

Informe de la Auditoría de la Concesión del Corredor Norte

Apéndice VI-1 Presupuesto de Referencia

Constructora Vial, S.A.
Construction Budget
Northern Corridor - Phase II

CONCEPTS	UNIT	Unit \$	STAGES				TOTAL	
			Tinajillas - Brisas del Golf	Brisas - 24 de Diciembre	Ramal Villa Lucre	Ramal Trancas - Domingo Diaz		
			1	2	3	4		
Quantily								
CORTE								
RELLENO								
	Ha	B/.	656,405.99	1,304,526.62	847,023.69	483,881.23	3,300,837.62	
CLEARING			867,728.07	414,004.69	249,383.99	367,383.99	1,898,500.64	
CLEARING IN CUTS	m3	B/.	79.62	85.02	14.61	19.78	198.93	
EXCAVATIONS	m3	B/.	54,210.85	121,033.00	9,717.26	19,116.65	204,077.76	
TYPE (A)	m3	B/.	66,540.60	136,452.66	84,702.37	48,988.12	330,683.75	
TYPE (B)	m3	B/.	399,243.59	782,715.07	508,214.21	290,328.74	1,980,502.61	
TYPE (C)	m3	B/.	199,621.80	391,357.99	254,107.10	145,164.37	990,251.26	
EMBANKMENT TO 95%	m3	B/.	520,636.84	248,402.75	149,630.39	220,430.39	1,139,100.38	
EMBANKMENT (NO COMPACTION)	m3	B/.	347,091.23	165,601.84	99,763.60	146,953.60	769,400.26	
BORROWED EARTH FILL	m3	B/.	202,322.08	-	-	-	202,322.08	
B/.								
2.20								
DRAINAGE WORKS								
Type III - 0.9 (36")	1.84	ML B/.	347.00	82.00	-	-	429.00	
Type III - 1.05 (42")	1.84	ML B/.	298.24	135.00	34.00	-	394.00	
Type III - 1.22 (48")	1.84	ML B/.	343.76	-	37.00	30.00	101.00	
Type III - 1.37 (54")	1.84	ML B/.	389.28	41.00	160.00	-	201.00	
Type III - 1.52 (60")	1.84	ML B/.	548.23	64.00	90.00	-	164.00	
Type III - 1.67 (66")	1.22	ML B/.	631.10	-	33.00	-	33.00	
Type III - 1.83 (72")	1.22	ML B/.	782.37	7.00	25.00	-	32.00	
Type IV - 0.9 (36")	1.84	ML B/.	250.51	52.00	-	-	52.00	
Type IV - 1.05 (42")	1.84	ML B/.	324.37	36.00	-	-	36.00	
Type IV - 1.37 (54")	1.84	ML B/.	547.86	-	54.00	-	54.00	
Type IV - 1.52 (60")	1.84	ML B/.	630.07	37.00	-	-	37.00	
Type IV - 1.83 (72")	1.22	ML B/.	855.95	-	80.00	-	80.00	
Type V - 0.9 (36")	1.84	ML B/.	332.88	137.00	-	-	137.00	
Type V - 1.05 (42")	1.84	ML B/.	433.91	82.00	-	-	82.00	
Concrete Culvert - 1.83x1.83	1.84	ML B/.	2,022.65	81.39	-	-	81.39	
Concrete Culvert - 1.83x2.44	1.84	ML B/.	2,427.18	40.82	-	-	40.82	
Concrete Culvert - 2.44x2.44	1.84	ML B/.	2,629.44	79.38	107.50	-	186.88	
Concrete Culvert - 3.05x2.44	1.84	ML B/.	3,033.97	-	35.60	-	35.60	
Concrete Culvert - 3.05x3.05	1.84	ML B/.	4,550.95	-	52.00	-	52.00	
Concrete Culvert - 3.5 x 3.5	1.84	ML B/.	5,055.62	172.06	-	43.00	215.06	
Double Concrete Culvert - 3.05x3.05	1.84	ML B/.	5,683.42	-	48.50	-	48.50	
Double Concrete Culvert - 3.05x2.44	1.84	ML B/.	3,944.17	-	73.00	-	73.00	
Culvert concrete @ Entry	m3	B/.	355.16	400.00	388.00	200.00	1,000.00	
Reinforced Steel	kg	B/.	3.03	10,000.00	22,000.00	10,000.00	3,000.00	
Sub drainage	ML	B/.	30.16	11,080.00	11,500.00	640.00	500.00	
Earth fill for Drainage	m3	B/.	34.97	5,000.00	5,000.00	3,000.00	500.00	
PAVEMENTS								
Hydraulic Base	m3	B/.	16.98	72,272.01	56,476.19	13,184.09	10,438.02	164,370.31
Concrete Base	m3	B/.	262.94	64,137.50	51,894.45	11,700.17	9,263.18	136,995.30
COMPLEMENTARY WORKS								
Concrete Curb	ML	B/.	19.38	13,850.00	11,500.00	1,980.00	3,000.00	30,310.00
Lined Ditch	ML	B/.	64.58	11,060.00	11,500.00	640.00	500.00	23,700.00
Concrete watershed	ML	B/.	63.33	1,939.00	1,610.00	274.40	420.00	4,243.40
Metallic fence	ML	B/.	106.84	15,235.00	12,850.00	2,166.00	3,300.00	33,541.00
New Jersey Barrier	ML	B/.	102.75	9,000.00	10,500.00	1,750.00	4,000.00	25,250.00
Right-of-Way Fence (Blocks)	ML	B/.	168.11	6,500.00	8,000.00	2,500.00	2,000.00	17,000.00
Right-of-Way Fence (Wiring)	ML	B/.	5.91	5,000.00	8,000.00	1,500.00	500.00	15,000.00

CONCEPTS	UNIT	Unit \$	STAGES				TOTAL
			Tinajillas - Brisas del Golf	Brisas - 24 de Diciembre	Ramal Villa Lucre	Ramal Trancas - Domingo Diaz	
			1	2	3	4	
Amount							
CORTE							
RELLENO							
			41,625.66	44,504.70	7,847.77	10,354.07	104,132.19
CLEARING			69,079.19	154,228.56	12,382.40	24,359.75	260,049.90
CLEARING IN CUTS							
EXCAVATIONS							
TYPE (A)			55,181.19	108,182.56	70,242.49	40,127.59	273,733.83
TYPE (B)			697,571.87	1,171,538.01	760,674.73	434,552.46	2,984,337.07
TYPE (C)			1,235,520.21	2,422,233.99	1,572,746.40	898,466.57	6,128,967.18
EMBANKMENT TO 95%			610,777.96	291,410.28	175,536.84	258,594.89	1,336,319.97
EMBANKMENT (NO COMPACTION)			828,411.49	395,246.13	238,084.45	350,737.90	1,812,479.96
BORROWED EARTH FILL			229,166.84	-	-	-	229,166.84
			3,637,534.40	4,567,344.23	2,837,315.09	2,017,192.23	13,059,386.35
DRAINAGE WORKS							
Type III - 0.9 (36")	1.84	ML B/.	147,328.09	34,815.28	-	-	182,143.37
Type III - 1.05 (42")	1.84	ML B/.	74,083.58	123,472.63	18,858.09	-	216,214.30
Type III - 1.22 (48")	1.84	ML B/.	-	23,403.43	21,605.85	18,975.75	63,985.04
Type III - 1.37 (54")	1.84	ML B/.	29,367.60	114,605.28	-	-	143,972.89
Type III - 1.52 (60")	1.84	ML B/.	64,323.62	90,455.09	-	-	154,778.71
Type III - 1.67 (66")	1.22	ML B/.	-	25,408.04	-	-	25,408.04
Type III - 1.83 (72")	1.22	ML B/.	6,510.66	23,252.35	-	-	29,763.01
Type IV - 0.9 (36")	1.84	ML B/.	23,969.08	-	-	-	23,969.08
Type IV - 1.05 (42")	1.84	ML B/.	21,486.44	-	-	-	21,486.44
Type IV - 1.37 (54")	1.84	ML B/.	-	54,435.80	-	-	54,435.80
Type IV - 1.52 (60")	1.84	ML B/.	42,894.99	-	-	-	42,894.99
Type IV - 1.83 (72")	1.22	ML B/.	-	83,833.06	-	-	83,833.06
Type V - 0.9 (36")	1.84	ML B/.	83,912.63	-	-	-	83,912.63
Type V - 1.05 (42")	1.84	ML B/.	65,469.01	-	-	-	65,469.01
Concrete Culvert - 1.83x1.83	1.84	ML B/.	164,623.38	-	-	-	164,623.38
Concrete Culvert - 1.83x2.44	1.84	ML B/.	99,077.43	-	-	-	99,077.43
Concrete Culvert - 2.44x2.44	1.84	ML B/.	208,672.62	282,665.16	-	-	491,337.78
Concrete Culvert - 3.05x2.44	1.84	ML B/.	-	168,009.44	-	-	168,009.44
Concrete Culvert - 3.05x3.05	1.84	ML B/.	-	236,649.90	-	-	236,649.90
Concrete Culvert - 3.5 x 3.5	1.84	ML B/.	870,042.35	-	217,434.74	-	1,087,477.09
Double Concrete Culvert - 3.05x3.05	1.84	ML B/.	-	274,675.70	-	-	274,675.70
Double Concrete Culvert - 3.05x2.44	1.84	ML B/.	-	287,924.05	-	-	287,924.05
Culvert concrete @ Entry	m3	B/.	142,062.76	137,800.87	71,031.38	35,516.69	386,410.70
Reinforced Steel	kg	B/.	30,339.73	66,747.41	30,339.73	9,101.92	136,529.79
Sub drainage	ML	B/.	333,544.98	346,813.47	19,300.92	15,078.85	714,737.32
Earth fill for Drainage	m3	B/.	174,857.98	279,772.77	104,914.79	17,485.80	577,031.34
			2,682,268.03	2,684,739.75	483,185.60	96,198.01	5,756,649.29
PAVEMENTS							
Hydraulic Base	m3	B/.	1,154,829.03	934,386.66	210,667.59	166,788.34	2,496,671.61
Concrete Base	m3	B/.	16,864,562.33	13,645,351.68	3,076,493.43	2,435,700.71	26,022,135.15
			18,019,391.36	14,579,738.34	3,287,161.01	2,602,489.05	28,483,809.77
COMPLEMENTARY WORKS							
Concrete Curb	ML	B/.	268,371.10	222,835.21	37,978.87	58,130.92	587,316.11
Lined Ditch	ML	B/.	714,289.91	742,706.50	41,333.23	32,291.59	1,530,621.23
Concrete watershed	ML	B/.	122,795.19	101,959.90	17,371.51	26,598.24	268,730.84
Metallic fence	ML	B/.	1,627,651.13	1,351,479.27	230,339.08	352,559.51	3,562,029.29
New Jersey Barrier	ML	B/.	924,755.00	1,078,880.84	179,813.47	411,022.22	2,594,451.53
Right-of-Way Fence (Blocks)	ML	B/.	1,222,691.16	1,126,637.99	470,265.83	376,212.66	3,197,807.65
Right-of-Way Fence (Wiring)	ML	B/.	29,530.67	47,249.07	8,859.20	88,592.01	88,592.01
			4,910,084.16	4,673,748.80	985,957.20	1,255,748.51	11,629,548.68

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Informe de la Auditoría de la Concesión del Corredor Norte

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Constructora Vial, S.A.
Construction Budget
Northern Corridor - Phase II

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CONFIDENCIAL

CONCEPTS	UNIT	Unit \$	STAGES				TOTAL	STAGES				TOTAL
			Tinajitas - Brisas del Golf	Brisas - 24 de Diciembre	Ramal Villa Lucre	Ramal Trancas - Domingo Diaz		Tinajitas - Brisas del Golf	Brisas - 24 de Diciembre	Ramal Villa Lucre	Ramal Trancas - Domingo Diaz	
			1	2	3	4		1	2	3	4	
STRUCTURES												
Geotechnical Study	lote	B/. 4,045.30	10.00	16.00	3.00	6.00	35.00	40,452.97	64,724.76	12,195.89	24,271.78	141,685.41
Piers excavation	m³	B/. 6.07	21,300.80	5,820.00	-	-	27,120.80	129,252.11	35,315.45	-	-	164,567.56
Piling platform	m³	B/. 6.07	-	6,350.00	3,600.00	7,200.00	17,150.00	-	38,531.46	21,844.61	43,689.21	104,065.28
Concrete for Piles	M³	B/. 197.25	-	-	-	-	-	-	223,203.58	29,113.51	160,124.31	412,441.39
Reinforced Steel for Piles (1.22 m)	kg	B/. 2.64	-	123,000.00	11,400.00	73,440.00	207,840.00	-	312,134.28	28,929.52	186,367.00	527,430.80
Piles cap	pza	B/. 70.78	-	78.00	20.00	56.00	152.00	-	5,380.25	1,415.85	3,964.39	10,760.49
Steel for Foundations	Kg.	B/. 2.64	18,200.00	170,005.00	-	-	188,205.00	46,185.72	431,417.79	-	-	477,603.51
Plywood forming for Foundations	M²	B/. 29.84	364.80	878.40	-	-	1,243.20	10,885.25	26,210.54	-	-	37,095.79
Concrete for Foundations	M³	B/. 197.25	504.00	2,628.00	-	-	3,132.00	99,411.99	518,362.50	-	-	617,774.48
Concrete for Piers & Columns	Kg.	B/. 2.91	-	299,204.00	-	7,500.00	306,704.00	-	870,531.73	-	21,821.19	892,352.92
Reinforced Steel for Piers & Columns	M³	B/. 218.95	58.90	1,785.39	246.00	389.15	2,479.44	12,890.48	390,739.08	53,837.99	84,510.33	541,977.86
Plywood forming for Piers & Columns	M²	B/. 57.75	292.30	3,504.16	768.00	1,107.12	5,669.58	16,880.47	202,366.99	44,236.88	63,936.73	327,421.07
Plywood forming for Pier Cap	M²	B/. 57.28	1,979.74	5,193.70	682.80	2,038.64	9,894.78	113,358.99	297,388.84	39,096.81	116,725.85	666,570.49
Concrete for Pier Cap	M³	B/. 230.46	658.10	1,806.28	372.00	867.18	3,603.56	151,202.82	370,178.42	85,729.99	222,893.37	830,004.59
Reinforced steel for Pier Cap	Kg.	B/. 2.91	35,229.00	97,582.00	27,498.00	54,465.00	214,772.00	102,498.50	283,914.07	79,999.40	158,465.50	624,877.47
Neoprene (30.5cm x 58cm x 3.2cm) 80 Steel A-36	pza	B/. 242.72	396.00	714.00	110.00	288.00	1,506.00	96,116.27	173,300.54	26,696.96	69,417.30	365,533.08
Neoprene (30.0cm x 40cm x 4.1cm) 80 Steel A-36	pza	B/. 232.80	40.00	16.00	-	-	56.00	9,304.18	3,721.67	-	-	13,025.86
Carton asfaltado de 4cm de espesor(hielo seco)	M²	B/. 4.05	276.80	412.70	72.00	141.20	901.50	1,114.88	1,669.49	291.26	571.20	3,646.84
Sikaflex 1-A 4cm	Dm³	B/. 10.11	1,287.60	1,144.80	62.40	123.20	2,638.00	13,122.95	11,577.64	631.07	1,245.95	26,577.60
Reinforced Steel A-36 (Expansion joints)	Kg.	B/. 2.57	6,700.50	13,387.00	2,870.00	5,740.50	28,698.00	17,212.00	34,388.04	7,372.35	14,745.99	73,716.39
Reinforced steel for Deck	Kg.	B/. 2.91	78,284.00	116,184.00	21,420.00	57,450.00	273,338.00	227,766.69	338,036.45	62,321.32	167,150.33	795,274.80
Deck Plywood forming	m²	B/. 77.00	98.38	195.61	33.60	66.80	394.27	7,573.39	15,061.15	2,579.39	5,143.37	30,357.30
Concrete for Deck	m³	B/. 253.67	723.63	1,354.05	218.55	609.65	2,905.78	175,014.74	196,727.87	56,887.70	112,696.93	541,326.54
Steel for Approach Slab	Kg.	B/. 2.53	89,222.00	77,810.00	22,500.00	44,574.00	214,106.00	144,346.60	168,260.70	45,690.66	91,445.22	449,742.59
Concrete for Approach Slab	m³	B/. 197.25	731.81	853.05	231.64	463.61	2,280.11	175,014.74	196,727.87	56,887.70	112,696.93	541,326.54
Concrete Slope Protection	m³	B/. 272.49	35.00	876.00	218.00	432.00	1,861.00	144,346.60	168,260.70	45,690.66	91,445.22	449,742.59
Box beams from 25 to 32 mts.	ml.	B/. 505.68	2,892.50	5,052.00	1,131.00	4,277.00	13,352.50	1,462,627.87	2,554,605.35	571,903.93	2,162,717.16	6,751,854.31
Beam AASHTO IV for Pedestrian bridge +30M	Pza	B/. 40,452.97	2.00	-	-	-	2.00	80,905.95	-	-	-	80,905.95
Box beams from 15 to 24 mts.	m.l.	B/. 444.98	2,608.00	4,986.00	384.00	-	7,876.00	1,115,126.70	2,216,883.85	170,873.37	-	3,502,683.92
Celling & Acc. For Pedestrian bridge	M.l.	B/. 1,886.73	128.00	-	-	-	128.00	241,501.02	-	-	-	241,501.02
New Jersey Barrier	M.l.	B/. 88.63	376.00	-	-	-	376.00	33,326.02	-	-	-	33,326.02
1/2 New Jersey Barrier (Modified CIP)	M.l.	B/. 240.99	1,080.00	2,000.00	414.00	740.00	4,234.00	260,208.26	481,667.15	99,746.50	178,290.85	1,020,112.77
Construction / FABER Structure walls	M²	B/. 177.51	14,576.53	3,312.00	-	-	17,888.53	2,587,445.63	587,906.35	-	-	3,175,352.00
Footing construction for FABER Structure walls	M²	B/. 50.57	1,654.14	165.60	-	-	1,719.74	78,587.08	8,373.77	-	-	86,960.85
Concrete for FABER Structure Panels	M³	B/. 185.72	2,405.13	546.48	-	-	2,951.61	446,691.49	101,494.81	-	-	548,186.30
SIGNALS												
Vertical & Horizontal Signals	Lote		1.00	1.00	1.00	1.00	4.00	606,784.62	910,191.93	262,944.34	161,698.66	1,931,629.54
TOLL PLAZA												
Civil works	Lote		1.00	1.00	1.00	1.00	4.00	1,516,986.55	2,224,913.61	809,059.49	404,629.75	4,955,489.40
Toll Equipment	Lote		1.00	1.00	1.00	1.00	4.00	-	-	-	-	-
LIGHTING												
Lighting	Lote		1.00	1.00	1.00	1.00	4.00	2,832,840.67	1,820,383.86	809,059.49	404,629.75	5,866,813.77
TOTAL												
							CONSTRUCTION					
							42,148,510	42,895,792	11,019,570	11,077,176	107,141,048	