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 Costruction Cost City Center A

						Total Cost
						Rounded to
ltem						the Nearest
No.	Item Description	Units	Quantity	Unit Cost	Total Cost	1000
1	Reinforced Concrete Pipe 24"	LF	5,151	\$ 180	\$ 927,180	\$ 927,000
2	Reinforced Concrete Pipe 30"	LF	1,676		\$ 368,720	
3	Reinforced Concrete Pipe 36"	LF	2,130		\$ 596,400	
4	Reinforced Concrete Pipe 42"	LF	1,901		\$ 617,825	
5	Reinforced Concrete Pipe 48"	LF	835	\$ 425	\$ 354,875	
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	
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		\$ 1,693,185	
18	Sodding	SY	26,774		\$ 196,416	, , ,
19	5' Wide Sidewalk	SY	26,774	\$ 27	\$ 719,679	\$ 720,000
20	Curb	LF	48,193		\$ 1,511,326	
					Subtotal	<u>\$ 18,957,000</u>
21	Mobilization	%	7%	\$ 18,957,000	\$ 1,326,990	\$ 1,327,000
22	Maintenance of Traffic	%	5%		\$ 947,850	, , ,
23	Material Testing	%	1%		· · ·	
24	Blue-Green Stormwater Infrastructure (BGSI)	%	5%		\$ 947,850	
25	Utility Relocations	%	10%		\$ 1,895,700	
26	Additional Water Quality Improvements	%	10%		\$ 1,895,700	, ,
20	Aboveground Components	%	20%		\$ 3,791,400	,,
27	Water Main Distribution/Transmission System Improvements	%	40%	\$ 18,957,000	\$ 7,582,800	
28	Sanitary Sewer Collection System Improvements	%	40%		\$ 7,582,800	. , ,
25	Sanitary Sewer Conection System improvements	78	40%	\$ 18,557,000	<u>Subtotal</u>	<u>\$</u> 26,162,000
	PUMP STATIONS					
	Membrane Filtration (per cfs pumped) for Pump Stations with a	1	1			<u>т </u>
30	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	US	207	ردي د ۲۵,690	ې 4,242,030	ې 4,243,000
	rivurouynamic separators (per cis pumpeu) for Pump Stations with a	1			1	

	Membrane Filtration (per cfs pumped) for Pump Stations with a					1	
30	capacity of >100 cfs	cfs	267	\$ 15,890	\$ 4,242,630	\$	4,243,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a						
31	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	Ś	20,578,000

	Estimating Contingency (10%)						\$	6,570,000
				Total Constr	uction .	Subtotal	<u>\$</u>	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

\$ 30,713,000 Subtotal

<u>\$ 102,980,000</u> <u>Total</u>

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

						Total Cost Rounded to
						the Nearest
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost	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		\$ 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	
24	Material Testing	%	1%	\$ 36,718,000	\$ 367,180	. , ,
25	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 36,718,000	\$ 1,835,900	
26	Utility Relocations	%	10%	\$ 36,718,000	\$ 3,671,800	
					A 0.07(

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
					<u>Subtotal</u>	\$ 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
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100					
32	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			

G. Energency Generator	Latin	1			
Outfall Structures	LS	1	\$ 1,484,311	\$ 1,484,311	\$ 1,484,0
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	\$ 17,224,0
	Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	Outfall Structures LS Outfall Structure Includes:	Outfall Structures LS 1 Outfall Structure Includes:	Outfall Structures LS 1 \$ 1,484,311 Outfall Structure Includes:	Outfall Structures LS 1 \$ 1,484,311 \$ 1,484,311 Outfall Structure Includes:

	Estimating Contingency (10%)					\$	10,461,000
				Total Constru	uction Subtotal	<u>\$</u>	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
					<u>Subtotal</u>	\$	48,906,000

<u>Total \$ 163,980,000</u>

City of Miami Beach Engineer's Preliminary Opinion of Probable Costruction Cost Flamingo/Lummus A

						T	otal Cost
						Ro	ounded to
						the	e Neares
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 24"	LF	2,788	\$ 180	\$ 501,840	\$	502,0
2	Reinforced Concrete Pipe 30"	LF	291	\$ 220	\$ 64,020	\$	64,0
3	Reinforced Concrete Pipe 36"	LF	265	\$ 280	\$ 74,200	\$	74,0
4	Reinforced Concrete Pipe 48"	LF	52	\$ 425	\$ 22,100	\$	22,0
5	Reinforced Concrete Pipe 54"	LF	164	\$ 505	\$ 82,820	\$	83,
6	Reinforced Concrete Pipe 60"	LF	3,335	\$ 580	\$ 1,934,300	\$	1,934,
7	Reinforced Concrete Pipe 66"	LF	691	\$ 690	\$ 476,790	\$	477,
8	Reinforced Concrete Pipe 72"	LF	680	\$ 925	\$ 629,000	\$	629,
9	Reinforced Concrete Pipe 78"	LF	217	\$ 1,075	\$ 233,275	\$	233,
10	Reinforced Concrete Pipe 84"	LF	58	\$ 2,585	\$ 149,930	\$	150,
11	Concrete Manhole - 8'	Each	35	\$ 10,650	\$ 372,750	\$	373,
12	Curb Inlet	Each	70	\$ 8,475	\$ 593,250	\$	593,
13	1-1/2" Asphalt	Ton	2,748	\$ 172	\$ 471,579	\$	472,
14	10" Base	SY	36,251	\$ 20	\$ 725,012	\$	725,
15	12" Subgrade	SY	36,251	\$6	\$ 212,752	\$	213,
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	46,529	\$ 27	\$ 1,256,287	\$	1,256,
17	Sodding	SY	13,537	\$ 7	\$ 99,311	\$	99,
18	5' Wide Sidewalk	SY	13,537	\$ 27	\$ 363,879	\$	364,
19	Curb	LF	24,367	\$ 31	\$ 764,146	\$	764,
					Subtotal	<u>\$</u>	9,027,
20	Mobilization	%	7%	\$ 9,027,000	\$ 631,890	ć	632,
20	Maintenance of Traffic	%	5%	\$ 9,027,000	\$ 451,350		451
21	Material Testing	%	1%	\$ 9,027,000 \$ 9,027,000	. ,		431, 90,
	6						,
23 24	Blue-Green Stormwater Infrastructure (BGSI)	%	5% 10%	\$ 9,027,000	\$ 451,350		451,
	Utility Relocations	%		\$ 9,027,000	\$ 902,700		903,
25	Additional Water Quality Improvements	%	10%	\$ 9,027,000	\$ 902,700	\$	903,
26 27	Aboveground Components	%	20%	\$ 9,027,000	\$ 1,805,400		1,805,
	Water Main Distribution/Transmission System Improvements	%	40%	\$ 9,027,000	\$ 3,610,800	\$	3,611,
28	Sanitary Sewer Collection System Improvements	%	40%	\$ 9,027,000	\$ 3,610,800 Subtotal	\$ \$	3,611, 12,457,
					Subtotal	<u>7</u>	12,437,
	Estimating Contingency (10%)					\$	2,148,
				<u>Total Constr</u>	uction Subtotal	<u>\$</u>	23,632,
29	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 23,632,000	\$ 1,417,920	\$	1,418,
30	Permitting Fee (5%)	%	5%	\$ 23,632,000	\$ 1,181,600	\$	1,182,
31	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 23,632,000			2,363,
32	CEI Management (Owner's Representative) (5%)	%	5%	\$ 23,632,000	\$ 1,181,600		1,182,
33	Construction Contingency (10%)	%	10%	\$ 23,632,000	\$ 2,363,200		2,363,
34	CIP Management Fee (6.5%)	%	6.5%	\$ 23,632,000	\$ 1,536,080	\$	1,536,
			0.070		,555,000	τ τ	

<u>Total</u> <u>\$ 33,676,000</u>

City of Miami Beach Engineer's Preliminary Opinion of Probable Costruction Cost Flamingo/Lummus B

						T	otal Cost
						Rd	ounded to
							e Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 24"	LF	9,650	\$ 180	\$ 1,737,000	\$	1,737,000
2	Reinforced Concrete Pipe 30"	LF	3,030	\$ 220	\$ 1,737,000	ş Ś	1,737,000
3	Reinforced Concrete Pipe 36"	LF	388	\$ 280	\$ 108,640	Ś	109,000
4	Reinforced Concrete Pipe 42"	LF	913	\$ 325	\$ 296,725	Ś	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	Ś	316,000
7	Reinforced Concrete Pipe 60"	LF	1,114	\$ 580	\$ 646,120	Ś	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		\$ 481,825	Ś	482,000
10	10" Base	SY	36.880	-	\$ 737,596	\$	738,000
12	12" Subgrade	SY	38,105		\$ 223,632	\$	224,000
13	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	47,540	•	\$ 1,283,583	\$	1,284,000
13	Sodding	SY	24,494	•	\$ 179,695	Ś	1,284,000
15	5' Wide Sidewalk	SY	24,494		\$ 658,410	¢	658,000
15	Curb	LF	44,090	•	\$ 1,382,661	\$	1,383,000
			,	7	Subtotal	Ś	11,192,000
					<u>ouvrorun</u>	*	
17	Mobilization	%	7%	\$ 11,192,000	\$ 783,440	\$	783,000
18	Maintenance of Traffic	%	5%		\$ 559,600	Ś	560,000
19	Material Testing	%	1%	\$ 11,192,000	\$ 111,920	Ś	112,000
20	Blue-Green Stormwater Infrastructure (BGSI)	%	5%		\$ 559,600	<u>⊢;</u>	,
21						S	560.000
	Utility Relocations				. ,	Ş S	560,000
22	Utility Relocations Additional Water Quality Improvements	%	10%	\$ 11,192,000	\$ 1,119,200	\$ \$ \$	1,119,000
22	Additional Water Quality Improvements			\$ 11,192,000 \$ 11,192,000	\$ 1,119,200 \$ 1,119,200	\$	1,119,000 1,119,000
23	Additional Water Quality Improvements Aboveground Components	% % %	10% 10% 20%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400	\$ \$	1,119,000 1,119,000 2,238,000
	Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements	%	10% 10%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800	\$ \$ \$	1,119,000 1,119,000 2,238,000 4,477,000
23 24	Additional Water Quality Improvements Aboveground Components	% % %	10% 10% 20% 40%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800 \$ 4,476,800	\$ \$	1,119,000 1,119,000 2,238,000 4,477,000 4,477,000
23 24	Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements	% % %	10% 10% 20% 40%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800	\$ \$ \$ \$	1,119,000 1,119,000 2,238,000 4,477,000
23 24	Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements	% % %	10% 10% 20% 40%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800 \$ 4,476,800	\$ \$ \$ \$	1,119,000 1,119,000 2,238,000 4,477,000 4,477,000 15,445,000
23 24	Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements	% % %	10% 10% 20% 40%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800 \$ 4,476,800 \$ 4,476,800	\$ \$ \$ \$	1,119,000 1,119,000 2,238,000 4,477,000 4,477,000 15,445,000 2,664,000
23 24	Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements	% % %	10% 10% 20% 40%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800 \$ 4,476,800	\$ \$ \$ \$ \$	1,119,000 1,119,000 2,238,000 4,477,000 4,477,000 15,445,000
23 24	Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements	% % %	10% 10% 20% 40%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800 \$ 4,476,800 <u>Subtotal</u>	\$ \$ \$ \$ \$ \$ \$ \$	1,119,000 1,119,000 2,238,000 4,477,000 4,477,000 15,445,000 2,664,000
23 24 25	Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements Estimating Contingency (10%)	% % % %	10% 10% 20% 40%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 29,301,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800 \$ 4,476,800 Subtotal subtotal \$ 1,758,060	\$ \$ \$ \$ \$ \$ \$ \$	1,119,000 1,119,000 2,238,000 4,477,000 15,445,000 2,664,000 29,301,000
23 24 25 26	Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%)	% % % %	10% 10% 20% 40% 40%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 29,301,000 \$ 29,301,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800 \$ 4,476,800 Subtotal uction Subtotal \$ 1,758,060 \$ 1,465,050	\$ \$ \$ \$ \$ \$ \$ \$	1,119,000 1,119,000 2,238,000 4,477,000 15,445,000 2,664,000 29,301,000 1,758,000
23 24 25 25 26 27	Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%)	% % % % % % % % %	10% 10% 20% 40% 40%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 29,301,000 \$ 29,301,000 \$ 29,301,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800 \$ 4,476,800 Subtotal subtotal \$ 1,758,060 \$ 1,465,050 \$ 2,930,100	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,119,000 1,119,000 2,238,000 4,477,000 15,445,000 2,664,000 29,301,000 1,758,000 1,465,000
23 24 25 25 26 27 28	Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%)	% % % % % % % % % % % %	10% 10% 20% 40% 40% 6% 5% 10%	\$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 11,192,000 \$ 29,301,000 \$ 29,301,000 \$ 29,301,000	\$ 1,119,200 \$ 1,119,200 \$ 2,238,400 \$ 4,476,800 \$ 4,476,800 \$ 4,476,800 \$ 1,476,800 \$ 1,476,800 \$ 1,455,050 \$ 2,930,100 \$ 1,465,050	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,119,000 1,119,000 2,238,000 4,477,000 15,445,000 2,664,000 29,301,000 1,758,000 1,465,000 2,930,000

\$

<u>Total</u>

<u>Subtotal</u>

<u>\$ 41,754,000</u>

12,453,000

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

						Т	otal Cost
							ounded to
							e Nearest
Itom No	Itom Description	Linite	Quantitu	Linit Cost	Total Cost		
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	<i>.</i>	1000
1 2	Reinforced Concrete Pipe 18" Reinforced Concrete Pipe 24"	LF	55 6,786	\$ 250 \$ 300	\$ 13,750 \$ 2,035,800		14,000 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" Reinforced Concrete Pipe 66"	LF	1,590 140	\$ 1,250 \$ 1,440	\$ 1,987,500 \$ 201,530	\$ \$	1,988,000 202,000
10	Reinforced Concrete Pipe 72"	LF	140	\$ 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 16	10" Base	SY SY	52,483 53,768	\$ 20 \$ 6	\$ 1,049,651 \$ 315,561	\$	1,050,000
10	12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	68,263		\$ 315,561 \$ 1,843,091	\$ \$	316,000 1,843,000
17	Sodding	SY	25,712		\$ 188,625	\$	1,843,000
19	5' Wide Sidewalk	SY	25,712		\$ 691,131	\$	691,000
20	Curb	LF	,		\$ 1,451,376	\$	1,451,000
					Subtotal	<u>\$</u>	17,589,000
						_	
21	Mobilization	%	7%		\$ 1,231,230	\$	1,231,000
22	Maintenance of Traffic	%	5%	\$ 17,589,000	\$ 879,450	\$	879,000
23	Material Testing Blue-Green Stormwater Infrastructure (BGSI)	%	1% 5%	\$ 17,589,000 \$ 17,589,000	\$ 175,890 \$ 879,450	\$ \$	176,000 879,000
24	Utility Relocations	%	10%	\$ 17,589,000	\$ 1,758,900	ې \$	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
					<u>Subtotal</u>	<u>\$</u>	24,273,000
	PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a	1					
18							
10	capacity of >100 cfs	cfs	314	\$ 15.890	\$ 4 989 460	Ś	4 989 000
	capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	cfs	314	\$ 15,890	\$ 4,989,460	\$	4,989,000
19		cfs cfs	314 314	\$ 15,890 \$ 13,000	\$ 4,989,460 \$ 4,082,000	\$ \$	4,989,000
19 20	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs)					\$	
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include:	cfs cfs	314 314	\$ 13,000	\$ 4,082,000	\$	4,082,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure	cfs cfs Each	314 314 1	\$ 13,000	\$ 4,082,000	\$	4,082,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump	cfs cfs Each Each	314 314 	\$ 13,000	\$ 4,082,000	\$	4,082,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve	cfs cfs Each Each Each	314 314 1 9 9	\$ 13,000 \$ 41,697	\$ 4,082,000	\$	4,082,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	cfs cfs Each Each Each LF	314 314 1 9 9 100	\$ 13,000 \$ 41,697	\$ 4,082,000	\$	4,082,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve	cfs cfs Each Each Each	314 314 1 9 9	\$ 13,000 \$ 41,697	\$ 4,082,000	\$	4,082,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	cfs cfs Each Each Each LF Each	314 314 1 9 9 100 9	\$ 13,000 \$ 41,697	\$ 4,082,000	\$	4,082,000
20	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	cfs cfs Each Each Each LF Each LS Each	314 314 1 9 9 100 9 11 1	\$ 13,000 \$ 41,697	\$ 4,082,000 \$ 13,092,858	\$ \$	4,082,000 13,093,000
20	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling)	cfs cfs Each Each Each LF Each LS Each LS Each	314 314 1 9 9 100 9 100 1 1 1 1 6,600	\$ 13,000 \$ 41,697	\$ 4,082,000 \$ 13,092,858	\$ \$ 	4,082,000 13,093,000 39,600,000
20	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	cfs cfs Each Each Each LF Each LS Each	314 314 1 9 9 100 9 11 1	\$ 13,000 \$ 41,697	\$ 4,082,000 \$ 13,092,858	\$ \$ 	4,082,000 13,093,000 39,600,000 6,000,000
20	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling)	cfs cfs Each Each Each LF Each LS Each LS Each	314 314 1 9 9 100 9 100 1 1 1 1 6,600	\$ 13,000 \$ 41,697	\$ 4,082,000 \$ 13,092,858	\$ \$ 	4,082,000 13,093,000 39,600,000
20 	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure	cfs cfs Each Each Each LF Each LS Each LS Each	314 314 1 9 9 100 9 100 1 1 1 1 6,600	\$ 13,000 \$ 41,697	\$ 4,082,000 \$ 13,092,858	\$ \$ 	4,082,000 13,093,000 39,600,000 6,000,000 67,764,000
20	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling)	cfs cfs Each Each Each LF Each LS Each LS Each	314 314 1 9 9 100 9 100 1 1 1 1 6,600	\$ 13,000 \$ 41,697 \$ 6,000 \$ 6,000,000	\$ 4,082,000 \$ 13,092,858	\$ \$ 	4,082,000 13,093,000 39,600,000 6,000,000
20 	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure	cfs cfs Each Each Each LF Each LS Each LS Each	314 314 1 9 9 100 9 100 1 1 1 1 6,600	\$ 13,000 \$ 41,697 \$ 6,000 \$ 6,000,000	\$ 4,082,000 \$ 13,092,858 \$ 39,600,000 \$ 6,000,000 <u>Subtotal</u>	\$ \$ \$ \$ \$ \$ \$ \$	4,082,000 13,093,000 39,600,000 6,000,000 67,764,000 10,963,000
20 20 21 22 23 23	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Estimating Contingency (10%)	cfs cfs Each Each LF Each LS Each LS LS S S S S S S S S S S S S S S S S	314 314 1 9 9 100 9 11 1 1 6,600 1 1	\$ 13,000 \$ 41,697 \$ 41,697 \$ 6,000 \$ 6,000,000 \$ 6,000,000 \$ <u>Total Constr</u> \$ 120,589,000	\$ 4,082,000 \$ 13,092,858 \$ 39,600,000 \$ 6,000,000 <u>\$ 6,000,000</u> <u>\$ 6,000,000</u> <u>\$ 6,000,000</u> <u>\$ 6,000,000</u> <u>\$ 4,082,000</u> \$ 39,600,000 <u>\$ 4,082,000</u> \$ 39,600,000 \$ 4,082,000 \$ 39,600,000 \$ 4,082,000 \$ 39,600,000 \$ 4,082,000 \$ 39,600,000 \$ 4,082,000 \$ 39,600,000 \$ 4,082,000 \$ 39,600,000 \$ 4,082,000 \$ 4,082,000 \$ 39,600,000 \$ 4,082,000 \$ 4,082,000 \$ 4,082,000 \$ 4,082,000 \$ 4,082,000 \$ 4,082,000 \$ 4,082,000 \$ 4,092,858 \$ 4,082,000 \$ 4,082,000 \$ 4,082,000 \$ 4,082,000 \$ 4,000,000 \$ 4,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,082,000 13,093,000 39,600,000 6,000,000 67,764,000 10,963,000 120,589,000 7,235,000
20 20 21 22 23 23 24 25	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Z2" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%)	cfs cfs Each Each Each LF Each LS Each LS S C C C C C C C C C C C C S C S C S	314 314 1 9 9 9 100 9 1 1 1 6,600 1 1 6,600 5%	\$ 13,000 \$ 41,697 \$ 41,697 \$ 6,000 \$ 6,000,000 \$ 6,000,000 \$ 120,589,000 \$ 120,589,000	\$ 4,082,000 \$ 13,092,858 \$ 39,600,000 \$ 6,000,000 <u>\$ 6,000,000</u> <u>\$ 6,000,000</u> <u>\$ 5ubtotal</u> <u>uction Subtotal</u> \$ 7,235,340 \$ 6,029,450	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,082,000 13,093,000 39,600,000 6,000,000 67,764,000 10,963,000 120,589,000 7,235,000 6,029,000
20 20 21 22 23 23 24 25 26	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Z ² Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%)	cfs cfs Each Each LF Each LS Each LS LS S S S S S S S S S S S S S S S S	314 314 1 9 9 9 100 9 9 11 1 1 6,600 1 1 	\$ 13,000 \$ 41,697 \$ 41,697 \$ 6,000 \$ 6,000,000 \$ 6,000,000 \$ 120,589,000 \$ 120,589,000 \$ 120,589,000	\$ 4,082,000 \$ 13,092,858 \$ 39,600,000 \$ 6,000,000 \$ 6,000,000 <u>Subtotal</u> \$ 7,235,340 \$ 6,029,450 \$ 12,058,900	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,082,000 13,093,000 39,600,000 6,000,000 67,764,000 10,963,000 120,589,000 7,235,000 6,029,000 12,059,000
20 20 21 22 23 23 23 24 25 26 27	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Discharge Structure Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%) CEI Management (Owner's Representative) (5%)	cfs cfs Each Each LF Each LS Each LS C S C S C S C S C S C S S C S S S S	314 314 1 9 9 9 100 9 1 1 1 6,600 1 1 	\$ 13,000 \$ 41,697 \$ 41,697 \$ 6,000 \$ 6,000,000 \$ 6,000,000 \$ 120,589,000 \$ 120,589,000 \$ 120,589,000 \$ 120,589,000	\$ 4,082,000 \$ 13,092,858 \$ 39,600,000 \$ 6,000,000 \$ 6,000,000 <u>Subtotal</u> uction Subtotal \$ 7,235,340 \$ 6,029,450 \$ 12,058,900 \$ 6,029,450	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,082,000 13,093,000 39,600,000 6,000,000 67,764,000 10,963,000 120,589,000 7,235,000 6,029,000 12,059,000
20 20 21 22 23 23 23 23 24 25 26 27 28	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Z ² Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%) CEI Management (Owner's Representative) (5%) Construction Contingency (10%)	cfs cfs Each Each LF Each LS Each LS CF LS K K K K K K K K K K K K K K K K K K	314 314 1 9 9 9 100 9 1 1 1 6,600 1 1 6,600 1 5% 5% 10%	\$ 13,000 \$ 41,697 41,697 \$ 6,000 \$ 6,000,000 \$ 6,000,000 \$ 120,589,000 \$ 120,589,000 \$ 120,589,000 \$ 120,589,000 \$ 120,589,000	\$ 4,082,000 \$ 13,092,858 \$ 39,600,000 \$ 6,000,000 <u>Subtotal</u> \$ 7,235,340 \$ 6,029,450 \$ 12,058,900 \$ 6,029,450 \$ 12,058,900	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,082,000 13,093,000 39,600,000 6,000,000 67,764,000 10,963,000 120,589,000 7,235,000 6,029,000 12,059,000 12,059,000
20 20 21 22 23 23 23 24 25 26 27	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (313.9 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Discharge Structure Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%) CEI Management (Owner's Representative) (5%)	cfs cfs Each Each LF Each LS Each LS C S C S C S C S C S C S S C S S S S	314 314 1 9 9 9 100 9 1 1 1 6,600 1 1 	\$ 13,000 \$ 41,697 41,697 \$ 6,000 \$ 6,000,000 \$ 6,000,000 \$ 120,589,000 \$ 120,589,000 \$ 120,589,000 \$ 120,589,000 \$ 120,589,000	\$ 4,082,000 \$ 13,092,858 \$ 39,600,000 \$ 6,000,000 \$ 6,000,000 <u>Subtotal</u> uction Subtotal \$ 7,235,340 \$ 6,029,450 \$ 12,058,900 \$ 6,029,450	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,082,000 13,093,000 39,600,000 6,000,000 67,764,000 10,963,000 120,589,000 7,235,000 6,029,000 12,059,000

<u>Total</u> <u>\$ 171,838,000</u>

City of Miami Beach Engineer's Preliminary Opinion of Probable Costruction Cost Flamingo/Lummus D

						Tot	al Cost
						Roui	nded to
						the I	Vearest
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost		.000
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
					<u>Subtotal</u>	<u>\$</u>	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						
19	Material resting	%	1%	\$ 16,124,000	\$ 161,240	\$	161,000
19	Blue-Green Stormwater Infrastructure (BGSI)	%	1% 5%	\$ 16,124,000 \$ 16,124,000	\$ 161,240 \$ 806,200	\$ \$	161,000 806,000
20	3		-				,
	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 16,124,000	\$ 806,200	\$	806,000
20	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations	%	5% 10%	\$ 16,124,000 \$ 16,124,000	\$ 806,200 \$ 1,612,400	\$ \$	806,000 1,612,000
20 21	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements	% % %	5% 10% 10%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400	\$ \$ \$	806,000 1,612,000 1,612,000
20 21 22	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components	% % %	5% 10% 10% 20%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800	\$ \$ \$ \$	806,000 1,612,000 1,612,000 3,225,000
20 21 22 23	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements	% % % %	5% 10% 10% 20% 40%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800 \$ 6,449,600	\$ \$ \$ \$ \$	806,000 1,612,000 1,612,000 3,225,000 6,450,000
20 21 22 23	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements	% % % %	5% 10% 10% 20% 40%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800 \$ 6,449,600 \$ 6,449,600	\$ \$ \$ \$ \$	806,000 1,612,000 1,612,000 3,225,000 6,450,000 6,450,000
20 21 22 23	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements	% % % %	5% 10% 10% 20% 40%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800 \$ 6,449,600 \$ 6,449,600	\$ \$ \$ \$ \$	806,000 1,612,000 1,612,000 3,225,000 6,450,000 6,450,000
20 21 22 23	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements	% % % %	5% 10% 10% 20% 40%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800 \$ 6,449,600 \$ 6,449,600	\$ \$ \$ \$ \$ \$ \$ \$	806,000 1,612,000 3,225,000 6,450,000 6,450,000 22,251,000
20 21 22 23	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements	% % % %	5% 10% 10% 20% 40%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800 \$ 6,449,600 \$ 6,449,600 \$ 6,449,600 \$ 0,449,600	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	806,000 1,612,000 3,225,000 6,450,000 6,450,000 22,251,000 3,837,000
20 21 22 23	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements	% % % %	5% 10% 10% 20% 40%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800 \$ 6,449,600 \$ 6,449,600 \$ 6,449,600 \$ 0,449,600	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	806,000 1,612,000 3,225,000 6,450,000 6,450,000 22,251,000 3,837,000
20 21 22 23 24	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements Estimating Contingency (10%)	% % % % % % % %	5% 10% 20% 40% 40%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800 \$ 6,449,600 \$ 6,449,600 <u>\$ 6,449,600</u> <u>\$ 6,449,600</u>	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	806,000 1,612,000 1,612,000 3,225,000 6,450,000 6,450,000 22,251,000 3,837,000 42,212,000
20 21 22 23 24 24	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%)	% % % % %	5% 10% 20% 40% 40%	\$ 16,124,000 \$	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800 \$ 6,449,600 \$ 6,449,600 <u>Subtotal</u> <u>subtotal</u> \$ 2,532,720	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	806,000 1,612,000 3,225,000 6,450,000 6,450,000 22,251,000 3,837,000 42,212,000 2,533,000
20 21 22 23 24 24 25 26	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%)	% % % % % % % % % %	5% 10% 20% 40% 40% 6% 5%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,224,000 \$ 2,212,000 \$ 42,212,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800 \$ 6,449,600 \$ 6,449,600 <u>Subtotal</u> <u>suttion Subtotal</u> \$ 2,532,720 \$ 2,110,600	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	806,000 1,612,000 3,225,000 6,450,000 6,450,000 22,251,000 3,837,000 42,212,000 2,533,000 2,111,000
20 21 22 23 24 24 25 26 27	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%)	% %	5% 10% 20% 40% 40% 6% 5% 10%	\$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,124,000 \$ 16,224,000 \$ 42,212,000 \$ 42,212,000 \$ 42,212,000	\$ 806,200 \$ 1,612,400 \$ 1,612,400 \$ 3,224,800 \$ 6,449,600 \$ 6,449,600 Subtotal uction Subtotal \$ 2,532,720 \$ 2,110,600 \$ 4,221,200	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	806,000 1,612,000 1,612,000 3,225,000 6,450,000 22,251,000 3,837,000 42,212,000 2,533,000 2,111,000 4,221,000

%

30

CIP Management Fee (6.5%)

<u>Total \$</u>

<u>Subtotal</u>

2,743,780 \$

\$

6.5% \$ 42,212,000 \$

<u>60,153,000</u>

2,744,000

17,941,000

City of Miami Beach Engineer's Preliminary Opinion of Probable Costruction Cost Flamingo/Lummus E

						-	Total Cost
							Total Cost
						R	ounded to
						tł	ne Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		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 LF	129 108	\$ 925	\$ 119,325 \$ 129,600		119,000
10	Reinforced Concrete Pipe 84" Reinforced Concrete Pipe 96"	LF	3,189	\$ 1,200 \$ 1,385	\$ 129,600 \$ 4,416,765		130,000 4,417,000
10	Concrete Manhole - 8'	Each	5,189	\$ 10,650	\$ 607,050		607,000
11	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		\$ 851,657		852,000
15	12" Subgrade	SY	43,846		\$ 257,331		257,000
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	55,092	•	\$ 1,487,495		1,487,000
17	Sodding	SY	25,271		\$ 185,391	-	185,000
18	5' Wide Sidewalk	SY	25,271		\$ 679,281	· ·	679,000
19	Curb	LF	45,488				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		\$	1,452,000
25	Additional Water Quality Improvements	%	10%	\$ 14,521,000			1,452,000
26	Aboveground Components	%	20%	\$ 14,521,000			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
					<u>Subtotal</u>	<u>\$</u>	20,037,000
	PUMP STATIONS						
	Membrane Filtration (per cfs pumped) for Pump Stations with a	1				1	
29	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	013	550	\$ 15,650	5 5,050,040	Ŷ	5,057,000
30	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			I	
	G. Emergency Generator	Each	1			I	
			C 0.05	¢	¢	6	26.000.005
32	72" Ductile Iron Pipe Discharge Force Main (Microtunneling)	LF	6,000				36,000,000
33	Discharge Structure	LS	1	\$ 6,000,000			6,000,000
					<u>Subtotal</u>	<u>\$</u>	67,129,000
	Estimating Contingency (10%)					\$	10,169,000
				Total Constr	uction Subtotal	\$ \$	111,856,000
						7	
34	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 111,856,000	\$ 6,711,360	\$	6,711,000
35	Permitting Fee (5%)	%	5%				5,593,000
36	Architect/Engineering (A/E) Fee (10%)	%	10%			_	11,186,000
37	CEI Management (Owner's Representative) (5%)	%	5%	\$ 111,856,000			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		\$	7,271,000
					Subtotal	~ _	47 540 000

<u>Subtotal</u> \$ 47,540,000

<u>Total \$ 159,396,000</u>

City of Miami Beach Engineer's Preliminary Opinion of Probable Costruction Cost Flamingo/Lummus F

					_		T	otal Cost
							Re	ounded to
								e Nearest
							un	
tem No.	Item Description	Units	Quantity	Unit Cost	То	tal Cost		1000
1	Reinforced Concrete Pipe 24"	LF	5,909	\$ 180	\$	1,063,620	\$	1,064,0
2	Reinforced Concrete Pipe 36"	LF	673	\$ 280	\$	188,440	\$	188,0
3	Reinforced Concrete Pipe 42"	LF	494	\$ 325	\$	160,550	\$	161,0
4	Reinforced Concrete Pipe 60"	LF	814	\$ 580	\$	472,120	\$	472,0
5	Reinforced Concrete Pipe 66"	LF	380	\$ 690	\$	262,200	\$	262,
6	Reinforced Concrete Pipe 72"	LF	678	\$ 925	\$	627,150	\$	627,
7	Reinforced Concrete Pipe 78"	LF	903	\$ 1,075	\$	970,725	\$	971,
8	Reinforced Concrete Pipe 84"	LF	1,329	\$ 1,200	\$	1,594,800	\$	1,595,
9	Reinforced Concrete Pipe 96"	LF	2,786	\$ 1,385	\$	3,858,610	\$	3,859,
10	Concrete Manhole - 8'	Each	56	\$ 10,650	\$	596,400	\$	596,
11	Curb Inlet	Each	112	\$ 8,475	\$	949,200	\$	949,
12	1-1/2" Asphalt	Ton	1,858	\$ 172	\$	318,830	\$	319
13	10" Base	SY	24,116	•	\$	482,328	\$	482,
14	12" Subgrade	SY	24,639		\$	144,606	\$	145
15	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	31,458	\$ 27	\$	849,364	\$	849
16	Sodding	SY	10,459		\$	76,730	\$	77
17	5' Wide Sidewalk	SY	10,459		\$	281,142	\$	281
18	Curb	LF	18,826	\$ 31	\$	590,398	\$	590
	PUMP STATIONS	1					1	
		1						
18	Membrane Filtration (per cfs pumped) for Pump Stations with a	cfs	357	\$ 15.890	Ś	5 672 730	¢	5 673
18	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	357	\$ 15,890	\$	5,672,730	\$	5,673
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a			· · ·				,
18 19 20	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	357 357 357	\$ 13,000	\$ \$ \$	4,641,000	\$ \$ \$	4,641
19	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs)		357	\$ 13,000	\$		\$	4,641
19 20	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	357	\$ 13,000	\$	4,641,000	\$	4,641
19 20	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure	cfs cfs Each	357 357 1	\$ 13,000	\$	4,641,000	\$	4,641
19 20	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include:	cfs cfs	357 357	\$ 13,000	\$	4,641,000	\$	4,641
19 20	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve	cfs cfs Each Each	357 357 1 10	\$ 13,000	\$	4,641,000	\$	4,641
19 20	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump	cfs cfs Each Each Each	357 357 1 10 10	\$ 13,000	\$	4,641,000	\$	4,641
19 20	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	cfs cfs Each Each Each LF	357 357 1 10 10 100	\$ 13,000	\$	4,641,000	\$	4,641
19 20	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	cfs cfs Each Each Each LF Each	357 357 1 10 10 100 100	\$ 13,000	\$	4,641,000	\$	4,641
19 20	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	cfs cfs Each Each Each LF Each LS	357 357 1 10 10 100 100 10 10	\$ 13,000	\$	4,641,000	\$	4,641
19 20	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	cfs cfs Each Each Each LF Each LS	357 357 1 10 10 100 100 10 10	\$ 13,000	\$	4,641,000	\$	4,641 17,850
19 20 21	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	cfs cfs Each Each Each LF Each LS Each	357 357 1 10 10 100 100 10 1 1	\$ 13,000 \$ 50,000	\$	4,641,000 17,850,000	\$	4,641 17,850 33,600
19 20 21 21	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling)	cfs cfs Each Each Each LF Each LS Each LS Each	357 357 1 10 100 100 10 1 1 1 5,600	\$ 13,000 \$ 50,000 \$ \$ 6,000	\$	4,641,000 17,850,000 33,600,000	\$	4,641 17,850 33,600 6,000
19 20 21 21 21 22	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure	cfs cfs Each Each Each LF Each LS Each LF LS	357 357 1 10 10 10 10 10 10 10 10 10 10 10 11 1 5,600 1	\$ 13,000 \$ 50,000 \$ 50,000 \$ 6,000 \$ 6,000,000	\$ \$ \$ \$ \$	4,641,000 17,850,000 33,600,000 6,000,000 Subtotal	\$ \$ \$ \$ \$ \$	4,641 17,850 33,600 6,000 67,764
19 20 21 21 21 22 22 23	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Z ¹ Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure	cfs cfs Each Each LF Each LS Each LS LS S	357 357 1 10 10 10 10 10 10 10 10 1 1 5,600 1	\$ 13,000 \$ 50,000 \$ 50,000 \$ 6,000 \$ 6,000,000 \$ 13,487,000	\$ \$ \$ \$ \$ \$	4,641,000 17,850,000 33,600,000 6,000,000 <u>Subtotal</u> 944,090	\$ \$ \$ \$ \$ \$ \$	4,641 17,850 33,600 6,000 67,764 944
19 20 21 21 21 21 22 23 23 24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Mobilization Maintenance of Traffic	cfs cfs Each Each LF Each LS Each LS K S S S S S S S S S S S S S S S S S	357 357 1 10 10 100 100 10 1 1 5,600 1 2 5,600 1 3 5,600 5%	\$ 13,000 \$ 50,000 \$ 50,000 \$ 6,000 \$ 6,000,000 \$ 13,487,000 \$ 13,487,000	\$ \$ \$ \$ \$ \$ \$ \$	4,641,000 17,850,000 33,600,000 6,000,000 <u>Subtotal</u> 944,090 674,350	\$ \$ \$ \$ \$ \$ \$ \$ \$	4,641 17,850 33,600 6,000 67,764 944 674
19 20 21 21 21 21 22 23 23 24 25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Mobilization Maintenance of Traffic Material Testing	cfs cfs Each Each LF Each LS Each LS Each LS % % %	357 357 1 10 10 100 100 10 1 1 5,600 1 1 5,600 1 8 7% 5% 1%	\$ 13,000 \$ 50,000 \$ 50,000 \$ 6,000 \$ 6,000,000 \$ 13,487,000 \$ 13,487,000 \$ 13,487,000	\$ \$ \$ \$ \$ \$ \$ \$ \$	4,641,000 17,850,000 33,600,000 6,000,000 <u>Subtotal</u> 944,090 674,350 134,870	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,641 17,850 33,600 6,000 67,764 944 674 135
19 20 21 21 21 21 22 23 23 24 25 26	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI)	cfs cfs Each Each LF Each LS Each LS Each LF LS % % % %	357 357 1 10 10 100 100 10 1 1 5,600 1 1 5,600 1 5,600 1 8 7% 5% 5%	\$ 13,000 \$ 50,000 \$ 50,000 \$ 6,000 \$ 6,000,000 \$ 13,487,000 \$ 13,487,000 \$ 13,487,000 \$ 13,487,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,641,000 17,850,000 33,600,000 6,000,000 <u>Subtotal</u> 944,090 674,350 134,870 674,350	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,641 17,850 33,600 6,000 67,764 944 674 135 674
19 20 21 21 21 22 23 24 25 26 27	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations	cfs cfs Each Each LF Each LS Each LS Each LS % % % %	357 357 1 10 100 100 10 1 1 5,600 1 1 7% 5,600 1 8 7% 5% 5% 1% 5%	\$ 13,000 \$ 50,000 \$ 50,000 \$ 6,000 \$ 6,000,000 \$ 13,487,000 \$ 13,487,000 \$ 13,487,000 \$ 13,487,000 \$ 13,487,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,641,000 17,850,000 33,600,000 6,000,000 5ubtotal 944,090 674,350 134,870 674,350 1,348,700	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,641 17,850 33,600 6,000 67,764 944 674 135 674 1,349
19 20 21 21 21 22 23 23 24 25 26 27 28	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements	cfs cfs Each Each Each LF Each LS Each LF LS % % % % %	357 357 1 100 100 100 10 1 1 5,600 1 1 7% 5,600 1 1 5,600 1 0 10%	\$ 13,000 \$ 50,000 \$ 50,000 \$ 6,000 \$ 6,000,000 \$ 13,487,000 \$ 13,4	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,641,000 17,850,000 33,600,000 6,000,000 5ubtotal 944,090 674,350 134,870 674,350 1,348,700 1,348,700	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,641 17,850 33,600 6,000 67,764 944 674 135 674 1,349 1,349
19 20 21 21 21 22 23 23 24 25 26 27 28 29	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Z ² Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components	cfs cfs Each Each LF Each LS Each LF LS % % % % % % % % %	357 357 1 10 100 100 10 10 10 10 1 5,600 1 1 7% 5,600 1 0 5,600 1 0 7% 5,600 1 0 8% 5,600 1 0 8% 5,600 1 0 8% 5,600 1 0 0 1 0 0 10 10 10 10 10 10 10 10 1	\$ 13,000 \$ 50,000 \$ 50,000 \$ 6,000 \$ 6,000,000 \$ 13,487,000 \$ 13,4	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,641,000 17,850,000 33,600,000 6,000,000 5ubtotal 944,090 674,350 134,870 674,350 1,348,700 1,348,700 2,697,400	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	<u>5,673</u> 4,641 17,850 33,600 6,000 67,764 944 674 1,35 674 1,349 1,349 1,349
19 20 21 21 21 22 23 23 24 25 26 27 28	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (357.1 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 72" Ductile Iron Pipe Discharge Force Main (Microtunneling) Discharge Structure Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements	cfs cfs Each Each Each LF Each LS Each LF LS % % % % % %	357 357 1 100 100 100 10 1 1 5,600 1 1 7% 5,600 1 1 5,600 1 0 10%	\$ 13,000 \$ 50,000 \$ 50,000 \$ 6,000 \$ 6,000,000 \$ 13,487,000 \$ 13,4	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,641,000 17,850,000 33,600,000 6,000,000 5ubtotal 944,090 674,350 134,870 674,350 1,348,700 1,348,700	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,641 17,850 33,600 6,000 67,764 944 674 135 674 1,349 1,349

	Estimating Contingency (10%)						\$	9,986,000
				<u>Total Constr</u>	uctio	n Subtotal	<u>\$</u>	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
						<u>Subtotal</u>	\$	46,685,000

<u>\$ 156,534,000</u> <u>Total</u>

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

									Total Cost
									Total Cost
								R	ounded to
								t	he Nearest
Item No.	Item Description	Units	Quantity	U	nit Cost		Total Cost		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	Ş	31	Ş	1,067,417		1,067,000
							<u>Subtotal</u>	<u>\$</u>	22,892,000
20	Mobilization	%	7%	Ś	22,892,000	\$	1,602,440	\$	1,602,000
20	Maintenance of Traffic	%	5%		22,892,000	\$	1,144,600	\$	1,145,000
22	Material Testing	%	1%				228,920		229,000
23	Blue-Green Stormwater Infrastructure (BGSI)	%	5%		22,892,000	ې \$	1,144,600		1,145,000
23	Utility Relocations	%	10%	-	22,892,000	ې \$	2,289,200	\$	2,289,000
24	Additional Water Quality Improvements	%	10%		22,892,000	ې \$	2,289,200	\$	2,289,000
26	Aboveground Components	%	20%		22,892,000	ې د	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
		,-		Ŧ		Ŧ	Subtotal	\$	31,591,000
-									
	Membrane Filtration (per cfs pumped) for Pump Stations with a								
29	capacity of >100 cfs	cfs	356	\$	15,890	\$	5,656,840	\$	5,657,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a								
30	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	ļ					
	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			<u> </u>		<u> </u>	
	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		\$			6,000,000	\$	6,000,000
					.,,		<u>Subtotal</u>	\$	67,129,000
	Estimating Contingency (10%)							\$	12,161,000
					<u>Total Constru</u>	ucti	on Subtotal	<u>\$</u>	133,773,000
34	Program/Construction Management (PM) Fee (6%)	%	6%	ć	133,773,000	ć	8,026,380	ć	8 036 000
34	Program/Construction Management (PM) Fee (6%) Permitting Fee (5%)	%	5%		133,773,000		6,688,650		8,026,000 6,689,000
36	Architect/Engineering (A/E) Fee (10%)	%	10%		133,773,000	\$ \$	13,377,300		13,377,000
50	, a since of Engineering () (E) i ce (10/0)	70	1070	Ŷ		Ŷ	13,377,300	Ý	13,377,000

% %

%

CEI Management (Owner's Representative) (5%) Construction Contingency (10%)

CIP Management Fee (6.5%)

37

38

39

8,695,245 8,695,000 <u>56,853,000</u> <u>\$</u>

6,689,000

13,377,000

<u>Total</u> <u>\$ 190,626,000</u>

\$

6,688,650 \$ 13,377,300 \$

<u>Subtotal</u>

133,773,000 \$

133,773,000 \$

133,773,000 \$

5% **\$**

10% \$

6.5% \$

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

						Total Cost
						Rounded to
						the Nearest
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost	1000
1	Reinforced Concrete Pipe 18"	LF	708	\$ 130	\$ 92,040	
2	Reinforced Concrete Pipe 24"	LF	1.321	\$ 180	\$ 237,780	
3	Reinforced Concrete Pipe 30"	LF	1,148	\$ 220	\$ 252,560	
4	Reinforced Concrete Pipe 36"	LF	1,828	\$ 280	\$ 511,840	,,
5	Reinforced Concrete Pipe 42"	LF	2,539	\$ 325	\$ 825,175	
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	
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
					<u>Subtotal</u>	<u>\$</u> 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	. ,
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
				<u>Total Constr</u>	uction	<u>Subtotal</u>	<u>\$</u>	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
						<u>Subtotal</u>	\$	8,229,000

<u>Total</u> <u>\$ 27,593,000</u>

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

						T	Total Cost
						R	ounded to
							ne Neares
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	1-1/2" Asphalt	Ton	3	\$ 172	\$ 443	\$	4
2	10" Base	SY	44	\$ 20	\$ 887	\$	9
3	12" Subgrade	SY	56	\$6	\$ 328	\$	
4	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	44	\$ 27	\$ 1,180	\$	1,1
		SY	232	\$7	\$ 1,700	\$	2,
5	Sodding						6
5 6	Sodding 5' Wide Sidewalk	SY	232	\$ 27	\$ 6,227	\$	6,
	8	-	232 417		\$ 6,227 \$ 13,077 <u>Subtotal</u>	\$ \$ <u>\$</u>	13,
6 7	5' Wide Sidewalk Curb	SY LF	417	\$ 31	\$ 13,077 <u>Subtotal</u>	\$ <u>\$</u>	6, 13, 23,
6 7 8	5' Wide Sidewalk Curb Mobilization	SY LF %	417	\$ 31 \$ 23,800	\$ 13,077 <u>Subtotal</u> \$ 1,666	\$ <u>\$</u> \$	13, 23 , 2,
6 7 8 9	5' Wide Sidewalk Curb Mobilization Maintenance of Traffic	SY LF %	417 7% 5%	\$ 31 \$ 23,800 \$ 23,800	\$ 13,077 <u>Subtotal</u> \$ 1,666 \$ 1,190	\$ <u>\$</u> \$	13, 23, 2, 1,
6 7 8 9 10	5' Wide Sidewalk Curb Mobilization Maintenance of Traffic Material Testing	SY LF % % %	417 7% 5% 1%	\$ 31 \$ 23,800 \$ 23,800 \$ 23,800	\$ 13,077 <u>Subtotal</u> \$ 1,666 \$ 1,190 \$ 238	\$ \$ \$ \$	13, 23, 2, 1,
6 7 8 9 10 11	5' Wide Sidewalk Curb Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI)	SY LF % % %	417 7% 5% 1% 5%	\$ 31 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800	\$ 13,077 <u>Subtotal</u> \$ 1,666 \$ 1,190 \$ 238 \$ 1,190	\$ \$ \$ \$ \$ \$	13, 23, 2, 1, 1,
6 7 8 9 10 11 12	5' Wide Sidewalk Curb Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations	SY LF % % % %	417 7% 5% 1% 5% 10%	\$ 31 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800	\$ 13,077 <u>Subtotal</u> \$ 1,666 \$ 1,190 \$ 238 \$ 1,190 \$ 2,380	\$ \$ \$ \$ \$ \$ \$ \$	13, 23, 2, 1, 1, 1, 2,
6 7 9 10 11 12 13	5' Wide Sidewalk Curb Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements	SY LF % % % % % % % % % % % % % %	417 7% 5% 1% 5% 10% 10%	\$ 31 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800	\$ 13,077 <u>Subtotal</u> \$ 1,666 \$ 1,190 \$ 238 \$ 1,190 \$ 2,380 \$ 2,380	\$ \$ \$ \$ \$ \$ \$ \$	13, 23, 2, 1, 1, 2, 1, 2, 2, 2, 2, 2,
6 7 8 9 10 11 12	5' Wide Sidewalk Curb Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations	SY LF % % % %	417 7% 5% 1% 5% 10%	\$ 31 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800	\$ 13,077 <u>Subtotal</u> \$ 1,666 \$ 1,190 \$ 238 \$ 1,190 \$ 2,380	\$ \$ \$ \$ \$ \$ \$ \$	13, 23, 2, 1, 1, 2, 1, 2, 2, 2, 2, 2,
6 7 9 10 11 12 13	5' Wide Sidewalk Curb Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements	SY LF % % % % % % % % % % % % % %	417 7% 5% 1% 5% 10% 10%	\$ 31 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800	\$ 13,077 <u>Subtotal</u> \$ 1,666 \$ 1,190 \$ 238 \$ 1,190 \$ 2,380 \$ 2,380	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	13,
6 7 9 10 11 12 13 14	5' Wide Sidewalk Curb Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components	SY LF % % % % % % % % % % % % % %	417 7% 5% 1% 5% 10% 20%	\$ 31 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800 \$ 23,800	\$ 13,077 <u>Subtotal</u> \$ 1,666 \$ 1,190 \$ 238 \$ 1,190 \$ 2,380 \$ 2,380 \$ 2,380 \$ 2,380 \$ 4,760 \$ 9,520	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	13, 23, 2, 1, 1, 2, 2, 2, 2, 5,

							J J,000
				Total Const	truction Subtotal		\$ 62,000
17	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 62,000	Ş	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	5,200	\$ 6,000
20	CEI Management (Owner's Representative) (5%)	%	5%	\$ 62,000	\$ 3	3,100	\$ 3,000
21	Construction Contingency (10%)	%	10%	\$ 62,000	\$ 6	5,200	\$ 6,000
22	CIP Management Fee (6.5%)	%	6.5%	\$ 62,000	\$ 4	4,030	\$ 4,000
					<u>Subtotal</u>		\$ <u>26,000</u>

<u>Total \$ 88,000</u>

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

						Total Cost
						Rounded to
						the Nearest
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost	1000
		LF				
1 2	Reinforced Concrete Pipe 30" Reinforced Concrete Pipe 72"	LF	90 48	\$ 220 \$ 925	\$ 19,800 \$ 44,400	\$ 20,000 \$ 44,000
3	Reinforced Concrete Pipe 72 Reinforced Concrete Pipe 96"	LF	36	\$ 1,385	\$ 49,860	. ,
4	Concrete Manhole - 8'	Each	1	\$ 10,650	\$ 10,650	,,
5	Curb Inlet	Each	2	\$ 9,475	\$ 18,950	\$ 19,000
6	1-1/2" Asphalt	Ton	42	\$ 9,473 \$ 172	\$ 7,164	
		-			. ,	. ,
7	10" Base	SY	537	\$ 20	\$ 10,747	
8	12" Subgrade	SY	545		\$ 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		\$ 3,887	\$ 4,000
12	Curb	LF	260	\$ 31	\$ 8,164	\$ 8,000
					<u>Subtotal</u>	<u>\$ 197,000</u>
13	Mobilization	%	7%	\$ 197,000	\$ 13,790	\$ 14,000
14	Maintenance of Traffic	%	5%		\$ 9,850	. ,
15	Material Testing	%	1%	\$ 197,000	\$ 1,970	\$ 2,000
16	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 197,000	\$ 9,850	\$ 10,000
17	Utility Relocations	%	10%	\$ 197,000	\$ 19,700	. ,
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
					<u>Subtotal</u>	<u>\$ 273,000</u>
	Estimating Contingency (10%)			Tabal Canada	wetten Cubbebal	\$ 47,000 \$ 517,000
				Total Constr	uction Subtotal	<u>\$ 517,000</u>
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%		\$ 25,850	. ,
26	Construction Contingency (10%)	%	10%	\$ 517,000	\$ 51,700	
27	CIP Management Fee (6.5%)	%	6.5%		\$ 33,605	\$ 34,000
					Subtotal	\$ 221,000

<u>Total \$ 738,000</u>

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

							Fotal Cost
						R	ounded t
							he Neares
tem No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 18"	LF				\$	
2	Reinforced Concrete Pipe 18	LF	2,093 2,594	•	\$ 523,250		523 778
3	Reinforced Concrete Pipe 30"	LF	2,334	\$ 450	\$ 1,092,600		1,093
4	Reinforced Concrete Pipe 36"	LF	1,841	\$ 650	\$ 1,196,650		1,000
5	Reinforced Concrete Pipe 42"	LF	536	\$ 800	\$ 428,800		429
6	Reinforced Concrete Pipe 48"	LF	4,080	\$ 950	\$ 3,876,000	-	3,876
7	Reinforced Concrete Pipe 54"	LF	146	\$ 1,650	\$ 240,900		241
8	Reinforced Concrete Pipe 60"	LF	1,866	\$ 1,700	\$ 3,172,200	\$	3,172
9	Reinforced Concrete Pipe 72"	LF	7,307	\$ 1,800	\$ 13,152,600	\$	13,153
10	Reinforced Concrete Pipe 96"	LF	2,007	\$ 2,200	\$ 4,415,400	\$	4,415
11	Concrete Manhole - 8'	Each	100	\$ 10,650	\$ 1,065,000	\$	1,065
12	Curb Inlet	Each	200	\$ 8,475	\$ 1,695,000		1,695
13	1-1/2" Asphalt	Ton	3,096	•	\$ 531,209	\$	531
14	10" Base	SY	40,238		\$ 804,759		805
15	12" Subgrade	SY	41,166		\$ 241,602		242
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	52,413	\$ 27	\$ 1,415,142		1,415
17	Sodding	SY	18,569	\$ 7	\$ 136,226	\$	136
18	5' Wide Sidewalk	SY	18,569		\$ 499,138		499
19	Curb	LF	33,424	\$ 31	\$ 1,048,189		1,048
					<u>Subtotal</u>	<u>\$</u>	36,31
20	Mobilization	%	7%	\$ 36,313,000	\$ 2,541,910	\$	2,542
20	Maintenance of Traffic	%	5%	. , ,			1,810
22	Material Testing	%	1%	\$ 36,313,000			363
23	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 36,313,000	\$ 1,815,650		1,816
23	Utility Relocations	%	10%	\$ 36,313,000	\$ 3,631,300		3,631
24	Additional Water Quality Improvements	%	10%	\$ 36,313,000 \$ 36,313,000	\$ 3,631,300		3,63
26	Aboveground Components	%	20%	. , ,			7,263
				\$ 36,313,000 \$ 26,313,000			-
27	Water Main Distribution/Transmission System Improvements	%	40%	\$ 36,313,000	\$ 14,525,200	\$	14,525
						\$	14,525 14,525
27	Water Main Distribution/Transmission System Improvements	%	40%	\$ 36,313,000	\$ 14,525,200 \$ 14,525,200	\$ \$	14,525 14,525
27	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS	%	40%	\$ 36,313,000	\$ 14,525,200 \$ 14,525,200	\$ \$	14,525 14,525
27 28	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a	%	40% 40%	\$ 36,313,000 \$ 36,313,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u>	\$ \$ \$	14,525 14,525
27	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	%	40%	\$ 36,313,000	\$ 14,525,200 \$ 14,525,200	\$ \$ \$	14,525 14,525 50,112
27 28 28	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	% % cfs	40% 40% 400	\$ 36,313,000 \$ 36,313,000 \$15,890	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000	\$ \$ \$ \$	14,525 14,525 50,112 6,356
27 28 28 28 29	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	% % cfs cfs	40% 40% 400 400	\$ 36,313,000 \$ 36,313,000 \$ \$15,890 \$13,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000	\$ \$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200
27 28 28	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump)	% % cfs	40% 40% 400	\$ 36,313,000 \$ 36,313,000 \$ \$15,890 \$13,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000	\$ \$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200
27 28 28 28 29	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include:	% % cfs cfs cfs	40% 40% 400 400 400	\$ 36,313,000 \$ 36,313,000 \$ \$15,890 \$13,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000	\$ \$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200
27 28 28 29	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure	% % cfs cfs cfs Each	40% 40% 400 400 400 1	\$ 36,313,000 \$ 36,313,000 \$ \$15,890 \$13,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000	\$ \$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200
27 28 28 29	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump	% % cfs cfs cfs cfs Each Each	40% 40% 400 400 400 11 10	\$ 36,313,000 \$ 36,313,000 \$ \$15,890 \$13,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000	\$ \$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200
27 28 28 29	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve	% % cfs cfs cfs Each Each Each	40% 40% 400 400 400 11 10 10	\$ 36,313,000 \$ 36,313,000 \$ \$15,890 \$13,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000	\$ \$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200
27 28 28 29	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	% % cfs cfs cfs Each Each Each LF	40% 40% 400 400 400 10 10 100	\$ 36,313,000 \$ 36,313,000 \$15,890 \$13,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000	\$ \$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200
27 28 28 28 29	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	% % cfs cfs cfs Each Each Each LF Each	40% 40% 400 400 400 400 10 10 100 100 100	\$ 36,313,000 \$ 36,313,000 \$15,890 \$13,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000	\$ \$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200
27 28 28 28 29	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	% % cfs cfs cfs Each Each Each LF Each LS	40% 40% 400 400 400 10 10 100	\$ 36,313,000 \$ 36,313,000 \$15,890 \$13,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000	\$ \$ \$ \$ \$	6,356 5,200 16,679
27 28 28 29	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	% % cfs cfs cfs Each Each Each LF Each	40% 40% 400 400 400 400 10 10 100 100 100	\$ 36,313,000 \$ 36,313,000 \$15,890 \$13,000	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000	\$ \$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200
27 28 28 29	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	% % cfs cfs cfs Each Each Each LF Each LS	40% 40% 400 400 400 400 10 10 100 100 100	\$ 36,313,000 \$ 36,313,000 \$ 15,890 \$ 13,000 \$ 41,697	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000 \$ 16,678,800	\$ \$ \$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200 16,675
27 28 28 29 30 31	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 96" FRP (Hobas) Buried Discharge Force Main	% % cfs cfs cfs Each Each Each LF Each LS Each LF	40% 40% 400 400 400 10 10 100 100 110 11 11 1,200	\$ 36,313,000 \$ 36,313,000 \$ 313,000 \$ 13,000 \$ 41,697 \$ 41,697 \$ 3,430	\$ 14,525,200 \$ 14,525,200 Subtotal \$ 6,356,000 \$ 5,200,000 \$ 16,678,800 \$ 4,116,000 \$ 4,116,000	\$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200 16,675 4,116
27 28 28 29 30	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 96" FRP (Hobas) Buried Discharge Force Main Outfall Structures	% % cfs cfs cfs Each Each Each LF Each LS Each	40% 40% 400 400 400 400 10 10 100 100 100 11	\$ 36,313,000 \$ 36,313,000 \$ 15,890 \$ 13,000 \$ 41,697	\$ 14,525,200 \$ 14,525,200 <u>Subtotal</u> \$ 6,356,000 \$ 5,200,000 \$ 16,678,800	\$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200 16,675 4,116
27 28 28 29 30 31	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 96" FRP (Hobas) Buried Discharge Force Main Outfall Structures Outfall Structure Includes:	% % cfs cfs cfs Each Each LF Each LS Each LS LS	40% 40% 400 400 400 10 10 100 100 100 10 10 1,200 1,200	\$ 36,313,000 \$ 36,313,000 \$ 313,000 \$ 13,000 \$ 41,697 \$ 41,697 \$ 3,430	\$ 14,525,200 \$ 14,525,200 Subtotal \$ 6,356,000 \$ 5,200,000 \$ 16,678,800 \$ 4,116,000 \$ 4,116,000	\$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200 16,675 4,116
27 28 28 29 30 31	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 96" FRP (Hobas) Buried Discharge Force Main Outfall Structure Includes: A. Turbidity Barrier	% % cfs cfs cfs Each Each LF Each LS Each LS LS	40% 40% 400 400 400 400 10 10 100 100 100 11 1,200 1 1,200	\$ 36,313,000 \$ 36,313,000 \$ 313,000 \$ 13,000 \$ 41,697 \$ 41,697 \$ 3,430	\$ 14,525,200 \$ 14,525,200 Subtotal \$ 6,356,000 \$ 5,200,000 \$ 16,678,800 \$ 4,116,000 \$ 4,116,000	\$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200 16,675 4,116
27 28 28 29 30 31	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (390 + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator 96" FRP (Hobas) Buried Discharge Force Main Outfall Structures Outfall Structure Includes:	% % cfs cfs cfs Each Each LF Each LS Each LS LS	40% 40% 400 400 400 10 10 100 100 100 10 10 1,200 1,200	\$ 36,313,000 \$ 36,313,000 \$ 15,890 \$ 13,000 \$ 41,697 \$ 3,430 \$ 3,430 \$ 2,389,122 	\$ 14,525,200 \$ 14,525,200 Subtotal \$ 6,356,000 \$ 5,200,000 \$ 16,678,800 \$ 4,116,000 \$ 4,116,000	\$ \$ \$ \$	14,525 14,525 50,112 6,356 5,200

	Estimating Contingency (10%)					\$	12,116,000
				<u>Total Constr</u>	uction 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
					6 1	-	56 644 666

<u>Subtotal</u> <u>\$ 56,644,000</u>

<u>Total</u> \$ 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

						Т	otal Cost
						_	ounded to
						th	e Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 24"	LF	2,577	\$ 180	\$ 463,860	\$	464,0
2	Reinforced Concrete Pipe 30"	LF	1,310	\$ 220	\$ 288,200	\$	288,0
3	Reinforced Concrete Pipe 36"	LF	952	\$ 280	\$ 266,560	\$	267,0
4	Reinforced Concrete Pipe 42"	LF	673	\$ 325	\$ 218,725		219,0
5	Reinforced Concrete Pipe 48"	LF	2,388	\$ 425	\$ 1,014,900	\$	1,015,
6	Reinforced Concrete Pipe 60"	LF	392	\$ 580	\$ 227,360		227,
7	Reinforced Concrete Pipe 66"	LF	1,115	\$ 690	\$ 769,350		769,
8	Reinforced Concrete Pipe 78"	LF	902	\$ 1,075	\$ 969,650		970,
9	Reinforced Concrete Pipe 84"	LF	745	\$ 1,200	\$ 894,000		894,
10	Concrete Manhole - 8'	Each	45	\$ 10,650	\$ 479,250		479,
11	Curb Inlet	Each	90	\$ 9,475	\$ 852,750		853,
12	1-1/2" Asphalt	Ton	1,880	\$ 172	\$ 322,535	\$	323,
13	10" Base	SY	24,586		\$ 491,720		492,
14	12" Subgrade	SY	25,304	\$6	\$ 148,509	\$	149,
15	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	31,824	\$ 27	\$ 859,235	\$	859,
16	Sodding	SY	14,367	\$ 7	\$ 105,397	\$	105,
17	5' Wide Sidewalk	SY	14,367		\$ 386,179	\$	386,
18	Curb	LF	25,860	\$ 31	\$ 810,975	\$	811,
					<u>Subtotal</u>	<u>\$</u>	9,570,
10			70/	¢ 0.570.000	¢	<i>.</i>	670
19	Mobilization	%	7%				670
20	Maintenance of Traffic	%	5%		\$ 478,500		479
21	Material Testing	%	1%		\$ 95,700		96,
22	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	. , ,	\$ 478,500		479
23	Utility Relocations	%	10%	. , ,	\$ 957,000		957,
24	Additional Water Quality Improvements	%	10%	. , ,	\$ 957,000	•	957,
25	Aboveground Components	%	20%	\$ 9,570,000			1,914,
26	Water Main Distribution/Transmission System Improvements	%	40%	\$ 9,570,000	\$ 3,828,000	\$	3,828,
27	Sanitary Sewer Collection System Improvements	%	40%	\$ 9,570,000	\$ 3,828,000	\$	3,828,
					<u>Subtotal</u>	<u>\$</u>	13,208,
	PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of	:		i	i	1	
28	>100 cfs	cfs	312	\$ 15,890	\$ 4,957,680	\$	4,958,
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a			+	+ .,	Ŧ	.,,
29	capacity of >100 cfs	cfs	312	\$ 13,000	\$ 4,056,000	\$	4,056,
30	Stormwater Pump Station (301 cfs + round up to nearest whole pump)	cfs	312	. ,	\$ 13,009,464		13,009,
	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			1	
31	Outfall Structures	LS	1	\$1,977,844	\$1,977,844		\$1,978
	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				
					<u>Subtotal</u>	<u>\$</u>	24,001
	Estimating Contingency (10%)					\$	4,678
				Total Constr	uction Subtotal	<u>\$</u>	51,457,
		1					
32	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 51,457,000	\$ 3,087,420	\$	3,087,

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
					<u>Subtotal</u>	\$ <u>21,870,000</u>

<u>Subtotal</u> <u>\$ 21,870,000</u> <u>Total</u> <u>\$ 73,327,000</u>

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

								Т	otal Cost
								Ro	ounded t
								th	e Neare
tem No.	Item Description	Units	Quantity	Unit	Cost		Total Cost		1000
1	Reinforced Concrete Pipe 24"	LF	3,683	\$	180	\$	662,940	\$	663
2	Reinforced Concrete Pipe 30"	LF	849	\$	220	\$	186,780	\$	187
3	Reinforced Concrete Pipe 36"	LF	575	\$	280	\$	161,000	\$	161
4	Reinforced Concrete Pipe 42"	LF	370	\$	325	\$	120,250	\$	120
5	Reinforced Concrete Pipe 48"	LF	1,299	\$	425	\$	552,075	\$	552
6	Reinforced Concrete Pipe 54"	LF	1,729	\$	505	\$	873,145	\$	873
7	Reinforced Concrete Pipe 60"	LF	607	\$	580	\$	352,060	\$	352
8	Reinforced Concrete Pipe 66"	LF	456	\$	690	\$	314,640	\$	31
9	Reinforced Concrete Pipe 72"	LF	898	\$	925	\$	830,650	\$	83:
10	Reinforced Concrete Pipe 78"	LF	230	\$	1,075	\$	247,250	\$	24
11	Reinforced Concrete Pipe 84"	LF	355	\$	1,200	\$	426,000	\$	420
12	Reinforced Concrete Pipe 96"	LF	78	\$	1,325	\$	103,350	\$	103
13	Concrete Manhole - 8'	Each	45	\$	10,650	\$	479,250	\$	479
14	Curb Inlet	Each	90	\$	9,475	\$	852,750	\$	853
15	1-1/2" Asphalt	Ton	1,843		172	\$	316,308	\$	310
16	10" Base	SY	24,136 24,866		20	\$ ¢	482,727	\$ ¢	483
17	12" Subgrade	SY	,			\$	145,936	\$	140
18 19	Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding	CY SY	31,209 14,591	-	27	\$ \$	842,645 107,042	\$ \$	843 10
20	5' Wide Sidewalk	SY	14,591	\$ \$	27	ې \$	392,206	ې \$	392
20	Curb	LF	26,264		31	\$	823,633	\$	82
21	carb		20,204	Ŷ	51	Ŷ	Subtotal	\$	9,27.
								Ŧ	5,27
22	Mobilization	%	7%	\$ 9	9,273,000	\$	649,110	\$	64
23	Maintenance of Traffic	%	5%	\$ 9	9,273,000	\$	463,650	\$	464
24	Material Testing	%	1%	\$ 9	9,273,000	\$	92,730	\$	93
25	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 9	9,273,000	\$	463,650	\$	464
26	Utility Relocations	%	10%	\$ 9	9,273,000	\$	927,300	\$	92
27	Additional Water Quality Improvements	%	10%	\$ 9	9,273,000	\$	927,300	\$	92
28	Aboveground Components	%	20%	\$ 9	9,273,000	\$	1,854,600	\$	1,85
29	Water Main Distribution/Transmission System Improvements	%	40%	\$ 9	9,273,000	\$	3,709,200	\$	3,709
30	Sanitary Sewer Collection System Improvements	%	40%	\$ 9	9,273,000	\$	3,709,200	\$	3,709
	PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of	Γ					<u>Subtotal</u>	<u>\$</u>	12,79
31	>100 cfs	cfs	312	\$	15,890	\$	4,957,680	\$	4,95
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a								
32	capacity of >100 cfs	cfs	312	\$	13,000	\$	4,056,000	\$	4,05
33	Stormwater Pump Station (301 cfs + round up to nearest whole pump)	cfs	312	\$	41,697	\$	13,009,464	\$	13,00
	Pump Station Components Include:	Fash	-			<u> </u>			
	A. Wet Well/ Weir Structure B. Submersible Pump	Each	1						
		Each Each	9						
	C Elan Gato / Chock Valvo Valvo	I FACO	. 9	1		<u> </u>			
	C. Flap Gate / Check Valve Valve		100						
	D. Storm Drainage Bypass Piping	LF	100						
	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	LF Each	9						
	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	LF Each LS	9 1						
	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	LF Each	9						
34	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	LF Each LS	9 1	\$ 1	1,977,844	\$	1,977,844	\$	1,97
34	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	LF Each LS Each	9 1 1	\$ 1	1,977,844	\$	1,977,844	\$	1,97
34	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	LF Each LS Each	9 1 1	\$ 1	1,977,844	\$	1,977,844	\$	1,97
34	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	LF Each LS Each LS	9 1 1 1	\$ 1	1,977,844	\$	1,977,844	\$	1,97
34	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures A. Turbidity Barrier	LF Each LS Each LS LS	9 1 1 1 1	\$ 1	1,977,844	\$			
34	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LF Each LS Each LS LS LS LS	9 1 1 1 1 1	\$ 1	1,977,844	\$	1,977,844 <u>Subtotal</u>	\$ \$	
34	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LF Each LS Each LS LS LS LS	9 1 1 1 1 1	\$ 1	1,977,844	\$			1,97 24,00 4,60

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

<u>Subtotal</u> <u>\$ 21,539,000</u>

<u>Total</u> <u>\$ 72,217,000</u>

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

						T	otal Cost
						Ro	unded to
						the	e Nearest
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	1-1/2" Asphalt	Ton	562	\$ 172	\$ 96,382	\$	96,0
2	10" Base	SY	7,301	\$ 20	\$ 146,025	\$	146,0
3	12" Subgrade	SY	7,470	\$6	\$ 43,842	\$	44,0
4	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	9,510	\$ 27	\$ 256,762	\$	257,0
5	Sodding	SY	3,380	\$ 7	\$ 24,793	\$	25,0
6	5' Wide Sidewalk	SY	3,380	\$ 27	\$ 90,843	\$	91,0
-	Curt	LF	6,083	\$ 31	\$ 190,770	Ś	191,0
7	Curb	LF	0,083	\$ 21		· ·	
			,	-	<u>Subtotal</u>	<u>\$</u>	850,0
8	Mobilization	%	7%	\$ 850,000	<u>Subtotal</u> \$ 59,500	\$	850,0 60,0
8 9	Mobilization Maintenance of Traffic	%	7%	\$ 850,000 \$ 850,000	Subtotal \$ 59,500 \$ 42,500	\$ \$ \$	850,0 60,0 43,0
8 9 10	Mobilization Maintenance of Traffic Material Testing	% % %	7% 5% 1%	\$ 850,000 \$ 850,000 \$ 850,000	Subtotal \$ 59,500 \$ 42,500 \$ 8,500	\$ \$ \$	850,0 60,0 43,0 9,0
8 9 10 11	Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI)	% % %	7% 5% 1% 5%	\$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000	Subtotal \$ 59,500 \$ 42,500 \$ 8,500 \$ 42,500	\$ \$ \$ \$	850,0 60,0 43,0 9,0 43,0
8 9 10 11 12	Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations	% % % %	7% 5% 1% 5% 10%	\$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000	Subtotal \$ 59,500 \$ 42,500 \$ 8,500 \$ 42,500 \$ 8,500 \$ 42,500	\$ \$ \$ \$ \$	850,0 60,0 43,0 9,0 43,0 85,0
8 9 10 11 12 13	Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements	% % % %	7% 5% 1% 5% 10% 10%	\$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000	Subtotal \$ 59,500 \$ 42,500 \$ 8,500 \$ 42,500 \$ 85,000 \$ 85,000 \$ 85,000	\$ \$ \$ \$ \$ \$	850,0 60,0 43,0 9,0 43,0 85,0 85,0 85,0
8 9 10 11 12 13 14	Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components	% % % % %	7% 5% 1% 5% 10% 10% 20%	\$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000	Subtotal \$ 59,500 \$ 42,500 \$ 8,500 \$ 42,500 \$ 85,000 \$ 85,000 \$ 85,000 \$ 85,000 \$ 170,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	850,0 60,0 43,0 9,0 43,0 85,0 85,0 170,0
8 9 10 11 12 13 14 15	Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components Water Main Distribution/Transmission System Improvements	% % % % % %	7% 5% 1% 5% 10% 10% 20% 40%	\$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000	Subtotal \$ 59,500 \$ 42,500 \$ 42,500 \$ 42,500 \$ 85,000 \$ 85,000 \$ 85,000 \$ 170,000 \$ 340,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	850,0 60,0 43,0 9,0 43,0 85,0 85,0 170,0 340,0
8 9 10 11 12 13 14	Mobilization Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components	% % % % %	7% 5% 1% 5% 10% 10% 20%	\$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000 \$ 850,000	Subtotal \$ 59,500 \$ 42,500 \$ 8,500 \$ 42,500 \$ 85,000 \$ 85,000 \$ 85,000 \$ 85,000 \$ 170,000	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	850,0

	Estimating Contingency (10%)					\$	203,000
				<u>Total Constr</u>	ruction Subtotal	<u>\$</u>	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

<u>Total \$ 3,175,000</u>

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

ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost	Total Cost Rounded to the Nearest 1000
1	Reinforced Concrete Pipe 24"	LE	57	\$ 180		
2	Reinforced Concrete Pipe 30"	LF	682			
3	Reinforced Concrete Pipe 36"	LF	455	\$ 280	\$ 127,400	
	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
					6 1	ć

<u>Subtotal</u> \$ 6,498,000

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

	PUMP STATIONS							
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of							
25	>100 cfs	cfs	178	\$ 15,89	0 Ş	2,828,420	Ş	2,828,0
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a							
26	capacity of >100 cfs	cfs	178			2,314,000		2,314,0
27	Stormwater Pump Station (152 cfs + round up to nearest whole pump	cfs	178	\$ 41,69	7\$	7,422,066	\$	7,422,0
	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 Outfall Structure Includes:	LS	1	\$1,319,80	0	\$1,319,800		\$1,320,0
		15			_			
	A. Turbidity Barrier		1		_			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	-		_			
	C. Seawall with Dissipator	LF	160					
		г г			-			
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of							
29	>100 cfs	cfs	267	\$ 15,89	0 Ş	4,242,630	Ş	4,243,0
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a							
30	capacity of >100 cfs	cfs	267			3,471,000		3,471,0
31	Stormwater Pump Station (234 cfs + round up to nearest whole pump	cfs	267	\$ 41,69	7\$	11,133,099	\$	11,133,0
	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	84" Ductile Iron Pipe Discharge Force Main (Microtunneling)	LF	1,100	\$ 7,00	0 \$	7,700,000	\$	7,700,0
35	Outfall Structures	LS	1	\$1,731,07	0	\$1.731.078		\$1,731,0
33	Outfall Structure Includes:	LJ	1	şı,/31,0/	0	\$1,/SI,U/8		\$1,751,U
		LS	4		_			
	A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1		_			
		LS	1		_			
	C. Seawall with Dissipator	LF	210		1		1	

5,763,000 \$

63,391,000

<u>\$</u>

Total Construction Subtotal

63,391,000 36 37 Program/Construction Management (PM) Fee (6%) % 6% 5% 3,803,460 \$ 3,169,550 \$ 3,803,000 % 63,391,000 \$ Permitting Fee (5%) 3,170,000
 5%
 \$

 10%
 \$

 5%
 \$

 10%
 \$

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

Estimating Contingency (10%)

<u>Total</u> <u>\$ 90,332,000</u>

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

		1	1				
						T	otal Cost
						Ro	unded to
						the	e Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 18"	LF	8,875	\$ 155	\$ 1,375,625	\$	1,376,000
2	Reinforced Concrete Pipe 24"	LF	1,456			\$	262,000
3	Reinforced Concrete Pipe 30"	LF	829	\$ 220		\$	182,000
<u>4</u> 5	Reinforced Concrete Pipe 36" Reinforced Concrete Pipe 48"	LF	1,020	\$ 280 \$ 425			286,000
6	Reinforced Concrete Pipe 48 Reinforced Concrete Pipe 54"	LF	8,500 260	\$ 425	. , ,	\$ \$	3,613,000
7	Reinforced Concrete Pipe 54	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
11	Reinforced Concrete Pipe 96"	LF	792	\$ 1,385		\$	1,097,000
12	Concrete Manhole - 8' Curb Inlet	Each	109	\$ 10,650 \$ 9,475		\$	1,161,000
13 14	1-1/2" Asphalt	Each Ton	218 3,315			\$ \$	2,066,000
15	10" Base	SY	43,440			\$	869,000
16	12" Subgrade	SY	44,782		\$ 262,820	\$	263,000
17	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	56,130			\$	1,516,000
18	Sodding	SY	26,841	\$ 7		\$	197,000
19	5' Wide Sidewalk	SY	26,841		\$ 721,494	\$	721,000
20	Curb	LF	48,314	\$ 31		\$	1,515,000
					<u>Subtotal</u>	<u>ş</u>	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		\$	194,000
24	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 19,377,000		\$	969,000
25	Utility Relocations	%	10%	\$ 19,377,000	. , ,	\$	1,938,000
26	Additional Water Quality Improvements	%	10%	\$ 19,377,000		\$	1,938,000
27 28	Aboveground Components Water Main Distribution/Transmission System Improvements	%	20% 40%	\$ 19,377,000 \$ 19,377,000		\$ \$	3,875,000
20	Sanitary Sewer Collection System Improvements	%	40%	\$ 19,377,000		\$	7,751,000
	PUMP STATIONS				<u>Subtotal</u>	<u>></u>	26,741,000
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of						
30	>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			\$	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 LF	5				
	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	Each	5				
	F. Electrical Equipment/Enclosure	Lacin	1				
	G. Emergency Generator	Each	1				
33	Outfall Structures	LS	1	\$1,073,033	\$1,073,033		\$1,073,000
	Outfall Structure Includes:	10					
	A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1				
	C. Seawall with Dissipator	LS LF	130				
		1	130	L	Subtotal	Ş	10,531,000
					_		
						\$	5,665,000
	Estimating Contingency (10%)			Total Const	ruction Subtotal		
	Estimating Contingency (10%)			<u>Total Const</u>	ruction Subtotal	<u>\$</u>	
34	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 62,314,000	\$ 3,738,840	\$ \$	62,314,000 3,739,000
35	Program/Construction Management (PM) Fee (6%) Permitting Fee (5%)	%	5%	\$ 62,314,000 \$ 62,314,000	\$ 3,738,840 \$ 3,115,700	\$ \$	62,314,000 3,739,000 3,116,000
35 36	Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%)	% %	5% 10%	\$ 62,314,000 \$ 62,314,000 \$ 62,314,000	\$ 3,738,840 \$ 3,115,700 \$ 6,231,400	\$ \$ \$	62,314,000 3,739,000 3,116,000 6,231,000
35 36 37	Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%) CEI Management (Owner's Representative) (5%)	% % %	5% 10% 5%	\$ 62,314,000 \$ 62,314,000 \$ 62,314,000 \$ 62,314,000	\$ 3,738,840 \$ 3,115,700 \$ 6,231,400 \$ 3,115,700	\$ \$ \$ \$	62,314,000 3,739,000 3,116,000 6,231,000 3,116,000
35 36	Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%)	% %	5% 10%	\$ 62,314,000 \$ 62,314,000 \$ 62,314,000 \$ 62,314,000 \$ 62,314,000 \$ 62,314,000	\$ 3,738,840 \$ 3,115,700 \$ 6,231,400 \$ 3,115,700 \$ 6,231,400	\$ \$ \$ \$ \$	62,314,000 3,739,000 3,116,000 6,231,000 3,116,000 6,231,000 4,050,000

<u>\$ 88,797,000</u> Total

<u>Subtotal</u>

^{26,483,000} <u>\$</u>

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

						Total Cost
						Rounded to
						the Neares
tem No.	Item Description	Units	Quantity	Unit Cost	Total Cost	1000
1	Reinforced Concrete Pipe 24"	LF	1,046	\$ 180	\$ 188,280	\$ 188,0
2	Reinforced Concrete Pipe 30"	LF	1,040	\$ 220		\$ 238,0
3	Reinforced Concrete Pipe 36"	LF	1,949	\$ 280	. ,	\$ 546,0
4	Reinforced Concrete Pipe 48"	LF	3,424	\$ 425	\$ 1,455,200	\$ 1,455,0
5	Reinforced Concrete Pipe 54"	LF	660	\$ 505	\$ 333,300	\$ 333,0
6	Reinforced Concrete Pipe 60"	LF	1,011	\$ 580	\$ 586,380	\$ 586,0
7	Reinforced Concrete Pipe 66"	LF	442	\$ 690	\$ 304,980	\$ 305,0
8	Reinforced Concrete Pipe 72"	LF	1,030	\$ 925	\$ 952,750	\$ 953,0
9 10	Reinforced Concrete Pipe 78" Reinforced Concrete Pipe 84"	LF LF	734 922	\$ 1,075 \$ 1,200	\$ 789,050 \$ 1,106,400	\$ 789,0 \$ 1,106,0
10	Concrete Manhole - 8'	Each	50	\$ 1,200 \$ 10,650	\$ 1,106,400 \$ 532,500	\$ 1,106,0
11	Curb Inlet	Each	100	\$ 10,630	\$ <u>947,500</u>	\$ 948,0
12	1-1/2" Asphalt	Ton	2,884	\$ 172	\$ 494,890	\$ 495,0
14	10" Base	SY	37,691	\$ 20	\$ 753,826	\$ 754,0
15	12" Subgrade	SY	38,761			\$ 233,0
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	48,829		\$ 1,318,389	\$ 1,318,0
17	Sodding	SY	21,388		\$ 156,904	\$ 157,0
18	5' Wide Sidewalk	SY	21,388		\$ 574,903	\$ 575,0
19	Curb	LF	38,498	\$ 31	\$ 1,207,296	\$ 1,207,
			•		Subtotal	<u>\$ 12,719,</u>
20	Mobilization	%	70/	\$ 12,719,000	\$ 890,330	\$ 890,
20 21	Maintenance of Traffic	%	7% 5%	\$ 12,719,000 \$ 12,719,000	\$ 890,330 \$ 635,950	\$ 890, \$ 636,
22	Material Testing	%	1%	\$ 12,719,000		\$ 127,
23	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 12,719,000	\$ 635,950	\$ 636,
24	Utility Relocations	%	10%	\$ 12,719,000	\$ 1,271,900	\$ 1,272,
25	Additional Water Quality Improvements	%	10%	\$ 12,719,000	\$ 1,271,900	\$ 1,272,
26	Aboveground Components	%	20%	\$ 12,719,000	\$ 2,543,800	\$ 2,544,
27	Water Main Distribution/Transmission System Improvements	%	40%	\$ 12,719,000	. , ,	\$ 5,088,
28	Sanitary Sewer Collection System Improvements	%	40%	\$ 12,719,000	\$ 5,087,600	\$ 5,088,
	PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of		I		i	i
29	>100 cfs	cfs	356	\$ 15,890	\$ 5,656,840	\$ 5,657,0
30	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	356	\$ 13,000	\$ 4,628,000	\$ 4,628,
31	Stormwater Pump Station (344 cfs + round up to nearest whole pump)	cfs	356	\$ 41,697	\$ 14,844,132	\$ 14,844,
	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 F. Electrical Equipment/Enclosure	Each	9			
	G. Emergency Generator	LS Each	1			
		Luch	-			
32	Outfall Structures	LS	1	\$2,224,611	\$2,224,611	\$2,225,
	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	\$
					Subtotui	<u>, 27,334,</u>
	Estimating Contingency (10%)					\$ 5,763,
				Total Constr	ruction Subtotal	<u>\$ 63,389,</u>
					п.	
33	Program/Construction Management (DM) Fee (6%)	%	E0/	\$ 63,380,000	¢ 2 202 210	ς 2 <u>2</u> Ω∩2
33 34	Program/Construction Management (PM) Fee (6%) Permitting Fee (5%)	%	6% 5%			
34	Permitting Fee (5%)	%	5%	\$ 63,389,000	\$ 3,169,450	\$ 3,169,
				\$ 63,389,000	\$ 3,169,450 \$ 6,338,900	\$ 3,169,0 \$ 6,339,0
34 35	Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%)	% %	5% 10%	\$ 63,389,000 \$ 63,389,000	\$ 3,169,450 \$ 6,338,900 \$ 3,169,450	\$ 3,169,0 \$ 6,339,0 \$ 3,169,0

%

6.5% \$

63,389,000 \$

38

Construction Contingency (10%) CIP Management Fee (6.5%)

\$ 90,328,000 <u>Total</u> **\$**

4,120,285 \$

<u>Subtotal</u>

4,120,000 26,939,000

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

2 R 3 R 4 R 5 C 6 C 7 1 8 1 9 1 10 F 11 S 12 5 13 C	Item Description Reinforced Concrete Pipe 48" Reinforced Concrete Pipe 54" Reinforced Concrete Pipe 60" Reinforced Concrete Pipe 72" Concrete Manhole - 8' Curb Inlet 1-1/2" Asphalt 10" Base 12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk Curb	Units LF LF LF Each Each Ton SY SY CY SY SY	1,714 69 138 3,238 42,073 43,026	Unit Cost \$ 425 \$ 505 \$ 580 \$ 925 \$ 10,650 \$ 9,475 \$ 172 \$ 20 \$ 6 \$ 27	Total Cost \$ 3,642,554 \$ 1,731,285 \$ 1,988,406 \$ 1,585,582 \$ 734,850 \$ 1,307,550 \$ 555,689 \$ 841,467 \$ 252,514	th \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	ounded to ne Neares 1000 3,643,(1,731,(1,988,(1,586,(735,(1,308,(556,(
1 R 2 R 3 R 4 R 5 C 6 C 7 1 8 1 9 1 10 F 11 S 12 5 13 C	Reinforced Concrete Pipe 48" Reinforced Concrete Pipe 54" Reinforced Concrete Pipe 60" Reinforced Concrete Pipe 72" Concrete Manhole - 8' Curb Inlet 1-1/2" Asphalt 10" Base 12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	LF LF LF Each Each Ton SY SY CY SY SY	8,571 3,428 3,428 1,714 69 138 3,238 42,073 43,026 54,828	\$ 425 \$ 505 \$ 580 \$ 925 \$ 10,650 \$ 9,475 \$ 172 \$ 20 \$ 6	\$ 3,642,554 \$ 1,731,285 \$ 1,988,406 \$ 1,585,582 \$ 734,850 \$ 1,307,550 \$ 555,689 \$ 841,467	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1000 3,643,(1,731,(1,988,(1,586,(735,(1,308,(
1 R 2 R 3 R 4 R 5 C 6 C 7 1 8 1 9 1 10 F 11 S 12 5 13 C	Reinforced Concrete Pipe 48" Reinforced Concrete Pipe 54" Reinforced Concrete Pipe 60" Reinforced Concrete Pipe 72" Concrete Manhole - 8' Curb Inlet 1-1/2" Asphalt 10" Base 12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	LF LF LF Each Each Ton SY SY CY SY SY	8,571 3,428 3,428 1,714 69 138 3,238 42,073 43,026 54,828	\$ 425 \$ 505 \$ 580 \$ 925 \$ 10,650 \$ 9,475 \$ 172 \$ 20 \$ 6	\$ 3,642,554 \$ 1,731,285 \$ 1,988,406 \$ 1,585,582 \$ 734,850 \$ 1,307,550 \$ 555,689 \$ 841,467	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1000 3,643,0 1,731,0 1,988,0 1,586,0 735,0 1,308,0
1 R 2 R 3 R 4 R 5 C 6 C 7 1 8 1 9 1 10 F 11 S 12 5 13 C	Reinforced Concrete Pipe 48" Reinforced Concrete Pipe 54" Reinforced Concrete Pipe 60" Reinforced Concrete Pipe 72" Concrete Manhole - 8' Curb Inlet 1-1/2" Asphalt 10" Base 12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	LF LF LF Each Each Ton SY SY CY SY SY	8,571 3,428 3,428 1,714 69 138 3,238 42,073 43,026 54,828	\$ 425 \$ 505 \$ 580 \$ 925 \$ 10,650 \$ 9,475 \$ 172 \$ 20 \$ 6	\$ 3,642,554 \$ 1,731,285 \$ 1,988,406 \$ 1,585,582 \$ 734,850 \$ 1,307,550 \$ 555,689 \$ 841,467	\$ \$ \$ \$ \$ \$	3,643, 1,731, 1,988, 1,586, 735, 1,308,
2 R 3 R 4 R 5 C 6 C 7 1 8 1 9 1 10 F 11 S 12 5 13 C	Reinforced Concrete Pipe 54" Reinforced Concrete Pipe 60" Reinforced Concrete Pipe 72" Concrete Manhole - 8' Curb Inlet 1-1/2" Asphalt 10" Base 12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	LF LF Each Each Ton SY SY CY SY SY	3,428 3,428 1,714 69 138 3,238 42,073 43,026 54,828	\$ 505 \$ 580 \$ 925 \$ 10,650 \$ 9,475 \$ 172 \$ 20 \$ 6	\$ 1,731,285 \$ 1,988,406 \$ 1,585,582 \$ 734,850 \$ 1,307,550 \$ 555,689 \$ 841,467	\$ \$ \$ \$ \$ \$	1,731, 1,988, 1,586, 735, 1,308,
3 R 4 R 5 C 6 C 7 1 8 1 9 1 10 F 11 S 12 5 13 C	Reinforced Concrete Pipe 60" Reinforced Concrete Pipe 72" Concrete Manhole - 8' Curb Inlet 1-1/2" Asphalt 10" Base 12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	LF Each Each Ton SY SY CY SY SY	3,428 1,714 69 138 3,238 42,073 43,026 54,828	\$ 580 \$ 925 \$ 10,650 \$ 9,475 \$ 172 \$ 20 \$ 6	\$ 1,988,406 \$ 1,585,582 \$ 734,850 \$ 1,307,550 \$ 555,689 \$ 841,467	\$ \$ \$ \$ \$	1,988 1,586 735 1,308
4 R 5 C 6 C 7 1 8 1 9 1 10 F 11 S 12 5 13 C	Reinforced Concrete Pipe 72" Concrete Manhole - 8' Curb Inlet 1-1/2" Asphalt 10" Base 12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	LF Each Ton SY SY CY SY SY	1,714 69 138 3,238 42,073 43,026 54,828	\$ 925 \$ 10,650 \$ 9,475 \$ 172 \$ 20 \$ 6	\$ 1,585,582 \$ 734,850 \$ 1,307,550 \$ 555,689 \$ 841,467	\$ \$ \$ \$	1,586 735 1,308
6 C 7 1 8 1 9 1 10 F 11 S 12 S 13 C	Curb Inlet 1-1/2" Asphalt 10" Base 12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	Each Ton SY SY CY SY SY	69 138 3,238 42,073 43,026 54,828	\$ 10,650 \$ 9,475 \$ 172 \$ 20 \$ 6	\$ 734,850 \$ 1,307,550 \$ 555,689 \$ 841,467	\$ \$ \$	735 1,308
7 1 8 1 9 1 10 F 11 S 12 S 13 C	1-1/2" Asphalt 10" Base 12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	Ton SY SY CY SY SY	3,238 42,073 43,026 54,828	\$ 9,475 \$ 172 \$ 20 \$ 6	\$ 555,689 \$ 841,467	\$,
8 1 9 1 10 F 11 S 12 5 13 C	10" Base 12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	SY SY CY SY SY	42,073 43,026 54,828	\$ 20 \$ 6	\$ 841,467		556
9 1 10 F 11 S 12 5 13 C	12" Subgrade Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	SY CY SY SY	43,026 54,828	\$ 6		ć	
10 F 11 S 12 S 13 C	Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding 5' Wide Sidewalk	CY SY SY	54,828		\$ 252,514	\$	841
11 S 12 5 13 C	Sodding 5' Wide Sidewalk	SY SY	,	\$ 27		\$	253
11 S 12 5 13 C	Sodding 5' Wide Sidewalk	SY	19.046		\$ 1,480,357	\$	1,480
13 C				\$ 7	\$ 139,725		140
13 C			19,046	\$ 27	\$ 511,957	\$	512
14 N		LF	34,283	\$ 31	\$ 1,075,111		1,075
14 N			, ,		Subtotal	\$	15,848
14 N							
	Mobilization	%	7%	\$ 15,848,000	\$ 1,109,360	\$	1,109
15 N	Maintenance of Traffic	%	5%	\$ 15,848,000	\$ 792,400	\$	792
16 N	Material Testing	%	1%	\$ 15,848,000	\$ 158,480	\$	158
17 B	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 15,848,000	\$ 792,400	\$	792
18 U	Utility Relocations	%	10%	\$ 15,848,000	\$ 1,584,800	\$	1,585
19 A	Additional Water Quality Improvements	%	10%	\$ 15,848,000	\$ 1,584,800	\$	1,585
20 A	Aboveground Components	%	20%	\$ 15,848,000	\$ 3,169,600	\$	3,170
21 V	Water Main Distribution/Transmission System Improvements	%	40%	\$ 15,848,000	\$ 6,339,200	\$	6,339
22 S	Sanitary Sewer Collection System Improvements	%	40%	\$ 15,848,000	\$ 6,339,200	\$	6,339
					Subtotal	<u>\$</u>	21,869
	PUMP STATIONS						
Ν	Membrane Filtration (per cfs pumped) for Pump Stations with a						
	capacity of >100 cfs	cfs	225	\$ 15,890	\$ 3,575,250	\$	3,575
Ч	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a						
23 C	capacity of >100 cfs	cfs	225	\$ 13,000	\$ 2,925,000	\$	2,925
24 S	Stormwater Pump Station (225 cfs)	cfs	225	\$ 41,697	\$ 9,381,825	\$	9,382
	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				
						<u> </u>	
	Outfall Structures	LS	1	\$1,566,567	\$1,566,567	1	\$1,567
	Outfall Structure Includes:					1	
	A. Turbidity Barrier	LS	1				
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1				
	C. Seawall with Dissipator	LF	190				
					<u>Subtotal</u>	<u>\$</u>	17,449

								-,- ,
				<u>Total Constr</u>	uctior	n Subtotal	<u>\$</u>	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
						<u>Subtotal</u>	\$	25,789,000

<u>Total</u> <u>\$ 86,472,000</u>

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

						Total	Cost
						Round	ed to
						the Ne	arest
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost	100	00
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
					<u>Subtotal</u>	<u>\$</u>	1,754,000
8	Mobilization	%	7%	\$ 1,754,000	\$ 122,780	\$	123,000
8	Mobilization Maintenance of Traffic	%	7% 5%	. , ,	\$ 122,780 \$ 87,700	\$ \$	123,000 88,000
				\$ 1,754,000	. ,	1	,
9	Maintenance of Traffic	%	5%	\$ 1,754,000 \$ 1,754,000	\$ 87,700	\$	88,000
9 10	Maintenance of Traffic Material Testing	%	5% 1%	\$ 1,754,000 \$ 1,754,000 \$ 1,754,000	\$ 87,700 \$ 17,540	\$ \$	88,000 18,000
9 10 11	Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI)	% % %	5% 1% 5%	\$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000	\$ 87,700 \$ 17,540 \$ 87,700	\$ \$ \$	88,000 18,000 88,000
9 10 11 12	Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations	% % %	5% 1% 5% 10%	\$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000	\$ 87,700 \$ 17,540 \$ 87,700 \$ 175,400	\$ \$ \$ \$	88,000 18,000 88,000 175,000
9 10 11 12 13	Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements	% % % %	5% 1% 5% 10%	\$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000	\$ 87,700 \$ 17,540 \$ 87,700 \$ 175,400 \$ 175,400	\$ \$ \$ \$ \$	88,000 18,000 88,000 175,000 175,000
9 10 11 12 13 14	Maintenance of Traffic Material Testing Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations Additional Water Quality Improvements Aboveground Components	% % % % %	5% 1% 5% 10% 20%	\$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000 \$ 1,754,000	\$ 87,700 \$ 17,540 \$ 87,700 \$ 175,400 \$ 175,400 \$ 175,400 \$ 350,800	* * * * * * * *	88,000 18,000 88,000 175,000 175,000 351,000

	Estimating Contingency (10%)					\$	417,000
				<u>Total Const</u>	ruction Subtotal	<u>\$</u>	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

<u>Total \$ 6,546,000</u>

Appendix 10.3: Basin 3 NIP Preliminary Construction Cost Estimates

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

								Total Cost
								ounded to
							t	he Nearest
Item No.	Item Description	Units	Quantity	Unit Cost		Total Cost		1000
1	Reinforced Concrete Pipe 24"	LF	1,910	\$ 130	\$	248,304	\$	248,000
2	Reinforced Concrete Pipe 48"	LF LF	14,325			6,088,223 1,446,848	\$	6,088,000
3 4	Reinforced Concrete Pipe 54" Concrete Manhole - 8'	Each	2,865	\$ 505 \$ 10,650		85,200	\$ \$	1,447,000 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 11	Sodding 5' Wide Sidewalk	SY SY	21,223 21,223		\$ \$	155,692 570,463	\$ \$	156,000 570,000
11	Curb	LF	38,201		_	1,197,971	ې \$	1,198,000
12	curb		50,201	ý 51	Ŷ	Subtotal	\$	11,871,000
13	Mobilization	%	7%			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 17	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations	%	5% 10%	\$ 11,871,000 \$ 11,871,000	\$ \$	593,550 1,187,100	\$ \$	594,000 1,187,000
17	Additional Water Quality Improvements	%	10%	\$ 11,871,000		1,187,100	ې \$	1,187,000
18	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				1		r	
22	Membrane Filtration (per cfs pumped) for Pump Stations with a	ofo	180	\$ 15,890	ć	2 860 200	\$	3 860 000
22	capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	cfs	180	\$ 15,890	\$	2,860,200	Ş	2,860,000
23	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 C. Flap Gate / Check Valve Valve	Each 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		L			
	Membrane Filtration (per cfs pumped) for Pump Stations with a				Ι.			
26	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
27	Pump Station (180 cfs capacity)	cfs	180	\$ 13,000	\$ \$	7,505,460		7,505,000
20	Pump Station Components Include:	0.0	100	<i>v</i> (1)007	Ý	7,505,100	Ý	,,505,000
	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 F. Electrical Equipment/Enclosure	Each LS	6		┝─			
	G. Emergency Generator	Each	1		-		-	
			- -					
					1		_	
29	Outfall Structures	LS	1	\$ 1,319,800	\$	1,319,800	\$	1,320,000
29	Outfall Structure Includes:			\$ 1,319,800	\$	1,319,800	\$	1,320,000
29	Outfall Structure Includes: A. Turbidity Barrier	LS	1	\$ 1,319,800	\$	1,319,800	\$	1,320,000
29	Outfall Structure Includes:			\$ 1,319,800	\$	1,319,800	\$	1,320,000

	Estimating Contingency (10%)					Ś	5,630,0
				Total Constr	uction Subtotal	\$	61,933,0
30	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 61,933,000	\$ 3,715,	980 \$	3,716,0
31	Permitting Fee (5%)	%	5%	\$ 61,933,000	\$ 3,096,	650 \$	3,097,
32	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 61,933,000	\$ 6,193,	300 \$	6,193,
33	CEI Management (Owner's Representative) (5%)	%	5%	\$ 61,933,000	\$ 3,096,	650 \$	3,097,
34	Construction Contingency (10%)	%	10%	\$ 61,933,000	\$ 6,193,	300 \$	6,193,
35	CIP Management Fee (6.5%)	%	6.5%	\$ 61,933,000	\$ 4,025,	645 \$	4,026,
					Subtotal	\$	26,322,

> Total <u>\$ 88,255,000</u>

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

						T	otal Cost
						Ro	ounded to
						th	e Nearest
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 18"	LF	666	\$ 130	\$ 86,580	Ś	87,00
2	Reinforced Concrete Pipe 24"	LF	2,275	\$ 180	\$ 409,500		410,00
3	Reinforced Concrete Pipe 36"	LF	118	\$ 280	\$ 33,040		33,0
4	Concrete Manhole - 8'	Each	13	\$ 10,650	\$ 138,450		138,0
5	Curb Inlet	Each	26	\$ 9,475	\$ 246,350		246,0
6	1-1/2" Asphalt	Ton	3.445		\$ 591,191		591,0
7	10" Base	SY	44,776		\$ 895,525		896,0
8	12" Subgrade	SY	45,804		\$ 268,822		269,0
9	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	58,331		\$ 1,574,934		1,575,00
10	Sodding	SY	20,562	•	\$ 150,846		151,00
10	5' Wide Sidewalk	SY	20,562		\$ 552,708		553,0
12	Curb	LF	37.012	•	\$ 1,160,687		1,161,0
12	cub	LI	37,012	2 JI	Subtotal	Ś	6,110,0
					Subtotur	<u>×</u>	0,110,0
13	Mobilization	%	7%	\$ 6,110,000	\$ 427,700	\$	428,0
14	Maintenance of Traffic	%	5%	\$ 6,110,000	\$ 305,500	\$	306,0
15	Material Testing	%	1%	\$ 6,110,000	\$ 61,100	\$	61,0
16	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 6,110,000	\$ 305,500	\$	306,0
17	Utility Relocations	%	10%	\$ 6,110,000	\$ 611,000	\$	611,0
18	Additional Water Quality Improvements	%	10%	\$ 6,110,000	\$ 611,000	\$	611,0
19	Aboveground Components	%	20%	\$ 6,110,000	\$ 1,222,000	\$	1,222,0
20	Water Main Distribution/Transmission System Improvements	%	40%	\$ 6,110,000	\$ 2,444,000	\$	2,444,0
21	Sanitary Sewer Collection System Improvements	%	40%	\$ 6,110,000	\$ 2,444,000	\$	2,444,0
					Subtotal	\$	8,433,0
	Estimating Contingency (10%)					\$	1,454,0
				<u>Total Constr</u>	uction Subtotal	<u>\$</u>	15,997,0
22	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 15,997,000	\$ 959,820	Ś	960,0
23	Permitting Fee (5%)	%	5%	\$ 15,997,000	\$ 799.850		800.0
24	Architect/Engineering (A/E) Fee (10%)	%	10%		\$ 1,599,700		1,600,0
24	CEI Management (Owner's Representative) (5%)	%	5%	. , ,			800,0
26	Construction Contingency (10%)	%	10%	. , ,	. ,		1,600,0
20	CIP Management Fee (6.5%)	%	6.5%	\$ 15,997,000	\$ 1,039,805		1,040,0
21		70	0.378	÷ 13,357,000	÷ 1,039,803	Ŷ	1,040,0

<u>Total</u> <u>\$ 22,797,000</u>

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

							Total Cost
							ounded to
						t	he Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 18"	LF	9,674	\$ 130	. , ,		1,258,000
2	Reinforced Concrete Pipe 24"	LF	605	\$ 180			109,000
3	Reinforced Concrete Pipe 30"	LF	81	\$ 220	1 /		18,000
4	Reinforced Concrete Pipe 36"	LF	1,050	\$ 280			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			66,000
7	Reinforced Concrete Pipe 72"	LF	25	\$ 925	\$ 23,125		23,000
8	Concrete Manhole - 8'	Each	56	\$ 10,650			596,000
9	Curb Inlet	Each	112	\$ 9,475	. , ,		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	<u>\$</u>	5,370,000
17	Mobilization	%	7%	\$ 5,370,000	\$ 375,900	\$	376,000
		-					,
18	Maintenance of Traffic	%	5%	1			269,000
19	Material Testing	%	1%	\$ 5,370,000			54,000
20	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 5,370,000	. ,		269,000
21	Utility Relocations	%	10%	\$ 5,370,000			537,000
22	Additional Water Quality Improvements	%	10%	\$ 5,370,000		\$	537,000
23	Aboveground Components	%	20%	\$ 5,370,000		_	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
					<u>Subtotal</u>	<u>\$</u>	7,412,000
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of						
26	>100 cfs	cfs	134	\$ 15,890.00	\$ 2,129,260.00	\$	2,129,000.00
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a				-,,	T	_,,
27	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			5,587,000
20	Pump Station Components Include:	615	134	Ş 41,057	\$ 3,507,550	Ŷ	5,567,666
	A. Wet Well/ Weir Structure	Each	1				
	B. Submersible Pump	Each	5				
	C. Flap Gate / Check Valve Valve	Each	5			1	
	D. Storm Drainage Bypass Piping	LF	100			-	
	E. Watertight Wet Well Hatches	Each	5		+	1	
	F. Electrical Equipment/Enclosure	LS	5			-	
	G. Emergency Generator	Each	1			-	
29	Outfall Structures	LS	1	\$ 1,073,033	\$ 1,073,033	\$	1,073,000
	Outfall Structure Includes:		-	, _,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	Ť	_,,000
	A. Turbidity Barrier	LS	1		1	1	
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1			1	
	C. Seawall with Dissipator	LS	130			1	
		1	130	I	Subtotal	Ş	10,531,000
	Estimating Contingency (10%)					\$	2,331,000
				<u>Total Const</u>	ruction Subtotal	<u>\$</u>	25,644,000
29	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 25.644.000	\$ 1.538.640	ć	1.539.000

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
					<u>Subtotal</u>	\$ <u>10,898,000</u>

<u>Total \$ 36,542,000</u>

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

								-	Total Cost
									Total Cost
								R	ounded to
								t	he Nearest
ltem No.	Item Description	Units	Quantity	ų	Jnit Cost		Total Cost		1000
1	Reinforced Concrete Pipe 18"	LF	4,645	\$	130	·	603,850		604,000
2	Reinforced Concrete Pipe 24"	LF	1,509		180				272,000
3	Reinforced Concrete Pipe 30"	LF	58		220	·			13,000
4	Reinforced Concrete Pipe 42"	LF	2,400	\$	325	·	780,000	\$	780,000
5	Reinforced Concrete Pipe 48" Reinforced Concrete Pipe 66"	LF LF	669	\$ \$	425 690		284,325	\$ \$	284,000
7	Concrete Manhole - 8'	Each	33 38	ې \$	10,650	\$ \$	22,770 404,700	ې \$	23,000
8	Curb Inlet	Each	76	\$	9,475	ې \$	720.100	\$	720,000
9	1-1/2" Asphalt	Ton	463		172	·	79,403	\$	79,000
10	10" Base	SY	6,151	\$	20	Ś	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
10	Mahilipatian	0/	70/	ć	4 1 6 1 0 0 0	ć	201 270	ć	201.000
16 17	Mobilization Maintenance of Traffic	%	7% 5%		4,161,000	_	291,270 208,050	\$ \$	291,000 208,000
17	Mantenalice of Hanc	%	1%		4,161,000		41,610	\$ \$	42,000
18	Blue-Green Stormwater Infrastructure (BGSI)	%	5%		4,161,000		208,050	ې \$	208,000
20	Utility Relocations	%	10%		4,161,000		416,100	\$	416,000
20	Additional Water Quality Improvements	%	10%		4,161,000		416,100	\$	416,000
22	Additional water Quality improvements	%	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%	Ś	4,161,000		1,664,400	\$	1,664,000
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	<u> </u>					
	B. Submersible Pump C. Flap Gate / Check Valve Valve	Each							
		E a ala	3						
		Each	3						
	D. Storm Drainage Bypass Piping	LF	3 100						
	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	LF Each	3 100 3						
	D. Storm Drainage Bypass Piping	LF	3 100						
26	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	LF Each LS Each	3 100 3 1 1				200 200		
28	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	LF Each LS	3 100 3 1 1	\$	826,267	\$	826,267	\$	826,00
28	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	LF Each LS Each LS	3 100 3 1 1 1	\$	826,267	\$	826,267	\$	826,00
28	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	LF Each LS Each LS LS	3 100 3 1 1 1 1	\$	826,267	\$	826,267	\$	826,00
28	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LF Each LS Each LS LS LS	3 100 3 1 1 1 1 1 1	\$	826,267	\$	826,267	\$	826,00
28	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	LF Each LS Each LS LS	3 100 3 1 1 1 1	\$	826,267	\$	826,267 <u>Subtotal</u>	\$	
28	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	LF Each LS Each LS LS LS	3 100 3 1 1 1 1 1 1	\$	826,267	\$		<u>\$</u>	826,000 7,839,000
28	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LF Each LS Each LS LS LS	3 100 3 1 1 1 1 1 1	\$			<u>Subtotal</u>	\$ \$	7,839,000 1,774,000
28	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	LF Each LS Each LS LS LS	3 100 3 1 1 1 1 1 1	\$				<u>\$</u>	7,839,00
29	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%)	LF Each LS Each LS LS LS LS LF	3 100 3 1 1 1 1 1 1 100 6%	\$	<u>Total Constr</u> 19,515,000	ructi \$	<u>Subtotal</u> ion Subtotal 1,170,900	\$ \$ \$ \$	7,839,00 1,774,00 19,515,00 1,171,00
29 30	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%)	LF Each LS Each LS LS LS LF	3 100 3 1 1 1 1 1 1 100 6% 5%	\$	<u>Total Constr</u> 19,515,000 19,515,000	s	<u>Subtotal</u> ion Subtotal 1,170,900 975,750	\$ \$ \$ \$ \$	7,839,00 1,774,000 19,515,00 1,171,000 976,000
29 30 31	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%)	LF Each LS Each LS LS LS LF % %	3 100 3 1 1 1 1 1 100 6% 5% 10%	\$\$\$	<u>Total Constr</u> 19,515,000 19,515,000 19,515,000	s \$	<u>Subtotal</u> <u>on Subtotal</u> <u>1,170,900</u> 975,750 1,951,500	\$ \$ \$ \$ \$ \$	7,839,00 1,774,00 19,515,00 1,171,00 976,00 1,952,00
29 30 31 32	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%) CEI Management (Owner's Representative) (5%)	LF Each LS LS LS LS LS LF	3 100 3 1 1 1 1 1 100 6% 5% 10% 5%	\$ \$ \$ \$	<u>Total Constr</u> 19,515,000 19,515,000 19,515,000	<i>ucti</i>	<u>Subtotal</u> on Subtotal 1,170,900 975,750 1,951,500 975,750	\$ \$ \$ \$ \$ \$ \$ \$	7,839,00 1,774,00 19,515,00 1,171,00 976,00 1,952,00 976,00
29 30 31	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%)	LF Each LS Each LS LS LS LF % %	3 100 3 1 1 1 1 1 100 6% 5% 10%	\$ \$ \$ \$ \$	<u>Total Constr</u> 19,515,000 19,515,000 19,515,000	\$ \$ \$ \$ \$	<u>Subtotal</u> on Subtotal 1,170,900 975,750 1,951,500 975,750	\$ \$ \$ \$ \$ \$ \$ \$	

<u>Total</u>

<u>\$ 27,810,000</u>

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

2 Rei 3 Rei 4 Rei 5 Rei 6 Rei 7 Rei 8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 S' V 16 Cur 17 Mo 18 Ma 20 Blu 21 Uti 22 Add 23 Abb 24 Wa 25 Sar 26 >10	Item Description einforced Concrete Pipe 18" einforced Concrete Pipe 24" einforced Concrete Pipe 30" einforced Concrete Pipe 48" einforced Concrete Pipe 54" einforced Concrete Pipe 54" einforced Concrete Pipe 78" concrete Manhole - 8' turb Inlet -1/2" Asphalt 0" Base 2" Subgrade III for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk turb Abbilization Abbilization Maintenance of Traffic Aaterial Testing Iu-Green Stormwater Infrastructure (BGSI)	Units LF LF LF LF LF Each Each Ton SY SY CY SY CY SY LF % %	Quantity 1,217 1,663 709 3,068 875 138 39 31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	Unit (\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Cost 130 180 220 425 505 580 1,075 10,650 9,475 172 200 6 27 7 27 31	\$ 2! \$ 1! \$ 1,31 \$ 4 \$ 4 \$ 3: \$ 4 \$ 4 \$ 3: \$ 3: \$ 3: \$ 1: \$ 1: \$ 2: \$ 1: \$ 2: \$ 1:	58,210 99,340 55,980 03,900 41,875 80,040 41,925 30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	the	unded to Nearest 1000 158,00 299,00 156,00 1,304,00 442,00 80,00 442,00 330,00 587,00 104,00 161,00 49,00 276,00 54,00 198,00 198,00 198,00 198,00 199,00 100 100 100 100 100 100 100
1 Rei 2 Rei 3 Rei 4 Rei 5 Rei 6 Rei 7 Rei 8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 5"V 16 Cur 17 Mo 18 Ma 20 Blu 21 Uti 22 Ado 23 Abb 24 Wa 25 Sar 26 >10	einforced Concrete Pipe 18" einforced Concrete Pipe 24" einforced Concrete Pipe 30" einforced Concrete Pipe 48" einforced Concrete Pipe 54" einforced Concrete Pipe 78" concrete Manhole - 8' turb Inlet -1/2" Asphalt 0" Base 2" Subgrade III for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk turb Abbilization Aaintenance of Traffic Aaterial Testing	LF LF LF LF LF Each Each Each Ton SY SY SY SY SY LF	1,217 1,663 709 3,068 875 138 39 31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	130 180 220 425 505 580 1,075 10,650 9,475 177 20 6 20 6 27 7 7 27	\$ 11 \$ 22 \$ 11 \$ 1,31 \$ 4 \$ 4 \$ 4 \$ 33 \$ 33 \$ 31 \$ 11 \$ 11 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12	58,210 99,340 55,980 03,900 41,875 80,040 41,925 30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	<pre>the \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$</pre>	e Nearest 1000 158,0 299,0 156,0 1,304,0 442,0 80,0 442,0 330,0 104,0 104,0 104,0 161,0 49,0 276,0 54,0 54,0 100 100 100 100 100 100 100 1
1 Rei 2 Rei 3 Rei 4 Rei 5 Rei 6 Rei 7 Rei 8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 5"V 16 Cur 17 Mo 18 Ma 20 Blu 21 Uti 22 Ado 23 Abb 24 Wa 25 Sar 26 >10	einforced Concrete Pipe 18" einforced Concrete Pipe 24" einforced Concrete Pipe 30" einforced Concrete Pipe 48" einforced Concrete Pipe 54" einforced Concrete Pipe 78" concrete Manhole - 8' turb Inlet -1/2" Asphalt 0" Base 2" Subgrade III for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk turb Abbilization Aaintenance of Traffic Aaterial Testing	LF LF LF LF LF Each Each Each Ton SY SY SY SY SY LF	1,217 1,663 709 3,068 875 138 39 31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	130 180 220 425 505 580 1,075 10,650 9,475 177 20 6 20 6 27 7 7 27	\$ 11 \$ 22 \$ 11 \$ 1,31 \$ 4 \$ 4 \$ 4 \$ 33 \$ 33 \$ 31 \$ 11 \$ 11 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12	58,210 99,340 55,980 03,900 41,875 80,040 41,925 30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1000 158,00 299,00 156,00 1,304,00 442,00 80,00 442,00 330,00 587,00 104,00 104,00 161,00 49,00 276,00 54,00
1 Rei 2 Rei 3 Rei 4 Rei 5 Rei 6 Rei 7 Rei 8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 5"V 16 Cur 17 Mo 18 Ma 20 Blu 21 Uti 22 Ado 23 Abb 24 Wa 25 Sar 26 >10	einforced Concrete Pipe 18" einforced Concrete Pipe 24" einforced Concrete Pipe 30" einforced Concrete Pipe 48" einforced Concrete Pipe 54" einforced Concrete Pipe 78" concrete Manhole - 8' turb Inlet -1/2" Asphalt 0" Base 2" Subgrade III for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk turb Abbilization Aaintenance of Traffic Aaterial Testing	LF LF LF LF LF Each Each Each Ton SY SY SY SY SY LF	1,217 1,663 709 3,068 875 138 39 31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	130 180 220 425 505 580 1,075 10,650 9,475 177 20 6 20 6 27 7 7 27	\$ 11 \$ 22 \$ 11 \$ 1,31 \$ 4 \$ 4 \$ 4 \$ 33 \$ 33 \$ 31 \$ 11 \$ 11 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12	58,210 99,340 55,980 03,900 41,875 80,040 41,925 30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	158,0 299,0 156,0 1,304,0 442,0 80,0 42,0 330,0 587,0 104,0 161,0 49,0 276,0 54,0
2 Rei 3 Rei 4 Rei 5 Rei 6 Rei 7 Rei 8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 S ¹ V 16 Cur 17 Mo 18 Ma 19 Ma 20 Blu 21 Uti 22 Add 23 Abb 24 Wa 25 Sar 26 >10	einforced Concrete Pipe 24" einforced Concrete Pipe 30" einforced Concrete Pipe 48" einforced Concrete Pipe 54" einforced Concrete Pipe 78" concrete Manhole - 8' turb Inlet -1/2" Asphalt 0" Base 2" Subgrade III for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk turb Abbilization Aaintenance of Traffic Aaterial Testing	LF LF LF LF Each Each Each Ton SY SY CY SY CY SY LF	1,663 709 3,068 875 138 39 31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	180 220 425 505 1,075 10,650 9,475 172 20 6 27 7 7 27	\$ 22 \$ 11 \$ 1,31 \$ 4 \$ 4 \$ 4 \$ 4 \$ 3 \$ 3 \$ 31 \$ 11 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12 \$ 12	99,340 55,980 03,900 41,875 80,040 41,925 30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	299,0 156,0 1,304,0 442,0 80,0 42,0 330,0 587,0 104,0 161,0 49,0 276,0 54,0
3 Rei 4 Rei 5 Rei 6 Rei 7 Rei 8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 5" \u00e4 16 Cur 17 Ma 20 Blu 21 Uti 22 Add 23 Abc 24 Wa 25 Sar 26 >10	einforced Concrete Pipe 30" einforced Concrete Pipe 48" einforced Concrete Pipe 54" einforced Concrete Pipe 60" einforced Concrete Pipe 78" ioncrete Manhole - 8' urb Inlet -1/2" Asphalt 0" Base 2" Subgrade ill for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk urb Mobilization Aaintenance of Traffic Aaterial Testing	LF LF LF LF Each Each Ton SY SY CY SY SY LF	709 3,068 875 138 39 31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	220 425 505 1,075 10,650 9,475 172 20 6 27 7 7 27	\$ 11 \$ 1,30 \$ 44 \$ 5 \$ 33 \$ 55 \$ 16 \$ 16 \$ 17 \$ 27 \$ 27 \$ 27 \$ 27 \$ 27 \$ 27 \$ 27 \$ 27 \$ 28 \$ 28 \$ 28 \$ 28 \$ 28 \$ 39 \$ 10 \$ 39 \$ 39	55,980 03,900 41,875 80,040 41,925 30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	156,C 1,304,C 442,C 80,C 42,C 330,C 587,C 104,C 161,C 49,C 276,C 54,C
4 Rei 5 Rei 6 Rei 7 Rei 8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 S' \v 16 Cur 17 Mo 18 Ma 20 Blu 21 Uti 22 Add 23 Abb 24 Wa 25 Sar 26 >10	einforced Concrete Pipe 48" einforced Concrete Pipe 54" einforced Concrete Pipe 60" einforced Concrete Pipe 78" concrete Manhole - 8' urb Inlet -1/2" Asphalt 0" Base 2" Subgrade ill for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk urb Abbilization Maintenance of Traffic Material Testing	LF LF LF Each Ton SY SY CY SY SY LF	3,068 875 138 39 31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	425 505 580 1,075 10,650 9,475 172 20 6 6 27 7 7 27	\$ 1,33 \$ 44 \$ 5 \$ 33 \$ 55 \$ 33 \$ 55 \$ 14 \$ 14 \$ 14 \$ 2 \$ 2 \$ 2 \$ 2 \$ 2 \$ 2 \$ 3 \$ 14 \$ 2 \$ 3 \$ 3 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5	03,900 41,875 80,040 41,925 30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,304,(442,(80,(42,(330,(587,(104,(161,(49,(276,(54,(54,(
5 Rei 6 Rei 7 Rei 8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 5" \ 16 Cur 17 Ma 19 Ma 20 Blu 21 Uti 22 Add 23 Abb 24 Wa 25 Sar 26 >10	einforced Concrete Pipe 54" einforced Concrete Pipe 60" einforced Concrete Pipe 78" concrete Manhole - 8' curb Inlet -1/2" Asphalt 0" Base 2" Subgrade ill for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk turb Abbilization Maintenance of Traffic Material Testing	LF LF LF Each Ton SY SY CY SY SY LF %	875 138 39 31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	505 580 1,075 9,475 172 20 6 27 7 7 27	\$ 44 \$ 4 \$ 4 \$ 4 \$ 4 \$ 4 \$ 4	41,875 80,040 41,925 30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	442,0 80,0 42,0 330,0 587,0 104,0 161,0 49,0 276,0 54,0
6 Rei 7 Rei 8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 5 ' \vee 16 Cur 17 Mo 18 Ma 20 Blu 21 Uti 22 Add 23 Abo 24 Wa 25 Sar 26 >10	einforced Concrete Pipe 60" einforced Concrete Pipe 78" concrete Manhole - 8' turb Inlet -1/2" Asphalt 0" Base 2" Subgrade III for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk turb Abbilization Maintenance of Traffic Material Testing	LF LF Each Ton SY SY CY SY SY LF	138 39 31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	580 1,075 10,650 9,475 172 20 6 27 7 7 27	\$ 3 \$ 3 \$ 5 \$ 11 \$ 12 \$ 2 \$ 2 \$ 11 \$ 2 \$ 11 \$ 2 \$ 12 \$ 12 \$ 4	80,040 41,925 30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	80,(42,(330,(587,(104,(161,(49,(276,(54,(
7 Rei 8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 5" \\ 16 Cur 17 Mo 18 Ma 19 Ma 20 Blu 21 Uti 22 Ado 23 Abb 24 Wa 25 Sar 26 >10	einforced Concrete Pipe 78" ioncrete Manhole - 8' iurb Inlet -1/2" Asphalt 0" Base 2" Subgrade Ill for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk iurb Abbilization Aaintenance of Traffic Aaterial Testing	LF Each Each Ton SY SY CY SY SY LF	39 31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1,075 10,650 9,475 172 20 6 27 7 27	\$ 33 \$ 35 \$ 11 \$ 11 \$ 2 \$ 2 \$ 2 \$ 2 \$ 12 \$ 4	41,925 30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	42,(330,(587,(104,(161,(161,(49,(276,(54,(
8 Cor 9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 5" V 16 Cur 17 Mo 18 Ma 20 Blu 21 Uti 22 Add 23 Abb 24 Wa 25 Sar 26 >10	Concrete Manhole - 8' Turb Inlet -1/2" Asphalt 0" Base 2" Subgrade III for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk Urb Abbilization Aaintenance of Traffic Aaterial Testing	Each Each Ton SY SY CY SY SY LF	31 62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	10,650 9,475 172 20 6 27 7 7 27	\$ 33 \$ 55 \$ 11 \$ 11 \$ 2 \$ 2 \$ 2 \$ 2 \$ 2 \$ 2 \$ 2 \$ 3 \$ 3 \$ 3 \$ 3 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5	30,150 87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	330, 587, 104, 161, 49, 276, 54,
9 Cur 10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 5" \v 16 Cur 17 Mo 18 Ma 20 Blu 21 Uti 22 Ado 23 Abo 24 Wa 25 Sar 26 >10	urb Inlet -1/2" Asphalt 0" Base 2" Subgrade Ill for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk urb Abbilization Aaintenance of Traffic Aaterial Testing	Each Ton SY CY CY SY SY LF	62 604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	9,475 172 20 6 27 7 27	\$ 5i \$ 1i \$ 1i \$ 2i \$ 2i \$ 1i	87,450 03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	587, 104, 161, 49, 276, 54,
10 1-1 11 10" 12 12" 13 Fill 14 Soc 15 5' V 16 Cur 17 Mo 18 Ma 19 Ma 20 Blu 21 Uti 22 Add 23 Abd 24 Wa 25 Sar 26 >10	-1/2" Asphalt 0" Base 2" Subgrade ill for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk urb Abbilization Aaintenance of Traffic Aaterial Testing	Ton SY SY CY SY SY LF	604 8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$ \$ \$ \$	172 20 6 27 7 27	\$ 10 \$ 10 \$ 22 \$ 22 \$ 19 \$ 19	03,588 60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$ \$	104, 161, 49, 276, 54,
11 10" 12 12" 13 Fill 14 Soc 15 5" \ 16 Cur 17 Mo 18 Ma 19 Ma 20 Blu 21 Uti 22 Add 23 Abo 24 Wa 25 Sar 26 >10	0" Base 2" Subgrade ill for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk urb Abbilization Aaintenance of Traffic Aaterial Testing	SY SY CY SY SY LF	8,034 8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$ \$	20 6 27 7 27	\$ 10 \$ 2 \$ 2 \$ 19 \$ 19 \$ 19 \$ 40	60,673 49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$ \$	161,0 49,0 276,0 54,0
12 12" 13 Fill 14 Soc 15 S' V 16 Cur 17 Mo 18 Ma 19 Ma 20 Blu 21 Uti 22 Add 23 Abb 24 Wa 25 Sar Me 26 >10	2" Subgrade ill for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk turb Abbilization Aaintenance of Traffic Aaterial Testing	SY CY SY SY LF	8,402 10,221 7,362 7,362 13,252	\$ \$ \$ \$	6 27 7 27	\$ 2 \$ 2 \$ 1 \$ 1 \$ 4	49,309 75,958 54,012 97,903 15,597	\$ \$ \$ \$	49, 276, 54,
13 Fill 14 Social 15 5' V 16 Cur 17 Mo 18 Ma 19 Ma 20 Blu 21 Uti 22 Add 23 Abc 24 Wa 25 Sar 26 >10	ill for Road Raising (Assuming Two Feet in the Right-of-Way) odding ' Wide Sidewalk urb Aobilization Aaintenance of Traffic Aaterial Testing	CY SY SY LF	10,221 7,362 7,362 13,252	\$ \$ \$	27 7 27	\$ 2 \$ 2 \$ 1 \$ 1 \$ 4	75,958 54,012 97,903 15,597	\$ \$ \$	276,0 54,0
14 Soc 15 S'V 16 Cur 17 Mo 18 Ma 19 Ma 20 Blu 21 Uti 22 Add 23 Abb 24 Wa 25 Sar 24 Wa 25 Sar	odding ' Wide Sidewalk urb Aobilization Aaintenance of Traffic Aaterial Testing	SY SY LF	7,362 7,362 13,252	\$ \$	7 27	\$ \$ 19 \$ 4	54,012 97,903 15,597	\$ \$	54,0
15 5 V 16 Cur 17 Mo 18 Ma 19 Ma 20 Blu 21 Uti 22 Ado 23 Abb 24 Wa 25 Sar 26 >10	' Wide Sidewalk aurb Aobilization Aaintenance of Traffic Aaterial Testing	SY LF %	7,362 13,252	\$	27	\$ 19 \$ 4	97,903 15,597	\$,
16 Cur 17 Mo 18 Ma 19 Ma 20 Blu 21 Uti 22 Ado 23 Abo 24 Wa 25 Sar 26 >10	urb Aobilization Aaintenance of Traffic Aaterial Testing	LF %	13,252			\$ 4	15,597		198,
17 Mo 18 Ma 19 Ma 20 Blu 21 Uti 22 Ado 23 Abo 24 Wa 25 Sar 26 >10	Aobilization Aaintenance of Traffic Aaterial Testing	%	· ·	Ş	31		,	Ş	,
18 Ma 19 Ma 20 Blu 21 Uti 22 Add 23 Abd 24 Wa 25 Sar Me 26 >10	Aaintenance of Traffic Aaterial Testing					Subtota		4	416,
18 Ma 19 Ma 20 Blu 21 Uti 22 Add 23 Abd 24 Wa 25 Sar Me 26 >10	Aaintenance of Traffic Aaterial Testing					544000	1	<u>\$</u>	4,656,
18 Ma 19 Ma 20 Blu 21 Uti 22 Add 23 Abd 24 Wa 25 Sar Me 26 >10	Aaintenance of Traffic Aaterial Testing		7%	ć 1	656,000	\$ 33	25,920	Ś	326,
19 Ma 20 Blu 21 Uti 22 Ado 23 Abo 24 Wa 25 Sar Me 26 >10	Naterial Testing	/0	5%	. ,	656,000		32,800	\$ \$	233,
20 Blu 21 Uti 22 Add 23 Abb 24 Wa 25 Sar 26 >10		%	1%	. ,	656,000	•	46,560	\$	47
21 Uti 22 Ada 23 Aba 24 Wa 25 Sar 26 >10		%	1%		656,000		46,560 32.800	\$ \$	233
22 Add 23 Abd 24 Wa 25 Sar 26 >10	Itility Relocations	%	5%	. ,	656,000	•	65,600	\$ \$	466
23 Abu 24 Wa 25 Sar 26 >10	ditional Water Quality Improvements	%	10%	. ,	656,000		65,600	\$ \$	
24 Wa 25 Sar 26 >10	boveground Components	%	20%		656,000		31,200	\$ \$	466, 931,
25 Sar 26 >10	· · ·	%	40%	. ,	656,000		62,400	\$ \$	1,862,
Me 26 >10	Vater Main Distribution/Transmission System Improvements anitary Sewer Collection System Improvements	%	40%		656,000		62,400	ې \$	1,862,
26 >10	anitary sewer conection system improvements	70	40%	у ч ,	030,000	Subtota		\$	6,426,
26 >10						<u>ouxtotu</u>	•	*	
26 >10	Nembrane Filtration (per cfs pumped) for Pump Stations with a capacity of								
	100 cfs	cfs	178	\$	15,890	\$ 2,8	28,420	\$	2,828,
	lydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of			Ŧ		<i>+</i> _/-		τ	
	100 cfs	cfs	178	\$	13,000	\$ 2,3	14,000	\$	2,314,
	tormwater Pump Station (135.9 cfs + round up to nearest whole pump)	cfs	178	\$	41,697		22,066	\$	7,422,
	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						
	Outfall Structures	LS	1	\$1,	319,800	\$ 1,3	19,800	\$	1,320,
	Outfall Structure Includes:								
		LS	1						
	A. Turbidity Barrier	LS	1						
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LF	160						
						<u>Subtota</u>	<u>l</u>	<u>\$</u>	13,884,

	Estimating Contingency (10%)						\$	2,497,000
				Total Constr	uction S	Subtotal	Ş	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
						<u>Subtotal</u>	\$	<u>11,671,000</u>

<u>Total</u> \$ 39,134,000

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

								Total Cost
								ounded to
							t	he Nearest
ltem No.	Item Description	Units	Quantity	Unit Cost		Total Cost		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 1-1/2" Asphalt	Each	72	\$ 9,475 \$ 172	\$ \$	682,200	_	682,000
6	1-1/2 Asphalt 10" Base	Ton SY	10,387		ې \$	133,774 207,731	\$ \$	208,000
7	12" Subgrade	SY	10,387		\$	63,817	\$	64,000
8	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	13,199		\$	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
						<u>Subtotal</u>	<u>\$</u>	5,686,000
12	Mobilization	%	7%	\$ 5,686,000	\$	398,020	ć	398,000
12	Maintenance of Traffic	%	5%	\$ 5,686,000	ې \$	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
						<u>Subtotal</u>	<u>\$</u>	7,846,000
	PUMP STATIONS							
	Membrane Filtration (per cfs pumped) for Pump Stations with a				1			
16	capacity of 21-40 cfs	cfs	25	\$ 21,000	\$	525,000	\$	525,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a				Ĺ	,		
17	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 C. Flap Gate / Check Valve Valve	Each Each	2					
	D. Storm Drainage Bypass Piping	Lacii	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	Ş	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					
							-	
	Membrane Filtration (per cfs pumped) for Pump Stations with a							
1	capacity of 21-40 cfs	cfs	25	\$ 21,000	\$	525,000	\$	525,000
	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a							
2	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs	cfs	25	\$ 15,000	\$	375,000	\$	375,000
	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station (21-40 cfs capacity)				\$		\$	375,000
2	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs	cfs	25	\$ 15,000	\$	375,000	\$	375,000
2	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station (21-40 cfs capacity) Pump Station Components Include:	cfs cfs	25 25	\$ 15,000	\$	375,000	\$	375,00
2	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station (21-40 cfs capacity) Pump Station Components Include: A. Wet Well/Weir Structure	cfs cfs Each	25 25 1 2 2	\$ 15,000	\$	375,000	\$	375,00
2	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station (21-40 cfs capacity) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	cfs cfs Each Each Each LF	25 25 1 2 2 2 100	\$ 15,000	\$	375,000	\$	375,000
2	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	cfs cfs Each Each Each LF Each	25 25 1 2 2 2 100 2	\$ 15,000	\$	375,000	\$	375,00
2	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	cfs cfs Each Each Each LF Each LS	25 25 1 2 2 2 100 2 1	\$ 15,000	\$	375,000	\$	375,00
2	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	cfs cfs Each Each Each LF Each	25 25 1 2 2 2 100 2	\$ 15,000	\$	375,000	\$	375,00
2 3	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station (21-40 cfs capacity) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	cfs cfs Each Each Each LF Each LS Each	25 25 1 2 2 2 100 2 1 1 1	\$ 15,000 \$ 70,000	\$ \$	375,000 1,750,000	\$	375,000 1,750,000
2	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	cfs cfs Each Each Each LF Each LS	25 25 1 2 2 2 100 2 1	\$ 15,000 \$ 70,000	\$ \$	375,000	\$	375,000 1,750,000
2 3	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station (21-40 cfs capacity) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	cfs cfs Each Each Each LF Each LS Each	25 25 1 2 2 2 100 2 1 1 1	\$ 15,000 \$ 70,000	\$ \$	375,000 1,750,000	\$	375,000 1,750,000
2 3	capacity of 21-40 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 21-40 cfs Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	cfs cfs Each Each LF Each LS Each LS	25 25 1 2 2 2 2 2 100 2 2 1 1 1 1 1	\$ 15,000 \$ 70,000	\$ \$	375,000 1,750,000	\$	525,000 375,000 1,750,000 497,000

	Estimating Contingency (10%)					\$	1,983,000
				Total Constr	uction Subtotal	<u>\$</u>	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	Ś	9,269,000

<u>Total</u> <u>\$ 31,078,000</u>

City of Miami Beach

Engineer's Preliminary Opinion of Probable Costruction Cost Venetian Islands A

	Venetian	Sianu	5 A				
						Т	otal Cost
						D.	ounded to
						th	e Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		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	\$	1,821,00
4	Concrete Manhole - 8'	Each	97	\$ 10,650	\$ 1,033,050	\$	1,033,00
5	Curb Inlet	Each	194	\$ 9,475	\$ 1,838,150	\$	1,838,00
6	1-1/2" Asphalt	Ton	2,811	\$ 172	\$ 482,286	\$	482,00
7	10" Base	SY	37,025	\$ 20	\$ 740,494	\$	740,00
8	12" Subgrade	SY	38,360	\$6	\$ 225,133	\$	225,00
9	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	47,586	\$ 27	\$ 1,284,812	\$	1,285,00
10	Sodding	SY	26,709	\$ 7	\$ 195,942	\$	196,00
11	5' Wide Sidewalk	SY	26,709	\$ 27	\$ 717,939	\$	718,00
12	Curb	LF	48,076	\$ 31	\$ 1,507,673	\$	1,508,00
					Subtotal	\$	17,820,00
13	Mobilization	%	7%	\$ 17,820,000	\$ 1,247,400	Ś	1,247,00
13	Maintenance of Traffic	%	5%	\$ 17,820,000			891,00
15	Material Testing	%	1%	1 7 7			178,00
16	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 17,820,000			891,00
10	Utility Relocations	%	10%	\$ 17,820,000			1.782.00
17	Additional Water Quality Improvements	%	10%	\$ 17,820,000			1,782,00
19	Additional Water Quality Improvements Aboveground Components	%	20%	\$ 17,820,000			3,564,00
20	Water Main Distribution/Transmission System Improvements	%	40%	\$ 17,820,000			7,128,00
20		%	40%	\$ 17,820,000			
21	Sanitary Sewer Collection System Improvements	%	40%	\$ 17,820,000	\$ 7,128,000 Subtotal	\$	7,128,00 24,591,00
	PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a					1.	
21	capacity of >100 cfs	cfs	135	\$ 15,890	\$ 2,145,150	\$	2,145,00
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a						
22	capacity of >100 cfs	cfs	135	\$ 13,000	, , , , , , , , , , , , , , , , , , , ,		1,755,00
23	Pump Station (180 cfs capacity)	cfs	135	\$ 41,697	\$ 5,629,095	\$	5,629,00
	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	\$	1,073,00
	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				
-	Mombrane Filtration (per of numped) for Rump Stations with a					1	

	C. Seawall with Dissipator	LF	100				1		
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1						
	A. Turbidity Barrier	LS	1						
20	Outfall Structures		1	Ý Ó	520,207	Ŷ	020,207	Ŷ	020,00
28	Outfall Structures	LS	1	\$ 8	826,267	\$	826,267	\$	826,0
	G. Emergency Generator	Each	1						
	F. Electrical Equipment/Enclosure	LS Each	1						
	E. Watertight Wet Well Hatches	Each	3						
	D. Storm Drainage Bypass Piping	LF	100						
	C. Flap Gate / Check Valve Valve	Each	3						
	A. wet well/ well structure B. Submersible Pump	Each	3						
	A. Wet Well/ Weir Structure	Each	1						
21	Pump Station (89 cis capacity) Pump Station Components Include:	LIS	89	Ŷ		Ý	3,027,000	د	3,027,
26	capacity of 41-100 cfs Pump Station (89 cfs capacity)	cfs cfs	89	\$ \$		\$ \$	1,424,000 3,827,000		1,424, 3,827,
26	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	-6-		<i>c</i>	10.000	÷	1 434 666	Ċ.	1 474
25	capacity of 41-100 cfs	cfs	89	\$	19,800	\$	1,762,200	\$	1,762,
	Membrane Filtration (per cfs pumped) for Pump Stations with a								-
	C. Seawall with Dissipator	LF	100						
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1						
	A. Turbidity Barrier	LS	1						
	Outfall Structure Includes:								
26	Outfall Structures	LS	1	\$ 8	826,267	\$	826,267	\$	826,
	G. Emergency Generator	Each	1						
	F. Electrical Equipment/Enclosure	LS	1						
	E. Watertight Wet Well Hatches	Each	3						
	D. Storm Drainage Bypass Piping	LF	100						
	C. Flap Gate / Check Valve Valve	Each	3						
	B. Submersible Pump	Each	3						
	A. Wet Well/ Weir Structure	Each	1						
	Pump Station Components Include:								
25	Pump Station (89 cfs capacity)	cfs	89	\$	43,000	\$	3,827,000	\$	3,827,
24	capacity of 41-100 cfs	cfs	89	\$		\$	1,424,000		1,424,
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a								
23	capacity of 41-100 cfs	cfs	89	Ś	19,800	\$	1,762,200	\$	1,762,
	Membrane Filtration (per cfs pumped) for Pump Stations with a								
	c. seawaii witii bissipatoi	LF	130						
	C. Seawall with Dissipator	LF	130				-		
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1						
	A. Turbidity Barrier	LS	1						
24	Outfall Structures Outfall Structure Includes:	LS	1	\$ 1,0	073,033	\$	1,073,033	Ş	1,073,
24		10		<u> </u>			4 072 022		4.072
	G. Emergency Generator	Each	1						
	F. Electrical Equipment/Enclosure	LS	1						
	E. Watertight Wet Well Hatches	Each	5						

\$ 6,869,000 \$ **75,560,000**

 Estimating Contingency (10%)
 S

 Total Construction Subtotal
 S

25 26	CEI Management (Owner's Representative) (5%) Construction Contingency (10%)	%	5% 10%	75,560,000	3,778,000 7,556,000	-	3,778,000 7,556,000
27	CIP Management Fee (6.5%)	%	6.5%	75,560,000	4,911,400 Subtotal		4,911,000 32,113,000

<u>Total \$ 107,673,000</u>

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

							Total Cost
							Rounded to
							the Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 18"	LF	3,770		. ,		
2	Reinforced Concrete Pipe 24"	LF	2,406				,
3	Reinforced Concrete Pipe 30"	LF	1,488		. ,		327,00
4	Reinforced Concrete Pipe 36"	LF	1,152	\$ 280	. ,		323,00
5	Reinforced Concrete Pipe 42" Reinforced Concrete Pipe 60"	LF LF	315	\$ 325	. ,	-	102,00
6 7	Concrete Manhole - 8'	Each	78 37	\$ 580 \$ 10,650			45,00
8	Curb Inlet	Each	74	\$ 9,475	. ,		701,00
9	1-1/2" Asphalt	Ton	486	. ,	. ,		83,00
10	10" Base	SY	6,416	•			128,00
11	12" Subgrade	SY	6,661	•	. ,		39,00
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	8,229				222,00
13	Sodding	SY	4,891				36,00
14	5' Wide Sidewalk	SY	4,891				131,00
15	Curb	LF	8,804	•	\$ 276,08	-	276,0
10			0,001	ý Ol	Subtotal	\$	3,730,0
16	Mobilization	%	7%				261,00
17	Maintenance of Traffic	%	5%				187,00
18	Material Testing	%	1%				37,00
19	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 3,730,000			187,0
20	Utility Relocations	%	10%	\$ 3,730,000			373,0
21	Additional Water Quality Improvements	%	10%	\$ 3,730,000			373,0
22	Aboveground Components	%	20%	\$ 3,730,000		-	746,0
23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 3,730,000		_	1,492,0
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 3,730,000			1,492,00
					<u>Subtotal</u>	<u>\$</u>	5,148,00
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-	1				_	
25	100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	n s	1,762,00
25	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity	615	05	Ş 19,000	<i>y</i> 1,702,200	<i>,</i> ,	1,7 02,00
26	of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	0\$	1,424,00
27	Stormwater Pump Station (87 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000			3,827,00
	Pump Station Components Include:			1	,. ,	<u> </u>	-/- /-
	A. Wet Well/ Weir Structure	Each	1			_	
	A. Wet Well/ Weir Structure B. Submersible Pump	Each Each	1			+	
	B. Submersible Pump	Each	3				
	B. Submersible Pump C. Flap Gate / Check Valve Valve	Each Each	3				
	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	Each Each LF	3 3 100				
	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	Each Each LF Each	3 3 100 3				
	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	Each Each LF Each LS Each	3 3 100 3 1 1				
28	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	Each Each LF Each LS	3 3 100 3 1 1	\$ 826,267	\$ 826,26	7 \$	826,0
28	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	Each Each LF Each LS Each LS LS	3 3 100 3 1 1 1	\$ 826,267	\$ 826,26	7 \$	826,0
28	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures A. Turbidity Barrier	Each Each LF Each LS Each LS LS	3 3 100 3 1 1 1 1	\$ 826,267	\$ 826,26	7 \$	826,0
28	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	Each Each LF Each LS Each LS LS LS	3 3 100 3 1 1 1 1 1 1	\$ 826,267	\$ 826,26	7 \$	826,0
28	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures A. Turbidity Barrier	Each Each LF Each LS Each LS LS	3 3 100 3 1 1 1 1	\$ 826,267			826,00
28	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	Each Each LF Each LS Each LS LS LS	3 3 100 3 1 1 1 1 1 1	\$ 826,267	\$ 826,26	7 \$ 5	
28	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	Each Each LF Each LS Each LS LS LS	3 3 100 3 1 1 1 1 1 1	\$ 826,267		\$	7,839,0
28	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	Each Each LF Each LS Each LS LS LS	3 3 100 3 1 1 1 1 1 1				7,839,0
	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%)	Each Each LF Each LS Each LS LS LS LS LS LF	3 3 100 3 1 1 1 1 1 1 100	Total Const	Subtotal	\$ \$ \$	7,839,0 1,672,0 18,389,0
29	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%)	Each Each LF Each LS Each LS LS LS LS LS LF	3 3 100 3 1 1 1 1 1 1 100	Total Const. \$ 18,389,000	Subtotal Subtotal (\$ 1,103,344	\$ \$ \$ 0 \$	7,839,0 1,672,0 18,389,0 1,103,0
29 30	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%)	Each Each LF Each LS LS LS LS LS LS LF	3 3 100 3 1 1 1 1 1 1 100 6% 5%	Total Const. \$ 18,389,000 \$ 18,389,000	Subtotal ruction Subtotal \$ 1,103,344 \$ 919,450	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,839,0 1,672,0 18,389,0 1,103,0 919,0
29 30 31	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%)	Each Each LF Each LS LS LS LS LS LS LS KF	3 3 100 3 1 1 1 1 1 100 100	Total Const. \$ 18,389,000 \$ 18,389,000 \$ 18,389,000 \$ 18,389,000	Subtotal ruction Subtotal \$ 1,103,344 \$ 919,456 \$ 1,838,900	\$ \$ \$ 0 \$ 0 \$ 0 \$	7,839,0 1,672,0 18,389,0 1,103,0 919,0 1,839,0
29 30 31 32	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%) CEI Management (Owner's Representative) (5%)	Each Each LF Each LS LS LS LS LS LS LS K % %	3 3 100 3 1 1 1 1 1 100 100 6% 5% 5%	Total Const \$ 18,389,000 \$ 18,389,000 \$ 18,389,000 \$ 18,389,000 \$ 18,389,000	Subtotal \$ 1,103,344 \$ 919,450 \$ 1,838,900 \$ 919,451	\$ \$ \$ 0 \$ 0 \$ 0 \$ 0 \$	7,839,00 1,672,00 18,389,00 1,103,00 919,00 1,839,00 919,00
29 30 31	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Estimating Contingency (10%) Program/Construction Management (PM) Fee (6%) Permitting Fee (5%) Architect/Engineering (A/E) Fee (10%)	Each Each LF Each LS LS LS LS LS LS LS KF	3 3 100 3 1 1 1 1 1 100 100	Total Const \$ 18,389,000 \$ 18,389,000 \$ 18,389,000 \$ 18,389,000 \$ 18,389,000 \$ 18,389,000 \$ 18,389,000	Subtotal \$ 1,103,344 \$ 919,450 \$ 1,838,900 \$ 919,451 \$ 1,838,900	\$ \$	7,839,0 1,672,0 18,389,0 1,103,0 919,0 1,839,0

26,203,000 <u>Total</u> <u>\$</u>

<u>\$</u>

1,195,000 7,814,000

<u>Subtotal</u>

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

						Т	otal Cost
							ounded to
						th	e Nearest
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost		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 LF	6,015	\$ 280	\$ 1,684,200		1,684,000
5	Reinforced Concrete Pipe 42" Reinforced Concrete Pipe 48"	LF	429	\$ 325 \$ 425	\$ 139,425 \$ 1,713,600		139,000
7	Reinforced Concrete Pipe 48 Reinforced Concrete Pipe 54"	LF	4,032 3,043	\$ 425 \$ 505	\$ 1,713,600		1,714,000
8	Reinforced Concrete Pipe 60"	LF	835	\$ 580	\$ 484,300		484,00
9	Reinforced Concrete Pipe 66"	LF	138	\$ 690	\$ 95,220	-	95,00
10	Reinforced Concrete Pipe 72"	LF	409	\$ 925	\$ 378,325		378,00
11	Reinforced Concrete Pipe 84"	LF	1,138	\$ 1,200	\$ 1,365,600		1,366,00
12	Concrete Manhole - 8'	Each	139		\$ 1,480,350		1,480,00
13	Curb Inlet	Each	278	\$ 9,475	\$ 2,634,050	-	2,634,00
14	1-1/2" Asphalt	Ton	3,009				516,00
15	10" Base	SY	39,289		\$ 785,788		786,00
16	12" Subgrade	SY	40,368	•			237,00
17	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	50,947		\$ 1,375,581		1.376.00
18	Sodding	SY	21,576		\$ 158,286		158,00
19	5' Wide Sidewalk	SY	21,576		\$ 579,966		580,00
20	Curb	LF	38,837		\$ 1,217,930		1,218,00
					Subtotal	<u>\$</u>	19,729,00
21	Mobilization	%	7%	\$ 19,729,000	\$ 1,381,030	\$	1,381,00
21	Maintenance of Traffic	%	5%	\$ 19,729,000		-	986.00
22	Material Testing	%	1%	\$ 19,729,000	\$ 197,290	-	197,00
23	-	%	5%				986,00
24	Blue-Green Stormwater Infrastructure (BGSI) Utility Relocations	%	5%	\$ 19,729,000 \$ 19,729,000	\$ 986,450 \$ 1,972,900		1,973,00
25	Additional Water Quality Improvements	%	10%	\$ 19,729,000	\$ 1,972,900		1,973,00
20	Additional Water Quality Improvements Aboveground Components	%	20%	\$ 19,729,000	\$ 3,945,800	\$	3,946,00
28	Water Main Distribution/Transmission System Improvements	%	40%	\$ 19,729,000	\$ 7,891,600	\$	7,892,00
29	Sanitary Sewer Collection System Improvements	%	40%	\$ 19,729,000	\$ 7,891,600	\$	7,892,00
		,-		+	Subtotal	<u>\$</u>	27,226,00
	PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a		1			1	
30		cfs	312	ć 15.000	¢ 4.057.000	~	4 059 00
30	capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	CIS	312	\$ 15,890	\$ 4,957,680	Ş	4,958,00
31	capacity of >100 cfs	cfs	312	\$ 13,000	\$ 4,056,000	ć	4,056,00
32	Pump Station (311.5 cfs)	cfs	312	\$ 13,000	\$ 13,009,464		13,009,00
52	Pump Station Components Include:	015	512	\$ 41,037	\$ 13,003,404	Ş	13,009,00
	A. Wet Well/ Weir Structure	Each	1				
	B. Submersible Pump	Each	9				
	C. Flap Gate / Check Valve Valve	Each	9			1	
	D. Storm Drainage Bypass Piping	Lacii	100			1	
	E. Watertight Wet Well Hatches	Each	9			1	
	F. Electrical Equipment/Enclosure	LUCIN	1		1	1	
	G. Emergency Generator	Each	1				
				A			
33	Outfall Structures	LS	1	\$ 1,977,844	\$ 1,977,844	Ş	1,978,00
	Outfall Structure Includes:	16					
	A. Turbidity Barrier	LS	1				
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS LF	1 240				
	C. Seawall with Dissipator	LF	240		Subtotal	\$	24,001,00
						-	,)•
	Estimating Contingency (10%)					\$	7,096,00
				<u>I otal Constr</u>	uction Subtotal	<u>\$</u>	78,052,00
24	Brogram (Construction Management (BM) Fee (6%)		C0/	¢ 78 052 000	¢ 1,692,120		4 692 00

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
					<u>Subtotal</u>	\$ 33,172,000

<u>Total</u>

<u>\$ 111,224,000</u>

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

						Total	Cost
						Round	ed to
						the Ne	ares
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost	100	
1	Reinforced Concrete Pipe 24"	LF	11,182	\$ 180	\$ 2,012,760		2,013,0
2	Reinforced Concrete Pipe 30"	LF	904	\$ 220	\$ 198,880	-	199,0
3	Reinforced Concrete Pipe 36"	LF	1,116	\$ 280	\$ 312,480		312,0
4	Reinforced Concrete Pipe 42"	LF	4,120	\$ 325	\$ 1,339,000		1,339,0
5	Reinforced Concrete Pipe 48" Reinforced Concrete Pipe 54"	LF LF	2,151 597	\$ 425 \$ 505	\$ 914,175 \$ 301,485	Ş	914,0 301,0
7	Reinforced Concrete Pipe 54 Reinforced Concrete Pipe 60"	LF	2,650	\$ 580	\$ 1,537,000	\$ \$ 1	1,537,
8	Reinforced Concrete Pipe 72"	LF	130	\$ 925	\$ 120,250		120,
9	Concrete Manhole - 8'	Each	92	\$ 10,650	\$ 979,800		980,
10	Curb Inlet	Each	184	\$ 9,475	\$ 1,743,400		1,743,
11	1-1/2" Asphalt	Ton	1,333	\$ 172	\$ 228,685		229,
12	10" Base	SY	17,720		\$ 354,399	\$	354
13 14	12" Subgrade	SY CY	18,517 22,564		\$ 108,676		109 609
14	Fill for Road Raising (Assuming Two Feet in the Right-of-Way) Sodding	SY	15,945		\$ 609,218 \$ 116,972		117
16	5' Wide Sidewalk	SY	15,945		\$ 428,590		429
17	Curb	LF	28,700		\$ 900,038		900
					<u>Subtotal</u>	<u>\$ 12</u>	2,205,
			_		1	1.	<u> </u>
18	Mobilization	%	7%	\$ 12,205,000	\$ 854,350	-	854
19 20	Maintenance of Traffic Material Testing	%	5% 1%	\$ 12,205,000 \$ 12,205,000	\$ 610,250 \$ 122,050	\$ \$	610 122
20	Blue-Green Stormwater Infrastructure (BGSI)	%	1%	\$ 12,205,000	\$ 610,250	\$	610
21	Utility Relocations	%	5%	\$ 12,205,000	\$ 1,220,500		1,221
23	Additional Water Quality Improvements	%	10%	\$ 12,205,000	\$ 1,220,500	-	1,221
24	Aboveground Components	%	20%	\$ 12,205,000	\$ 2,441,000	\$ 2	2,441
25	Water Main Distribution/Transmission System Improvements	%	40%	\$ 12,205,000	\$ 4,882,000		4,882
26	Sanitary Sewer Collection System Improvements	%	40%	\$ 12,205,000	\$ 4,882,000 Subtotal		4,882 6,843
20	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	efe.	80	¢ 16.000	¢ 1.424.000	ė 1	1 4 7 4
28	capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000		1,424
29	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include:	cfs	89	\$ 43,000	\$ 3,827,000	\$ 3	3,827
	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					
		Cash	100				
	E. Watertight Wet Well Hatches	Each	3				
	E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	Each LS Each					
	F. Electrical Equipment/Enclosure	LS	3 1				
30	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	LS	3 1	\$ 826,267	\$ 826,267	\$	826
30	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	LS Each LS	3 1 1 1	\$ 826,267	\$ 826,267	\$	826
30	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	LS Each LS LS	3 1 1 1 1	\$ 826,267	\$ 826,267	\$	826
30	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	LS Each LS	3 1 1 1	\$ 826,267	\$ 826,267	\$	826
30	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot] C. Seawall with Dissipator	LS Each LS LS LS	3 1 1 1 1 1 1	\$ 826,267	\$ 826,267	\$	826
	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a	LS Each LS LS LS LS LF	3 1 1 1 1 1 1 100				
30	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	LS Each LS LS LS	3 1 1 1 1 1 1	\$ 826,267	\$ 826,267		
31	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	LS Each LS LS LS LS LF cfs	3 1 1 1 1 1 1 100 89	\$ 19,800	\$ 1,762,200	\$ 1	1,762
	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot] C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs	LS Each LS LS LS LS LF	3 1 1 1 1 1 1 100	\$ 19,800 \$ 16,000	\$ 1,762,200 \$ 1,424,000	\$ 1 \$ 1	1,762
31 32	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include:	LS Each LS LS LS LS LF cfs cfs	3 1 1 1 1 1 1 1 1 100 89 89	\$ 19,800 \$ 16,000	\$ 1,762,200 \$ 1,424,000	\$ 1 \$ 1	1,762
31 32	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure	LS Each LS LS LS LS LF cfs cfs cfs cfs Each	3 1 1 1 1 1 1 1 1 00 89 89 89 89 89	\$ 19,800 \$ 16,000	\$ 1,762,200 \$ 1,424,000	\$ 1 \$ 1	1,762
31 32	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (37 cfs + round up to nearest whole pump) Pump Station (weir Structure A. Wet Well/ Weir Structure B. Jubmersible Pump	LS Each LS LS LS LS LF cfs cfs cfs cfs cfs cfs cfs cfs	3 1 1 1 1 1 1 1 1 1 1 00 89 89 89 89 89 89	\$ 19,800 \$ 16,000	\$ 1,762,200 \$ 1,424,000	\$ 1 \$ 1	1,762
31 32	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (37 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve	LS Each LS LS LS LF cfs cfs cfs cfs cfs Each Each Each	3 1 1 1 1 1 1 1 1 1 1 1 1 1	\$ 19,800 \$ 16,000	\$ 1,762,200 \$ 1,424,000	\$ 1 \$ 1	1,762
31 32	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	LS Each LS LS LS LF cfs cfs cfs cfs cfs cfs LF Each Each LF	3 1 1 1 1 1 1 1 1 1 1 1 1 1	\$ 19,800 \$ 16,000	\$ 1,762,200 \$ 1,424,000	\$ 1 \$ 1	1,762
31 32	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (37 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve	LS Each LS LS LS LF cfs cfs cfs cfs cfs Each Each Each	3 1 1 1 1 1 1 1 1 1 1 1 1 1	\$ 19,800 \$ 16,000	\$ 1,762,200 \$ 1,424,000	\$ 1 \$ 1	1,762
31 32	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24* Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station Components Include: A. Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Well Weil Hatches	LS Each LS LS LS LF Cfs cfs cfs Each Each Each LF Each	3 1 1 1 1 1 1 1 1 1 1 1 1 1	\$ 19,800 \$ 16,000	\$ 1,762,200 \$ 1,424,000	\$ 1 \$ 1	1,762
31 32 33	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components include: A. Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	LS Each LS LS LS LS Cfs cfs cfs cfs Each Each LF Each LS Each LS Each	3 1 1 1 1 1 1 1 1 1 1 1 1 1	\$ 19,800 \$ 16,000 \$ 43,000	\$ 1,762,200 \$ 1,424,000 \$ 3,827,000	\$ 1 \$ 1 \$ 2	1,762 1,424 3,827
31 32	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (087 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	LS Each LS LS LS LS LF cfs cfs cfs cfs cfs cfs Each Each Each Each LF Each	3 1 1 1 1 1 1 1 1 1 1 1 1 1	\$ 19,800 \$ 16,000	\$ 1,762,200 \$ 1,424,000	\$ 1 \$ 1 \$ 2	1,762 1,424 3,827
31 32 33	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (37 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	LS Each LS LS LS LF cfs cfs cfs cfs cfs cfs cfs cfs cfs cfs	3 1 1 1 1 1 1 1 1 1 1 1 1 1	\$ 19,800 \$ 16,000 \$ 43,000	\$ 1,762,200 \$ 1,424,000 \$ 3,827,000	\$ 1 \$ 1 \$ 2	1,762 1,424 3,827
31 32 33	F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (087 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	LS Each LS LS LS LS Cfs cfs cfs cfs Each Each LF Each LS Each LS Each	3 1 1 1 1 1 1 1 1 1 1 1 1 1	\$ 19,800 \$ 16,000 \$ 43,000	\$ 1,762,200 \$ 1,424,000 \$ 3,827,000	\$ 1 \$ 1 \$ 2	826, 1,762, 1,424, 3,827, 826,

 total
 \$
 15,678,000

 \$
 4,473,000
 \$
 49,199,000

	Estimating contingency (10/0)						Ŷ	1, 17 5,000
				Total Construction Subtotal			<u>\$</u>	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

Estimating Contingency (10%)

<u>Total</u> <u>\$ 70,109,000</u>

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

						T
						Total Cost
						Rounded to
tem No.	Item Description	Units	Quantity		Total Cost	Nearest 10
1	Reinforced Concrete Pipe 24"	LF	17,682	\$ 180	\$ 3,182,760	\$ 3,183
2	Reinforced Concrete Pipe 30"	LF	508	\$ 220	\$ 111,760	\$ 112
3	Reinforced Concrete Pipe 36"	LF	1,248	\$ 280	\$ 349,440	\$ 349
4 5	Reinforced Concrete Pipe 42" Reinforced Concrete Pipe 48"	LF LF	768	\$ 325 \$ 425	\$ 249,600 \$ 4,880,275	\$ 250 \$ 4,880
			11,483	•	. , ,	
6 7	Reinforced Concrete Pipe 60" Reinforced Concrete Pipe 66"	LF LF	1,923	\$ 580 \$ 690	\$ 1,115,340	\$ 1,115 \$ 37
8	Reinforced Concrete Pipe 66 Reinforced Concrete Pipe 72"	LF	53 83	\$ 690 \$ 925	\$ 36,570 \$ 76,775	\$ 37 \$ 77
9	Concrete Manhole - 8'	Each	135	\$ 925 \$ 10,650	\$ 76,775 \$ 1,437,750	\$ 1,438
10	Curb Inlet	Each	270	\$ 10,030 \$ 9,475	\$ 1,437,750 \$ 2,558,250	\$ 2,558
-			-	. ,		
11	1-1/2" Asphalt	Ton	1,944	\$ 172	\$ 333,555	\$ 334
12	10" Base	SY	25,856		\$ 517,112	\$ 517
13	12" Subgrade	SY	27,028		\$ 158,626	\$ 159
14	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	32,911		\$ 888,591	\$ 889
15	Sodding	SY	23,450		\$ 172,032	\$ 172
16	5' Wide Sidewalk	SY	23,450		\$ 630,333	\$ 630
17	Curb	LF	42,210	\$ 31		\$ 1,324
					<u>Subtotal</u>	<u>\$ 18,02</u>
18	Mobilization	%	7%	\$ 18,024,000	\$ 1,261,680	\$ 1,262
19	Maintenance of Traffic	%	5%	\$ 18,024,000	\$ 901,200	\$ 90:
20	Material Testing	%	1%	\$ 18,024,000	\$ 180,240	\$ 180
21	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 18,024,000	\$ 901,200	\$ 90:
22	Utility Relocations	%	10%	\$ 18,024,000	\$ 1,802,400	\$ 1,802
23	Additional Water Quality Improvements	%	10%	\$ 18,024,000	\$ 1,802,400	\$ 1,802
24	Aboveground Components	%	20%	\$ 18,024,000	\$ 3,604,800	\$ 3,60
25	Water Main Distribution/Transmission System Improvements	%	40%	\$ 18,024,000	\$ 7,209,600	\$ 7,210
26	Sanitary Sewer Collection System Improvements	%	40%	\$ 18,024,000	\$ 7,209,600	\$ 7,210
					Subtotal	\$ 24,87
	PUMP STATIONS (PS)	5				1
	Membrane Filtration (per cfs pumped) for Pump Stations with a					
27	capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,762,200	\$ 1,762
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a					
						\$ 1,424
28	capacity of 41-100 cfs	cfs	89	\$ 16,000		
28 29	Pump Station (87 cfs + round up to nearest whole pump)	cfs cfs	89 89	\$ 16,000 \$ 43,000		
	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include:	cfs	89			
	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure	cfs Each	89			
	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump	cfs Each Each	89 1 3			
	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve	cfs Each Each Each	89 1 3 3			
	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	cfs Each Each Each LF	89 1 3 3 100			
	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	cfs Each Each Each LF Each	89 1 3 100 3			
	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	cfs Each Each Each LF Each LS	89 1 3 3 100 3 1			
	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	cfs Each Each Each LF Each	89 1 3 100 3			
29	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	cfs Each Each Each LF Each LS Each	89 1 3 100 3 1 1 1	\$ 43,000	\$ 3,827,000	\$ 3,82
	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	cfs Each Each Each LF Each LS	89 1 3 3 100 3 1			
29	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	cfs Each Each LF Each LS Each LS	89 1 3 100 3 1 1 1 1 1	\$ 43,000	\$ 3,827,000	\$ 3,82
29	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	cfs Each Each LF Each LS Each LS LS	89 1 3 100 3 1 1 1 1 1	\$ 43,000	\$ 3,827,000	\$ 3,82
29	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	cfs Each Each LF Each LS Each LS LS LS	89 1 3 3 100 3 1 1 1 1 1 1 1	\$ 43,000	\$ 3,827,000	\$ 3,82
29	Pump Station (87 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	cfs Each Each LF Each LS Each LS LS	89 1 3 100 3 1 1 1 1 1	\$ 43,000	\$ 3,827,000	\$ 3,82

	Estimating Contingency (10%)					\$ 8,209,000
				<u>Total Const</u>	ruction Subtotal	\$ 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
					<u>Subtotal</u>	\$ <u>38,378,000</u>

<u>Total</u> 128,679,000

<u>\$</u>

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

2 Reinforced Concrete Pipe 48" IF 99.286 \$ 3.4973.404 \$ 4.9473.404 \$ 1.015.430 \$ 1.01 4 Reinforced Concrete Pipe 60" IF 16.395 \$ 1.201 \$ 1.015.430 \$ 0.895.557 \$ 6.895.557 \$ 6.895.557 \$ 6.895.557 \$ 6.895.557 \$ 6.895.557 \$ 6.895.557 \$ 6.895.557 \$ 6.895.557 \$ 6.805.557 \$ 2.040 \$ 2.153.800 \$ 2.153.800 \$ 2.153.800 \$ 2.153.800 \$ 2.153.800 \$ 2.153.800 \$ 2.153.800 \$ 2.153.800 \$ 2.153.800 \$ 2.153.800 \$ 2.416.500 \$ 2.705.100 \$ 2.705.100 \$ 2.416.500 \$ 2.705.100 \$ 2.416.500 \$ 2.705.100 \$ 4.81.300 \$ 4.81 10 1.12"/ Aphalt Ton 6.515 \$ 1.72 \$ 1.180.35 \$ 1.11 10" ase \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$								Total Cost
Item No. Item Description Units Quanty Units Cost Total Cost 1000 1 Reinforced Concrete Pipe 34" IF 98.06 \$ 3.00 \$ 172,800 \$ 172,800 \$ 172,800 \$ 172,800 \$ 172,800 \$ 172,800 \$ 101,5143 \$ 202,517,516 \$ 213,5100 \$ 2,214,5500 \$ 2,214,5500 \$ 2,216,500 \$ 2,206,512,5100 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,510 \$ 2,207,515 \$ 111 \$ 10,708,500 \$ 1,141,500 \$ 1,141,500 \$ 1,141,500 \$ 1,141,500							R	ounded to
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3 Beinforce Concrete Pipe 94" IF 949 5 1.015.430 5 1.015.430 5 1.015.430 5 1.015.430 5 1.015.430 5 1.015.430 5 1.015.430 5 1.023 5 1.023 5 2.043 5 2.043 5 2.043 5 2.043 5 2.043 5 2.043 5 2.043 5 2.043 5 2.043 5 2.045 5 2.045 5 2.045 5 2.045 5 2.045 5 2.045 5 2.045 5 2.045 5 2.045 5 2.045 5 2.070 5 2.2415.500 5 2.277 5 4.033 5 2.110.10.10.10 5 2.171 5 5 1.111 1.012 2.074.510 5 2.171.50 5 2.171.50 5 2.171.50 5 2.171.50 5 2.171.50 5 2.171.50 5 3.038.670 5 3.						. ,		34,973,0
4 Reinforced Concrete Pipe 0" UF 16,393 5 1220 5 20,493,750 5 6.69 5 Reinforced Concrete Pipe 84" UF 973 5 2,200 5 2,153,800 5 2,153 6.89 5 2,153,800 5 2,153 8 2,215,800 5 2,160 5 2,161,500 5 2,705,100 5 2,216 5 2,161,500 5 2,705,100 5 2,705,100 5 2,705,100 5 2,705,100 5 2,705,100 5 2,111 10 1,127 A,81,13,035 5 1,712 5 1,113 11 10 1,212 S,11,13,035 5 1,713,55 5 5 1,713,55 5 5 1,714 5,206 5 2,175,165 5 5 3 3 7 5 3,49,415 5 3 3 3 7 5 3,49,415 5 3 3 3 3 7 5 3,49,415 5 3 3 3 3 3 3,43,35 7				,		. , ,	· ·	1,015,0
s Reinforced Concrete Pipe 27" IF 4.233 5 6.695,553 5 6.69 6 Reinforced Concrete Pipe 84" IF 977 5 2.200 \$ 2.153,800 \$ 2.153,800 \$ 2.153,800 \$ 2.153,800 \$ 2.141,800 \$ 2.153,800 \$ 2.141,800 \$ 2.133,800 \$ 2.141,800 \$ 2.131,800 \$ 2.131,800 \$ 2.131,800 \$ 2.131,800 \$ 2.131,800 \$ 2.171,810,91 \$ 2.171,810,91 \$ 1.111,110,103 \$ 2.17 \$ 1.111,810,93 \$ 1.111,810,93 \$ 2.171,840 \$ 2.171,910 \$ 1.111,810,93 \$ 2.171,840 \$ 2.277 1.44,840,851 \$ 1.111,910,910 \$ 2.171,840 \$ 2.277 1.44,649,86 \$ 1.65 \$ 2.173,840 \$ 2.277 1.44,649,86 \$ 1.64 1.66 \$ 3.141 1.66 \$	-				1 /	. , ,	· ·	20,494,0
6 Bendrozed Concrete Pipe 84" IF 970 5 2.200 5 2.133.800 5 2.145.900 5 2.416.500 5 2.416.500 5 2.701 5 2.200 5 2.216.500 5 2.705 5 2.705 5 2.705 5 2.705 5 2.701 5 2.701 5 2.701 5 2.701 5 2.705 5 2.705 5 2.705 5 2.705 5 2.705 5 2.705 7 7 3.700 5 2.705 5 2.705 5 2.705 5 2.701 5 2.705 5 2.705 5 2.705 5 2.705 5 2.705 5 2.701 5 2.705 5 2.705 5 2.705 5 2.705 5 2.705 6 7 5 3.715 5 7 5 3.715 5 3.715 5 3.716 5 3.715 <	-			-,	. ,	. , ,	·	6,896,0
7 Reinforced Concrete Pipe 96" LF 985 2,200 5 2,416,500 5 2,416,500 5 2,416,500 5 2,705,100 5 2,705,100 5 2,705,100 5 2,705,100 5 2,705,100 5 4,813,300 5 4,813 10 1-1/2" Ksphalt Ton 6,515 \$ 1,708,255 \$ 1,708,255 \$ 1,708,255 \$ 1,708,255 \$ 1,708,255 \$ 3,711 11 110 Page SY 88,184 \$ \$ \$ \$ \$ 1,708,255 \$ 3,71 12 12" Subgrade SY 88,381 \$ \$ \$ \$ 2,78,449 \$ 2,77 \$ 3,949,51 \$ 3,93 \$ 3,303,870 \$ 3,038,707 \$ 3,038,707 \$ 3,038,707 \$ 3,038,707 \$ 3,038,707 \$ 3,038,707 \$ 3,038,707 \$ 3,038,707 \$ 3,038,707 \$ 3,038,707 \$ 3,038,707 \$ 3,038,707 \$ <td></td> <td></td> <td></td> <td>,</td> <td></td> <td></td> <td>_</td> <td>2,154,0</td>				,			_	2,154,0
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9 Curb Intel Each 508 3 9,475 3 4,813,300 5 4,81 10 1-1/2" Asphalt Ton 6,515 5 172 5 1,118,035 5 1,11 11 10" Base SY 88,142 5 20 5 1,706,525 5 1,70 12 12" Subgrade SY 88,118 7 3.93,915 5 2,778,449 2,277 14 Sodding SY 58,831 7 5 399,915 5 303 5 S' Wide Sidewalk SY 58,831 27 5 1,446,966 5 6,07 16 Curb UF 96,896 S 31 5 303 6,434 17 Mobilization % 7% S 86,846,000 5 6,07 18 Maintenance of Traffic % 7% 1% 86,846,000 5 8,684,600 5 8,684,600 5 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2,705,0</td>								2,705,0
10 1-1/2" Asphalt Ton 6.51 5 172 \$ 1.118,035 \$ 1.11 11 10" Base SY 85,426 \$ 20 \$ 1.706,525 \$ 1.70 12 12" Subgrade SY 86,118 \$ 6 \$ 51,156 \$ 51 13 Fill for Road Raising (Assuming Two Feet in the Right-of-Way) CV 110,315 2.7 \$ 2.977,449 \$ 2.97 14 Sodding SV 53,831 2.7 \$ 1.44,6986 \$ 1.44 5 Wide Sidewalk SV 53,831 2.7 \$ 1.44,6986 \$ 1.44 6 Curb E 96.896 31 \$ 3.038,670 \$ 3.038,670 \$ 4.34 17 Mobilization % 7% \$ 86,846,000 \$ 6.607 \$ 6.607 \$ 8 \$ 4.34 \$ 1.42 3.038,670 \$ 4.34 \$ 3.43,2300 \$ 4.34 \$ 3.64,600 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>4,813,</td>							-	4,813,
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15 S'Wide Sidewalk SY 53.831 2.7 5 1.446.986 \$ 1.44 16 Curb IF 96.896 \$ 3.01 \$ 3.038,670 \$ 3.03 Subtood \$ 86.84 17 Mobilization % 7% \$ 86.846,000 \$ 6.079,220 \$ 6.07 18 Maintenance of Traffic % 5% \$ 86.846,000 \$ 4.342,300 \$ 4.34 19 Material Testing % 1% 5% \$ 86.846,000 \$ 4.342,300 \$ 4.34 20 Blue-Green Stromwater Infrastructure (BGSI) % 5% \$ 86.846,000 \$ 8.684,600 \$ 8.684,600 \$ 8.684,600 \$ 17.36 21 Utility Relocations % 10% \$ 86.846,000 \$ 8.684,600 \$ 17.36 22 Additional Water Quality Improvements % 40% \$ 86.846,000 \$ 3.47.3 23 Sanitary Se				,				, ,
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20 Blue-Green Stormwater Infrastructure (BGSI) % 5% \$ 86,846,000 \$ 4,342,300 \$ 4,342 21 Utility Relocations % 100% \$ 86,846,000 \$ 8,684,600 \$ 8,684 22 Additional Water Quality Improvements % 100% \$ 86,846,000 \$ 8,684,600 \$ 8,684,600 \$ 8,684,600 \$ 17,369,200 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,73 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,73 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,738,400 \$ 34,730 \$ 34,738,400	18	Maintenance of Traffic	%	5%	\$ 86,846,000	\$ 4,342,300	\$	4,342,
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Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfscfs91\$16,000\$1,456,000\$1,45528Pump Station (91 cfs)cfs91\$43,000\$3,913,000\$3,91Pump Station Components Include: </td <td>26</td> <td></td> <td>cfc</td> <td>01</td> <td>ć 10.900</td> <td>ć 1 001 000</td> <td>ć</td> <td>1 902</td>	26		cfc	01	ć 10.900	ć 1 001 000	ć	1 902
27 capacity of 41-100 cfs cfs 91 \$ 16,000 \$ 1,456,000 \$ 1,45 28 Pump Station (91 cfs) cfs 91 \$ 43,000 \$ 3,913,000 \$ 3,911 Pump Station Components Include:	20		CIS	91	\$ 19,800	\$ 1,801,800	Ş	1,802
28 Pump Station (91 cfs) cfs 91 \$ 43,000 \$ 3,913,000 \$ 3,91 Pump Station Components Include: 3,913,000 \$ 3,913,000	27		-6-		ć 10.000	ć 1.450.000	÷	1 450
Pump Station Components Include:	21	ICADACITY OF 41-100 CTS				\$ 1,456,000		
A. Wet Well/ Weir Structure Each 1 Image: Structure Image: Structur				-	. ,	ć <u>2.012.000</u>		3,913
B. Submersible Pump Each 4 Image: Submersible Pump Image: Submersite Pump Image: Submersible Pump		Pump Station (91 cfs)		-	. ,	\$ 3,913,000	Ş	
C. Flap Gate / Check Valve Valve Each 4 Image: Second Secon		Pump Station (91 cfs) Pump Station Components Include:	cfs	91	. ,	\$ 3,913,000	Ş	
D. Storm Drainage Bypass Piping LF 100 Image: Constraint of the second se		Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure	cfs Each	91	. ,	\$ 3,913,000	Ş	
E. Watertight Wet Well Hatches Each 4 Image: Constraint of the system of the sys		Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump	cfs Each Each	91 1 4	. ,	\$ 3,913,000	> 	
F. Electrical Equipment/Enclosure LS 1 Image: Constraint of the system of the sy		Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve	cfs Each Each Each	91 1 4 4	. ,	\$ 3,913,000	> 	
G. Emergency Generator Each 1 Image: Constraint of the system of the		Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	Cfs Each Each Each LF	91 1 4 4 100	. ,	\$ 3,913,000	> 	
29 Outfall Structures LS 1 \$ 826,267		Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	Cfs Each Each Each LF Each	91 1 4 100 4	. ,	\$ 3,913,000	> 	
Outfall Structure Includes: LS 1 A. Turbidity Barrier LS 1 B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) LS 1		Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	Cfs Each Each Each LF Each LS	91 1 4 4 100 4 1	. ,	\$ 3,913,000	> 	
A. Turbidity Barrier LS 1 B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) LS 1		Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	Cfs Each Each Each LF Each LS	91 1 4 4 100 4 1	. ,	\$ 3,913,000	- - - - - -	
B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) LS 1	28	Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	cfs Each Each Each LF Each LS Each	91 1 4 100 4 1 1 1	\$ 43,000			826,
	28	Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	cfs Each Each Each LF Each LS Each	91 1 4 100 4 1 1 1	\$ 43,000			826,
	28	Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	cfs Each Each LF Each LS Each LS	91 1 4 100 4 1 1 1 1	\$ 43,000			826,
	28	Pump Station (91 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	Cfs Each Each LF Each LS Each LS LS	91 1 4 100 4 1 1 1 1 1	\$ 43,000			826,

	Estimating Contingency (10%)							\$	27,067,000
					<u>Total Constr</u>	uctio	n Subtotal	<u>\$</u>	297,735,000
30	Program/Construction Management (PM) Fee (6%)	%	6%	Ś	297,735,000	Ś	17,864,100	Ś	17,864,000
31	Permitting Fee (5%)	%	5%	<u>.</u>	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
							<u>Subtotal</u>	\$	<u>126,539,000</u>

<u>\$ 424,274,000</u> <u>Total</u>

Appendix 10.5: Basin 5 NIP Preliminary Construction Cost Estimates

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

							Fotal Cost
						R	ounded to
							ne Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	L LI	1000
	Reinforced Concrete Pipe 18"	LF	366	\$ 130	\$ 47,580	Ś	48,00
	Reinforced Concrete Pipe 18		1,076	\$ 130 \$ 180	\$ 47,580 \$ 193,680		48,00
	Reinforced Concrete Pipe 24 Reinforced Concrete Pipe 30"	LF	1,076	\$ 230	\$ 193,680 \$ 45,310		45,0
	Reinforced Concrete Pipe 36"	LF	197	\$ 280	\$ 45,920		45,0
	Reinforced Concrete Pipe 36	LF	276	\$ 280	\$ 45,920 \$ 89,700		46,0
	Concrete Manhole - 8'	Each	270	\$ 10,650	\$ 95,850	· ·	96,0
	Curb Inlet	Each	18	\$ 9,475	\$ 170,550	· ·	171,0
	1-1/2" Asphalt	Ton	255	\$ <u>9,473</u> \$ 172	\$ 170,330		44,0
	1-1/2 Asphalt 10" Base	SY	3,379		\$ 43,744 \$ 65,884		
							66,0
	12" Subgrade	SY	3,520	\$ 6	. ,	· ·	21,0
	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	4,316	\$ 27	\$ 116,535	\$	117,0
	Sodding	SY	2,831		\$ 20,770		21,0
	5' Wide Sidewalk	SY	2,831		\$ 76,100		76,0
14 0	Curb	LF	5,096	\$ 31	\$ 159,811		160,0
					<u>Subtotal</u>	<u>\$</u>	1,195,0
15 1	Mobilization	%	7%	\$ 1,195,000	\$ 83,650	\$	84,0
16 1	Maintenance of Traffic	%	5%	\$ 1,195,000	\$ 59,750	\$	60,0
	Material Testing	%	1%	\$ 1,195,000	\$ 11,950	\$	12,0
18	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 1,195,000	\$ 59,750	\$	60,0
	Utility Relocations	%	10%	\$ 1,195,000	\$ 119,500		120,
	Additional Water Quality Improvements	%	10%	\$ 1,195,000	\$ 119,500		120,0
	Aboveground Components	%	20%	\$ 1,195,000	\$ 239,000		239,0
	Water Main Distribution/Transmission System Improvements	%	40%	\$ 1,195,000	\$ 478,000	\$	478,0
	Sanitary Sewer Collection System Improvements	%	40%	\$ 1,195,000	\$ 478,000		478,0
1	PUMP STATIONS						
	Membrane Filtration (per cfs pumped) for Pump Stations with a						
	capacity of 41-100 cfs	cfs	45	\$19,800	\$ 891,000.00	\$	891,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a			1 - 7	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,
	capacity of 41-100 cfs	cfs	45	\$16,000	\$ 720,000.00	\$	720,000
	Stormwater Pump Station (44.5 cfs)	cfs	45	\$ 43,000	\$ 1,935,000		1,935,
20	Pump Station Components Include:	615		÷ +3,000	÷ 1,555,000	Ŷ	1,555,
	A. Wet Well/ Weir Structure	Each	1				
	B. Submersible Pump	Each	3				
	C Flan Gate / Check Valve Valve						
	C. Flap Gate / Check Valve Valve	Each	3				
	D. Storm Drainage Bypass Piping	LF	100				
	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	LF Each	100 3				
	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	LF Each LS	100 3 1				
	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	LF Each	100 3				
27 0	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	LF Each LS	100 3 1	\$579,500	\$579,500		\$580,0
27 0	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	LF Each LS Each	100 3 1 1	\$579,500	\$579,500		\$580,0
27	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	LF Each LS Each	100 3 1 1	\$579,500	\$579,500		\$580,0
27 0	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	LF Each LS Each LS	100 3 1 1 1	\$579,500	\$579,500		\$580,(
27	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	LF Each LS Each LS LS	100 3 1 1 1 1	\$579,500	\$579,500		\$580,0
27 0	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LF Each LS Each LS LS LS LS	100 3 1 1 1 1 1 1 1	\$579,500	\$579,500 <u>\$579</u> ,500	<u>\$</u>	
	D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LF Each LS Each LS LS LS LS	100 3 1 1 1 1 1 1 1	\$579,500		\$ \$	\$580,0 4,126,0 697,0

				Total Constr	uction Subtotal	<u>></u>	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
					<u>Subtotal</u>	<u>\$</u>	3,258,000

<u>\$ 10,927,000</u> <u>Total</u>

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

							Total Cost
						R	ounded to
			· · · ·			ur	ne Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 24"	LF	2,562	\$ 180	\$ 461,160		461,00
2	Reinforced Concrete Pipe 36"	LF	317	\$ 280	\$ 88,760		89,00
3	Reinforced Concrete Pipe 42"	LF	517	\$ 325	\$ 168,025		168,0
4	Reinforced Concrete Pipe 48"	LF	406	\$ 425	\$ 172,550		173,0
5	Reinforced Concrete Pipe 54"	LF	544	\$ 500	\$ 272,000		272,0
6	Reinforced Concrete Pipe 60"	LF	433	\$ 580	\$ 251,140		251,0
7	Concrete Manhole - 8'	Each	20	\$ 10,650	\$ 213,000		213,0
8	Curb Inlet	Each	40	\$ 9,475	\$ 379,000		379,0
9	1-1/2" Asphalt	Ton	601	\$ 172	\$ 103,181		103,0
10	10" Base	SY	7,810		\$ 156,200		156,0
11	12" Subgrade	SY	7,985	\$6	\$ 46,861	-	47,0
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	10,180		\$ 274,873		275,0
13	Sodding	SY	3,493	\$ 7	\$ 25,625	\$	26,0
14	5' Wide Sidewalk	SY	3,493	\$ 27	\$ 93,892		94,0
15	Curb	LF	6,287	\$ 31	\$ 197,173	\$	197,0
					<u>Subtotal</u>	<u>\$</u>	2,904,0
16	Mobilization	%	7%	\$ 2,904,000	\$ 203,280	Ś	203,0
17	Maintenance of Traffic	%	5%	\$ 2,904,000	,		145,0
18	Material Testing	%	1%	\$ 2,904,000	\$ 29,040		29,0
19	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 2,904,000			145,0
20	Utility Relocations	%	10%	\$ 2,904,000	\$ 290,400		290,0
20	Additional Water Quality Improvements	%	10%	\$ 2,904,000	\$ 290,400		290,0
22	Aboveground Components	%	20%	\$ 2,904,000	\$ 580,800		581,0
22	Water Main Distribution/Transmission System Improvements	%	40%	\$ 2,904,000	\$ 1,161,600		1,162,0
23	Sanitary Sewer Collection System Improvements	%	40%	\$ 2,904,000	. , ,		1,162,0
					Subtotal	\$	4,007,0
	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
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a						
25	capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,424,000	\$	1,424,0
26	Stormwater Pump Station (79.1 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000	\$ 3,827,000	\$	3,827,
	Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1				
	B. Submersible Pump	Each	3				
						-	
		Each	3				
	C. Flap Gate / Check Valve Valve	Each LF	-				
	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping		3				
	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	LF Each	3 100 3				
	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	LF	3 100				
	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	LF Each LS Each	3 100 3 1 1				6000
27	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	LF Each LS	3 100 3 1	\$826,267	\$826,267		\$826,
27	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures	LF Each LS Each LS	3 100 3 1 1 1	\$826,267	\$826,267		\$826,0
27	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures A. Turbidity Barrier	LF Each LS Each LS LS	3 100 3 1 1 1 1 1	\$826,267	\$826,267		\$826,(
27	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LF Each LS Each LS LS LS	3 100 3 1 1 1 1 1 1 1	\$826,267	\$826,267		\$826,0
27	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures A. Turbidity Barrier	LF Each LS Each LS LS	3 100 3 1 1 1 1 1	\$826,267			
27	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LF Each LS Each LS LS LS	3 100 3 1 1 1 1 1 1 1	\$826,267	\$826,267	<u>\$</u>	
27	C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LF Each LS Each LS LS LS	3 100 3 1 1 1 1 1 1 1	\$826,267			\$826,0 7,839,0 1,475,0

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
					<u>Subtotal</u>	<u>\$</u>	6,897,000

<u>Total \$ 23,122,000</u>

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

						Total Cost
						Rounded to
						the Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	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
					<u>Subtotal</u>	<u>\$ 2,167,000</u>
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%		\$ 21,670	. ,
19	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	1 7	\$ 108,350	
20	Utility Relocations	%	10%	, , , , , , , , , , , , , , , , , , , ,	\$ 216,700	
21	Additional Water Quality Improvements	%	10%	. , ,	\$ 216,700	\$ 217,000
22	Aboveground Components	%	20%	. , ,	\$ 433,400	\$ 433,000
23	Water Main Distribution/Transmission System Improvements	%	40%		\$ 866,800	\$ 867,000
24	Sanitary Sewer Collection System Improvements	%	40%		\$ 866,800	\$ 867,000
	samary server concerton system improvements	70	4070	\$ 2,107,000	\$ Subtotal	\$ 2,991,000

	Estimating Contingency (10%)					\$	516,000
				<u>Total Constr</u>	uction Subtotal	<u>\$</u>	5,674,000
25	Program/Construction Management (PM) Fee (6%)	%	6%	\$ 5,674,000	\$ 340,44) \$	340,000
26	Permitting Fee (5%)	%	5%	\$ 5,674,000	\$ 283,70) \$	284,000
27	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 5,674,000	\$ 567,40) \$	567,000
28	CEI Management (Owner's Representative) (5%)	%	5%	\$ 5,674,000	\$ 283,70) \$	284,000
29	Construction Contingency (10%)	%	10%	\$ 5,674,000	\$ 567,40) \$	567,000
30	CIP Management Fee (6.5%)	%	6.5%	\$ 5,674,000	\$ 368,81) \$	369,000
-					Subtotal	<u>\$</u>	2,411,000

<u>Total</u>

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

						Total Cost
						Rounded to
						the Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	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
					<u>Subtotal</u>	<u>\$ 9,379,000</u>
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%	. , ,	\$ 937,900	\$ 938,000
21	Additional Water Quality Improvements	%	10%	1 .//	\$ 937,900	\$ 938,000
22	Aboveground Components	%	20%	. , ,	\$ 1,875,800	\$ 1,876,000
22	Mater Main Distribution /Terroreniesian Contant Income	0/	400/	¢ 0,370,000	¢ 2,751,600	

23	Water Main Distribution/Transmission System Improvements	%	40%	Ş	9,379,000	Ş	3,751,600	Ş	3,752,000
24	Sanitary Sewer Collection System Improvements	%	40%	\$	9,379,000	\$	3,751,600	\$	3,752,000
							<u>Subtotal</u>	<u>\$</u>	12,945,000
	Estimating Contingency (10%)							\$	2,233,000
					Total Constru	uctio	n Subtotal	<u>\$</u>	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%	Ś	24,557,000	\$	1,227,850	\$	1,228,000
29	Construction Contingency (10%)	%	10%		24,557,000	\$	2,455,700	\$	2,456,000
 29 30				\$	24,557,000 24,557,000		2,455,700 1,596,205		2,456,000 1,596,000

<u>Total</u> <u>\$ 34,994,000</u>

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

							Total Cost
						R	ounded to
						t	he Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		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" Reinforced Concrete Pipe 60"	LF LF	303 7,223	\$ 425 \$ 580	\$ 128,775 \$ 4,189,340	\$ \$	129,000 4,189,000
6	Reinforced Concrete Pipe 00	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		\$ 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	. ,		96,000
15 16	5' Wide Sidewalk Curb	SY LF	13,067	\$ 27 \$ 31	\$ 351,243 \$ 737,610	\$ \$	351,000
10	Curb	LF	23,521	\$ 31	Subtotal	ې \$	738,000 10,131,000
					Subtotal	<u>7</u>	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 23	Additional Water Quality Improvements	%	10%	\$ 10,131,000	\$ 1,013,100		1,013,000
23	Aboveground Components	%	20% 40%	\$ 10,131,000 \$ 10,131,000	\$ 2,026,200	-	2,026,000
24	Water Main Distribution/Transmission System Improvements Sanitary Sewer Collection System Improvements	%	40%	\$ 10,131,000 \$ 10,131,000	\$ 4,052,400 \$ 4,052,400		4,052,000 4,052,000
	PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a					1]
26	capacity of >100 cfs	cfs	225	\$ 15,890	\$ 3,575,250	\$	3,575,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a						
27	capacity of >100 cfs	cfs	225	\$ 13,000			2,925,000
28	Stormwater Pump Station (217.5 cfs)	cfs	225	\$ 41,697	\$ 9,381,825	\$	9,382,000
	Pump Station Components Include:	E h					
	A. Wet Well/ Weir Structure B. Submersible Pump	Each Each	1				
	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	\$ -	\$ -	\$	-
29		LS	1	ې -	ې -	Ş	-
30	Outfall Structures	LS	1	\$ 1,566,567	\$ 1,566,567	\$	1,567,000
	Outfall Structure Includes:		<u> </u>				
	A. Turbidity Barrier	LS	1				
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1				
	C. Seawall with Dissipator	LF	190		Subtotal	\$	17 440 000
					Subtotal	2	17,449,000
	Estimating Contingency (10%)					\$	4,156,000
				Total Constr	ruction Subtotal	<u>\$</u>	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%				2,286,000
33	Architect/Engineering (A/E) Fee (10%)	%	10%	\$ 45,716,000	. , ,		4,572,000
34	CEI Management (Owner's Representative) (5%)	%	5%				2,286,000
35	Construction Contingency (10%)	%	10%	\$ 45,716,000			4,572,000
36	CIP Management Fee (6.5%)	%	6.5%	\$ 45,716,000	\$ 2,971,540 Subtotal	\$ \$	2,972,000
							19,431,000

<u>Subtotal</u>	<i>\$</i>	19,431,000
Total	\$	65.147.000

<u>Subtotal</u>

19,431,000

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

						Total Cost
						Rounded to
						the Nearest
	Item Description	Units	Quantity		Total Cost	1000
1	Reinforced Concrete Pipe 18"	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		\$ 1,199,000
5	Reinforced Concrete Pipe 42"	LF	507	\$ 325	\$ 164,775	\$ 165,000
6	Reinforced Concrete Pipe 48"	LF	2,307	\$ 425	\$ 980,475	
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	
13	Concrete Manhole - 8'	Each	97	\$ 10,650	\$ 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

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

	PUMP STATIONS						-	
31	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 15,890	s	2 828 420	\$	2 828 (
31	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	CTS	1/8	\$ 15,890	>	2,828,420	>	2,828,
32	capacity of >100 cfs	cfs	178	\$ 13.000	Ś	2.314.000	ś	2.314.
33	Stormwater Pump Station (162 cfs + round up to nearest whole pump)	cfs	178	\$ 41,697	\$	7,422,066	\$	7,422,
	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 E. Watertight Wet Well Hatches	LF Each	100					
	F. Electrical Equipment/Enclosure	LS	1					
	G. Emergency Generator	Each	1					
34	Outfall Structures	LS	1	\$ 1,319,800	\$	1,319,800	\$	1,320
	Outfall Structure Includes:							
	A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1		-			
	C. Seawall with Dissipator	LF	160					
	C. Scowar with Dissipator		100					
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of							
35	41-100 cfs	cfs	89	\$ 19,800	\$	1,762,200	\$	1,762
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a							
36	capacity of 41-100 cfs	cfs	89	\$ 16,000		1,424,000	\$	1,424
37	Stormwater Pump Station (88 cfs + round up to nearest whole pump)	cfs	89	\$ 43,000	\$	3,827,000	\$	3,827
	Pump Station Components Include: A. Wet Well/ Weir Structure	Each	1					
	A. wet weil/ weir structure 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 Outfall Structure Includes:	LS	1	\$ 826,267	\$	826,267	Ş	826
	A. Turbidity Barrier	LS	1					
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1					
	C. Seawall with Dissipator	LF	100					
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of							
39	>100 cfs	cfs	223	\$ 15,890	\$	3,543,470	\$	3,543
40	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a		223	\$ 13,000		2 899 000		2 899
40	capacity of >100 cfs Stormwater Pump Station (215 cfs + round up to nearest whole pump)	cfs cfs	223			9,298,431	\$	2,899
41	Pump Station Components Include:	CIS	223	\$ 41,097	Ş	9,298,431	Ş	9,298
	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	s	1.484.311	s	1,484
42	Outfall Structure Includes:		-	<i>v</i> 1,404,511	-	1,404,511	~	1,404
	A. Turbidity Barrier	LS	1					
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1					
	C. Seawall with Dissipator	LF	180		1			
		I						
43	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	178	\$ 15,890	ś	2 020 422	ś	2.020
43	>100 cts Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	CTS	178	> 15,890	1>	2,828,420	\$	2,828
44	capacity of >100 cfs	cfs	178	\$ 13,000	ś	2.314.000	s	2.314
44	Stormwater Pump Station (162 cfs + round up to nearest whole pump)	cfs	178	\$ 41,697		7,422,066	\$	7,422
	Pump Station Components Include:			.,	Ľ	, ,		,
	A. Wet Well/ Weir Structure	Each	1					
	B. Submersible Pump	Each	5		1	-		
	C. Flap Gate / Check Valve Valve	Each	5		1			
	D. Storm Drainage Bypass Piping	LF	100					
	E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	Each LS	5					
	G. Emergency Generator	Each	1		1			
	or emergency delicitator	Lacii	1		+			
46	Outfall Structures	LS	1	\$ 1,319,800	\$	1,319,800	\$	1,320
	Outfall Structure Includes:				Ľ	,,		,
-	A. Turbidity Barrier	LS	1					-
-	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1					-
	C. Seawall with Dissipator	LF	160		1		L	
						Subtotal	Ş	52,831
	Estimating Contingency (10%)						Ś	9.034

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

<u>Total</u> <u>\$ 141,611,000</u>

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

								Т	otal Cost
								Ro	ounded to
									e Nearest
Have No.	Item Description	Linte	0		: • • • • •		Total Cost	u	
Item No.	Item Description	Units	Quantity	-	it Cost		Total Cost		1000
1 2	Reinforced Concrete Pipe 18" Reinforced Concrete Pipe 24"	LF LF	1,953		130 180		253,890 293,580	\$	254,00
3	Reinforced Concrete Pipe 24 Reinforced Concrete Pipe 30"	LF	1,631 3,229	ې \$	220		710,380	\$ \$	294,00
4	Reinforced Concrete Pipe 36"	LF	987	\$	220	\$	276,360	\$	276,00
5	Reinforced Concrete Pipe 30	LF	796	\$	325	\$	258,700	\$	259,00
6	Reinforced Concrete Pipe 48"	LF	600	\$	425	\$	255,000	\$	255,00
7	Reinforced Concrete Pipe 54"	LF	841	\$	505	\$	424,705	\$	425,00
8	Reinforced Concrete Pipe 60"	LF	849	\$	580	\$	492,420	\$	492,00
9	Reinforced Concrete Pipe 66"	LF	173	\$	690	\$	119,370	\$	119,00
10	Reinforced Concrete Pipe 72"	LF	165	\$	925	\$	152,625	\$	153,00
11	Reinforced Concrete Pipe 78"	LF	154	\$	1,075	\$	165,550	\$	166,00
12	Reinforced Concrete Pipe 84"	LF	211	\$	1,200	\$	253,200	\$	253,00
13	Concrete Manhole - 8'	Each	47	\$	10,650	\$	500,550	\$	501,00
14	Curb Inlet	Each	94	\$	9,475	\$	890,650	\$	891,00
15	1-1/2" Asphalt	Ton	790	\$	172	\$	135,568	\$	136,00
16	10" Base	SY	10,500	\$	20	\$	210,008	\$	210,00
17	12" Subgrade	SY	10,969	\$	6	\$	64,375	\$	64,00
18	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	13,376	\$	27	\$	361,153	\$	361,00
19	Sodding	SY	9,368	\$	7	\$	68,722	\$	69,00
20	5' Wide Sidewalk	SY	9,368	\$	27		251,802	\$	252,00
21	Curb	LF	16,862	\$	31	\$	528,785	\$	529,00
							<u>Subtotal</u>	<u>\$</u>	6,669,00
22	Mobilization	%	7%	Ś	6,669,000	Ś	466,830	\$	467,00
23	Maintenance of Traffic	%	5%		6,669,000		333,450	\$	333,00
24	Material Testing	%	1%		6,669,000		66,690	\$	67,00
25	Blue-Green Stormwater Infrastructure (BGSI)	%	5%		6,669,000		333,450	\$	333,00
26	Utility Relocations	%	10%	\$	6,669,000	-	666,900	\$	667,00
27	Additional Water Quality Improvements	%	10%	\$	6,669,000		666,900	\$	667,00
28	Aboveground Components	%	20%	\$	6,669,000		1,333,800	\$	1,334,00
29	Water Main Distribution/Transmission System Improvements	%	40%	\$	6,669,000	\$	2,667,600	\$	2,668,00
30	Sanitary Sewer Collection System Improvements	%	40%	\$	6,669,000	\$	2,667,600	\$	2,668,00
				•			<u>Subtotal</u>	\$	9,204,00
	PUMP STATIONS								
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of					I			
31	>100 cfs	cfs	178	\$	15,890	\$	2,828,420	\$	2,828,00
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity								
32	of >100 cfs	cfs	178	\$	13,000	\$	2,314,000	\$	2,314,00
33	Stormwater Pump Station (167 cfs + round up to nearest whole pump)	cfs	178	\$	41,697	\$	7,422,066	\$	7,422,00
	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	ļ		ļ			
	F. Electrical Equipment/Enclosure	LS	1	L		ļ			
	G. Emergency Generator	Each	1						
34	Outfall Structures	LS	1	\$	1,319,800	\$	1,319,800	\$	1,320,00
	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				Cubber 1	_	
							<u>Subtotal</u>	<u>\$</u>	13,884,0
	Estimating Contingency (10%)							\$	2,976,00
					Total Const	ructio	on Subtotal	<u>\$</u>	32,733,00
35	Program/Construction Management (PM) Fee (6%)	%	6%	\$	32,733,000	Ś	1,963,980	\$	1,964,00
36	Permitting Fee (5%)	%	5%		32,733,000		1,636,650		1,637.00

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
					<u>Subtotal</u>	<u>\$</u>	13,912,000

<u>Total</u>

<u>\$ 46,645,000</u>

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

						Total Cost
						Rounded to
						the Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	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
					<u>Subtotal</u>	\$ 14,548,000

	PUMP STATIONS						
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of						
28	>100 cfs	cfs	267	\$ 15,890	\$ 4,242,630	\$	4,243,0
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity						
29	of >100 cfs	cfs	267	\$ 13,000	\$ 3,471,000	\$	3,471,0
30	Stormwater Pump Station (252 cfs + round up to nearest whole pump)	cfs	267	\$ 41,697	\$ 11,133,099	\$	11,133,0
	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	\$	1,731,0
	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	Ś	20,578,0

ototal	<u> </u>	; 20	,578,000

	Estimating Contingency (10%)						\$	4,567,000
					Total Constr	uction Subtotal	<u>\$</u>	50,236,000
32	Program/Construction Management (PM) Fee (6%)	%	6%	Ś	50,236,000	\$ 3,014,16	0 \$	3,014,000
33	Permitting Fee (5%)	%	5%		50,236,000	. , ,		2,512,000
34	Architect/Engineering (A/E) Fee (10%)	%	10%	\$	50,236,000	\$ 5,023,60	0\$	5,024,000
35	CEI Management (Owner's Representative) (5%)	%	5%	\$	50,236,000	\$ 2,511,80	0\$	2,512,000
36	Construction Contingency (10%)	%	10%	\$	50,236,000	\$ 5,023,60	0\$	5,024,000
37	CIP Management Fee (6.5%)	%	6.5%	\$	50,236,000	\$ 3,265,34	0\$	3,265,000
						Subtotal	\$	21,351,000

<u>Total</u>

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

						Total Cost
						Rounded t
						the Neares
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	1000
1	Reinforced Concrete Pipe 18"	LF	861	\$ 130	\$ 111,930	\$ 112,
2	Reinforced Concrete Pipe 24"	LF	37	\$ 180	\$ 6,660	\$ 7,
3	Reinforced Concrete Pipe 30"	LF	53	\$ 220		\$ 12,
4	Reinforced Concrete Pipe 36"	LF	76	\$ 280	\$ 21,280	\$ 21,
5	Reinforced Concrete Pipe 60"	LF	2,416	\$ 580	\$ 1,401,280	\$ 1,401,
6	Reinforced Concrete Pipe 72"	LF	1,958	\$ 925	\$ 1,811,150	\$ 1,811,
7 8	Reinforced Concrete Pipe 84" Concrete Manhole - 8'	LF Each	352 24	\$ 1,200 \$ 10,650	\$ 422,400 \$ 255,600	\$ 422, \$ 256,
9	Curb Inlet	Each	48	\$ 9,475	\$ 454,800	\$ 250,
10	1-1/2" Asphalt	Ton	529	\$ 172	\$ 90,784	\$ 91,
11	10" Base	SY	7,001	\$ 20	\$ 140,021	\$ 140,
12	12" Subgrade	SY	7,284	\$ 6	\$ 42,750	\$ 43,
13	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	8,957	\$ 27	\$ 241,849	\$ 242,
14	Sodding	SY	5,661	\$ 7	\$ 41,527	\$ 42,
15	5' Wide Sidewalk	SY	5,661	\$ 27		\$ 152,
16	Curb	LF	10,189	\$ 31		\$ 320,
					Subtotal	<u>\$ 5,527,</u>
17	Mobilization	%	7%	\$ 5,527,000	\$ 386,890	\$ 387,
18	Maintenance of Traffic	%	5%	\$ 5,527,000	\$ 276,350	\$ 276,
19	Material Testing	%	1%	\$ 5,527,000	\$ 55,270	\$ 55,
20	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 5,527,000	\$ 276,350	\$ 276,
21	Utility Relocations	%	10%	\$ 5,527,000	\$ 552,700	\$ 553,
22	Additional Water Quality Improvements	%	10%	\$ 5,527,000	\$ 552,700	\$ 553,
23	Aboveground Components	%	20%	\$ 5,527,000		\$ 1,105,
24	Water Main Distribution/Transmission System Improvements	%	40%	\$ 5,527,000		\$ 2,211,
25	Sanitary Sewer Collection System Improvements	%	40%	\$ 5,527,000		\$ 2,211,
					Subtotal	<u>\$</u> 7,627,
	PUMP STATIONS					
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of					
26	>100 cfs	cfs	223	\$ 15,890	\$ 3,543,470	\$ 3,543,
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity					
27	of >100 cfs	cfs	223	\$ 13,000	\$ 2,899,000	\$ 2,899,
28	Stormwater Pump Station (210 cfs + round up to nearest whole pump)	cfs	223	\$ 41,697	\$ 9,298,431	\$ 9,298,
	Pump Station Components Include:					
	A. Wet Well/Weir Structure B. Submersible Pump	Each Each	1			
	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 Outfall Structure Includes:	LS	1	\$ 1,484,311	\$ 1,484,311	\$ 1,484,
	A. Turbidity Barrier	LS	1			
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1	1	1	
	C. Seawall with Dissipator	LF	180			
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of					
30	>100 cfs	cfs	223	\$ 15,890	\$ 3,543,470	\$ 3,543,
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity					
31 32	of >100 cfs Stormwater Pump Station (202.5 cfs + round up to nearest whole pump)	cfs cfs	223 223	\$ 13,000 \$ 41,697		\$ 2,899, \$ 9,298,
32	Pump Station Components Include:	CIS	223	\$ 41,697	\$ 9,298,431	\$ 9,298,
	A. Wet Well/Weir Structure	Each	1			ļ
	B. Submersible Pump	Each	7	1	1	
	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			ļ
	G. Emergency Generator	Each	1			
			1	\$ 1,484,311	\$ 1,484,311	\$ 1,484,
33	Outfall Structures	19		1.404.311		J.484.
33	Outfall Structures Outfall Structure Includes:	LS	1	, , , , ,	1 / 2 / 2	. , . ,
33	Outfall Structure Includes:					
33		LS LS LS	1 1 1			
33	Outfall Structure Includes: A. Turbidity Barrier	LS	1			

4,760,000 Estimating Contingency (10%) \$ Total Construction Subtotal 52,362,000 <u>\$</u> 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 CEI Management (Owner's Representative) (5%) Construction Contingency (10%) CIP Management Fee (6.5%) 5% \$ 10% \$ 6.5% \$ 52,362,000 \$ 52,362,000 \$ 2,618,100 \$ 5,236,200 \$ 2,618,000 5,236,000 % % 37 38 39 % 52,362,000 \$ 3,403,530 \$ 3,404,000

\$ <u>\$ 74,616,000</u> <u>Total</u>

22,254,000

<u>Subtotal</u>

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

						Total Cost
						Rounded to
						the Nearest
ltem No.	Item Description	Units	Quantity	Unit Cost	Total Cost	1000
1	Reinforced Concrete Pipe 18"	LF	403	\$ 130	\$ 52,390	\$ 52,00
2	Reinforced Concrete Pipe 42"	LF	19	\$ 325	\$ 6,175	\$ 6,00
3	Concrete Manhole - 8'	Each	2	\$ 10,650	\$ 21,300	\$ 21,00
4	Curb Inlet	Each	4	\$ 9,475	\$ 37,900	\$ 38,00
5	1-1/2" Asphalt	Ton	9,110	\$ 172	\$ 1,563,287	\$ 1,563,00
6	10" Base	SY	118,139	\$ 20	\$ 2,362,777	\$ 2,363,00
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	\$ 360,00
10	5' Wide Sidewalk	SY	49,110	\$ 27	\$ 1,320,066	\$ 1,320,00
11	Curb	LF	88,397	\$ 31	\$ 2,772,139	\$ 2,772,000
					<u>Subtotal</u>	<u>\$ 13,368,000</u>
12	Mobilization	%	7%	\$ 13,368,000	\$ 935,760	\$ 936,000
13	Maintenance of Traffic	%	5%	\$ 13,368,000	\$ 668,400	\$ 668,00
14	Material Testing	%	1%	\$ 13,368,000	\$ 133,680	\$ 134,00
15	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 13,368,000	\$ 668,400	\$ 668,00
16	Utility Relocations	%	10%	\$ 13,368,000	\$ 1,336,800	\$ 1,337,00
17	Additional Water Quality Improvements	%	10%	\$ 13,368,000	\$ 1,336,800	\$ 1,337,00
18	Aboveground Components	%	20%	\$ 13,368,000	\$ 2,673,600	\$ 2,674,00
19	Water Main Distribution/Transmission System Improvements	%	40%	\$ 13,368,000	\$ 5,347,200	\$ 5,347,00
20	Sanitary Sewer Collection System Improvements	%	40%	\$ 13,368,000	\$ 5,347,200	\$ 5,347,00
	<u>.</u>		•		Subtotal	\$ 18,448,000
	Estimating Contingency (10%)					\$ 3,182,00
				<u>Total Constr</u>	uction 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
					<u>Subtotal</u>	\$ <u>14,875,000</u>

<u>Total</u> <u>\$ 49,873,000</u>

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

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								e Neare
N N	line Description	11-14-1	0		Table			
Item No.	Item Description	Units	Quantity	Unit Cost	Total Co			1000
1	Reinforced Concrete Pipe 18"	LF	5,061	\$ 130		96,340	\$	496
2	Reinforced Concrete Pipe 24"	LF	1,273	\$ 180		29,140	\$	229
3	Reinforced Concrete Pipe 30"	LF	630	\$ 220		38,600	\$	139
4 5	Reinforced Concrete Pipe 36" Reinforced Concrete Pipe 42"	LF LF	2,888	\$ 280 \$ 325		08,640	\$ \$	809
6	Reinforced Concrete Pipe 42 Reinforced Concrete Pipe 48"	LF	1,129 1,363	\$ 325 \$ 425		66,925 79,275	\$ \$	579
7	Reinforced Concrete Pipe 48	LF	989	\$ 425 \$ 580		73,620	\$ \$	574
8	Reinforced Concrete Pipe 80		1,074	\$ 925		93,450	\$ \$	993
9	Reinforced Concrete Pipe 84"		3,062	\$ 1,200		74,400	\$	3,674
10	Concrete Manhole - 8'	Each	70	\$ 10,650		45,500	\$	740
10	Curb Inlet	Each	140	\$ 9,475		26,500	\$	1,32
12	1-1/2" Asphalt	Ton	1,941	\$ <u>3,473</u>		32,991	\$	333
13	10" Base	SY	25,394	\$ 20		07,872	\$	508
13	12" Subgrade	SY	25,394		-	53,447	\$	153
14	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	32,855			53,447 87,090	\$ \$	88
16	Sodding	SY	15,044			10,365	\$	11
10	5' Wide Sidewalk	SY	15,044		-	04,383	\$	404
18	Curb	LF	27,079			49,204	\$	84
10			21,075	<i>y</i> 31	Subtota		<u>\$</u>	13,17
		1	1					
19	Mobilization	%	7%	. , ,	· ·	22,390	\$	922
20	Maintenance of Traffic	%	5%	\$ 13,177,000		58,850	\$	659
21	Material Testing	%	1%	. , ,		31,770	\$	13
22	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 13,177,000		58,850	\$	65
23	Utility Relocations	%	10%	\$ 13,177,000		17,700	\$	1,31
24	Additional Water Quality Improvements	%	10%	\$ 13,177,000		17,700	\$	1,31
25	Aboveground Components	%	20%	\$ 13,177,000		35,400	\$	2,63
26	Water Main Distribution/Transmission System Improvements	%	40%	\$ 13,177,000		70,800	\$	5,27:
27	Sanitary Sewer Collection System Improvements	%	40%	\$ 13,177,000	\$ 5,2 Subtota	70,800 I	\$ \$	5,27: 18,18
					<u>5451014</u>	<u>.</u>	<u>×</u>	10,10.
	PUMP STATIONS							
	Membrane Filtration (per cfs pumped) for Pump Stations with a							
28	capacity of 41-100 cfs	cfs	89	\$ 19,800	\$ 1,7	62,200	\$	1,762
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a							
29	capacity of 41-100 cfs	cfs	89	\$ 16,000	\$ 1,4	24,000	\$	1,424
30	Stormwater Pump Station (89 cfs)	cfs	89	\$ 43,000	\$ 3,8	27,000	\$	3,82
	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	\$ 8	26,267	\$	82
31	Outfall Structure Includes:			- 020,207	~ °	20,207	Ŷ	02
	A. Turbidity Barrier	LS	1					
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1					
	C. Seawall with Dissipator	LS	100					
		1 -	100	L	Subtota	<u> </u>	\$	7,83
						-	-	
	Estimating Contingency (10%)						\$	3,92

	Estimating contingency (10/0)							Ŷ	3,520,000
		Total Construction Subtotal							
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
						9	Subtotal	<u>\$</u>	18,326,000

<u>\$ 61,447,000</u>

<u>Total</u>

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

							Total Cost
							ounded to
						τ	he Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		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
<u>4</u> 5	Reinforced Concrete Pipe 36" Reinforced Concrete Pipe 42"	LF	3,210 620	\$ 280 \$ 325	\$ 898,800 \$ 201,500	\$ \$	899,000
6	Reinforced Concrete Pipe 42	LF	1,883	\$ 425	\$ 800,275		800,000
7	Reinforced Concrete Pipe 40	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		\$ 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		\$ 1,248,327	\$	1,248,000
18	Sodding	SY	21,563	\$ 7	\$ 158,187		158,000
19	5' Wide Sidewalk	SY	21,563		\$ 579,605		580,000
20	Curb	LF	38,813	\$ 31	\$ 1,217,171		1,217,000
					<u>Subtotal</u>	<u>\$</u>	18,999,000
21	Mobilization	%	7%	\$ 18,999,000	\$ 1,329,930	\$	1,330,000
22	Maintenance of Traffic	%	5%		\$ 949,950		950,000
23	Material Testing	%	1%	. , ,	\$ 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
					<u>Subtotal</u>	<u>\$</u>	26,220,000
	PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a	1	1		Γ	1	
30	capacity of >100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$	2,828,000
50	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	CIS	1/0	Ş 15,690	\$ 2,828,420	Ş	2,828,000
31	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
52	Pump Station Components Include:	015	170	<i>Ş 41,037</i>	<i>Ş</i> 7,422,000	Ŷ	7,422,000
	A. Wet Well/ Weir Structure	Each	1			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		l	<u> </u>	
	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		Subtatal	Ś	12 004 004
					<u>Subtotal</u>	<u>></u>	13,884,000
	Estimating Contingency (10%)					\$	5,910,000
				<u>Total Constr</u>	uction Subtotal	<u>\$</u>	65,013,000
24	Drogrom (Construction Management (DMA) 5 (COV)	0/	C0/	ć (F.042.000	ć <u> </u>	ć	2 004 000
34 35	Program/Construction Management (PM) Fee (6%) Permitting Fee (5%)	%	6% 5%				3,901,000
35		%	5%	\$ 05,013,000	ې 3,250,650	Ş	3,251,000

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

<u>Total \$ 92,644,000</u>

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

						T	otal Cost
						Ro	unded to
						the	e Neares
tem No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 18"	LF	811	\$ 130	\$ 105,430	\$	105
2	Reinforced Concrete Pipe 24"	LF	1,882	\$ 180	\$ 338,760	\$	339
3	Reinforced Concrete Pipe 30"	LF	357	\$ 220	\$ 78,540	\$	79
4	Reinforced Concrete Pipe 36"	LF	683	\$ 280	\$ 191,240	\$	191
5	Reinforced Concrete Pipe 42"	LF	51	\$ 325	\$ 16,575	\$	17
6	Reinforced Concrete Pipe 48"	LF	1,323	\$ 425	\$ 562,275	\$	562
7	Reinforced Concrete Pipe 54"	LF	796		\$ 401,980	\$	402
8	Reinforced Concrete Pipe 60"	LF	3,427	\$ 580	\$ 1,987,660	\$	1,988
9	Reinforced Concrete Pipe 66"	LF	223	\$ 690	\$ 153,870	\$	154
10	Reinforced Concrete Pipe 72"	LF	319	\$ 925	\$ 295,075	Ś	295
11	Reinforced Concrete Pipe 96"	LF	969	\$ 1,325	\$ 1,283,925		1,284
12	Reinforced Concrete Pipe 120"	LF	98	\$ 1,675	\$ 164,150		164
13	Concrete Manhole - 8'	Each	44				469
13	Curb Inlet	Each	88	\$ 9,475	\$ 833,800	\$	834
14	1-1/2" Asphalt	Ton	1,682		\$ 833,800	ې \$	289
	10" Base		22,076				
16		SY				\$	442
17	12" Subgrade	SY	22,793		\$ 133,769	\$	134
18	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	28,480		\$ 768,967	\$	769
19	Sodding	SY	14,326	\$ 7	\$ 105,096	\$	105
20	5' Wide Sidewalk	SY	14,326	\$ 27	\$ 385,078	\$	385
21	Curb	LF	25,786	\$ 31	\$ 808,665	\$	809
					<u>Subtotal</u>	<u>\$</u>	9,81
22	Mobilization	%	7%	\$ 9,816,000	\$ 687,120	\$	687
23	Maintenance of Traffic	%	5%	\$ 9,816,000	\$ 490,800	\$	491
24	Material Testing	%	1%	\$ 9,816,000	\$ 98,160	\$	98
25	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 9,816,000	\$ 490,800	\$	491
26	Utility Relocations	%	10%	\$ 9,816,000	\$ 981,600	Ś	982
27	Additional Water Quality Improvements	%	10%		\$ 981,600	\$	982
28	Aboveground Components	%	20%	. , ,	\$ 1,963,200	\$	1,963
29	Water Main Distribution/Transmission System Improvements	%	40%	\$ 9,816,000	\$ 3,926,400	\$	3,926
30	Sanitary Sewer Collection System Improvements	%	40%	. , ,	\$ 3,926,400	\$	3,920
				+ -,,	<u>Subtotal</u>	\$	13,54
	PUMP STATIONS	-	1		Π		
31	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	312	\$ 15,890	\$ 4,957,680	\$	4,958
51	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a	015	512	<i>Ş</i> 15,650	÷ -,557,000	Ŷ	4,550
32	capacity of >100 cfs	cfs	312	\$ 13,000	\$ 4,056,000	\$	4,056
33	Stormwater Pump Station (308 cfs + round up to nearest whole pump)	cfs	312	\$ 13,000	\$ 13,009,464	ş Ş	13,009
33		CIS	512	\$ 41,097	\$ 15,009,404	Ş	15,005
	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
	Outfall Structure Includes:	1	1				
	A. Turbidity Barrier	LS	1			1	
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1				
	C. Seawall with Dissipator	LF	240				
					<u>Subtotal</u>	\$	24,001
	Estimating Contingency (10%)			Tatal Count	uction Subtotal	\$	4,736

	Estimating Contingency (10%)					Ş	4,736,000
				Total Consti	ruction Subtotal	<u>\$</u>	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
	· ·				<u>Subtotal</u>	\$	22,142,000

<u>Total</u>

<u>\$ 74,241,000</u>

Appendix 10.6: Basin 6 NIP Preliminary Construction Cost Estimates

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

						Total 0	Cost
						Rounde	ed to
						the Nea	
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	100	
	einforced Concrete Pipe 24"	LF	8,583	\$ 180	\$ 1,544,940		,545,0
	einforced Concrete Pipe 36"	LF	182	\$ 280	\$ 50,960	\$	51,0
	einforced Concrete Pipe 48"	LF	3,581	\$ 425	\$ 1,521,925	-	,522,0
	einforced Concrete Pipe 60"	LF	852	\$ 580	\$ 494,160		494,0
	einforced Concrete Pipe 66"	LF	554	\$ 690	\$ 382,260		382,0
	einforced Concrete Pipe 72"	LF	1.424	\$ 925	\$ 1,317,200		,317,0
	einforced Concrete Pipe 78"	LF	284	\$ 1,075		\$	305,0
	einforced Concrete Pipe 84"	LF	577	\$ 1,200	\$ 692,400	\$	692,
	oncrete Manhole - 8'	Each	65	\$ 10,650	\$ 692,250	Ś	692,
	urb Inlet	Each	130	\$ 9,475	\$ 1,231,750		,232,
	-1/2"- Asphalt	Ton	2,500	\$ 172	\$ 429,000	•	429,
	0" Base	SY	32,402		\$ 648,044		648,
	2" Subgrade	SY	33,328				196,
	ill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	42,311	\$ 27	\$ 1,142,384		,142,
	odding	SY	18,516		\$ 135,833		136
	' Wide Sidewalk	SY	18,516				498
-	urb	LF	33,328				,045
17 00		LI	55,520	γ J1	Subtotal		,326,
					Subtotur	<u>y 11</u>	,520,
18 M	Nobilization	%	7%	\$ 12,326,000	\$ 862,820	\$	863
19 M	Naintenance of Traffic	%	5%	\$ 12,326,000	\$ 616,300	\$	616
20 M	Naterial Testing	%	1%	\$ 12,326,000	\$ 123,260	\$	123
	lue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 12,326,000			616
	tility Relocations	%	10%	\$ 12,326,000			,233
23 A	dditional Water Quality Improvements	%	10%	\$ 12,326,000			,233
24 Al	boveground Components	%	20%	\$ 12,326,000		\$ 2	,465,
	Vater Main Distribution/Transmission System Improvements	%	40%	\$ 12,326,000			,930
26 Sa	anitary Sewer Collection System Improvements	%	40%	\$ 12,326,000	\$ 4,930,400	\$ 4	,930
·					Subtotal	<u>\$ 17</u>	,009,
Р	UMP STATIONS						
M	Nembrane Filtration (per cfs pumped) for Pump Stations with a capacity of						-
27 >1	100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$ 2	,828,
H	ydrodynamic Separators (per cfs pumped) for Pump Stations with a						
28 ca	apacity of >100 cfs	cfs	178	\$ 13,000	\$ 2,314,000	\$ 2	,314
29 St	tormwater Pump Station (176 cfs + round up to nearest whole pump)	cfs	178	\$ 41,697	\$ 7,422,066	\$ 7	,422
	Pump Station Components Include:						
	A. Wet Well/ Weir Structure	Each	1				
	B. Submersible Pump	Each	5				
İ	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				
	Outfall Structures	LS	1	\$ 1,319,800	\$ 1,319,800	Ş 1	.,320
	Outfall Structure Includes:	10	-				
	A. Turbidity Barrier	LS	1				
	B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS	1				
	C. Seawall with Dissipator	LF	160		<u>Subtotal</u>	\$ 13	,884
Es	stimating Contingency (10%)						,322,
				Total Const	ruction Subtotal	\$ 47	,541

		Total Constitu				Subtotui	2	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
						<u>Subtotal</u>	\$	20,204,000

<u>></u>

<u>\$ 67,745,000</u> <u>Total</u>

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

								-	Total Cost
								R	ounded t
								t	he Neares
ltem No.	Item Description	Units	Quantity	ι	Jnit Cost		Total Cost		1000
1	Reinforced Concrete Pipe 24"	LF	9,139	\$	180	\$	1,645,020	\$	1,645
2	Reinforced Concrete Pipe 30"	LF	179	\$	220	\$	39,380	\$	39
3	Reinforced Concrete Pipe 36"	LF	1,205	\$	280	\$	337,400	\$	337
4	Reinforced Concrete Pipe 42"	LF	98	\$	325	\$	31,850	\$	32
4	Reinforced Concrete Pipe 48"	LF	836	\$	425	\$	355,300	\$	355
5	Reinforced Concrete Pipe 54"	LF	223	\$	505	\$	112,615	\$	113
5	Reinforced Concrete Pipe 60"	LF	3,292	\$	580	\$	1,909,360	\$	1,909
6	Reinforced Concrete Pipe 66"	LF	297	\$	690	\$	204,930	\$	205
7	Reinforced Concrete Pipe 72"	LF	701	\$	925	\$	648,425	\$	648
8	Reinforced Concrete Pipe 78"	LF	275	\$	1,075	\$	295,625	\$	296
9	Reinforced Concrete Pipe 84"	LF	2,461	\$	1,200	\$	2,953,200	\$	2,953
10	Reinforced Concrete Pipe 96"	LF	67	\$	1,325		88,775	\$	89
11	Concrete Manhole - 8'	Each	76	\$	10,650		809,400	\$	809
12	Curb Inlet	Each	152	\$	9,475		1,440,200	\$	1,440
13	1-1/2"- Asphalt	Ton	2,740	\$	172	\$	470,184	\$	470
14	10" Base	SY	35,792	\$	20	\$	715,843	\$	716
15	12" Subgrade	SY	36,794	\$	6		215,942	\$	216
16	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	46,387	\$	27	\$	1,252,440	\$	1,252
17	5' Sidewalk	SY	20,042		27	\$	538,739	\$	539
18	Curb	LF	36,076		31		1,131,352	\$	1,131
19	Sodding	SY	20,042	\$	7	\$	147,034	\$	147
							<u>Subtotal</u>	<u>\$</u>	15,34:
20	Mobilization	%	7%	\$	15,341,000	\$	1,073,870	\$	1,074
21	Maintenance of Traffic	%	5%	\$	15,341,000	_	767,050	\$	767
22	Material Testing	%	1%	\$	15,341,000		153,410	\$	153
23	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$	15,341,000	_	767,050	\$	767
24	Utility Relocations	%	10%	\$	15,341,000	\$	1,534,100	\$	1,534
25	Additional Water Quality Improvements	%	10%	\$	15,341,000	\$	1,534,100	\$	1,534
26	Aboveground Components	%	20%	\$	15,341,000	\$	3,068,200	\$	3,068
27	Water Main Distribution/Transmission System Improvements	%	40%	\$	15,341,000	\$	6,136,400	\$	6,136
28	Sanitary Sewer Collection System Improvements	%	40%	\$	15,341,000	\$	6,136,400	\$	6,136
	PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of	[<u>Subtotal</u>	<u>\$</u>	21,169
29	>100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity	cfs	267	\$	15,890	\$	4,242,630	\$	4,243
30	of >100 cfs	cfs	267	\$	13,000	\$	3,471,000	Ś	3,471
31	Stormwater Pump Station (264 cfs + round up to nearest whole pump)	cfs	267	\$	41,697	\$	11,133,099	\$	11,133
	Pump Station Components Include:					Ĺ			,
	A. Wet Well/ Weir Structure	Each	1						
	B. Submersible Pump	Each	7						
	B. Submersible Pump	Each	7						
	B. Submersible Pump C. Flap Gate / Check Valve Valve	Each Each	7 7						
	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	Each Each LF	7 7 100						
	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	Each Each LF Each	7 7 100 7						
	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	Each Each LF Each LS Each	7 7 100 7 1 1	~	1 724 070		1 721 070	ć	1 77
32	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	Each Each LF Each LS	7 7 100 7 1	Ş	1,731,078	\$	1,731,078	\$	1,731
32	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	Each Each LF Each LS Each LS	7 7 100 7 1 1 1	\$	1,731,078	\$	1,731,078	\$	1,731
32	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	Each Each LF Each LS Each LS LS	7 7 100 7 1 1 1 1	\$	1,731,078	\$	1,731,078	\$	1,73:
32	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	Each Each LF Each LS Each LS LS LS	7 7 100 7 1 1 1 1 1 1	\$	1,731,078	\$	1,731,078	\$	1,73:
32	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	Each Each LF Each LS Each LS LS	7 7 100 7 1 1 1 1	\$	1,731,078	\$	1,731,078 Subtotal	\$	
32	B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structures Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	Each Each LF Each LS Each LS LS LS	7 7 100 7 1 1 1 1 1 1	\$	1,731,078	\$			1,731 20,578 5,705

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
					<u>Subtotal</u>	\$ 26,690,000

<u>\$</u>

<u>\$ 89,487,000</u> <u>Total</u>

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

						Total Cost
						Rounded to
						the Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	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	\$ 343,00
3	Reinforced Concrete Pipe 54"	LF	382	\$ 505	\$ 192,910	\$ 193,00
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	\$ 577,00
9	Concrete Manhole - 8'	Each	69	\$ 10,650	\$ 734,850	\$ 735,00
10	Curb Inlet	Each	138	\$ 9,475	\$ 1,307,550	\$ 1,308,00
11	1-1/2"- Asphalt	Ton	3,155	\$ 172	\$ 541,434	\$ 541,00
12	10" Base	SY	40,973	\$ 20	\$ 819,467	\$ 819,00
13	12" Subgrade	SY	41,881	\$ 6	\$ 245,794	\$ 246,00
14	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	53,422	\$ 27	\$ 1,442,381	\$ 1,442,00
15	5' Wide Sidewalk	SY	18,144	\$ 27	\$ 487,723	\$ 488,00
16	Curb	LF	32,660	\$ 31	\$ 1,024,218	\$ 1,024,00
17	Sodding	SY	18,144	\$ 7	\$ 133,110	\$ 133,00
	PUMP STATIONS				<u>Subtotal</u>	<u>\$ 13,556,00</u>
18	Mobilization	%	7%	\$ 13,556,000	\$ 948,920	\$ 949,00
19	Maintenance of Traffic	%	5%	\$ 13,556,000	\$ 677,800	\$ 678,00
20	Material Testing	%	1%	\$ 13,556,000	\$ 135,560	\$ 136,00
21	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 13,556,000	\$ 677,800	\$ 678,00
22	Utility Relocations	%	10%	\$ 13,556,000	\$ 1,355,600	\$ 1,356,00
23	Additional Water Quality Improvements	%	10%	\$ 13,556,000	\$ 1,355,600	\$ 1,356,00
24	Aboveground Components	%	20%	\$ 13,556,000	\$ 2,711,200	\$ 2,711,00
25	Water Main Distribution/Transmission System Improvements (40%)	%	40%	\$ 13,556,000	\$ 5,422,400	\$ 5,422,00
25				+	÷ 5 400 400	1
25 26	Sanitary Sewer Collection System Improvements	%	40%	\$ 13,556,000	\$ 5,422,400	\$ 5,422,00
	Sanitary Sewer Collection System Improvements	%	40%	\$ 13,556,000	\$ 5,422,400 <u>Subtotal</u>	-, ,
	Sanitary Sewer Collection System Improvements Estimating Contingency (10%)	%	40%	\$ 13,556,000	-, ,	-, ,

				Total Consti	uction Subtolui	2	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	Ş	15,084,000

<u>Total</u>

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

						Total Cost
						Rounded to
						the Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	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%	. , ,	\$ 883,150	\$ 883,000
19	Material Testing	%	1%	. , ,	\$ 176,630	\$ 177,000
20	Blue Creen Stormwater Infrastructure (BCSI)	9/	E0/		. ,	

					<u>Subtotal</u>	\$	24,374,000
25	Sanitary Sewer Collection System Improvements	%	40%	\$ 17,663,000	\$ 7,065,200	\$	7,065,000
24	Water Main Distribution/Transmission System Improvements	%	40%	\$ 17,663,000	\$ 7,065,200	\$	7,065,000
23	Aboveground Components	%	20%	\$ 17,663,000	\$ 3,532,600	\$	3,533,000
22	Additional Water Quality Improvements	%	10%	\$ 17,663,000	\$ 1,766,300	\$	1,766,000
21	Utility Relocations	%	10%	\$ 17,663,000	\$ 1,766,300	\$	1,766,000
20	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 17,663,000	\$ 883,150	\$	883,000
19	Waterial resting	/0	1/0	\$ 17,003,000	\$ 170,030	Ş	177,000

	PUMP STATIONS					
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of					
26	>100 cfs	cfs	178	\$ 15,890	\$ 2,828,420	\$ 2,828,000
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity					
27	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			

<u>Subtotal</u> \$ 13,884,000

	Estimating Contingency (10%)							\$	5,592,000
				-	Total Constr	uctio	n Subtotal	<u>\$</u>	61,513,000
30	Program/Construction Management (PM) Fee	%	6%	\$ 1	61,513,000	\$	3,690,780	\$	3,691,000
31	Permit Fee	%	5%	\$ 1	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	Ś	26,143,000

<u>Total \$ 87,656,000</u>

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

						Total Cost
						Rounded to
						the Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost	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	\$ 270,003	\$ 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
					<u>Subtotal</u>	<u>\$ </u>
17	Mobilization	%	7%		\$ 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 (BGSI)	%	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

								Ŷ	
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
							<u>Subtotal</u>	\$	13,221,000
	E 11 11 0 11 (4001)							\$	2,280,000
	Estimating Contingency (10%)								
	Estimating Contingency (10%)				Total Constr	uctior	n Subtotal	\$	25,080,000
	Estimating Contingency (10%)				<u>Total Constr</u>	uctior	n Subtotal	<u>\$</u>	25,080,000
26	Estimating Contingency (10%) Program/Construction Management (PM) Fee	%	6%	\$	<u>Total Constru</u> 25,080,000		<u>n Subtotal</u> 1,504,800	\$	25,080,000 1,505,000
26 27		%	6% 5%			\$			
	Program/Construction Management (PM) Fee			\$	25,080,000	\$ \$	1,504,800	\$	1,505,000
27	Program/Construction Management (PM) Fee Permit Fee	%	5%	\$ \$	25,080,000 25,080,000	\$ \$ \$	1,504,800 1,254,000	\$ \$	1,505,000 1,254,000
27 28	Program/Construction Management (PM) Fee Permit Fee Architect/Engineering (A/E) Fee	%	5% 10%	\$ \$ \$	25,080,000 25,080,000 25,080,000	\$ \$ \$	1,504,800 1,254,000 2,508,000	\$ \$ \$	1,505,000 1,254,000 2,508,000
27 28 29	Program/Construction Management (PM) Fee Permit Fee Architect/Engineering (A/E) Fee CEI Management (Owner's Representative)	% % %	5% 10% 5%	\$ \$ \$ \$	25,080,000 25,080,000 25,080,000 25,080,000	\$ \$ \$ \$	1,504,800 1,254,000 2,508,000 1,254,000	\$ \$ \$ \$	1,505,000 1,254,000 2,508,000 1,254,000

<u>\$ 35,739,000</u> <u>Total</u>

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

						T	otal Cost
						Ro	unded t
						th	e Neares
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 24"	LF	5,154	\$ 180		\$	928,
2	Reinforced Concrete Pipe 24	LF	834	\$ 280		\$ \$	234,
3	Reinforced Concrete Pipe 30	LF	491	\$ 325		\$	160,
3	Reinforced Concrete Pipe 48"	LF	467	\$ 425		\$	198,
4	Reinforced Concrete Pipe 54"	LF	696	\$ 505		\$	351,
5	Reinforced Concrete Pipe 60"	LF	631	\$ 580	\$ 365,980	\$	366,
6	Reinforced Concrete Pipe 84"	LF	2,293	\$ 1,200		\$	2,752,
7	Concrete Manhole - 8'	Each	43	\$ 10,650 \$ 9,475	\$ 457,950 \$ 814,850	Ş	458
8	Curb Inlet 1-1/2"- Asphalt	Each Ton	86 1,573	\$ 9,475	\$ 270,003	\$ \$	270
10	10" Base	SY	20,430			\$	409
11	12" Subgrade	SY	20,879			\$	123
12	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	26,640		\$ 719,288	\$	719
13	5' Wide Sidewalk	SY	8,987	\$ 27	\$ 241,557	\$	242
14	Curb	LF	16,176	\$ 31	\$ 507,270	\$	507
15	Sodding	SY	8,987	\$ 7	\$ 65,926	\$	66
					<u>Subtotal</u>	<u>\$</u>	8,598
16	Mobilization	%	7%	\$ 8,598,000	\$ 601,860	\$	602
10	Maintenance of Traffic	%	5%			\$	430
18	Material Testing	%	1%			\$	86
19	Blue-Green Stormwater Infrastructure (BGSI)	%	5%			\$	430
20	Utility Relocations	%	10%	\$ 8,598,000	\$ 859,800	\$	860
21	Additional Water Quality Improvements	%	10%			\$	860
22	Aboveground Components	%	20%			\$	1,720
23	Water Main Distribution/Transmission System Improvements	%	40%			\$	3,439
24	Sanitary Sewer Collection System Improvements	%	40%	\$ 8,598,000		\$	3,439
					<u>Subtotal</u>	\$	11,866
	PUMP STATIONS						
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of						
25	>100 cfs	cfs	134	\$ 15,890	\$ 2,129,260	\$	2,129
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a						
26	capacity of >100 cfs	cfs	134			\$	1,742
27	Stormwater Pump Station (132 cfs + round up to nearest whole pump)	cfs	134	\$ 41,697	\$ 5,587,398	\$	5,587
	Pump Station Components Include:	Fach	1				
	A. Wet Well/Weir Structure B. Submersible Pump	Each Each	1 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
	Outfall Structure Includes:	10	-				
	A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS LS	1				
	C. Seawall with Dissipator	LS	130				
			130	1			
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of						
29	>100 cfs	cfs	134	\$ 15,890	\$ 2,129,260	\$	2,129
	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a						
30	capacity of >100 cfs	cfs	134				1,74
31	Stormwater Pump Station (132 cfs + round up to nearest whole pump)	cfs	134	\$ 41,697	\$ 5,587,398	\$	5,58
	Pump Station Components Include: A. Wet Well/ Weir Structure	Each	1				
	B. Submersible Pump	Each	5		1		
	C. Flap Gate / Check Valve Valve	Each	5				
		LF	100	1	i		
	D. Storm Drainage Bypass Piping		5	i	İ		
	E. Watertight Wet Well Hatches	Each	5				
		Each LS	1				
	E. Watertight Wet Well Hatches						
	E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	LS Each	1				
32	E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	LS	1	\$ 1,073,033	\$ 1,073,033	\$	1,073
32	E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	LS Each LS	1 1 1	\$ 1,073,033	\$ 1,073,033	Ş	1,073
32	E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	LS Each	1	\$ 1,073,033	\$ 1,073,033	\$	1,073

\$

	Estimating Contingency (10%)							\$	4,153,00
					<u>Total Constr</u>	uctio	n Subtotal	<u>\$</u>	45,679,0
33	Program/Construction Management (PM) Fee	%	6%	¢	45,679,000	Ś	2,740,740	ć	2,741,0
34	Permit Fee	%	5%	- ·	45,679,000	\$	2,283,950		2,284,0
35	Architect/Engineering (A/E) Fee	%	10%	\$	45,679,000	\$	4,567,900	\$	4,568,0
36	CEI Management (Owner's Representative)	%	5%	\$	45,679,000	\$	2,283,950	\$	2,284,0
37	Construction Contingency	%	10%	\$	45,679,000	\$	4,567,900	\$	4,568,0
38	CIP Management Fee	%	6.5%	\$	45,679,000	\$	2,969,135	\$	2,969,0
							Subtotal	\$	19,414,0

<u>\$ 65,093,000</u> Total

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

Hern Description Units Quantity Unit Cost Total Cost Nonder 1 Reinforced Concrete Pipe 34" LF 2,485 5 330 5 323,430 5 22 2 Reinforced Concrete Pipe 34" LF 1,711 5 200 6,67,40 5 3 Reinforced Concrete Pipe 30" LF 317 5 200 6,67,40 5 3 4 Reinforced Concrete Pipe 30" LF 448 5 203 5 316,400 5 3							Total Cost		
Item Description Unit Sumitive Unit Cost Total Cost Unit Cost Total Cost Unit Cost Total Cost U000 1 Reinforced Concrete Pipe 38' U 1,711 5 100 5 32,320 5 33 5 33 5 30 5 32,320 5 30,320 5 33 6 30,320 5 33 6 30,320 5 33 6 30,320 5 33 6 30,320 5 33 6 30,320 5 33 6 30,320 5 33 6 30,320 5 33 6 30,320 5 33 6 30 10 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Rounded to</td>							Rounded to		
Item No. Item Obscription Unit Quantity Unit Cost Total Cost 1000 1 Reinfored Conces Rep 37 1 2 26 3									
1 Beniforced Concrete Pipe 3 ¹⁴ 1F 2,495 5 110 5 22,305 5 3 2 Desifierced Concrete Pipe 30 ¹⁴ 1F 1,711 5 220 5 5,704 5 3 Desifierced Concrete Pipe 30 ¹⁴ 1F 317 5 220 5 65,704 5 4 Desifierced Concrete Pipe 43 ¹⁴ 1F 4316 5 33,800 5 5 Beniforced Concrete Pipe 43 ¹⁴ 1F 46,80 44,51 33,400 5 44,60 34,75 5 41,80 5 34,000 5 44,61 34,75 5 41,80 5 34,000 5 44,61 30,75 5 6,100 5 44,61 30,75 5 6,100 5 44,61 30,75 5 5,321 5 321 2,2,231 5 31,3 2,77,20 5 32,531 5 32,531 5 32,531 5 32,531 5 32,531 5 32,531 5 32,531 5 32,531 3 2,2,2303 <th< td=""><td></td><td></td><td></td><td></td><td></td><td>_</td><td></td></th<>						_			
2 Reinforced Concrete Pipe 24" IF 1,711 5 100 5 300 (5) 5 4 Reinforced Concrete Pipe 36" IF 310 5 220 \$ 88,480 \$ 5 Reinforced Concrete Pipe 43" IF 4465 3235 \$ 33,480 \$ 3 6 Reinforced Concrete Pipe 43" IF 4465 34,755 \$ 34,000 \$ 23,300 \$ 23,300 \$ 22,3300 \$ 23,300 \$ 23,300 \$ 23,300 \$ 23,300 \$ 23,300 \$ 23,300 \$ 23,300 \$ 23,300 \$ 23,300 \$ 23,300 \$ 23,300 \$ 23,300 \$ 21,127 \$ 5,8610 \$ \$ 3,300 \$ 23,300 \$ 21,127 \$ 5,8610 \$	ltem No.	· · · · · · · · · · · · · · · · · · ·		Quantity					
3 Reinforcat Concrete Figue 30° IF 317 5 200 5 667/rect 57 67				,	•				
4 Interfaced Concrete Pipe 30° IF 916 5 88.460 5 5 Reinforced Concrete Pipe 40° IF 4026 2.325 5 318.460 5 7 7 Concrete Manhael = N Each 42 5 10.650 5 23.300 5 2 8 Curb Intet Each 44 5 9.475 5 44.600 5 9 1.1/2". Applatk Ton 322 5 8.610 5 1 10 10° Base SY 4.441 5 9.725 5 7.2758 5 12 Pill for fload Rasing (Assuming Two Feet in the Right-of-Way) CY 5.733 5 2.7 5 15.81.85 5 2 13 S Wed Sidewalk SY 3.600 5 1 5 2.22000 5 1.15 55.610 5 2 2.22000 5 2.223.000 5 2.223.000 5 2.223.000 5 2.223.000 5 2.223.000 5 2.223.000 5 2.223.000									
5 Renforced Concrete Pipe 42" LF 426 \$ 138,450 \$ 13 6 Renforced Concrete Pipe 42" LF 80 5 34,000 \$ 7 Concrete Marhole. 8" Each 42 \$ 1,0250 \$ 2,34,300 \$ 2 8 Curb Intel Each 44 \$,9475 \$ 243,300 \$ 2 9 1,12"- Asphelt Ton 342 \$ 7,72 \$,85,100 \$ 10 11" Base \$Y 4,461 \$ 9,475 \$ 2,25 \$ \$,88,121 \$ 11 12" Subgrade \$Y 4,461 \$ \$ 7,27,258 \$ 1 \$ \$ 1,25 \$ <td< td=""><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td></td<>				-					
6 Renforced Concrete Pipe A91" 1/F 80 5 242 5 14,000 5 7 Concrete Mine B Each 22 \$ 10,000 \$ 22,300 \$ 22,300 \$ 22,300 \$ 22,300 \$ 22,300 \$ 24,300 \$ 22,300 \$ 24,300 \$ <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
7 Concrete Mathole - 8' Each 22 5 2143.00 5 224 8 Curb Inlet Each 44 5 9.475 5 54 9 1.172' Apphalt Ton 342 5 172 5 58.600 5 10 107' Bose 5Y 4.491 5 20 5 38 5 12 Fill for Road Raing (Asuming Two Feet in the Right of Way) CY 5.738 22 5 2.848 5 17 3.069 5 7 5 7.25.73 5 2.2486 5 2.2 5 3.089 5 7 5 2.2.2300 5 17 5 3.069 5 1.05.600 5 2.2 3.069 5 1.05.600 5 2.2 3 1.05.55.60 5 2.2 3.069 5 1.05.600 5 2.2 3.069 2.2 3.069 2.2 3.069 2.2 3.069 2.2 3.069 2.2 3.069 2.2 3.069 2.2 3.069 2.2 3.069 <td< td=""><td>-</td><td></td><td>LF</td><td></td><td></td><td></td><td></td></td<>	-		LF						
9 11/2* 36 107 362 127 \$ \$ 58,610 \$ 10 107 Base 5Y 4,6443 \$ 20 \$ 89,812 \$ 11 12* Subgrade SY 4,6443 \$ 6 \$ 27,256 \$ 12 Fill for Road Raising (Assuming Two Feet in the Right of Way) CY 5,783 \$ 27 \$ 182,320 \$ 1 \$ 13 5'Wide Sidewalk \$Y' 3,069 \$ 7 \$ 22,320 \$ 1 \$ 7 \$ 22,320 \$ 111,150 \$ 2 22,300 \$ 111,150 \$ 1 \$ 22,300 \$ 111,150 \$ 1 \$ \$ 22,300 \$ 111,150 \$ 1 \$ \$ 111,150 \$ 1 \$ \$ 22,2300 \$ 22,2300 \$ 22,2300 \$ 22,2300 \$ 22,2300 \$ 22,2300 \$ 22,2300 \$ 22,2300 \$ 22,2300 \$	7		Each	22					
10 10° Bar 9Y 4.401 § 20 § 89,822 § 11 12° Subgrade 5Y 4.644 § 6 § 27.256 § 12 Fill for Road Raising (assuming Two Feet in the Right of Winy) CY 5.743 § 27 9 136,138 § 1 13 Sy Wide Silve wink 9Y 3.069 § 27 82,248 § 5 14 Curb 14 Curb 17 82,248 § 5 17 82,248 § 5 15 Sodding 5Y 3.069 § 7 82,223 00 5 15,5510 § 5 16 Mobilization % 7% § 5,223,000 § 11,151 § 5 1 172 Maintenance di Taffic % 138 § 2,223,000 § 11,151 § 5 1 18 Blue Green Stromwater Infrastructure (B653) % 10% § 2,223,000 § 212,230 § 2 2 223,000 § 222,300 § 222,300 § 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2<	8	Curb Inlet	Each	44	\$ 9,475	\$ 416,900	\$ 417,000		
11 12 21 22 <t< td=""><td>9</td><td></td><td>Ton</td><td></td><td>•</td><td></td><td></td></t<>	9		Ton		•				
12 Fill for Road Raising fassuming Two Feet in the Right of Way) CY 5,781 § 27 5 136,388 § 1 13 S Wide Sidewalk IF 5,524 § 31 § 173,220 § 5 1 14 Curb IF 5,524 § 31 § 173,220 § 5 2					•	. ,	. ,		
13 5''Wide Sidewalk 10''' 10''' 10''' 10''' 10''' 10''' 10''' 10''' 10''' 10''' 10''' 10''' 10''' 10''' 10'''' 10'''' 10'''' 10'''' 10'''' 10'''' 10'''' 10'''' 10'''' 10'''' 10''''' 10''''' 10''''' 10'''''' 10'''''' 10'''''' 10''''''' 10'''''''' 10''''''''''''''''''''''''''''''''''''									
14 Curb 1F 5,224 5 31 5 172,220 5 15 Sodding Sy 3,069 S 7 \$ 2,2312 5 16 Mobilization % 7% \$ 2,223,000 \$ 115,100 \$ 12 16 Motinitariance of Traffic % 7% \$ 2,223,000 \$ 115,100 \$ 1 18 Material resting % 11% \$ 2,223,000 \$ 111,150 \$ 1 20 Utility Receives formwater (frastructure (BGSI) % 5 2,223,000 \$ 2,223,000			-	,	•	. ,			
15 Sodding SY 3,069 S 7 S 22,512 S 16 Mobilization % 7% S 2,23,000 S 155,610 S 2,2 16 Mobilization % 7% S 2,223,000 S 115,610 S 1 17 Maintenance of Traffic % 5% S 2,223,000 S 115,510 S 1 18 Blue-Green Stormwater Infrastructure (BG51) % 15% S 2,223,000 S 222,300 S 223,300 S 23,32,300 S 23,32,300 S 24,32,300 S 24,52,300 S 89,2,000 S 3,44,600 S 42,400 S </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
Image: state of the s							. ,		
Interview Mobilization % 7% \$ 2.223,000 \$ 155,610 \$ 17 Maintenance of Traffic % 5% 5% \$ 2.223,000 \$ 111,150 \$ 1 18 Material Testing % 1% \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 2.223,000 \$ 8.83,200 \$ 8 2.223,000 \$ 8.89,200 \$ 8 \$ 3.60 \$ 3.60 \$ 3.60 \$ 1.7 \$ 3.60 \$ 1.2 \$ 8.89 1.9,600 \$ 1.42,600 \$ 1.43 \$ \$ 1.6,00 \$ 1.42,600 \$ 1.43 \$ \$ 1.6,00 <td>15</td> <td>Sodding</td> <td>SY</td> <td>3,069</td> <td>Ş /</td> <td></td> <td></td>	15	Sodding	SY	3,069	Ş /				
17 Matricance of Traffic % \$\$ \$2,223,000 \$ \$111,150 \$ 1 18 Material Testing % 1% \$2,223,000 \$ 212,230 \$ 22,2300 \$ 21,1150 \$ 1 20 Utility Relocations % 10% \$ 2,223,000 \$ 212,230 \$ 222,2300 \$ 222,2300 \$ 222,2300 \$ 222,2300 \$ 222,2300 \$ 222,2300 \$ 222,300 \$ 222,300 \$ 222,300 \$ 222,300 \$ 222,300 \$ 889,200 \$ 8 \$ 2,223,000 \$ 889,200 \$ \$ 3,6 PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a cfs 89 \$ 1,600 \$ 1,7 \$ 3,6 \$ 1,7 \$ 3,6 \$ 1,7 \$ 3,6 \$ 1,600 \$ 1,7 \$ 3,6 \$ 1,7 \$ 3,6 \$ 1,7 \$ 3						Subtotal	<u>\$ 2,223,000</u>		
17 Matricance of Traffic % \$\$ \$2,223,000 \$ \$111,150 \$ 1 18 Material Testing % 1% \$2,223,000 \$ 212,230 \$ 22,2300 \$ 21,1150 \$ 1 20 Utility Relocations % 10% \$ 2,223,000 \$ 212,230 \$ 222,2300 \$ 222,2300 \$ 222,2300 \$ 222,2300 \$ 222,2300 \$ 222,2300 \$ 222,300 \$ 222,300 \$ 222,300 \$ 222,300 \$ 222,300 \$ 889,200 \$ 8 \$ 2,223,000 \$ 889,200 \$ \$ 3,6 PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a cfs 89 \$ 1,600 \$ 1,7 \$ 3,6 \$ 1,7 \$ 3,6 \$ 1,7 \$ 3,6 \$ 1,600 \$ 1,7 \$ 3,6 \$ 1,7 \$ 3,6 \$ 1,7 \$ 3	16	Mobilization	%	7%	\$ 2,223,000	\$ 155.610	\$ 156,000		
18 Material Testing % 1% \$ 2,22,000 \$ 2,22,200 \$ 19 Blue Green Stormwater Infrastructure (BGSI) % 10% \$ 2,223,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 222,23,000 \$ 242,23,000 \$ 244,23,000 \$ 444,600 \$ 444,600 \$ 444,600 \$ 40% \$ 2,223,000 \$ 889,200 \$ 8 \$ 2,223,000 \$ 889,200 \$ 8 \$ 2,223,000 \$ 8 \$ 2,223,000 \$ 8 \$ 2,223,000 \$ 8 \$ 2,223,000 \$ \$ 3 \$ 2,223,000 \$ \$ 3 \$ 2,223,000 \$ \$ 3,60 \$ \$									
19 Blue-Green Stormwater Infrastructure (BGSI) % 1% 5 \$ 2,223,000 \$ 11,150 \$ 1 20 Utility Relocations % 10% \$ 2,223,000 \$ 3,827,000 \$ 3,827,000 \$ 3,827,000 \$ 3,827,000 \$ 3,827,000 \$ 1,762,200 \$ 1,76					. , ,		. ,		
21 Additional Water Quality Improvements % 10% \$ 222,000 \$ 22,200 \$ 22,200 \$ 22,200 \$ 22,200 \$ 22,200 \$ 22,200 \$ 22,200 \$ 22,200 \$ 22,200 \$ 22,200 \$ 22,200 \$ 24 Sanitary Sewer Collection System Improvements % 40% \$ 2,223,000 \$ 889,200 \$ 8 2,223,000 \$ 889,200 \$ 8 2,223,000 \$ 889,200 \$ 8 8 2,223,000 \$ 889,200 \$ 8 \$ 1,000 \$ 889,200 \$ 1,000 \$ 1,000 \$ 1,000 \$ 1,000 \$ 1,000 \$ 1,000 \$ 1,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 \$ 1,424,000 <td></td> <td>ő</td> <td>%</td> <td></td> <td>. , ,</td> <td>. ,</td> <td>. ,</td>		ő	%		. , ,	. ,	. ,		
22 Aboveground Components % 20% 5 2,223,000 5 444,800 5 4 23 Water Main Distribution/Transmission System Improvements % 40% \$ 2,223,000 \$ 889,200 \$ 889,200 \$ 889,200 \$ 889,200 \$ 889,200 \$ 889,200 \$ 889,200 \$ 889,200 \$ 889,200 \$ 889,200 \$ 889,200 \$ 8.89,200 \$ 8.89,200 \$ 8.9 \$ 3.60 PUMP Stations with a capacity of 41-100 cfs capacity of 41-100 cfs cfs 89 \$ 1.6,000 \$ 1.42,4,000 \$ 1.42,4,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 \$ 3.827,000 <td>20</td> <td></td> <td>%</td> <td>10%</td> <td></td> <td></td> <td></td>	20		%	10%					
23 Water Main Distribution/Transmission System Improvements % 40% \$ 2,223,000 \$ 889,200 \$ 8 24 Sanitary Sever Collection System Improvements % 40% \$ 2,223,000 \$ 889,200 \$ 8 Value Stations System Improvements % 40% \$ 2,223,000 \$ 889,200 \$ 8 Value Stations System Improvements % 40% \$ 2,223,000 \$ 889,200 \$ 8 Value Station System Improvements % 40% \$ 2,223,000 \$ 889,200 \$ 8 8 8 9 5 1,00 \$ 1,00 \$ 1,00 \$ 1,00 \$ 1,00 \$ 1,00 \$ 1,24,000 \$ 1,42,000 \$ 1,42,000 \$ 1,42,000 \$ 1,42,000 \$ 1,42,000 \$ 1,42,000 \$ 1,60 \$ 1,60 \$ 1,60 \$ 1,60 \$ 1,60 \$ 1,60 \$ 1,60 \$ 1,60 \$ 1,60 \$	21	Additional Water Quality Improvements	%	10%	\$ 2,223,000	\$ 222,300	\$ 222,000		
24 Sanitary Sever Collection System Improvements % 40% \$ 2,223,000 \$ 889,200 \$ 8 PUMP STATIONS PUMP STATIONS Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs cfs 89 \$ 19,800 \$ 1,762,200 \$ 1,77 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 \$ 3,627,000 \$ 3,627,000 \$ 3,627,000 \$ 3,627,000 \$ 3,627,67 \$ 826,267 \$ 8	22	Aboveground Components	%	20%	\$ 2,223,000	\$ 444,600	\$ 445,000		
Subtate \$ 3.0 PUMP STATIONS Image: Subtate in the image	23	Water Main Distribution/Transmission System Improvements	%	40%	\$ 2,223,000	\$ 889,200	\$ 889,000		
PUMP STATIONS 12 capacity of 41-100 cfs cfs 89 \$ 19,800 \$ 1,762,200 <th \$="" 1,762,200<="" <="" colspan="2" td=""><td>24</td><td>Sanitary Sewer Collection System Improvements</td><td>%</td><td>40%</td><td>\$ 2,223,000</td><td>\$ 889,200</td><td>\$ 889,000</td></th>	<td>24</td> <td>Sanitary Sewer Collection System Improvements</td> <td>%</td> <td>40%</td> <td>\$ 2,223,000</td> <td>\$ 889,200</td> <td>\$ 889,000</td>		24	Sanitary Sewer Collection System Improvements	%	40%	\$ 2,223,000	\$ 889,200	\$ 889,000
Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs cfs 89 5 16,000 \$ 1,424,000 \$ 1,44 14 Pump Station (60 cfs + round up to nearest whole pump) cfs 89 \$ 14 9 14 9 14 9 14 9 14 9 14 14 9 14 9 14 14 9 14 3 14 14 9 14 3 14 <th></th> <th>Membrane Filtration (per cfs pumped) for Pump Stations with a</th> <th></th> <th></th> <th></th> <th></th> <th></th>		Membrane Filtration (per cfs pumped) for Pump Stations with a							
13 capacity of 41-100 cfs cfs 89 \$ 16,000 \$ 1,424,000 \$ 3,527,000 \$ 3,527,000 \$ 3,527,000 \$ 3,527,000 \$ 3,527,000 \$ 3,527,000 \$ 3,527,000 \$ 3,527,000 \$ 3,527,000 \$ 3,527,000 \$ 3,527,000 \$ 3,527,000 \$ 1,5 1<	12	capacity of 41-100 cfs	-6-			ć 1 7C2 200			
14 Pump Station (60 cfs + round up to nearest whole pump) cfs 89 \$ 43,000 \$ 3,827,000 \$ 3,8 Pump Station Components Include:			CTS	89	\$ 19,800	\$ 1,762,200	\$ 1,762,000		
Pump Station Components Include: 1 1 1 1 A. Wet Well/ Weir Structure Each 1 1 1 1 B. Submersible Pump Each 3 1 1 1 1 C. Flap Gate / Check Valve Valve Each 3 1 1 1 1 1 D. Storm Drainage Bypass Piping LF 100 1	10	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a							
A. Wet Well/Weir Structure Each 1		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		
B. Submersible Pump Each 3 Image: Submersible Pump Each 3 Image: Submersible Pump Submersible Pump <td></td> <td>Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump)</td> <td>cfs</td> <td>89</td> <td>\$ 16,000</td> <td>\$ 1,424,000</td> <td>\$ 1,424,000</td>		Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump)	cfs	89	\$ 16,000	\$ 1,424,000	\$ 1,424,000		
C. Flap Gate / Check Valve Valve Each 3 Image: Storm Drainage Bypass Piping LF 100 D. Storm Drainage Bypass Piping LF 100 Image: Storm Drainage Bypass Piping Image: Store		Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include:	cfs cfs	89 89	\$ 16,000	\$ 1,424,000	\$ 1,424,000		
D. Storm Drainage Bypass Piping LF 100		Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure	cfs cfs Each	89 89 1	\$ 16,000	\$ 1,424,000	\$ 1,424,000		
E. Watertight Wet Well Hatches Each 3 Image: Construction of the second s		Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump	cfs cfs Each Each	89 89 1 3	\$ 16,000	\$ 1,424,000	\$ 1,424,000		
G. Emergency Generator Each 1 Image: Construction Management (PM) Fee Each 1 Image: Construction Management (PM) Fee K 6% \$ 14,442,000 \$ 722,100 \$ 722		Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve	cfs cfs Each Each Each	89 89 1 3 3	\$ 16,000	\$ 1,424,000	\$ 1,424,000		
15 Outfall Structures LS 1 \$ 826,267 </td <td></td> <td>Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping</td> <td>cfs cfs Each Each Each LF</td> <td>89 89 1 3 3 100</td> <td>\$ 16,000</td> <td>\$ 1,424,000</td> <td>\$ 1,424,000</td>		Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	cfs cfs Each Each Each LF	89 89 1 3 3 100	\$ 16,000	\$ 1,424,000	\$ 1,424,000		
Outfall Structure Includes: Image: Construction Subtoal Subtoal A. Turbidity Barrier LS 1 Image: Construction Management (PM) Fee K 6 \$ 14,442,000 \$ 866,520 \$ 8 2 7 Architect/Engineering (A/E) Fee % 6% \$ 14,442,000 \$ 727 Architect/Engineering (A/E) Fee % 10% \$ 1,4442,000 \$ 72,90 \$ 7,90 7 7 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 <		Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	cfs cfs Each Each Each LF Each	89 89 1 3 3 100 3	\$ 16,000	\$ 1,424,000	\$ 1,424,000		
Outfall Structure Includes: Image: Construction Subtoal Subtoal A. Turbidity Barrier LS 1 Image: Construction Management (PM) Fee K 6 \$ 14,442,000 \$ 866,520 \$ 8 2 7 Architect/Engineering (A/E) Fee % 6% \$ 14,442,000 \$ 727 Architect/Engineering (A/E) Fee % 10% \$ 1,4442,000 \$ 72,90 \$ 7,90 7 7 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 <		Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	cfs cfs Each Each Each LF Each LS	89 89 1 3 3 100 3 1	\$ 16,000	\$ 1,424,000	\$ 1,424,000		
A. Turbidity Barrier LS 1 B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) LS 1 <td< td=""><td>14</td><td>Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator</td><td>cfs cfs Each Each Each LF Each LS Each</td><td>89 89 1 3 3 100 3 1 1 1</td><td>\$ 16,000 \$ 43,000</td><td>\$ 1,424,000 \$ 3,827,000</td><td>\$ 1,424,000 \$ 3,827,000</td></td<>	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	cfs cfs Each Each Each LF Each LS Each	89 89 1 3 3 100 3 1 1 1	\$ 16,000 \$ 43,000	\$ 1,424,000 \$ 3,827,000	\$ 1,424,000 \$ 3,827,000		
B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) LS 1 C. Seawall with Dissipator LF 100	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	cfs cfs Each Each Each LF Each LS Each	89 89 1 3 3 100 3 1 1 1	\$ 16,000 \$ 43,000	\$ 1,424,000 \$ 3,827,000	\$ 1,424,000 \$ 3,827,000		
C. Seawall with Dissipator LF 100 Subtotal \$ 7,8 Estimating Contingency (10%) \$ \$ 1,3 \$ 1,4 25 Program/Construction Management (PM) Fee % 6% \$ 14,442,000 \$ 866,520 \$ 8 26 Permit Fee % 5% \$ 14,442,000 \$ 722,100 \$ 7 27 Architect/Engineering (A/E) Fee % 10% \$ 1,444,200 \$ 1,442,000 \$ 72,100 \$ 7 28 CEI Management (Owner's Representative) % 5% \$ 1,444,200 \$ 7 29 Construction Contingency % 10% \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes:	cfs cfs Each Each LF Each LS Each LS	89 89 1 3 3 100 3 1 1 1 1	\$ 16,000 \$ 43,000	\$ 1,424,000 \$ 3,827,000	\$ 1,424,000 \$ 3,827,000		
Subtotal \$ 7,8 Estimating Contingency (10%) \$ 1,3 Total Construction Subtotal \$ 25 Program/Construction Management (PM) Fee % 6% \$ 14,442,000 \$ 866,520 \$ 88 26 Permit Fee % 5% \$ 14,442,000 \$ 722,100 \$ 7 27 Architect/Engineering (A/E) Fee % 10% \$ 1,444,200 \$ 1,442,000 \$ 72,100 \$ 7 28 CEI Management (Owner's Representative) % 5% \$ 1,444,200 \$ 7 29 Construction Contingency % 10% \$ 1,444,200 \$ 1,444,200	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier	cfs cfs Each Each LF Each LS Each LS LS	89 89 1 1 3 3 100 3 1 1 1 1 1	\$ 16,000 \$ 43,000	\$ 1,424,000 \$ 3,827,000	\$ 1,424,000 \$ 3,827,000		
Stimating Contingency (10%) \$ 1,3 Total Construction Subtotal \$ 14,4 25 Program/Construction Management (PM) Fee % 6% \$ 14,442,000 \$ 866,520 \$ 86 26 Permit Fee % 5% \$ 14,442,000 \$ 722,100 \$ 72 27 Architect/Engineering (A/E) Fee % 10% \$ 14,442,000 \$ 1,444,200	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	cfs cfs Each Each LF Each LS Each LS LS LS	89 89 1 1 3 3 100 3 1 1 1 1 1 1 1	\$ 16,000 \$ 43,000	\$ 1,424,000 \$ 3,827,000	\$ 1,424,000 \$ 3,827,000		
Total Construction Subtotal \$ 14,44 25 Program/Construction Management (PM) Fee % 6% \$ 14,442,000 \$ 866,520 \$ 88 26 Permit Fee % 5% \$ 14,442,000 \$ 72,100 \$ 77 27 Architect/Engineering (A/E) Fee % 10% \$ 1,444,200 \$ 1,442,000 \$ 1,444,200 \$ 1,442,000 \$ 1,442,000 \$ 1,444,200 \$	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Nutrality Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	cfs cfs Each Each LF Each LS Each LS LS LS	89 89 1 1 3 3 100 3 1 1 1 1 1 1 1	\$ 16,000 \$ 43,000	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,267	\$ 1,424,000 \$ 3,827,000 \$ 826,000		
Total Construction Subtotal \$ 14,44 25 Program/Construction Management (PM) Fee % 6% \$ 14,442,000 \$ 866,520 \$ 88 26 Permit Fee % 5% \$ 14,442,000 \$ 72,100 \$ 77 27 Architect/Engineering (A/E) Fee % 10% \$ 1,444,200 \$ 1,442,000 \$ 1,444,200 \$ 1,442,000 \$ 1,442,000 \$ 1,444,200 \$	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Nutrality Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	cfs cfs Each Each LF Each LS Each LS LS LS	89 89 1 1 3 3 100 3 1 1 1 1 1 1 1	\$ 16,000 \$ 43,000	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,267	\$ 1,424,000 \$ 3,827,000 \$ 826,000		
26 Permit Fee % 5% \$ 14,442,000 \$ 722,100 \$ 72 27 Architect/Engineering (A/E) Fee % 10% \$ 14,442,000 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,244,200	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS Each LS LS LS	89 89 1 1 3 3 100 3 1 1 1 1 1 1 1	\$ 16,000 \$ 43,000	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,267	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,000 \$ 826,000 \$ 7,839,000		
26 Permit Fee % 5% \$ 14,442,000 \$ 722,100 \$ 72 27 Architect/Engineering (A/E) Fee % 10% \$ 14,442,000 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,244,200	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS Each LS LS LS	89 89 1 1 3 3 100 3 1 1 1 1 1 1 1	\$ 16,000 \$ 43,000 \$ 43,000 \$ 826,267	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,267 \$ 826,267	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,000 \$ 826,000 \$ 1,313,000		
27 Architect/Engineering (A/E) Fee % 10% \$ 14,442,000 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,444,200 \$ 1,244,200 <th< td=""><td>14</td><td>Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator</td><td>cfs cfs Each Each Each LS Each LS LS LS LS LS LF</td><td>89 89 1 1 3 1 000 3 1 1 1 1 1 1 1 1 000</td><td>\$ 16,000 \$ 43,000 \$ 43,000 \$ 826,267 \$ 826,267 <u>Total Constru</u></td><td>\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,267 \$ 826,267 <u>Subtotal</u></td><td>\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,000 \$ 826,000 \$ 1,313,000 \$ 1,4,442,000</td></th<>	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each Each LS Each LS LS LS LS LS LF	89 89 1 1 3 1 000 3 1 1 1 1 1 1 1 1 000	\$ 16,000 \$ 43,000 \$ 43,000 \$ 826,267 \$ 826,267 <u>Total Constru</u>	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,267 \$ 826,267 <u>Subtotal</u>	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,000 \$ 826,000 \$ 1,313,000 \$ 1,4,442,000		
28 CEI Management (Owner's Representative) % 5% \$ 14,442,000 \$ 722,100 \$ 72	14	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS Each LS LS LS LS LS LF	89 89 1 1 3 100 3 1 1 1 1 1 1 1 100 6%	\$ 16,000 \$ 43,000 \$ 43,000 \$ 826,267 \$ 826,267 <u>Total Constru</u> \$ 14,442,000	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,267 \$ 826,267 \$ 826,267 \$ uction Subtotal \$ 866,520	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,000 \$ 1,313,000 \$ 1,313,000 \$ 1,313,000 \$ 14,442,000 \$ 867,000		
29 Construction Contingency % 10% \$ 14,442,000 \$ 1,444,200 \$ 1,44	14 15 25 26	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS Each LS LS LS LS LS LS K S LS K S K S K S K	89 89 1 1 3 100 3 1 1 1 1 1 1 1 1 00 8% 5%	\$ 16,000 \$ 43,000 \$ 43,000 \$ 826,267 \$ 826,267 \$ 14,442,000 \$ 14,442,000	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,267 \$ 826,267	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,000 \$ 1,313,000 \$ 1,313,000 \$ 1,313,000 \$ 1,313,000 \$ 1,312,000 \$ 1,322,000 \$ 1,322		
	14 15 15 25 26 27	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS Each LS LS LS LS LS LS KF	89 89 1 1 3 100 3 1 1 1 1 1 1 1 1 00 8% 5% 10%	\$ 16,000 \$ 43,000 \$ 43,000 \$ 826,267 \$ 826,267 \$ 14,442,000 \$ 14,442,000 \$ 14,442,000 \$ 14,442,000	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,267 \$ 826,267 Subtotal \$ 866,520 \$ 722,100 \$ 1,444,200	\$ 1,424,000 \$ 3,827,000 \$ 3,722,000 \$ 3,722,000 \$ 3,722,000 \$ 3,722,000 \$ 3,724,000 \$ 3,722,000 \$ 3,724,000 \$ 3,722,000 \$ 3,724,000 \$ 3,722,000 \$ 3,724,000 \$ 3,7		
30 CIP Management Fee % 6.5% \$ 14,442,000 \$ 938,730 \$ 9	14 15 15 25 26 27 28	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 41-100 cfs Pump Station (60 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Program/Construction Management (PM) Fee Permit Fee Architect/Engineering (A/E) Fee CEI Management (Owner's Representative)	cfs cfs Each Each LF Each LS Each LS LS LS LS LS LF % % % %	89 89 1 1 3 3 100 3 1 1 1 1 1 1 1 1 1 00 100	\$ 16,000 \$ 43,000 \$ 43,000 \$ 43,000 \$ 43,000 \$ 43,000 \$ 14,442,000 \$ 14,442,000	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 826,267 \$ 826,267 \$ 826,267 Subtotal Subtotal \$ 866,520 \$ 722,100 \$ 1,444,200 \$ 722,100	\$ 1,424,000 \$ 3,827,000 \$ 3,827,000 \$ 3,827,000 \$ 3,827,000 \$ 1,313,000 \$ 1,313,000 \$ 1,313,000 \$ 1,313,000 \$ 1,313,000 \$ 1,313,000 \$ 1,4442,000 \$ 722,000 \$ 1,444,000 \$ 722,000		

938,730 \$ 6,138,000 <u>Subtotal</u> \$

20,580,000 <u>Total</u> <u>\$</u>

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

						T	otal Cost
						Ro	ounded to
							e Nearest
Item No.	Item Description	Units	Quantity	Unit Cost	Total Cost		1000
1	Reinforced Concrete Pipe 24"	LF	5,500		\$ 1,650,000	\$	1,650,0
2	Reinforced Concrete Pipe 54"	LF	32	-			34,0
3	Reinforced Concrete Pipe 54	LF	52	\$ 1,250	\$ 8,750	\$	9,0
4	Reinforced Concrete Pipe 72"	LF	4,080	\$ 1,629	\$ 6,646,320	\$	6,646,0
5	Concrete Manhole - 8'	Each	39	\$ 10,650	\$ 415,350	\$	415,0
6	Curb Inlet	Each	78	\$ 9,475	\$ 739,050	\$	739,0
7	1-1/2"- Asphalt	Ton	7,005		\$ 1,202,106	\$	1,202,
8	10" Base	SY	91,585	\$ 20	\$ 1,831,698	\$	1,832,
9	12" Subgrade	SY	94,214	\$6	\$ 552,934	\$	553,
10	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	59,304	\$ 27	\$ 1,601,207	\$	1,601,
11	5' Wide Sidewalk	SY	26,290	\$ 27	\$ 706,667	\$	707,
12	Curb	LF	47,321	\$ 31	\$ 1,484,001	\$	1,484,
13	Sodding	SY	26,290	\$ 7	\$ 192,865	\$	193,
					<u>Subtotal</u>	<u>\$</u>	17,065,
14	Mobilization	%	7%	\$ 17,065,000	\$ 1,194,550	\$	1,195,
15	Maintenance of Traffic	%	5%	\$ 17,065,000	\$ 853,250	\$	853,
16	Material Testing	%	1%	\$ 17,065,000	\$ 170,650	\$	171,
17	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 17,065,000	\$ 853,250	\$	853,
18	Utility Relocations	%	10%	\$ 17,065,000	\$ 1,706,500	\$	1,707,
19	Additional Water Quality Improvements	%	10%	\$ 17,065,000	\$ 1,706,500	\$	1,707,
20	Aboveground Components	%	20%	\$ 17,065,000	\$ 3,413,000	\$	3,413,
21	Water Main Distribution/Transmission System Improvements	%	40%	\$ 17,065,000	\$ 6,826,000	\$	6,826,
22	Sanitary Sewer Collection System Improvements	%	40%	\$ 17,065,000	\$ 6,826,000	\$	6,826,
	PUMP STATIONS					1	
23	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of	cfs	180	\$ 15.890	\$ 2,860,200	Ś	2.860.
23	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	180	\$ 15,890	\$ 2,860,200	\$	2,860,
23	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of	cfs cfs	180	\$ 15,890 \$ 13,000			2,860, 2,340,
	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity			,		\$	2,340,
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs	cfs	180	\$ 13,000	\$ 2,340,000	\$	2,340,
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs)	cfs	180	\$ 13,000	\$ 2,340,000	\$	2,340,
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include:	cfs cfs	180 180	\$ 13,000	\$ 2,340,000	\$	2,340
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure	cfs cfs Each Each Each	180 180 1 1 6 6	\$ 13,000	\$ 2,340,000	\$	2,340
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	cfs cfs Each Each Each LF	180 180 1 1 6 6 6 100	\$ 13,000	\$ 2,340,000	\$	2,340,
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	cfs cfs Each Each Each LF Each	180 180 1 1 6 6 100 6	\$ 13,000	\$ 2,340,000	\$	2,340
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	cfs cfs Each Each Each LF Each LS	180 180 1 1 6 6 100 6 1	\$ 13,000	\$ 2,340,000	\$	2,340
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	cfs cfs Each Each Each LF Each	180 180 1 1 6 6 100 6	\$ 13,000	\$ 2,340,000	\$	2,340,
24 25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	cfs cfs Each Each Each LF Each LS Each	180 180 1 1 6 6 100 6 100 6 1 1	\$ 13,000 \$ 41,697	\$ 2,340,000 \$ 7,505,460	\$ \$	2,340, 7,505,
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	cfs cfs Each Each Each LF Each LS	180 180 1 1 6 6 100 6 100 6 1 1	\$ 13,000	\$ 2,340,000	\$ \$	2,340, 7,505,
24 25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes:	cfs cfs Each Each LF Each LS Each LS	180 180 1 1 6 6 100 6 1 1 1 1 1	\$ 13,000 \$ 41,697	\$ 2,340,000 \$ 7,505,460	\$ \$	2,340, 7,505,
24 25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	cfs cfs Each Each Each LF Each LS LS	180 180 1 1 6 6 6 100 6 1 1 1 1 1 1	\$ 13,000 \$ 41,697	\$ 2,340,000 \$ 7,505,460	\$ \$	
24 25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	cfs cfs Each Each LF Each LS Each LS LS LS	180 180 1 1 6 6 6 100 6 1 1 1 1 1 1 1	\$ 13,000 \$ 41,697	\$ 2,340,000 \$ 7,505,460	\$ \$	2,340, 7,505,
24 25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes: A. Turbidity Barrier	cfs cfs Each Each Each LF Each LS LS	180 180 1 1 6 6 6 100 6 1 1 1 1 1 1	\$ 13,000 \$ 41,697	\$ 2,340,000 \$ 7,505,460	\$ \$	2,340, 7,505, 1,320,
24 25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS Each LS LS LS	180 180 1 1 6 6 6 100 6 1 1 1 1 1 1 1	\$ 13,000 \$ 41,697	\$ 2,340,000 \$ 7,505,460 	\$ \$ \$ \$	2,340, 7,505, 1,320, 1,320,
24 25	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	cfs cfs Each Each LF Each LS Each LS LS LS	180 180 1 1 6 6 6 100 6 1 1 1 1 1 1 1	\$ 13,000 \$ 41,697 	\$ 2,340,000 \$ 7,505,460 	\$ \$ 	2,340, 7,505, 1,320, 1,320, 14,025, 5,464,
24 25 26	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS Each LS LS LS LS LS LF	180 180 1 1 6 6 100 6 1 1 1 1 1 1 1 1 1 1 1 60	\$ 13,000 \$ 41,697 \$ 1,319,800 \$ 1,319,800 Total Const.	\$ 2,340,000 \$ 7,505,460 \$ 1,319,800 \$ 1,319,800 <u>Subtotal</u>	\$ \$ \$ \$ \$ \$	2,340, 7,505, 1,320, 1,320, 14,025, 5,464, 60,105,
24 25 26 26 27	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS LS LS LS LS LS LS	180 180 1 1 6 6 100 6 1 1 1 1 1 1 1 1 1 60	\$ 13,000 \$ 41,697 \$ 1,319,800 \$ 1,319,800 Total Const. \$ 60,105,000	\$ 2,340,000 \$ 7,505,460 \$ 1,319,800 \$ 1,319,800 Subtotal \$ 3,606,300	\$ \$ \$ \$ \$ \$ \$ \$	2,340, 7,505, 1,320, 1,320, 5,464, 60,105, 3,606,
24 25 26 26 27 28	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS LS LS LS LS LS KF	180 180 11 6 6 100 6 11 1 1 1 1 1 1 1 60	\$ 13,000 \$ 41,697 41,697 1,319,800 5 1,319,800 5 60,105,000 \$ 60,105,000	\$ 2,340,000 \$ 7,505,460 \$ 7,505,460 \$ 1,319,800 \$ 1,319,800 Subtotal \$ 3,606,300 \$ 3,005,250	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,340, 7,505, 1,320, 1,320, 5,464, 60,105, 3,606, 3,005,
24 25 26 26 27 28 29	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS LS LS LS LS LS S S S S S S S S S S	180 180 180 1 1 6 6 100 6 1 1 1 1 1 1 1 6 6 5% 10%	\$ 13,000 \$ 41,697 41,697 1,319,800 \$ 1,319,800 5 60,105,000 \$ 60,105,000 \$ 60,105,000	\$ 2,340,000 \$ 7,505,460 \$ 7,505,460 \$ 1,319,800 \$ 1,319,800 \$ 1,319,800 \$ 1,319,800 \$ 1,319,800 \$ 3,606,300 \$ 3,005,250 \$ 6,010,500	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,340, 7,505, 1,320, 1,320, 5,464, 60,105, 3,606, 3,005, 6,011,
24 25 26 26 27 28	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (180 cfs) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	cfs cfs Each Each LF Each LS LS LS LS LS LS KF	180 180 11 6 6 100 6 11 1 1 1 1 1 1 1 60	\$ 13,000 \$ 41,697 41,697 1,319,800 1,319,800 5 60,105,000 \$ 60,105,000 \$ 60,105,000 \$ 60,105,000 \$ 60,105,000	\$ 2,340,000 \$ 7,505,460 \$ 7,505,460 \$ 1,319,800 \$ 1,319,800 \$ 1,319,800 \$ 1,319,800 \$ 1,319,800 \$ 1,319,800 \$ 3,606,300 \$ 3,005,250 \$ 6,010,500 \$ 3,005,250	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,340, 7,505,

<u>\$ 85,650,000</u> <u>Total</u>

\$

25,545,000

Subtotal

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

							Tota	al Cost
							Rour	nded to
							the N	Nearest
Item No.	Item Description	Units	Quantity	Unit Cost		Total Cost		000
1	Reinforced Concrete Pipe 24"	LF	248	\$ 300	\$	74,400	\$	74,00
2	Reinforced Concrete Pipe 36"	LF	76		\$	39,976		40,00
3	Reinforced Concrete Pipe 60"	LF	767	\$ 1,250	\$	958,750	\$	959,00
4	Reinforced Concrete Pipe 72"	LF	8,970	\$ 1,629	\$	14,612,130		14,612,00
5	Reinforced Concrete Pipe 84"	LF	79	\$ 2,200	\$	173,800	\$	174,00
6	Concrete Manhole - 8'	Each	41	\$ 10,650	_	436,650		437,00
7	Curb Inlet	Each	82			776,950	\$	777,00
8	1-1/2"- Asphalt	Ton	3,503		-	601,053	\$	601,00
9	10" Base	SY	45,792		-	915,849	\$	916,00
10	12" Subgrade	SY	47,107			276,467	\$	276,00
11	Fill for Road Raising (Assuming Two Feet in the Right-of-Way)	CY	59,304			1,601,207	\$	1,601,00
12	5' Wide Sidewalk	SY LF	26,290		· ·	706,667	\$	707,00
13 14	Curb Sodding	LF SY	47,321 26,290		\$ \$	1,484,001 192,865	\$ \$	1,484,00 193,00
14	Souding	31	20,290	ş /	Ş	Subtotal	\$	22,851,00
						Subtotui	2	22,031,00
15	Mobilization	%	7%	\$ 22,851,000	Ś	1,599,570	Ś	1,600,00
16	Maintenance of Traffic	%	5%	\$ 22,851,000			\$	1,143,00
17	Material Testing	%	1%	\$ 22,851,000		228,510		229,00
18	Blue-Green Stormwater Infrastructure (BGSI)	%	5%	\$ 22,851,000		1,142,550		1,143,00
19	Utility Relocations	%	10%	\$ 22,851,000		2,285,100	\$	2,285,00
20	Water Quality Improvements	%	10%	\$ 22,851,000		2,285,100	\$	2,285,00
21	Aboveground Components	%	20%	\$ 22,851,000		4,570,200	\$	4,570,00
22	Water Main Distribution/Transmission System Improvements	%	40%	\$ 22,851,000	\$	9,140,400	\$	9,140,00
23	Sanitary Sewer Collection System Improvements	%	40%	\$ 22,851,000	\$	9,140,400	\$	9,140,00
						<u>Subtotal</u>	\$	31,535,00
	PUMP STATIONS		1					
24	Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of	-f-	256	¢ 45.000	~	5 656 040	<u>^</u>	F (F 7 00
24	>100 cfs	cfs	356	\$ 15,890	\$	5,656,840	\$	5,657,00
25	Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity	afa.	25.0	ć 12.000	\$	4 (28,000	ć	4 (28.00)
25 26	of >100 cfs	cfs cfs	356 356	\$ 13,000 \$ 41,697		4,628,000 14,844,132	\$ \$	4,628,00
20	Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include:	us	530	\$ 41,097	Ş	14,044,152	Ş	14,644,00
	A. Wet Well/ Weir Structure	Each	1		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						
	G. Emergency Generator		1					
		Each	1		1			
		Each						
27	Outfall Structures	Each LS		\$ 2,224,611	\$	2,224,611	\$	2,225,00
27	Outfall Structure Includes:	LS	1	\$ 2,224,611	\$	2,224,611	\$	2,225,00
27	Outfall Structure Includes: A. Turbidity Barrier	LS	1	\$ 2,224,611	\$	2,224,611	\$	2,225,00
27	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot)	LS LS LS	1 1 1 1 1	\$ 2,224,611	\$	2,224,611	\$	2,225,00
27	Outfall Structure Includes: A. Turbidity Barrier	LS	1	\$ 2,224,611	\$	2,224,611	\$	2,225,00
27	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator	LS LS LS	1 1 1 1 1	\$ 2,224,611	\$	2,224,611	\$	2,225,00
	Outfall Structure Includes: A. Turbidity Barrier B. 24 th Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of	LS LS LS LF	1 1 1 1 270					
27 28	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs	LS LS LS	1 1 1 1 1	\$ 2,224,611 \$ 15,890		2,224,611	\$	
28	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity	LS LS LS LF cfs	1 1 1 270 356	\$ 15,890	\$	5,656,840	\$	5,657,00
28 29	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 100 cfs	LS LS LS LF cfs cfs	1 1 1 270 356 356	\$ 15,890 \$ 13,000	\$	5,656,840		5,657,00
28	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump)	LS LS LS LF cfs	1 1 1 270 356	\$ 15,890 \$ 13,000	\$	5,656,840	\$	2,225,00 5,657,00 4,628,00 14,844,00
28 29	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include:	LS LS LS LF cfs cfs cfs	1 1 1 270 356 356 356	\$ 15,890 \$ 13,000	\$	5,656,840	\$	5,657,00
28 29	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure	LS LS LS LF cfs cfs cfs cfs cfs	1 1 1 270 356 356 356 1	\$ 15,890 \$ 13,000	\$	5,656,840	\$	5,657,00
28 29	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump	LS LS LS LF cfs cfs cfs Each Each	1 1 1 270 356 356 356 1 9	\$ 15,890 \$ 13,000	\$	5,656,840	\$	5,657,00
28 29	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of s100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve	LS LS LF cfs cfs cfs Each Each Each	1 1 1 270 356 356 356 356 9 9	\$ 15,890 \$ 13,000	\$	5,656,840	\$	5,657,00
28 29	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping	LS LS LS LF cfs cfs cfs cfs Each Each Each LF	1 1 1 270 356 356 356 1 9 9 9 100	\$ 15,890 \$ 13,000	\$	5,656,840	\$	5,657,00
28 29	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	LS LS LF cfs cfs cfs Each Each Each LF Each	1 1 1 270 356 356 356 1 9 9 9 9 9 9 9 9 9	\$ 15,890 \$ 13,000	\$	5,656,840	\$	5,657,00
28 29	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Welf Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	LS LS LS LF cfs cfs cfs cfs Each Each Each Each LS	1 1 1 270 356 356 356 9 9 9 9 100 9 1	\$ 15,890 \$ 13,000	\$	5,656,840	\$	5,657,00
28 29	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches	LS LS LF cfs cfs cfs Each Each Each LF Each	1 1 1 270 356 356 356 1 9 9 9 9 9 9 9 9 9	\$ 15,890 \$ 13,000	\$	5,656,840	\$	5,657,00
28 29 30	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure	LS LS LS LF cfs cfs cfs cfs cfs cfs cfs LF Each LF Each LS Each Each	1 1 1 270 356 356 356 9 9 9 9 100 9 11 1	\$ 15,890 \$ 13,000 \$ 41,697	\$ \$ \$ 	5,656,840 4,628,000 14,844,132	\$ \$ \$	5,657,00 4,628,00 14,844,00
28 29	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures	LS LS LS LF cfs cfs cfs cfs Each Each Each Each LS	1 1 1 270 356 356 356 9 9 9 9 100 9 1	\$ 15,890 \$ 13,000 \$ 41,697	\$ \$ \$ 	5,656,840	\$ \$ \$	5,657,00 4,628,00 14,844,00
28 29 30	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator	LS LS LS LF cfs cfs cfs cfs cfs cfs cfs LF Each LF Each LS Each Each	1 1 1 270 356 356 356 9 9 9 9 100 9 11 1	\$ 15,890 \$ 13,000 \$ 41,697	\$ \$ \$ 	5,656,840 4,628,000 14,844,132	\$ \$ \$	5,657,00 4,628,00 14,844,00
28 29 30	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of >100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Welf Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structures Outfall Structure Includes:	LS LS LS LS LF cfs cfs cfs cfs cfs cfs cfs cfs LS Each LS Each	1 1 1 270 356 356 356 356 9 9 9 100 9 100 1 1 1 1	\$ 15,890 \$ 13,000 \$ 41,697	\$ \$ \$ 	5,656,840 4,628,000 14,844,132	\$ \$ \$	5,657,00
28 29 30	Outfall Structure Includes: A. Turbidity Barrier B. 24" Bank & Shore Riprap Blanket w/Fabric (10-foot) C. Seawall with Dissipator Membrane Filtration (per cfs pumped) for Pump Stations with a capacity of >100 cfs Hydrodynamic Separators (per cfs pumped) for Pump Stations with a capacity of 100 cfs Stormwater Pump Station (352 cfs + round up to nearest whole pump) Pump Station Components Include: A. Wet Well/ Weir Structure B. Submersible Pump C. Flap Gate / Check Valve Valve D. Storm Drainage Bypass Piping E. Watertight Wet Well Hatches F. Electrical Equipment/Enclosure G. Emergency Generator Outfall Structure Includes: A. Turbidity Barrier	LS LS LS LS LF cfs cfs cfs cfs cfs cfs Each Each Each LF Each LS	1 1 1 270 356 356 356 356 9 9 9 100 9 9 100 9 1 1 1 1	\$ 15,890 \$ 13,000 \$ 41,697	\$ \$ \$ 	5,656,840 4,628,000 14,844,132	\$ \$ \$	5,657,00 4,628,00 14,844,00

	Estimating Contingency (10%)						\$	10,909,000
	Total Construction Subtotal					<u>\$</u>	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 Represen	%	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

<u>\$ 171,003,000</u>