34

40. CIRCULATION BERM

	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
TOTAL CIRCULATION BERM	2730.00 CY			11,457	296	20,560	23,873	0	55,890	20.47

50. BREAKWATER (FEDERAL) ** OVERTIME **
Rock Size 2-ton minus

$4/CY price quote for rock at quarry on St. Paul (not gauranteed)

	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA 2-ton minus, quarried on St. Paul	12653 CY		0.00	4.00 50,612	0.00 0	0.00 0	0.00 0	0.00 0	4.00 50,612	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	12653 CY	CODLB10Z	100.00	0.00 0	0.02 190	1.10 13,926	0.94 11,909	0.00 0	2.04 25,835	2.04
L CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	12653 CY	CTDHB34J	100.00	0.00 0	0.01 127	0.73 9,184	1.09 13,749	0.00 0	1.81 22,932	1.81
B CIV AA handling on barge, loader, 7 CY, blasted rock	12653 CY	CODLB10Z	100.00	0.00 0	0.02 190	1.10 13,926	0.94 11,909	0.00 0	2.04 25,835	2.04
USR AA Place Rock Fill	12653 CY	ZDDREDGE	45.00	0.00 0	0.16 1,969	10.32 130,604	13.23 167,412	0.00 0	23.55 298,016	23.55
TOTAL BREAKWATER (FEDERAL)	12653 CY			50,612	2,475	167,640	204,979	0	423,230	33.45

60. FLOATING DOCK FACILITIES
Floats and Boat Ramps fabricated in Seattle. Transport is covered under mobilization.

60.02. Pile Driving - per Pile ** OVERTIME **
50 foot piles x 17.15/LF = $850 ea
Driving tips for boulders

47piles driven 30 feet into ground = 1410 vlf

	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR PD Pile, steel, pipe, 50' L 12" dia, 44 lb/LF, conc filled	47.00 EA		0.00	850.00 48,340	0.00 0	0.00 0	0.00 0	0.00 0	850.00 48,340	1028.50
M MIL PD Pile, steel, pipe, heavy duty points, 12" dia	47.00 EA	SIWWE14	0.43	137.57 7,824	2.35 111	193.87 11,025	24.38 1,387	0.00 0	355.82 20,235	430.54
B MIL PD Pile driving and concrete fill	1410.00 VLF	ZDPLDRVR	20.00	0.00 0	0.30 423	19.60 33,437	27.75 47,348	0.00 0	47.35 80,785	57.29
TOTAL Pile Driving - per Pile	47.00 EA			56,163	534	44,462	48,734	0	149,360	3177.87

60. FLOATING DOCK FACILITIES

Floating Docks (Main Floats)	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
60.05. Floating Docks (Main Floats)				** OVERTIME **							
USR AA Main Floats					30.00	0.14	9.46	0.40	0.00	39.86	
	4440.00	SF	ZDDOCK	50.00	133,200	622	42,007	1,789	0	176,997	39.86
TOTAL Floating Docks (Main Floats)	4440.00	SF			133,200	622	42,007	1,789	0	176,997	39.86
60.10. Finger Floats				** OVERTIME **							
USR AA Finger Floats					30.00	0.14	9.46	0.40	0.00	39.86	
	5256.00	SF	ZDDOCK	50.00	157,680	736	49,728	2,118	0	209,526	39.86
TOTAL Finger Floats	5256.00	SF			157,680	736	49,728	2,118	0	209,526	39.86
60.17. Float Ramps				** OVERTIME **							
USR AA Float Ramps 2 @ 8' x 60'					55.00	0.14	9.46	0.40	0.00	64.86	
	960.00	SF	ZDDOCK	50.00	52,800	134	9,083	387	0	62,270	64.86
TOTAL Float Ramps	960.00	SF			52,800	134	9,083	387	0	62,270	64.86
60.40. Floating Bwater East Dock & Ramp				** OVERTIME **							
USR AA Floating Ramp 20' x 115'					55.00	0.14	9.46	0.40	0.00	64.86	
	2300.00	SF	ZDDOCK	50.00	126,500	322	21,761	927	0	149,187	64.86
USR AA Floating Dock 20' x 275'					55.00	0.14	9.46	0.40	0.00	64.86	
	5500.00	SF	ZDDOCK	50.00	302,500	770	52,036	2,217	0	356,753	64.86
TOTAL Floating Bwater East Dock & Ramp	7800.00	SF			429,000	1,092	73,797	3,143	0	505,940	64.86
TOTAL FLOATING DOCK FACILITIES	18456	SF			828,843	3,117	219,076	56,172	0	1,104,092	59.82
2. PRECAST CONCRETE DOCK				** OVERTIME **							
$145/sf cost based on 50' x 100' dock installation in 1988 - less mooring dolphins.											
Adjusted to current price level											
USR AA Precast Concrete Dock in Place					0.00	0.00	0.00	0.00	145.00	145.00	
	8000.00	SF		0.00	0	0	0	0	1,160,000	1,160,000	145.00
TOTAL PRECAST CONCRETE DOCK	8000.00	SF			0	0	0	0	1,160,000	1,160,000	145.00

70. PRECAST CONCRETE BOAT RAMP

	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
70. PRECAST CONCRETE BOAT RAMP				** OVERTIME **							
M MIL AA Base course, compacted to 6" deep, crushed 3/4" stone, large areas	780.00	SY	COFGB36B	625.00	5.08 3,960	0.01 10	0.70 548	0.24 184	0.00 0	6.02 4,692	6.02
M MIL AA Structural precast, slabs, 12" thick, solid, 3000 psi	7000.00	SF	N/A	0.00	14.00 98,000	0.00 0	0.00 0	0.00 0	0.00 0	14.00 98,000	14.00
MIL AA Precast erection, 60' max rad, 90 ton crane, 9-10 ton/pc, floor deck	28.00	EA	ZDPCAST	1.75	0.00 0	4.00 112	256.84 7,192	83.92 2,350	0.00 0	340.76 9,541	340.76
TOTAL PRECAST CONCRETE BOAT RAMP	7000.00	SF			101,960	122	7,739	2,534	0	112,233	16.03
80. 60 TON BOAT LIFT TRAILER Conolift model Y60 Boat Lift Trailer 60 ton				** OVERTIME **							
$100K purchase price in Ontario, plus $100K transport and assembly.											
USR AF Conolift model Y60. $100K Transport	1.00	LS		0.00	0.00 0	0.00 0	0.00 0	0.00 0	200000.00 200,000	200000.00 200,000	200000.00
TOTAL 60 TON BOAT LIFT TRAILER					0	0	0	0	200,000	200,000	
TOTAL St.Paul Alaska Small Boat Harbor					1,033,747	12,681	845,090	861,520	2,560,384	5,300,741	

** PROJECT INDIRECT SUMMARY - Feature **

	QUANTITY UOM	TOTAL DIRECT	OVERHEAD	PROFIT	TOTAL COST	UNIT COST
10 MOB/DEMOB						
10.25 1st Seas. - Tows		241,440	36,216	24,392	302,048	
10.30 1st Seas. Equip Cost During Tow		97,884	14,683	9,889	122,456	
10.35 1st Seas. - Labor Trvl (airfare)		6,480	972	655	8,107	
10.38 1st Seas. - Per Diem		57,070	8,561	5,766	71,396	
10.40 2nd Seas. - Tows		506,000	75,900	51,120	633,020	
10.45 2nd Seas. Equip Cost During Tow		178,950	26,843	18,079	223,871	
10.50 2nd Seas. - Labor Trvl (airfare)		15,000	2,250	1,515	18,765	
10.53 2nd Seas. - Per Diem		27,560	4,134	2,784	34,478	
TOTAL MOB/DEMOB		1,130,384	169,558	114,200	1,414,141	
20 HARBOR DREDGING (FED & LOCAL)						
20. 2 Dredging (Federal)	99000.00 CY	419,757	62,964	35,335	518,056	5.23
20. 5 Dredging (Local)	33500.00 CY	118,352	17,753	11,957	148,062	4.42
20.10 Disposal - Harbor Adjacent Fill	53600.00 CY	91,972	13,796	9,292	115,060	2.15
20.15 Disposal with haul	78900.00 CY	173,588	26,038	17,537	217,163	2.75
TOTAL HARBOR DREDGING (FED & LOCAL)	132500.00 CY	803,669	120,550	74,121	998,341	7.53
22 REVETMENT & EROSION PROTECTION						
22. 5 REVETMENT W/BEDDING	2625.00 CY	100,992	15,149	10,203	126,344	48.13
22.10 EROSION PROTECTION IN CHANNEL	6500.00 CY	210,251	31,538	21,241	263,030	40.47
TOTAL REVETMENT & EROSION PROTECTION	9125.00 CY	311,243	46,686	31,444	389,373	42.67
40 CIRCULATION BERM	2730.00 CY	55,890	8,384	5,646	69,920	25.61
50 BREAKWATER (FEDERAL)	12653.00 CY	423,230	63,485	42,758	529,473	41.85
60 FLOATING DOCK FACILITIES						
60.02 Pile Driving - per Pile	47.00 EA	149,360	22,404	15,089	186,853	3975.60
60.05 Floating Docks (Main Floats)	4440.00 SF	176,997	26,549	17,882	221,428	49.87
60.10 Finger Floats	5256.00 SF	209,526	31,429	21,168	262,122	49.87
60.17 Float Ramps	960.00 SF	62,270	9,340	6,291	77,901	81.15
60.40 Floating Bwater East Dock & Ramp	7800.00 SF	505,940	75,891	51,114	632,945	81.15
TOTAL FLOATING DOCK FACILITIES	18456.00 SF	1,104,092	165,614	111,544	1,381,249	74.84
62 PRECAST CONCRETE DOCK	8000.00 SF	1,160,000	174,000	117,192	1,451,192	181.40
70 PRECAST CONCRETE BOAT RAMP	7000.00 SF	112,233	16,835	11,339	140,407	20.06
80 60 TON BOAT LIFT TRAILER		200,000	0	0	200,000	
TOTAL St.Paul Alaska Small Boat Harbor		5,300,741	765,111	508,243	6,574,095	

** PROJECT INDIRECT SUMMARY - Feature **

	QUANTITY UOM	TOTAL DIRECT	OVERHEAD	PROFIT	TOTAL COST	UNIT COST
20% Contingency					1,274,819	
SUBTOTAL					7,848,914	
10% Eng. & Des (not inc. boat lift)					763,178	
SUBTOTAL					8,612,092	
8% Sup & Adm (not inc. boat lift)					674,818	
TOTAL INCL OWNER COSTS					9,286,910	

St.Paul Alaska Small Boat Harbor
Alternative #5
Main Dredging = 12 feet
90 Vessel Harbor

Designed By: Tetra Tech ISG, John Oliver Con.
Estimated By: Tetra Tech ISG

Prepared By: Doug Lantz, P.E.

Preparation Date: 01/31/01
Effective Date of Pricing: 01/01/01

Sales Tax: 0.0%

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Release 1.2

St. Paul Alaska Small Boat Harbor - Alternative #5
30 Vessel Harbor, 12 foot Depth - 90 vessels
MCACES Database: SP5PB0*.*

Changes from preferred alternative include harbor dredging and floating docks only. Increase combined square footage of main and finger floats from 13348 sf to 18806 sf.
Dredging changes will not affect 1st year total mobe - but do affect percentage that is applied to this project.
Assume that 2nd year mobe uses same equipment, same tow, and same number of operators - but increase length (and thus per diem) by 41%.
No changes in entrance or manuvering channel dredging volumes, breakwater, circulation berm, revetment, or erosion protection.
No changes in concrete docks, ramps, or boat lift.

Project Description:

First Season ---
1) Approximately 179,500 cy of dredging in the entrance channel, maneuvering channel, and boat basin, with disposal adjacent to harbor and in upland areas.
2) Placement of underwater revetment.
3) Construction of a circulation berm.
4) Construction of a breakwater.

Second Season ---
5) Installation of floating docks and boat ramps.
6) Construction of precast concrete docks along the south shore.
7) Boat Lift Trailer.

Basis of Design: General Re-evaluation Report (GRR) Design. January 2001

Overtime: 2 10-hour shifts, 7 days week

Project Construction:

Site Access: Dredging, breakwater, circulation berm, revetment, and floating docks will require marine floating equipment. South side dock will require land based equipment.

Borrow Areas: Rock will be procured on St. Paul Island.

Construction Methodology: Prime contractor will mob the dredging equipment and manpower from the Puget Sound area.

Dredging: Floating crane with a 14 cy bucket and a 10 cy bucket on standby for use during repairs. Two 3000-cy (5000-ton) barges will be used to transport dredged material to spending area. A portion will be off-loaded adjacent to harbor and a portion will be hauled upland.

Breakwater: Rock will be quarried on St. Paul an trucked to breakwater.

Facilities: Floating docks, precast concrete members, and pilings will be fabricated/procured in Seattle/Tacoma area and barged to St. Paul Island. Transport cost is included in Mob/Demob, and is not reflected in the material cost for these itmes.

Pile driving and installation of floating facilities will use a floating crane/piledriving rig. Installation of shoreside facilities will use a combination of land based and floating equipment.

Equipment/Labor Availability & Distance Traveled.
St. Paul Island has a limited amount of heavy equipment and manpower available for contractors use. Mobilized equipment will require three tows:

First Season ---
TOW #1 - dredging barge, crane, buckets and one 3000 cy barge.
TOW #2 - one 3000 cy barge with earthmoving equipment.

Second Season ---
TOW #3 - pile driving barge/crane, and one 3000 cy barge with precast concrete members, prefabricated docks.

Skilled labor, including crane/equipment operators, oilers, steel workes, and welders will be mobilized from Seattle and provided with per diem of $90 hotel and $40 food on St. Paul. Semi skilled workers will be drawn from local labor pool.

Labor Rates: MCACES Anchorage Davis Bacon Rates, 2000.
Remote pay adjustment of 30% gives approximate 2001 Davis Bacon rates(provided by TDX)for St Paul Island.

Equipment: Region IX Equipment Rates EP 1110-1-8, 1999.

Prime Contractor's profit of 8.8% based on weighted guidelines.
Prime Contractor's overhead estimated at 15%. Travel and per diem for crews are added separately under Mob/Demob.
Engineering and Design estimated at 10%
Supervision and Administration estimated at 8%

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5. 1st Seas. - Tows	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
10. MOB/DEMOB									
The equipment mobe cost for the dedging portion of this project (179,500cy) is computed by prorating the total equipment mobe for all dredging (607,200 cy) by the ratio of the two quantities. The factor = 0.30. The adjustment is made to items: 10.25 1st Seas. - Tows 10.30 1st Seas. Equip Cost During Tow 10.35 1st. Season Labor Travel The cost was adjusted downward by 70% using the "Adjust Pricing" option.									
10.25. 1st Seas. - Tows			** ADJUSTED **						
USR AA Mob/Demob Tow #1: Tug, 14 cy dredge, 3000 cy loading barge	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3000.00 150,000	3000.00 150,000	3000.00
USR AA Mob/Demob Tow #2: Tug, 3000 cy loading barge	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3000.00 150,000	3000.00 150,000	3000.00
USR AA Mob/Demob Tugboat from Dutch Harbor or Bethel	2.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	900.00 1,800	900.00 1,800	900.00
TOTAL 1st Seas. - Tows			0	0	0	0	301,800	301,800	
10.30. 1st Seas. Equip Cost During Tow			** ADJUSTED **						
USR AA Hydraulic Shovel	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1500.00 4,500	1500.00 4,500	1500.00
USR AA 14 cy and 10 cy Clam	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	1500.00 4,500	1500.00 4,500	1500.00
USR AA 65 CY Off-Highway Truck (3 ea)	9.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	5430.00 48,870	5430.00 48,870	5430.00
USR AA 7 CY FE Loader (2 ea)	6.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3990.00 23,940	3990.00 23,940	3990.00
USR AA 500-800 ton Dredge Barge	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	2295.00 6,885	2295.00 6,885	2295.00
USR AA 3000 cy (5000 ton) Dredge Barge #1	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	5610.00 16,830	5610.00 16,830	5610.00
USR AA 3000 cy (5000 ton) Dredge Barge #2	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	5610.00 16,830	5610.00 16,830	5610.00
TOTAL 1st Seas. Equip Cost During Tow			0	0	0	0	122,355	122,355	

35. 1st Seas. - Labor Trvl (airfare)	QUANTY UOM CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
10.35. 1st Seas. - Labor Trvl (airfare) Mobe is only for skilled labor. Assume semi-skilled laborers are available on St. Paul.			** ADJUSTED **						
USR AA Crane Ops	5.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	450.00 2,250	450.00 2,250	450.00
USR AA Heavy & Med Equip Op	4.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	450.00 1,800	450.00 1,800	450.00
USR AA Oiler	3.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	450.00 1,350	450.00 1,350	450.00
USR AA Truck Driver - Heavy	6.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	450.00 2,700	450.00 2,700	450.00
TOTAL 1st Seas. - Labor Trvl (airfare)			0	0	0	0	8,100	8,100	
10.38. 1st Seas. - Per Diem									
USR AA Skilled Labor Per Diem ($90 hotel, $40 food)	439.00 DAY	0.00	0.00 0	0.00 0	0.00 0	0.00 0	130.00 57,070	130.00 57,070	130.00
TOTAL 1st Seas. - Per Diem			0	0	0	0	57,070	57,070	
10.40. 2nd Seas. - Tows									
USR AA Mob/Demob Tow #3: Tug (prefab docks, piles, boat ramps),	50.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	10000.00 500,000	10000.00 500,000	10000.00
USR AA Mob/Demob Tugboat from Dutch Harbor or Bethel	2.00 DA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	3000.00 6,000	3000.00 6,000	3000.00
TOTAL 2nd Seas. - Tows			0	0	0	0	506,000	506,000	
10.45. 2nd Seas. Equip Cost During Tow									
USR AA Dredge Barge - pile driving	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	7650.00 22,950	7650.00 22,950	7650.00
USR AA Hydraulic Excavator	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	10000.00 30,000	10000.00 30,000	10000.00
USR AA Crane - 125T	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	18000.00 54,000	18000.00 54,000	18000.00
USR AA Pile Driving Hammer/Leads	3.00 MO	0.00	0.00 0	0.00 0	0.00 0	0.00 0	5000.00 15,000	5000.00 15,000	5000.00

10. MOB/DEMOB

. 2nd Seas. Equip Cost During Tow	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA Air Comp/Hose					0.00	0.00	0.00	0.00	3000.00	3000.00	
	3.00	MO		0.00	0	0	0	0	9,000	9,000	3000.00
USR AA Welder					0.00	0.00	0.00	0.00	700.00	700.00	
	3.00	MO		0.00	0	0	0	0	2,100	2,100	700.00
USR AA 500-800 ton Dock Material Barge					0.00	0.00	0.00	0.00	7650.00	7650.00	
	6.00	MO		0.00	0	0	0	0	45,900	45,900	7650.00
TOTAL 2nd Seas. Equip Cost During Tow					0	0	0	0	178,950	178,950	
10.50. 2nd Seas. - Labor Trvl (airfare)											
USR AA Crane Ops					0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00	EA		0.00	0	0	0	0	3,000	3,000	1500.00
USR AA Oiler					0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00	EA		0.00	0	0	0	0	3,000	3,000	1500.00
USR AA Structural Steel Workers					0.00	0.00	0.00	0.00	1500.00	1500.00	
	4.00	EA		0.00	0	0	0	0	6,000	6,000	1500.00
USR AA Welders					0.00	0.00	0.00	0.00	1500.00	1500.00	
	2.00	EA		0.00	0	0	0	0	3,000	3,000	1500.00
TOTAL 2nd Seas. - Labor Trvl (airfare)					0	0	0	0	15,000	15,000	
10.53. 2nd Seas. - Per Diem											
USR AA Skilled Labor Per Diem ($90 hotel, $40 food)					0.00	0.00	0.00	0.00	130.00	130.00	
	491.00	DAY		0.00	0	0	0	0	63,830	63,830	130.00
TOTAL 2nd Seas. - Per Diem					0	0	0	0	63,830	63,830	
TOTAL MOB/DEMOB					0	0	0	0	1,253,105	1,253,105	

20. HARBOR DREDGING (FED & LOCAL)

20. 2. Dredging (Federal) ** OVERTIME **
Hydrographic Survey cost from St. Paul Harbor Improvements, Alaska District (1996).

USR AA Federal Channel Dredging					0.00	0.02	1.55	1.98	0.00	3.53	
	99000	CY	ZDDREDGE	300.00	0	2,307	153,282	196,475	0	349,757	3.53
Mod											

20. HARBOR DREDGING (FED & LOCAL)

2. Dredging (Federal)	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AS Hydrographic Survey					0.00	0.00	0.00	0.00	35000.00	35000.00	
	2.00	EA		0.00	0	0	0	0	70,000	70,000	35000.00
TOTAL Dredging (Federal)	99000	CY			0	2,307	153,282	196,475	70,000	419,757	4.24
20. 5. Dredging (Local) ** OVERTIME **											
Hydrographic Survey cost from St. Paul Harbor Improvements, Alaska District (1996).											
USR AA Boat Basin Dredging					0.00	0.02	1.55	1.98	0.00	3.53	
	80500	CY	ZDDREDGE	300.00	0	1,876	124,638	159,760	0	284,398	3.53
TOTAL Dredging (Local)	80500	CY			0	1,876	124,638	159,760	0	284,398	3.53
20.10. Disposal - Harbor Adjacent Fill ** OVERTIME **											
CIV AA Hauling, off hwy haulers, 65 CY, 1 mile RT @ 20 mph (4.2 cyc/hr)					0.00	0.00	0.30	0.45	0.00	0.76	
	53600	CY	CTDHB34J	240.00	0	225	16,209	24,265	0	40,473	0.76
CIV AA Excavate & load, wheeled loader, 7 CY, wet rock					0.00	0.01	0.52	0.44	0.00	0.96	
	53600	CY	CODLB10Z	212.50	0	381	27,759	23,739	0	51,499	0.96
TOTAL Disposal - Harbor Adjacent Fill	53600	CY			0	606	43,968	48,004	0	91,972	1.72
20.15. Disposal with haul ** OVERTIME **											
CIV AA Hauling, off hwy haulers, 65 CY, 6 mile RT @ 40 mph (2.1 cyc/hr)					0.00	0.01	0.50	0.74	0.00	1.24	
	125900	CY	CTDHB34J	146.25	0	856	62,484	93,544	0	156,028	1.24
CIV AA Excavate & load, wheeled loader, 7 CY, wet rock					0.00	0.01	0.52	0.44	0.00	0.96	
	125900	CY	CODLB10Z	212.50	0	894	65,204	55,761	0	120,965	0.96
TOTAL Disposal with haul	125900	CY			0	1,750	127,688	149,305	0	276,993	2.20
TOTAL HARBOR DREDGING (FED & LOCAL)	179500	CY			0	6,538	449,576	553,545	70,000	1,073,120	5.98
22. REVETMENT & EROSION PROTECTION											
$4/CYprice quote for rock at quarry on St. Paul (not gauranteed)											
22. 5. REVETMENT W/BEDDING ** OVERTIME **											
USR AA 18" Rock Rip-rap quarried on St. Paul					4.00	0.00	0.00	0.00	0.00	4.00	
	2625.00	CY		0.00	10,500	0	0	0	0	10,500	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock					0.00	0.02	0.87	1.04	0.00	1.91	
	3500.00	CY	CODLB10Z	100.00	0	53	3,040	3,648	0	6,687	1.91

22. REVETMENT & EROSION PROTECTION

. REVETMENT W/BEDDING	QUANTY UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA 6" gravel bedding layer, machine placed	875.00 CY	ZDBWATER	100.00	5.00 4,375	0.07 61	3.71 3,247	4.02 3,516	0.00 0	12.73 11,138	12.73
CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	3500.00 CY	CTDHB34J	100.00	0.00 0	0.01 35	0.57 2,009	1.26 4,393	0.00 0	1.83 6,403	1.83
CIV AA Handling on barge, wheeled loader, 7 CY, blasted rock	3500.00 CY	CODLB10Z	100.00	0.00 0	0.02 53	0.87 3,040	1.04 3,648	0.00 0	1.91 6,687	1.91
RSM AA Place Revetment	2625.00 CY	ZDDREDGE	45.00	0.00 0	0.16 408	8.17 21,454	14.52 38,122	0.00 0	22.70 59,576	22.70
TOTAL REVETMENT W/BEDDING	2625.00 CY			14,875	610	32,790	53,327	0	100,992	38.47
22.10. EROSION PROTECTION IN CHANNEL			** OVERTIME **							
USR AA 24" Rock Rip-rap quarried on St. Paul	6500.00 CY		0.00	4.00 26,000	0.00 0	0.00 0	0.00 0	0.00 0	4.00 26,000	4.00
) CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	6500.00 CY	CODLB10Z	100.00	0.00 0	0.02 98	0.87 5,645	1.04 6,774	0.00 0	1.91 12,420	1.91
, CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	6500.00 CY	CTDHB34J	100.00	0.00 0	0.01 65	0.57 3,732	1.26 8,159	0.00 0	1.83 11,890	1.83
3 CIV AA Handling on barge, wheeled loader, 7 CY, blasted rock	6500.00 CY	CODLB10Z	100.00	0.00 0	0.02 98	0.87 5,645	1.04 6,774	0.00 0	1.91 12,420	1.91
3 RSM AA Erosion Protection Placed	6500.00 CY	ZDDREDGE	45.00	0.00 0	0.16 1,011	8.17 53,124	14.52 94,398	0.00 0	22.70 147,521	22.70
TOTAL EROSION PROTECTION IN CHANNEL	6500.00 CY			26,000	1,271	68,146	116,105	0	210,251	32.35
TOTAL REVETMENT & EROSION PROTECTION	9125.00 CY			40,875	1,881	100,936	169,432	0	311,243	34.11
40. CIRCULATION BERM			** OVERTIME **							
M RSM AA Fill, borrow, for embankments, load, 1 mile haul, spread w/dozer	2130.00 CY	ZDCBERM	150.00	5.38 11,457	0.03 71	2.38 5,072	3.45 7,352	0.00 0	11.21 23,880	11.21
USR AA Sort Boulders from Dredged Material	600.00 CY	ZDBWATER	32.00	0.00 0	0.22 131	14.65 8,791	11.36 6,814	0.00 0	26.01 15,605	26.01
M MIL AA Cap with rounded excavated boulders - placement	600.00 CY	ZDCBERM	32.00	0.00 0	0.16 94	11.16 6,697	16.18 9,707	0.00 0	27.34 16,404	27.34

40. CIRCULATION BERM

	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
TOTAL CIRCULATION BERM	2730.00	CY			11,457	296	20,560	23,873	0	55,890	20.47

50. BREAKWATER (FEDERAL) ** OVERTIME **
Rock Size 2-ton minus

$4/CY price quote for rock at quarry on St. Paul (not gauranteed)

	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR AA 2-ton minus, quarried on St. Paul	12653	CY		0.00	4.00 50,612	0.00 0	0.00 0	0.00 0	0.00 0	4.00 50,612	4.00
B CIV AA Excavate & load, wheeled loader, 7 CY, blasted rock	12653	CY	CODLB10Z	100.00	0.00 0	0.02 190	1.10 13,926	0.94 11,909	0.00 0	2.04 25,835	2.04
L CIV AA Hauling, off hwy haulers, 65 CY, 3 mile RT @ 30 mph (2.9 cyc/hr)	12653	CY	CTDHB34J	100.00	0.00 0	0.01 127	0.73 9,184	1.09 13,749	0.00 0	1.81 22,932	1.81
B CIV AA handling on barge, loader, 7 CY, blasted rock	12653	CY	CODLB10Z	100.00	0.00 0	0.02 190	1.10 13,926	0.94 11,909	0.00 0	2.04 25,835	2.04
USR AA Place Rock Fill	12653	CY	ZDDREDGE	45.00	0.00 0	0.16 1,969	10.32 130,604	13.23 167,412	0.00 0	23.55 298,016	23.55
TOTAL BREAKWATER (FEDERAL)	12653	CY			50,612	2,475	167,640	204,979	0	423,230	33.45

60. FLOATING DOCK FACILITIES
Floats and Boat Ramps fabricated in Seattle. Transport is covered under mobilization.

60.02. Pile Driving ** OVERTIME **
50 foot piles x 17.15/LF = $850 ea
Driving tips for boulders

92 piles driven 30 feet into ground = 2760 vlf

	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
USR PD Pile, steel, pipe, 50' L 12" dia, 44 lb/LF, conc filled	92.00	EA		0.00	850.00 94,622	0.00 0	0.00 0	0.00 0	0.00 0	850.00 94,622	1028.50
M MIL PD Pile, steel, pipe, heavy duty points, 12" dia	92.00	EA	SIWWE14	0.43	137.57 15,315	2.35 216	193.87 21,581	24.38 2,714	0.00 0	355.82 39,610	430.54
B MIL PD Pile driving and concrete fill	2760.00	VLF	ZDPLDRVR	20.00	0.00 0	0.30 828	19.60 65,451	27.75 92,680	0.00 0	47.35 158,132	57.29
TOTAL Pile Driving	92.00	EA			109,937	1,044	87,033	95,394	0	292,364	3177.87

60. FLOATING DOCK FACILITIES

Floating Docks (Main & Finger)	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
60.05. Floating Docks (Main & Finger)				** OVERTIME **							
USR AA Main and Finger Floats					30.00	0.14	9.46	0.40	0.00	39.86	
	18806	SF	ZDDOCK	50.00	564,180	2,633	177,925	7,579	0	749,684	39.86
TOTAL Floating Docks (Main & Finger)	18806	SF			564,180	2,633	177,925	7,579	0	749,684	39.86
60.17. Float Ramps				** OVERTIME **							
USR AA Float Ramps 2 @ 8' x 60'					55.00	0.14	9.46	0.40	0.00	64.86	
	960.00	SF	ZDDOCK	50.00	52,800	134	9,083	387	0	62,270	64.86
TOTAL Float Ramps	960.00	SF			52,800	134	9,083	387	0	62,270	64.86
60.40. Floating Bwater East Dock & Ramp				** OVERTIME **							
USR AA Floating Ramp 20' x 115'					55.00	0.14	9.46	0.40	0.00	64.86	
	2300.00	SF	ZDDOCK	50.00	126,500	322	21,761	927	0	149,187	64.86
USR AA Floating Dock 20' x 275'					55.00	0.14	9.46	0.40	0.00	64.86	
	5500.00	SF	ZDDOCK	50.00	302,500	770	52,036	2,217	0	356,753	64.86
TOTAL Floating Bwater East Dock & Ramp	7800.00	SF			429,000	1,092	73,797	3,143	0	505,940	64.86
TOTAL FLOATING DOCK FACILITIES	27566	SF			1,155,917	4,904	347,837	106,504	0	1,610,257	58.41
52. PRECAST CONCRETE DOCK				** OVERTIME **							
$145/sf cost based on 50' x 100' dock installation in 1988 - less mooring dolphins.											
Adjusted to current price level											
USR AA Precast Concrete Dock in Place					0.00	0.00	0.00	0.00	145.00	145.00	
	8000.00	SF		0.00	0	0	0	0	1,160,000	1,160,000	145.00
TOTAL PRECAST CONCRETE DOCK	8000.00	SF			0	0	0	0	1,160,000	1,160,000	145.00
70. PRECAST CONCRETE BOAT RAMP				** OVERTIME **							
M MIL AA Base course, compacted to 6" deep, crushed 3/4" stone, large areas	780.00	SY	COFGB36B	625.00	5.08	0.01	0.70	0.24	0.00	6.02	
					3,960	10	548	184	0	4,692	6.02
M MIL AA Structural precast, slabs, 12" thick, solid, 3000 psi					14.00	0.00	0.00	0.00	0.00	14.00	
	7000.00	SF	N/A	0.00	98,000	0	0	0	0	98,000	14.00

70. PRECAST CONCRETE BOAT RAMP

	QUANTY	UOM	CREW ID	OUTPUT	MATERIAL	MANHRS	LABOR	EQUIPMNT	OTHER	TOTAL COST	UNIT COST
MIL AA Precast erection, 60' max rad, 90 ton crane, 9-10 ton/pc, floor deck	28.00	EA	ZDPCAST	1.75	0.00 0	4.00 112	256.84 7,192	83.92 2,350	0.00 0	340.76 9,541	340.76
TOTAL PRECAST CONCRETE BOAT RAMP	7000.00	SF			101,960	122	7,739	2,534	0	112,233	16.03

80. 60 TON BOAT LIFT TRAILER ** OVERTIME **
Conolift model Y60 Boat Lift Trailer 60 ton

$100K purchase price in Ontario, plus $100K transport and assembly.

USR AF Conolift model Y60. $100K Transport	1.00	LS		0.00	0.00 0	0.00 0	0.00 0	0.00 0	200000.00 200,000	200000.00 200,000	200000.00
TOTAL 60 TON BOAT LIFT TRAILER					0	0	0	0	200,000	200,000	
TOTAL St.Paul Alaska Small Boat Harbor					1,360,820	16,216	1,094,288	1,060,865	2,683,105	6,199,079	

** PROJECT INDIRECT SUMMARY - Feature **

	QUANTITY UOM	TOTAL DIRECT	OVERHEAD	PROFIT	TOTAL COST	UNIT COST
10 MOB/DEMOB						
10.25 1st Seas. - Tows		301,800	45,270	30,490	377,560	
10.30 1st Seas. Equip Cost During Tow		122,355	18,353	12,361	153,069	
10.35 1st Seas. - Labor Trvl (airfare)		8,100	1,215	818	10,133	
10.38 1st Seas. - Per Diem		57,070	8,561	5,766	71,396	
10.40 2nd Seas. - Tows		506,000	75,900	51,120	633,020	
10.45 2nd Seas. Equip Cost During Tow		178,950	26,843	18,079	223,871	
10.50 2nd Seas. - Labor Trvl (airfare)		15,000	2,250	1,515	18,765	
10.53 2nd Seas. - Per Diem		63,830	9,575	6,449	79,853	
TOTAL MOB/DEMOB		1,253,105	187,966	126,598	1,567,669	
20 HARBOR DREDGING (FED & LOCAL)						
20. 2 Dredging (Federal)	99000.00 CY	419,757	62,964	35,335	518,056	5.23
20. 5 Dredging (Local)	80500.00 CY	284,398	42,660	28,732	355,790	4.42
20.10 Disposal - Harbor Adjacent Fill	53600.00 CY	91,972	13,796	9,292	115,060	2.15
20.15 Disposal with haul	125900.00 CY	276,993	41,549	27,984	346,525	2.75
TOTAL HARBOR DREDGING (FED & LOCAL)	179500.00 CY	1,073,120	160,968	101,343	1,335,431	7.44
22 REVETMENT & EROSION PROTECTION						
22. 5 REVETMENT W/BEDDING	2625.00 CY	100,992	15,149	10,203	126,344	48.13
22.10 EROSION PROTECTION IN CHANNEL	6500.00 CY	210,251	31,538	21,241	263,030	40.47
TOTAL REVETMENT & EROSION PROTECTION	9125.00 CY	311,243	46,686	31,444	389,373	42.67
40 CIRCULATION BERM	2730.00 CY	55,890	8,384	5,646	69,920	25.61
50 BREAKWATER (FEDERAL)	12653.00 CY	423,230	63,485	42,758	529,473	41.85
60 FLOATING DOCK FACILITIES						
60.02 Pile Driving	92.00 EA	292,364	43,855	29,537	365,755	3975.60
60.05 Floating Docks (Main & Finger)	18806.00 SF	749,684	112,453	75,739	937,876	49.87
60.17 Float Ramps	960.00 SF	62,270	9,340	6,291	77,901	81.15
60.40 Floating Bwater East Dock & Ramp	7800.00 SF	505,940	75,891	51,114	632,945	81.15
TOTAL FLOATING DOCK FACILITIES	27566.00 SF	1,610,257	241,539	162,680	2,014,476	73.08
62 PRECAST CONCRETE DOCK	8000.00 SF	1,160,000	174,000	117,192	1,451,192	181.40
70 PRECAST CONCRETE BOAT RAMP	7000.00 SF	112,233	16,835	11,339	140,407	20.06
80 60 TON BOAT LIFT TRAILER		200,000	0	0	200,000	
TOTAL St.Paul Alaska Small Boat Harbor		6,199,079	899,862	599,000	7,697,941	
20% Contingency (not inc. Boat Lift)					1,499,588	

** PROJECT INDIRECT SUMMARY - Feature **

	QUANTITY UOM	TOTAL DIRECT	OVERHEAD	PROFIT	TOTAL COST	UNIT COST
SUBTOTAL					9,197,529	
10% Eng. & Des (not inc. boat lift)					898,039	
SUBTOTAL					10,095,568	
8% Sup & Adm (not inc. boat lift)					793,496	
TOTAL INCL OWNER COSTS					10,889,064	