



60% Design ROM Estimate of Construction Costs				
		Phase 1 & Roro	Phase 1	MSP Project
#	Item	Phase 1 & RORO	Phase 1	Cost (2023\$)
1.00	Mob/ Demob General Conditions & Delays	\$ 4,600,000	\$ 3,760,000	\$ 1,220,000
2.00	Temporary Erosion and Settlement Control	\$ 669,000	\$ 504,000	\$ 239,000
3.00	Demolition & Disposal	\$ 3,420,000	\$ 3,420,000	
4.00	Cruise Dock Float Guide Piles and Access Trestle	\$ 5,910,000	\$ 5,910,000	
5.00	Cruise Terminal Floating Dock	\$ 11,878,800	\$ 11,878,800	
6.00	RORO Ramp and Access Trestle	\$ 7,600,000	\$ 380,000	
7.00	New Fuel Line Routing	\$ 677,000	\$ 677,000	
8.00	New Dolphins & Strengthened Dolphins	\$ 11,750,000	\$ 10,700,000	\$ 2,100,000
9.00	Fuel Header and Pipe Bridges	\$ 2,530,000	\$ 2,530,000	
10.00	Corrosion Protection	\$ 1,560,000	\$ 1,560,000	
11.00	Marine Service Platform, Utilities and Elec.			\$ 9,510,000
12.00	North Berth Extension (Highest Expected)			
13.00	Upland Civil & Utilities	\$ 2,940,000	\$ 2,940,000	\$ 332,000
14.00	Seawalk Structure	\$ 1,020,000	\$ 1,020,000	
Construction Subtotal		\$ 54,550,000	\$ 45,280,000	\$ 13,400,000
2.5% Soft Costs -Const. Support & MMM		\$ 1,360,000	\$ 1,130,000	\$ 335,000
3% Per year Escalation to Construction Mid-Point		\$ 2,730,000	\$ 2,260,000	\$ 670,000
20% Design Contingency		\$ 10,910,000	\$ 9,060,000	\$ 2,680,000
Total ROM Construction Cost Estimate		\$ 69,600,000	\$ 57,700,000	\$ 17,100,000
Design Costs				
Project Engineering Design		\$ 3,500,000	\$ 3,500,000	\$ 550,000
Dredge Sampling Budget				
Total ROM Construction & Design		\$ 73,100,000	\$ 61,200,000	\$ 17,650,000

Notes

1. All costs are rounded to the nearest \$1,000, \$10,000 or \$100,000.
2. Upland Civil in design - MSP upland improvements broken out
3. (2) dolphins added in deep water since 30%, (2) dolphins added at MSP
4. Each item contains utilities & Electrical for that structure
5. The design of the Marine Service Platform (MSP) is funded via the Canadian Yukon government
6. This estimate does not include future maintenance costs
7. Float costs are based on bids provided by float fabricators
8. All pre-procured items cost included (some piles, Capstans, Floating fenders & gangway)
9. Escalation is based on an estimated duration of 20 months resulting in an effective 5%.
10. Mobilization/ Dembo & Project Delays increased to 10% of costs due to added deep water dolphins
11. Phase 1 RORO Ramp only upland areas installed to avoid damage to new utilities



**CATHODIC PROTECTION SYSTEM
ORE PENINSULA REDEVELOPMENT
SKAGWAY, ALASKA**

Bill Of Materials

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>U/M</u>
1	2" x 4" x 2' Aluminum Anode	24	ea
2	4" x 4" x 3' Aluminum Anode	15	ea
3	7" x 7" x 4' Aluminum Anode	204	ea
4	6" x 6" x 5' Aluminum Anode	18	ea
5	5" x 5" x 10' Aluminum Anode	68	ea
6	Splash Zone Coating Repair	12	kits

CP Cost Estimate

Materials:

Anodes and Weld Coating, including freight to Skagway \$292,000

Installation:

Anodes and Weld Coating \$1,261,000

Construction Support and Final Testing:

Site visit to confirm anodes are installed correctly with proper coating and visit after installation for final testing \$25,000

TOTAL ESTIMATE \$1,578,000

Municipality of Skagway
Ore Peninsula Redevelopment
Uplands Site Utilities/Grading

January 27, 2023

60% Construction Cost Estimate

Item No.	Pay Item Description	Pay Unit	Approximate Quantity	Unit Price		Amount	
				Dollars	Cents	Dollars	Cents
00 15 70.1	Erosion and Sediment Control	Lump Sum	All Req'd	Lump	Sum	\$ 86,000	00
02 41 13.1	Water Pipe Removal	Lump Sum	All Req'd	Lump	Sum	\$ 30,000	00
02 41 13.2	Remove Existing Asphalt Surfacing	SY	1,269	\$ 40	00	\$ 50,760	00
02 41 13.3	Removal of Concrete Surfaces	SY	172	\$ 60	00	\$ 10,320	00
02 41 13.4	Removal of Curb and Gutter	LF	613	\$ 50	00	\$ 30,650	00
02 41 13.5	Removal of Train Track	LF	280	\$ 100	00	\$ 28,000	00
02 41 13.6	Contaminated Soil Cleanup/Remediation	Contingent Sum	All Req'd	Contingent	Sum	\$ 140,000	00
31 20 01.1	Excavation	CY	662	\$ 60	00	\$ 39,720	00
31 20 03.1	Base Course, Grading D-1	Ton	690	\$ 100	00	\$ 69,000	00
31 20 03.2	Imported Backfill	CY	1060	\$ 100	00	\$ 106,000	00
31 60 00.1	Construction Surveying	Lump Sum	All Req'd	Lump	Sum	\$ 96,000	00
32 13 15.1	6-Inch Thick Concrete Roadway Patch	SY	1,387	\$ 350	00	\$ 485,450	00
32 13 15.2	10-Inch Thick Concrete Roadway Patch	SY	263	\$ 500	00	\$ 131,500	00
32 13 15.3	Curb and Gutter	LF	625	\$ 125	00	\$ 78,125	00
32 33 00.1	12-Foot Wide Seawalk w/ Handrail	LF	918	\$ 1,200	00	\$ 1,101,600	00
32 33 10.2	55-Foot Wide Double Swing Gate	Each	1	\$ 30,000	00	\$ 30,000	00
32 33 10.3	Benches	Each	8	\$ 5,000	00	\$ 40,000	00
32 33 20.1	Train Track Placement	LF	280	\$ 600	00	\$ 168,000	00
33 11 13.1	2-Inch HDPE Water Service	LF	31	\$ 140	00	\$ 4,340	00
33 11 13.3	4-Inch HDPE Water Service	LF	152	\$ 160	00	\$ 24,320	00
33 11 13.4	6-Inch HDPE Water Service	LF	68	\$ 180	00	\$ 12,240	00
33 11 14.1	10-Inch DIP Water Pipe	LF	1066	\$ 200	00	\$ 213,200	00
33 11 15.1	2-Inch Gate Valve	Each	1	\$ 3,000	00	\$ 3,000	00
33 11 15.3	6-Inch Gate Valve	Each	1	\$ 8,000	00	\$ 8,000	00
33 11 15.4	10-Inch Gate Valve	Each	6	\$ 14,000	00	\$ 84,000	00
33 11 16.1	Fire Hydrant Assembly	Each	2	\$ 20,000	00	\$ 40,000	00
33 11 17.1	Standpipe	Each	2	\$ 10,000	00	\$ 20,000	00
33 11 18.1	2-Inch Water Meter	Each	1	\$ 3,000	00	\$ 3,000	00
33 11 18.3	6-Inch Water Meter	Each	1	\$ 7,000	00	\$ 7,000	00
33 11 19.1	2-Inch Backflow Preventer	Each	1	\$ 6,000	00	\$ 6,000	00
33 11 19.3	6-Inch Backflow Preventer	Each	1	\$ 12,000	00	\$ 12,000	00
33 11 20.1	2-Inch Water Meter Enclosures	Each	1	\$ 12,000	00	\$ 12,000	00
33 11 20.3	6- Inch Water Meter Enclosures	Each	1	\$ 25,000	00	\$ 25,000	00
33 41 00.1	12-Inch Pipe Culvert	LF	81	\$ 150	00	\$ 12,150	00
33 41 01.1	Storm Drain Catch Basin Type III	Each	3	\$ 6,000	00	\$ 18,000	00

Preliminary Construction Cost Estimate Subtotal \$ 3,225,375 00

10% Construction Contingency \$ 322,538 00

Estimated Construction Cost Total Civil Uplands \$ 3,547,913 00

Construction Cost Estimate Notes:

1. Unit Prices shown reflect Municipality of Skagway Public Works unit bid prices for similar public improvements using Davis Bacon prevailing wage rates.
2. Cost estimate assumes construction to be performed in 2023.
3. Quantities shown based on 60% design level documents, subject to change with final design.

Municipality of Skagway
Ore Peninsula Redevelopment
Marine Service Platform Uplands Site Utilities/Grading
January 27, 2023
60% Construction Cost Estimate

Item No.	Pay Item Description	Pay Unit	Approximate Quantity	Unit Price		Amount	
				Dollars	Cents	Dollars	Cents
00 15 70.1	Erosion and Sediment Control	Lump Sum	All Req'd	Lump	Sum	\$ 4,000	00
02 41 13.2	Remove Existing Asphalt Surfacing	SY	210	\$ 40	00	\$ 8,400	00
02 41 13.4	Removal of Curb and Gutter	LF	60	\$ 50	00	\$ 3,000	00
02 41 13.5	Removal of Train Track	LF	60	\$ 100	00	\$ 6,000	00
02 41 13.6	Contaminated Soil Cleanup/Remediation	Contingent Sum	All Req'd	Contingent	Sum	\$ 10,000	00
31 20 01.1	Excavation	CY	122	\$ 60	00	\$ 7,320	00
31 20 03.1	Base Course, Grading D-1	Ton	92	\$ 100	00	\$ 9,200	00
31 20 03.2	Imported Backfill	CY	160	\$ 100	00	\$ 16,000	00
31 60 00.1	Construction Surveying	Lump Sum	All Req'd	Lump	Sum	\$ 4,000	00
32 13 15.2	10-Inch Thick Concrete Roadway Patch	SY	250	\$ 500	00	\$ 125,000	00
32 33 10.1	40-Foot Wide Double Swing Gate	Each	1	\$ 20,000	00	\$ 20,000	00
32 33 20.1	Train Track Placement	LF	60	\$ 600	00	\$ 36,000	00
33 11 13.2	3-Inch HDPE Water Service	LF	70	\$ 150	00	\$ 10,500	00
33 11 13.3	4-Inch HDPE Water Service	LF	69	\$ 160	00	\$ 11,040	00
33 11 15.2	3-Inch Gate Valve	Each	1	\$ 4,000	00	\$ 4,000	00
33 11 16.1	Fire Hydrant Assembly	Each	1	\$ 20,000	00	\$ 20,000	00
33 11 17.1	Standpipe	Each	1	\$ 10,000	00	\$ 10,000	00
33 11 18.2	3-Inch Water Meter	Each	1	\$ 5,000	00	\$ 5,000	00
33 11 19.2	3-Inch Backflow Preventer	Each	1	\$ 8,000	00	\$ 8,000	00
33 11 20.2	3-Inch Water Meter Enclosures	Each	1	\$ 15,000	00	\$ 15,000	00

Preliminary Construction Cost Estimate Subtotal \$ 332,460 00

10% Construction Contingency \$ 33,246 00

Estimated Construction Cost Total Civil Uplands \$ 365,706 00

Construction Cost Estimate Notes:

1. Unit Prices shown reflect Municipality of Skagway Public Works unit bid prices for similar public improvements using Davis Bacon prevailing wage rates.
2. Cost estimate assumes construction to be performed in 2023.
3. Quantities shown based on 60% design level documents, subject to change with final design.



A RESPEC Company
9109 Mendenhall Mall Rd Ste 4,
Juneau, Alaska 99801

Construction Cost Estimate

Skagway Dock
60% Phase 1 Design

Project Number: 252-07
Date: 24 Jan 2023

Item	Description	Quantity	Units	Materials		Installation		Item Cost (\$)	Full Task Cost (\$)
				Unit Cost (\$)	Matl Cost (\$)	Unit Cost (\$)	Labor Cost (\$)		
Section One: Demolition									\$59,000
	Aerial Structures and Conductors	1	Lump Sum	5000	5,000	42000	42,000	47,000	
	Ore Loader and Existing Dock	1	Lump Sum	500	500	3000	3,000	3,500	
	Feeders to Ore Terminal & Dock	1	Lump Sum	500	500	8000	8,000	8,500	
					6,000		53,000		
Section Two: Upland Electrical and Service to Existing Facilities									\$656,200
	Terminal	1	Lump Sum	2000	2,000	1000	1,000	3,000	
	Trench & Backfill	1600	LF	20	32,000	50	80,000	112,000	
	4" C, 3 No. 4/0 15 KV, qty 4	1600	LF	112	179,200	95	152,000	331,200	
	2" C, Future Communications	1600	LF	5	8,000	10	16,000	24,000	
	6"C, Future Med Volt Shore Power, qty 4	1600	LF	35	56,000	30	48,000	104,000	
	Upland Pedestrian Lighting	1	Lump Sum	35000	35,000	21000	21,000	56,000	
	Other Upland Lighting	1	Lump Sum	6000	6,000	3000	3,000	9,000	
	Other Upland Equipment Power	1	Lump Sum	4000	4,000	6000	6,000	10,000	
	45kVA 2.4kV:240V Transformer	1	Lump Sum	5000	5,000	2000	2,000	7,000	
					327,200		329,000		
Section Three: Electrical associated with RO/RO Ramp									\$37,500
	480V Distribution Panel	1	Lump Sum	6000	6,000	4000	4,000	10,000	
	Low-voltage Cable to Ramp Equipment	200	LF	25	5,000	35	7,000	12,000	
	Ramp Lighting	1	Lump Sum	10500	10,500	5000	5,000	15,500	
					21,500		16,000		
Section Four: Electrical associated with Fuel Header									\$32,500
	Fuel Header Lighting	1	Lump Sum	6000	6,000	3000	3,000	9,000	
	Catwalk Lighting	1	Lump Sum	8500	8,500	5000	5,000	13,500	
	Fuel Header Equipment Power	1	Lump Sum	4000	4,000	6000	6,000	10,000	
					18,500		14,000		
Section Five: Electrical associated with MSP									\$127,100
	Terminal & 500kVA 2.4kV:480V Transformer	1	Lump Sum	24000	24,000	4000	4,000	28,000	
	480V Distribution Panel	1	Lump Sum	9500	9,500	4000	4,000	13,500	
	4" C, 3 No. 3/0, 600 V Cables to Docks	420	LF	75	31,500	70	29,400	60,900	
	High-mast Poles and Lights	1	Lump Sum	5700	6,200	6000	6,000	12,200	
	Ramp Lighting	1	Lump Sum	5700	8,000	4000	4,500	12,500	
					79,200		47,900		
Section Six: Electrical associated with Cruise Dock									\$119,875
	Terminal & 75kVA 2.4kV:480V Transformer	1	Lump Sum	7500	7,500	2000	2,000	9,500	
	480V Distribution Panel	1	Lump Sum	6000	6,000	4000	4,000	10,000	
	4" C, 3 No. 3/0, 600 V Cables to Docks	275	LF	75	20,625	70	19,250	39,875	
	Main Deck Poles and Lights	1	Lump Sum	20000	20,000	12000	12,000	32,000	
	Ramp Lighting	1	Lump Sum	12500	12,500	7000	7,000	19,500	
	Traffic-rated Vault	1	Lump Sum	4000	4,000	5000	5,000	9,000	
					70,625		49,250		
Section Seven: Electrical associated with Catwalks, Dolphins, and Capstans									\$168,000
	Catwalk and Dolphin 8 Lighting	1	Lump Sum	8500	8,500	7500	7,500	16,000	
	Capstan Power and Control, Dolphin 8	1	Lump Sum	6300	6,300	7500	7,500	13,800	
	High-mast Lighting, Dolphin 8	1	Lump Sum	10000	10,000	10000	10,000	20,000	
	Catwalk and Dolphin 7 Lighting	1	Lump Sum	6200	6,200	5300	5,300	11,500	
	Capstan Power and Control, Dolphins 7, MSP	1	Lump Sum	9200	9,200	11000	11,000	20,200	
	Catwalk and Dolphin 1-6 Lighting	1	Lump Sum	25000	25,000	21000	21,000	46,000	
	Capstan Power and Control, Dolphins 1-3, 6	1	Lump Sum	18500	18,500	22000	22,000	40,500	
					83,700		84,300		
Raw Total					606,725		593,450		1,200,175
Total									
	Overhead		15%						180,026
	Profit		10%						138,020
	Contingency		20%						303,644
	Total								\$1,821,866

Tetra Tech 60% Cost Estimate

Item No.	Item Description	Quantity	Unit	Unit Cost	Total	20% Contingency	W/ Contingency	Subtotals
ELECTRICAL AND CONTROLS ITEMS - RORO RAMP								
1	CONDUIT AND CONDUCTORS							\$ 55,968
	4C #12 AWG Copper	180	LF	\$ 11	\$ 1,980	\$ 396	\$ 2,376	
	3C #1 AWG Copper	90	LF	\$ 12	\$ 1,080	\$ 216	\$ 1,296	
	3C #10 AWG Copper	195	LF	\$ 3	\$ 585	\$ 117	\$ 702	
	2C #12 AWG Copper	180	LF	\$ 2	\$ 360	\$ 72	\$ 432	
	1C #6 AWG GND, Copper	90	LF	\$ 2	\$ 180	\$ 36	\$ 216	
	1C #10 AWG GND, Copper	195	LF	\$ 1	\$ 195	\$ 39	\$ 234	
	1C #12 AWG GND, Copper	360	LF	\$ 1	\$ 360	\$ 72	\$ 432	
	3/4" Flexible Metal Conduit	200	LF	\$ 6	\$ 1,200	\$ 240	\$ 1,440	
	3/4" PVC Coated RGS	750	LF	\$ 24	\$ 18,000	\$ 3,600	\$ 21,600	
	1-1/2" PVC Coated RGS	155	LF	\$ 41	\$ 6,355	\$ 1,271	\$ 7,626	
	3/4" PVC SCHEDULE 40	360	LF	\$ 7	\$ 2,520	\$ 504	\$ 3,024	
	1" PVC SCHEDULE 40	180	LF	\$ 8	\$ 1,440	\$ 288	\$ 1,728	
	1-1/4" PVC SCHEDULE 40	90	LF	\$ 9	\$ 810	\$ 162	\$ 972	
	1C #14 AWG w/GND	315	LF	\$ 2	\$ 630	\$ 126	\$ 756	
	4C #14 AWG w/GND	345	LF	\$ 3	\$ 1,035	\$ 207	\$ 1,242	
	6C #14 AWG w/GND	30	LF	\$ 3	\$ 90	\$ 18	\$ 108	
	10C #14 AWG w/GND	15	LF	\$ 4	\$ 60	\$ 12	\$ 72	
	12C #14 AWG w/GND	175	LF	\$ 4	\$ 700	\$ 140	\$ 840	
	1C #16 AWG TSP	310	LF	\$ 6	\$ 1,860	\$ 372	\$ 2,232	
	4C #16 AWG TSP	175	LF	\$ 6	\$ 1,050	\$ 210	\$ 1,260	
	2C #16 AWG TSP	175	LF	\$ 6	\$ 1,050	\$ 210	\$ 1,260	
	Conduit Elbows, Sweeps, Joints, MISC	1	LS	\$ 2,000	\$ 2,000	\$ 400	\$ 2,400	
	4 #16 AWG TSP (300V - Flexible Cable)	200	LF	\$ 7	\$ 1,400	\$ 280	\$ 1,680	
	12#14 AWG, 1#14G (24VDC - Flexible Cable)	100	LF	\$ 17	\$ 1,700	\$ 340	\$ 2,040	
2	PULLBOXES/JUNCTION BOXES							\$ 3,600
	Power Pullboxes	1	EA	\$ 2,000	\$ 2,000	\$ 400	\$ 2,400	
	Junction Boxes	10	EA	\$ 100	\$ 1,000	\$ 200	\$ 1,200	
3	Operators Station Equipment							\$ 41,400
	PLC control panel	1	EA	\$ 20,000	\$ 20,000	\$ 4,000	\$ 24,000	
	Data network hub	1	EA	\$ 2,000	\$ 2,000	\$ 400	\$ 2,400	
	Human machine interface	1	EA	\$ 5,000	\$ 5,000	\$ 1,000	\$ 6,000	
	Scada Link SAT110	1	EA	\$ 4,000	\$ 4,000	\$ 800	\$ 4,800	
	Motor Starter, 15HP, 30A, FVNR	1	EA	\$ 3,500	\$ 3,500	\$ 700	\$ 4,200	
4	Underground Electrical							\$ 2,808
	Duct Banks	170	LF	\$ 8	\$ 1,360	\$ 272	\$ 1,632	
	Trenching and Backfill	170	LF	\$ 4	\$ 680	\$ 136	\$ 816	
	Concrete Encasement	50	LF	\$ 6	\$ 300	\$ 60	\$ 360	
5	Configuration, Testing and Startup							\$ 42,000
	Electrical Testing	1	LS	\$ 5,000	\$ 5,000	\$ 1,000	\$ 6,000	
	Programming (PLC & HMI)	1	LS	\$ 10,000	\$ 10,000	\$ 2,000	\$ 12,000	
	Control System Testing	1	LS	\$ 10,000	\$ 10,000	\$ 2,000	\$ 12,000	
	Startup and Commissioning	1	LS	\$ 10,000	\$ 10,000	\$ 2,000	\$ 12,000	
6	Labor Costs							
Note 1: This estimate is for materials only and doesn't include labor (except for configuration, testing and startup)								
Note 2: Estimate does not include any specialty subcontractor overhead and markup.								
								\$ 146,000

Tetra Tech 60% Cost Estimate

POWER				
CIRCUIT ID	Cable	Voltage	Conduit	Feet
P1	3C #1		1-1/4" PVC-SCHEDULE 40	90
P2	3C #10		3/4" PVC-SCHEDULE 40	180
P3	3C #10		3/4" FLEXIBLE METAL	15
P4	2C #12		3/4" PVC-SCHEDULE 40	180
P5	4C #12		1" PVC-SCHEDULE 40	180
N/A; GROUNDS	1C #6		N/A; GROUNDS	90
N/A; GROUNDS	1C #10		N/A; GROUNDS	195
N/A; GROUNDS	1C #12		N/A; GROUNDS	360
			3/4" FLEXIBLE METAL	100

Conductor						
3C #1	3C #10	2C #12	1C #6	1C #10	1C #12	4C #12
TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
FT	FT	FT	FT	FT	FT	FT
90	195	180	90	195	360	180

Conduit			
1-1/4" SCHEDULE 40	3/4" SCHEDULE 40	3/4" FLEXIBLE METAL	1" SCHEDULE 40
TOTAL	TOTAL	TOTAL	TOTAL
FT	FT	FT	FT
90	360	200	180

I&C				
CIRCUIT ID	Cable	Voltage	Conduit	Feet
C1, C2, C3, C7	4C #14	120VAC	varies, see schedule	345
C4	6C #14	24VDC	3/4" PVC COATED RGS	30
C5	12C #14	24VDC	3/4" PVC COATED RGS	175
C6	10C #14	120VAC	3/4" PVC COATED RGS	15
S1, S2 S3	1C #16 TSP	300VAC	3/4" PVC COATED RGS	310
S4	4C #16 TSP	300VAC	1-1/2" PVC COATED RGS	175
S5	2C #16 TSP	300VAC	3/4" PVC COATED RGS	175
N/A; GROUNDS	1C #14	120VAC	N/A; GROUNDS	315

Conductor							
4C #14	6C #14	12C #14	10C #14	1C #16 TSP	4C #16 TSP	2C #16 TSP	1C #14
TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
FT	FT	FT	FT	FT	FT	FT	FT
345	30	175	15	310	175	175	315

Conduit		
3/4" PVC COATED RGS	1" PVC COATED RGS	1-1/2" PVC COATED RGS
TOTAL	TOTAL	TOTAL
FT	FT	FT
750	265	155