

Appendix 10: NIP Preliminary Construction Cost Estimates

Appendices 10.1 to 10.6 contain the Engineer's Preliminary Opinion of Probable Construction Cost for the NIPs in Master Plan Basin 1 through Basin 6, respectively.

Appendix 10.1: Basin 1

NIP Preliminary Construction Cost Estimates

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
City Center A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	5,151	\$ 180	\$ 927,180	\$ 927,000
2	Reinforced Concrete Pipe 30"	LF	1,676	\$ 220	\$ 368,720	\$ 369,000
3	Reinforced Concrete Pipe 36"	LF	2,130	\$ 280	\$ 596,400	\$ 596,000
4	Reinforced Concrete Pipe 42"	LF	1,901	\$ 325	\$ 617,825	\$ 618,000
5	Reinforced Concrete Pipe 48"	LF	835	\$ 425	\$ 354,875	\$ 355,000
6	Reinforced Concrete Pipe 54"	LF	377	\$ 505	\$ 190,385	\$ 190,000
7	Reinforced Concrete Pipe 60"	LF	1,575	\$ 580	\$ 913,500	\$ 914,000
8	Reinforced Concrete Pipe 66"	LF	1,351	\$ 690	\$ 932,190	\$ 932,000
9	Reinforced Concrete Pipe 72"	LF	3,702	\$ 925	\$ 3,424,350	\$ 3,424,000
10	Reinforced Concrete Pipe 84"	LF	1,842	\$ 1,200	\$ 2,210,400	\$ 2,210,000
11	Reinforced Concrete Pipe 96"	LF	84	\$ 1,385	\$ 116,340	\$ 116,000
12	Concrete Manhole - 8'	Each	83	\$ 10,650	\$ 883,950	\$ 884,000
13	Curb Inlet	Each	166	\$ 8,475	\$ 1,406,850	\$ 1,407,000
14	1-1/2" Asphalt	Ton	3,704	\$ 172	\$ 635,579	\$ 636,000
15	10" Base	SY	48,372	\$ 20	\$ 967,432	\$ 967,000
16	12" Subgrade	SY	49,710	\$ 6	\$ 291,746	\$ 292,000
17	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	62,711	\$ 27	\$ 1,693,185	\$ 1,693,000
18	Sodding	SY	26,774	\$ 7	\$ 196,416	\$ 196,000
19	5' Wide Sidewalk	SY	26,774	\$ 27	\$ 719,679	\$ 720,000
20	Curb	LF	48,193	\$ 31	\$ 1,511,326	\$ 1,511,000
Subtotal						\$ 18,957,000

21	Mobilization	%	7%	\$ 18,957,000	\$ 1,326,990	\$ 1,327,000
22	Maintenance of Traffic	%	5%	\$ 18,957,000	\$ 947,850	\$ 948,000
23	Material Testing	%	1%	\$ 18,957,000	\$ 189,570	\$ 190,000
24	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 18,957,000	\$ 947,850	\$ 948,000
25	Utility Relocations	%	10%	\$ 18,957,000	\$ 1,895,700	\$ 1,896,000
26	Additional Water Quality Improvements	%	10%	\$ 18,957,000	\$ 1,895,700	\$ 1,896,000
27	Aboveground Components	%	20%	\$ 18,957,000	\$ 3,791,400	\$ 3,791,000
28	Water Main Distribution/Transmission System Improvements	%	40%	\$ 18,957,000	\$ 7,582,800	\$ 7,583,000
29	Sanitary Sewer Collection System Improvements	%	40%	\$ 18,957,000	\$ 7,582,800	\$ 7,583,000
Subtotal						\$ 26,162,000

PUMP STATIONS

30	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	267	\$ 15,890	\$ 4,242,630	\$ 4,243,000
31	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	267	\$ 13,000	\$ 3,471,000	\$ 3,471,000
32	Stormwater Pump Station (264 cfs + round up to nearest whole pump)	cfs	267	\$ 41,697	\$ 11,133,099	\$ 11,133,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	7			
	C. Flap Gate / Check Valve Valve	Each	7			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	7			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
33	Outfall Structures	LS	1	\$ 1,731,078	\$ 1,731,078	\$ 1,731,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	210			
Subtotal						\$ 20,578,000

Estimating Contingency (10%)	\$ 6,570,000
Total Construction Subtotal	\$ 72,267,000

34	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 72,267,000	\$ 4,336,020	\$ 4,336,000
35	Permitting Fee (5%)	%	5%	\$ 72,267,000	\$ 3,613,350	\$ 3,613,000
36	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 72,267,000	\$ 7,226,700	\$ 7,227,000
37	CEI Management (Owner's Representative) (5%)	%	5%	\$ 72,267,000	\$ 3,613,350	\$ 3,613,000
38	Construction Contingency (10%)	%	10%	\$ 72,267,000	\$ 7,226,700	\$ 7,227,000
39	CIP Management Fee (6.5%)	%	6.5%	\$ 72,267,000	\$ 4,697,355	\$ 4,697,000
Subtotal						\$ 30,713,000

Total **\$ 102,980,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
City Center B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	10,549	\$ 180	\$ 1,898,820	\$ 1,899,000
2	Reinforced Concrete Pipe 30"	LF	4,771	\$ 2,200	\$ 10,496,200	\$ 10,496,000
3	Reinforced Concrete Pipe 36"	LF	2,368	\$ 280	\$ 663,040	\$ 663,000
4	Reinforced Concrete Pipe 42"	LF	987	\$ 325	\$ 320,775	\$ 321,000
5	Reinforced Concrete Pipe 48"	LF	1,986	\$ 425	\$ 844,050	\$ 844,000
6	Reinforced Concrete Pipe 54"	LF	1,152	\$ 505	\$ 581,760	\$ 582,000
7	Reinforced Concrete Pipe 60"	LF	4,261	\$ 580	\$ 2,471,380	\$ 2,471,000
8	Reinforced Concrete Pipe 66"	LF	1,278	\$ 690	\$ 881,820	\$ 882,000
9	Reinforced Concrete Pipe 72"	LF	2,725	\$ 925	\$ 2,520,625	\$ 2,521,000
10	Reinforced Concrete Pipe 78"	LF	1,219	\$ 1,075	\$ 1,310,425	\$ 1,310,000
11	Reinforced Concrete Pipe 84"	LF	987	\$ 1,200	\$ 1,184,400	\$ 1,184,000
12	Reinforced Concrete Pipe 96"	LF	1,430	\$ 1,385	\$ 1,980,550	\$ 1,981,000
13	Concrete Manhole - 8'	Each	135	\$ 10,650	\$ 1,437,750	\$ 1,438,000
14	Curb Inlet	Each	270	\$ 9,475	\$ 2,558,250	\$ 2,558,000
15	1-1/2" Asphalt	Ton	4,906	\$ 172	\$ 841,940	\$ 842,000
16	10" Base	SY	63,860	\$ 20	\$ 1,277,202	\$ 1,277,000
17	12" Subgrade	SY	65,417	\$ 6	\$ 383,925	\$ 384,000
18	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	83,072	\$ 27	\$ 2,242,931	\$ 2,243,000
19	Sodding	SY	31,129	\$ 7	\$ 228,370	\$ 228,000
20	5' Wide Sidewalk	SY	31,129	\$ 27	\$ 836,758	\$ 837,000
21	Curb	LF	56,033	\$ 31	\$ 1,757,192	\$ 1,757,000
Subtotal						\$ 36,718,000

22	Mobilization	%	7%	\$ 36,718,000	\$ 2,570,260	\$ 2,570,000
23	Maintenance of Traffic	%	5%	\$ 36,718,000	\$ 1,835,900	\$ 1,836,000
24	Material Testing	%	1%	\$ 36,718,000	\$ 367,180	\$ 367,000
25	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 36,718,000	\$ 1,835,900	\$ 1,836,000
26	Utility Relocations	%	10%	\$ 36,718,000	\$ 3,671,800	\$ 3,672,000
27	Additional Water Quality Improvements	%	10%	\$ 36,718,000	\$ 3,671,800	\$ 3,672,000
28	Aboveground Components	%	20%	\$ 36,718,000	\$ 7,343,600	\$ 7,344,000
29	Water Main Distribution/Transmission System Improvements	%	40%	\$ 36,718,000	\$ 14,687,200	\$ 14,687,000
30	Sanitary Sewer Collection System Improvements	%	40%	\$ 36,718,000	\$ 14,687,200	\$ 14,687,000
Subtotal						\$ 50,671,000

PUMP STATIONS

31	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	223	\$ 15,890	\$ 3,543,470	\$ 3,543,000
32	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	223	\$ 13,000	\$ 2,899,000	\$ 2,899,000
33	Pump Station (222.5 cfs)	cfs	223	\$ 41,697	\$ 9,298,431	\$ 9,298,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	7			
	C. Flap Gate / Check Valve Valve	Each	7			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	7			
	F. Electrical Equipment/Enclosure	Each	1			
	G. Emergency Generator	Each	1			
34	Outfall Structures	LS	1	\$ 1,484,311	\$ 1,484,311	\$ 1,484,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	180			
Subtotal						\$ 17,224,000

Estimating Contingency (10%)						\$ 10,461,000
Total Construction Subtotal						\$ 115,074,000

35	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 115,074,000	\$ 6,904,440	\$ 6,904,000
36	Permitting Fee (5%)	%	5%	\$ 115,074,000	\$ 5,753,700	\$ 5,754,000
37	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 115,074,000	\$ 11,507,400	\$ 11,507,000
38	CEI Management (Owner's Representative) (5%)	%	5%	\$ 115,074,000	\$ 5,753,700	\$ 5,754,000
39	Construction Contingency (10%)	%	10%	\$ 115,074,000	\$ 11,507,400	\$ 11,507,000
40	CIP Management Fee (6.5%)	%	6.5%	\$ 115,074,000	\$ 7,479,810	\$ 7,480,000
Subtotal						\$ 48,906,000
Total						\$ 163,980,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Flamingo/Lummas A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	2,788	\$ 180	\$ 501,840	\$ 502,000
2	Reinforced Concrete Pipe 30"	LF	291	\$ 220	\$ 64,020	\$ 64,000
3	Reinforced Concrete Pipe 36"	LF	265	\$ 280	\$ 74,200	\$ 74,000
4	Reinforced Concrete Pipe 48"	LF	52	\$ 425	\$ 22,100	\$ 22,000
5	Reinforced Concrete Pipe 54"	LF	164	\$ 505	\$ 82,820	\$ 83,000
6	Reinforced Concrete Pipe 60"	LF	3,335	\$ 580	\$ 1,934,300	\$ 1,934,000
7	Reinforced Concrete Pipe 66"	LF	691	\$ 690	\$ 476,790	\$ 477,000
8	Reinforced Concrete Pipe 72"	LF	680	\$ 925	\$ 629,000	\$ 629,000
9	Reinforced Concrete Pipe 78"	LF	217	\$ 1,075	\$ 233,275	\$ 233,000
10	Reinforced Concrete Pipe 84"	LF	58	\$ 2,585	\$ 149,930	\$ 150,000
11	Concrete Manhole - 8'	Each	35	\$ 10,650	\$ 372,750	\$ 373,000
12	Curb Inlet	Each	70	\$ 8,475	\$ 593,250	\$ 593,000
13	1-1/2" Asphalt	Ton	2,748	\$ 172	\$ 471,579	\$ 472,000
14	10" Base	SY	36,251	\$ 20	\$ 725,012	\$ 725,000
15	12" Subgrade	SY	36,251	\$ 6	\$ 212,752	\$ 213,000
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	46,529	\$ 27	\$ 1,256,287	\$ 1,256,000
17	Sodding	SY	13,537	\$ 7	\$ 99,311	\$ 99,000
18	5' Wide Sidewalk	SY	13,537	\$ 27	\$ 363,879	\$ 364,000
19	Curb	LF	24,367	\$ 31	\$ 764,146	\$ 764,000
Subtotal						\$ 9,027,000
20	Mobilization	%	7%	\$ 9,027,000	\$ 631,890	\$ 632,000
21	Maintenance of Traffic	%	5%	\$ 9,027,000	\$ 451,350	\$ 451,000
22	Material Testing	%	1%	\$ 9,027,000	\$ 90,270	\$ 90,000
23	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 9,027,000	\$ 451,350	\$ 451,000
24	Utility Relocations	%	10%	\$ 9,027,000	\$ 902,700	\$ 903,000
25	Additional Water Quality Improvements	%	10%	\$ 9,027,000	\$ 902,700	\$ 903,000
26	Aboveground Components	%	20%	\$ 9,027,000	\$ 1,805,400	\$ 1,805,000
27	Water Main Distribution/Transmission System Improvements	%	40%	\$ 9,027,000	\$ 3,610,800	\$ 3,611,000
28	Sanitary Sewer Collection System Improvements	%	40%	\$ 9,027,000	\$ 3,610,800	\$ 3,611,000
Subtotal						\$ 12,457,000
Estimating Contingency (10%)						\$ 2,148,000
Total Construction Subtotal						\$ 23,632,000
29	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 23,632,000	\$ 1,417,920	\$ 1,418,000
30	Permitting Fee (5%)	%	5%	\$ 23,632,000	\$ 1,181,600	\$ 1,182,000
31	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 23,632,000	\$ 2,363,200	\$ 2,363,000
32	CEI Management (Owner's Representative) (5%)	%	5%	\$ 23,632,000	\$ 1,181,600	\$ 1,182,000
33	Construction Contingency (10%)	%	10%	\$ 23,632,000	\$ 2,363,200	\$ 2,363,000
34	CIP Management Fee (6.5%)	%	6.5%	\$ 23,632,000	\$ 1,536,080	\$ 1,536,000
Subtotal						\$ 10,044,000
Total						\$ 33,676,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Flamingo/Lummas B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	9,650	\$ 180	\$ 1,737,000	\$ 1,737,000
2	Reinforced Concrete Pipe 30"	LF	4	\$ 220	\$ 880	\$ 1,000
3	Reinforced Concrete Pipe 36"	LF	388	\$ 280	\$ 108,640	\$ 109,000
4	Reinforced Concrete Pipe 42"	LF	913	\$ 325	\$ 296,725	\$ 297,000
5	Reinforced Concrete Pipe 48"	LF	2,993	\$ 425	\$ 1,272,025	\$ 1,272,000
6	Reinforced Concrete Pipe 54"	LF	625	\$ 505	\$ 315,625	\$ 316,000
7	Reinforced Concrete Pipe 60"	LF	1,114	\$ 580	\$ 646,120	\$ 646,000
8	Concrete Manhole - 8'	Each	63	\$ 10,650	\$ 670,950	\$ 671,000
9	Curb Inlet	Each	126	\$ 9,475	\$ 1,193,850	\$ 1,194,000
10	1-1/2" Asphalt	Ton	2,808	\$ 172	\$ 481,825	\$ 482,000
11	10" Base	SY	36,880	\$ 20	\$ 737,596	\$ 738,000
12	12" Subgrade	SY	38,105	\$ 6	\$ 223,632	\$ 224,000
13	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	47,540	\$ 27	\$ 1,283,583	\$ 1,284,000
14	Sodding	SY	24,494	\$ 7	\$ 179,695	\$ 180,000
15	5' Wide Sidewalk	SY	24,494	\$ 27	\$ 658,410	\$ 658,000
16	Curb	LF	44,090	\$ 31	\$ 1,382,661	\$ 1,383,000
Subtotal						\$ 11,192,000

17	Mobilization	%	7%	\$ 11,192,000	\$ 783,440	\$ 783,000
18	Maintenance of Traffic	%	5%	\$ 11,192,000	\$ 559,600	\$ 560,000
19	Material Testing	%	1%	\$ 11,192,000	\$ 111,920	\$ 112,000
20	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 11,192,000	\$ 559,600	\$ 560,000
21	Utility Relocations	%	10%	\$ 11,192,000	\$ 1,119,200	\$ 1,119,000
22	Additional Water Quality Improvements	%	10%	\$ 11,192,000	\$ 1,119,200	\$ 1,119,000
23	Aboveground Components	%	20%	\$ 11,192,000	\$ 2,238,400	\$ 2,238,000
24	Water Main Distribution/Transmission System Improvements	%	40%	\$ 11,192,000	\$ 4,476,800	\$ 4,477,000
25	Sanitary Sewer Collection System Improvements	%	40%	\$ 11,192,000	\$ 4,476,800	\$ 4,477,000
Subtotal						\$ 15,445,000

Estimating Contingency (10%)	\$ 2,664,000
Total Construction Subtotal	\$ 29,301,000

26	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 29,301,000	\$ 1,758,060	\$ 1,758,000
27	Permitting Fee (5%)	%	5%	\$ 29,301,000	\$ 1,465,050	\$ 1,465,000
28	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 29,301,000	\$ 2,930,100	\$ 2,930,000
29	CEI Management (Owner's Representative) (5%)	%	5%	\$ 29,301,000	\$ 1,465,050	\$ 1,465,000
30	Construction Contingency (10%)	%	10%	\$ 29,301,000	\$ 2,930,100	\$ 2,930,000
31	CIP Management Fee (6.5%)	%	6.5%	\$ 29,301,000	\$ 1,904,565	\$ 1,905,000
Subtotal						\$ 12,453,000

Total **\$ 41,754,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Flamingo/Lumms C

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	55	\$ 250	\$ 13,750	\$ 14,000
2	Reinforced Concrete Pipe 24"	LF	6,786	\$ 300	\$ 2,035,800	\$ 2,036,000
3	Reinforced Concrete Pipe 30"	LF	298	\$ 450	\$ 134,100	\$ 134,000
4	Reinforced Concrete Pipe 36"	LF	1,026	\$ 526	\$ 539,676	\$ 540,000
5	Reinforced Concrete Pipe 42"	LF	544	\$ 708	\$ 385,152	\$ 385,000
6	Reinforced Concrete Pipe 48"	LF	455	\$ 890	\$ 404,950	\$ 405,000
7	Reinforced Concrete Pipe 54"	LF	1,201	\$ 1,070	\$ 1,285,070	\$ 1,285,000
8	Reinforced Concrete Pipe 60"	LF	1,590	\$ 1,250	\$ 1,987,500	\$ 1,988,000
9	Reinforced Concrete Pipe 66"	LF	140	\$ 1,440	\$ 201,530	\$ 202,000
10	Reinforced Concrete Pipe 72"	LF	141	\$ 1,629	\$ 229,689	\$ 230,000
11	Reinforced Concrete Pipe 96"	LF	991	\$ 2,700	\$ 2,675,700	\$ 2,676,000
12	Concrete Manhole - 8'	Each	53	\$ 10,650	\$ 564,450	\$ 564,000
13	Curb Inlet	Each	106	\$ 8,475	\$ 898,350	\$ 898,000
14	1-1/2" Asphalt	Ton	4,032	\$ 172	\$ 691,850	\$ 692,000
15	10" Base	SY	52,483	\$ 20	\$ 1,049,651	\$ 1,050,000
16	12" Subgrade	SY	53,768	\$ 6	\$ 315,561	\$ 316,000
17	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	68,263	\$ 27	\$ 1,843,091	\$ 1,843,000
18	Sodding	SY	25,712	\$ 7	\$ 188,625	\$ 189,000
19	5' Wide Sidewalk	SY	25,712	\$ 27	\$ 691,131	\$ 691,000
20	Curb	LF	46,281	\$ 31	\$ 1,451,376	\$ 1,451,000

Subtotal \$ **17,589,000**

21	Mobilization	%	7%	\$ 17,589,000	\$ 1,231,230	\$ 1,231,000
22	Maintenance of Traffic	%	5%	\$ 17,589,000	\$ 879,450	\$ 879,000
23	Material Testing	%	1%	\$ 17,589,000	\$ 175,890	\$ 176,000
24	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 17,589,000	\$ 879,450	\$ 879,000
25	Utility Relocations	%	10%	\$ 17,589,000	\$ 1,758,900	\$ 1,759,000
26	Additional Water Quality Improvements	%	10%	\$ 17,589,000	\$ 1,758,900	\$ 1,759,000
27	Aboveground Components	%	20%	\$ 17,589,000	\$ 3,517,800	\$ 3,518,000
28	Water Main Distribution/Transmission System Improvements	%	40%	\$ 17,589,000	\$ 7,035,600	\$ 7,036,000
29	Sanitary Sewer Collection System Improvements	%	40%	\$ 17,589,000	\$ 7,035,600	\$ 7,036,000

Subtotal \$ **24,273,000**

PUMP STATIONS

18	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	314	\$ 15,890	\$ 4,989,460	\$ 4,989,000
19	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	314	\$ 13,000	\$ 4,082,000	\$ 4,082,000
20	Stormwater Pump Station (313.9 cfs)	cfs	314	\$ 41,697	\$ 13,092,858	\$ 13,093,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	9			
	C. Flap Gate / Check Valve Valve	Each	9			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	9			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
21	72" Ductile Iron Pipe Discharge Force Main (Microtunneling)	LF	6,600	\$ 6,000	\$ 39,600,000	\$ 39,600,000
22	Discharge Structure	LS	1	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000
					Subtotal	\$ 67,764,000
23	Estimating Contingency (10%)					\$ 10,963,000

Total Construction Subtotal \$ **120,589,000**

24	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 120,589,000	\$ 7,235,340	\$ 7,235,000
25	Permitting Fee (5%)	%	5%	\$ 120,589,000	\$ 6,029,450	\$ 6,029,000
26	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 120,589,000	\$ 12,058,900	\$ 12,059,000
27	CEI Management (Owner's Representative) (5%)	%	5%	\$ 120,589,000	\$ 6,029,450	\$ 6,029,000
28	Construction Contingency (10%)	%	10%	\$ 120,589,000	\$ 12,058,900	\$ 12,059,000
29	CIP Management Fee (6.5%)	%	6.5%	\$ 120,589,000	\$ 7,838,285	\$ 7,838,000

43% **Subtotal** \$ **51,249,000**

Total \$ **171,838,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Flamingo/Lummas D

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	24	\$ 180	\$ 4,320	\$ 4,000
2	Reinforced Concrete Pipe 36"	LF	3,279	\$ 280	\$ 918,120	\$ 918,000
3	Reinforced Concrete Pipe 72"	LF	2,605	\$ 925	\$ 2,409,625	\$ 2,410,000
4	Reinforced Concrete Pipe 78"	LF	3,061	\$ 1,075	\$ 3,290,575	\$ 3,291,000
5	Reinforced Concrete Pipe 84"	LF	2,203	\$ 1,200	\$ 2,643,600	\$ 2,644,000
6	Reinforced Concrete Pipe 96"	LF	1,182	\$ 1,385	\$ 1,637,070	\$ 1,637,000
7	Concrete Manhole - 8'	Each	50	\$ 10,650	\$ 532,500	\$ 533,000
8	Curb Inlet	Each	100	\$ 9,475	\$ 947,500	\$ 948,000
9	1-1/2" Asphalt	Ton	2,409	\$ 172	\$ 413,322	\$ 413,000
10	10" Base	SY	31,363	\$ 20	\$ 627,254	\$ 627,000
11	12" Subgrade	SY	32,140	\$ 6	\$ 188,624	\$ 189,000
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	40,781	\$ 27	\$ 1,101,092	\$ 1,101,000
13	Sodding	SY	15,536	\$ 7	\$ 113,975	\$ 114,000
14	5' Wide Sidewalk	SY	15,536	\$ 27	\$ 417,610	\$ 418,000
15	Curb	LF	27,965	\$ 31	\$ 876,982	\$ 877,000

Subtotal \$ **16,124,000**

16	Mobilization	%	7%	\$ 16,124,000	\$ 1,128,680	\$ 1,129,000
17	Maintenance of Traffic	%	5%	\$ 16,124,000	\$ 806,200	\$ 806,000
18	Material Testing	%	1%	\$ 16,124,000	\$ 161,240	\$ 161,000
19	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 16,124,000	\$ 806,200	\$ 806,000
20	Utility Relocations	%	10%	\$ 16,124,000	\$ 1,612,400	\$ 1,612,000
21	Additional Water Quality Improvements	%	10%	\$ 16,124,000	\$ 1,612,400	\$ 1,612,000
22	Aboveground Components	%	20%	\$ 16,124,000	\$ 3,224,800	\$ 3,225,000
23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 16,124,000	\$ 6,449,600	\$ 6,450,000
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 16,124,000	\$ 6,449,600	\$ 6,450,000

Subtotal \$ **22,251,000**

Estimating Contingency (10%)					\$ 3,837,000
Total Construction Subtotal					\$ 42,212,000

25	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 42,212,000	\$ 2,532,720	\$ 2,533,000
26	Permitting Fee (5%)	%	5%	\$ 42,212,000	\$ 2,110,600	\$ 2,111,000
27	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 42,212,000	\$ 4,221,200	\$ 4,221,000
28	CEI Management (Owner's Representative) (5%)	%	5%	\$ 42,212,000	\$ 2,110,600	\$ 2,111,000
29	Construction Contingency (10%)	%	10%	\$ 42,212,000	\$ 4,221,200	\$ 4,221,000
30	CIP Management Fee (6.5%)	%	6.5%	\$ 42,212,000	\$ 2,743,780	\$ 2,744,000

Subtotal \$ **17,941,000**

Total \$ **60,153,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Flamingo/Lummas E

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	5,305	\$ 180	\$ 954,900	\$ 955,000
2	Reinforced Concrete Pipe 30"	LF	466	\$ 220	\$ 102,520	\$ 103,000
3	Reinforced Concrete Pipe 36"	LF	2,320	\$ 280	\$ 649,600	\$ 650,000
4	Reinforced Concrete Pipe 42"	LF	219	\$ 325	\$ 71,175	\$ 71,000
5	Reinforced Concrete Pipe 48"	LF	1,498	\$ 425	\$ 636,650	\$ 637,000
6	Reinforced Concrete Pipe 54"	LF	388	\$ 505	\$ 195,940	\$ 196,000
7	Reinforced Concrete Pipe 60"	LF	390	\$ 580	\$ 226,200	\$ 226,000
8	Reinforced Concrete Pipe 72"	LF	129	\$ 925	\$ 119,325	\$ 119,000
9	Reinforced Concrete Pipe 84"	LF	108	\$ 1,200	\$ 129,600	\$ 130,000
10	Reinforced Concrete Pipe 96"	LF	3,189	\$ 1,385	\$ 4,416,765	\$ 4,417,000
11	Concrete Manhole - 8'	Each	57	\$ 10,650	\$ 607,050	\$ 607,000
12	Curb Inlet	Each	114	\$ 8,475	\$ 966,150	\$ 966,000
13	1-1/2" Asphalt	Ton	3,254	\$ 172	\$ 558,368	\$ 558,000
14	10" Base	SY	42,583	\$ 20	\$ 851,657	\$ 852,000
15	12" Subgrade	SY	43,846	\$ 6	\$ 257,331	\$ 257,000
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	55,092	\$ 27	\$ 1,487,495	\$ 1,487,000
17	Sodding	SY	25,271	\$ 7	\$ 185,391	\$ 185,000
18	5' Wide Sidewalk	SY	25,271	\$ 27	\$ 679,281	\$ 679,000
19	Curb	LF	45,488	\$ 31	\$ 1,426,490	\$ 1,426,000
Subtotal						\$ 14,521,000

20	Mobilization	%	7%	\$ 14,521,000	\$ 1,016,470	\$ 1,016,000
21	Maintenance of Traffic	%	5%	\$ 14,521,000	\$ 726,050	\$ 726,000
22	Material Testing	%	1%	\$ 14,521,000	\$ 145,210	\$ 145,000
23	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 14,521,000	\$ 726,050	\$ 726,000
24	Utility Relocations	%	10%	\$ 14,521,000	\$ 1,452,100	\$ 1,452,000
25	Additional Water Quality Improvements	%	10%	\$ 14,521,000	\$ 1,452,100	\$ 1,452,000
26	Aboveground Components	%	20%	\$ 14,521,000	\$ 2,904,200	\$ 2,904,000
27	Water Main Distribution/Transmission System Improvements	%	40%	\$ 14,521,000	\$ 5,808,400	\$ 5,808,000
28	Sanitary Sewer Collection System Improvements	%	40%	\$ 14,521,000	\$ 5,808,400	\$ 5,808,000
Subtotal						\$ 20,037,000

PUMP STATIONS

29	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 15,890	\$ 5,656,840	\$ 5,657,000
30	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 13,000	\$ 4,628,000	\$ 4,628,000
31	Stormwater Pump Station (352 cfs + round up to nearest whole pump)	cfs	356	\$ 41,697	\$ 14,844,132	\$ 14,844,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	9			
	C. Flap Gate / Check Valve Valve	Each	9			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	9			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
32	72" Ductile Iron Pipe Discharge Force Main (Microtunneling)	LF	6,000	\$ 6,000	\$ 36,000,000	\$ 36,000,000
33	Discharge Structure	LS	1	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000
Subtotal						\$ 67,129,000

Estimating Contingency (10%)	\$ 10,169,000	
Total Construction Subtotal		\$ 111,856,000

34	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 111,856,000	\$ 6,711,360	\$ 6,711,000
35	Permitting Fee (5%)	%	5%	\$ 111,856,000	\$ 5,592,800	\$ 5,593,000
36	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 111,856,000	\$ 11,185,600	\$ 11,186,000
37	CEI Management (Owner's Representative) (5%)	%	5%	\$ 111,856,000	\$ 5,592,800	\$ 5,593,000
38	Construction Contingency (10%)	%	10%	\$ 111,856,000	\$ 11,185,600	\$ 11,186,000
39	CIP Management Fee (6.5%)	%	6.5%	\$ 111,856,000	\$ 7,270,640	\$ 7,271,000
Subtotal						\$ 47,540,000

Total \$ 159,396,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Flamingo/Lummas F

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	5,909	\$ 180	\$ 1,063,620	\$ 1,064,000
2	Reinforced Concrete Pipe 36"	LF	673	\$ 280	\$ 188,440	\$ 188,000
3	Reinforced Concrete Pipe 42"	LF	494	\$ 325	\$ 160,550	\$ 161,000
4	Reinforced Concrete Pipe 60"	LF	814	\$ 580	\$ 472,120	\$ 472,000
5	Reinforced Concrete Pipe 66"	LF	380	\$ 690	\$ 262,200	\$ 262,000
6	Reinforced Concrete Pipe 72"	LF	678	\$ 925	\$ 627,150	\$ 627,000
7	Reinforced Concrete Pipe 78"	LF	903	\$ 1,075	\$ 970,725	\$ 971,000
8	Reinforced Concrete Pipe 84"	LF	1,329	\$ 1,200	\$ 1,594,800	\$ 1,595,000
9	Reinforced Concrete Pipe 96"	LF	2,786	\$ 1,385	\$ 3,858,610	\$ 3,859,000
10	Concrete Manhole - 8'	Each	56	\$ 10,650	\$ 596,400	\$ 596,000
11	Curb Inlet	Each	112	\$ 8,475	\$ 949,200	\$ 949,000
12	1-1/2" Asphalt	Ton	1,858	\$ 172	\$ 318,830	\$ 319,000
13	10" Base	SY	24,116	\$ 20	\$ 482,328	\$ 482,000
14	12" Subgrade	SY	24,639	\$ 6	\$ 144,606	\$ 145,000
15	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	31,458	\$ 27	\$ 849,364	\$ 849,000
16	Sodding	SY	10,459	\$ 7	\$ 76,730	\$ 77,000
17	5' Wide Sidewalk	SY	10,459	\$ 27	\$ 281,142	\$ 281,000
18	Curb	LF	18,826	\$ 31	\$ 590,398	\$ 590,000
Subtotal						\$ 13,487,000

PUMP STATIONS

18	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	357	\$ 15,890	\$ 5,672,730	\$ 5,673,000
19	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	357	\$ 13,000	\$ 4,641,000	\$ 4,641,000
20	Stormwater Pump Station (357.1 cfs)	cfs	357	\$ 50,000	\$ 17,850,000	\$ 17,850,000
21	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	10			
	C. Flap Gate / Check Valve Valve	Each	10			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	10			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
21	72" Ductile Iron Pipe Discharge Force Main (Microtunneling)	LF	5,600	\$ 6,000	\$ 33,600,000	\$ 33,600,000
22	Discharge Structure	LS	1	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000
Subtotal						\$ 67,764,000

23	Mobilization	%	7%	\$ 13,487,000	\$ 944,090	\$ 944,000
24	Maintenance of Traffic	%	5%	\$ 13,487,000	\$ 674,350	\$ 674,000
25	Material Testing	%	1%	\$ 13,487,000	\$ 134,870	\$ 135,000
26	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 13,487,000	\$ 674,350	\$ 674,000
27	Utility Relocations	%	10%	\$ 13,487,000	\$ 1,348,700	\$ 1,349,000
28	Additional Water Quality Improvements	%	10%	\$ 13,487,000	\$ 1,348,700	\$ 1,349,000
29	Aboveground Components	%	20%	\$ 13,487,000	\$ 2,697,400	\$ 2,697,000
30	Water Main Distribution/Transmission System Improvements	%	40%	\$ 13,487,000	\$ 5,394,800	\$ 5,395,000
31	Sanitary Sewer Collection System Improvements	%	40%	\$ 13,487,000	\$ 5,394,800	\$ 5,395,000
Subtotal						\$ 18,612,000

Estimating Contingency (10%)						\$ 9,986,000
Total Construction Subtotal						\$ 109,849,000

32	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 109,849,000	\$ 6,590,940	\$ 6,591,000
33	Permitting Fee (5%)	%	5%	\$ 109,849,000	\$ 5,492,450	\$ 5,492,000
34	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 109,849,000	\$ 10,984,900	\$ 10,985,000
35	CEI Management (Owner's Representative) (5%)	%	5%	\$ 109,849,000	\$ 5,492,450	\$ 5,492,000
36	Construction Contingency (10%)	%	10%	\$ 109,849,000	\$ 10,984,900	\$ 10,985,000
37	CIP Management Fee (6.5%)	%	6.5%	\$ 109,849,000	\$ 7,140,185	\$ 7,140,000
Subtotal						\$ 46,685,000

Total \$ 156,534,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Flamingo/Lummus G

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	10,916	\$ 180	\$ 1,964,880	\$ 1,965,000
2	Reinforced Concrete Pipe 30"	LF	146	\$ 220	\$ 32,120	\$ 32,000
3	Reinforced Concrete Pipe 36"	LF	500	\$ 280	\$ 140,000	\$ 140,000
4	Reinforced Concrete Pipe 54"	LF	42	\$ 505	\$ 21,210	\$ 21,000
5	Reinforced Concrete Pipe 60"	LF	3,140	\$ 580	\$ 1,821,200	\$ 1,821,000
6	Reinforced Concrete Pipe 66"	LF	874	\$ 690	\$ 603,060	\$ 603,000
7	Reinforced Concrete Pipe 72"	LF	3,155	\$ 925	\$ 2,918,375	\$ 2,918,000
8	Reinforced Concrete Pipe 78"	LF	1,818	\$ 1,075	\$ 1,954,350	\$ 1,954,000
9	Reinforced Concrete Pipe 84"	LF	447	\$ 1,200	\$ 536,400	\$ 536,000
10	Reinforced Concrete Pipe 96"	LF	3,689	\$ 1,385	\$ 5,109,265	\$ 5,109,000
11	Concrete Manhole - 8'	Each	99	\$ 10,650	\$ 1,054,350	\$ 1,054,000
12	Curb Inlet	Each	198	\$ 8,475	\$ 1,678,050	\$ 1,678,000
13	1-1/2" Asphalt	Ton	3,465	\$ 172	\$ 594,529	\$ 595,000
14	10" Base	SY	44,941	\$ 20	\$ 898,814	\$ 899,000
15	12" Subgrade	SY	45,886	\$ 6	\$ 269,302	\$ 269,000
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	58,660	\$ 27	\$ 1,583,828	\$ 1,584,000
17	Sodding	SY	18,910	\$ 7	\$ 138,725	\$ 139,000
18	5' Wide Sidewalk	SY	18,910	\$ 27	\$ 508,294	\$ 508,000
19	Curb	LF	34,038	\$ 31	\$ 1,067,417	\$ 1,067,000

Subtotal \$ **22,892,000**

20	Mobilization	%	7%	\$ 22,892,000	\$ 1,602,440	\$ 1,602,000
21	Maintenance of Traffic	%	5%	\$ 22,892,000	\$ 1,144,600	\$ 1,145,000
22	Material Testing	%	1%	\$ 22,892,000	\$ 228,920	\$ 229,000
23	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 22,892,000	\$ 1,144,600	\$ 1,145,000
24	Utility Relocations	%	10%	\$ 22,892,000	\$ 2,289,200	\$ 2,289,000
25	Additional Water Quality Improvements	%	10%	\$ 22,892,000	\$ 2,289,200	\$ 2,289,000
26	Aboveground Components	%	20%	\$ 22,892,000	\$ 4,578,400	\$ 4,578,000
27	Water Main Distribution/Transmission System Improvements	%	40%	\$ 22,892,000	\$ 9,156,800	\$ 9,157,000
28	Sanitary Sewer Collection System Improvements	%	40%	\$ 22,892,000	\$ 9,156,800	\$ 9,157,000

Subtotal \$ **31,591,000**

29	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 15,890	\$ 5,656,840	\$ 5,657,000
30	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 13,000	\$ 4,628,000	\$ 4,628,000
31	Stormwater Pump Station (352 cfs + round up to nearest whole pump)	cfs	356	\$ 41,697	\$ 14,844,132	\$ 14,844,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	9			
	C. Flap Gate / Check Valve Valve	Each	9			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	9			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
32	72" Ductile Iron Pipe Discharge Force Main (Microtunneling)	LF	6,000	\$ 6,000	\$ 36,000,000	\$ 36,000,000
33	Discharge Structure	LS	1	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000

Subtotal \$ **67,129,000**

Estimating Contingency (10%) \$ 12,161,000

Total Construction Subtotal \$ **133,773,000**

34	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 133,773,000	\$ 8,026,380	\$ 8,026,000
35	Permitting Fee (5%)	%	5%	\$ 133,773,000	\$ 6,688,650	\$ 6,689,000
36	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 133,773,000	\$ 13,377,300	\$ 13,377,000
37	CEI Management (Owner's Representative) (5%)	%	5%	\$ 133,773,000	\$ 6,688,650	\$ 6,689,000
38	Construction Contingency (10%)	%	10%	\$ 133,773,000	\$ 13,377,300	\$ 13,377,000
39	CIP Management Fee (6.5%)	%	6.5%	\$ 133,773,000	\$ 8,695,245	\$ 8,695,000

Subtotal \$ **56,853,000**

Total \$ **190,626,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
South Pointe A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	708	\$ 130	\$ 92,040	\$ 92,000
2	Reinforced Concrete Pipe 24"	LF	1,321	\$ 180	\$ 237,780	\$ 238,000
3	Reinforced Concrete Pipe 30"	LF	1,148	\$ 220	\$ 252,560	\$ 253,000
4	Reinforced Concrete Pipe 36"	LF	1,828	\$ 280	\$ 511,840	\$ 512,000
5	Reinforced Concrete Pipe 42"	LF	2,539	\$ 325	\$ 825,175	\$ 825,000
6	Reinforced Concrete Pipe 48"	LF	174	\$ 425	\$ 73,950	\$ 74,000
7	Reinforced Concrete Pipe 60"	LF	673	\$ 580	\$ 390,340	\$ 390,000
8	Reinforced Concrete Pipe 72"	LF	383	\$ 925	\$ 354,275	\$ 354,000
9	Concrete Manhole - 8'	Each	36	\$ 10,650	\$ 383,400	\$ 383,000
10	Curb Inlet	Each	72	\$ 9,475	\$ 682,200	\$ 682,000
11	1-1/2" Asphalt	Ton	2,036	\$ 172	\$ 349,400	\$ 349,000
12	10" Base	SY	26,746	\$ 20	\$ 534,929	\$ 535,000
13	12" Subgrade	SY	27,637	\$ 6	\$ 162,201	\$ 162,000
14	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	34,474	\$ 27	\$ 930,803	\$ 931,000
15	Sodding	SY	17,816	\$ 7	\$ 130,704	\$ 131,000
16	5' Wide Sidewalk	SY	17,816	\$ 27	\$ 478,907	\$ 479,000
17	Curb	LF	32,070	\$ 31	\$ 1,005,705	\$ 1,006,000

Subtotal \$ **7,396,000**

18	Mobilization	%	7%	\$ 7,396,000	\$ 517,720	\$ 518,000
19	Maintenance of Traffic	%	5%	\$ 7,396,000	\$ 369,800	\$ 370,000
20	Material Testing	%	1%	\$ 7,396,000	\$ 73,960	\$ 74,000
21	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 7,396,000	\$ 369,800	\$ 370,000
22	Utility Relocations	%	10%	\$ 7,396,000	\$ 739,600	\$ 740,000
23	Additional Water Quality Improvements	%	10%	\$ 7,396,000	\$ 739,600	\$ 740,000
24	Aboveground Components	%	20%	\$ 7,396,000	\$ 1,479,200	\$ 1,479,000
25	Water Main Distribution/Transmission System Improvements	%	40%	\$ 7,396,000	\$ 2,958,400	\$ 2,958,000
26	Sanitary Sewer Collection System Improvements	%	40%	\$ 7,396,000	\$ 2,958,400	\$ 2,958,000

Subtotal \$ **10,207,000**

Estimating Contingency (10%)	\$ 1,761,000
Total Construction Subtotal	\$ 19,364,000

27	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 19,364,000	\$ 1,161,840	\$ 1,162,000
28	Permitting Fee (5%)	%	5%	\$ 19,364,000	\$ 968,200	\$ 968,000
29	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 19,364,000	\$ 1,936,400	\$ 1,936,000
30	CEI Management (Owner's Representative) (5%)	%	5%	\$ 19,364,000	\$ 968,200	\$ 968,000
31	Construction Contingency (10%)	%	10%	\$ 19,364,000	\$ 1,936,400	\$ 1,936,000
32	CIP Management Fee (6.5%)	%	6.5%	\$ 19,364,000	\$ 1,258,660	\$ 1,259,000

Subtotal \$ **8,229,000**

Total \$ **27,593,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
South Pointe B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	1-1/2" Asphalt	Ton	3	\$ 172	\$ 443	\$ 400
2	10" Base	SY	44	\$ 20	\$ 887	\$ 900
3	12" Subgrade	SY	56	\$ 6	\$ 328	\$ 300
4	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	44	\$ 27	\$ 1,180	\$ 1,200
5	Sodding	SY	232	\$ 7	\$ 1,700	\$ 2,000
6	5' Wide Sidewalk	SY	232	\$ 27	\$ 6,227	\$ 6,000
7	Curb	LF	417	\$ 31	\$ 13,077	\$ 13,000
Subtotal						\$ 23,800

8	Mobilization	%	7%	\$ 23,800	\$ 1,666	\$ 2,000
9	Maintenance of Traffic	%	5%	\$ 23,800	\$ 1,190	\$ 1,000
10	Material Testing	%	1%	\$ 23,800	\$ 238	\$ 200
11	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 23,800	\$ 1,190	\$ 1,000
12	Utility Relocations	%	10%	\$ 23,800	\$ 2,380	\$ 2,000
13	Additional Water Quality Improvements	%	10%	\$ 23,800	\$ 2,380	\$ 2,000
14	Aboveground Components	%	20%	\$ 23,800	\$ 4,760	\$ 5,000
15	Water Main Distribution/Transmission System Improvements	%	40%	\$ 23,800	\$ 9,520	\$ 10,000
16	Sanitary Sewer Collection System Improvements	%	40%	\$ 23,800	\$ 9,520	\$ 10,000
Subtotal						\$ 33,200

Estimating Contingency (10%)					\$ 5,000
Total Construction Subtotal					\$ 62,000

17	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 62,000	\$ 3,720	\$ 4,000
18	Permitting Fee (5%)	%	5%	\$ 62,000	\$ 3,100	\$ 3,000
19	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 62,000	\$ 6,200	\$ 6,000
20	CEI Management (Owner's Representative) (5%)	%	5%	\$ 62,000	\$ 3,100	\$ 3,000
21	Construction Contingency (10%)	%	10%	\$ 62,000	\$ 6,200	\$ 6,000
22	CIP Management Fee (6.5%)	%	6.5%	\$ 62,000	\$ 4,030	\$ 4,000
Subtotal						\$ 26,000
Total						\$ 88,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
South Pointe C

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 30"	LF	90	\$ 220	\$ 19,800	\$ 20,000
2	Reinforced Concrete Pipe 72"	LF	48	\$ 925	\$ 44,400	\$ 44,000
3	Reinforced Concrete Pipe 96"	LF	36	\$ 1,385	\$ 49,860	\$ 50,000
4	Concrete Manhole - 8'	Each	1	\$ 10,650	\$ 10,650	\$ 11,000
5	Curb Inlet	Each	2	\$ 9,475	\$ 18,950	\$ 19,000
6	1-1/2" Asphalt	Ton	42	\$ 172	\$ 7,164	\$ 7,000
7	10" Base	SY	537	\$ 20	\$ 10,747	\$ 11,000
8	12" Subgrade	SY	545	\$ 6	\$ 3,196	\$ 3,000
9	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	707	\$ 27	\$ 19,085	\$ 19,000
10	Sodding	SY	145	\$ 7	\$ 1,061	\$ 1,000
11	5' Wide Sidewalk	SY	145	\$ 27	\$ 3,887	\$ 4,000
12	Curb	LF	260	\$ 31	\$ 8,164	\$ 8,000
Subtotal						\$ 197,000

13	Mobilization	%	7%	\$ 197,000	\$ 13,790	\$ 14,000
14	Maintenance of Traffic	%	5%	\$ 197,000	\$ 9,850	\$ 10,000
15	Material Testing	%	1%	\$ 197,000	\$ 1,970	\$ 2,000
16	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 197,000	\$ 9,850	\$ 10,000
17	Utility Relocations	%	10%	\$ 197,000	\$ 19,700	\$ 20,000
18	Additional Water Quality Improvements	%	10%	\$ 197,000	\$ 19,700	\$ 20,000
19	Aboveground Components	%	20%	\$ 197,000	\$ 39,400	\$ 39,000
20	Water Main Distribution/Transmission System Improvements	%	40%	\$ 197,000	\$ 78,800	\$ 79,000
21	Sanitary Sewer Collection System Improvements	%	40%	\$ 197,000	\$ 78,800	\$ 79,000
Subtotal						\$ 273,000

Estimating Contingency (10%)					\$ 47,000
Total Construction Subtotal					\$ 517,000

22	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 517,000	\$ 31,020	\$ 31,000
23	Permitting Fee (5%)	%	5%	\$ 517,000	\$ 25,850	\$ 26,000
24	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 517,000	\$ 51,700	\$ 52,000
25	CEI Management (Owner's Representative) (5%)	%	5%	\$ 517,000	\$ 25,850	\$ 26,000
26	Construction Contingency (10%)	%	10%	\$ 517,000	\$ 51,700	\$ 52,000
27	CIP Management Fee (6.5%)	%	6.5%	\$ 517,000	\$ 33,605	\$ 34,000
Subtotal						\$ 221,000
Total						\$ 738,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
South Pointe D

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	2,093	\$ 250	\$ 523,250	\$ 523,000
2	Reinforced Concrete Pipe 24"	LF	2,594	\$ 300	\$ 778,200	\$ 778,000
3	Reinforced Concrete Pipe 30"	LF	2,428	\$ 450	\$ 1,092,600	\$ 1,093,000
4	Reinforced Concrete Pipe 36"	LF	1,841	\$ 650	\$ 1,196,650	\$ 1,197,000
5	Reinforced Concrete Pipe 42"	LF	536	\$ 800	\$ 428,800	\$ 429,000
6	Reinforced Concrete Pipe 48"	LF	4,080	\$ 950	\$ 3,876,000	\$ 3,876,000
7	Reinforced Concrete Pipe 54"	LF	146	\$ 1,650	\$ 240,900	\$ 241,000
8	Reinforced Concrete Pipe 60"	LF	1,866	\$ 1,700	\$ 3,172,200	\$ 3,172,000
9	Reinforced Concrete Pipe 72"	LF	7,307	\$ 1,800	\$ 13,152,600	\$ 13,153,000
10	Reinforced Concrete Pipe 96"	LF	2,007	\$ 2,200	\$ 4,415,400	\$ 4,415,000
11	Concrete Manhole - 8'	Each	100	\$ 10,650	\$ 1,065,000	\$ 1,065,000
12	Curb Inlet	Each	200	\$ 8,475	\$ 1,695,000	\$ 1,695,000
13	1-1/2" Asphalt	Ton	3,096	\$ 172	\$ 531,209	\$ 531,000
14	10" Base	SY	40,238	\$ 20	\$ 804,759	\$ 805,000
15	12" Subgrade	SY	41,166	\$ 6	\$ 241,602	\$ 242,000
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	52,413	\$ 27	\$ 1,415,142	\$ 1,415,000
17	Sodding	SY	18,569	\$ 7	\$ 136,226	\$ 136,000
18	5' Wide Sidewalk	SY	18,569	\$ 27	\$ 499,138	\$ 499,000
19	Curb	LF	33,424	\$ 31	\$ 1,048,189	\$ 1,048,000
Subtotal						\$ 36,313,000

20	Mobilization	%	7%	\$ 36,313,000	\$ 2,541,910	\$ 2,542,000
21	Maintenance of Traffic	%	5%	\$ 36,313,000	\$ 1,815,650	\$ 1,816,000
22	Material Testing	%	1%	\$ 36,313,000	\$ 363,130	\$ 363,000
23	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 36,313,000	\$ 1,815,650	\$ 1,816,000
24	Utility Relocations	%	10%	\$ 36,313,000	\$ 3,631,300	\$ 3,631,000
25	Additional Water Quality Improvements	%	10%	\$ 36,313,000	\$ 3,631,300	\$ 3,631,000
26	Aboveground Components	%	20%	\$ 36,313,000	\$ 7,262,600	\$ 7,263,000
27	Water Main Distribution/Transmission System Improvements	%	40%	\$ 36,313,000	\$ 14,525,200	\$ 14,525,000
28	Sanitary Sewer Collection System Improvements	%	40%	\$ 36,313,000	\$ 14,525,200	\$ 14,525,000
Subtotal						\$ 50,112,000

PUMP STATIONS

28	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	400	\$ 15,890	\$ 6,356,000	\$ 6,356,000
29	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	400	\$ 13,000	\$ 5,200,000	\$ 5,200,000
30	Stormwater Pump Station (390 + round up to nearest whole pump)	cfs	400	\$ 41,697	\$ 16,678,800	\$ 16,679,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	10			
	C. Flap Gate / Check Valve	Each	10			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	10			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
31	96" FRP (Hobas) Buried Discharge Force Main	LF	1,200	\$ 3,430	\$ 4,116,000	\$ 4,116,000
32	Outfall Structures	LS	1	\$ 2,389,122	\$ 2,389,122	\$ 2,389,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	290			
Subtotal						\$ 34,740,000

Estimating Contingency (10%)						\$ 12,116,000
Total Construction Subtotal						\$ 133,281,000

33	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 133,281,000	\$ 7,996,860	\$ 7,997,000
34	Permitting Fee (5%)	%	5%	\$ 133,281,000	\$ 6,664,050	\$ 6,664,000
35	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 133,281,000	\$ 13,328,100	\$ 13,328,000
36	CEI Management (Owner's Representative) (5%)	%	5%	\$ 133,281,000	\$ 6,664,050	\$ 6,664,000
37	Construction Contingency (10%)	%	10%	\$ 133,281,000	\$ 13,328,100	\$ 13,328,000
38	CIP Management Fee (6.5%)	%	6.5%	\$ 133,281,000	\$ 8,663,265	\$ 8,663,000
Subtotal						\$ 56,644,000

Total \$ 189,925,000

Appendix 10.2: Basin 2

NIP Preliminary Construction Cost Estimates

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Nautilus A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	2,577	\$ 180	\$ 463,860	\$ 464,000
2	Reinforced Concrete Pipe 30"	LF	1,310	\$ 220	\$ 288,200	\$ 288,000
3	Reinforced Concrete Pipe 36"	LF	952	\$ 280	\$ 266,560	\$ 267,000
4	Reinforced Concrete Pipe 42"	LF	673	\$ 325	\$ 218,725	\$ 219,000
5	Reinforced Concrete Pipe 48"	LF	2,388	\$ 425	\$ 1,014,900	\$ 1,015,000
6	Reinforced Concrete Pipe 60"	LF	392	\$ 580	\$ 227,360	\$ 227,000
7	Reinforced Concrete Pipe 66"	LF	1,115	\$ 690	\$ 769,350	\$ 769,000
8	Reinforced Concrete Pipe 78"	LF	902	\$ 1,075	\$ 969,650	\$ 970,000
9	Reinforced Concrete Pipe 84"	LF	745	\$ 1,200	\$ 894,000	\$ 894,000
10	Concrete Manhole - 8'	Each	45	\$ 10,650	\$ 479,250	\$ 479,000
11	Curb Inlet	Each	90	\$ 9,475	\$ 852,750	\$ 853,000
12	1-1/2" Asphalt	Ton	1,880	\$ 172	\$ 322,535	\$ 323,000
13	10" Base	SY	24,586	\$ 20	\$ 491,720	\$ 492,000
14	12" Subgrade	SY	25,304	\$ 6	\$ 148,509	\$ 149,000
15	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	31,824	\$ 27	\$ 859,235	\$ 859,000
16	Sodding	SY	14,367	\$ 7	\$ 105,397	\$ 105,000
17	5' Wide Sidewalk	SY	14,367	\$ 27	\$ 386,179	\$ 386,000
18	Curb	LF	25,860	\$ 31	\$ 810,975	\$ 811,000
Subtotal						\$ 9,570,000

19	Mobilization	%	7%	\$ 9,570,000	\$ 669,900	\$ 670,000
20	Maintenance of Traffic	%	5%	\$ 9,570,000	\$ 478,500	\$ 479,000
21	Material Testing	%	1%	\$ 9,570,000	\$ 95,700	\$ 96,000
22	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 9,570,000	\$ 478,500	\$ 479,000
23	Utility Relocations	%	10%	\$ 9,570,000	\$ 957,000	\$ 957,000
24	Additional Water Quality Improvements	%	10%	\$ 9,570,000	\$ 957,000	\$ 957,000
25	Aboveground Components	%	20%	\$ 9,570,000	\$ 1,914,000	\$ 1,914,000
26	Water Main Distribution/Transmission System Improvements	%	40%	\$ 9,570,000	\$ 3,828,000	\$ 3,828,000
27	Sanitary Sewer Collection System Improvements	%	40%	\$ 9,570,000	\$ 3,828,000	\$ 3,828,000
Subtotal						\$ 13,208,000

PUMP STATIONS

28	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	312	\$ 15,890	\$ 4,957,680	\$ 4,958,000
29	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	312	\$ 13,000	\$ 4,056,000	\$ 4,056,000
30	Stormwater Pump Station (301 cfs + round up to nearest whole pump)	cfs	312	\$ 41,697	\$ 13,009,464	\$ 13,009,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	9			
	C. Flap Gate / Check Valve	Each	9			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	9			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
31	Outfall Structures	LS	1	\$ 1,977,844	\$ 1,977,844	\$ 1,978,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	240			
Subtotal						\$ 24,001,000

Estimating Contingency (10%)						\$ 4,678,000
Total Construction Subtotal						\$ 51,457,000

32	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 51,457,000	\$ 3,087,420	\$ 3,087,000
33	Permitting Fee (5%)	%	5%	\$ 51,457,000	\$ 2,572,850	\$ 2,573,000
34	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 51,457,000	\$ 5,145,700	\$ 5,146,000
35	CEI Management (Owner's Representative) (5%)	%	5%	\$ 51,457,000	\$ 2,572,850	\$ 2,573,000
36	Construction Contingency (10%)	%	10%	\$ 51,457,000	\$ 5,145,700	\$ 5,146,000
37	CIP Management Fee (6.5%)	%	6.5%	\$ 51,457,000	\$ 3,344,705	\$ 3,345,000
Subtotal						\$ 21,870,000

Total **\$ 73,327,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Nautilus B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	3,683	\$ 180	\$ 662,940	\$ 663,000
2	Reinforced Concrete Pipe 30"	LF	849	\$ 220	\$ 186,780	\$ 187,000
3	Reinforced Concrete Pipe 36"	LF	575	\$ 280	\$ 161,000	\$ 161,000
4	Reinforced Concrete Pipe 42"	LF	370	\$ 325	\$ 120,250	\$ 120,000
5	Reinforced Concrete Pipe 48"	LF	1,299	\$ 425	\$ 552,075	\$ 552,000
6	Reinforced Concrete Pipe 54"	LF	1,729	\$ 505	\$ 873,145	\$ 873,000
7	Reinforced Concrete Pipe 60"	LF	607	\$ 580	\$ 352,060	\$ 352,000
8	Reinforced Concrete Pipe 66"	LF	456	\$ 690	\$ 314,640	\$ 315,000
9	Reinforced Concrete Pipe 72"	LF	898	\$ 925	\$ 830,650	\$ 831,000
10	Reinforced Concrete Pipe 78"	LF	230	\$ 1,075	\$ 247,250	\$ 247,000
11	Reinforced Concrete Pipe 84"	LF	355	\$ 1,200	\$ 426,000	\$ 426,000
12	Reinforced Concrete Pipe 96"	LF	78	\$ 1,325	\$ 103,350	\$ 103,000
13	Concrete Manhole - 8'	Each	45	\$ 10,650	\$ 479,250	\$ 479,000
14	Curb Inlet	Each	90	\$ 9,475	\$ 852,750	\$ 853,000
15	1-1/2" Asphalt	Ton	1,843	\$ 172	\$ 316,308	\$ 316,000
16	10" Base	SY	24,136	\$ 20	\$ 482,727	\$ 483,000
17	12" Subgrade	SY	24,866	\$ 6	\$ 145,936	\$ 146,000
18	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	31,209	\$ 27	\$ 842,645	\$ 843,000
19	Sodding	SY	14,591	\$ 7	\$ 107,042	\$ 107,000
20	5' Wide Sidewalk	SY	14,591	\$ 27	\$ 392,206	\$ 392,000
21	Curb	LF	26,264	\$ 31	\$ 823,633	\$ 824,000
Subtotal						\$ 9,273,000

22	Mobilization	%	7%	\$ 9,273,000	\$ 649,110	\$ 649,000
23	Maintenance of Traffic	%	5%	\$ 9,273,000	\$ 463,650	\$ 464,000
24	Material Testing	%	1%	\$ 9,273,000	\$ 92,730	\$ 93,000
25	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 9,273,000	\$ 463,650	\$ 464,000
26	Utility Relocations	%	10%	\$ 9,273,000	\$ 927,300	\$ 927,000
27	Additional Water Quality Improvements	%	10%	\$ 9,273,000	\$ 927,300	\$ 927,000
28	Aboveground Components	%	20%	\$ 9,273,000	\$ 1,854,600	\$ 1,855,000
29	Water Main Distribution/Transmission System Improvements	%	40%	\$ 9,273,000	\$ 3,709,200	\$ 3,709,000
30	Sanitary Sewer Collection System Improvements	%	40%	\$ 9,273,000	\$ 3,709,200	\$ 3,709,000
Subtotal						\$ 12,797,000

PUMP STATIONS

31	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	312	\$ 15,890	\$ 4,957,680	\$ 4,958,000
32	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	312	\$ 13,000	\$ 4,056,000	\$ 4,056,000
33	Stormwater Pump Station (301 cfs + round up to nearest whole pump)	cfs	312	\$ 41,697	\$ 13,009,464	\$ 13,009,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	9			
	C. Flap Gate / Check Valve Valve	Each	9			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	9			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
34	Outfall Structures	LS	1	\$ 1,977,844	\$ 1,977,844	\$ 1,978,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	240			
Subtotal						\$ 24,001,000

Estimating Contingency (10%)						\$ 4,607,000
Total Construction Subtotal						\$ 50,678,000

35	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 50,678,000	\$ 3,040,680	\$ 3,041,000
36	Permitting Fee (5%)	%	5%	\$ 50,678,000	\$ 2,533,900	\$ 2,534,000
37	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 50,678,000	\$ 5,067,800	\$ 5,068,000
38	CEI Management (Owner's Representative) (5%)	%	5%	\$ 50,678,000	\$ 2,533,900	\$ 2,534,000
39	Construction Contingency (10%)	%	10%	\$ 50,678,000	\$ 5,067,800	\$ 5,068,000
40	CIP Management Fee (6.5%)	%	6.5%	\$ 50,678,000	\$ 3,294,070	\$ 3,294,000
Subtotal						\$ 21,539,000
Total						\$ 72,217,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Nautilus C

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	1-1/2" Asphalt	Ton	562	\$ 172	\$ 96,382	\$ 96,000
2	10" Base	SY	7,301	\$ 20	\$ 146,025	\$ 146,000
3	12" Subgrade	SY	7,470	\$ 6	\$ 43,842	\$ 44,000
4	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	9,510	\$ 27	\$ 256,762	\$ 257,000
5	Sodding	SY	3,380	\$ 7	\$ 24,793	\$ 25,000
6	5' Wide Sidewalk	SY	3,380	\$ 27	\$ 90,843	\$ 91,000
7	Curb	LF	6,083	\$ 31	\$ 190,770	\$ 191,000
Subtotal						\$ 850,000

8	Mobilization	%	7%	\$ 850,000	\$ 59,500	\$ 60,000
9	Maintenance of Traffic	%	5%	\$ 850,000	\$ 42,500	\$ 43,000
10	Material Testing	%	1%	\$ 850,000	\$ 8,500	\$ 9,000
11	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 850,000	\$ 42,500	\$ 43,000
12	Utility Relocations	%	10%	\$ 850,000	\$ 85,000	\$ 85,000
13	Additional Water Quality Improvements	%	10%	\$ 850,000	\$ 85,000	\$ 85,000
14	Aboveground Components	%	20%	\$ 850,000	\$ 170,000	\$ 170,000
15	Water Main Distribution/Transmission System Improvements	%	40%	\$ 850,000	\$ 340,000	\$ 340,000
16	Sanitary Sewer Collection System Improvements	%	40%	\$ 850,000	\$ 340,000	\$ 340,000
Subtotal						\$ 1,175,000

Estimating Contingency (10%)					\$ 203,000
Total Construction Subtotal					\$ 2,228,000

17	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 2,228,000	\$ 133,680	\$ 134,000
18	Permitting Fee (5%)	%	5%	\$ 2,228,000	\$ 111,400	\$ 111,000
19	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 2,228,000	\$ 222,800	\$ 223,000
20	CEI Management (Owner's Representative) (5%)	%	5%	\$ 2,228,000	\$ 111,400	\$ 111,000
21	Construction Contingency (10%)	%	10%	\$ 2,228,000	\$ 222,800	\$ 223,000
22	CIP Management Fee (6.5%)	%	6.5%	\$ 2,228,000	\$ 144,820	\$ 145,000
Subtotal						\$ 947,000
Total						\$ 3,175,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Bayshore A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	57	\$ 180	\$ 10,260	\$ 10,000
2	Reinforced Concrete Pipe 30"	LF	682	\$ 220	\$ 150,040	\$ 150,000
3	Reinforced Concrete Pipe 36"	LF	455	\$ 280	\$ 127,400	\$ 127,000
	Reinforced Concrete Pipe 48"	LF	1,285	\$ 425	\$ 546,125	\$ 546,000
4	Reinforced Concrete Pipe 60"	LF	1,588	\$ 580	\$ 921,040	\$ 921,000
5	Reinforced Concrete Pipe 72"	LF	1,130	\$ 925	\$ 1,045,250	\$ 1,045,000
6	Reinforced Concrete Pipe 84"	LF	770	\$ 1,200	\$ 924,000	\$ 924,000
7	Concrete Manhole - 8'	Each	24	\$ 10,650	\$ 255,600	\$ 256,000
8	Curb Inlet	Each	48	\$ 9,475	\$ 454,800	\$ 455,000
9	1-1/2" Asphalt	Ton	1,316	\$ 172	\$ 225,855	\$ 226,000
10	10" Base	SY	17,149	\$ 20	\$ 342,987	\$ 343,000
11	12" Subgrade	SY	17,585	\$ 6	\$ 103,207	\$ 103,000
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	22,284	\$ 27	\$ 601,680	\$ 602,000
13	Sodding	SY	8,721	\$ 7	\$ 63,975	\$ 64,000
14	5' Wide Sidewalk	SY	8,721	\$ 27	\$ 234,408	\$ 234,000
15	Curb	LF	15,697	\$ 31	\$ 492,258	\$ 492,000
Subtotal						\$ 6,498,000

16	Mobilization	%	7%	\$ 6,498,000	\$ 454,860	\$ 455,000
17	Maintenance of Traffic	%	5%	\$ 6,498,000	\$ 324,900	\$ 325,000
18	Material Testing	%	1%	\$ 6,498,000	\$ 64,980	\$ 65,000
19	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 6,498,000	\$ 324,900	\$ 325,000
20	Utility Relocations	%	10%	\$ 6,498,000	\$ 649,800	\$ 650,000
21	Additional Water Quality Improvements	%	10%	\$ 6,498,000	\$ 649,800	\$ 650,000
22	Aboveground Components	%	20%	\$ 6,498,000	\$ 1,299,600	\$ 1,300,000
23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 6,498,000	\$ 2,599,200	\$ 2,599,000
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 6,498,000	\$ 2,599,200	\$ 2,599,000
Subtotal						\$ 8,968,000

PUMP STATIONS

25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$ 2,828,000
26	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 13,000	\$ 2,314,000	\$ 2,314,000
27	Stormwater Pump Station (152 cfs + round up to nearest whole pump)	cfs	178	\$ 41,697	\$ 7,422,066	\$ 7,422,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
28	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
29	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	267	\$ 15,890	\$ 4,242,630	\$ 4,243,000
30	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	267	\$ 13,000	\$ 3,471,000	\$ 3,471,000
31	Stormwater Pump Station (234 cfs + round up to nearest whole pump)	cfs	267	\$ 41,697	\$ 11,133,099	\$ 11,133,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	7			
	C. Flap Gate / Check Valve	Each	7			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	7			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
32	84" Ductile Iron Pipe Discharge Force Main (Microtunneling)	LF	1,100	\$ 7,000	\$ 7,700,000	\$ 7,700,000
35	Outfall Structures	LS	1	\$ 1,731,078	\$ 1,731,078	\$ 1,731,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	210			
Subtotal						\$ 42,162,000

Estimating Contingency (10%)						\$ 5,763,000
Total Construction Subtotal						\$ 63,391,000

36	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 63,391,000	\$ 3,803,460	\$ 3,803,000
37	Permitting Fee (5%)	%	5%	\$ 63,391,000	\$ 3,169,550	\$ 3,170,000
38	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 63,391,000	\$ 6,339,100	\$ 6,339,000
39	CEI Management (Owner's Representative) (5%)	%	5%	\$ 63,391,000	\$ 3,169,550	\$ 3,170,000
40	Construction Contingency (10%)	%	10%	\$ 63,391,000	\$ 6,339,100	\$ 6,339,000
41	CIP Management Fee (6.5%)	%	6.5%	\$ 63,391,000	\$ 4,120,415	\$ 4,120,000
Subtotal						\$ 26,941,000
Total						\$ 90,332,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Bayshore B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	8,875	\$ 155	\$ 1,375,625	\$ 1,376,000
2	Reinforced Concrete Pipe 24"	LF	1,456	\$ 180	\$ 262,080	\$ 262,000
3	Reinforced Concrete Pipe 30"	LF	829	\$ 220	\$ 182,380	\$ 182,000
4	Reinforced Concrete Pipe 36"	LF	1,020	\$ 280	\$ 285,600	\$ 286,000
5	Reinforced Concrete Pipe 48"	LF	8,500	\$ 425	\$ 3,612,500	\$ 3,613,000
6	Reinforced Concrete Pipe 54"	LF	260	\$ 505	\$ 131,300	\$ 131,000
7	Reinforced Concrete Pipe 60"	LF	3,766	\$ 580	\$ 2,184,280	\$ 2,184,000
8	Reinforced Concrete Pipe 66"	LF	421	\$ 690	\$ 290,490	\$ 290,000
9	Reinforced Concrete Pipe 72"	LF	1,004	\$ 925	\$ 928,700	\$ 929,000
10	Reinforced Concrete Pipe 84"	LF	125	\$ 1,200	\$ 150,000	\$ 150,000
11	Reinforced Concrete Pipe 96"	LF	792	\$ 1,385	\$ 1,096,920	\$ 1,097,000
12	Concrete Manhole - 8'	Each	109	\$ 10,650	\$ 1,160,850	\$ 1,161,000
13	Curb Inlet	Each	218	\$ 9,475	\$ 2,065,550	\$ 2,066,000
14	1-1/2" Asphalt	Ton	3,315	\$ 172	\$ 568,884	\$ 569,000
15	10" Base	SY	43,440	\$ 20	\$ 868,791	\$ 869,000
16	12" Subgrade	SY	44,782	\$ 6	\$ 262,820	\$ 263,000
17	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	56,130	\$ 27	\$ 1,515,509	\$ 1,516,000
18	Sodding	SY	26,841	\$ 7	\$ 196,912	\$ 197,000
19	5' Wide Sidewalk	SY	26,841	\$ 27	\$ 721,494	\$ 721,000
20	Curb	LF	48,314	\$ 31	\$ 1,515,136	\$ 1,515,000
Subtotal						\$ 19,377,000

21	Mobilization	%	7%	\$ 19,377,000	\$ 1,356,390	\$ 1,356,000
22	Maintenance of Traffic	%	5%	\$ 19,377,000	\$ 968,850	\$ 969,000
23	Material Testing	%	1%	\$ 19,377,000	\$ 193,770	\$ 194,000
24	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 19,377,000	\$ 968,850	\$ 969,000
25	Utility Relocations	%	10%	\$ 19,377,000	\$ 1,937,700	\$ 1,938,000
26	Additional Water Quality Improvements	%	10%	\$ 19,377,000	\$ 1,937,700	\$ 1,938,000
27	Aboveground Components	%	20%	\$ 19,377,000	\$ 3,875,400	\$ 3,875,000
28	Water Main Distribution/Transmission System Improvements	%	40%	\$ 19,377,000	\$ 7,750,800	\$ 7,751,000
29	Sanitary Sewer Collection System Improvements	%	40%	\$ 19,377,000	\$ 7,750,800	\$ 7,751,000
Subtotal						\$ 26,741,000

PUMP STATIONS

30	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	134	\$ 15,890	\$ 2,129,260	\$ 2,129,000
31	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	134	\$ 13,000	\$ 1,742,000	\$ 1,742,000
32	Stormwater Pump Station (112.5 cfs + round up to nearest whole pump)	cfs	134	\$ 41,697	\$ 5,587,398	\$ 5,587,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
33	Outfall Structures	LS	1	\$ 1,073,033	\$ 1,073,033	\$ 1,073,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	130			
Subtotal						\$ 10,531,000

Estimating Contingency (10%)	\$ 5,665,000
Total Construction Subtotal	\$ 62,314,000

34	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 62,314,000	\$ 3,738,840	\$ 3,739,000
35	Permitting Fee (5%)	%	5%	\$ 62,314,000	\$ 3,115,700	\$ 3,116,000
36	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 62,314,000	\$ 6,231,400	\$ 6,231,000
37	CEI Management (Owner's Representative) (5%)	%	5%	\$ 62,314,000	\$ 3,115,700	\$ 3,116,000
38	Construction Contingency (10%)	%	10%	\$ 62,314,000	\$ 6,231,400	\$ 6,231,000
39	CIP Management Fee (6.5%)	%	6.5%	\$ 62,314,000	\$ 4,050,410	\$ 4,050,000
Subtotal						\$ 26,483,000

Total \$ 88,797,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Bayshore C

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	1,046	\$ 180	\$ 188,280	\$ 188,000
2	Reinforced Concrete Pipe 30"	LF	1,080	\$ 220	\$ 237,600	\$ 238,000
3	Reinforced Concrete Pipe 36"	LF	1,949	\$ 280	\$ 545,720	\$ 546,000
4	Reinforced Concrete Pipe 48"	LF	3,424	\$ 425	\$ 1,455,200	\$ 1,455,000
5	Reinforced Concrete Pipe 54"	LF	660	\$ 505	\$ 333,300	\$ 333,000
6	Reinforced Concrete Pipe 60"	LF	1,011	\$ 580	\$ 586,380	\$ 586,000
7	Reinforced Concrete Pipe 66"	LF	442	\$ 690	\$ 304,980	\$ 305,000
8	Reinforced Concrete Pipe 72"	LF	1,030	\$ 925	\$ 952,750	\$ 953,000
9	Reinforced Concrete Pipe 78"	LF	734	\$ 1,075	\$ 789,050	\$ 789,000
10	Reinforced Concrete Pipe 84"	LF	922	\$ 1,200	\$ 1,106,400	\$ 1,106,000
11	Concrete Manhole - 8'	Each	50	\$ 10,650	\$ 532,500	\$ 533,000
12	Curb Inlet	Each	100	\$ 9,475	\$ 947,500	\$ 948,000
13	1-1/2" Asphalt	Ton	2,884	\$ 172	\$ 494,890	\$ 495,000
14	10" Base	SY	37,691	\$ 20	\$ 753,826	\$ 754,000
15	12" Subgrade	SY	38,761	\$ 6	\$ 232,564	\$ 233,000
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	48,829	\$ 27	\$ 1,318,389	\$ 1,318,000
17	Sodding	SY	21,388	\$ 7	\$ 156,904	\$ 157,000
18	5' Wide Sidewalk	SY	21,388	\$ 27	\$ 574,903	\$ 575,000
19	Curb	LF	38,498	\$ 31	\$ 1,207,296	\$ 1,207,000
Subtotal						\$ 12,719,000

20	Mobilization	%	7%	\$ 12,719,000	\$ 890,330	\$ 890,000
21	Maintenance of Traffic	%	5%	\$ 12,719,000	\$ 635,950	\$ 636,000
22	Material Testing	%	1%	\$ 12,719,000	\$ 127,190	\$ 127,000
23	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 12,719,000	\$ 635,950	\$ 636,000
24	Utility Relocations	%	10%	\$ 12,719,000	\$ 1,271,900	\$ 1,272,000
25	Additional Water Quality Improvements	%	10%	\$ 12,719,000	\$ 1,271,900	\$ 1,272,000
26	Aboveground Components	%	20%	\$ 12,719,000	\$ 2,543,800	\$ 2,544,000
27	Water Main Distribution/Transmission System Improvements	%	40%	\$ 12,719,000	\$ 5,087,600	\$ 5,088,000
28	Sanitary Sewer Collection System Improvements	%	40%	\$ 12,719,000	\$ 5,087,600	\$ 5,088,000
Subtotal						\$ 17,553,000

PUMP STATIONS

29	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 15,890	\$ 5,656,840	\$ 5,657,000
30	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 13,000	\$ 4,628,000	\$ 4,628,000
31	Stormwater Pump Station (344 cfs + round up to nearest whole pump)	cfs	356	\$ 41,697	\$ 14,844,132	\$ 14,844,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	9			
	C. Flap Gate / Check Valve	Each	9			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	9			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
32	Outfall Structures	LS	1	\$ 2,224,611	\$ 2,224,611	\$ 2,225,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	270			
Subtotal						\$ 27,354,000

Estimating Contingency (10%)					\$ 5,763,000	
Total Construction Subtotal						\$ 63,389,000

33	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 63,389,000	\$ 3,803,340	\$ 3,803,000
34	Permitting Fee (5%)	%	5%	\$ 63,389,000	\$ 3,169,450	\$ 3,169,000
35	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 63,389,000	\$ 6,338,900	\$ 6,339,000
36	CEI Management (Owner's Representative) (5%)	%	5%	\$ 63,389,000	\$ 3,169,450	\$ 3,169,000
37	Construction Contingency (10%)	%	10%	\$ 63,389,000	\$ 6,338,900	\$ 6,339,000
38	CIP Management Fee (6.5%)	%	6.5%	\$ 63,389,000	\$ 4,120,285	\$ 4,120,000
Subtotal						\$ 26,939,000

Total **\$ 90,328,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Lower North Bay Road A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 48"	LF	8,571	\$ 425	\$ 3,642,554	\$ 3,643,000
2	Reinforced Concrete Pipe 54"	LF	3,428	\$ 505	\$ 1,731,285	\$ 1,731,000
3	Reinforced Concrete Pipe 60"	LF	3,428	\$ 580	\$ 1,988,406	\$ 1,988,000
4	Reinforced Concrete Pipe 72"	LF	1,714	\$ 925	\$ 1,585,582	\$ 1,586,000
5	Concrete Manhole - 8'	Each	69	\$ 10,650	\$ 734,850	\$ 735,000
6	Curb Inlet	Each	138	\$ 9,475	\$ 1,307,550	\$ 1,308,000
7	1-1/2" Asphalt	Ton	3,238	\$ 172	\$ 555,689	\$ 556,000
8	10" Base	SY	42,073	\$ 20	\$ 841,467	\$ 841,000
9	12" Subgrade	SY	43,026	\$ 6	\$ 252,514	\$ 253,000
10	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	54,828	\$ 27	\$ 1,480,357	\$ 1,480,000
11	Sodding	SY	19,046	\$ 7	\$ 139,725	\$ 140,000
12	5' Wide Sidewalk	SY	19,046	\$ 27	\$ 511,957	\$ 512,000
13	Curb	LF	34,283	\$ 31	\$ 1,075,111	\$ 1,075,000
Subtotal						\$ 15,848,000

14	Mobilization	%	7%	\$ 15,848,000	\$ 1,109,360	\$ 1,109,000
15	Maintenance of Traffic	%	5%	\$ 15,848,000	\$ 792,400	\$ 792,000
16	Material Testing	%	1%	\$ 15,848,000	\$ 158,480	\$ 158,000
17	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 15,848,000	\$ 792,400	\$ 792,000
18	Utility Relocations	%	10%	\$ 15,848,000	\$ 1,584,800	\$ 1,585,000
19	Additional Water Quality Improvements	%	10%	\$ 15,848,000	\$ 1,584,800	\$ 1,585,000
20	Aboveground Components	%	20%	\$ 15,848,000	\$ 3,169,600	\$ 3,170,000
21	Water Main Distribution/Transmission System Improvements	%	40%	\$ 15,848,000	\$ 6,339,200	\$ 6,339,000
22	Sanitary Sewer Collection System Improvements	%	40%	\$ 15,848,000	\$ 6,339,200	\$ 6,339,000
Subtotal						\$ 21,869,000

PUMP STATIONS

22	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	225	\$ 15,890	\$ 3,575,250	\$ 3,575,000
23	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	225	\$ 13,000	\$ 2,925,000	\$ 2,925,000
24	Stormwater Pump Station (225 cfs)	cfs	225	\$ 41,697	\$ 9,381,825	\$ 9,382,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	7			
	C. Flap Gate / Check Valve Valve	Each	7			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	7			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
25	Outfall Structures	LS	1	\$1,566,567	\$1,566,567	\$1,567,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	190			
Subtotal						\$ 17,449,000

Estimating Contingency (10%)					\$ 5,517,000	
Total Construction Subtotal						\$ 60,683,000

23	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 60,683,000	\$ 3,640,980	\$ 3,641,000
24	Permitting Fee (5%)	%	5%	\$ 60,683,000	\$ 3,034,150	\$ 3,034,000
25	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 60,683,000	\$ 6,068,300	\$ 6,068,000
26	CEI Management (Owner's Representative) (5%)	%	5%	\$ 60,683,000	\$ 3,034,150	\$ 3,034,000
27	Construction Contingency (10%)	%	10%	\$ 60,683,000	\$ 6,068,300	\$ 6,068,000
28	CIP Management Fee (6.5%)	%	6.5%	\$ 60,683,000	\$ 3,944,395	\$ 3,944,000
Subtotal						\$ 25,789,000
Total						\$ 86,472,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Sunset Harbor A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	1-1/2" Asphalt	Ton	1,118	\$ 172	\$ 191,852	\$ 192,000
2	10" Base	SY	14,568	\$ 20	\$ 291,355	\$ 291,000
3	12" Subgrade	SY	14,938	\$ 6	\$ 87,673	\$ 88,000
4	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	18,929	\$ 27	\$ 511,094	\$ 511,000
5	Sodding	SY	7,415	\$ 7	\$ 54,394	\$ 54,000
6	5' Wide Sidewalk	SY	7,415	\$ 27	\$ 199,302	\$ 199,000
7	Curb	LF	13,346	\$ 31	\$ 418,534	\$ 419,000
Subtotal						\$ 1,754,000

8	Mobilization	%	7%	\$ 1,754,000	\$ 122,780	\$ 123,000
9	Maintenance of Traffic	%	5%	\$ 1,754,000	\$ 87,700	\$ 88,000
10	Material Testing	%	1%	\$ 1,754,000	\$ 17,540	\$ 18,000
11	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 1,754,000	\$ 87,700	\$ 88,000
12	Utility Relocations	%	10%	\$ 1,754,000	\$ 175,400	\$ 175,000
13	Additional Water Quality Improvements	%	10%	\$ 1,754,000	\$ 175,400	\$ 175,000
14	Aboveground Components	%	20%	\$ 1,754,000	\$ 350,800	\$ 351,000
15	Water Main Distribution/Transmission System Improvements	%	40%	\$ 1,754,000	\$ 701,600	\$ 702,000
16	Sanitary Sewer Collection System Improvements	%	40%	\$ 1,754,000	\$ 701,600	\$ 702,000
Subtotal						\$ 2,422,000

Estimating Contingency (10%)					\$ 417,000
Total Construction Subtotal					\$ 4,593,000

17	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 4,593,000	\$ 275,580	\$ 276,000
18	Permitting Fee (5%)	%	5%	\$ 4,593,000	\$ 229,650	\$ 230,000
19	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 4,593,000	\$ 459,300	\$ 459,000
20	CEI Management (Owner's Representative) (5%)	%	5%	\$ 4,593,000	\$ 229,650	\$ 230,000
21	Construction Contingency (10%)	%	10%	\$ 4,593,000	\$ 459,300	\$ 459,000
22	CIP Management Fee (6.5%)	%	6.5%	\$ 4,593,000	\$ 298,545	\$ 299,000
Subtotal						\$ 1,953,000
Total						\$ 6,546,000

Appendix 10.3: Basin 3

NIP Preliminary Construction Cost Estimates

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Palm and Hibiscus Island A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	1,910	\$ 130	\$ 248,304	\$ 248,000
2	Reinforced Concrete Pipe 48"	LF	14,325	\$ 425	\$ 6,088,223	\$ 6,088,000
3	Reinforced Concrete Pipe 54"	LF	2,865	\$ 505	\$ 1,446,848	\$ 1,447,000
4	Concrete Manhole - 8'	Each	8	\$ 10,650	\$ 85,200	\$ 85,000
5	Curb Inlet	Each	16	\$ 9,475	\$ 151,600	\$ 152,000
6	1-1/2" Asphalt	Ton	1,978	\$ 172	\$ 339,475	\$ 339,000
7	10" Base	SY	26,182	\$ 20	\$ 523,645	\$ 524,000
8	12" Subgrade	SY	27,243	\$ 6	\$ 159,889	\$ 160,000
9	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	33,495	\$ 27	\$ 904,361	\$ 904,000
10	Sodding	SY	21,223	\$ 7	\$ 155,692	\$ 156,000
11	5' Wide Sidewalk	SY	21,223	\$ 27	\$ 570,463	\$ 570,000
12	Curb	LF	38,201	\$ 31	\$ 1,197,971	\$ 1,198,000
Subtotal						\$ 11,871,000

13	Mobilization	%	7%	\$ 11,871,000	\$ 830,970	\$ 831,000
14	Maintenance of Traffic	%	5%	\$ 11,871,000	\$ 593,550	\$ 594,000
15	Material Testing	%	1%	\$ 11,871,000	\$ 118,710	\$ 119,000
16	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 11,871,000	\$ 593,550	\$ 594,000
17	Utility Relocations	%	10%	\$ 11,871,000	\$ 1,187,100	\$ 1,187,000
18	Additional Water Quality Improvements	%	10%	\$ 11,871,000	\$ 1,187,100	\$ 1,187,000
19	Aboveground Components	%	20%	\$ 11,871,000	\$ 2,374,200	\$ 2,374,000
20	Water Main Distribution/Transmission System Improvements	%	40%	\$ 11,871,000	\$ 4,748,400	\$ 4,748,000
21	Sanitary Sewer Collection System Improvements	%	40%	\$ 11,871,000	\$ 4,748,400	\$ 4,748,000
Subtotal						\$ 16,382,000

PUMP STATIONS

22	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	180	\$ 15,890	\$ 2,860,200	\$ 2,860,000
23	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	180	\$ 13,000	\$ 2,340,000	\$ 2,340,000
24	Pump Station (180 cfs capacity)	cfs	180	\$ 41,697	\$ 7,505,460	\$ 7,505,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	6			
	C. Flap Gate / Check Valve Valve	Each	6			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	6			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
25	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
26	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	180	\$ 15,890	\$ 2,860,200	\$ 2,860,000
27	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	180	\$ 13,000	\$ 2,340,000	\$ 2,340,000
28	Pump Station (180 cfs capacity)	cfs	180	\$ 41,697	\$ 7,505,460	\$ 7,505,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	6			
	C. Flap Gate / Check Valve Valve	Each	6			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	6			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
29	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
Subtotal						\$ 28,050,000

Estimating Contingency (10%)		\$ 5,630,000
Total Construction Subtotal		\$ 61,933,000

30	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 61,933,000	\$ 3,715,980	\$ 3,716,000
31	Permitting Fee (5%)	%	5%	\$ 61,933,000	\$ 3,096,650	\$ 3,097,000
32	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 61,933,000	\$ 6,193,300	\$ 6,193,000
33	CEI Management (Owner's Representative) (5%)	%	5%	\$ 61,933,000	\$ 3,096,650	\$ 3,097,000
34	Construction Contingency (10%)	%	10%	\$ 61,933,000	\$ 6,193,300	\$ 6,193,000
35	CIP Management Fee (6.5%)	%	6.5%	\$ 61,933,000	\$ 4,025,645	\$ 4,026,000
Subtotal						\$ 26,322,000

Total **\$ 88,255,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Star and Terminal Island A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	666	\$ 130	\$ 86,580	\$ 87,000
2	Reinforced Concrete Pipe 24"	LF	2,275	\$ 180	\$ 409,500	\$ 410,000
3	Reinforced Concrete Pipe 36"	LF	118	\$ 280	\$ 33,040	\$ 33,000
4	Concrete Manhole - 8'	Each	13	\$ 10,650	\$ 138,450	\$ 138,000
5	Curb Inlet	Each	26	\$ 9,475	\$ 246,350	\$ 246,000
6	1-1/2" Asphalt	Ton	3,445	\$ 172	\$ 591,191	\$ 591,000
7	10" Base	SY	44,776	\$ 20	\$ 895,525	\$ 896,000
8	12" Subgrade	SY	45,804	\$ 6	\$ 268,822	\$ 269,000
9	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	58,331	\$ 27	\$ 1,574,934	\$ 1,575,000
10	Sodding	SY	20,562	\$ 7	\$ 150,846	\$ 151,000
11	5' Wide Sidewalk	SY	20,562	\$ 27	\$ 552,708	\$ 553,000
12	Curb	LF	37,012	\$ 31	\$ 1,160,687	\$ 1,161,000
Subtotal						\$ 6,110,000

13	Mobilization	%	7%	\$ 6,110,000	\$ 427,700	\$ 428,000
14	Maintenance of Traffic	%	5%	\$ 6,110,000	\$ 305,500	\$ 306,000
15	Material Testing	%	1%	\$ 6,110,000	\$ 61,100	\$ 61,000
16	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 6,110,000	\$ 305,500	\$ 306,000
17	Utility Relocations	%	10%	\$ 6,110,000	\$ 611,000	\$ 611,000
18	Additional Water Quality Improvements	%	10%	\$ 6,110,000	\$ 611,000	\$ 611,000
19	Aboveground Components	%	20%	\$ 6,110,000	\$ 1,222,000	\$ 1,222,000
20	Water Main Distribution/Transmission System Improvements	%	40%	\$ 6,110,000	\$ 2,444,000	\$ 2,444,000
21	Sanitary Sewer Collection System Improvements	%	40%	\$ 6,110,000	\$ 2,444,000	\$ 2,444,000
Subtotal						\$ 8,433,000

Estimating Contingency (10%)					\$ 1,454,000
Total Construction Subtotal					\$ 15,997,000

22	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 15,997,000	\$ 959,820	\$ 960,000
23	Permitting Fee (5%)	%	5%	\$ 15,997,000	\$ 799,850	\$ 800,000
24	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 15,997,000	\$ 1,599,700	\$ 1,600,000
25	CEI Management (Owner's Representative) (5%)	%	5%	\$ 15,997,000	\$ 799,850	\$ 800,000
26	Construction Contingency (10%)	%	10%	\$ 15,997,000	\$ 1,599,700	\$ 1,600,000
27	CIP Management Fee (6.5%)	%	6.5%	\$ 15,997,000	\$ 1,039,805	\$ 1,040,000
Subtotal						\$ 6,800,000

Total **\$ 22,797,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Star and Terminal Island B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	9,674	\$ 130	\$ 1,257,620	\$ 1,258,000
2	Reinforced Concrete Pipe 24"	LF	605	\$ 180	\$ 108,900	\$ 109,000
3	Reinforced Concrete Pipe 30"	LF	81	\$ 220	\$ 17,820	\$ 18,000
4	Reinforced Concrete Pipe 36"	LF	1,050	\$ 280	\$ 294,000	\$ 294,000
5	Reinforced Concrete Pipe 48"	LF	2,428	\$ 425	\$ 1,031,900	\$ 1,032,000
6	Reinforced Concrete Pipe 60"	LF	113	\$ 580	\$ 65,540	\$ 66,000
7	Reinforced Concrete Pipe 72"	LF	25	\$ 925	\$ 23,125	\$ 23,000
8	Concrete Manhole - 8'	Each	56	\$ 10,650	\$ 596,400	\$ 596,000
9	Curb Inlet	Each	112	\$ 9,475	\$ 1,061,200	\$ 1,061,000
10	1-1/2" Asphalt	Ton	449	\$ 172	\$ 77,089	\$ 77,000
11	10" Base	SY	5,967	\$ 20	\$ 119,338	\$ 119,000
12	12" Subgrade	SY	6,229	\$ 6	\$ 36,559	\$ 37,000
13	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	7,606	\$ 27	\$ 205,366	\$ 205,000
14	Sodding	SY	5,246	\$ 7	\$ 38,486	\$ 38,000
15	5' Wide Sidewalk	SY	5,246	\$ 27	\$ 141,013	\$ 141,000
16	Curb	LF	9,443	\$ 31	\$ 296,127	\$ 296,000
Subtotal						\$ 5,370,000

17	Mobilization	%	7%	\$ 5,370,000	\$ 375,900	\$ 376,000
18	Maintenance of Traffic	%	5%	\$ 5,370,000	\$ 268,500	\$ 269,000
19	Material Testing	%	1%	\$ 5,370,000	\$ 53,700	\$ 54,000
20	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 5,370,000	\$ 268,500	\$ 269,000
21	Utility Relocations	%	10%	\$ 5,370,000	\$ 537,000	\$ 537,000
22	Additional Water Quality Improvements	%	10%	\$ 5,370,000	\$ 537,000	\$ 537,000
23	Aboveground Components	%	20%	\$ 5,370,000	\$ 1,074,000	\$ 1,074,000
24	Water Main Distribution/Transmission System Improvements	%	40%	\$ 5,370,000	\$ 2,148,000	\$ 2,148,000
25	Sanitary Sewer Collection System Improvements	%	40%	\$ 5,370,000	\$ 2,148,000	\$ 2,148,000
Subtotal						\$ 7,412,000

26	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	134	\$ 15,890.00	\$ 2,129,260.00	\$ 2,129,000.00
27	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	134	\$ 13,000	\$ 1,742,000	\$ 1,742,000
28	Stormwater Pump Station (114 cfs + round up to nearest whole pump)	cfs	134	\$ 41,697	\$ 5,587,398	\$ 5,587,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
29	Outfall Structures	LS	1	\$ 1,073,033	\$ 1,073,033	\$ 1,073,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	130			
Subtotal						\$ 10,531,000

Estimating Contingency (10%)	\$ 2,331,000
Total Construction Subtotal	\$ 25,644,000

29	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 25,644,000	\$ 1,538,640	\$ 1,539,000
30	Permitting Fee (5%)	%	5%	\$ 25,644,000	\$ 1,282,200	\$ 1,282,000
31	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 25,644,000	\$ 2,564,400	\$ 2,564,000
32	CEI Management (Owner's Representative) (5%)	%	5%	\$ 25,644,000	\$ 1,282,200	\$ 1,282,000
33	Construction Contingency (10%)	%	10%	\$ 25,644,000	\$ 2,564,400	\$ 2,564,000
34	CIP Management Fee (6.5%)	%	6.5%	\$ 25,644,000	\$ 1,666,860	\$ 1,667,000
Subtotal						\$ 10,898,000
Total						\$ 36,542,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Sunset Islands A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	4,645	\$ 130	\$ 603,850	\$ 604,000
2	Reinforced Concrete Pipe 24"	LF	1,509	\$ 180	\$ 271,620	\$ 272,000
3	Reinforced Concrete Pipe 30"	LF	58	\$ 220	\$ 12,760	\$ 13,000
4	Reinforced Concrete Pipe 42"	LF	2,400	\$ 325	\$ 780,000	\$ 780,000
5	Reinforced Concrete Pipe 48"	LF	669	\$ 425	\$ 284,325	\$ 284,000
6	Reinforced Concrete Pipe 66"	LF	33	\$ 690	\$ 22,770	\$ 23,000
7	Concrete Manhole - 8'	Each	38	\$ 10,650	\$ 404,700	\$ 405,000
8	Curb Inlet	Each	76	\$ 9,475	\$ 720,100	\$ 720,000
9	1-1/2" Asphalt	Ton	463	\$ 172	\$ 79,403	\$ 79,000
10	10" Base	SY	6,151	\$ 20	\$ 123,019	\$ 123,000
11	12" Subgrade	SY	6,426	\$ 6	\$ 37,714	\$ 38,000
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	7,834	\$ 27	\$ 211,531	\$ 212,000
13	Sodding	SY	5,502	\$ 27	\$ 148,563	\$ 149,000
14	5' Wide Sidewalk	SY	5,502	\$ 27	\$ 147,903	\$ 148,000
15	Curb	LF	9,904	\$ 31	\$ 310,597	\$ 311,000
Subtotal						\$ 4,161,000

16	Mobilization	%	7%	\$ 4,161,000	\$ 291,270	\$ 291,000
17	Maintenance of Traffic	%	5%	\$ 4,161,000	\$ 208,050	\$ 208,000
18	Material Testing	%	1%	\$ 4,161,000	\$ 41,610	\$ 42,000
19	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 4,161,000	\$ 208,050	\$ 208,000
20	Utility Relocations	%	10%	\$ 4,161,000	\$ 416,100	\$ 416,000
21	Additional Water Quality Improvements	%	10%	\$ 4,161,000	\$ 416,100	\$ 416,000
22	Aboveground Components	%	20%	\$ 4,161,000	\$ 832,200	\$ 832,000
23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 4,161,000	\$ 1,664,400	\$ 1,664,000
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 4,161,000	\$ 1,664,400	\$ 1,664,000
Subtotal						\$ 5,741,000

25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000
26	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
27	Stormwater Pump Station (82.4 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
28	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			
Subtotal						\$ 7,839,000

Estimating Contingency (10%)						\$ 1,774,000
Total Construction Subtotal						\$ 19,515,000

29	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 19,515,000	\$ 1,170,900	\$ 1,171,000
30	Permitting Fee (5%)	%	5%	\$ 19,515,000	\$ 975,750	\$ 976,000
31	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 19,515,000	\$ 1,951,500	\$ 1,952,000
32	CEI Management (Owner's Representative) (5%)	%	5%	\$ 19,515,000	\$ 975,750	\$ 976,000
33	Construction Contingency (10%)	%	10%	\$ 19,515,000	\$ 1,951,500	\$ 1,952,000
34	CIP Management Fee (6.5%)	%	6.5%	\$ 19,515,000	\$ 1,268,475	\$ 1,268,000
Subtotal						\$ 8,295,000

Total **\$ 27,810,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Sunset Islands B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	1,217	\$ 130	\$ 158,210	\$ 158,000
2	Reinforced Concrete Pipe 24"	LF	1,663	\$ 180	\$ 299,340	\$ 299,000
3	Reinforced Concrete Pipe 30"	LF	709	\$ 220	\$ 155,980	\$ 156,000
4	Reinforced Concrete Pipe 48"	LF	3,068	\$ 425	\$ 1,303,900	\$ 1,304,000
5	Reinforced Concrete Pipe 54"	LF	875	\$ 505	\$ 441,875	\$ 442,000
6	Reinforced Concrete Pipe 60"	LF	138	\$ 580	\$ 80,040	\$ 80,000
7	Reinforced Concrete Pipe 78"	LF	39	\$ 1,075	\$ 41,925	\$ 42,000
8	Concrete Manhole - 8'	Each	31	\$ 10,650	\$ 330,150	\$ 330,000
9	Curb Inlet	Each	62	\$ 9,475	\$ 587,450	\$ 587,000
10	1-1/2" Asphalt	Ton	604	\$ 172	\$ 103,588	\$ 104,000
11	10" Base	SY	8,034	\$ 20	\$ 160,673	\$ 161,000
12	12" Subgrade	SY	8,402	\$ 6	\$ 49,309	\$ 49,000
13	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	10,221	\$ 27	\$ 275,958	\$ 276,000
14	Sodding	SY	7,362	\$ 7	\$ 54,012	\$ 54,000
15	5' Wide Sidewalk	SY	7,362	\$ 27	\$ 197,903	\$ 198,000
16	Curb	LF	13,252	\$ 31	\$ 415,597	\$ 416,000
Subtotal						\$ 4,656,000

17	Mobilization	%	7%	\$ 4,656,000	\$ 325,920	\$ 326,000
18	Maintenance of Traffic	%	5%	\$ 4,656,000	\$ 232,800	\$ 233,000
19	Material Testing	%	1%	\$ 4,656,000	\$ 46,560	\$ 47,000
20	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 4,656,000	\$ 232,800	\$ 233,000
21	Utility Relocations	%	10%	\$ 4,656,000	\$ 465,600	\$ 466,000
22	Additional Water Quality Improvements	%	10%	\$ 4,656,000	\$ 465,600	\$ 466,000
23	Aboveground Components	%	20%	\$ 4,656,000	\$ 931,200	\$ 931,000
24	Water Main Distribution/Transmission System Improvements	%	40%	\$ 4,656,000	\$ 1,862,400	\$ 1,862,000
25	Sanitary Sewer Collection System Improvements	%	40%	\$ 4,656,000	\$ 1,862,400	\$ 1,862,000
Subtotal						\$ 6,426,000

26	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$ 2,828,000
27	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 13,000	\$ 2,314,000	\$ 2,314,000
28	Stormwater Pump Station (135.9 cfs + round up to nearest whole pump)	cfs	178	\$ 41,697	\$ 7,422,066	\$ 7,422,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
29	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
Subtotal						\$ 13,884,000

Estimating Contingency (10%)					\$ 2,497,000
Total Construction Subtotal					\$ 27,463,000

29	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 27,463,000	\$ 1,647,780	\$ 1,648,000
30	Permitting Fee (5%)	%	5%	\$ 27,463,000	\$ 1,373,150	\$ 1,373,000
31	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 27,463,000	\$ 2,746,300	\$ 2,746,000
32	CEI Management (Owner's Representative) (5%)	%	5%	\$ 27,463,000	\$ 1,373,150	\$ 1,373,000
33	Construction Contingency (10%)	%	10%	\$ 27,463,000	\$ 2,746,300	\$ 2,746,000
34	CIP Management Fee (6.5%)	%	6.5%	\$ 27,463,000	\$ 1,785,095	\$ 1,785,000
Subtotal						\$ 11,671,000
Total						\$ 39,134,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Sunset Islands C

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	3,070	\$ 180	\$ 552,533	\$ 553,000
2	Reinforced Concrete Pipe 48"	LF	5,701	\$ 425	\$ 2,422,812	\$ 2,423,000
3	Concrete Manhole - 8'	Each	36	\$ 10,650	\$ 383,400	\$ 383,000
4	Curb Inlet	Each	72	\$ 9,475	\$ 682,200	\$ 682,000
5	1-1/2" Asphalt	Ton	780	\$ 172	\$ 133,774	\$ 134,000
6	10" Base	SY	10,387	\$ 20	\$ 207,731	\$ 208,000
7	12" Subgrade	SY	10,874	\$ 6	\$ 63,817	\$ 64,000
8	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	13,199	\$ 27	\$ 356,375	\$ 356,000
9	Sodding	SY	9,745	\$ 7	\$ 71,490	\$ 71,000
10	5' Wide Sidewalk	SY	9,745	\$ 27	\$ 261,941	\$ 262,000
11	Curb	LF	17,541	\$ 31	\$ 550,077	\$ 550,000
Subtotal						\$ 5,686,000

12	Mobilization	%	7%	\$ 5,686,000	\$ 398,020	\$ 398,000
13	Maintenance of Traffic	%	5%	\$ 5,686,000	\$ 284,300	\$ 284,000
14	Material Testing	%	1%	\$ 5,686,000	\$ 56,860	\$ 57,000
15	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 5,686,000	\$ 284,300	\$ 284,000
16	Utility Relocations	%	10%	\$ 5,686,000	\$ 568,600	\$ 569,000
17	Additional Water Quality Improvements	%	10%	\$ 5,686,000	\$ 568,600	\$ 569,000
18	Aboveground Components	%	20%	\$ 5,686,000	\$ 1,137,200	\$ 1,137,000
19	Water Main Distribution/Transmission System Improvements	%	40%	\$ 5,686,000	\$ 2,274,400	\$ 2,274,000
20	Sanitary Sewer Collection System Improvements	%	40%	\$ 5,686,000	\$ 2,274,400	\$ 2,274,000
Subtotal						\$ 7,846,000

PUMP STATIONS

16	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs	cfs	25	\$ 21,000	\$ 525,000	\$ 525,000
17	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs	cfs	25	\$ 15,000	\$ 375,000	\$ 375,000
18	Pump Station (21-40 cfs capacity)	cfs	25	\$ 70,000	\$ 1,750,000	\$ 1,750,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	2			
	C. Flap Gate / Check Valve Valve	Each	2			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	2			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
19	Outfall Structures	LS	1	\$ 497,244	\$ 497,244	\$ 497,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	60			
1	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs	cfs	25	\$ 21,000	\$ 525,000	\$ 525,000
2	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs	cfs	25	\$ 15,000	\$ 375,000	\$ 375,000
3	Pump Station (21-40 cfs capacity)	cfs	25	\$ 70,000	\$ 1,750,000	\$ 1,750,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	2			
	C. Flap Gate / Check Valve Valve	Each	2			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	2			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
4	Outfall Structures	LS	1	\$ 497,244	\$ 497,244	\$ 497,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	60			
Subtotal						\$ 6,294,000

Estimating Contingency (10%)					\$ 1,983,000
Total Construction Subtotal					\$ 21,809,000

21	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 21,809,000	\$ 1,308,540	\$ 1,309,000
22	Permitting Fee (5%)	%	5%	\$ 21,809,000	\$ 1,090,450	\$ 1,090,000
23	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 21,809,000	\$ 2,180,900	\$ 2,181,000
24	CEI Management (Owner's Representative) (5%)	%	5%	\$ 21,809,000	\$ 1,090,450	\$ 1,090,000
25	Construction Contingency (10%)	%	10%	\$ 21,809,000	\$ 2,180,900	\$ 2,181,000
26	CIP Management Fee (6.5%)	%	6.5%	\$ 21,809,000	\$ 1,417,585	\$ 1,418,000
Subtotal						\$ 9,269,000

Total \$ 31,078,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Venetian Islands A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	2,404	\$ 130	\$ 312,496	\$ 312,000
2	Reinforced Concrete Pipe 48"	LF	18,029	\$ 425	\$ 7,662,161	\$ 7,662,000
3	Reinforced Concrete Pipe 54"	LF	3,606	\$ 505	\$ 1,820,890	\$ 1,821,000
4	Concrete Manhole - 8'	Each	97	\$ 10,650	\$ 1,033,050	\$ 1,033,000
5	Curb Inlet	Each	194	\$ 9,475	\$ 1,838,150	\$ 1,838,000
6	1-1/2" Asphalt	Ton	2,811	\$ 172	\$ 482,286	\$ 482,000
7	10" Base	SY	37,025	\$ 20	\$ 740,494	\$ 740,000
8	12" Subgrade	SY	38,360	\$ 6	\$ 225,133	\$ 225,000
9	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	47,586	\$ 27	\$ 1,284,812	\$ 1,285,000
10	Sodding	SY	26,709	\$ 7	\$ 195,942	\$ 196,000
11	5' Wide Sidewalk	SY	26,709	\$ 27	\$ 717,939	\$ 718,000
12	Curb	LF	48,076	\$ 31	\$ 1,507,673	\$ 1,508,000
Subtotal						\$ 17,820,000

13	Mobilization	%	7%	\$ 17,820,000	\$ 1,247,400	\$ 1,247,000
14	Maintenance of Traffic	%	5%	\$ 17,820,000	\$ 891,000	\$ 891,000
15	Material Testing	%	1%	\$ 17,820,000	\$ 178,200	\$ 178,000
16	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 17,820,000	\$ 891,000	\$ 891,000
17	Utility Relocations	%	10%	\$ 17,820,000	\$ 1,782,000	\$ 1,782,000
18	Additional Water Quality Improvements	%	10%	\$ 17,820,000	\$ 1,782,000	\$ 1,782,000
19	Aboveground Components	%	20%	\$ 17,820,000	\$ 3,564,000	\$ 3,564,000
20	Water Main Distribution/Transmission System Improvements	%	40%	\$ 17,820,000	\$ 7,128,000	\$ 7,128,000
21	Sanitary Sewer Collection System Improvements	%	40%	\$ 17,820,000	\$ 7,128,000	\$ 7,128,000
Subtotal						\$ 24,591,000

PUMP STATIONS

21	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	135	\$ 15,890	\$ 2,145,150	\$ 2,145,000
22	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	135	\$ 13,000	\$ 1,755,000	\$ 1,755,000
23	Pump Station (180 cfs capacity)	cfs	135	\$ 41,697	\$ 5,629,095	\$ 5,629,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
24	Outfall Structures	LS	1	\$ 1,073,033	\$ 1,073,033	\$ 1,073,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	130			
23	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000
24	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
25	Pump Station (89 cfs capacity)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
26	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			
25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000
26	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
27	Pump Station (89 cfs capacity)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
28	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			
Subtotal						\$ 26,280,000

Estimating Contingency (10%)					\$ 6,869,000	\$ 6,869,000
Total Construction Subtotal						\$ 75,560,000

22	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 75,560,000	\$ 4,533,600	\$ 4,534,000
23	Permitting Fee (5%)	%	5%	\$ 75,560,000	\$ 3,778,000	\$ 3,778,000
24	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 75,560,000	\$ 7,556,000	\$ 7,556,000
25	CEI Management (Owner's Representative) (5%)	%	5%	\$ 75,560,000	\$ 3,778,000	\$ 3,778,000
26	Construction Contingency (10%)	%	10%	\$ 75,560,000	\$ 7,556,000	\$ 7,556,000
27	CIP Management Fee (6.5%)	%	6.5%	\$ 75,560,000	\$ 4,911,400	\$ 4,911,000
Subtotal						\$ 32,113,000

Total **\$ 107,673,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Venetian Islands B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	3,770	\$ 130	\$ 490,100	\$ 490,000
2	Reinforced Concrete Pipe 24"	LF	2,406	\$ 180	\$ 433,080	\$ 433,000
3	Reinforced Concrete Pipe 30"	LF	1,488	\$ 220	\$ 327,360	\$ 327,000
4	Reinforced Concrete Pipe 36"	LF	1,152	\$ 280	\$ 322,560	\$ 323,000
5	Reinforced Concrete Pipe 42"	LF	315	\$ 325	\$ 102,375	\$ 102,000
6	Reinforced Concrete Pipe 60"	LF	78	\$ 580	\$ 45,240	\$ 45,000
7	Concrete Manhole - 8'	Each	37	\$ 10,650	\$ 394,050	\$ 394,000
8	Curb Inlet	Each	74	\$ 9,475	\$ 701,150	\$ 701,000
9	1-1/2" Asphalt	Ton	486	\$ 172	\$ 83,399	\$ 83,000
10	10" Base	SY	6,416	\$ 20	\$ 128,322	\$ 128,000
11	12" Subgrade	SY	6,661	\$ 6	\$ 39,091	\$ 39,000
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	8,229	\$ 27	\$ 222,175	\$ 222,000
13	Sodding	SY	4,891	\$ 7	\$ 35,881	\$ 36,000
14	5' Wide Sidewalk	SY	4,891	\$ 27	\$ 131,471	\$ 131,000
15	Curb	LF	8,804	\$ 31	\$ 276,089	\$ 276,000
Subtotal						\$ 3,730,000

16	Mobilization	%	7%	\$ 3,730,000	\$ 261,100	\$ 261,000
17	Maintenance of Traffic	%	5%	\$ 3,730,000	\$ 186,500	\$ 187,000
18	Material Testing	%	1%	\$ 3,730,000	\$ 37,300	\$ 37,000
19	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 3,730,000	\$ 186,500	\$ 187,000
20	Utility Relocations	%	10%	\$ 3,730,000	\$ 373,000	\$ 373,000
21	Additional Water Quality Improvements	%	10%	\$ 3,730,000	\$ 373,000	\$ 373,000
22	Aboveground Components	%	20%	\$ 3,730,000	\$ 746,000	\$ 746,000
23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 3,730,000	\$ 1,492,000	\$ 1,492,000
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 3,730,000	\$ 1,492,000	\$ 1,492,000
Subtotal						\$ 5,148,000

25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000
26	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
27	Stormwater Pump Station (87 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
28	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			
Subtotal						\$ 7,839,000

Estimating Contingency (10%)						\$ 1,672,000
Total Construction Subtotal						\$ 18,389,000

29	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 18,389,000	\$ 1,103,340	\$ 1,103,000
30	Permitting Fee (5%)	%	5%	\$ 18,389,000	\$ 919,450	\$ 919,000
31	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 18,389,000	\$ 1,838,900	\$ 1,839,000
32	CEI Management (Owner's Representative) (5%)	%	5%	\$ 18,389,000	\$ 919,450	\$ 919,000
33	Construction Contingency (10%)	%	10%	\$ 18,389,000	\$ 1,838,900	\$ 1,839,000
34	CIP Management Fee (6.5%)	%	6.5%	\$ 18,389,000	\$ 1,195,285	\$ 1,195,000
Subtotal						\$ 7,814,000

Total **\$ 26,203,000**

Appendix 10.4: Basin 4

NIP Preliminary Construction Cost Estimates

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Biscayne Point A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 15-18"	LF	57	\$ 130	\$ 7,410	\$ 7,000
2	Reinforced Concrete Pipe 24"	LF	18,081	\$ 180	\$ 3,254,580	\$ 3,255,000
3	Reinforced Concrete Pipe 30"	LF	385	\$ 220	\$ 84,700	\$ 85,000
4	Reinforced Concrete Pipe 36"	LF	6,015	\$ 280	\$ 1,684,200	\$ 1,684,000
5	Reinforced Concrete Pipe 42"	LF	429	\$ 325	\$ 139,425	\$ 139,000
6	Reinforced Concrete Pipe 48"	LF	4,032	\$ 425	\$ 1,713,600	\$ 1,714,000
7	Reinforced Concrete Pipe 54"	LF	3,043	\$ 505	\$ 1,536,715	\$ 1,537,000
8	Reinforced Concrete Pipe 60"	LF	835	\$ 580	\$ 484,300	\$ 484,000
9	Reinforced Concrete Pipe 66"	LF	138	\$ 690	\$ 95,220	\$ 95,000
10	Reinforced Concrete Pipe 72"	LF	409	\$ 925	\$ 378,325	\$ 378,000
11	Reinforced Concrete Pipe 84"	LF	1,138	\$ 1,200	\$ 1,365,600	\$ 1,366,000
12	Concrete Manhole - 8'	Each	139	\$ 10,650	\$ 1,480,350	\$ 1,480,000
13	Curb Inlet	Each	278	\$ 9,475	\$ 2,634,050	\$ 2,634,000
14	1-1/2" Asphalt	Ton	3,009	\$ 172	\$ 516,359	\$ 516,000
15	10" Base	SY	39,289	\$ 20	\$ 785,788	\$ 786,000
16	12" Subgrade	SY	40,368	\$ 6	\$ 236,918	\$ 237,000
17	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	50,947	\$ 27	\$ 1,375,581	\$ 1,376,000
18	Sodding	SY	21,576	\$ 7	\$ 158,286	\$ 158,000
19	5' Wide Sidewalk	SY	21,576	\$ 27	\$ 579,966	\$ 580,000
20	Curb	LF	38,837	\$ 31	\$ 1,217,930	\$ 1,218,000
Subtotal						\$ 19,729,000

21	Mobilization	%	7%	\$ 19,729,000	\$ 1,381,030	\$ 1,381,000
22	Maintenance of Traffic	%	5%	\$ 19,729,000	\$ 986,450	\$ 986,000
23	Material Testing	%	1%	\$ 19,729,000	\$ 197,290	\$ 197,000
24	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 19,729,000	\$ 986,450	\$ 986,000
25	Utility Relocations	%	10%	\$ 19,729,000	\$ 1,972,900	\$ 1,973,000
26	Additional Water Quality Improvements	%	10%	\$ 19,729,000	\$ 1,972,900	\$ 1,973,000
27	Aboveground Components	%	20%	\$ 19,729,000	\$ 3,945,800	\$ 3,946,000
28	Water Main Distribution/Transmission System Improvements	%	40%	\$ 19,729,000	\$ 7,891,600	\$ 7,892,000
29	Sanitary Sewer Collection System Improvements	%	40%	\$ 19,729,000	\$ 7,891,600	\$ 7,892,000
Subtotal						\$ 27,226,000

PUMP STATIONS

30	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	312	\$ 15,890	\$ 4,957,680	\$ 4,958,000
31	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	312	\$ 13,000	\$ 4,056,000	\$ 4,056,000
32	Pump Station (311.5 cfs)	cfs	312	\$ 41,697	\$ 13,009,464	\$ 13,009,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	9			
	C. Flap Gate / Check Valve Valve	Each	9			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	9			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
33	Outfall Structures	LS	1	\$ 1,977,844	\$ 1,977,844	\$ 1,978,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	240			
Subtotal						\$ 24,001,000

Estimating Contingency (10%)	\$ 7,096,000	
Total Construction Subtotal		\$ 78,052,000

34	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 78,052,000	\$ 4,683,120	\$ 4,683,000
35	Permitting Fee (5%)	%	5%	\$ 78,052,000	\$ 3,902,600	\$ 3,903,000
36	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 78,052,000	\$ 7,805,200	\$ 7,805,000
37	CEI Management (Owner's Representative) (5%)	%	5%	\$ 78,052,000	\$ 3,902,600	\$ 3,903,000
38	Construction Contingency (10%)	%	10%	\$ 78,052,000	\$ 7,805,200	\$ 7,805,000
39	CIP Management Fee (6.5%)	%	6.5%	\$ 78,052,000	\$ 5,073,380	\$ 5,073,000
Subtotal						\$ 33,172,000

Total **\$ 111,224,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Biscayne Point C

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	11,182	\$ 180	\$ 2,012,760	\$ 2,013,000
2	Reinforced Concrete Pipe 30"	LF	904	\$ 220	\$ 198,880	\$ 199,000
3	Reinforced Concrete Pipe 36"	LF	1,116	\$ 280	\$ 312,480	\$ 312,000
4	Reinforced Concrete Pipe 42"	LF	4,120	\$ 325	\$ 1,339,000	\$ 1,339,000
5	Reinforced Concrete Pipe 48"	LF	2,151	\$ 425	\$ 914,175	\$ 914,000
6	Reinforced Concrete Pipe 54"	LF	597	\$ 505	\$ 301,485	\$ 301,000
7	Reinforced Concrete Pipe 60"	LF	2,650	\$ 580	\$ 1,537,000	\$ 1,537,000
8	Reinforced Concrete Pipe 72"	LF	130	\$ 925	\$ 120,250	\$ 120,000
9	Concrete Manhole - 8'	Each	92	\$ 10,650	\$ 979,800	\$ 980,000
10	Curb Inlet	Each	184	\$ 9,475	\$ 1,743,400	\$ 1,743,000
11	1-1/2" Asphalt	Ton	1,333	\$ 172	\$ 228,685	\$ 229,000
12	10" Base	SY	17,720	\$ 20	\$ 354,399	\$ 354,000
13	12" Subgrade	SY	18,517	\$ 6	\$ 108,676	\$ 109,000
14	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	22,564	\$ 27	\$ 609,218	\$ 609,000
15	Sodding	SY	15,945	\$ 7	\$ 116,972	\$ 117,000
16	5' Wide Sidewalk	SY	15,945	\$ 27	\$ 428,590	\$ 429,000
17	Curb	LF	28,700	\$ 31	\$ 900,038	\$ 900,000
Subtotal						\$ 12,205,000

18	Mobilization	%	7%	\$ 12,205,000	\$ 854,350	\$ 854,000
19	Maintenance of Traffic	%	5%	\$ 12,205,000	\$ 610,250	\$ 610,000
20	Material Testing	%	1%	\$ 12,205,000	\$ 122,050	\$ 122,000
21	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 12,205,000	\$ 610,250	\$ 610,000
22	Utility Relocations	%	10%	\$ 12,205,000	\$ 1,220,500	\$ 1,221,000
23	Additional Water Quality Improvements	%	10%	\$ 12,205,000	\$ 1,220,500	\$ 1,221,000
24	Aboveground Components	%	20%	\$ 12,205,000	\$ 2,441,000	\$ 2,441,000
25	Water Main Distribution/Transmission System Improvements	%	40%	\$ 12,205,000	\$ 4,882,000	\$ 4,882,000
26	Sanitary Sewer Collection System Improvements	%	40%	\$ 12,205,000	\$ 4,882,000	\$ 4,882,000
Subtotal						\$ 16,843,000

PUMP STATIONS

27	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000
28	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
29	Pump Station (87 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
30	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			
31	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000
32	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
33	Pump Station (87 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
34	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			
Subtotal						\$ 15,678,000

Estimating Contingency (10%)						\$ 4,473,000
Total Construction Subtotal						\$ 49,199,000

35	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 49,199,000	\$ 2,951,940	\$ 2,952,000
36	Permitting Fee (5%)	%	5%	\$ 49,199,000	\$ 2,459,950	\$ 2,460,000
37	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 49,199,000	\$ 4,919,900	\$ 4,920,000
38	CEI Management (Owner's Representative) (5%)	%	5%	\$ 49,199,000	\$ 2,459,950	\$ 2,460,000
39	Construction Contingency (10%)	%	10%	\$ 49,199,000	\$ 4,919,900	\$ 4,920,000
40	CIP Management Fee (6.5%)	%	6.5%	\$ 49,199,000	\$ 3,197,935	\$ 3,198,000
Subtotal						\$ 20,910,000
Total						\$ 70,109,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Normandy Shores A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	17,682	\$ 180	\$ 3,182,760	\$ 3,183,000
2	Reinforced Concrete Pipe 30"	LF	508	\$ 220	\$ 111,760	\$ 112,000
3	Reinforced Concrete Pipe 36"	LF	1,248	\$ 280	\$ 349,440	\$ 349,000
4	Reinforced Concrete Pipe 42"	LF	768	\$ 325	\$ 249,600	\$ 250,000
5	Reinforced Concrete Pipe 48"	LF	11,483	\$ 425	\$ 4,880,275	\$ 4,880,000
6	Reinforced Concrete Pipe 60"	LF	1,923	\$ 580	\$ 1,115,340	\$ 1,115,000
7	Reinforced Concrete Pipe 66"	LF	53	\$ 690	\$ 36,570	\$ 37,000
8	Reinforced Concrete Pipe 72"	LF	83	\$ 925	\$ 76,775	\$ 77,000
9	Concrete Manhole - 8'	Each	135	\$ 10,650	\$ 1,437,750	\$ 1,438,000
10	Curb Inlet	Each	270	\$ 9,475	\$ 2,558,250	\$ 2,558,000
11	1-1/2" Asphalt	Ton	1,944	\$ 172	\$ 333,555	\$ 334,000
12	10" Base	SY	25,856	\$ 20	\$ 517,112	\$ 517,000
13	12" Subgrade	SY	27,028	\$ 6	\$ 158,628	\$ 159,000
14	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	32,911	\$ 27	\$ 888,591	\$ 889,000
15	Sodding	SY	23,450	\$ 7	\$ 172,032	\$ 172,000
16	5' Wide Sidewalk	SY	23,450	\$ 27	\$ 630,333	\$ 630,000
17	Curb	LF	42,210	\$ 31	\$ 1,323,700	\$ 1,324,000
Subtotal						\$ 18,024,000

18	Mobilization	%	7%	\$ 18,024,000	\$ 1,261,680	\$ 1,262,000
19	Maintenance of Traffic	%	5%	\$ 18,024,000	\$ 901,200	\$ 901,000
20	Material Testing	%	1%	\$ 18,024,000	\$ 180,240	\$ 180,000
21	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 18,024,000	\$ 901,200	\$ 901,000
22	Utility Relocations	%	10%	\$ 18,024,000	\$ 1,802,400	\$ 1,802,000
23	Additional Water Quality Improvements	%	10%	\$ 18,024,000	\$ 1,802,400	\$ 1,802,000
24	Aboveground Components	%	20%	\$ 18,024,000	\$ 3,604,800	\$ 3,605,000
25	Water Main Distribution/Transmission System Improvements	%	40%	\$ 18,024,000	\$ 7,209,600	\$ 7,210,000
26	Sanitary Sewer Collection System Improvements	%	40%	\$ 18,024,000	\$ 7,209,600	\$ 7,210,000
Subtotal						\$ 24,873,000

PUMP STATIONS (PS)

5

27	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000
28	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
29	Pump Station (87 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
30	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			

Subtotal for a single PS \$ 7,839,000

Subtotal for the total number of PS (5) \$ 39,195,000

Estimating Contingency (10%)	Total Construction Subtotal	\$ 8,209,000
		\$ 90,301,000

31	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 90,301,000	\$ 5,418,060	\$ 5,418,000
32	Permitting Fee (5%)	%	5%	\$ 90,301,000	\$ 4,515,050	\$ 4,515,000
33	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 90,301,000	\$ 9,030,100	\$ 9,030,000
34	CEI Management (Owner's Representative) (5%)	%	5%	\$ 90,301,000	\$ 4,515,050	\$ 4,515,000
35	Construction Contingency (10%)	%	10%	\$ 90,301,000	\$ 9,030,100	\$ 9,030,000
36	CIP Management Fee (6.5%)	%	6.5%	\$ 90,301,000	\$ 5,869,565	\$ 5,870,000
Subtotal						\$ 38,378,000

Total \$ 128,679,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Normandy Isles A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	586	\$ 300	\$ 175,800	\$ 176,000
2	Reinforced Concrete Pipe 48"	LF	39,296	\$ 890	\$ 34,973,440	\$ 34,973,000
3	Reinforced Concrete Pipe 54"	LF	949	\$ 1,070	\$ 1,015,430	\$ 1,015,000
4	Reinforced Concrete Pipe 60"	LF	16,395	\$ 1,250	\$ 20,493,750	\$ 20,494,000
5	Reinforced Concrete Pipe 72"	LF	4,233	\$ 1,629	\$ 6,895,557	\$ 6,896,000
6	Reinforced Concrete Pipe 84"	LF	979	\$ 2,200	\$ 2,153,800	\$ 2,154,000
7	Reinforced Concrete Pipe 96"	LF	895	\$ 2,700	\$ 2,416,500	\$ 2,417,000
8	Concrete Manhole - 8'	Each	254	\$ 10,650	\$ 2,705,100	\$ 2,705,000
9	Curb Inlet	Each	508	\$ 9,475	\$ 4,813,300	\$ 4,813,000
10	1-1/2" Asphalt	Ton	6,515	\$ 172	\$ 1,118,035	\$ 1,118,000
11	10" Base	SY	85,426	\$ 20	\$ 1,708,525	\$ 1,709,000
12	12" Subgrade	SY	88,118	\$ 6	\$ 517,156	\$ 517,000
13	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	110,313	\$ 27	\$ 2,978,449	\$ 2,978,000
14	Sodding	SY	53,831	\$ 7	\$ 394,915	\$ 395,000
15	5' Wide Sidewalk	SY	53,831	\$ 27	\$ 1,446,986	\$ 1,447,000
16	Curb	LF	96,896	\$ 31	\$ 3,038,670	\$ 3,039,000
Subtotal						\$ 86,846,000

17	Mobilization	%	7%	\$ 86,846,000	\$ 6,079,220	\$ 6,079,000
18	Maintenance of Traffic	%	5%	\$ 86,846,000	\$ 4,342,300	\$ 4,342,000
19	Material Testing	%	1%	\$ 86,846,000	\$ 868,460	\$ 868,000
20	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 86,846,000	\$ 4,342,300	\$ 4,342,000
21	Utility Relocations	%	10%	\$ 86,846,000	\$ 8,684,600	\$ 8,685,000
22	Additional Water Quality Improvements	%	10%	\$ 86,846,000	\$ 8,684,600	\$ 8,685,000
23	Aboveground Components	%	20%	\$ 86,846,000	\$ 17,369,200	\$ 17,369,000
24	Water Main Distribution/Transmission System Improvements	%	40%	\$ 86,846,000	\$ 34,738,400	\$ 34,738,000
25	Sanitary Sewer Collection System Improvements	%	40%	\$ 86,846,000	\$ 34,738,400	\$ 34,738,000
Subtotal						\$ 119,846,000

PUMP STATIONS (PS)

8

26	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	91	\$ 19,800	\$ 1,801,800	\$ 1,802,000
27	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	91	\$ 16,000	\$ 1,456,000	\$ 1,456,000
28	Pump Station (91 cfs)	cfs	91	\$ 43,000	\$ 3,913,000	\$ 3,913,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	4			
	C. Flap Gate / Check Valve Valve	Each	4			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	4			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
29	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			

Subtotal for a single PS \$ 7,997,000

Subtotal for the total number of PS (8) \$ 63,976,000

Estimating Contingency (10%)						\$ 27,067,000
Total Construction Subtotal						\$ 297,735,000

30	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 297,735,000	\$ 17,864,100	\$ 17,864,000
31	Permitting Fee (5%)	%	5%	\$ 297,735,000	\$ 14,886,750	\$ 14,887,000
32	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 297,735,000	\$ 29,773,500	\$ 29,774,000
33	CEI Management (Owner's Representative) (5%)	%	5%	\$ 297,735,000	\$ 14,886,750	\$ 14,887,000
34	Construction Contingency (10%)	%	10%	\$ 297,735,000	\$ 29,773,500	\$ 29,774,000
35	CIP Management Fee (6.5%)	%	6.5%	\$ 297,735,000	\$ 19,352,775	\$ 19,353,000
Subtotal						\$ 126,539,000

Total \$ 424,274,000

Appendix 10.5: Basin 5

NIP Preliminary Construction Cost Estimates

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Allison Island A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	366	\$ 130	\$ 47,580	\$ 48,000
2	Reinforced Concrete Pipe 24"	LF	1,076	\$ 180	\$ 193,680	\$ 194,000
3	Reinforced Concrete Pipe 30"	LF	197	\$ 230	\$ 45,310	\$ 45,000
4	Reinforced Concrete Pipe 36"	LF	164	\$ 280	\$ 45,920	\$ 46,000
5	Reinforced Concrete Pipe 42"	LF	276	\$ 325	\$ 89,700	\$ 90,000
6	Concrete Manhole - 8'	Each	9	\$ 10,650	\$ 95,850	\$ 96,000
7	Curb Inlet	Each	18	\$ 9,475	\$ 170,550	\$ 171,000
8	1-1/2" Asphalt	Ton	255	\$ 172	\$ 43,744	\$ 44,000
9	10" Base	SY	3,379	\$ 20	\$ 65,884	\$ 66,000
10	12" Subgrade	SY	3,520	\$ 6	\$ 20,660	\$ 21,000
11	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	4,316	\$ 27	\$ 116,535	\$ 117,000
12	Sodding	SY	2,831	\$ 7	\$ 20,770	\$ 21,000
13	5' Wide Sidewalk	SY	2,831	\$ 27	\$ 76,100	\$ 76,000
14	Curb	LF	5,096	\$ 31	\$ 159,811	\$ 160,000
Subtotal						\$ 1,195,000

15	Mobilization	%	7%	\$ 1,195,000	\$ 83,650	\$ 84,000
16	Maintenance of Traffic	%	5%	\$ 1,195,000	\$ 59,750	\$ 60,000
17	Material Testing	%	1%	\$ 1,195,000	\$ 11,950	\$ 12,000
18	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 1,195,000	\$ 59,750	\$ 60,000
19	Utility Relocations	%	10%	\$ 1,195,000	\$ 119,500	\$ 120,000
20	Additional Water Quality Improvements	%	10%	\$ 1,195,000	\$ 119,500	\$ 120,000
21	Aboveground Components	%	20%	\$ 1,195,000	\$ 239,000	\$ 239,000
22	Water Main Distribution/Transmission System Improvements	%	40%	\$ 1,195,000	\$ 478,000	\$ 478,000
23	Sanitary Sewer Collection System Improvements	%	40%	\$ 1,195,000	\$ 478,000	\$ 478,000
Subtotal						\$ 1,651,000

PUMP STATIONS

24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	45	\$19,800	\$ 891,000.00	\$ 891,000.00
25	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	45	\$16,000	\$ 720,000.00	\$ 720,000.00
26	Stormwater Pump Station (44.5 cfs)	cfs	45	\$ 43,000	\$ 1,935,000	\$ 1,935,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
27	Outfall Structures	LS	1	\$579,500	\$579,500	\$580,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	70			
Subtotal						\$ 4,126,000

Estimating Contingency (10%)	\$ 697,000
Total Construction Subtotal	\$ 7,669,000

28	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 7,669,000	\$ 460,140	\$ 460,000
29	Permitting Fee (5%)	%	5%	\$ 7,669,000	\$ 383,450	\$ 383,000
30	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 7,669,000	\$ 766,900	\$ 767,000
31	CEI Management (Owner's Representative) (5%)	%	5%	\$ 7,669,000	\$ 383,450	\$ 383,000
32	Construction Contingency (10%)	%	10%	\$ 7,669,000	\$ 766,900	\$ 767,000
33	CIP Management Fee (6.5%)	%	6.5%	\$ 7,669,000	\$ 498,485	\$ 498,000
Subtotal						\$ 3,258,000

Total **\$ 10,927,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Allison Island B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	2,562	\$ 180	\$ 461,160	\$ 461,000
2	Reinforced Concrete Pipe 36"	LF	317	\$ 280	\$ 88,760	\$ 89,000
3	Reinforced Concrete Pipe 42"	LF	517	\$ 325	\$ 168,025	\$ 168,000
4	Reinforced Concrete Pipe 48"	LF	406	\$ 425	\$ 172,550	\$ 173,000
5	Reinforced Concrete Pipe 54"	LF	544	\$ 500	\$ 272,000	\$ 272,000
6	Reinforced Concrete Pipe 60"	LF	433	\$ 580	\$ 251,140	\$ 251,000
7	Concrete Manhole - 8'	Each	20	\$ 10,650	\$ 213,000	\$ 213,000
8	Curb Inlet	Each	40	\$ 9,475	\$ 379,000	\$ 379,000
9	1-1/2" Asphalt	Ton	601	\$ 172	\$ 103,181	\$ 103,000
10	10" Base	SY	7,810	\$ 20	\$ 156,200	\$ 156,000
11	12" Subgrade	SY	7,985	\$ 6	\$ 46,861	\$ 47,000
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	10,180	\$ 27	\$ 274,873	\$ 275,000
13	Sodding	SY	3,493	\$ 7	\$ 25,625	\$ 26,000
14	5' Wide Sidewalk	SY	3,493	\$ 27	\$ 93,892	\$ 94,000
15	Curb	LF	6,287	\$ 31	\$ 197,173	\$ 197,000
Subtotal						\$ 2,904,000

16	Mobilization	%	7%	\$ 2,904,000	\$ 203,280	\$ 203,000
17	Maintenance of Traffic	%	5%	\$ 2,904,000	\$ 145,200	\$ 145,000
18	Material Testing	%	1%	\$ 2,904,000	\$ 29,040	\$ 29,000
19	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 2,904,000	\$ 145,200	\$ 145,000
20	Utility Relocations	%	10%	\$ 2,904,000	\$ 290,400	\$ 290,000
21	Additional Water Quality Improvements	%	10%	\$ 2,904,000	\$ 290,400	\$ 290,000
22	Aboveground Components	%	20%	\$ 2,904,000	\$ 580,800	\$ 581,000
23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 2,904,000	\$ 1,161,600	\$ 1,162,000
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 2,904,000	\$ 1,161,600	\$ 1,162,000
Subtotal						\$ 4,007,000

PUMP STATIONS

24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800.00	\$ 1,762,200.00	\$ 1,762,000.00
25	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
26	Stormwater Pump Station (79.1 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
27	Outfall Structures	LS	1	\$826,267	\$826,267	\$826,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			
Subtotal						\$ 7,839,000

Estimating Contingency (10%)	\$ 1,475,000
Total Construction Subtotal	\$ 16,225,000

28	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 16,225,000	\$ 973,500	\$ 974,000
29	Permitting Fee (5%)	%	5%	\$ 16,225,000	\$ 811,250	\$ 811,000
30	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 16,225,000	\$ 1,622,500	\$ 1,623,000
31	CEI Management (Owner's Representative) (5%)	%	5%	\$ 16,225,000	\$ 811,250	\$ 811,000
32	Construction Contingency (10%)	%	10%	\$ 16,225,000	\$ 1,622,500	\$ 1,623,000
33	CIP Management Fee (6.5%)	%	6.5%	\$ 16,225,000	\$ 1,054,625	\$ 1,055,000
Subtotal						\$ 6,897,000
Total						\$ 23,122,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
La Gorce A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	845	\$ 180	\$ 152,100	\$ 152,000
2	Reinforced Concrete Pipe 36"	LF	1,093	\$ 280	\$ 306,040	\$ 306,000
3	Reinforced Concrete Pipe 48"	LF	549	\$ 425	\$ 233,325	\$ 233,000
4	Reinforced Concrete Pipe 60"	LF	380	\$ 580	\$ 220,400	\$ 220,000
5	Reinforced Concrete Pipe 72"	LF	32	\$ 925	\$ 29,600	\$ 30,000
6	Reinforced Concrete Pipe 96"	LF	10	\$ 1,385	\$ 13,850	\$ 14,000
7	Concrete Manhole - 8'	Each	12	\$ 10,650	\$ 127,800	\$ 128,000
8	Curb Inlet	Each	24	\$ 8,475	\$ 203,400	\$ 203,000
9	1-1/2" Asphalt	Ton	482	\$ 172	\$ 82,671	\$ 83,000
10	10" Base	SY	6,345	\$ 20	\$ 126,898	\$ 127,000
11	12" Subgrade	SY	6,572	\$ 6	\$ 38,571	\$ 39,000
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	8,157	\$ 27	\$ 220,235	\$ 220,000
13	Sodding	SY	4,545	\$ 7	\$ 33,340	\$ 33,000
14	5' Wide Sidewalk	SY	4,545	\$ 27	\$ 122,160	\$ 122,000
15	Curb	LF	8,180	\$ 31	\$ 256,535	\$ 257,000

Subtotal \$ **2,167,000**

16	Mobilization	%	7%	\$ 2,167,000	\$ 151,690	\$ 152,000
17	Maintenance of Traffic	%	5%	\$ 2,167,000	\$ 108,350	\$ 108,000
18	Material Testing	%	1%	\$ 2,167,000	\$ 21,670	\$ 22,000
19	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 2,167,000	\$ 108,350	\$ 108,000
20	Utility Relocations	%	10%	\$ 2,167,000	\$ 216,700	\$ 217,000
21	Additional Water Quality Improvements	%	10%	\$ 2,167,000	\$ 216,700	\$ 217,000
22	Aboveground Components	%	20%	\$ 2,167,000	\$ 433,400	\$ 433,000
23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 2,167,000	\$ 866,800	\$ 867,000
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 2,167,000	\$ 866,800	\$ 867,000

Subtotal \$ **2,991,000**

Estimating Contingency (10%)					\$ 516,000
Total Construction Subtotal					\$ 5,674,000

25	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 5,674,000	\$ 340,440	\$ 340,000
26	Permitting Fee (5%)	%	5%	\$ 5,674,000	\$ 283,700	\$ 284,000
27	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 5,674,000	\$ 567,400	\$ 567,000
28	CEI Management (Owner's Representative) (5%)	%	5%	\$ 5,674,000	\$ 283,700	\$ 284,000
29	Construction Contingency (10%)	%	10%	\$ 5,674,000	\$ 567,400	\$ 567,000
30	CIP Management Fee (6.5%)	%	6.5%	\$ 5,674,000	\$ 368,810	\$ 369,000

Subtotal \$ **2,411,000**

Total \$ **8,085,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
La Gorce B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	199	\$ 180	\$ 35,820	\$ 36,000
2	Reinforced Concrete Pipe 36"	LF	252	\$ 280	\$ 70,560	\$ 71,000
3	Reinforced Concrete Pipe 48"	LF	250	\$ 425	\$ 106,250	\$ 106,000
	Reinforced Concrete Pipe 54"	LF	6,648	\$ 500	\$ 3,324,000	\$ 3,324,000
4	Reinforced Concrete Pipe 60"	LF	472	\$ 580	\$ 273,760	\$ 274,000
	Reinforced Concrete Pipe 66"	LF	142	\$ 690	\$ 97,980	\$ 98,000
5	Reinforced Concrete Pipe 72"	LF	211	\$ 925	\$ 195,175	\$ 195,000
6	Reinforced Concrete Pipe 96"	LF	435	\$ 1,385	\$ 602,475	\$ 602,000
7	Concrete Manhole - 8'	Each	35	\$ 10,650	\$ 372,750	\$ 373,000
8	Curb Inlet	Each	70	\$ 9,475	\$ 663,250	\$ 663,000
9	1-1/2" Asphalt	Ton	2,539	\$ 172	\$ 435,626	\$ 436,000
10	10" Base	SY	32,890	\$ 20	\$ 657,794	\$ 658,000
11	12" Subgrade	SY	33,543	\$ 6	\$ 196,862	\$ 197,000
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	42,982	\$ 27	\$ 1,160,509	\$ 1,161,000
13	Sodding	SY	13,067	\$ 7	\$ 95,862	\$ 96,000
14	5' Wide Sidewalk	SY	13,067	\$ 27	\$ 351,243	\$ 351,000
15	Curb	LF	23,521	\$ 31	\$ 737,610	\$ 738,000
Subtotal						\$ 9,379,000

16	Mobilization	%	7%	\$ 9,379,000	\$ 656,530	\$ 657,000
17	Maintenance of Traffic	%	5%	\$ 9,379,000	\$ 468,950	\$ 469,000
18	Material Testing	%	1%	\$ 9,379,000	\$ 93,790	\$ 94,000
19	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 9,379,000	\$ 468,950	\$ 469,000
20	Utility Relocations	%	10%	\$ 9,379,000	\$ 937,900	\$ 938,000
21	Additional Water Quality Improvements	%	10%	\$ 9,379,000	\$ 937,900	\$ 938,000
22	Aboveground Components	%	20%	\$ 9,379,000	\$ 1,875,800	\$ 1,876,000
23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 9,379,000	\$ 3,751,600	\$ 3,752,000
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 9,379,000	\$ 3,751,600	\$ 3,752,000
Subtotal						\$ 12,945,000

Estimating Contingency (10%)						\$ 2,233,000
Total Construction Subtotal						\$ 24,557,000

25	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 24,557,000	\$ 1,473,420	\$ 1,473,000
26	Permitting Fee (5%)	%	5%	\$ 24,557,000	\$ 1,227,850	\$ 1,228,000
27	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 24,557,000	\$ 2,455,700	\$ 2,456,000
28	CEI Management (Owner's Representative) (5%)	%	5%	\$ 24,557,000	\$ 1,227,850	\$ 1,228,000
29	Construction Contingency (10%)	%	10%	\$ 24,557,000	\$ 2,455,700	\$ 2,456,000
30	CIP Management Fee (6.5%)	%	6.5%	\$ 24,557,000	\$ 1,596,205	\$ 1,596,000
Subtotal						\$ 10,437,000

Total **\$ 34,994,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
La Gorce C

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	2,085	\$ 180	\$ 375,300	\$ 375,000
2	Reinforced Concrete Pipe 30"	LF	141	\$ 220	\$ 31,020	\$ 31,000
3	Reinforced Concrete Pipe 36"	LF	471	\$ 280	\$ 131,880	\$ 132,000
4	Reinforced Concrete Pipe 48"	LF	303	\$ 425	\$ 128,775	\$ 129,000
5	Reinforced Concrete Pipe 60"	LF	7,223	\$ 580	\$ 4,189,340	\$ 4,189,000
6	Reinforced Concrete Pipe 72"	LF	296	\$ 925	\$ 273,800	\$ 274,000
7	Reinforced Concrete Pipe 96"	LF	66	\$ 1,385	\$ 91,410	\$ 91,000
8	Concrete Manhole - 8'	Each	43	\$ 10,650	\$ 457,950	\$ 458,000
9	Curb Inlet	Each	86	\$ 9,475	\$ 814,850	\$ 815,000
10	1-1/2" Asphalt	Ton	2,539	\$ 172	\$ 435,626	\$ 436,000
11	10" Base	SY	32,890	\$ 20	\$ 657,794	\$ 658,000
12	12" Subgrade	SY	33,543	\$ 6	\$ 196,862	\$ 197,000
13	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	42,982	\$ 27	\$ 1,160,509	\$ 1,161,000
14	Sodding	SY	13,067	\$ 7	\$ 95,862	\$ 96,000
15	5' Wide Sidewalk	SY	13,067	\$ 27	\$ 351,243	\$ 351,000
16	Curb	LF	23,521	\$ 31	\$ 737,610	\$ 738,000
Subtotal						\$ 10,131,000

17	Mobilization	%	7%	\$ 10,131,000	\$ 709,170	\$ 709,000
18	Maintenance of Traffic	%	5%	\$ 10,131,000	\$ 506,550	\$ 507,000
19	Material Testing	%	1%	\$ 10,131,000	\$ 101,310	\$ 101,000
20	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 10,131,000	\$ 506,550	\$ 507,000
21	Utility Relocations	%	10%	\$ 10,131,000	\$ 1,013,100	\$ 1,013,000
22	Additional Water Quality Improvements	%	10%	\$ 10,131,000	\$ 1,013,100	\$ 1,013,000
23	Aboveground Components	%	20%	\$ 10,131,000	\$ 2,026,200	\$ 2,026,000
24	Water Main Distribution/Transmission System Improvements	%	40%	\$ 10,131,000	\$ 4,052,400	\$ 4,052,000
25	Sanitary Sewer Collection System Improvements	%	40%	\$ 10,131,000	\$ 4,052,400	\$ 4,052,000
Subtotal						\$ 13,980,000

PUMP STATIONS

26	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	225	\$ 15,890	\$ 3,575,250	\$ 3,575,000
27	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	225	\$ 13,000	\$ 2,925,000	\$ 2,925,000
28	Stormwater Pump Station (217.5 cfs)	cfs	225	\$ 41,697	\$ 9,381,825	\$ 9,382,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	7			
	C. Flap Gate / Check Valve Valve	Each	7			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	7			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
29	Stormwater Force Mains	LS	1	\$ -	\$ -	\$ -
30	Outfall Structures	LS	1	\$ 1,566,567	\$ 1,566,567	\$ 1,567,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	190			
Subtotal						\$ 17,449,000

Estimating Contingency (10%)	\$ 4,156,000	
Total Construction Subtotal		\$ 45,716,000

31	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 45,716,000	\$ 2,742,960	\$ 2,743,000
32	Permitting Fee (5%)	%	5%	\$ 45,716,000	\$ 2,285,800	\$ 2,286,000
33	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 45,716,000	\$ 4,571,600	\$ 4,572,000
34	CEI Management (Owner's Representative) (5%)	%	5%	\$ 45,716,000	\$ 2,285,800	\$ 2,286,000
35	Construction Contingency (10%)	%	10%	\$ 45,716,000	\$ 4,571,600	\$ 4,572,000
36	CIP Management Fee (6.5%)	%	6.5%	\$ 45,716,000	\$ 2,971,540	\$ 2,972,000
Subtotal						\$ 19,431,000

Total **\$ 65,147,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
La Gorce D

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 36"	LF	5,481	\$ 130	\$ 712,530	\$ 713,000
2	Reinforced Concrete Pipe 24"	LF	3,506	\$ 180	\$ 631,080	\$ 631,000
3	Reinforced Concrete Pipe 30"	LF	606	\$ 220	\$ 133,320	\$ 133,000
4	Reinforced Concrete Pipe 36"	LF	4,283	\$ 280	\$ 1,199,240	\$ 1,199,000
5	Reinforced Concrete Pipe 42"	LF	507	\$ 325	\$ 164,775	\$ 165,000
6	Reinforced Concrete Pipe 48"	LF	2,307	\$ 425	\$ 980,475	\$ 980,000
7	Reinforced Concrete Pipe 54"	LF	3,189	\$ 505	\$ 1,610,445	\$ 1,610,000
8	Reinforced Concrete Pipe 60"	LF	665	\$ 580	\$ 385,700	\$ 386,000
9	Reinforced Concrete Pipe 72"	LF	3,189	\$ 925	\$ 2,949,825	\$ 2,950,000
10	Reinforced Concrete Pipe 78"	LF	114	\$ 1,075	\$ 122,550	\$ 123,000
11	Reinforced Concrete Pipe 84"	LF	59	\$ 1,200	\$ 70,800	\$ 71,000
12	Reinforced Concrete Pipe 96"	LF	297	\$ 1,385	\$ 411,345	\$ 411,000
13	Concrete Manhole - 8'	Each	97	\$ 10,550	\$ 1,033,050	\$ 1,033,000
14	Curb Inlet	Each	194	\$ 9,475	\$ 1,838,150	\$ 1,838,000
15	1-1/2" Asphalt	Ton	1,876	\$ 172	\$ 321,953	\$ 322,000
16	10" Base	SY	24,758	\$ 20	\$ 495,153	\$ 495,000
17	12" Subgrade	SY	25,691	\$ 6	\$ 150,777	\$ 151,000
18	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	31,766	\$ 27	\$ 857,684	\$ 858,000
19	Sodding	SY	18,662	\$ 7	\$ 136,904	\$ 137,000
20	5' Wide sidewalk	SY	18,662	\$ 27	\$ 501,624	\$ 502,000
21	Curb	LF	33,591	\$ 31	\$ 1,053,410	\$ 1,053,000
					Subtotal	\$ 15,761,000

22	Mobilization	%	7%	\$ 15,761,000	\$ 1,103,270	\$ 1,103,000
23	Maintenance of Traffic	%	5%	\$ 15,761,000	\$ 788,050	\$ 788,000
24	Material Testing	%	1%	\$ 15,761,000	\$ 157,610	\$ 158,000
25	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 15,761,000	\$ 788,050	\$ 788,000
26	Utility Relocations	%	10%	\$ 15,761,000	\$ 1,576,100	\$ 1,576,000
27	Additional Water Quality Improvements	%	10%	\$ 15,761,000	\$ 1,576,100	\$ 1,576,000
28	Aboveground Components	%	20%	\$ 15,761,000	\$ 3,152,200	\$ 3,152,000
29	Water Main Distribution/Transmission System Improvements	%	40%	\$ 15,761,000	\$ 6,304,400	\$ 6,304,000
30	Sanitary Sewer Collection System Improvements	%	40%	\$ 15,761,000	\$ 6,304,400	\$ 6,304,000
					Subtotal	\$ 21,749,000

PUMP STATIONS						
31	Membrane Filtration (per cfs pumped) For Pump Stations with a capacity of >100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$ 2,828,000
32	Hydrodynamic Separators (per cfs pumped) For Pump Stations with a capacity of >100 cfs	cfs	178	\$ 13,000	\$ 2,314,000	\$ 2,314,000
33	Stormwater Pump Station (162 cfs + round up to nearest whole pump)	cfs	178	\$ 41,697	\$ 7,422,066	\$ 7,422,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
34	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
35	Membrane Filtration (per cfs pumped) For Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000
36	Hydrodynamic Separators (per cfs pumped) For Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
37	Stormwater Pump Station (88 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
38	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			
39	Membrane Filtration (per cfs pumped) For Pump Stations with a capacity of >100 cfs	cfs	223	\$ 15,890	\$ 3,543,470	\$ 3,543,000
40	Hydrodynamic Separators (per cfs pumped) For Pump Stations with a capacity of >100 cfs	cfs	223	\$ 13,000	\$ 2,899,000	\$ 2,899,000
41	Stormwater Pump Station (215 cfs + round up to nearest whole pump)	cfs	223	\$ 41,697	\$ 9,298,431	\$ 9,298,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	7			
	C. Flap Gate / Check Valve Valve	Each	7			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	7			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
42	Outfall Structures	LS	1	\$ 1,484,311	\$ 1,484,311	\$ 1,484,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	180			
43	Membrane Filtration (per cfs pumped) For Pump Stations with a capacity of >100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$ 2,828,000
44	Hydrodynamic Separators (per cfs pumped) For Pump Stations with a capacity of >100 cfs	cfs	178	\$ 13,000	\$ 2,314,000	\$ 2,314,000
45	Stormwater Pump Station (162 cfs + round up to nearest whole pump)	cfs	178	\$ 41,697	\$ 7,422,066	\$ 7,422,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
46	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
					Subtotal	\$ 52,831,000

Estimating Contingency (10%) \$ 9,034,000
Total Construction Subtotal \$ 99,375,000

47	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 99,375,000	\$ 5,962,500	\$ 5,963,000
48	Permitting Fee (5%)	%	5%	\$ 99,375,000	\$ 4,968,750	\$ 4,969,000
49	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 99,375,000	\$ 9,937,500	\$ 9,938,000
50	CEI Management (Owner's Representative) (5%)	%	5%	\$ 99,375,000	\$ 4,968,750	\$ 4,969,000
51	Construction Contingency (10%)	%	10%	\$ 99,375,000	\$ 9,937,500	\$ 9,938,000
52	CIP Management Fee (6.5%)	%	6.5%	\$ 99,375,000	\$ 6,459,375	\$ 6,459,000
					Subtotal	\$ 42,236,000

Total \$ 141,611,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
La Gorce Island A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	1,953	\$ 130	\$ 253,890	\$ 254,000
2	Reinforced Concrete Pipe 24"	LF	1,631	\$ 180	\$ 293,580	\$ 294,000
3	Reinforced Concrete Pipe 30"	LF	3,229	\$ 220	\$ 710,380	\$ 710,000
4	Reinforced Concrete Pipe 36"	LF	987	\$ 280	\$ 276,360	\$ 276,000
5	Reinforced Concrete Pipe 42"	LF	796	\$ 325	\$ 258,700	\$ 259,000
6	Reinforced Concrete Pipe 48"	LF	600	\$ 425	\$ 255,000	\$ 255,000
7	Reinforced Concrete Pipe 54"	LF	841	\$ 505	\$ 424,705	\$ 425,000
8	Reinforced Concrete Pipe 60"	LF	849	\$ 580	\$ 492,420	\$ 492,000
9	Reinforced Concrete Pipe 66"	LF	173	\$ 690	\$ 119,370	\$ 119,000
10	Reinforced Concrete Pipe 72"	LF	165	\$ 925	\$ 152,625	\$ 153,000
11	Reinforced Concrete Pipe 78"	LF	154	\$ 1,075	\$ 165,550	\$ 166,000
12	Reinforced Concrete Pipe 84"	LF	211	\$ 1,200	\$ 253,200	\$ 253,000
13	Concrete Manhole - 8'	Each	47	\$ 10,650	\$ 500,550	\$ 501,000
14	Curb Inlet	Each	94	\$ 9,475	\$ 890,650	\$ 891,000
15	1-1/2" Asphalt	Ton	790	\$ 172	\$ 135,568	\$ 136,000
16	10" Base	SY	10,500	\$ 20	\$ 210,008	\$ 210,000
17	12" Subgrade	SY	10,969	\$ 6	\$ 64,375	\$ 64,000
18	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	13,376	\$ 27	\$ 361,153	\$ 361,000
19	Sodding	SY	9,368	\$ 7	\$ 68,722	\$ 69,000
20	5' Wide Sidewalk	SY	9,368	\$ 27	\$ 251,802	\$ 252,000
21	Curb	LF	16,862	\$ 31	\$ 528,785	\$ 529,000
Subtotal						\$ 6,669,000

22	Mobilization	%	7%	\$ 6,669,000	\$ 466,830	\$ 467,000
23	Maintenance of Traffic	%	5%	\$ 6,669,000	\$ 333,450	\$ 333,000
24	Material Testing	%	1%	\$ 6,669,000	\$ 66,690	\$ 67,000
25	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 6,669,000	\$ 333,450	\$ 333,000
26	Utility Relocations	%	10%	\$ 6,669,000	\$ 666,900	\$ 667,000
27	Additional Water Quality Improvements	%	10%	\$ 6,669,000	\$ 666,900	\$ 667,000
28	Aboveground Components	%	20%	\$ 6,669,000	\$ 1,333,800	\$ 1,334,000
29	Water Main Distribution/Transmission System Improvements	%	40%	\$ 6,669,000	\$ 2,667,600	\$ 2,668,000
30	Sanitary Sewer Collection System Improvements	%	40%	\$ 6,669,000	\$ 2,667,600	\$ 2,668,000
Subtotal						\$ 9,204,000

PUMP STATIONS

31	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$ 2,828,000
32	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 13,000	\$ 2,314,000	\$ 2,314,000
33	Stormwater Pump Station (167 cfs + round up to nearest whole pump)	cfs	178	\$ 41,697	\$ 7,422,066	\$ 7,422,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
34	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
Subtotal						\$ 13,884,000

Estimating Contingency (10%)						\$ 2,976,000
Total Construction Subtotal						\$ 32,733,000

35	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 32,733,000	\$ 1,963,980	\$ 1,964,000
36	Permitting Fee (5%)	%	5%	\$ 32,733,000	\$ 1,636,650	\$ 1,637,000
37	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 32,733,000	\$ 3,273,300	\$ 3,273,000
38	CEI Management (Owner's Representative) (5%)	%	5%	\$ 32,733,000	\$ 1,636,650	\$ 1,637,000
39	Construction Contingency (10%)	%	10%	\$ 32,733,000	\$ 3,273,300	\$ 3,273,000
40	CIP Management Fee (6.5%)	%	6.5%	\$ 32,733,000	\$ 2,127,645	\$ 2,128,000
Subtotal						\$ 13,912,000

Total **\$ 46,645,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Lakeview A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	7,815	\$ 180	\$ 1,406,700	\$ 1,407,000
2	Reinforced Concrete Pipe 30"	LF	379	\$ 220	\$ 83,380	\$ 83,000
3	Reinforced Concrete Pipe 36"	LF	1,206	\$ 280	\$ 337,680	\$ 338,000
4	Reinforced Concrete Pipe 48"	LF	2,166	\$ 425	\$ 920,550	\$ 921,000
5	Reinforced Concrete Pipe 54"	LF	2,076	\$ 500	\$ 1,038,000	\$ 1,038,000
6	Reinforced Concrete Pipe 60"	LF	2,141	\$ 580	\$ 1,241,780	\$ 1,242,000
7	Reinforced Concrete Pipe 72"	LF	971	\$ 925	\$ 898,175	\$ 898,000
8	Reinforced Concrete Pipe 96"	LF	132	\$ 1,385	\$ 182,820	\$ 183,000
9	Reinforced Concrete Pipe 120"	LF	24	\$ 1,675	\$ 40,200	\$ 40,000
10	Concrete Manhole - 8'	Each	68	\$ 10,650	\$ 724,200	\$ 724,000
11	Curb Inlet	Each	136	\$ 9,475	\$ 1,288,600	\$ 1,289,000
12	1-1/2" Asphalt	Ton	1,196	\$ 172	\$ 205,207	\$ 205,000
13	10" Base	SY	15,855	\$ 20	\$ 317,101	\$ 317,000
14	12" Subgrade	SY	16,525	\$ 6	\$ 96,982	\$ 97,000
15	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	20,247	\$ 27	\$ 546,671	\$ 547,000
16	Sodding	SY	13,394	\$ 7	\$ 98,263	\$ 98,000
17	5' Wide Sidewalk	SY	13,394	\$ 27	\$ 360,042	\$ 360,000
18	Curb	LF	24,110	\$ 31	\$ 756,088	\$ 756,000

Subtotal \$ **10,543,000**

19	Mobilization	%	7%	\$ 10,543,000	\$ 738,010	\$ 738,000
20	Maintenance of Traffic	%	5%	\$ 10,543,000	\$ 527,150	\$ 527,000
21	Material Testing	%	1%	\$ 10,543,000	\$ 105,430	\$ 105,000
22	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 10,543,000	\$ 527,150	\$ 527,000
23	Utility Relocations	%	10%	\$ 10,543,000	\$ 1,054,300	\$ 1,054,000
24	Additional Water Quality Improvements	%	10%	\$ 10,543,000	\$ 1,054,300	\$ 1,054,000
25	Aboveground Components	%	20%	\$ 10,543,000	\$ 2,108,600	\$ 2,109,000
26	Water Main Distribution/Transmission System Improvements	%	40%	\$ 10,543,000	\$ 4,217,200	\$ 4,217,000
27	Sanitary Sewer Collection System Improvements	%	40%	\$ 10,543,000	\$ 4,217,200	\$ 4,217,000

Subtotal \$ **14,548,000**

PUMP STATIONS

28	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	267	\$ 15,890	\$ 4,242,630	\$ 4,243,000
29	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	267	\$ 13,000	\$ 3,471,000	\$ 3,471,000
30	Stormwater Pump Station (252 cfs + round up to nearest whole pump)	cfs	267	\$ 41,697	\$ 11,133,099	\$ 11,133,000
	Pump Station Components Include:					
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	7			
	C. Flap Gate / Check Valve Valve	Each	7			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	7			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
31	Outfall Structures	LS	1	\$ 1,731,078	\$ 1,731,078	\$ 1,731,000
	Outfall Structure Includes:					
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	210			

Subtotal \$ **20,578,000**

Estimating Contingency (10%)	\$ 4,567,000
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Total Construction Subtotal \$ **50,236,000**

32	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 50,236,000	\$ 3,014,160	\$ 3,014,000
33	Permitting Fee (5%)	%	5%	\$ 50,236,000	\$ 2,511,800	\$ 2,512,000
34	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 50,236,000	\$ 5,023,600	\$ 5,024,000
35	CEI Management (Owner's Representative) (5%)	%	5%	\$ 50,236,000	\$ 2,511,800	\$ 2,512,000
36	Construction Contingency (10%)	%	10%	\$ 50,236,000	\$ 5,023,600	\$ 5,024,000
37	CIP Management Fee (6.5%)	%	6.5%	\$ 50,236,000	\$ 3,265,340	\$ 3,265,000

Subtotal \$ **21,351,000**

Total \$ **71,587,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Nautilus D

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	861	\$ 130	\$ 111,930	\$ 112,000
2	Reinforced Concrete Pipe 24"	LF	37	\$ 180	\$ 6,660	\$ 7,000
3	Reinforced Concrete Pipe 30"	LF	53	\$ 220	\$ 11,660	\$ 12,000
4	Reinforced Concrete Pipe 36"	LF	76	\$ 280	\$ 21,280	\$ 21,000
5	Reinforced Concrete Pipe 60"	LF	2,416	\$ 580	\$ 1,401,280	\$ 1,401,000
6	Reinforced Concrete Pipe 72"	LF	1,958	\$ 925	\$ 1,811,150	\$ 1,811,000
7	Reinforced Concrete Pipe 84"	LF	352	\$ 1,200	\$ 422,400	\$ 422,000
8	Concrete Manhole - 8'	Each	24	\$ 10,650	\$ 255,600	\$ 256,000
9	Curb Inlet	Each	48	\$ 9,475	\$ 454,800	\$ 455,000
10	1-1/2" Asphalt	Ton	529	\$ 172	\$ 90,784	\$ 91,000
11	10" Base	SY	7,001	\$ 20	\$ 140,021	\$ 140,000
12	12" Subgrade	SY	7,284	\$ 6	\$ 42,750	\$ 43,000
13	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	8,957	\$ 27	\$ 241,849	\$ 242,000
14	Sodding	SY	5,661	\$ 7	\$ 41,527	\$ 42,000
15	5' Wide Sidewalk	SY	5,661	\$ 27	\$ 152,157	\$ 152,000
16	Curb	LF	10,189	\$ 31	\$ 319,531	\$ 320,000
Subtotal						\$ 5,527,000

17	Mobilization	%	7%	\$ 5,527,000	\$ 386,890	\$ 387,000
18	Maintenance of Traffic	%	5%	\$ 5,527,000	\$ 276,350	\$ 276,000
19	Material Testing	%	1%	\$ 5,527,000	\$ 55,270	\$ 55,000
20	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 5,527,000	\$ 276,350	\$ 276,000
21	Utility Relocations	%	10%	\$ 5,527,000	\$ 552,700	\$ 553,000
22	Additional Water Quality Improvements	%	10%	\$ 5,527,000	\$ 552,700	\$ 553,000
23	Aboveground Components	%	20%	\$ 5,527,000	\$ 1,105,400	\$ 1,105,000
24	Water Main Distribution/Transmission System Improvements	%	40%	\$ 5,527,000	\$ 2,210,800	\$ 2,211,000
25	Sanitary Sewer Collection System Improvements	%	40%	\$ 5,527,000	\$ 2,210,800	\$ 2,211,000
Subtotal						\$ 7,627,000

PUMP STATIONS

26	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	223	\$ 15,890	\$ 3,543,470	\$ 3,543,000
27	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	223	\$ 13,000	\$ 2,899,000	\$ 2,899,000
28	Stormwater Pump Station (210 cfs + round up to nearest whole pump)	cfs	223	\$ 41,697	\$ 9,298,431	\$ 9,298,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	7			
	C. Flap Gate / Check Valve Valve	Each	7			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	7			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
29	Outfall Structures	LS	1	\$ 1,484,311	\$ 1,484,311	\$ 1,484,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	180			
30	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	223	\$ 15,890	\$ 3,543,470	\$ 3,543,000
31	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	223	\$ 13,000	\$ 2,899,000	\$ 2,899,000
32	Stormwater Pump Station (202.5 cfs + round up to nearest whole pump)	cfs	223	\$ 41,697	\$ 9,298,431	\$ 9,298,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	7			
	C. Flap Gate / Check Valve Valve	Each	7			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	7			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
33	Outfall Structures	LS	1	\$ 1,484,311	\$ 1,484,311	\$ 1,484,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	180			
Subtotal						\$ 34,448,000

Estimating Contingency (10%)						\$ 4,760,000
Total Construction Subtotal						\$ 52,362,000

34	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 52,362,000	\$ 3,141,720	\$ 3,142,000
35	Permitting Fee (5%)	%	5%	\$ 52,362,000	\$ 2,618,100	\$ 2,618,000
36	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 52,362,000	\$ 5,236,200	\$ 5,236,000
37	CEI Management (Owner's Representative) (5%)	%	5%	\$ 52,362,000	\$ 2,618,100	\$ 2,618,000
38	Construction Contingency (10%)	%	10%	\$ 52,362,000	\$ 5,236,200	\$ 5,236,000
39	CIP Management Fee (6.5%)	%	6.5%	\$ 52,362,000	\$ 3,403,530	\$ 3,404,000
Subtotal						\$ 22,254,000

Total **\$ 74,616,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Nautilus E

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	403	\$ 130	\$ 52,390	\$ 52,000
2	Reinforced Concrete Pipe 42"	LF	19	\$ 325	\$ 6,175	\$ 6,000
3	Concrete Manhole - 8'	Each	2	\$ 10,650	\$ 21,300	\$ 21,000
4	Curb Inlet	Each	4	\$ 9,475	\$ 37,900	\$ 38,000
5	1-1/2" Asphalt	Ton	9,110	\$ 172	\$ 1,563,287	\$ 1,563,000
6	10" Base	SY	118,139	\$ 20	\$ 2,362,777	\$ 2,363,000
7	12" Subgrade	SY	120,594	\$ 6	\$ 707,758	\$ 708,000
8	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	154,244	\$ 27	\$ 4,164,601	\$ 4,165,000
9	Sodding	SY	49,110	\$ 7	\$ 360,275	\$ 360,000
10	5' Wide Sidewalk	SY	49,110	\$ 27	\$ 1,320,066	\$ 1,320,000
11	Curb	LF	88,397	\$ 31	\$ 2,772,139	\$ 2,772,000
Subtotal						\$ 13,368,000

12	Mobilization	%	7%	\$ 13,368,000	\$ 935,760	\$ 936,000
13	Maintenance of Traffic	%	5%	\$ 13,368,000	\$ 668,400	\$ 668,000
14	Material Testing	%	1%	\$ 13,368,000	\$ 133,680	\$ 134,000
15	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 13,368,000	\$ 668,400	\$ 668,000
16	Utility Relocations	%	10%	\$ 13,368,000	\$ 1,336,800	\$ 1,337,000
17	Additional Water Quality Improvements	%	10%	\$ 13,368,000	\$ 1,336,800	\$ 1,337,000
18	Aboveground Components	%	20%	\$ 13,368,000	\$ 2,673,600	\$ 2,674,000
19	Water Main Distribution/Transmission System Improvements	%	40%	\$ 13,368,000	\$ 5,347,200	\$ 5,347,000
20	Sanitary Sewer Collection System Improvements	%	40%	\$ 13,368,000	\$ 5,347,200	\$ 5,347,000
Subtotal						\$ 18,448,000

Estimating Contingency (10%)					\$ 3,182,000	
Total Construction Subtotal					\$ 34,998,000	

21	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 34,998,000	\$ 2,099,880	\$ 2,100,000
22	Permitting Fee (5%)	%	5%	\$ 34,998,000	\$ 1,749,900	\$ 1,750,000
23	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 34,998,000	\$ 3,499,800	\$ 3,500,000
24	CEI Management (Owner's Representative) (5%)	%	5%	\$ 34,998,000	\$ 1,749,900	\$ 1,750,000
25	Construction Contingency (10%)	%	10%	\$ 34,998,000	\$ 3,499,800	\$ 3,500,000
26	CIP Management Fee (6.5%)	%	6.5%	\$ 34,998,000	\$ 2,274,870	\$ 2,275,000
Subtotal						\$ 14,875,000
Total						\$ 49,873,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
Nautilus F

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	5,061	\$ 130	\$ 496,340	\$ 496,000
2	Reinforced Concrete Pipe 24"	LF	1,273	\$ 180	\$ 229,140	\$ 229,000
3	Reinforced Concrete Pipe 30"	LF	630	\$ 220	\$ 138,600	\$ 139,000
4	Reinforced Concrete Pipe 36"	LF	2,888	\$ 280	\$ 808,640	\$ 809,000
5	Reinforced Concrete Pipe 42"	LF	1,129	\$ 325	\$ 366,925	\$ 367,000
6	Reinforced Concrete Pipe 48"	LF	1,363	\$ 425	\$ 579,275	\$ 579,000
7	Reinforced Concrete Pipe 60"	LF	989	\$ 580	\$ 573,620	\$ 574,000
8	Reinforced Concrete Pipe 72"	LF	1,074	\$ 925	\$ 993,450	\$ 993,000
9	Reinforced Concrete Pipe 84"	LF	3,062	\$ 1,200	\$ 3,674,400	\$ 3,674,000
10	Concrete Manhole - 8'	Each	70	\$ 10,650	\$ 745,500	\$ 746,000
11	Curb Inlet	Each	140	\$ 9,475	\$ 1,326,500	\$ 1,327,000
12	1-1/2" Asphalt	Ton	1,941	\$ 172	\$ 332,991	\$ 333,000
13	10" Base	SY	25,394	\$ 20	\$ 507,872	\$ 508,000
14	12" Subgrade	SY	26,146	\$ 6	\$ 153,447	\$ 153,000
15	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	32,855	\$ 27	\$ 887,090	\$ 887,000
16	Sodding	SY	15,044	\$ 7	\$ 110,365	\$ 110,000
17	5' Wide Sidewalk	SY	15,044	\$ 27	\$ 404,383	\$ 404,000
18	Curb	LF	27,079	\$ 31	\$ 849,204	\$ 849,000
Subtotal						\$ 13,177,000

19	Mobilization	%	7%	\$ 13,177,000	\$ 922,390	\$ 922,000
20	Maintenance of Traffic	%	5%	\$ 13,177,000	\$ 658,850	\$ 659,000
21	Material Testing	%	1%	\$ 13,177,000	\$ 131,770	\$ 132,000
22	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 13,177,000	\$ 658,850	\$ 659,000
23	Utility Relocations	%	10%	\$ 13,177,000	\$ 1,317,700	\$ 1,318,000
24	Additional Water Quality Improvements	%	10%	\$ 13,177,000	\$ 1,317,700	\$ 1,318,000
25	Aboveground Components	%	20%	\$ 13,177,000	\$ 2,635,400	\$ 2,635,000
26	Water Main Distribution/Transmission System Improvements	%	40%	\$ 13,177,000	\$ 5,270,800	\$ 5,271,000
27	Sanitary Sewer Collection System Improvements	%	40%	\$ 13,177,000	\$ 5,270,800	\$ 5,271,000
Subtotal						\$ 18,185,000

PUMP STATIONS

28	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000
29	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
30	Stormwater Pump Station (89 cfs)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
31	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			
Subtotal						\$ 7,839,000

Estimating Contingency (10%)						\$ 3,920,000
Total Construction Subtotal						\$ 43,121,000

32	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 43,121,000	\$ 2,587,260	\$ 2,587,000
33	Permitting Fee (5%)	%	5%	\$ 43,121,000	\$ 2,156,050	\$ 2,156,000
34	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 43,121,000	\$ 4,312,100	\$ 4,312,000
35	CEI Management (Owner's Representative) (5%)	%	5%	\$ 43,121,000	\$ 2,156,050	\$ 2,156,000
36	Construction Contingency (10%)	%	10%	\$ 43,121,000	\$ 4,312,100	\$ 4,312,000
37	CIP Management Fee (6.5%)	%	6.5%	\$ 43,121,000	\$ 2,802,865	\$ 2,803,000
Subtotal						\$ 18,326,000

Total **\$ 61,447,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Nautilus G

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	4,023	\$ 130	\$ 522,990	\$ 523,000
2	Reinforced Concrete Pipe 24"	LF	2,758	\$ 180	\$ 496,440	\$ 496,000
3	Reinforced Concrete Pipe 30"	LF	423	\$ 220	\$ 93,060	\$ 93,000
4	Reinforced Concrete Pipe 36"	LF	3,210	\$ 280	\$ 898,800	\$ 899,000
5	Reinforced Concrete Pipe 42"	LF	620	\$ 325	\$ 201,500	\$ 202,000
6	Reinforced Concrete Pipe 48"	LF	1,883	\$ 425	\$ 800,275	\$ 800,000
7	Reinforced Concrete Pipe 60"	LF	3,018	\$ 580	\$ 1,750,440	\$ 1,750,000
8	Reinforced Concrete Pipe 72"	LF	2,290	\$ 925	\$ 2,118,250	\$ 2,118,000
9	Reinforced Concrete Pipe 84"	LF	2,313	\$ 1,200	\$ 2,775,600	\$ 2,776,000
10	Reinforced Concrete Pipe 96"	LF	1,556	\$ 1,325	\$ 2,061,700	\$ 2,062,000
11	Reinforced Concrete Pipe 108"	LF	25	\$ 1,675	\$ 41,875	\$ 42,000
12	Concrete Manhole - 8'	Each	89	\$ 10,650	\$ 947,850	\$ 948,000
13	Curb Inlet	Each	178	\$ 9,475	\$ 1,686,550	\$ 1,687,000
14	1-1/2" Asphalt	Ton	2,731	\$ 172	\$ 468,591	\$ 469,000
15	10" Base	SY	35,754	\$ 20	\$ 715,078	\$ 715,000
16	12" Subgrade	SY	36,832	\$ 6	\$ 216,164	\$ 216,000
17	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	46,234	\$ 27	\$ 1,248,327	\$ 1,248,000
18	Sodding	SY	21,563	\$ 7	\$ 158,187	\$ 158,000
19	5' Wide Sidewalk	SY	21,563	\$ 27	\$ 579,605	\$ 580,000
20	Curb	LF	38,813	\$ 31	\$ 1,217,171	\$ 1,217,000
Subtotal						\$ 18,999,000

21	Mobilization	%	7%	\$ 18,999,000	\$ 1,329,930	\$ 1,330,000
22	Maintenance of Traffic	%	5%	\$ 18,999,000	\$ 949,950	\$ 950,000
23	Material Testing	%	1%	\$ 18,999,000	\$ 189,990	\$ 190,000
24	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 18,999,000	\$ 949,950	\$ 950,000
25	Utility Relocations	%	10%	\$ 18,999,000	\$ 1,899,900	\$ 1,900,000
26	Additional Water Quality Improvements	%	10%	\$ 18,999,000	\$ 1,899,900	\$ 1,900,000
27	Aboveground Components	%	20%	\$ 18,999,000	\$ 3,799,800	\$ 3,800,000
28	Water Main Distribution/Transmission System Improvements	%	40%	\$ 18,999,000	\$ 7,599,600	\$ 7,600,000
29	Sanitary Sewer Collection System Improvements	%	40%	\$ 18,999,000	\$ 7,599,600	\$ 7,600,000
Subtotal						\$ 26,220,000

PUMP STATIONS

30	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$ 2,828,000
31	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 13,000	\$ 2,314,000	\$ 2,314,000
32	Stormwater Pump Station (178 cfs)	cfs	178	\$ 41,697	\$ 7,422,066	\$ 7,422,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
33	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
Subtotal						\$ 13,884,000

Estimating Contingency (10%)	\$ 5,910,000
Total Construction Subtotal	\$ 65,013,000

34	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 65,013,000	\$ 3,900,780	\$ 3,901,000
35	Permitting Fee (5%)	%	5%	\$ 65,013,000	\$ 3,250,650	\$ 3,251,000
36	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 65,013,000	\$ 6,501,300	\$ 6,501,000
37	CEI Management (Owner's Representative) (5%)	%	5%	\$ 65,013,000	\$ 3,250,650	\$ 3,251,000
38	Construction Contingency (10%)	%	10%	\$ 65,013,000	\$ 6,501,300	\$ 6,501,000
39	CIP Management Fee (6.5%)	%	6.5%	\$ 65,013,000	\$ 4,225,845	\$ 4,226,000
Subtotal						\$ 27,631,000

Total **\$ 92,644,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Bayshore D

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	811	\$ 130	\$ 105,430	\$ 105,000
2	Reinforced Concrete Pipe 24"	LF	1,882	\$ 180	\$ 338,760	\$ 339,000
3	Reinforced Concrete Pipe 30"	LF	357	\$ 220	\$ 78,540	\$ 79,000
4	Reinforced Concrete Pipe 36"	LF	683	\$ 280	\$ 191,240	\$ 191,000
5	Reinforced Concrete Pipe 42"	LF	51	\$ 325	\$ 16,575	\$ 17,000
6	Reinforced Concrete Pipe 48"	LF	1,323	\$ 425	\$ 562,275	\$ 562,000
7	Reinforced Concrete Pipe 54"	LF	796	\$ 505	\$ 401,980	\$ 402,000
8	Reinforced Concrete Pipe 60"	LF	3,427	\$ 580	\$ 1,987,660	\$ 1,988,000
9	Reinforced Concrete Pipe 66"	LF	223	\$ 690	\$ 153,870	\$ 154,000
10	Reinforced Concrete Pipe 72"	LF	925	\$ 925	\$ 295,075	\$ 295,000
11	Reinforced Concrete Pipe 96"	LF	969	\$ 1,325	\$ 1,283,925	\$ 1,284,000
12	Reinforced Concrete Pipe 120"	LF	98	\$ 1,675	\$ 164,150	\$ 164,000
13	Concrete Manhole - 8'	Each	44	\$ 10,650	\$ 468,600	\$ 469,000
14	Curb Inlet	Each	88	\$ 9,475	\$ 833,800	\$ 834,000
15	1-1/2" Asphalt	Ton	1,682	\$ 172	\$ 288,651	\$ 289,000
16	10" Base	SY	22,076	\$ 20	\$ 441,530	\$ 442,000
17	12" Subgrade	SY	22,793	\$ 6	\$ 133,769	\$ 134,000
18	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	28,480	\$ 27	\$ 768,967	\$ 769,000
19	Sodding	SY	14,326	\$ 7	\$ 105,096	\$ 105,000
20	5' Wide Sidewalk	SY	14,326	\$ 27	\$ 385,078	\$ 385,000
21	Curb	LF	25,786	\$ 31	\$ 808,665	\$ 809,000
Subtotal						\$ 9,816,000

22	Mobilization	%	7%	\$ 9,816,000	\$ 687,120	\$ 687,000
23	Maintenance of Traffic	%	5%	\$ 9,816,000	\$ 490,800	\$ 491,000
24	Material Testing	%	1%	\$ 9,816,000	\$ 98,160	\$ 98,000
25	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 9,816,000	\$ 490,800	\$ 491,000
26	Utility Relocations	%	10%	\$ 9,816,000	\$ 981,600	\$ 982,000
27	Additional Water Quality Improvements	%	10%	\$ 9,816,000	\$ 981,600	\$ 982,000
28	Aboveground Components	%	20%	\$ 9,816,000	\$ 1,963,200	\$ 1,963,000
29	Water Main Distribution/Transmission System Improvements	%	40%	\$ 9,816,000	\$ 3,926,400	\$ 3,926,000
30	Sanitary Sewer Collection System Improvements	%	40%	\$ 9,816,000	\$ 3,926,400	\$ 3,926,000
Subtotal						\$ 13,546,000

PUMP STATIONS

31	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	312	\$ 15,890	\$ 4,957,680	\$ 4,958,000
32	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	312	\$ 13,000	\$ 4,056,000	\$ 4,056,000
33	Stormwater Pump Station (308 cfs + round up to nearest whole pump)	cfs	312	\$ 41,697	\$ 13,009,464	\$ 13,009,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	9			
	C. Flap Gate / Check Valve Valve	Each	9			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	9			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
34	Outfall Structures	LS	1	\$ 1,977,844	\$ 1,977,844	\$ 1,978,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	240			
Subtotal						\$ 24,001,000

Estimating Contingency (10%)	\$ 4,736,000
Total Construction Subtotal	\$ 52,099,000

35	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 52,099,000	\$ 3,125,940	\$ 3,126,000
36	Permitting Fee (5%)	%	5%	\$ 52,099,000	\$ 2,604,950	\$ 2,605,000
37	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 52,099,000	\$ 5,209,900	\$ 5,210,000
38	CEI Management (Owner's Representative) (5%)	%	5%	\$ 52,099,000	\$ 2,604,950	\$ 2,605,000
39	Construction Contingency (10%)	%	10%	\$ 52,099,000	\$ 5,209,900	\$ 5,210,000
40	CIP Management Fee (6.5%)	%	6.5%	\$ 52,099,000	\$ 3,386,435	\$ 3,386,000
Subtotal						\$ 22,142,000
Total						\$ 74,241,000

Appendix 10.6: Basin 6

NIP Preliminary Construction Cost Estimates

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
North Shore A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	8,583	\$ 180	\$ 1,544,940	\$ 1,545,000
2	Reinforced Concrete Pipe 36"	LF	182	\$ 280	\$ 50,960	\$ 51,000
3	Reinforced Concrete Pipe 48"	LF	3,581	\$ 425	\$ 1,521,925	\$ 1,522,000
4	Reinforced Concrete Pipe 60"	LF	852	\$ 580	\$ 494,160	\$ 494,000
5	Reinforced Concrete Pipe 66"	LF	554	\$ 690	\$ 382,260	\$ 382,000
6	Reinforced Concrete Pipe 72"	LF	1,424	\$ 925	\$ 1,317,200	\$ 1,317,000
7	Reinforced Concrete Pipe 78"	LF	284	\$ 1,075	\$ 305,300	\$ 305,000
8	Reinforced Concrete Pipe 84"	LF	577	\$ 1,200	\$ 692,400	\$ 692,000
9	Concrete Manhole - 8'	Each	65	\$ 10,650	\$ 692,250	\$ 692,000
10	Curb Inlet	Each	130	\$ 9,475	\$ 1,231,750	\$ 1,232,000
11	1-1/2"- Asphalt	Ton	2,500	\$ 172	\$ 429,000	\$ 429,000
12	10" Base	SY	32,402	\$ 20	\$ 648,044	\$ 648,000
13	12" Subgrade	SY	33,328	\$ 6	\$ 195,599	\$ 196,000
14	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	42,311	\$ 27	\$ 1,142,384	\$ 1,142,000
15	Sodding	SY	18,516	\$ 7	\$ 135,833	\$ 136,000
16	5' Wide Sidewalk	SY	18,516	\$ 27	\$ 497,698	\$ 498,000
17	Curb	LF	33,328	\$ 31	\$ 1,045,166	\$ 1,045,000
Subtotal						\$ 12,326,000

18	Mobilization	%	7%	\$ 12,326,000	\$ 862,820	\$ 863,000
19	Maintenance of Traffic	%	5%	\$ 12,326,000	\$ 616,300	\$ 616,000
20	Material Testing	%	1%	\$ 12,326,000	\$ 123,260	\$ 123,000
21	Blue-Green Stormwater Infrastructure (BGSII)	%	5%	\$ 12,326,000	\$ 616,300	\$ 616,000
22	Utility Relocations	%	10%	\$ 12,326,000	\$ 1,232,600	\$ 1,233,000
23	Additional Water Quality Improvements	%	10%	\$ 12,326,000	\$ 1,232,600	\$ 1,233,000
24	Aboveground Components	%	20%	\$ 12,326,000	\$ 2,465,200	\$ 2,465,000
25	Water Main Distribution/Transmission System Improvements	%	40%	\$ 12,326,000	\$ 4,930,400	\$ 4,930,000
26	Sanitary Sewer Collection System Improvements	%	40%	\$ 12,326,000	\$ 4,930,400	\$ 4,930,000
Subtotal						\$ 17,009,000

PUMP STATIONS

27	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$ 2,828,000
28	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 13,000	\$ 2,314,000	\$ 2,314,000
29	Stormwater Pump Station (176 cfs + round up to nearest whole pump)	cfs	178	\$ 41,697	\$ 7,422,066	\$ 7,422,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
30	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
Subtotal						\$ 13,884,000

Estimating Contingency (10%)					\$ 4,322,000	
Total Construction Subtotal					\$ 47,541,000	

31	Program/Construction Management (PM) Fee	%	6%	\$ 47,541,000	\$ 2,852,460	\$ 2,852,000
32	Permitting Fee	%	5%	\$ 47,541,000	\$ 2,377,050	\$ 2,377,000
33	Architect/Engineering (A/E) Fee	%	10%	\$ 47,541,000	\$ 4,754,100	\$ 4,754,000
34	CEI Management (Owner's Representative)	%	5%	\$ 47,541,000	\$ 2,377,050	\$ 2,377,000
35	Construction Contingency	%	10%	\$ 47,541,000	\$ 4,754,100	\$ 4,754,000
36	CIP Management Fee	%	6.5%	\$ 47,541,000	\$ 3,090,165	\$ 3,090,000
Subtotal						\$ 20,204,000
Total						\$ 67,745,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
North Shore B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	9,139	\$ 180	\$ 1,645,020	\$ 1,645,000
2	Reinforced Concrete Pipe 30"	LF	179	\$ 220	\$ 39,380	\$ 39,000
3	Reinforced Concrete Pipe 36"	LF	1,205	\$ 280	\$ 337,400	\$ 337,000
4	Reinforced Concrete Pipe 42"	LF	98	\$ 325	\$ 31,850	\$ 32,000
4	Reinforced Concrete Pipe 48"	LF	836	\$ 425	\$ 355,300	\$ 355,000
5	Reinforced Concrete Pipe 54"	LF	223	\$ 505	\$ 112,615	\$ 113,000
5	Reinforced Concrete Pipe 60"	LF	3,292	\$ 580	\$ 1,909,360	\$ 1,909,000
6	Reinforced Concrete Pipe 66"	LF	297	\$ 690	\$ 204,930	\$ 205,000
7	Reinforced Concrete Pipe 72"	LF	701	\$ 925	\$ 648,425	\$ 648,000
8	Reinforced Concrete Pipe 78"	LF	275	\$ 1,075	\$ 295,625	\$ 296,000
9	Reinforced Concrete Pipe 84"	LF	2,461	\$ 1,200	\$ 2,953,200	\$ 2,953,000
10	Reinforced Concrete Pipe 96"	LF	67	\$ 1,325	\$ 88,775	\$ 89,000
11	Concrete Manhole - 8'	Each	76	\$ 10,650	\$ 809,400	\$ 809,000
12	Curb Inlet	Each	152	\$ 9,475	\$ 1,440,200	\$ 1,440,000
13	1-1/2"- Asphalt	Ton	2,740	\$ 172	\$ 470,184	\$ 470,000
14	10" Base	SY	35,792	\$ 20	\$ 715,843	\$ 716,000
15	12" Subgrade	SY	36,794	\$ 6	\$ 215,942	\$ 216,000
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	46,387	\$ 27	\$ 1,252,440	\$ 1,252,000
17	5' Sidewalk	SY	20,042	\$ 27	\$ 538,739	\$ 539,000
18	Curb	LF	36,076	\$ 31	\$ 1,131,352	\$ 1,131,000
19	Sodding	SY	20,042	\$ 7	\$ 147,034	\$ 147,000
Subtotal						\$ 15,341,000

20	Mobilization	%	7%	\$ 15,341,000	\$ 1,073,870	\$ 1,074,000
21	Maintenance of Traffic	%	5%	\$ 15,341,000	\$ 767,050	\$ 767,000
22	Material Testing	%	1%	\$ 15,341,000	\$ 153,410	\$ 153,000
23	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 15,341,000	\$ 767,050	\$ 767,000
24	Utility Relocations	%	10%	\$ 15,341,000	\$ 1,534,100	\$ 1,534,000
25	Additional Water Quality Improvements	%	10%	\$ 15,341,000	\$ 1,534,100	\$ 1,534,000
26	Aboveground Components	%	20%	\$ 15,341,000	\$ 3,068,200	\$ 3,068,000
27	Water Main Distribution/Transmission System Improvements	%	40%	\$ 15,341,000	\$ 6,136,400	\$ 6,136,000
28	Sanitary Sewer Collection System Improvements	%	40%	\$ 15,341,000	\$ 6,136,400	\$ 6,136,000
Subtotal						\$ 21,169,000

PUMP STATIONS

29	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	267	\$ 15,890	\$ 4,242,630	\$ 4,243,000
30	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	267	\$ 13,000	\$ 3,471,000	\$ 3,471,000
31	Stormwater Pump Station (264 cfs + round up to nearest whole pump)	cfs	267	\$ 41,697	\$ 11,133,099	\$ 11,133,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	7			
	C. Flap Gate / Check Valve Valve	Each	7			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	7			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
32	Outfall Structures	LS	1	\$ 1,731,078	\$ 1,731,078	\$ 1,731,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	210			
Subtotal						\$ 20,578,000

Estimating Contingency (10%)	\$ 5,709,000	
Total Construction Subtotal		\$ 62,797,000

33	Program/Construction Management (PM) Fee	%	6%	\$ 62,797,000	\$ 3,767,820	\$ 3,768,000
34	Permit Fee	%	5%	\$ 62,797,000	\$ 3,139,850	\$ 3,140,000
35	Architect/Engineering (A/E) Fee	%	10%	\$ 62,797,000	\$ 6,279,700	\$ 6,280,000
36	CEI Management (Owner's Representative)	%	5%	\$ 62,797,000	\$ 3,139,850	\$ 3,140,000
37	Construction Contingency	%	10%	\$ 62,797,000	\$ 6,279,700	\$ 6,280,000
38	CIP Management Fee	%	6.5%	\$ 62,797,000	\$ 4,081,805	\$ 4,082,000
Subtotal						\$ 26,690,000

Total **\$ 89,487,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
North Shore C

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	8,534	\$ 180	\$ 1,536,120	\$ 1,536,000
2	Reinforced Concrete Pipe 30"	LF	672	\$ 220	\$ 147,840	\$ 148,000
3	Reinforced Concrete Pipe 36"	LF	656	\$ 280	\$ 183,680	\$ 184,000
2	Reinforced Concrete Pipe 42"	LF	215	\$ 325	\$ 69,875	\$ 70,000
4	Reinforced Concrete Pipe 48"	LF	807	\$ 425	\$ 342,975	\$ 343,000
3	Reinforced Concrete Pipe 54"	LF	382	\$ 505	\$ 192,910	\$ 193,000
5	Reinforced Concrete Pipe 60"	LF	3,006	\$ 580	\$ 1,743,480	\$ 1,743,000
6	Reinforced Concrete Pipe 66"	LF	407	\$ 690	\$ 280,830	\$ 281,000
7	Reinforced Concrete Pipe 72"	LF	1,887	\$ 925	\$ 1,745,475	\$ 1,745,000
8	Reinforced Concrete Pipe 84"	LF	481	\$ 1,200	\$ 577,200	\$ 577,000
9	Concrete Manhole - 8'	Each	69	\$ 10,650	\$ 734,850	\$ 735,000
10	Curb Inlet	Each	138	\$ 9,475	\$ 1,307,550	\$ 1,308,000
11	1-1/2"- Asphalt	Ton	3,155	\$ 172	\$ 541,434	\$ 541,000
12	10" Base	SY	40,973	\$ 20	\$ 819,467	\$ 819,000
13	12" Subgrade	SY	41,881	\$ 6	\$ 245,794	\$ 246,000
14	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	53,422	\$ 27	\$ 1,442,381	\$ 1,442,000
15	5' Wide Sidewalk	SY	18,144	\$ 27	\$ 487,723	\$ 488,000
16	Curb	LF	32,660	\$ 31	\$ 1,024,218	\$ 1,024,000
17	Sodding	SY	18,144	\$ 7	\$ 133,110	\$ 133,000
Subtotal						\$ 13,556,000

PUMP STATIONS

18	Mobilization	%	7%	\$ 13,556,000	\$ 948,920	\$ 949,000
19	Maintenance of Traffic	%	5%	\$ 13,556,000	\$ 677,800	\$ 678,000
20	Material Testing	%	1%	\$ 13,556,000	\$ 135,560	\$ 136,000
21	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 13,556,000	\$ 677,800	\$ 678,000
22	Utility Relocations	%	10%	\$ 13,556,000	\$ 1,355,600	\$ 1,356,000
23	Additional Water Quality Improvements	%	10%	\$ 13,556,000	\$ 1,355,600	\$ 1,356,000
24	Aboveground Components	%	20%	\$ 13,556,000	\$ 2,711,200	\$ 2,711,000
25	Water Main Distribution/Transmission System Improvements (40%)	%	40%	\$ 13,556,000	\$ 5,422,400	\$ 5,422,000
26	Sanitary Sewer Collection System Improvements	%	40%	\$ 13,556,000	\$ 5,422,400	\$ 5,422,000
Subtotal						\$ 18,708,000

Estimating Contingency (10%)

Total Construction Subtotal \$ **35,490,000**

27	Program/Construction Management (PM) Fee	%	6%	\$ 35,490,000	\$ 2,129,400	\$ 2,129,000
28	Permit Fee	%	5%	\$ 35,490,000	\$ 1,774,500	\$ 1,775,000
29	Architect/Engineering (A/E) Fee	%	10%	\$ 35,490,000	\$ 3,549,000	\$ 3,549,000
30	CEI Management (Owner's Representative)	%	5%	\$ 35,490,000	\$ 1,774,500	\$ 1,775,000
31	Construction Contingency	%	10%	\$ 35,490,000	\$ 3,549,000	\$ 3,549,000
32	CIP Management Fee	%	6.5%	\$ 35,490,000	\$ 2,306,850	\$ 2,307,000
Subtotal						\$ 15,084,000

Total \$ **50,574,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
North Shore D

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	6,337	\$ 300	\$ 1,901,100	\$ 1,901,000
2	Reinforced Concrete Pipe 30"	LF	352	\$ 450	\$ 158,400	\$ 158,000
2	Reinforced Concrete Pipe 36"	LF	1,447	\$ 526	\$ 761,122	\$ 761,000
3	Reinforced Concrete Pipe 48"	LF	165	\$ 890	\$ 146,850	\$ 147,000
4	Reinforced Concrete Pipe 60"	LF	1,801	\$ 1,250	\$ 2,251,250	\$ 2,251,000
5	Reinforced Concrete Pipe 66"	LF	663	\$ 1,440	\$ 954,720	\$ 955,000
6	Reinforced Concrete Pipe 72"	LF	1,281	\$ 1,629	\$ 2,086,749	\$ 2,087,000
7	Reinforced Concrete Pipe 84"	LF	717	\$ 2,200	\$ 1,577,400	\$ 1,577,000
8	Concrete Manhole - 8'	Each	72	\$ 10,650	\$ 766,800	\$ 767,000
9	Curb Inlet	Each	145	\$ 9,475	\$ 1,373,875	\$ 1,374,000
10	1-1/2" - Asphalt	Ton	3,673	\$ 182	\$ 668,486	\$ 668,000
11	10" Base	SY	45,937	\$ 33	\$ 1,515,921	\$ 1,516,000
12	12" Subgrade	SY	46,837	\$ 7	\$ 327,859	\$ 328,000
13	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	66,720	\$ 28	\$ 1,868,160	\$ 1,868,000
14	5" Wide Sidewalk	SY	14,293	\$ 27	\$ 384,192	\$ 384,000
15	Curb	LF	25,727	\$ 31	\$ 806,804	\$ 807,000
16	Sodding	SY	14,293	\$ 8	\$ 114,343	\$ 114,000
Subtotal						\$ 17,663,000

17	Mobilization	%	7%	\$ 17,663,000	\$ 1,236,410	\$ 1,236,000
18	Maintenance of Traffic	%	5%	\$ 17,663,000	\$ 883,150	\$ 883,000
19	Material Testing	%	1%	\$ 17,663,000	\$ 176,630	\$ 177,000
20	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 17,663,000	\$ 883,150	\$ 883,000
21	Utility Relocations	%	10%	\$ 17,663,000	\$ 1,766,300	\$ 1,766,000
22	Additional Water Quality Improvements	%	10%	\$ 17,663,000	\$ 1,766,300	\$ 1,766,000
23	Aboveground Components	%	20%	\$ 17,663,000	\$ 3,532,600	\$ 3,533,000
24	Water Main Distribution/Transmission System Improvements	%	40%	\$ 17,663,000	\$ 7,065,200	\$ 7,065,000
25	Sanitary Sewer Collection System Improvements	%	40%	\$ 17,663,000	\$ 7,065,200	\$ 7,065,000
Subtotal						\$ 24,374,000

PUMP STATIONS

26	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$ 2,828,000
27	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 13,000	\$ 2,314,000	\$ 2,314,000
28	Stormwater Pump Station (132 cfs + one additional pump)	cfs	178	\$ 41,697	\$ 7,422,066	\$ 7,422,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
29	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
Subtotal						\$ 13,884,000

Estimating Contingency (10%)						\$ 5,592,000
Total Construction Subtotal						\$ 61,513,000

30	Program/Construction Management (PM) Fee	%	6%	\$ 61,513,000	\$ 3,690,780	\$ 3,691,000
31	Permit Fee	%	5%	\$ 61,513,000	\$ 3,075,650	\$ 3,076,000
32	Architect/Engineering (A/E) Fee	%	10%	\$ 61,513,000	\$ 6,151,300	\$ 6,151,000
33	CEI Management (Owner's Representative)	%	5%	\$ 61,513,000	\$ 3,075,650	\$ 3,076,000
34	Construction Contingency	%	10%	\$ 61,513,000	\$ 6,151,300	\$ 6,151,000
35	CIP Management Fee	%	6.5%	\$ 61,513,000	\$ 3,998,345	\$ 3,998,000
Subtotal						\$ 26,143,000
Total						\$ 87,656,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Construction Cost
North Shore E

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	5,563	\$ 180	\$ 1,001,340	\$ 1,001,000
2	Reinforced Concrete Pipe 36"	LF	4,123	\$ 280	\$ 1,154,440	\$ 1,154,000
3	Reinforced Concrete Pipe 42"	LF	568	\$ 325	\$ 184,600	\$ 185,000
3	Reinforced Concrete Pipe 48"	LF	1,076	\$ 425	\$ 457,300	\$ 457,000
4	Reinforced Concrete Pipe 60"	LF	300	\$ 580	\$ 174,000	\$ 174,000
5	Reinforced Concrete Pipe 72"	LF	494	\$ 925	\$ 456,950	\$ 457,000
6	Reinforced Concrete Pipe 84"	LF	1,678	\$ 1,200	\$ 2,013,600	\$ 2,014,000
7	Reinforced Concrete Pipe 90"	LF	117	\$ 1,300	\$ 152,100	\$ 152,000
8	Concrete Manhole - 8'	Each	56	\$ 10,650	\$ 596,400	\$ 596,000
9	Curb Inlet	Each	112	\$ 9,475	\$ 1,061,200	\$ 1,061,000
10	1-1/2" - Asphalt	Ton	1,573	\$ 172	\$ 270,000	\$ 270,000
11	10" Base	SY	20,205	\$ 20	\$ 404,098	\$ 404,000
12	12" Subgrade	SY	20,430	\$ 6	\$ 119,899	\$ 120,000
13	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	26,640	\$ 27	\$ 719,288	\$ 719,000
14	5" Wide Sidewalk	SY	8,987	\$ 27	\$ 241,557	\$ 242,000
15	Curb	LF	16,176	\$ 31	\$ 507,270	\$ 507,000
16	Sodding	SY	8,987	\$ 7	\$ 65,926	\$ 66,000
Subtotal						\$ 9,579,000

17	Mobilization	%	7%	\$ 9,579,000	\$ 670,530	\$ 671,000
18	Maintenance of Traffic	%	5%	\$ 9,579,000	\$ 478,950	\$ 479,000
19	Material Testing	%	1%	\$ 9,579,000	\$ 95,790	\$ 96,000
20	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 9,579,000	\$ 478,950	\$ 479,000
21	Utility Relocations	%	10%	\$ 9,579,000	\$ 957,900	\$ 958,000
22	Additional Water Quality Improvements	%	10%	\$ 9,579,000	\$ 957,900	\$ 958,000
23	Aboveground Components	%	20%	\$ 9,579,000	\$ 1,915,800	\$ 1,916,000
24	Water Main Distribution/Transmission System Improvements	%	40%	\$ 9,579,000	\$ 3,831,600	\$ 3,832,000
25	Sanitary Sewer Collection System Improvements	%	40%	\$ 9,579,000	\$ 3,831,600	\$ 3,832,000
Subtotal						\$ 13,221,000

Estimating Contingency (10%)	\$ 2,280,000	
Total Construction Subtotal		\$ 25,080,000

26	Program/Construction Management (PM) Fee	%	6%	\$ 25,080,000	\$ 1,504,800	\$ 1,505,000
27	Permit Fee	%	5%	\$ 25,080,000	\$ 1,254,000	\$ 1,254,000
28	Architect/Engineering (A/E) Fee	%	10%	\$ 25,080,000	\$ 2,508,000	\$ 2,508,000
29	CEI Management (Owner's Representative)	%	5%	\$ 25,080,000	\$ 1,254,000	\$ 1,254,000
30	Construction Contingency	%	10%	\$ 25,080,000	\$ 2,508,000	\$ 2,508,000
31	CIP Management Fee	%	6.5%	\$ 25,080,000	\$ 1,630,200	\$ 1,630,000
Subtotal						\$ 10,659,000
Total						\$ 35,739,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
North Shore F

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	5,154	\$ 180	\$ 927,720	\$ 928,000
2	Reinforced Concrete Pipe 36"	LF	834	\$ 280	\$ 233,520	\$ 234,000
3	Reinforced Concrete Pipe 42"	LF	491	\$ 325	\$ 159,575	\$ 160,000
3	Reinforced Concrete Pipe 48"	LF	467	\$ 425	\$ 198,475	\$ 198,000
4	Reinforced Concrete Pipe 54"	LF	696	\$ 505	\$ 351,480	\$ 351,000
5	Reinforced Concrete Pipe 60"	LF	631	\$ 580	\$ 365,980	\$ 366,000
6	Reinforced Concrete Pipe 84"	LF	2,293	\$ 1,200	\$ 2,751,600	\$ 2,752,000
7	Concrete Manhole - 8'	Each	43	\$ 10,650	\$ 457,950	\$ 458,000
8	Curb Inlet	Each	86	\$ 9,475	\$ 814,850	\$ 815,000
9	1-1/2"- Asphalt	Ton	1,573	\$ 172	\$ 270,036	\$ 270,000
10	10" Base	SY	20,430	\$ 20	\$ 408,591	\$ 409,000
11	12" Subgrade	SY	20,879	\$ 6	\$ 125,255	\$ 123,000
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	26,640	\$ 27	\$ 719,288	\$ 719,000
13	5' Wide Sidewalk	SY	8,987	\$ 27	\$ 241,557	\$ 242,000
14	Curb	LF	16,176	\$ 31	\$ 507,270	\$ 507,000
15	Sodding	SY	8,987	\$ 7	\$ 65,926	\$ 66,000
Subtotal						\$ 8,598,000

16	Mobilization	%	7%	\$ 8,598,000	\$ 601,860	\$ 602,000
17	Maintenance of Traffic	%	5%	\$ 8,598,000	\$ 429,900	\$ 430,000
18	Material Testing	%	1%	\$ 8,598,000	\$ 85,980	\$ 86,000
19	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 8,598,000	\$ 429,900	\$ 430,000
20	Utility Relocations	%	10%	\$ 8,598,000	\$ 859,800	\$ 860,000
21	Additional Water Quality Improvements	%	10%	\$ 8,598,000	\$ 859,800	\$ 860,000
22	Aboveground Components	%	20%	\$ 8,598,000	\$ 1,719,600	\$ 1,720,000
23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 8,598,000	\$ 3,439,200	\$ 3,439,000
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 8,598,000	\$ 3,439,200	\$ 3,439,000
Subtotal						\$ 11,866,000

PUMP STATIONS

25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	134	\$ 15,890	\$ 2,129,260	\$ 2,129,000
26	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	134	\$ 13,000	\$ 1,742,000	\$ 1,742,000
27	Stormwater Pump Station (132 cfs + round up to nearest whole pump)	cfs	134	\$ 41,697	\$ 5,587,398	\$ 5,587,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
28	Outfall Structures	LS	1	\$ 1,073,033	\$ 1,073,033	\$ 1,073,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	130			
29	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	134	\$ 15,890	\$ 2,129,260	\$ 2,129,000
30	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	134	\$ 13,000	\$ 1,742,000	\$ 1,742,000
31	Stormwater Pump Station (132 cfs + round up to nearest whole pump)	cfs	134	\$ 41,697	\$ 5,587,398	\$ 5,587,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	5			
	C. Flap Gate / Check Valve Valve	Each	5			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	5			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
32	Outfall Structures	LS	1	\$ 1,073,033	\$ 1,073,033	\$ 1,073,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	130			
Subtotal						\$ 21,062,000

Estimating Contingency (10%)						\$ 4,153,000
Total Construction Subtotal						\$ 45,679,000

33	Program/Construction Management (PM) Fee	%	6%	\$ 45,679,000	\$ 2,740,740	\$ 2,741,000
34	Permit Fee	%	5%	\$ 45,679,000	\$ 2,283,950	\$ 2,284,000
35	Architect/Engineering (A/E) Fee	%	10%	\$ 45,679,000	\$ 4,567,900	\$ 4,568,000
36	CEI Management (Owner's Representative)	%	5%	\$ 45,679,000	\$ 2,283,950	\$ 2,284,000
37	Construction Contingency	%	10%	\$ 45,679,000	\$ 4,567,900	\$ 4,568,000
38	CIP Management Fee	%	6.5%	\$ 45,679,000	\$ 2,969,135	\$ 2,969,000
Subtotal						\$ 19,414,000

Total **\$ 65,093,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Biscayne Point B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 18"	LF	2,495	\$ 130	\$ 324,350	\$ 324,000
2	Reinforced Concrete Pipe 24"	LF	1,711	\$ 180	\$ 307,980	\$ 308,000
3	Reinforced Concrete Pipe 30"	LF	317	\$ 220	\$ 69,740	\$ 70,000
4	Reinforced Concrete Pipe 36"	LF	316	\$ 280	\$ 88,480	\$ 88,000
5	Reinforced Concrete Pipe 42"	LF	426	\$ 325	\$ 138,450	\$ 138,000
6	Reinforced Concrete Pipe 48"	LF	80	\$ 425	\$ 34,000	\$ 34,000
7	Concrete Manhole - 8'	Each	22	\$ 10,650	\$ 234,300	\$ 234,000
8	Curb Inlet	Each	44	\$ 9,475	\$ 416,900	\$ 417,000
9	1-1/2" - Asphalt	Ton	342	\$ 172	\$ 58,610	\$ 59,000
10	10" Base	SY	4,491	\$ 20	\$ 89,812	\$ 90,000
11	12" Subgrade	SY	4,644	\$ 6	\$ 27,256	\$ 27,000
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	5,783	\$ 27	\$ 156,138	\$ 156,000
13	5' Wide Sidewalk	SY	3,069	\$ 27	\$ 82,486	\$ 82,000
14	Curb	LF	5,524	\$ 31	\$ 173,220	\$ 173,000
15	Sodding	SY	3,069	\$ 7	\$ 22,512	\$ 23,000
Subtotal						\$ 2,223,000

16	Mobilization	%	7%	\$ 2,223,000	\$ 155,610	\$ 156,000
17	Maintenance of Traffic	%	5%	\$ 2,223,000	\$ 111,150	\$ 111,000
18	Material Testing	%	1%	\$ 2,223,000	\$ 22,230	\$ 22,000
19	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 2,223,000	\$ 111,150	\$ 111,000
20	Utility Relocations	%	10%	\$ 2,223,000	\$ 222,300	\$ 222,000
21	Additional Water Quality Improvements	%	10%	\$ 2,223,000	\$ 222,300	\$ 222,000
22	Aboveground Components	%	20%	\$ 2,223,000	\$ 444,600	\$ 445,000
23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 2,223,000	\$ 889,200	\$ 889,000
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 2,223,000	\$ 889,200	\$ 889,000
Subtotal						\$ 3,067,000

PUMP STATIONS

12	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000
13	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000
14	Pump Station (60 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3,827,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	3			
	C. Flap Gate / Check Valve Valve	Each	3			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	3			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
15	Outfall Structures	LS	1	\$ 826,267	\$ 826,267	\$ 826,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	100			
Subtotal						\$ 7,839,000

Estimating Contingency (10%)	\$ 1,313,000
Total Construction Subtotal	\$ 14,442,000

25	Program/Construction Management (PM) Fee	%	6%	\$ 14,442,000	\$ 866,520	\$ 867,000
26	Permit Fee	%	5%	\$ 14,442,000	\$ 722,100	\$ 722,000
27	Architect/Engineering (A/E) Fee	%	10%	\$ 14,442,000	\$ 1,444,200	\$ 1,444,000
28	CEI Management (Owner's Representative)	%	5%	\$ 14,442,000	\$ 722,100	\$ 722,000
29	Construction Contingency	%	10%	\$ 14,442,000	\$ 1,444,200	\$ 1,444,000
30	CIP Management Fee	%	6.5%	\$ 14,442,000	\$ 938,730	\$ 939,000
Subtotal						\$ 6,138,000

Total **\$ 20,580,000**

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Ocean Front A

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	5,500	\$ 300	\$ 1,650,000	\$ 1,650,000
2	Reinforced Concrete Pipe 54"	LF	32	\$ 1,070	\$ 34,240	\$ 34,000
3	Reinforced Concrete Pipe 60"	LF	7	\$ 1,250	\$ 8,750	\$ 9,000
4	Reinforced Concrete Pipe 72"	LF	4,080	\$ 1,629	\$ 6,646,320	\$ 6,646,000
5	Concrete Manhole - 8'	Each	39	\$ 10,650	\$ 415,350	\$ 415,000
6	Curb Inlet	Each	78	\$ 9,475	\$ 739,050	\$ 739,000
7	1-1/2" - Asphalt	Ton	7,005	\$ 172	\$ 1,202,106	\$ 1,202,000
8	10" Base	SY	91,585	\$ 20	\$ 1,831,698	\$ 1,832,000
9	12" Subgrade	SY	94,214	\$ 6	\$ 552,934	\$ 553,000
10	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	59,304	\$ 27	\$ 1,601,207	\$ 1,601,000
11	5' Wide Sidewalk	SY	26,290	\$ 27	\$ 706,667	\$ 707,000
12	Curb	LF	47,321	\$ 31	\$ 1,484,011	\$ 1,484,000
13	Sodding	SY	26,290	\$ 7	\$ 192,865	\$ 193,000
Subtotal						\$ 17,065,000

14	Mobilization	%	7%	\$ 17,065,000	\$ 1,194,550	\$ 1,195,000
15	Maintenance of Traffic	%	5%	\$ 17,065,000	\$ 853,250	\$ 853,000
16	Material Testing	%	1%	\$ 17,065,000	\$ 170,650	\$ 171,000
17	Blue-Green Stormwater Infrastructure (BGS)	%	5%	\$ 17,065,000	\$ 853,250	\$ 853,000
18	Utility Relocations	%	10%	\$ 17,065,000	\$ 1,706,500	\$ 1,707,000
19	Additional Water Quality Improvements	%	10%	\$ 17,065,000	\$ 1,706,500	\$ 1,707,000
20	Aboveground Components	%	20%	\$ 17,065,000	\$ 3,413,000	\$ 3,413,000
21	Water Main Distribution/Transmission System Improvements	%	40%	\$ 17,065,000	\$ 6,826,000	\$ 6,826,000
22	Sanitary Sewer Collection System Improvements	%	40%	\$ 17,065,000	\$ 6,826,000	\$ 6,826,000
Subtotal						\$ 23,551,000

PUMP STATIONS

23	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	180	\$ 15,890	\$ 2,860,200	\$ 2,860,000
24	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	180	\$ 13,000	\$ 2,340,000	\$ 2,340,000
25	Stormwater Pump Station (180 cfs)	cfs	180	\$ 41,697	\$ 7,505,460	\$ 7,505,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	6			
	C. Flap Gate / Check Valve Valve	Each	6			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	6			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
26	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	\$ 1,320,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	160			
Subtotal						\$ 14,025,000

Estimating Contingency (10%)						\$ 5,464,000
Total Construction Subtotal						\$ 60,105,000

27	Program/Construction Management (PM) Fee	%	6%	\$ 60,105,000	\$ 3,606,300	\$ 3,606,000
28	Permit Fee	%	5%	\$ 60,105,000	\$ 3,005,250	\$ 3,005,000
29	Architect/Engineering (A/E) Fee	%	10%	\$ 60,105,000	\$ 6,010,500	\$ 6,011,000
30	CEI Management (Owner's Representative)	%	5%	\$ 60,105,000	\$ 3,005,250	\$ 3,005,000
31	Construction Contingency	%	10%	\$ 60,105,000	\$ 6,010,500	\$ 6,011,000
32	CIP Management Fee	%	6.5%	\$ 60,105,000	\$ 3,906,825	\$ 3,907,000
Subtotal						\$ 25,545,000
Total						\$ 85,650,000

City of Miami Beach
Engineer's Preliminary Opinion of Probable Costruction Cost
Ocean Front B

Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LF	248	\$ 300	\$ 74,400	\$ 74,000
2	Reinforced Concrete Pipe 36"	LF	76	\$ 526	\$ 39,976	\$ 40,000
3	Reinforced Concrete Pipe 60"	LF	767	\$ 1,250	\$ 958,750	\$ 959,000
4	Reinforced Concrete Pipe 72"	LF	8,970	\$ 1,629	\$ 14,612,130	\$ 14,612,000
5	Reinforced Concrete Pipe 84"	LF	79	\$ 2,200	\$ 173,800	\$ 174,000
6	Concrete Manhole - 8'	Each	41	\$ 10,650	\$ 436,650	\$ 437,000
7	Curb Inlet	Each	82	\$ 9,475	\$ 776,950	\$ 777,000
8	1-1/2" Asphalt	Ton	3,503	\$ 172	\$ 601,053	\$ 601,000
9	10" Base	SY	45,792	\$ 20	\$ 915,849	\$ 916,000
10	12" Subgrade	SY	47,107	\$ 6	\$ 276,467	\$ 276,000
11	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	59,304	\$ 27	\$ 1,601,207	\$ 1,601,000
12	5' Wide Sidewalk	SY	26,290	\$ 27	\$ 706,667	\$ 707,000
13	Curb	LF	47,321	\$ 31	\$ 1,484,001	\$ 1,484,000
14	Sodding	SY	26,290	\$ 7	\$ 192,865	\$ 193,000
Subtotal						\$ 22,851,000
15	Mobilization	%	7%	\$ 22,851,000	\$ 1,599,570	\$ 1,600,000
16	Maintenance of Traffic	%	5%	\$ 22,851,000	\$ 1,142,550	\$ 1,143,000
17	Material Testing	%	1%	\$ 22,851,000	\$ 228,510	\$ 229,000
18	Blue-Green Stormwater Infrastructure (BGSi)	%	5%	\$ 22,851,000	\$ 1,142,550	\$ 1,143,000
19	Utility Relocations	%	10%	\$ 22,851,000	\$ 2,285,100	\$ 2,285,000
20	Water Quality Improvements	%	10%	\$ 22,851,000	\$ 2,285,100	\$ 2,285,000
21	Aboveground Components	%	20%	\$ 22,851,000	\$ 4,570,200	\$ 4,570,000
22	Water Main Distribution/Transmission System Improvements	%	40%	\$ 22,851,000	\$ 9,140,400	\$ 9,140,000
23	Sanitary Sewer Collection System Improvements	%	40%	\$ 22,851,000	\$ 9,140,400	\$ 9,140,000
Subtotal						\$ 31,535,000
PUMP STATIONS						
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 15,890	\$ 5,656,840	\$ 5,657,000
25	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 13,000	\$ 4,628,000	\$ 4,628,000
26	Stormwater Pump Station (352 cfs + round up to nearest whole pump)	cfs	356	\$ 41,697	\$ 14,844,132	\$ 14,844,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	9			
	C. Flap Gate / Check Valve Valve	Each	9			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	9			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
27	Outfall Structures	LS	1	\$ 2,224,611	\$ 2,224,611	\$ 2,225,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	270			
28	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 15,890	\$ 5,656,840	\$ 5,657,000
29	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 13,000	\$ 4,628,000	\$ 4,628,000
30	Stormwater Pump Station (352 cfs + round up to nearest whole pump)	cfs	356	\$ 41,697	\$ 14,844,132	\$ 14,844,000
Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1			
	B. Submersible Pump	Each	9			
	C. Flap Gate / Check Valve Valve	Each	9			
	D. Storm Drainage Bypass Piping	LF	100			
	E. Watertight Wet Well Hatches	Each	9			
	F. Electrical Equipment/Enclosure	LS	1			
	G. Emergency Generator	Each	1			
31	Outfall Structures	LS	1	\$ 2,224,611	\$ 2,224,611	\$ 2,225,000
Outfall Structure Includes:						
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			
	C. Seawall with Dissipator	LF	270			
Subtotal						\$ 54,708,000
Estimating Contingency (10%)						\$ 10,909,000
Total Construction Subtotal						\$ 120,003,000
32	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 120,003,000	\$ 7,200,180	\$ 7,200,000
33	Permit Fee (5%)	%	5%	\$ 120,003,000	\$ 6,000,150	\$ 6,000,000
34	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 120,003,000	\$ 12,000,300	\$ 12,000,000
35	Construction Engineering and Inspection (CEI) Management (Owner's Represent	%	5%	\$ 120,003,000	\$ 6,000,150	\$ 6,000,000
36	Construction Contingency (10%)	%	10%	\$ 120,003,000	\$ 12,000,300	\$ 12,000,000
37	CIP Management Fee (6.5%)	%	6.5%	\$ 120,003,000	\$ 7,800,195	\$ 7,800,000
Subtotal						\$ 51,000,000
Total						\$ 171,003,000