

Clipper Cove Marina Expansion Economic Feasibility Study

October 19, 2016

Several proposals have emerged to expand the existing private marina on Clipper Cove at Treasure Island. While economic feasibility is a key criteria for evaluating these proposals, there is little or no public information regarding the economic feasibility for any of these proposals. The Treasure Island Sailing Center (TISC) has voiced concern over the large marina footprint (420-slip marina) put forward by Treasure Island Enterprises (TIE). In response, TISC has proposed alternative footprints that would accommodate current use by the public. To ensure our solutions were economically feasible and sustainable, TISC undertook a study to establish economic viability.

This analysis provides a snapshot of cash flow for three marina configurations, utilizing development costs, dredging costs, operational costs and ongoing revenue for each configuration. Excluded from this analysis are tax liability implications as well as any leasing costs that might be imposed by the Treasure Island Development Authority.

This analysis provided the basis for economic comparisons between 300-slip and 400-slip marina configurations. The study results illustrate that a range of marina configurations are economically feasible, including a 306-slip shared-used plan. While larger marinas provide additional revenue they also incur substantially higher costs, particularly dredging costs.

Dredging costs are a significant cost challenge for proposals designed to accommodate large visiting yachts, such as the TIE proposal submitted to DBW in Sept, 2015 calling for guest docking for yachts up to 250'. Our baseline was based on 10' dredging for yachts up to 80' in length with variants of 8' and 12'. The dredging costs in this analysis are based upon a separate dredging cost model ("TISC Clipper Cove Dredging Cost Model" is available upon request).

The costs and revenues in this analysis were determined in consultation with W. B. Clausen Structural Engineers, Inc. and by reference to information provided by the California Division of Boating and Waterways.

The figures below summarize the economic feasibility detailed in the enclosed tables for a 306-slip marina in Clipper Cove with an average slip size of 46'.

Cash Flow Snapshot for 306-slip marina on-line in 2021

Revenue and Expenses:

- Annual Revenues: \$3,267,000
- Annual Expenses: \$2,736,000
- **Annual Net Cash Flow: \$531,000**

The attached tables detail the expenses and revenue established in this analysis for the 306-slip configuration as well as for a 398-slip configuration, including design variations for deeper or shallower dredging. Financial figures for the TIE proposed 420-slip marina, secured through a public records request to the California Department of Boating and Waterways, are also provided for comparison.

Across all options, the analysis consistently returns the same conclusion: a range of marina configurations is economically feasible, including a 306-slip shared-used marina layout.

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Clipper Cove Marina Expansion - Economic Feasibility Study

Development Costs

ITEM	300 Slip Marina	Source*
Demo	\$300,000	WBC
Transient	\$1,200,000	WBC
Floats	\$8,000,000	WBC
Walkway	\$700,000	WBC
Piles	\$900,000	WBC
Elec/Plumbing	\$1,100,000	WBC
Inflation	included	
Construction Subtotal:	\$12,200,000	
Soft Costs:	\$4,000,000	WBC
Development subtotal:	\$16,200,000	
Dredging Costs -10'	\$1,684,000	
Total Marina Build-10'	\$17,884,000	
Dredging Costs:		
Dredging- to 8'	\$856,000	CCDCM
Dredging- to 10'	\$1,684,000	CCDCM
Dredging- to 12'	\$2,705,000	CCDCM
Total Cost Scenarios:		
TOTAL - @ 8'	\$17,056,000	
TOTAL - @ 10'	\$17,884,000	
TOTAL - @ 12'	\$18,905,000	

*** - Sources:**

WBC: W. B. Clausen Structural Engineers, Inc.
 CCDCM: Clipper Cove Dredging Cost Model
 TIE-DBW: TIE DBW Loan Document

DBW Loan Rates **

DBW **Private** Marina Loans: rate - prime plus 1, payback terms - 20 years after completion of construction.
 Note: Prime Rate 3.5% - Aug, 2016 (i.e. loan rate = 4.5%)

DBW **Public** Marina Loans: rate - 4.5%, payback terms - 30 years after completion of construction.

Revenues vs. Expenses 2021

	TISC	Source*
2021 Revenue	300 Slips	
Slips	\$2,967,000	TIE-DBW - Dock Rates
Visitors	\$300,000	Clausen Eng. Estimate
Total Revenue	\$3,267,000	
2021 Expenses		
Maintenance	\$860,000	Clausen Eng. Estimate
Mgt Fees	\$150,000	Clausen Eng. Estimate
Dredging Accrual	\$168,000	10% / yr Dredging Accrual
Legal	\$200,000	Clausen Eng. Estimate
DBW Loan Repayment	\$1,358,000	20 yr loan @ 4.5%
Total Expenses	\$2,736,000	
Net Cash Flow	\$531,000	
Adjustments to Net Cash Flow:		
- For Lower WBC Est.	(\$470,000)	Use Clausen Rates w / inflation
+ for 8' Dredge	\$146,000	Saving if Dredge to 8'
- for 12' Dredge	(\$78,000)	Higher Costs if Dredge to 12'
Annual Loan Repayment ** (principle & interest) / Total Amount		
Loan Repay-8'	\$1,295,000	/ \$17,056,000
Loan Repay-10'	\$1,358,000	/ \$17,884,000
Loan Repay-12'	\$1,435,000	/ \$18,905,000

Development Costs - 300 Slips

ITEM	300 Slip Config	Source*
Demo	\$ 300,000	WBC
Transient	\$ 1,200,000	WBC
Floats	\$ 8,000,000	WBC
Walkway	\$ 700,000	WBC
Piles	\$ 900,000	WBC
Elec/Plumbing	\$ 1,100,000	WBC
Inflation	included	
Construction	\$ 12,200,000	
Soft Costs	\$ 4,000,000	WBC
Marina Build-w/o dredging	\$ 16,200,000	

Dredging-TISC to 8'	\$ 855,752	CCDM
Dredging-TISC to 10'	\$ 1,683,899	CCDM
Dredging-TISC to 12'	\$ 2,705,280	CCDM

TISC - TOTAL - @ 8'	\$ 17,055,752
TISC - TOTAL - @ 10'	\$ 17,883,899
TISC - TOTAL - @ 12'	\$ 18,905,280

* - Sources:

WBC: W. B. Clausen Structural Engineers, Inc.

CCDM: Clipper Cove Dredge Model

"Clipper Cove Marina Expansion - Economic Feasibility Analysis"; Treasure Island Sailing Center; October 19, 2016

Cash Flow Analysis - 300 Slips

TISC - TIE Comparison Revenues vs. Expenses 2021

	TISC	Comments	
2021 Revenue	306 Slips		
Slips	\$ 2,497,146	Clausen Eng. Estimate	
Visitors	\$ 300,000	Clausen Eng. Estimate	
Total Revenue	\$ 2,797,146		
2021 Expenses			
Maintenance	\$ 860,000	Clausen Eng. Estimate	
Mgt Fees	\$ 150,000	Clausen Eng. Estimate	
Dredging Accrual	\$ 168,390	%/yr of Initial Dredging	
Legal	\$ 200,000	Clausen Eng. Estimate	10%
Loan Repay	\$ 1,357,709	Annual Loan Repay (P + I)	
Total Expenses	\$ 2,736,098		4.5% 20 yrs
Net Cash Flow	\$ 61,048		

Adjustments to Net Cash Flow:

+ for TIE Ratesw/infl.	\$ 469,788	Use TIE Rates w/inflation
+ for 8' Dredge	\$ 145,686	Save Loan Repay & Dredging
- for 12' Dredge	\$ (179,679)	Higher Loan Repay & Dredging
Loan Repay-8'	\$ 1,294,837	
Loan Repay-10'	\$ 1,357,709	
Loan Repay-12'	\$ 1,435,250	

DBW Private Marina Loans: rate - prime plus 1, payback terms - 20 years after completion of construction.

** Prime Rate 3.5% - Aug, 2016

DBW Public Marina Loans: rate - 4.5%, payback terms - 30 years after completion of construction.

Cost Comparison - 3 Marina Options

ITEM	TISC-300 Slips	TISC-400 Slips	TIE-420 Slips	Comments
Demo	\$ 300,000	\$ 300,000	\$ 250,000	
Transient	\$ 1,200,000	\$ 1,425,000	\$ 3,000,000	TISC Atten. Docks @ \$1,500/ft
Floats	\$ 8,000,000	\$ 10,500,000	\$ 375,000	TIE Floats et al is \$19,381,000 \$ 19,381,000
Walkway	\$ 700,000	\$ 800,000	\$ 850,000	
Piles	\$ 900,000	\$ 1,200,000		
Slips			\$ 16,078,000	\$/slip: \$ 38,280.95
Long Dock			\$ 2,208,000	
Util/Sec/Storm			\$ 470,000	
Dinghy Dock / L-Scap			\$ 250,000	
Elec/Plumbing	\$ 1,100,000	\$ 1,400,000		
Inflation	included	included	\$ 602,000	
Construction	\$ 12,200,000	\$ 15,625,000	\$ 24,083,000	
Engineering			\$ 2,031,000	
Entitlements			\$ 600,000	
Fees			\$ 2,418,000	
Contingency			\$ 2,031,000	
Other	\$ 4,000,000	\$ 4,300,000		
Close & Finance			\$ 734,000	
Soft Costs	\$ 4,000,000	\$ 4,300,000	\$ 7,814,000	(Math Error in TIE xls Corrected)
Marina Costs-w/o dredging	\$ 16,200,000	\$ 19,925,000	\$ 31,897,000	
Dredging-TIE Estimate	>>>>	>>>>	\$ 3,000,000	TIE Estimate for Dredging Costs
Dredging-TISC to 8'	\$ 855,752	\$ 938,567		TISC \$'s Use dredge model: 8'
Dredging-TISC to 10'	\$ 1,683,899	\$ 1,821,923		TISC \$'s Use dredge model: 10'
Dredging-TISC to 12'	\$ 2,705,280	\$ 2,898,515		TISC \$'s Use dredge model: 12'
TISC - TOTAL - @ 8'	\$ 17,055,752	\$ 20,863,567		
TISC - TOTAL - @ 10'	\$ 17,883,899	\$ 21,746,923		
TISC - TOTAL - @ 12'	\$ 18,905,280	\$ 22,823,515		
TIE Construction -TOTAL			\$ 34,897,000	

Cash Flow Analysis - 3 Marina Options

Comparison Revenues vs. Expenses 2021

	TISC 300 Slips	TISC 400 Slips	TIE 420 Slips	Comments
2021 Revenue				
Slips	\$ 2,497,146	\$ 3,332,115		See DOCK RATES tab for slip/transient fees
Visitors	\$ 300,000	\$ 300,000		
Total Revenue	\$ 2,797,146	\$ 3,632,115	\$ 4,800,000	<<< From TIE DBW Application
2021 Expenses				
Line Item	\$ -	\$ -	\$ 2,531,000	
Maintenance	\$ 860,000	\$ 1,100,000		
Mgt Fees	\$ 150,000	\$ 200,000		
Dredging (maint.)	\$ 168,390	\$ 182,192	\$ 374,000	TISC: 10%/yr accrue @ 10'
Legal	\$ 200,000	\$ 250,000		
Loan Repay	\$ 1,357,709	\$ 1,650,981	\$ 2,649,232	<20 yr loan, 4.5%
Total Expenses	\$ 2,736,098	\$ 3,383,174	\$ 5,554,232	
Net Cash Flow	\$ 61,048	\$ 248,942	\$ (754,232)	
Adjustments to Net Cash Flow:				
- to remove 3% Infl.	\$ (343,086)	\$ (457,803)		less 3%/year inflation
+ for TIE Rates	\$ 62,157	\$ 55,143		Use TIE Rates
+ for TIE Ratesw/infl.	\$ 469,788	\$ 594,645		Use TIE Rates w/inflation
+ for 8' Dredge	\$ 62,871	\$ 67,063		Decreased Loan Repay
- for 12' Dredge	\$ (77,541)	\$ (81,733)		Increased Loan Repay
Loan Repay-8'	\$ 1,294,837	\$ 1,583,919		
Loan Repay-10'	\$ 1,357,709	\$ 1,650,981		
Loan Repay-12'	\$ 1,435,250	\$ 1,732,714		

Private 20 yr loan @ 4.5% (Prime +1)

Amount	Annual (\$M)	4.5%
\$20M	\$ 1.52	20
\$25M	\$ 1.90	
\$30M	\$ 2.28	
\$35M	\$ 2.66	

Public 30 yr loan @ 4.5% 4.5%

Amount	Annual (\$M)	30
\$15M	\$ 0.91	
\$20M	\$ 1.22	
\$25M	\$ 1.52	
\$30M	\$ 1.82	
\$35M	\$ 2.13	

<IF TIE used Private Finance (\$k)

Private Marina Loans: rate - prime plus 1, payback terms - 20 years after completion of construction.
** Prime Rate 3.5% - Aug, 2016

Public Marina Loans: rate - 4.5%, payback terms - 30 years after completion of construction.

Dock Rates for Cost Analysis

WBC Dock Rate Assumptions - 2016

MARINA - 300 Slips			Rate	Revenue
SLIP SIZE	# OF BERTHS	DOCK FOOTAGE		
25	36	900	10	\$ 9,000
30	0	-	10	\$ -
35	76	2,660	10	\$ 26,600
40	34	1,360	14	\$ 19,040
45	61	2,745	14	\$ 38,430
50	2	100	15	\$ 1,500
60	60	3,600	16	\$ 57,600
70	24	1,680	17	\$ 28,560
80	13	1,040	18	\$ 18,720
TOTAL	306	14,085		\$ 199,450
AVERAGE SLIP SIZE	46.0			
				Total \$ 199,450
				90% << Rate \$ 179,505

MARINA - 400 Slips			Rate	Revenue
SLIP SIZE	# OF BERTHS	DOCK FOOTAGE		
25	36	900	10	\$ 9,000
30	0	-	10	\$ -
35	76	2,660	10	\$ 26,600
40	34	1,360	14	\$ 19,040
45	102	4,590	14	\$ 64,260
50	38	1,900	15	\$ 28,500
60	73	4,380	16	\$ 70,080
70	30	2,100	17	\$ 35,700
80	9	720	18	\$ 12,960
TOTAL	398	18,610		\$ 266,140
AVERAGE SLIP SIZE	46.8			
				Total \$ 266,140
				90% << Rate \$ 239,526

TIE 48.5 TISC 46.0 % Larger 5.4%
 2021 Revenue @ 1.03% Inflation \$ 2,497,146

TIE 48.5 TISC 46.8 % Larger 3.8%
 2021 Revenue @ 1.03% Inflation \$ 3,332,115

Rate Assumed by TIE Loan Document - 2016

MARINA - 300 Slips			Rate	Revenue
SLIP SIZE	# OF BERTHS	DOCK FOOTAGE		
25	36	900	12	\$ 10,800
30	0	-	14	\$ -
35	76	2,660	15	\$ 39,900
40	34	1,360	16	\$ 21,760
45	61	2,745	17	\$ 45,293
50	2	100	17	\$ 1,700
60	60	3,600	18	\$ 64,800
70	24	1,680	19	\$ 31,920
80	13	1,040	20	\$ 20,800
TOTAL	306	14,085		\$ 236,973
AVERAGE SLIP SIZE	46.0			
				Total \$ 236,973
				90% << Rate \$ 213,275

MARINA - 400 Slips			Rate	Revenue
SLIP SIZE	# OF BERTHS	DOCK FOOTAGE		
25	36	900	12	\$ 10,800
30	0	-	14	\$ -
35	76	2,660	15	\$ 39,900
40	34	1,360	16	\$ 21,760
45	102	4,590	17	\$ 75,735
50	38	1,900	17	\$ 32,300
60	73	4,380	18	\$ 78,840
70	30	2,100	19	\$ 39,900
80	9	720	20	\$ 14,400
TOTAL	398	18,610		\$ 313,635
AVERAGE SLIP SIZE	46.8			
				Total \$ 313,635
				90% << Rate \$ 282,272

\$ 2,559,303
 2021 Revenue @ 1.03% Inflation
 \$ 2,966,934

TIE 48.5 TISC 46.8 % Larger 3.8%
 \$ 3,387,258
 \$ 3,926,760

TISC Slip Mix for Analys Options

235 Slip Marina		
SLIP SIZE	# OF BERTHS	DOCK FOOTAGE
25	36	900
30	60	1,800
35	44	1,540
40	0	-
45	22	990
50	0	-
60	48	2,880
70	18	1,260
80	7	560
TOTAL	235	9,930
AVERAGE SLIP SIZE		42.3

300 Slip Marina		
SLIP SIZE	# OF BERTHS	DOCK FOOTAGE
25	36	900
30	0	-
35	76	2,660
40	34	1,360
45	61	2,745
50	2	100
60	60	3,600
70	24	1,680
80	13	1,040
TOTAL	306	14,085
AVERAGE SLIP SIZE		46.0

400 Slip Marina		
SLIP SIZE	# OF BERTHS	DOCK FOOTAGE
25	36	900
30	0	-
35	76	2,660
40	34	1,360
45	102	4,590
50	38	1,900
60	73	4,380
70	30	2,100
80	9	720
TOTAL	398	18,610
AVERAGE SLIP SIZE		46.8

324 Slip Marina		
SLIP SIZE	# OF BERTHS	DOCK FOOTAGE
40	7	280
45	102	4,590
50	118	5,900
60	62	3,720
70	20	1,400
80	15	1,200
TOTAL	324	17,090
AVERAGE SLIP SIZE		52.7

"Clipper Cove Marina Expansion - Economic Feasibility Analysis"; Treasure Island Sailing Center; October 19, 2016

TIE Revenue Worksheets

Revenues 2020-21		**** Transient Fees Estimated to align with DBW Estimates & TIE Forecast	
Slips	\$ 4,115,207	<<<	Based on slip fees and occupancy rates below
Transient	\$ 625,625	<<<	Transient Dock @ \$2.50/ft - see chart for occupancy and days utilized
Total Rent	\$ 4,740,832		
			1430 length
			\$ 2.50 rate/year
			70% occupancy
			250 days
			\$ 625,625

TIE Slip Fees - 2015

Size	25	30	35	40	45	50	60	70	80
Rate	\$ 12.00	\$ 14.00	\$ 15.00	\$ 16.00	\$ 16.50	\$ 17.00	\$ 18.00	\$ 19.00	\$ 20.00

TIE Slips Planned: 398

Size	30	35	40	45	50	55	60	70	70	
Number	34	39	37	64	81	57	64	22	398	
Linear Feet	1020	1365	1480	2880	4050	3135	3840	1540	19,310	
Rate	\$ 14.00	\$ 15.00	\$ 16.00	\$ 16.50	\$ 17.00	\$ 17.50	\$ 18.00	\$ 19.00		
Occupancy	90%	90%	90%	90%	90%	90%	90%	90%		
Revenue 2015	\$ 154,224	\$ 221,130	\$ 255,744	\$ 513,216	\$ 743,580	\$ 592,515	\$ 746,496	\$ 316,008	\$ 3,542,913	
enue - N years out	5	\$ 178,788	\$ 256,350	\$ 296,477	\$ 594,958	\$ 862,013	\$ 686,887	\$ 865,393	\$ 366,340	\$ 4,107,207
* Factor 1	1	\$ 178,788	\$ 256,350	\$ 296,477	\$ 594,958	\$ 862,013	\$ 686,887	\$ 865,393	\$ 366,340	\$ 4,107,207
+/- Factor 2	\$ 1,000	\$ 179,788	\$ 257,350	\$ 297,477	\$ 595,958	\$ 863,013	\$ 687,887	\$ 866,393	\$ 367,340	\$ 4,115,207
Net Revenue		\$ 179,788	\$ 257,350	\$ 297,477	\$ 595,958	\$ 863,013	\$ 687,887	\$ 866,393	\$ 367,340	\$ 4,115,207

Avg Slip Size	48.5
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TIE Slips Planned: 349

Size	30	36	35	40	41	45	48	50	58	60	70	80	88		
Number	0	3	0	37	4	91	6	109	6	56	20	16	1		
Linear Feet	0	108	0	1480	164	4095	288	5450	348	3360	1400	1280	88		
Rate	\$ 14.00	\$ 15.00	\$ 15.00	\$ 16.00	\$ 16.00	\$ 16.50	\$ 16.50	\$ 17.00	\$ 17.50	\$ 18.00	\$ 19.00	\$ 19.00	\$ 19.00		
Occupancy	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%		
Revenue 2015	\$ -	\$ 17,496	\$ -	\$ 255,744	\$ 28,339	\$ 729,729	\$ 51,322	\$ 1,000,620	\$ 65,772	\$ 653,184	\$ 287,280	\$ 262,656	\$ 18,058	\$ 3,089,486	
enue - N years out	5	\$ -	\$ 20,283	\$ -	\$ 296,477	\$ 32,853	\$ 845,956	\$ 59,496	\$ 1,159,993	\$ 76,248	\$ 757,219	\$ 333,036	\$ 304,490	\$ 20,934	\$ 3,581,561
* Factor 1	1	\$ -	\$ 20,283	\$ -	\$ 296,477	\$ 32,853	\$ 845,956	\$ 59,496	\$ 1,159,993	\$ 76,248	\$ 757,219	\$ 333,036	\$ 304,490	\$ 20,934	\$ 3,581,561
+/- Factor 2	\$ 1,000	\$ 1,000	\$ 1,000	\$ 297,477	\$ 33,853	\$ 846,956	\$ 60,496	\$ 1,160,993	\$ 77,248	\$ 758,219	\$ 334,036	\$ 305,490	\$ 21,934	\$ 3,592,561	
Net Revenue	\$ 1,000	\$ 21,283	\$ 1,000	\$ 297,477	\$ 33,853	\$ 846,956	\$ 60,496	\$ 1,160,993	\$ 77,248	\$ 758,219	\$ 334,036	\$ 305,490	\$ 21,934	\$ 3,592,561	

Avg Slip Size	51.8
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TIE Slips Planned: 324

Size	30	36	35	40	41	45	48	50	58	60	70	80	88	
Number	0	0	0	7	0	102	0	118	0	62	20	15	0	
Linear Feet	0	0	0	280	0	4590	0	5900	0	3720	1400	1200	0	
Rate	\$ 14.00	\$ 15.00	\$ 15.00	\$ 16.00	\$ 16.00	\$ 16.50	\$ 16.50	\$ 17.00	\$ 17.50	\$ 18.00	\$ 19.00	\$ 19.00	\$ 19.00	
Occupancy	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	
Revenue 2015	\$ -	\$ -	\$ -	\$ 48,384	\$ -	\$ 817,938	\$ -	\$ 1,083,240	\$ -	\$ 723,168	\$ 287,280	\$ 246,240	\$ -	\$ 2,960,010
enue - N years out	5	\$ -	\$ -	\$ 56,090	\$ -	\$ 948,214	\$ -	\$ 1,255,772	\$ -	\$ 838,350	\$ 333,036	\$ 285,460	\$ -	\$ 3,431,463
* Factor 1	1	\$ -	\$ -	\$ 56,090	\$ -	\$ 948,214	\$ -	\$ 1,255,772	\$ -	\$ 838,350	\$ 333,036	\$ 285,460	\$ -	\$ 3,431,463
+/- Factor 2	\$ 1,000	\$ 1,000	\$ 1,000	\$ 57,090	\$ 1,000	\$ 949,214	\$ 1,000	\$ 1,256,772	\$ 1,000	\$ 839,350	\$ 334,036	\$ 286,460	\$ 1,000	\$ 3,442,463
Net Revenue	\$ 1,000	\$ 1,000	\$ 1,000	\$ 57,090	\$ 1,000	\$ 949,214	\$ 1,000	\$ 1,256,772	\$ 1,000	\$ 839,350	\$ 334,036	\$ 286,460	\$ 1,000	\$ 3,442,463

Avg Slip Size	52.7
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Dredge costs - Import from Clipper Cove Dredge Cost Model

8	Target Water Depth
\$ 17.00	Cost per CU yard
34	unit feet to be removed
11.33	unit yds to be removed
54,663	CU yds to be removed
1%	Scale factor (apply to removed material)
1	+/- factor (,000) (apply to removed material)
547	Additional material (*)
1,000	Additional material (+)
55,210	TOTAL Material to be removed
\$ 938,567	Dredging Cost 400 Slip Config
\$ 883,357	10' Add

10	Target Water Depth
\$ 17.00	Cost per CU yard
66	unit feet to be removed
22.00	unit yds to be removed
106,111	CU yds to be removed
1%	Scale factor (apply to removed material)
1	+/- factor (,000) (apply to removed material)
1,061	Additional material (*)
1,000	Additional material (+)
107,172	TOTAL Material to be removed
\$ 1,821,923	Dredging Cost 400 Slip Config

8	Target Water Depth
\$ 17.00	Cost per CU yard
31	unit feet to be removed
10.33	unit yds to be removed
49,840	CU yds to be removed
1%	Scale factor (apply to removed material)
1	+/- factor (,000) (apply to removed material)
498	Additional material (*)
1,000	Additional material (+)
50,338	TOTAL Material to be removed
\$ 855,752	Dredging Cost 300 Slip Configuration
\$ 828,147	10' Add

10	Target Water Depth
\$ 17.00	Cost per CU yard
61	unit feet to be removed
20.33	unit yds to be removed
98,072	CU yds to be removed
1%	Scale factor (apply to removed material)
1	+/- factor (,000) (apply to removed material)
981	Additional material (*)
1,000	Additional material (+)
99,053	TOTAL Material to be removed
\$ 1,683,899	Dredging Cost 300 Slip Configuration