Natural Resource Damage Assessment (NRDA) PCB-LAGUNA BEACH SANITARY SEWER

A. General Information

Organization: City of Panama City Beach, Florida

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B. Project Information

Project Name: PCB Laguna Beach Sanitary Sewer System Project

Location: Unincorporated Bay County (Panama City Beach utilities service area) – Between Front Beach Road, US 98 and Panama City Beach Pkwy, Alt US 98

State: FL   County: Bay

Watershed/Basin Outfall: Gulf of Mexico

Lat/Longitude: 30° 14'21"N 85°55'25"'W   Project Area: 0.9 miles of coastline, 220 acres

C. Project Description

The project is part of the City of Panama City Beach's long term plan to provide sanitary sewer service in older beach communities that predate the City municipal sewer system. In excess of 1,000 residential lots are within the Laguna Beach Sanitary Sewer project service area and homes are currently relying on septic tanks for sewer disposal. The area lies within a stormwater drainage basin that flows to dune lakes north of Front Beach Road (FBR), ultimately crossing FBR via drain pipes to the gulf beaches. Any marginally treated septic tank leachate from homes can work its way to the freshwater lakes via groundwater and be discharged to the gulf. The Florida Department of Health routinely samples and tests waters near shore in this vicinity for enterococcus and fecal coliform levels. Warnings/advisories have been issued 5 times since 2007, with the most recent being February 21, 2011. The testing does not determine the source of the bacteriological elements, but reduction of septic tanks by installation of a municipal sewer system would remove a significant source of those elements from the groundwater moving to the dune lakes. Improvement in water quality has far ranging benefits to marine life and the public.

D. Project Type(s)

- ✓Restoration
- ✓Debris Removal
- ✓Maintenance/Management
- ✓Protection
- ✓Education

E. Project Habitat(s)

- ✓Upland
- ✓Beach/Dune
- ✓Freshwater Wetlands
- ✓Subtidal (Nearshore/Offshore)

F. Resource Benefit(s)

- ✓Marine Mammals
- ✓Shellfish
- ✓Water Column
- ✓Birds
- ✓Reptiles/Amphibians
- ✓Shoreline
- ✓Fish
- ✓Vegetation
- ✓Human Use (Recreational, Cultural)
- ✓Sea Turtles and Dune Nesting Birds

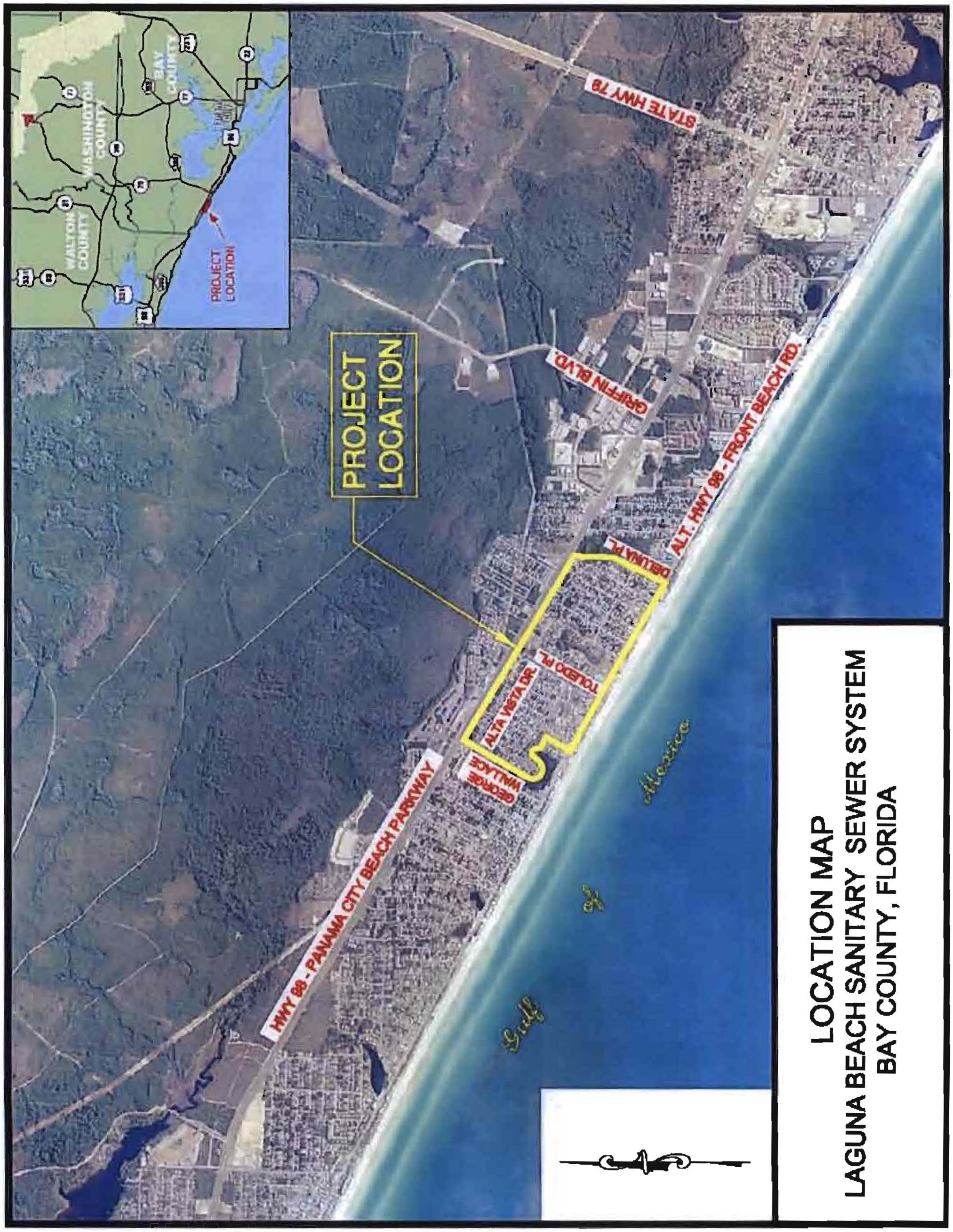
G. Project Status

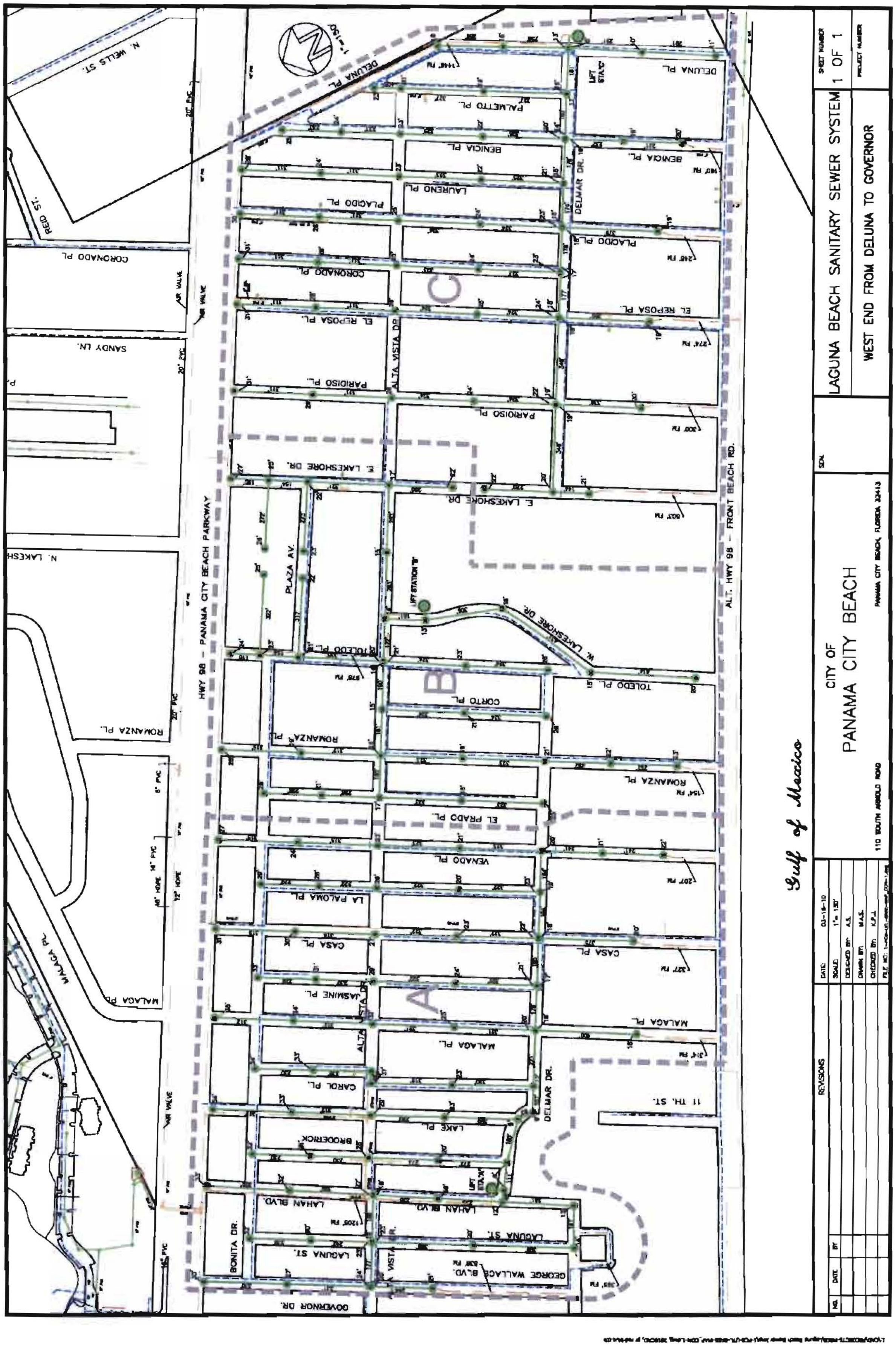
Project/Resource Acquisition:	Small parcel of land (less than 4,000 s.f.) is needed for planned sewer pump station in each of three areas and preliminary design is based on use of currently vacant lots.
Time to implement:	Design and permitting could start within 1 month of funding, with construction start within 9 months of funding
Project Planning/Design:	Conceptual plan is complete.
Time to Project Completion:	14 month construction duration

The project is part of the City of Panama City Beach's long term plan to provide sanitary sewer service in older beach communities that predated the City municipal sewer system.

H. Project Costs

Estimated Cost:	$3,004,900	for Area "A" - West Area
	$1,860,200	for Area "B" - Central Area
	$2,596,700	for Area "C" - East Area
Project Total	$7,461,800	


LOCATION MAP
LAGUNA BEACH SANITARY SEWER SYSTEM
BAY COUNTY, FLORIDA
PROJECT LOCATION
STATE HWY 79
GRIFFIN BLVD.
ALT. HWY 98 - FRONT BEACH RD.
DELUNA PL.
TOLEDO PL.
ALTA VISTA DR.
GEORGE WALLACE
HWY 98 - PANAMA CITY BEACH PARKWAY
Gulf of Mexico
WALTON COUNTY
WASHINGTON COUNTY
BAY COUNTY
PROJECT LOCATION



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PCB LAGUNA BEACH SANITARY SEWER SYSTEM
OPINION OF COST
City of Panama City Beach
February 2011

West End (Area "A")

Description	Size	Unit	Quantity	Unit Price	Extension
LIFT STATION					
Land Aquisition		LS	1	$90,000.00	$90,000.00
Project Mobilization		LS	1	$15,000.00	$15,000.00
Dewatering/Wellpoint		LS	1	$7,500.00	$7,500.00
Gravity Main	10"dia	LF	40	$60.00	$2,400.00
Wetwell (8' Diameter, Lined)	20 ft	VF	20	$1,200.00	$24,000.00
Pumps	375 GPM	EA	2	$12,000.00	$24,000.00
Controls		LS	1	$18,000.00	$18,000.00
Elect. Power & Conduit		LS	1	$10,000.00	$10,000.00
Valve Box & Cover (6'w x 7'l)		LS	1	$7,500.00	$7,500.00
Pipe & Valve Manifold		LS	1	$12,000.00	$12,000.00
Sitework, clearing, grading, fill		LS	1	$3,000.00	$3,000.00
Paving (Limerock) & Ribbon Curb		LS	1	$2,000.00	$2,000.00
Fence & Gate		LS	1	$2,500.00	$2,500.00
Telemetry		LS	1	$20,000.00	$20,000.00
				Subtotal	$237,900.00
FORCE MAIN					
Force Main (PVC Class 160)	8"	LF	1,205	$14.00	$16,870.00
Force Main (PVC Class 160)	2"	LF	1,350	$8.00	$10,800.00
Valves & Fittings (25% of Pipe)		LS	1	$6,917.50	$6,917.50
Tie-ins		LS	1	$5,000.00	$5,000.00
Directional Drill	8"	LF	150	$100.00	$15,000.00
Hydroseed		SF	10,220	$0.15	$1,533.00
Sod		SF	10,220	$0.45	$4,599.00
				Subtotal	$56,120.50
GRAVITY SEWER					
Manholes 4-6		EA	39	$2,600.00	$101,400.00
Manholes 6.1-8		EA	8	$3,100.00	$24,800.00
Manholes 8.1-10		EA	8	$4,000.00	$32,000.00
Manholes10.1-12		EA	6	$5,500.00	$33,000.00
Manholes12.1-14		EA	1	$8,000.00	$8,000.00
8" 3034 SDR 35, 0-6'		LF	7,065	$18.00	$127,170.00
8" 3034 SDR 35, 6.1-8'		LF	4,403	$23.00	$101,269.00
8" 3034 SDR 35, 8.1-10'		LF	3,734	$30.00	$112,020.00
8" 3034 SDR 35, 10.1-12'		LF	829	$40.00	$33,160.00
8" 3034 SDR 35, 12.1-14'		LF	382	$55.00	$21,010.00
Double Service Laterals		EA	80	$450.00	$36,000.00
Single Service Laterals		EA	320	$350.00	$112,000.00
Pavement Patch (11' wide, 1/2 lane)		SY	20,060	$27.00	$541,620.00
1" Street Overlay (22' wide)		SY	40,120	$12.00	$481,440.00
Misc. Pvmt Marking at Intersections		LS	1	$15,000.00	$15,000.00
Asphalt Disposal		TN	2,260	$35.00	$79,100.00
Driveway Cut & Patch		EA	200	$700.00	$140,000.00
Misc Restoration		LS	1	$125,000.00	$125,000.00
Sod		SF	65,652	$0.45	$29,543.40
Hydroseed		SF	65,652	$0.15	$9,847.80
				Subtotal	$2,163,380.20
				TOTAL	$2,457,400.70
				10% CONTINGENCY	$245,740.07
				7.4% ENGINEERING	$181,848.00
				3.5 % ESDC	$86,009.00
				LAND SURVEYING	$33,862.00
				TOTAL CONCEPTUAL COST	$3,004,859.77
				Potential # of Residential Lots	448
				# of Residential Lots Served	400
				Construction Cost Per Lot	$6,707.28

PCB LAGUNA BEACH SANITARY SEWER SYSTEM
OPINION OF COST
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Central Area (Area "B")

Description	Size	Unit	Quantity	Unit Price	Extension
LIFT STATION					
Land Aquisition		LS	1	$75,000.00	$75,000.00
Project Mobilization		LS	1	$15,000.00	$15,000.00
Dewatering/Wellpoint		LS	1	$5,000.00	$5,000.00
Gravity Main	10"dia	LF	40	$60.00	$2,400.00
Wetwell (6' Diameter)	20 ft	VF	20	$750.00	$15,000.00
Pumps	240 GPM	EA	2	$7,500.00	$15,000.00
Controls		LS	1	$18,000.00	$18,000.00
Elect. Power & Conduit		LS	1	$10,000.00	$10,000.00
Valve Box & Cover (5'w x 6'l)		LS	1	$6,000.00	$6,000.00
Pipe & Valve Manifold		LS	1	$9,000.00	$9,000.00
Sitework, clearing, grading, fill		LS	1	$3,000.00	$3,000.00
Paving (Limerock) & Ribbon Curb		LS	1	$2,000.00	$2,000.00
Fence & Gate		LS	1	$2,500.00	$2,500.00
Telemetry		LS	1	$20,000.00	$20,000.00
				Subtotal	$197,900.00
FORCE MAIN					
Force Main (PVC Class 160)	6"	LF	978	$12.00	$11,736.00
Force Main (PVC Class 160)	2"	LF	154	$8.00	$1,232.00
Valves & Fittings (25% of Pipe)		LS	1	$3,242.00	$3,242.00
Tie-ins		LS	1	$5,000.00	$5,000.00
Directional Drill	6"	LF	150	$85.00	$12,750.00
Hydroseed		SF	4,528	$0.15	$679.20
Sod		SF	4,528	$0.45	$2,037.60
				Subtotal	$34,639.20
GRAVITY SEWER					
Manholes 4-6		EA	25	$2,600.00	$65,000.00
Manholes 6.1-8		EA	3	$3,100.00	$9,300.00
Manholes 8.1-10		EA	3	$4,000.00	$12,000.00
Manholes10.1-12		EA	5	$5,500.00	$27,500.00
Manholes12.1-14		EA	2	$8,000.00	$16,000.00
8" 3034 SDR 35, 0-6'		LF	3,820	$18.00	$68,760.00
8" 3034 SDR 35, 6.1-8'		LF	2,363	$23.00	$54,349.00
8" 3034 SDR 35, 8.1-10'		LF	1,878	$30.00	$56,340.00
8" 3034 SDR 35, 10.1-12'		LF	897	$40.00	$35,880.00
8" 3034 SDR 35, 12.1-14'		LF	449	$55.00	$24,695.00
Double Service Laterals		EA	48	$450.00	$21,600.00
Single Service Laterals		EA	192	$350.00	$67,200.00
Pavement Patch (11' wide, 1/2 lane)		SY	11,500	$27.00	$310,500.00
1" Street Overlay (22' wide)		SY	23,000	$12.00	$276,000.00
Misc. Pvmt Marking at Intersections		LS	1	$15,000.00	$15,000.00
Asphalt Disposal		TN	1,290	$35.00	$45,150.00
Driveway Cut & Patch		EA	120	$700.00	$84,000.00
Misc Restoration		LS	1	$75,000.00	$75,000.00
Sod		SF	37,628	$0.45	$16,932.60
Hydroseed		SF	37,628	$0.15	$5,644.20
				Subtotal	$1,286,850.80
				TOTAL	$1,519,390.00
				10% CONTINGENCY	$151,939.00
				7.7% ENGINEERING	$116,993.00
				3.8 % ESDC	$53,179.00
				LAND SURVEYING	$18,688.00
				TOTAL CONCEPTUAL COST	$1,860,189.00

Potential # of Residential Lots	270
# of Residential Lots Served	240
Construction Cost Per Lot	$6,889.59

PCB LAGUNA BEACH SANITARY SEWER SYSTEM
OPINION OF COST
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East End (Area "C")

Description	Size	Unit	Quantity	Unit Price	Extension
LIFT STATION					
Land Aquisition		LS	1	$75,000.00	$75,000.00
Project Mobilization		LS	1	$15,000.00	$15,000.00
Dewatering/Wellpoint		LS	1	$7,500.00	$7,500.00
Gravity Main	10"dia	LF	40	$60.00	$2,400.00
Wetwell (8' Diameter, Lined)	20 ft	VF	20	$1,200.00	$24,000.00
Pumps	375 GPM	EA	2	$12,000.00	$24,000.00
Controls		LS	1	$18,000.00	$18,000.00
Elect. Power & Conduit		LS	1	$10,000.00	$10,000.00
Valve Box & Cover (6'w x 7'l)		LS	1	$7,500.00	$7,500.00
Pipe & Valve Manifold		LS	1	$12,000.00	$12,000.00
Sitework, clearing, grading, fill		LS	1	$3,000.00	$3,000.00
Paving (Limerock) & Ribbon Curb		LS	1	$2,000.00	$2,000.00
Fence & Gate		LS	1	$2,500.00	$2,500.00
Telemetry		LS	1	$20,000.00	$20,000.00
				Subtotal	$222,900.00
FORCE MAIN					
Force Main (PVC Class 160)	8"	LF	1,446	$14.00	$20,244.00
Force Main (PVC Class 160)	2"	LF	1,483	$8.00	$11,864.00
Valves & Fittings (25% of Pipe)		LS	1	$8,027.00	$8,027.00
Tie-ins		LS	1	$5,000.00	$5,000.00
Directional Drill	8"	LF	150	$100.00	$15,000.00
Hydroseed		SF	11,716	$0.15	$1,757.40
Sod		SF	11,716	$0.45	$5,272.20
				Subtotal	$61,892.40
GRAVITY SEWER					
Manholes 4-6		EA	34	$2,600.00	$88,400.00
Manholes 6.1-8		EA	3	$3,100.00	$9,300.00
Manholes 8.1-10		EA	3	$4,000.00	$12,000.00
Manholes10.1-12		EA	4	$5,500.00	$22,000.00
Manholes12.1-14		EA	3	$8,000.00	$24,000.00
8" 3034 SDR 35, 0-6'		LF	6,268	$18.00	$112,824.00
8" 3034 SDR 35, 6.1-8'		LF	2,723	$23.00	$62,629.00
8" 3034 SDR 35, 8.1-10'		LF	1,648	$30.00	$49,440.00
8" 3034 SDR 35, 10.1-12'		LF	1,397	$40.00	$55,880.00
8" 3034 SDR 35, 12.1-14'		LF	999	$55.00	$54,945.00
Double Service Laterals		EA	82	$450.00	$36,900.00
Single Service Laterals		EA	328	$350.00	$114,800.00
Pavement Patch (11' wide, 1/2 lane		SY	15,930	$27.00	$430,110.00
1" Street Overlay (22' wide)		SY	31,860	$12.00	$382,320.00
Misc. Pvmt Marking at Intersections		LS	1	$15,000.00	$15,000.00
Asphalt Disposal		TN	1,790	$35.00	$62,650.00
Driveway Cut & Patch		EA	205	$700.00	$143,500.00
Misc Restoration		LS	1	$125,000.00	$125,000.00
Sod		SF	52,140	$0.45	$23,463.00
Hydroseed		SF	52,140	$0.15	$7,821.00
				Subtotal	$1,832,982.00

TOTAL	$2,117,774.40
10% CONTINGENCY	$211,777.44
7.6% ENGINEERING	$160,951.00
3.7 % ESDC	$78,358.00
LAND SURVEYING	$27,858.00
TOTAL CONCEPTUAL COST	$2,596,718.84

Potential # of Residential Lots	455
# of Residential Lots Served	410
Construction Cost Per Lot	$5,707.07