

**APPENDIX D**: DETAILED COST ESTIMATES



# Appendix D DETAILED COST ESTIMATES

# **Practical Alternative Cost Estimates**

Practical Alternative:		#	<i>‡</i> 1			#	2			#	3			#	<i>‡</i> 5			#	7			#	9			#'	11			#'	14			#	16	
Bridge Option:		4		7	5	4	7	7	4	2	7	7		4		7		9		10		9		10		9		10		4		7		4		7
Cost Detail		(mil	llion)			(mill	lion)			(mill	lion)			(mil	llion)	)		(mil	lion)			(mil	lion)			(mil	lion)			(mil	lion)			(mi	llion)	
Construction Costs <sup>1</sup>	2			100 0000			121	55945 (h)	125			12:10 21							25					0810	2				20			85.72 g.	120			100011
Detroit River Bridge (to come)	\$	282	\$	344	\$	282	\$	344	\$	282	\$	344	\$	282	\$	344	\$	243	\$	309	\$	243	\$	309	\$	243	\$	309	\$	282	\$	344	\$	282	\$	344
Toll and Inspection Plaza	\$	150	\$	150	\$	150	\$	150	\$	150	\$	150	\$	150	\$	150	\$	190	\$	190	\$	190	\$	190	\$	190	\$	190	\$	150	\$	150	\$	150	\$	150
Connecting Roadways	\$	185	\$	185	\$	199	\$	199	\$	179		179		177		177	_	187		187		202		202	\$	180	\$	180		167	\$	167	\$	204	\$	204
Subtotal - Construction	\$	616	\$	679	\$	631	\$	693	\$	611	\$	673	\$	609	\$	671	\$	621	\$	686	\$	635	\$	701	\$	613	\$	679	\$	599	\$	661	\$	636	\$	698
Property Acquisition/Remediation	\$	179	\$	179	\$	174	\$	174	\$	183	\$	183	\$	194	\$	194	\$	172	\$	172	\$	167	\$	167	\$	176	\$	176	\$	171	\$	171	\$	183	\$	183
Utilities (to come) <sup>2</sup>	\$	174	\$	174	\$	173	\$	173	\$	153	\$	153	\$	169	\$	169	\$	166	\$	166	\$	166	\$	166	\$	168	\$	168	\$	145	\$	145	\$	183	\$	183
Management Contingency (5%)	\$	40	\$	43	\$	40	\$	43	\$	38	\$	41	\$	39	\$	42	\$	39	\$	43	\$	40	\$	43	\$	39	\$	42	\$	37	\$	40	\$	41	\$	44
Grand Total - Construction &																																				
Acquisition Costs	\$	1,009	\$1	,074	\$ 1	,018	\$1,	083	\$	985	<b>\$</b> 1,	,050	\$ 1	1,011	\$	1,076	\$	<b>99</b> 8	\$ ´	1,067	\$ 1	1,008	\$1	,077	\$	996	\$ 1	1,066	\$	952	<b>\$</b> 1	1,018	\$ 1	,043	\$ ^	1,108
Soft Costs <sup>3</sup>																																				
Final Design & Permits (7.5%)	\$	59	\$	64	\$	60	\$	65	\$	57	\$	62	\$	58	\$	63	\$	59	\$	64		60	\$	65	\$	59	\$	64		56	\$	60	\$	61	\$	66
Construction Engineering (7.5%)	\$	59	- T	64	\$	60	· ·	65	\$	57	\$	62	\$	58	\$	63		59	\$	64		60	\$	65	\$	59	\$	64		56	\$	60	\$	61	\$	66
Grand Total - Soft Costs	\$	119	\$	128	\$	121	\$	130	\$	115	\$	124	\$	117	\$	126	\$	118	\$	128	\$	120	\$	130	\$	117	\$	127	\$	112	\$	121	\$	123	\$	132
Grand Total Alternative Cost (rounded)	\$	1,128	\$1	,202	\$ 1	,139	\$1,	213	\$1,	100	<b>\$</b> 1,	,174	\$ ^	1,127	\$	1,202	\$	1,116	\$ ^	1,195	\$ 1	1,128	\$1	,207	\$1	,113	\$ 1	1,193	\$ 1	,064	\$ 1	I,138	\$ 1	1,166	\$ ·	1,241
Inflation (rounded) - 20% <sup>4</sup>	\$	226	\$	240	\$	228	\$	243	\$	220	\$	235	\$	225	\$	240	\$	223	\$	239	\$	226	\$	241	\$	223	\$	239	\$	213	\$	228	\$	233	\$	248
Grand Total Cost (rounded)	\$	1,353	\$1	,443	\$ 1	,366	\$1,	456	<b>\$</b> 1,	320	<b>\$ 1</b> ,	,409	\$ 1	1,353	\$	1,442	\$	1,339	\$ ^	1,434	\$ 1	1,353	\$1	,448	\$1	,336	\$ 1	1,431	\$ 1	,277	\$ 1	1,366	\$ 1	,399	\$ ^	1,489

General Notes:

Grand Total Cost in year of expenditure dollars. Bridge Options: 4 & 9 - Cable-Stay, 7 & 10 - Suspension

Notes:

1 Construction Costs include design & construction contingencies, Maintenance of Traffic (MOT) and mobilization in 2006\$.

2 Utility costs include both public and private relocation costs.

3 Final Design & Construction Engineering soft costs are 7.5% of Construction Subtotal and utilities each.

4 Inflation costs weighted using cash flow year of expenditure for a typical alternative.

INTERCHANGE DETAILED COST ESTIMATES

 26777 Central Park Boulevard - Suite 275 - Southfield, Michigan 48076 - (248) 262-0013 - Fax: (248) 262-0988 - www.parsons.com

 Project: Detroit River International Crossing Study

 By:
 D. Greenwood
 Date: 10/04/07

 Checked By:
 L. Nguyen
 Date: 10/10/2007

Job No.: 646294 Subject: Refined Practical Alternative Cost Estimates

US Roadway/Bridge Cost Estimate

Alternative Cost Sumary

Items	Unit	Unit Cost (US\$)	Alternative 1 Quantity	Total (US\$)	Alternative 2 Quantity	Total (US\$)	Alternative 3 Quantity	Total (US\$)	Alternative 5 Quantity	Total (US\$)	Alternative 7 Quantity	Total (US\$)	Alternative 9 Quantity	Total (US\$)	Alternative 11 Quantity	Total (US\$)	Alternative 14 Quantity	Total (US\$)	Alter Q
Roadways & Ramps																			
Freeway Lanes																			1
Reconstructed 8-lane freeway with concrete median barrier	m	\$3,000	0	\$O	0	\$0	1,620	\$4,860,000	0	\$0	0	\$0	0	\$0	1,620	\$4,860,000	0	\$0	
Plaza Ramps Entrance Ramps G-210 Case 1 Urban 2 Lanes	m	\$770	1,280	\$985,600	1,240	\$954,800	960	\$739,200	1,100	\$847,000	1 270	\$977,900	1,240	\$954,800	960	\$739,200	1,950	\$1,501,500	
Entrance (camps G-210 Case 1 Orban 2 Lanes Exit Ramps G-240 Case 2 Urban 2 Lanes	m	\$770	490	\$377,300	580	\$446,600	640	\$492,800	590	\$454,300	490	\$377,300	580	\$446,600	640	\$492,800	1,810	\$1,393,700	
Service Drive Ramps				85															
Entran ce Ramps G-201 Case 1 Urban 1 Lanes	m	\$670	1,900	\$1,273,000	1,690	\$1,132,300	1,850	\$1,239,500	1,810	\$1,212,700	1,860	\$1,246,200	1,770	\$1,185,900	1,940	\$1,299,800	0	\$0	2
Exit Ramps G-205 Urban 1 Lanes	m	\$670	1,930	\$1,293,100	1,870	\$1,252,900	2,160	\$1,447,200	2,190	\$1,467,300	1 ,870	\$1,252,900	1,810	\$1,212,700	2,040	\$1,366,800	0	\$0	2
Removal of existing ramps	m	\$35	2,070	\$82,800	2,070	\$82,800	2,070	\$82,800	2,010	\$80,400	2 070	\$82,800	2,070	\$82,800	2,070	\$82,800	870	\$34,800	2
Service Drives Constructing 10 m wide Service drive	m	\$770	5,280	\$4,065,600	5,280	\$4,065,600	4720	\$3,634,400	4,800	\$3,696,000	5 280	\$4,065,600	5,280	\$4,065,600	4,720	\$3,634,400	820	\$631,400	,
Removing existing 10 m service drive	m	\$84	5,280	\$422,400	5,280	\$422,400	4720	\$377,600	4,800	\$384,000	5,280	\$422,400	5,280	\$422,400	4,720	\$377,600	820	\$65,600	į
Local Roads																			
New construction per 3.6 m lane	m	\$290	2,790	\$809,100	2,870	\$832,300	440	\$127,600	1,150	\$333,500	2,790	\$809,100	2,600	\$754,000	460	\$133,400	2,410	\$698,900	2
Remove existing local road per 3.6 m lane w/ curb and gutter	m	\$35	4,680	\$187,200	4,760	\$166,600	2,330	\$93,200	3,040	\$121,600	4 820	\$168,700	4,630	\$162,050	2,490	\$99,600	4,140	\$165,600	4
Gateway Corridor	m	\$290 \$670	3,780 730	\$1,096,200 \$489,100	3,780	\$1,096,200 \$489,100	3,780 730	\$1,096,200 \$489,100	3,780 710	\$1,096,200 \$475,700	4 (060 840	\$1,177,400 \$562,800	4,060 840	\$1,177,400	4,060 840	\$1,177,400	3,780	\$1,096,200 \$422,100	3
Local Access to Plaza Intersection Signalization	m ea	\$60,000	10	\$800,000	730 11	\$880,000	13	\$409,100 \$1,040,000	9	\$720,000	10	\$800,000	11	\$562,800 \$880,000	13	\$562,800 \$1,040,000	630 4	\$320,000	
subtotal (rounded to 10,000's)	64	000,000	10	\$11,880,000		\$11,820,000	1.5	\$15,720,000		\$10,890,000		\$11,940,000	1	\$11,910,000	1 13	\$15,870,000	-	\$6,330,000	č.
Sound Abatement Walls	m	\$1778 to \$1815	1,970	\$3,506,600	2,130	\$3,791,400	1,940	\$3,453,200	2,020	\$3,676,400	1,970	\$3,506,600	2,130	\$3,791,400	1,940	\$3,453,200	2,030	\$3,613,400	. 7
subtotal (rounded to 10,000's)				\$3,510,000		\$3,790,000		\$3,450,000		\$3,680,000		\$3,510,000		\$3,790,000		\$3,450,000		\$3,610,000	
Pridaon																			
<u>Bridges</u> Plaza Ramp Bridges	m <sup>2</sup>	\$2,400	31,750	\$76,200,000	36,270	\$87,048,000	29,340	\$70,416,000	30,750	\$73,800,000	32,550	\$78,120,000	36,900	\$88,560,000	29,320	\$70,368,000	29,070	\$69,768,000	3
Crossing Bridges	m <sup>2</sup>	\$2,400	6,200	\$15,072,000	7 ,510	\$10,024,000	4,600	\$11,202,000	4,600	\$11,232,000	6,200	\$15,072,000	7,510	\$10,024,000	4,600	\$11,232,000	0	\$0	:
Three-sided Underpass	m <sup>3</sup>	\$2,400	350	\$840,000	0	\$0	1,350	\$3,240,000	1,490	\$3,576,000	350	\$840,000	0	\$0	1,350	\$3,240,000	0	\$0	
Pedestrian Bridges (same locations as existing bridges)	ea	\$300,000	5	\$1,500,000	5	\$1,500,000	5	\$1,500,000	5	\$1,500,000	5	\$1,500,000	5	\$1,500,000	5	\$1,500,000	5	\$1,500,000	
subtotal (rounded to 10,000's)				\$93,610,000		\$106,570,000		\$86,390,000		\$90,110,000		\$95,530,000		\$108,080,000		\$86,340,000		\$71,270,000	
Detaising Walls																			
Retaining Walls Gravity Walls	m <sup>2</sup>	\$540	20	\$10,800	120	\$64,800	230	\$124,200	140	\$75,600	20	\$10,800	120	\$64,800	230	\$124,200	0	\$0	
MSE/Gravity Concrete Walls	m <sup>2</sup>	\$1,100	4,240	\$3,180,000	2,990	\$2,242,500	4,480	\$3,360,000	5,980	\$4,485,000	4,240	\$3,180,000	2,990	\$2,242,500	4,480	\$3,360,000	4,050	\$3,037,500	:
Driven Walls	m <sup>2</sup>	\$2,700	680	\$1,829,200	0	\$0	0	\$0	0	\$0	680	\$1,829,200	0	\$0	0	\$0	0	\$0	
s ubtotal (rounded to 10,000's)				\$5,020,000		\$2,310,000	Ī	\$3,480,000	1	\$4,560,000	1	\$5,020,000	1	\$2,310,000		\$3,480,000		\$3,040,000	
Bridge Demolition	m²	6070	0.500	t2 240 200	0.500	10 040 000	0.050	P4 070 500	0.050	F4 07C 500	0.500	60 040 000	0.500	\$2,240,200	0.500	f2 240 200	1.100	64,400,400	
Entire bridge, grade separation subtotal (rounded to 10,000's)	m-	\$270	8,590	\$2,319,300 \$2,320,000	8 590	\$2,319,300 \$2,320,000	6,950	\$1,876,500 \$1,880,000	6,950	\$1,876,500 \$1,880,000	8 590	\$2,319,300 \$2,320,000	8,590	\$2,319,300 \$2,320,000	8,590	\$2,319,300 \$2,320,000	4,430	\$1,196,100 \$1,200,000	. 1
suntouri (rounded to 10,000 \$)				טטע טשט, צק		000,000 د, 20		000,000,10		000,000		\$2,J20,000		000 ناكد, 20		טטט, טע ג, צע		a1,200,000	
Roadway Storm Drainage																			
Freeway drainage	m	\$860	0	\$0	0	\$0	1,620	\$1,393,200	0	\$0	0	\$0	0	\$0	1,620	\$1,393,200	0	\$0	
Ramp drainage	m	\$160	5,600	\$896,000	5,380	\$860,800	5,610	\$897,600	5,690	\$910,400	5,490	\$878,400	5,400	\$864,000	5,580	\$892,800	3,760	\$601,600	e
Local road drainage	m	\$160	1,400	\$224,000	1,440	\$230,400	440	\$70,400 \$765,000	575	\$92,000	1,400	\$224,000	1,300	\$208,000	230	\$36,800	1,960	\$313,600	ĺ
Service drive drainage Remove exist storm drainage system (per side)	m	\$160 \$46	5,280 6,680	\$844,800 \$334,000	5,280 6,720	\$844,800 \$336,000	4,720 11,640	\$755,200 \$582,000	4,800 5,380	\$768,000 \$269,000	5,280 6,680	\$844,800 \$334,000	5,280 6,580	\$844,800 \$329,000	4,720 11,430	\$755,200 \$571,500	820 8,500	\$131,200 \$425,000	5 (
Pump station	LS	\$40	6,660	\$334,000	1	\$1,500,000	1	\$562,000	1	\$1,500,000	1	\$1,500,000	1	\$1,500,000	1	\$571,500	1	\$425,000 \$1,500,000	6
subtotal (rounded to 10,000's)				\$3,800,000	1	\$3,770,000	t i i	\$5,200,000	1	\$3,540,000	1 .	\$3,780,000	1 .	\$3,750,000	1	\$5,150,000		\$2,970,000	
Railroad Spur	m		1	\$9,090,750	0	\$9,090,750	1	\$9,090,750	1	\$9,090,750	1	\$9,090,750	1	\$9,090,750	1	\$9,090,750	1	\$9,090,750	
subtotal (rounded to 10,000's)				\$9,090,000		\$9,090,000		\$9,090,000		000, 000, C#		\$9,090,000		\$9,090,000		\$9,090,000		\$9,090,000	
			Subtota	\$129,230,000	Subtotal	l: \$139,670,000	Subtotal:	\$125,210,000	Subtotal	\$123,750,000	Subtotal	\$131,190,000	Subtota	£ \$141,250,000	Subtotal	1: \$125,700,000	Subtotal	\$94,470,000	
			JUNIOR		J		J. J		J				Juniola		Juniola		Juniolar		
Design Contingencies (20%)	LS		1	\$25,846,000	1	\$27,934,000	1	\$25,042,000	1	\$24,750,000	1	\$26,238,000	1	\$28,250,000	1	\$25,140,000	1	\$18,894,000	
			Subtota	\$155,080,000	Subtotal	<i>l:</i> \$167,600,000	Subtotal:	\$150,250,000	Subtotal	<b>:</b> \$148,500,000	Subtotal	<i>l:</i> \$157,430,000	Subtotal	£ \$169,500,000	Subtotal	1: \$150,840,000	Subtotal	: \$113,360,000	
Maintenance of Traffic (excluding Plaza Ramps - 5%)	LS		1	\$3,100,226	1	\$3,073,036	1	\$3,213,620	1	\$2,918,922	1	\$3,102,988	1	\$3,077,316	1	\$3,246,000	1	\$1,308,208	
Maintenance of Traffic (Plaza Ramps - 5%) Maintenance of Traffic (Plaza Ramps - 2%)	LS		1	\$1,861,510	1	\$2,122,786	1	\$1,719,552	1	\$1,802,431	1	\$1,907,405	1	\$2,159,074	1	\$1,718,400	1	\$1,743,917	
Mobilization (5%)	LS		1	\$7,754,000	1	\$8,380,000	1	\$7,512,500	1	\$7,425,000	1	\$7,871,500	1	\$8,475,000	1	\$7,542,000	1	\$5,668,000	
							1			\			I	,		·			
SUBTOTAL A - CONSTRUCTION				\$167,800,000		\$181,180,000	ļ	\$162,700,000	-	\$160,650,000	4	\$170,310,000	-	\$183,210,000	-	\$163,350,000		\$122,080,000	1
(rounded to 10,000's)																			
SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)				\$16,780,000		\$18,118,000	1	\$16,270,000	1	\$16,065,000	+	\$17,030,000	ł	\$18,321,000	1	\$16,335,000		\$12,208,000	l I
(rounded to 10,000's)				\$10,100,000		1 %10,110,000		0,000 ¢10,000	1	000,000,000	1	004064719	†	410,321,000	1	000,000		↓ \$12,200,000	l.
											1								
SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)				\$8,390,000	1	\$9,059,000	1	\$8,135,000	1	\$8,032,500	1	\$8,520,000	1	\$9,160,500	1	\$8,167,500		\$6,104,000	1
(rounded to 10,000's)																			
								-											
Utilities (To be determined)	LS		1	\$0	1	\$0		\$0		\$0		\$0		\$0		\$0		\$0	
SUBTOTAL D -				\$0		\$0	1	\$0	1	\$0	+	\$0	ł	\$0	1	\$0		\$0	í.
SUBTITIE U				U		90	ta a	4U	1	L 90	1	L au	1	1 90	1	40		1 \$U	ļ.
											1								
FOTAL (A,B,C,D)				\$192,970,000	1	\$208,360,000	İ	\$187,110,000	1	\$184,750,000	I	\$195,860,000	1	\$210,690,000	1	\$187,850,000		\$140,390,000	í –
									]		1		I		1				<u>.</u>
						<u> </u>					_								, –
Rounded Total (Millions of Dollars)				\$193		\$208	1	\$187	1	\$185	1	\$196	Į	\$211	J	\$188		\$140	4
																			4

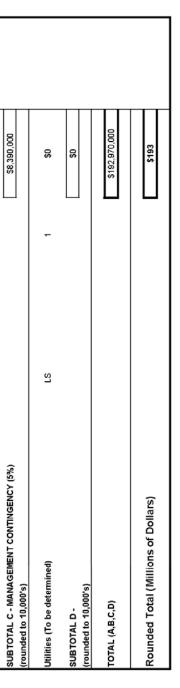
	Alternative 16 Quantity	Total (US\$)
	0	\$0
	850 490	\$654,500 \$377,300
	2,600	\$1,742,000
	2,190 2,430	\$1,467,300 \$97,200
	5,320 5,320	\$4,096,400 \$425,600
	2,690	\$780,100
	4,580 3,780	\$160,300 \$1,096,200
	730	\$489,100
	. 14	\$1,120,000 \$12,510,000
-	2,130	\$3,791,400 \$3,790,000
	33,730 9,560	\$80,952,000 \$22,944,000
	0	\$0
	5	\$1,500,000 \$105,400,000
	0	e0
	0 3,550	\$0 \$2,662,500
	880	\$2,367,200
		\$5,030,000
	10,100	
-	12,160	\$3,283,200 \$3,280,000
	0	\$0
	6,130 1,350	\$980,800 \$216,000
	5,320	\$851,200
	6,670	\$333,500
	1	\$1,500,000 \$3,880,000
	1	\$9,090,750 \$9,090,000
	Subtotal	\$142,980,000
	1 Subtotal	\$28,596,000 \$171,580,000
	1	\$3,659,972
	1	\$1,967,611
		\$8,579,000
		\$185,790,000
	1	\$18,580,000
_		410,000,000
	]	\$9,290,000
		\$0
	]	\$0
1	l	\$213,660,000
		\$214
_		

26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 Project: Detroit River International Crossing Study By: D. Greenwood Checked By: L. Nguyen Date: 10/16/2007

Job No.: 646294 Subject Refined Practical Alternative Cost Estimates

US Roadway/Bridge Cost Estimate

Items	Unit	Unit Cost (US\$)	Quantity	Total (USS)	Comment
Roadways & Ramps					
Freeway Lanes Reconstructed 8-lane freeway with concrete median barrier	E	\$3,000	0	0\$	N/A for this alternative
Plaza Ramps Enternes Dames © 210 Case 1 Lidear 2 Lance	E	6770	1 200	CODE SOO	
Exit Ramps G-240 Case 1 Urban 2 Lanes Exit Ramps G-240 Case 2 Urban 2 Lanes	ΞE	022\$	490	\$377,300	
Service Drive Ramps			000 1		
Entrance Ramps G-201 Case 1 Urban 1 Lanes Exit Ramos G-205 Urban 1 Lanes	EE	\$670 \$670	1,900	\$1,273,000 \$1,293,100	
Removal of existing ramps	E	\$40	2,070	\$82,800	
Service Drives					
Constructing 10 m wide Service drive Removing existing 10 m service drive	εε	08\$	5,280 5,280	\$4,065,600 \$422,400	
Local Roads					
New construction per 3.6 m lane	E	\$290	2,790	\$809,100	
Remove existing local road per 3.6 m lane w/ curb and gutter	ε	\$40	4,680	\$187,200	
Gateway Corndor	E	\$290	3,780	\$1,096,200 \$400 100	
Local Access to Flaza Intersection Signalization	= ea	\$60,000	10	\$800.000	
subtotal (rounded to 10,000's)	ł	) 	2	\$11,880,000	
<u>sound Abatement Walls</u> subtotal (rounded to 10,000's)	E	1,180	0/8'1	\$3,510,000	
<u>briages</u> Plaza Ramo Bridaes	ш <sup>2</sup>	\$2.400	31.750	\$76.200.000	
Crossing Bridges	°E	\$2,400	6,280	\$15,072,000	
Three-sided Underpass	<sup>2</sup> Е	\$2,400	350	\$840,000	
Pedestrian Bridges (same locations as existing bridges) subtotal (rounded to 10,000's)	ea	000,0056	n	\$93,610,000	
- 11-74-1					
<u>retaining wans</u> Gravity Walls	$m^2$	\$540	20	\$10,800	
MSE/Gravity Concrete Walls	°ء (	\$750	4,240	\$3,180,000	
Driven Walls subtotal (rounded to 10.000's)	Ĕ	\$2,690	680	\$1,829,200 \$5.020.000	
Bridge Demolition Entire bridge and conserving	2	0200	0 600	000 340 300	
cinite privide, grade separation subtotal (rounded to 10,000's)	Ē	0/7¢	080'0	\$2,320,000	
Roadway Storm Drainage					
Freeway drainage	E	\$860	0	\$0	N/A for this alternative
Ramp drainage	E	\$160	5,600	\$896,000	
Local road drainage Service drive drainage	ε£	\$160 \$160	1,400	\$224,000 \$844 900	
Remove exist storm drainage system (per side)	E	\$50	6,680	\$334,000	
Pump station subhotal (rounded to 10 000's)	rs	\$1,500,000	÷	\$1,500,000 \$3.800.000	
Railroad Spur	SJ		-	\$9,090,750 \$6,000,000	
suburger (rounder to royours)				000,050,550	
ļ			Subtotal:	ı <i>t:</i> \$129,230,000	
Design Contingencies (20%)	SJ		-	\$25,846,000	
			Subtotal:		
Maintenance of Traffic (excluding Plaza Ramps - 5%)	SJ		£	\$3,100,226	
Maintenance of Traffic (Plaza Ramps - 2%) Mobilization (5%)	rs LS			\$1,861,510 \$7.754.000	
(a/c) Industrian	3		-	000'to 3' 10	
SUBTOTAL A - CONSTRUCTION (rounded to 10,000's)				\$167,800,000	
SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)				S16.780.000	
(rounded to 10,000's)					
SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)				\$8,390,000	_



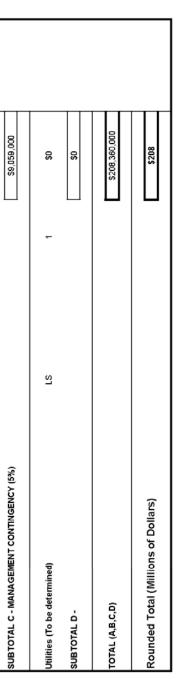
nates.xls TabAlt 1 D - Cost Est/071016 DRIC Cost Estin 0300 05. F:\646294\_DRIC\_Study\05.0000 Dc

26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 Project: Detroit River International Crossing Study By: D. Greenwood Checked By: L. Nguyen Date: 10/16/2007

Job No.: 646294 Subject Refined Practical Alternative Cost Estimates

US Roadway/Bridge Cost Estimate

Items	Unit	Unit Cost (US\$)	Quantity	Total (USS)	Comment
				(	
<u>Roadways &amp; Ramps</u> Freewav Lanes					
Reconstructed 8-lane freeway with concrete median barrier	٤	\$3,000	0	\$0	N/A for this alternative
Plaza Ramps	1		010 1	000 1000	
Entrance Ramps G-210 Case 1 Urban 2 Lanes Exit Ramps G-240 Case 2 Urban 2 Lanes	ΕE	5770	1, 24U 580	\$446.600	
Service Drive Ramps					
Entrance Ramps G-201 Case 1 Urban 1 Lanes	E	\$670	1,690	\$1,132,300	
Exit Ramps G-205 Urban 1 Lanes	E	\$670	1,870 2,070	\$1,252,900 ser enn	
Service Drives	E	0.149	0.0.1	000'700	
Constructing 10 m wide Service drive	E	\$770	5,280	S4,065,600	
Removing existing 10 m service drive	E	\$80	5,280	\$422,400	
Local Roads	1	0000	010 0	000 0000	
New construction per 3.5 m lane Remove existing local road per 3.6 m lane w/ curb and gutter	EE	\$29U \$35	2,8/0	\$166.600 \$166.600	
Gateway Corridor	E	\$290	3,780	\$1,096,200	
Local Access to Plaza	E	\$670	730	\$489,100	
Intersection Signalization	ea	\$80,000	11	\$880,000	
subtotal (rounded to 10,000's)				\$11,820,000	
Sound Abatement Walls	ε	\$1,780	2,130	S3,791,400	
subtotal (rounded to 10,000's)				\$3,790,000	
Bridges					
Plaza Ramp Bridges	a2	\$2,400	36,270	\$87,048,000	
Crossing Bridges	<sup>2</sup> = 3	\$2,400	7,510	\$18,024,000	NIA for this alternative
rinee-sideu underpass Pedestrian Bridnes (same locations as existing bridges)	= 4	\$2,400 \$300 000	סיר	\$0 \$1.500.000	IN/A FOF CITIS AIREITIAUVE
substant in reges (sum to contrain a contrain grounded to 10,000's)	5	000	2	\$106,570,000	
Betaining Malls					
Gravity Walls	m <sup>2</sup>	\$540	120	S64,800	
MSE/Gravity Concrete Walls	°a ′	\$750	2,990	\$2,242,500	
Driven Walls	,	\$2,690	0	\$0	N/A for this alternative
subioral (rounded to 10,000 s)				000,016,26	
Bridge Demolition	ç				
Entire bridge, grade separation subtotal (rounded to 10.000's)	E	22/0	066,8	\$2,319,300 \$2,320,000	
				000	
Roadway Storm Drainage				ŝ	
Freeway Drainage	E	\$860 \$160	0 200	\$0 ¢0¢0 000	N/A for this alternative
itamp orainage Local mad drainage	EE	\$160 \$160	1 440	\$230 400	
Service drive drainage	E	\$160	5,280	\$844,800	
Remove exist storm drain system (per side)	E	\$50	6,720	\$336,000	
Pump station	rs	\$1,500,000	-	\$1,500,000 \$3,770,000	
summer to hypores				000,077,000	
Railroad Spur	rs		۰	\$9,090,750	
subtotal (rounded to 10,000's)				\$9,090,000	
			Subtotal:	\$139,670,000	
	-				
Design Contingencies (20%)	S		1 Subtotal:	527,934,000 5167,600,000	
Maintenance of Traffic (excluding Plaza Ramps - 5%) Maintenance of Traffic (Plana Pannes - 20)	SI			\$3,073,036 \$2,122,786	
waimender of frame (Flace Gamps - 2%) Mobilization (5%)	rs S			\$8,380,000	
SUBTOTAL A - CONSTRUCTION				\$181,180,000	
SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)				\$18,118,000	
SUDTOTAL C MANAGEMENT CONTINCENCY (60.)				S9 059 000	



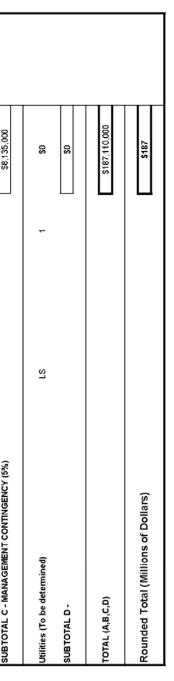
lates.xls TabAlt 2 D - Cost Est/071016 DRIC Cost Estin 0300 05 F:\646294\_DRIC\_Study\05.0000 Dc

26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · Project: Detroit River International Crossing Study By: D. Greenwood Checked By: L. Nguyen Date: 10/16/2007

Job No.: 646294 Subject Refined Practical Alternative Cost Estimates

US Roadway/Bridge Cost Estimate .

Alternative 3: Interchange	e C, Plaz:	a P-a, and C	Interchange C, Plaza P-a, and Crossing X-10		
Items	Unit	Unit Cost (US\$)	Quantity	Total (USS)	Comment
Roadways & Ramps					
rreeway Lanes Reconstructed 8-lane freeway with concrete median barrier	E	\$3,000	1,620	\$4,860,000	
Plaza Ramps Entrance Ramps G-210 Case 1 Urban 2 Lanes	E	\$770	960	\$739,200	
Exit Ramps G-240 Case 2 Urban 2 Lanes Service Drive Ramps	E	0//\$	640	\$492,800	
Entrance Ramps G-201 Case 1 Urban 1 Lanes	E	\$670	1,850	\$1,239,500	
Exit Ramps G-205 Urban 1 Lanes Removal of existing ramps	EE	\$670	2,160 2.070	\$1,447,200 \$82 BDD	
Service Drives	I		1 		
Constructing 10 m wide Service drive	EI	\$770	4,720	\$3,634,400 6277 600	
Lecal Roads	Ξ	no¢	4,120	000'//000	
New construction per 3.6 m lane	E	\$290	440	\$127,600	
Remove existing local road per 3.6 m lane w/ curb and gutter	E	\$40	2,330	\$93,200	
Gateway Corridor	5 5	\$290 \$670	3,780 730	\$1,096,200 \$480.100	
Intersection Signalization	ea	\$80,000	13	S1,040,000	
subtotal (rounded to 10,000's)				\$15,720,000	
Sound Abatement Walls subtotal (rounded to 10,000's)	Е	\$1,780	1,940	\$3,453,200 \$3,450,000	
Bridnes					
Plaza Ramp Bridges	a2	\$2,400	29,340	\$70,416,000	
Crossing Bridges	μ Έ	\$2,400	4,680	\$11,232,000 \$3.240,000	
Prince-sided Underpass Pedestrian Bridges (same locations as existing bridges)	ea	\$2,400 \$300,000	1,300	\$5,240,000 \$1,500,000	
subtotal (rounded to 10,000's)				\$86,390,000	
<mark>Retaining Walls</mark> Gravity Walls	Ĕ	\$540	230	\$124.200	
MSE/Gravity Concrete Walls	m²	\$750	4,480	\$3,360,000	
	m²	\$2,690	0	\$0	N/A for this alternative
subtotal (rounded to 10,000's)				\$3,480,000	
Bridge Demolition Entire bridge, grade separation	a2	\$270	6,950	\$1,876,500	
subtotal (rounded to 10,000's)				\$1,880,000	
<u>Roadway Storm Drainage</u> Freewav drainage	E	\$860	1.620	\$1.393.200	
Ramp drainage	Ε	\$160	5,610	\$897,600	
Local road drainage	E	\$160	440	S70,400	
Service drive drainage Remove exist storm drainage system (ner side)	EE	\$160 \$50	4,720 11 640	\$755,200	
Pump station	" S	\$1,500,000	1	\$1,500,000	
subtotal (rounded to 10,000's)				\$5,200,000	
Railroad Spur	ST		÷	\$9.090.750	
subtotal (rounded to 10,000's)				\$9,090,000	
			Subtotal:	\$125,210,000	
Design Contingencies (20%)	SJ		÷	\$25.042.000	
			Subtotal:	\$150,250,000	
Maintenance of Traffic (excluding Plaza Ramps - 5%)	S		÷	\$3,213,620	
Maintenance of Traffic (Plaza Ramps - 2%) Mobilization (5%)	rs LS			\$1,719,552 \$7.512.500	
SUBTOTAL A - CONSTRUCTION				\$162,700,000	
SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)				\$16,270,000	
SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)				\$8,135,000	



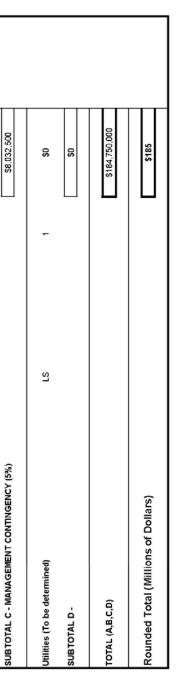
lates.xls TabAlt 3 D - Cost Est/071016 DRIC Cost Estin 0300 05. F:\646294\_DRIC\_Study\05.0000 Dc

26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · **Project: Detroit River International Crossing Study** By: D. Greenwood Checked By: L. Nguyen Date: 10/16/2007

Job No.: 646294 Subject Refined Practical Alternative Cost Estimates

. τ US Roadway/Bridge Cost Estimate - ú į

Alternative 5: Interchange E, Flaza F-a Mott, and Crossing A-10	, riaza r-	a Mou, and	Crossing A		
Items	Unit	Unit Cost (US\$)	Quantity	Total (USS)	Comment
Roadways & Ramps					
Freeway Lanes Reconstructed 8-lane freeway with concrete median barrier	Ε	\$3,000	0	\$0	N/A for this alternative
Plaza Ramps		0114			
Entrance Ramps G-210 Case 1 Urban 2 Lanes Exit Ramps G-240 Case 2 Urban 2 Lanes	ΕE	0//S	1,100 590	\$447,000 \$454,300	
Service Drive Ramps					
Entrance Ramps G-201 Case 1 Urban 1 Lanes	E	\$670	1,810	\$1,212,700 \$4,467,200	
EXIL NATING G-200 UTDAIL 1 LAINES Removal of existing ramps	ΞE	\$40	2,010	580,400 \$80,400	
Service Drives					
Constructing 10 m wide Service drive Removing existing 10 m service drive	εE	\$770 \$80	4,800	\$3,696,000 \$384.000	
Local Roads					
New construction per 3.6 m lane	Е	\$290	1,150	\$333,500	
Remove existing local road per 3.6 m lane w/ curb and gutter	E	\$40	3,040	\$121,600	
Gateway Compaor Local Access to Plaza	EE	0295	3,78U 710	\$475.700	
Intersection Signalization	ea	\$80,000	Ø	\$720,000	
subtotal (rounded to 10,000's)				\$10,890,000	
Sound Abatement Walls subtotal (rounded to 10,000's)	E	\$1,820	2,020	\$3,676,400 \$3,680,000	
				- 	
<u>Bridges</u> Plaza Ramb Bridges	<b>m</b> 2	\$2.400	30.750	S73.800.000	
Crossing Bridges	а <sup>5</sup>	\$2,400	4,680	\$11,232,000	
Three-sided Underpass	°E	\$2,400	1,490 F	\$3,576,000	
Pedestrian Bridges (same locations as existing bridges) subtotal (rounded to 10,000's)	ea	\$300,000	ß	\$1,500,000 \$90,110,000	
Betaining Walls					
<u>Reconting wents</u> Gravity Walls	<b>ш</b> <sup>2</sup>	\$540	140	S75,600	
MSE/Gravity Concrete Walls	°ء (	\$750	5,980	S4,485,000	
Driven Walls	₹	\$2,690	0	\$0 54 EED 000	N/A for this alternative
annoral loaninen to to'ooo al				000'000'to	
Bridge Demolition	ſ				
Entire bridge, grade separation sub total (rounded to 10,000's)	Ê	\$270	6,950	\$1,876,500 \$1.880.000	
<u>Roadway Storm Drainage</u> Freeway drainage	Ε	\$860	0	80	N/A for this alternative
Ramp drainage	Ε	\$160	5,690	\$910,400	
Local road drainage	E	\$160	575	\$92,000	
Service drive drainage Permove aviet etnom drainage evetem (ner eide)	εE	\$160 \$50	4,800 5 380	\$768,000 \$760,000	
remove exist summ arainage system (per stae) Purmo station	= S	\$1.500.000	1	\$1,500.000	
subtotal (rounded to 10,000's)				\$3,540,000	
Raitroad Snirr	<u>.</u>		÷	S9 090 750	
subtotal (rounded to 10,000's)	1			29,090,000	
			Subtotal:	\$123,750,000	
(2007) Andrewski (2007)	5			000 022 700	
Design Contrigencies (20%)	2		Subtotal:	\$148,500,000	
Maintenance of Traffic (excluding Plaza Ramps - 5%) Maintenance of Traffic (Plaza Ramps - 2%)	rs LS			\$2,918,922 \$1.802.431	
Mobilization (5%)	rs		-	\$7,425,000	
SUBTOTAL A - CONSTRUCTION				\$160,650,000	
SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)				\$16,065,000	
SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)				\$8,032,500	



lates.xls TabAlt 5 D - Cost Est/071016 DRIC Cost Estin 0300 05. F:\646294\_DRIC\_Study\05.0000 Dc

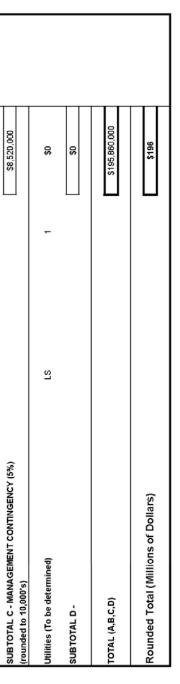
26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · **Project: Detroit River International Crossing Study** By: D. Greenwood Checked By: L. Nguyen Date: 10/16/2007

Job No.: 646294 Subject: Refined Practical Alternative Cost Estimates

5 US Roadway/Bridge Cost Estimate 7: Interchance A. Plaza P-c. and Cr 4

÷ A14,

Alternative 7: Interchange A, Plaza P-c, and Crossing X-11	je A, Plazi	a P-c, and C	rossing X-1	-	
Items	Unit	Unit Cost (US\$)	Quantity	Total (USS)	Comment
Roadways & Ramps Freeward and					
records takes Reconstructed 8-lane freeway with concrete median barrier Plaza Pamns	Е	\$3,000	0	\$0	N/A for this alternative
r raza manips Entrance Ramps G-210 Case 1 Urban 2 Lanes Cv# Promo C 2010 Cross 2114-nn 2 Jance	E	\$770 \$770	1,270	\$977,900	
Exit Manups	=		0000		
Entrance Ramps G-201 Case 1 Urban 1 Lanes	E	\$670	1,860 1 870	\$1,246,200 \$1,752,000	
Exit Natirips G-200 Orbani 1 Lanes Removal of existing ramps	ΞE	\$40	2,070	\$82,800	
Service Drives	1	022.0	000 2	100 200 10	
Constructing 10 m wide Service drive Removing existing 10 m service drive	ΕE	0//¢	5,280	\$422,400	
Local Roads					
New construction per 3.6 m lane Remove existing local mad her 3.6 m lane w/ curch and cutter	EE	\$290 \$35	2,790 4 820	\$809,100 \$168.700	
Gateway Corridor	E E	\$290	4,060	\$1,177,400	
Local Access to Plaza	E	\$670	840	\$562,800	
Intersection Signalization subtotal (rounded to 10,000's)	ea	\$80,000	10	\$800,000 \$11,940,000	
Sound Abatement Walls	E	\$1,780	1,970	\$3,506,600	
subtotal (rounded to 10,000's)				\$3,510,000	
Bridges					
Plaza Ramp Bridges	25 <sup>2</sup>	\$2,400	32,550	\$78,120,000	
crossing bridges Three-sided Underpass	= <sup>2</sup> E	\$2,400	a, 200	\$840,000	
ne locations	ea	\$300,000	5	\$1,500,000	
subtotal (rounded to 10,000's)				\$95,530,000	
Retaining Walls		0100	ç	000 010	
Gravity walls MSE/Gravity Concrete Walls	= <sup>~</sup> E	\$750	∠u 4,240	\$3,180,000	
	$m^2$	\$2,690	680	\$1,829,200	
subtotal (rounded to 10,000's)				\$5,020,000	
Bridge Demolition					
Entire bridge, grade separation subtotal frounded to 10.000's)	a <sup>2</sup>	\$270	8,590	\$2,319,300 \$2,320,000	
<u>Roadway Storm Drainage</u> Freeway drainage	Ε	SRED	-	G	N/A for this alternative
Ramp drainage	E	\$160	5,490	\$878,400	
Local road drainage	E	\$160	1,400	\$224,000	
service arive or anage Remove exist storm drainage system (per side)	ΕE	\$50	0,680 6,680	\$334,000	
Pump station	SJ	\$1,500,000	-	\$1,500,000	
subtotal (rounded to 10,000 s)				53,/BU,UUU	
Railroad Spur	SJ		-	\$9,090,750	
subtotal (rounded to 10,000's)				\$9,090,000	
			Subtotal:	\$131,190,000	
Design Contingencies (20%)	SJ		-		
			Subtotal:	\$157,430,000	
Maintenance of Traffic (excluding Plaza Ramps - 5%)	SJ		÷	\$3,102,988	
Maintenance of Traffic (Plaza Ramps - 2%) Mobilization 15%)	rs I			\$1,907,405 \$7 871.500	
	2				
SUBTOTAL A - CONSTRUCTION (rounded to 10,000's)				\$170,310,000	
SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)				S17.030.000	
(rounded to 10,000's)					
SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)				\$8,520,000	



nates.xls TabAlt 7 D - Cost Est/071016 DRIC Cost Estin 0300 **V05**. F:\646294\_DRIC\_Study\05.0000 Dc

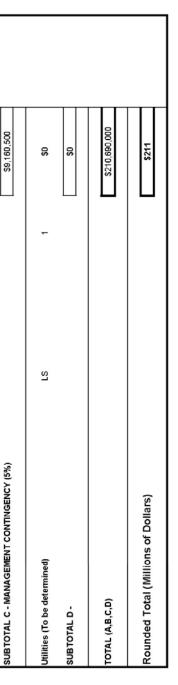
26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · **Project: Detroit River International Crossing Study** By: D. Greenwood Checked By: L. Nguyen Date: 10/16/2007

Job No.: 646294 Subject: Refined Practical Alternative Cost Estimates

5 US Roadway/Bridge Cost Estimate 9- Interchance R Plaza P.c. and Cr. 4

ļ Alte

Alternative 9: Interchange B, Plaza P-c, and Crossing X-11	e B, Plaz:	a P-c, and C	rossing X-1	_	
Items	Unit	Unit Cost (US\$)	Quantity	Total (USS)	Comment
Roadways & Ramps Crowneyd Lande					
r reeway Laules Reconstructed 8-lane freeway with concrete median barrier P13-3-8 Pamns	E	\$3,000	0	\$0	N/A for this alternative
Entrance Ramps G-210 Case 1 Urban 2 Lanes Exit Ramps G-240 Case 2 Urban 2 Lanes	ΕE	\$770 \$770	1,240 580	\$954,800 \$446,600	
Service Drive Ramps					
Entrance Ramps G-201 Case 1 Urban 1 Lanes Exit Ramos G-205 Urban 1 Lanes	EE	\$670 \$670	1,770	\$1,185,900 \$1,212,700	
Removal of existing ramps	E	\$40	2,070	\$82,800	
Service Drives	1	0115	000 9	000 300 FS	
Constructing 10 m was service anye Removing existing 10 m service drive	ΕE	0//¢	5,280	\$422,400	
Local Roads					
New construction per 3.6 m lane	E	\$290	2,600	\$754,000	
Remove existing local road per 3.5 m lane w/ curb and gutter	εε		4,630	000,201¢	
Local Access to Plaza	E	\$670	840	\$562,800	
Intersection Signalization subtotal (rounded to 10.000's)	ea	\$80,000	÷	\$880,000 \$11.910.000	
Sound Abatement Walls subtotal (rounded to 10,000's)	E	\$1,780	2,130	\$3,791,400 \$3,790,000	
Bridges					
Plaza Ramp Bridges	°z	\$2,400	36,900	S88,560,000	
Crossing Bridges	<sup>2</sup> E <sup>7</sup>	\$2,400	7,510	\$18,024,000	NIA for this alternative
rinee-suge Underpass Pedestrian Bridges (same locations as existing bridges)	ea	\$2,400 \$300,000	a c	\$0,000 \$1,500,000	
subtotal (rounded to 10,000's)				\$108,080,000	
Retaining Walls Comine Mails	2 2	\$54D	001	Ced PDO	
MSE/Gravity Concrete Walls	= <sup>~</sup> E	\$750	2,990	\$2,242,500	
	m²	\$2,690	0	\$0	N/A for this alternative
subtotal (rounded to 10,000's)				\$2,310,000	
<u>Bridge Demolition</u> Entited bridgen enter conservices	2 <sup>2</sup>	0203	0 500	000 010 000	
Linue under graue separation subtotal (rounded to 10,000's)	=	0.75	0000	\$2,320,000	
<u>Roadway Storm Drainage</u>					
Freeway Drainage	Ε	\$860	0	\$0	N/A for this alternative
Ramp drainage Local trainage	EE	\$160 \$160	5,400 1.300	\$864,000 \$208,000	
Service drive drainage	E	\$160	5,280	\$844,800	
Remove exist storm drain system (per side)	E <u>9</u>	\$50 \$1 600 000	6,580	\$329,000 \$4 600 000	
runip service subtotal (rounded to 10,000's)	3	000,000,10	-	\$3,750,000	
Raitroad Snur	s		Ŧ	S9 090 750	
subtotal (rounded to 10,000's)	2		-	29,090,000	
			Subtotal:	\$141,250,000	
Datim Continuancias (20%)	<u>v</u>		÷	528 250 000	
Levign contrigericies (2023)	3		Subtotal:	\$169,500,000	
Maintenance of Traffic (excluding Plaza Ramps - 5%)	ST		÷	S3.077.316	
Maintenance of Traffic (Plaza Ramps - 2%) Machinenico (202)	S			\$2,159,074 \$8,475,000	
	3		-	00010-1100	
SUBTOTAL A - CONSTRUCTION				\$183,210,000	
SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)				\$18,321,000	
SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)				\$9,160,500	



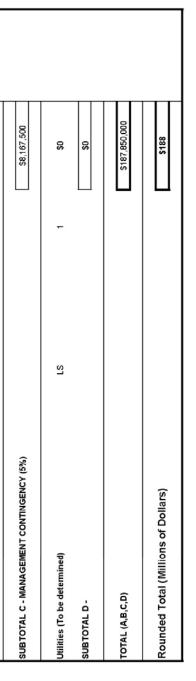
nates.xls TabAlt 9 D - Cost Est/071016 DRIC Cost Estin 0300 05. F:\646294\_DRIC\_Study\05.0000 Dc

26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · **Project: Detroit River International Crossing Study** By: D. Greenwood Checked By: L. Nguyen Date: 10/16/2007

Job No.: 646294 Subject: Refined Practical Alternative Cost Estimates

US Roadway/Bridge Cost Estimate .

Alternative 11: Interchange C, Plaza P-c, and Crossing X-11	e C, Plaza P-	e, and Cro	ssing X-11		
Items	Unit U	Unit Cost (US\$)	Quantity	Total (USS)	Comment
Roadways & Ramps					
ricered Laites Reconstructed 8-lane freeway with concrete median barrier Plaza Pamne	E	\$3,000	1,620	\$4,860,000	
Entrance Ramps G-210 Case 1 Urban 2 Lanes	E	0272	096	\$739,200	
Exit Ramps G∻240 Case ∠ Urban ∠ Lanes Service Drive Ramps	E	21/10	640	\$492,800	
Entrance Ramps G-201 Case 1 Urban 1 Lanes	Ε	\$670	1,940	\$1,299,800	
Exit Ramps G-205 Urban 1 Lanes Removal of existing ramps	EE	\$670 \$40	2,040 2,070	\$1,366,800 \$82,800	
Service Drives					
Constructing 10 m wide Service drive Removing existing 10 m service drive	EE	\$770 \$80	4,720	\$3,634,400 \$377,600	
Local Roads	i				
New construction per 3.6 m lane	Ε	\$290	460	\$133,400	
Remove existing local road per 3.6 m lane w/ curb and gutter Cateway Contribut		\$40	2,490 4 060	\$99,600 \$1177.400	
Concernation Local Access to Plaza	ĒĒ	029\$	840	\$562,800	
Intersection Signalization subtotal (rounded to 10,000's)		80,000	13	\$1,040,000 \$15,870,000	
Sound Abatement Walls subtotal (rounded to 10,000's)	E	\$1,780	1,940	\$3,453,200 \$3,450,000	
Bridges					
Plaza Ramp Bridges	<sup>2</sup> E <sup>2</sup>	\$2,400	29,320	\$70,368,000	
Crossing Bridges Three-sided Underpass		\$2,400	4,680 1.350	\$11,232,000 \$3.240,000	
Pedestrian Bridges (same locations as existing bridges)		300,000	c,	\$1,500,000	
subtotal (rounded to 10,000's)				\$86,340,000	
<u>Retaining Walls</u> Gravity Walls		\$540	230	\$124.200	
MSE/Gravity Concrete Walls	°a°	\$750	4,480	\$3,360,000	
Driven Walls subtotal (rounded to 10,000's)		\$2,690	0	\$0 \$3,480,000	N/A for this alternative
entrate performent	a2	\$270	8,590	\$2,319,300	
subtotal (rounded to 10,000's)				\$2,320,000	
Roadway Storm Drainage					
Freeway drainage	E	\$860	1,620	\$1,393,200	
Kamp drainage Local mad drainage	5 8	\$160	086,6 230	\$36 B00	
Service drive drainage	ΞE	\$160	4,720	\$755,200	
Remove exist storm drainage system (per side)		\$50 \$1 £00 000	11,430	\$571,500 \$1 500 000	
runp servou subtotal (rounded to 10,000's)		000,000	-	\$5,150,000	
Railroad Spur	SI		-	\$9,090,750	
subtotal (rounded to 10,000's)				\$9,090,000	
			Subtotal:	\$125,700,000	
Design Contingencies (20%)	SI		1 Subtotal:	\$25,140,000 \$150,840,000	
Maintenana of Traffic laveluation Diara Damae - 501	U			53 748 000	
Maintenance of Traffic (Plaza Ramps - 2%) Maintenance of Traffic (Plaza Ramps - 2%) Mobilization (5%)	rs IS			51,718,400 \$7,542,000	
SUBTOTAL A - CONSTRUCTION				\$163,350,000	
SUBTOTAL B - CONSTRUCTION CONTINGENCY (19%)				\$16,335,000	



D - Cost Est/071016 DRIC Cost Estimates xls TabAlt 11 ĭ 0300 s\05. F:\646294\_DRIC\_Study\05.0000 Dc

Project: Detroit River International Crossing Study By: Tyler Ploucha Checked By: Aaron Wekenman

10/08/07 10/10/2007 Date \_\_\_\_\_

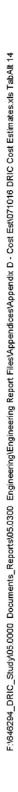
Job No.: <u>646294</u> Subject: <u>Refined Practical Alternative</u>

stin

# 10 × US Roadway/Bridge Cost Estimate 4: Interchance G. Plaza P.a. and Cr Alte

Roundwark & Ramps     Exercise     n     \$5,000     0       Exercise formation allow networy with concrete median barrier     n     \$7,00     1,510       Plasa Rumps     Concentrational of the releasy with concrete median barrier     n     \$7,00     1,510       Plasa Rumps     Concentrational of the releasy with concrete median barrier     n     \$7,00     1,510       Enterne Kannps     Concentrational of the releasy with concrete median barrier     n     \$7,00     \$1,000       Externe Kannps     Concentrational of the releasy and the releasy of the releasy of the release of the	Items	Unit	Unit Cost (US\$)	Quantity	Total (US\$)	Comment
dian barrier m 53,000 m 5770 m 5770 m 5770 m 5670 m 5760 m 5760	adways & Ramps					
m     \$770     1       m     \$770     1       m     \$670     1       m     \$500     2       condect to 10,000's)     m     \$2200       m     \$1700     1       condect to 10,000's)     m     \$2100       m     \$2100     2       condect to 10,000's)     m     \$1700       m     \$1700     2       condect to 10,000's)     m     \$1700       m     \$1700     \$2100       m     \$1700     \$2100       m     \$1700     \$2100       m     \$1700     \$2100       m     \$1600     \$2100       m     \$2100     \$2100       m     \$2200     \$2100       m     \$2100     \$2100       m     \$2100     \$2100       m     \$200,000     \$2100       m     \$2100     \$2100 <t< td=""><td><del>seway Lanes</del> constructed &amp; lane freeway with concrete median harrier</td><td>E</td><td>\$3,000</td><td>C</td><td>US</td><td>N/A for this alternative</td></t<>	<del>seway Lanes</del> constructed & lane freeway with concrete median harrier	E	\$3,000	C	US	N/A for this alternative
m \$770 1.1 m \$40	iza Ramps					
in service     in service       in service     in service       in and gutter     in service       in an service     in service <t< td=""><td>trance Ramps G-210 Case 1 Urban 2 Lanes</td><td>E</td><td>\$770 \$770</td><td>1,950</td><td>\$1,501,500 \$1 202 700</td><td></td></t<>	trance Ramps G-210 Case 1 Urban 2 Lanes	E	\$770 \$770	1,950	\$1,501,500 \$1 202 700	
m     \$670       m     \$40       m     \$40       m     \$770       m     \$770       m     \$770       m     \$570       m     \$570       m     \$570       m     \$500       m     \$200       m     \$500       m     \$500       m     \$500       m     \$51000       counded to 10,000's)     m       m     \$51000       counded to 10,000's)     m       m     \$51000       counded to 10,000's)     \$2,400       m     \$2,400       m     \$2,400       m     \$2,400       m     \$2,400       m     \$2,600       m     \$2,600       m     \$160	rvian point a case a cruan a cares rvice Drive Ramps	=		2		
m     \$670       m     \$40       m     \$200       m     \$200       m     \$570       m     \$570       m     \$570       m     \$500       m     \$500       m     \$500       m     \$500       m     \$5000       subtotal (rounded to 10,000's)     m       subtotal (rounded to 10,000's)     m       subtotal (rounded to 10,000's)     m       setisting bridges)     \$2,400       setisting bridges)     \$2,400       setisting bridges)     \$2,400       setisting bridges)     \$2,400       m     \$1,000's)       m     \$1,780       subtotal (rounded to 10,000's)     \$2,400       m     \$2,700       subtotal (rounded to 10,000's)     \$2       m     \$160       iper side)     \$1       subtotal (rounded to 10,000's)     \$4       Design Contringencis (20% <td>trance Ramps G-201 Case 1 Urban 1 Lanes</td> <td>ε</td> <td>\$670</td> <td>0</td> <td>so</td> <td>N/A for this alternative</td>	trance Ramps G-201 Case 1 Urban 1 Lanes	ε	\$670	0	so	N/A for this alternative
m     \$40     m       m     \$770     m       m     \$280     2       lane wi curb and gutter     m     \$280       m     \$280     2       subtotal (rounded to 10,000's)     m     \$570       subtotal (rounded to 10,000's)     m     \$1,780       subtotal (rounded to 10,000's)     m     \$1,780       subtotal (rounded to 10,000's)     m     \$1,780       subtotal (rounded to 10,000's)     m     \$2,400       subtotal (rounded to 10,000's)     m     \$2,160       m     \$160     \$2,860       m     \$160     \$2,860       m     \$160     \$1,800       subtotal (rounded to 10,000's)     \$1,800       und     \$160     \$1,900       subtotal (rounded to 10,000's)     \$1,800       und     \$160     \$1,900       und     \$160     \$1,900       und     \$160     \$1,900       und     \$160     \$1,900       und     \$1,900     \$1,900	t Ramps G-205 Urban 1 Lanes	E	\$670	0	so	N/A for this alternative
m       \$2770       m       \$280       2         lane wi curb and gutter       m       \$280       2         m       \$280       m       \$280       2         subtoctal (rounded to 10,000's)       m       \$1,780       2         subtoctal (rounded to 10,000's)       m       \$1,780       2         subtoctal (rounded to 10,000's)       m       \$1,780       2         subtoctal (rounded to 10,000's)       m       \$2,400       2         subtoctal (rounded to 10,000's)       m       \$2,600       2         unded to 10,000's)       m       \$2,500,000       2         subtoctal (rounded to 10,000's)       m       \$2,500,000       2         unded (rounded to 10,000's)       m       \$2,500,000       2         unded (rounded to 10,000's)       sum       \$2,500,000       3 </td <td>moval of existing ramps</td> <td>E</td> <td>\$40</td> <td>870</td> <td>\$34,800</td> <td></td>	moval of existing ramps	E	\$40	870	\$34,800	
Iane wi curb and gutter     m     \$200     2       Iane wi curb and gutter     m     \$2000     2       Iane wi curb and gutter     m     \$1,780     2       Iane withold (rounded to 10,000's)     m     \$2,400     2       Iane withold (rounded to 10,000's)     m     \$2,600     2       Iane side     m     \$160     2     2       Iane side     m     \$2,600     2     2       Iane side     m     \$2,600     2     2       Iane side     m     \$2,600     2     2       Iane side     m     \$2,000     2     2       Iane side     m     <	rvice Unives nstructing 10 m wide Service drive	Ε	\$770	820	\$631,400	
Iane w/ curb and gutter     m     \$230     2       Iane w/ curb and gutter     m     \$40     3       m     \$570     ea     \$30,000     3       subtotal (rounded to 10,000's)     m     \$1,780     2       subtotal (rounded to 10,000's)     m     \$1,780     2       subtotal (rounded to 10,000's)     m     \$2,400     26       subtotal (rounded to 10,000's)     m     \$2,400     26       stating bridges)     ea     \$300,000     8       subtotal (rounded to 10,000's)     m     \$2,400     2       subtotal (rounded to 10,000's)     m     \$2,400     2       subtotal (rounded to 10,000's)     m     \$2,400     3       subtotal (rounded to 10,000's)     m     \$2,600     1       subtotal (rounded to 10,000's)     m     \$560     2       subtotal (rounded to 10,000's)     m     \$560     3       subtotal (rounded to 10,000's)     Lis     \$160     1       undicat (rounded to 10,000's)     Lis     \$160     1       undicat (rounded to 10,000's)     Lis     \$160     1       subtotal (rounded to 10,000's)     Lis     \$160     1       subtotal (rounded to 10,000's)     Lis     \$160     1       u	moving existing 10 m service drive	Ε	\$80	820	\$65,600	
(6 m lane     m     \$290     2       road per 3.6 m lane w/ curb and gutter     m     \$290     3       road per 3.6 m lane w/ curb and gutter     m     \$200     4       ation     subtotal (rounded to 10,000's)     m     \$570     2       ation     subtotal (rounded to 10,000's)     m     \$51,780     2       ation     subtotal (rounded to 10,000's)     m     \$51,780     2       ation     subtotal (rounded to 10,000's)     m     \$21,400     25       set     subtotal (rounded to 10,000's)     m     \$21,400     26       set     subtotal (rounded to 10,000's)     m     \$21,400     26       set     subtotal (rounded to 10,000's)     m     \$21,400     26       value     subtotal (rounded to 10,000's)     m     \$21,400     26       subtotal (rounded to 10,000's)     m     \$22,400     270       subtotal (rounded to 10,000's)     m     \$25,00     4       paration     subtotal (rounded to 10,000's)     m     \$260     2       subtotal (rounded to 10,000's)     m     \$16     1     3       baration     subtotal (rounded to 10,000's)     m     \$16     1       subtotal (rounded to 10,000's)     LS     \$15     2	cal Roads					
nod per 3.6 m lane w/ cuth and gutler         m         \$40         4           a tion         subtotal (rounded to 10,000's)         m         \$200,000         3           ation         subtotal (rounded to 10,000's)         m         \$2,400         2           alls         subtotal (rounded to 10,000's)         m         \$2,400         2           alls         subtotal (rounded to 10,000's)         m         \$2,400         2           ane locations as existing bridges)         ea         \$2,400         2           subtotal (rounded to 10,000's)         m         \$2,400         2           walls         m         \$2,400         2           subtotal (rounded to 10,000's)         m         \$2,400         2           ane locations as existing bridges)         ea         \$2,600         4           valis         m         \$2,500         6         4           valis         m         \$2,600         6         1           paration         subtotal (rounded to 10,000's)         \$2,600         6         1           inge         subtotal (rounded to 10,000's)         m         \$160         1           inge         subtotal (rounded to 10,000's)         m         \$160	w construction per 3.6 m lane	E	\$290	2,410	\$698,900	
ation         serve         3570         3           ation         subtotal (rounded to 10,000's)         m         \$570         3           alls         subtotal (rounded to 10,000's)         m         \$1,780         2           alls         subtotal (rounded to 10,000's)         m         \$2,400         2           walls         subtotal (rounded to 10,000's)         m         \$2,600         4           Walls         m         \$2,600         8         3         3           walls         m         \$2,600         8         1         1           walls         m         \$2,600         8         1         1           subtotal (rounded to 10,000's)         m         \$2,600         8         1         1           subtotal (rounded to 10,000's)         m         \$160         1         1         1         1           subtotal (rounded to 10,000's)         m         \$160         1         1         1         1 </td <td>move existing local road per 3.6 m lane w/ curb and gutter</td> <td>E</td> <td>\$40</td> <td>4,140</td> <td>\$165,600</td> <td></td>	move existing local road per 3.6 m lane w/ curb and gutter	E	\$40	4,140	\$165,600	
alis         subtotal (rounded to 10,000's)         m         \$1,780         2           alis         subtotal (rounded to 10,000's)         m         \$2,400         2           subtotal (rounded to 10,000's)         m         \$2,400         2           same locations as existing bridges)         ea         \$300,000         4           walls         m         \$2,400         \$2,400         \$2,400           subtotal (rounded to 10,000's)         m         \$2,400         \$2,400         \$2,400           walls         m         \$2,500         #         \$2,600         \$2,600         \$2,600           ainage system (per side)         m         \$160         1         \$3,500         \$2,500         \$2,600         \$2,500         \$2,500         \$2,500         \$2,500         \$2,500         \$2,500         \$2,500         \$2,500         \$2,500         \$2,500         \$2,500         \$2,500	teway Corridor	E 8	\$290 \$670	3,780 630	\$1,096,200 \$422 100	
alls         subtotal (rounded to 10,000's)         m         \$1,780         2           subtotal (rounded to 10,000's)         m         \$2,400         22           subtotal (rounded to 10,000's)         m         \$2,400         22           same locations as existing bridges)         ea         \$300,000         24           same locations as existing bridges)         ea         \$300,000         24           walls         m <sup>2</sup> \$2,400         \$2,400         \$2,400           walls         m <sup>2</sup> \$2,500         \$4         \$4,000           subtotal (rounded to 10,000's)         L         \$1,500         \$4           subtotal (rounded to 10,000's)         L         \$1,500,000         \$4      s	car Access to Fraza ersection Signalization	ea =	\$80,000	4	\$320,000	
alls         subtoctal (rounded to 10,000's)         m         S1,780         2           subtoctal (rounded to 10,000's)         m         \$2,400         26           same locations as existing bridges)         m         \$2,400         26           same locations as existing bridges)         m         \$2,400         26           same locations as existing bridges)         m         \$2,400         26           subtotal (rounded to 10,000's)         m         \$2,400         4           Valis         m         \$2,400         4           value         m         \$2,600         4           value         m         \$2,600         4           value         subtotal (rounded to 10,000's)         m         \$2,500         4           paration         subtotal (rounded to 10,000's)         m         \$2,600         8           nage         subtotal (rounded to 10,000's)         m         \$160         1					\$6,330,000	
subtotal (rounded to 10,000's) ss ame locations as existing bridges) ame locations as existing bridges (rounded to 10,000's) ame locations as existing bridges) and locations are bridges bri	und Abatement Walls	Ε	S1.780	2 030	\$3.613.400	
s ame locations as existing bridges) ame locations as existing bridges) ame locations as existing bridges) ame locations as existing bridges) ame locations as existing bridges) and subtotal (rounded to 10,000's) paration paration paration subtotal (rounded to 10,000's) paration alnage system (per side) subtotal (rounded to 10,000's) Design Contingencies (20%) LS proce of Traffic (excluding Plaza Ramps - 5%) Maintenance of Traffic (excluding Plaza Ramps - 5%) Maintenance of Traffic (excluding Plaza Ramps - 5%) Maintenance of Traffic (excluding Plaza Ramps - 5%) LS paration parat				1	\$3,610,000	1
ss 2,400 26 m <sup>2</sup> 22,400 26 subtotal (rounded to 10,000's) ea 5340 Walls m <sup>2</sup> 5540 4 Walls m <sup>2</sup> 5540 4 and subtotal (rounded to 10,000's) m <sup>2</sup> 5540 4 paration m <sup>2</sup> 5540 4 m <sup>2</sup> 5560 4 m <sup>3</sup> 5560 1 m <sup>3</sup> 550 1 m <sup>3</sup> 55	des					
ss ane locations as existing bridges) subtotal (rounded to 10,000's) paration whalls whotal (rounded to 10,000's) subtotal (rounded to 10,000's) paration m <sup>2</sup> \$2,650 m <sup>2</sup> \$750 m <sup>2</sup> \$2,650 m <sup>3</sup> \$2,750 m <sup>3</sup> \$2,750 m <sup>3</sup> \$2,750 m <sup>3</sup> \$2,650 m	ıza Ramp Bridges	3 <sup>2</sup>	\$2,400	29,070	\$69,768,000	
subtotal (rounded to 10,000's) ea \$300,000 subtotal (rounded to 10,000's) m <sup>2</sup> \$540 subtotal (rounded to 10,000's) m <sup>2</sup> \$2750 4, paration subtotal (rounded to 10,000's) m <sup>2</sup> \$270 4, m \$160 1, m \$160 3, m \$160 3, m \$160 3, m \$160 1, m \$1	ossing Bridges	ž I	\$2,400	0 (	S S	N/A for this alternative
Walls       m <sup>2</sup> \$540       4         Walls       m <sup>2</sup> \$540       4         subtotal (rounded to 10,000's)       m <sup>2</sup> \$750       4         paration       subtotal (rounded to 10,000's)       m <sup>2</sup> \$200       8         paration       subtotal (rounded to 10,000's)       m <sup>2</sup> \$270       4         paration       subtotal (rounded to 10,000's)       m       \$150       3         alinage system (per side)       m       \$160       3         alinage system (per side)       LS       \$1,500,000       8         subtotal (rounded to 10,000's)       LS       \$1,500,000       8         alinage system (per side)       LS       \$1,500,000       8         alinage system (per side)       LS       \$1,500,000       8         Mainterance of Traffic (excluding Plaza Ramps - 5%)       LS       \$1,500,000       8         Mainterance of Traffic (excluding Plaza Ramps - 5%)       LS       LS       \$1,500,000	ree-sided Underpass destrian Bridnes (same locations as existing hridnes)	E	\$2,400 \$300.000		su \$1.500.000	N/A for this alternative
Walls       m²       5540       4.         paration       subtotal (rounded to 10,000's)       m²       5200       4.         paration       subtotal (rounded to 10,000's)       m²       5270       4.         paration       subtotal (rounded to 10,000's)       m²       5270       4.         inage system       m       5160       3.       7.1         inage system (per side)       LS       5150,000       8.         subtotal (rounded to 10,000's)       m       5160,000       8.         ainage system (per side)       LS       51,500,000       8.         subtotal (rounded to 10,000's)       LS       51,500,000       8.         m       Subtotal (rounded to 10,000's)       LS       51,500,000       8.         nance of Traffic (excluding Plaza Ramps - 5%)       LS       1.5       1.5         Maintenance of Traffic (excluding Plaza Ramps - 5%)       LS       1.5       1.5	subtrati in the second of the second of the second se	ž		, ,	\$71,270,000	1
Walls     m <sup>2</sup> m <sup>2</sup> \$540 \$750     4.       paration     subtotal (rounded to 10,000's)     m <sup>2</sup> s2,650     \$2,650     4.       paration     subtotal (rounded to 10,000's)     m <sup>2</sup> m     \$2,70     4.       paration     subtotal (rounded to 10,000's)     m     \$160     3.       inage system (per side)     m     \$160     8.       subtotal (rounded to 10,000's)     m     \$160     1.       Dasign (rounded to 10,000's)     LS     \$1,500,000     8.       subtotal (rounded to 10,000's)     LS     \$1,500,000     8.       mage system (per side)     LS     \$1,500,000       mage subtotal (rounded to 10,000's	aining Walls					
Walls       m <sup>2</sup> \$750       4,         paration       subtotal (rounded to 10,000's)       \$2,650       4,         paration       subtotal (rounded to 10,000's)       m <sup>2</sup> \$270       4,         paration       subtotal (rounded to 10,000's)       m       \$270       4,         paration       subtotal (rounded to 10,000's)       m       \$160       3,         inage system (per side)       m       \$160       8,       1,         inage system (per side)       LS       \$1,500,000       8,       8,         subtotal (rounded to 10,000's)       LS       \$1,500,000       8,       8,         ainage system (per side)       LS       \$1,500,000       8,       8,         mage system (per side)       LS       \$1,500,000       8,       8,         mage system (per side)       LS       \$1,500,000       8,       8,         mage system (per side)       LS       \$1,500,000       8,       1,         mage system (per side)       LS       \$1,500,000       8,       8,         mage system (per side)       LS       \$1,500,000       8,       1,         mage system (per side)       LS       \$1,500,000       9,       1, <td>avity Walls</td> <td><math>m^2</math></td> <td>\$540</td> <td>0</td> <td>so</td> <td>N/A for this alternative</td>	avity Walls	$m^2$	\$540	0	so	N/A for this alternative
m <sup>-</sup> \$2,650 paration subtoctal (rounded to 10,000's) m <sup>2</sup> \$270 4, and subtoctal (rounded to 10,000's) m <sup>2</sup> \$270 4, m \$160 3, m \$160 3, m \$160 3, m \$160 3, m \$160 1, m	E/Gravity Concrete Walls	°=	\$750	4,050	\$3,037,500	
paration m <sup>2</sup> \$270 4. paration subtoctal (rounded to 10,000's) m \$270 4. <u>haque</u> m \$160 3. m \$160 3. m \$160 3. m \$160 1. m \$160 3. m \$160 1. m \$160 3. m \$160 8. m \$160 1. m \$160 8. m \$160 1. m \$160 8. m \$160 1. m \$160 1.\\ m \$16		Ē	\$2,690	, D	\$3.040.000	N/A for this alternative
paration m <sup>2</sup> \$270 4. paration subtocial (rounded to 10,000's) m \$860 3. hade m \$160 3. m \$160 3. m \$160 1. m \$160 1. m \$50 8. ainage system (per side) m \$50 8. ainage system (per side) m \$50 8. LS \$1,500,000 8. LS \$1,500,000 8. had not solve to 10,000's) LS \$1,500,000 8. LS \$1,500,000 8. had not solve to 10,000's) LS \$1,500,000 8. had not solve to 10,000's) LS \$1,500,000 1. Design Contingencies (20%) LS \$1,500,000 1.5 \$1,	subjudic of particles to show as					
subtotal (rounded to 10,000's) m \$160 3 m \$160 3 m \$160 1 m \$160 1 m \$160 1 m \$160 3 m \$160 1 m \$160 3 m \$160 1 m \$160 3 m \$160 8 LS \$1,500,000 8 LS \$1,500,000 8 name of Taffic (excluding Plaza Ramps - 5%) LS Maintenance of Traffic (Plaza Ramps - 5%) LS Maintenance of Traffic (Plaza Ramps - 5%) LS	dge Demolition Irre bridee arade senaration	m2	\$270	4 430	\$1,196,100	
nage         m         \$860         3           m         \$160         3           m         \$160         1           m         \$50         8           m         \$50         8           m         \$50         8           subtotal (rounded to 10,000's)         LS         \$1,500,000           subtotal (rounded to 10,000's)         LS         \$1,500,000           name of Traffic (excluding Plaza Ramps - 5%)         LS           Maintenance of Traffic (Plaza Ramps - 5%)         LS           Maintenance of Traffic (Plaza Ramps - 2%)         LS					\$1,200,000	
m 5160 3 m 5160 3 m 5160 3 m 5160 3 m 5160 3 m 5160 3 m 5160 3 rance system (per side) 10,000's) LS 51,500,000 8 LS 51,500,000 8 LS 51,500,000 8 LS 51,500,000 8 LS 61,500,000 8 LS 61,500,000 8 nance of Traffic (excluding Plaza Ramps - 5%) LS 6 Maintenance of Traffic (Plaza Ramps - 5%) LS 1 Maintenance of T	adway Storm Drainage		0000	¢	ŝ	
ainage system (per side) m \$160 1 1 m \$160 8 subtotal (rounded to 10,000's) LS \$1,500,000 8 subtotal (rounded to 10,000's) LS \$1,500,000 8 LS	eway drainage me drainage	5 5	\$860 \$160	3 760	50 \$601.600	N/A for this alternative
ainage system (per side) m \$160 8 m \$500,000 LS \$1,500,000 8 subtotal (rounded to 10,000's) LS \$1,500,000 8 nance of rafiic (rounded to 10,000's) LS Design Contingencies (20%) LS Design Contingencies (20%) LS Maintenance of Traffic (Plaza Ramps - 5%) LS LS Maintenance of Traffic (Plaza Ramps - 2%) LS LS Contingencies (20%) LS Contingencies	inp uramage cal road drainage	ΞE	\$160 \$160	3,700 1.960	\$313,600	
ainage system (per side) m \$50 8. LS \$1,500,000 subtotal (rounded to 10,000's) LS \$1,500,000 LS LS LS Design Contingencies (20%) LS Design Contingencies (20%) LS Maintenance of Traffic (excluding Plaza Ramps - 5%) LS Maintenance of Traffic (Plaza Ramps - 5%) LS	Mice drive drainage	E	\$160	820	\$131,200	
LS \$1,500,000 counded to 10,000's) counded to 10,000's) Contingencies (20%) LS Contingencies (20%) LS (Plaza Ramps - 5%) LS	move exist storm drainage system (per side)	E	\$50	8,500	\$425,000	
subtotal (rounded to 10,000's) subtotal (rounded to 10,000's) Design Contingencies (20%) LS Maintenance of Traffic (excluding Plaza Ramps - 5%) LS Maintenance of Traffic (Plaza Ramps - 5%) LS			\$1,500,000	- -	\$1,500,000	
LS subtotal (rounded to 10,000's) Design Contingencies (20%) LS Maintenance of Traffic (excluding Plaza Ramps - 5%) LS Maintenance of Traffic (Plaza Ramps - 5%) LS	subtotal (rounded to 10,000 s)				000'078'74	
ୟ ସ <u>ସ</u>		SJ		÷	\$9,090,750	
য য য য	subtotal (rounded to 10,000's)				000'060'6\$	
ର ମ ମ ମ ମ ମ ମ ମ ମ ମ ମ ମ ମ ମ ମ ମ ମ ମ ମ ମ				Subtotal:	\$94,470,000	,
য় <u>ন</u> ন ন	Dasim Continuancias (2002)	U		Ţ	\$18 804 000	
ស ស ច	Lesser continues (20%)	2		Subtotal:	\$113,360,000	
LS S	Maintenance of Traffic (excluding Plaza Ramps - 5%)	rs		-	\$1,308,208	
	Maintenance of Traffic (Plaza Ramps - 2%)	rs.		<del>.</del> .	\$1,743,917	
MODNIZation (5%) LS 1		2		-	\$2,668,000	
SUBTOTAL A - CONSTRUCTION	<b>BTOTAL A - CONSTRUCTION</b>				\$122,080,000	

SUBTOTAL B - CONSTRUCTION CONTINGENCY (10%)			\$12,208,000
SUBTOTAL C - MANAGEMENT CONTINGENCY (5%)			\$6,104,000
Utilities (To be determined)	SJ	۲	80
SUBTOTAL D -			80
TOTAL (A, B, C, D)			\$140,390,000
Rounded Total (Millions of Dollars)			140

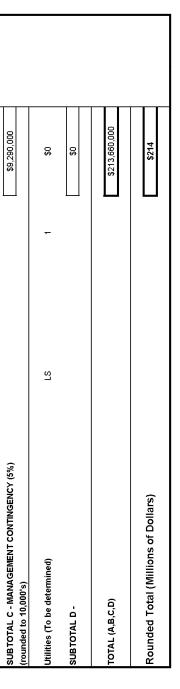


26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 **Project: Detroit River International Crossing Study** By: D. Greenwood Checked By: L. Nguyen Date: 10/16/2007

Job No.: 646294 Subject: Refined Practical Alternative Cost Estimates

US Roadway/Bridge Cost Estimate

ltems	Unit	Unit Cost (US\$)	Quantity	Total (US\$)	Comment
Roadways & Ramps					
Freeway Lanes Reconstructed 8-lane freeway with concrete median barrier	Е	\$3,000	0	0\$	N/A for this alternative
Plaza Ramps Entrance Ramms G-210 Case 1 IIthan 21 anes	Ε	\$770	R50	\$654 500	
Exit Ramps G-240 Case 2 Urban 2 Lanes	Ξ Ε	022\$	490	\$377,300	
Service Drive Ramps	ş	0594	000 0	4 712 000	
entrance kamps G-201 Case 1 Urban 1 Lanes Exit Ramps G-205 Urban 1 Lanes	ε ε	0/9¢	2,190	\$1,742,000 \$1,467,300	
temoval of existing ramps	ε	\$40	2,430	\$97,200	
service Drives Constructing 10 m wide Service drive	Ε	\$770	5.320	\$4.096.400	
Removing existing 10 m service drive	Е	\$80	5,320	\$425,600	
Local Roads New construction new 3.6 m lone	B	000\$	2 600	\$780.100	
New construction per 3.0 mane Remove existing local road per 3.6 m lane w/ curb and gutter	3 5	\$35 \$35	2,030 4.580	\$160.300	
Gateway Corridor	ε	\$290	3,780	\$1,096,200	
Local Access to Plaza	Е	\$670	730	\$489,100	
	ea	\$80,000	14	\$1,120,000	
subtotal (rounded to 10,000's)				\$12,510,000	
Sound Abatement Walls subtotal (rounded to 10,000's)	Ε	\$1,780	2,130	\$3,791,400 \$3,790,000	
uridaes					
Plaza Ramp Bridges	<sup>7</sup> m <sup>2</sup>	\$2,400	33,730 0.560	\$80,952,000	
rossing bridges hree-sided Underpass	∃ <sup>∞</sup> Е	\$2,400	0 0	⊅∠∠,944,000 \$0	N/A for this alternative
locations	ea	\$300,000	5	\$1,500,000	
subtotal (rounded to 10,000's)				\$105,400,000	
<mark>Retaining Walls</mark> Gravity Walls	m2	\$540	0	09	N/A for this alternative
MSE/Gravity Concrete Walls	a_	\$750	3,550	\$2,662,500	
briven Walls subtotal (rounded to 10,000's)	₹	\$2,690	880	\$2,367,200 \$5,030,000	
<u>Bridge Demoution</u> Entire bridge, grade separation	m²	\$270	12,160	\$3,283,200	
subtotal (rounded to 10,000's)				\$3,280,000	
Roadway Storm Drainage			c	ç	
Freeway drainage Pamo drainage	E 8	\$86U \$160	U 6 130	\$U \$080 800	N/A for this alternative
Local road drainage	Ξ Ε	\$160	1,350	\$216,000	
Service drive drainage	Е	\$160	5,320	\$851,200	
Remove exist storm drainage system (per side)	εġ	\$50 \$1 600 000	6,670 1	\$333,500 \$1 FOO OOO	
unip station subbotal (rounded to 10,000's)	3	nnn'nne' I ¢	_	\$3,880,000	
Railroad Spur	R		-	\$9,090,750	
subtotal (rounded to 10,000's)				000'060'6\$	
			Subtotal:	\$142,980,000	
Design Contingencies (20%)	rs		-	\$28,596,000	
			Subtotal:	\$171,580,000	
Maintenance of Traffic (excluding Plaza Ramps - 5%)	S		-	\$3,659,972	
Maintenance of Traffic (Plaza Ramps - 2%)	LS LS		<del>.</del> .	\$1,967,611 *** 570,000	
(02.C) 11011231100M	2		_	\$6,57,8,UUU	
SUBTOTAL A - CONSTRUCTION (rounded to 10,000's)				\$185,790,000	
				¢10 500 000	
(rounded to 10,000's)				\$10,300,000	
SUDTOTAL S MANACEMENT CONTRICENCY JEW )				\$9.290.000	



xls TabAlt 16. tes D - Cost Est\071016 DRIC Cost Esti .≚ 5 s\05.0300 F:\646294\_DRIC\_Study\05.0000\_Dc

# Noise Barrier Descriptions<sup>1</sup>

Alternative	Total L	.ength <sup>2</sup>	Cost <sup>3</sup>
1	6,452	feet	\$3,496,591
	1,967	meters	\$3,490,091
2	6,986	feet	\$3,794,256
2	2,130	meters	\$3,794,200
3	6,366	feet	\$3,463,717
3	1,941	meters	\$3,403,717
5	6,639	feet	\$3,674,378
5	2,024	meters	\$3,074,378
7	6,452	feet	\$3,496,591
,	1,967	meters	\$3,490,591
9	6,986	feet	\$3,794,256
9	2,130	meters	\$3,794,200
11	6,366	feet	\$3,463,717
	1,941	meters	\$3,403,717
14	6,668	feet	\$3,615,614
14	2,033	meters	\$3,013,014
16	6,986	feet	\$3,794,256
10	2,130	meters	\$3,794,200

<sup>1</sup> Barriers specifically intended to mitigate noise. Other barriers, such as median barriers, are not included.

<sup>2</sup> Combined length of multiple noise barriers associated with each alternative.

<sup>3</sup> The noise wall cost is estimated at \$250 per linear foot for foundations and drainage plus \$250 per square foot of wall construction. With a generic 12' high wall the cost would be \$550/ft.

d · Suite 275
Central Park Boulevard · Suite 2
26777 Central

13. Finance for monton       1; 1; 2       0.000 m/l         14. Finance for monton       1; 1; 2       0.000 m/l         14. Finance for monton       1; 1; 2       0.000 m/l         14. Finance for monton       1; 1; 2       0.000 m/l         15. Finance for monton       1; 1; 2       0.000 m/l         15. Finance for monton       1; 1; 2       0.000 m/l         16. Finance for monton       1; 1; 2       0.000 m/l         17. Finance for monton       1; 1; 1; 2       0.000 m/l         16. Finance for monton       0.000 m/l       0.000 m/l       0.000 m/l         17. Finance for monton       0.000 m/l       0.000 m/l       0.000 m/l         17. Finance for monton       0.000 m/l       0.000 m/l       0.000 m/l         16. Finance for monton       0.000 m/l       0.000 m/l       0.000 m/l         16. Finance for monton       0.000 m/l       0.000 m/l       0.000 m/l         16. Finance for monton       0.000 m/l       0.000 m/l       0.000 m/l         16. Finance for monton       0.000 m/l       0.000 m/l       0.000 m/l         16. Finance for monton       0.000 m/l       0.000 m/l       0.000 m/l         16. Finance for monton       0.000 m/l       0.000 m/l       0.000 m/l	Check: RH/RS/DG Date 12/22/06				
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$					
Operation         Constrained water, for any state of the form and water, form and and water, form and water, form and water,	1 ft 1 ft <sup>2</sup> =		ни	0.8361 m <sup>2</sup> 0.7646 m <sup>3</sup>	
Convention of a constraining of the constraining of the constraint of a	Non-reinforced concrete pavement Total for Item - 6020106 10 16,050,10 149,434,00 \$3,390,177, Conc Pavt, Nonreinf, 9 inch UNITS: Syd	38 \$22.69	Statewide Unit Prices Converted Metric Price 23 \$ / syd 27.508 \$ / m <sup>2</sup>		egion
Survey of the second second with the second	8 lanes x 3.6 m x 1000 m x \$31/m <sup>2</sup> = \$ Non-reinforced concrete shoulder (left) Train for them schoords of and 75 for 700 for 61 157 246 726	800			
Or multificated source abouter (d)             2.3 1 m 2: 100 m 2: 25 1 m               2.3 1 m 2: 100 m 2: 25 1 m               2.3 1 m 2: 100 m 2: 25 1 m               2.3 1 m 2: 100 m 2: 25 1 m               2.3 1 m 2: 100 m 2: 25 1 m               2.3 1 m 2: 100 m 2: 25 1 m               2.3 1 m 2: 100 m 2: 25 1 m               2.3 1 m 2: 100 m 2: 25 1 m               2.3 1 m 2: 100 m 2: 25 1 m               2.3 1 m 2: 100 m 2: 25 1 m               5.2 5 1 m               5.2 1 m	i dal ior item - 9020222 9 0.514.73 30.700 51.7137.316.72 \$ Shoulder, Nonreinf Conc UNITS: Syd 3.6 m x 2 x 1000 m x \$29/m² = \$	800		29 \$ / m <sup>2</sup>	
2 An X 21 (100 m X 55 (201 m K 55 (13) = 5 (13) (201 m K 75 (13) (201 m K 10) (201	o 10" thick			29.5./ m <sup>2</sup>	
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	2.4 m x 2 x 1000 m x \$29/m <sup>2</sup> = \$ Open graded drainage layer (100 mm depth)	139,200			
Total them -20000 473 1,47 251 305,42.00 52.03.035 1.02 1156 51.05 1.01 1.010 1.015 1.010 1.015 1.010 1.015 1.010 1.015 1.010 1.015 1.010	rotar for item - 3030001 4 2,839.00 11,436.00 558,324.67 55.1 Open-Graded Dr Cse, 4 inch UNITS: Syd 22 m x 2 x 1000 m x \$6.90/m <sup>2</sup> = \$	303,600		6.90 \$ / m <sup>2</sup>	
Concerted begrander UNITS. Syd         5         51.600         Am         1.166.5, m <sup>1</sup> ZENT X 7 100m X 512/m <sup>1</sup> 5         51.600         Am         4.5, m <sup>1</sup> Ubbases (100 mm dept)         5         51.600         Am         1.166.5, m <sup>1</sup> Teal for lam dept)         1.121.5, m <sup>1</sup> 5         59.400         Am         1.166.5, m <sup>1</sup> Teal for lam dept)         1.121.5, m <sup>1</sup> 5         58.400         Am         1.126.5, m <sup>1</sup> Teal for lam externant         4         4         4         4         4           Table for commer median Eartim         4         4         4         4         4           Table for commer median Eartim         5         60,000         Am         1.3123 f/m         4         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6 </td <td>seotextile separator Total for Item - 3030020 47 34,147,53 1,985,442,00 \$2,029,020</td> <td>0.39 \$1.02</td> <td>1 \$ / syd</td> <td>¢</td> <td></td>	seotextile separator Total for Item - 3030020 47 34,147,53 1,985,442,00 \$2,029,020	0.39 \$1.02	1 \$ / syd	¢	
Udbases (300 mm dept) Subless (20 mm dept) 4 m 0.0103: Cyd 4 m 0.0113: Cyd 4 m 1.0100 m 15150m 1.12.123 5 m 1.12.123 7 m 1.12.12 5 m 1.12 5	Geotextile Separator UNITS: Syd 22 m x 2 x 1000 m x \$1.40/m² =\$			1.40 \$/m <sup>∞</sup>	
Subsets         Control of the first in the first i	subbase (300 mm depth) Total for Item - 3010002 252 7,845.54 1,959,885.00 \$15,177,6	81.23 \$7.74	8 \$ / cyd		
Indertain Ippe Undertain (Pipe, Open-Graded in UNITS: Fi 4 (may): 100m x 5100m x 5100 (mm - 4 (may): 100m x 510m - 4 (may): 1000 m x 510m - 5 × 17000 km - 2 × 1700 km - 4 × 1700 km - 4 × 1700 km - 4 × 1700 m x 510m - 5 × 1700 km - 2 × 1000 m x 510m - 4 (may): 1000 m x 510m - 5 × 1700 km - 2 × 1000 m x 510m - 2 × 1000 m x 510m - 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2	iP UNITS: Cyd x 0.3 m x 1000 m x \$12/m <sup>3</sup>			12 \$/m	
Underfaction       13,123 \$/m         Underfaction       4 (uns) \$7:00m \$5:00m \$5:00m \$5:00m \$5:00m \$5:00m         Datable Attention       4 (uns) \$7:00m \$5:00m \$5:00m \$5:00m \$5:00m \$5:00m         Datable Attention       5 \$ \$60,000 \$5:00m \$5:00m \$5:00m \$5:00m \$5:00m \$5:00m         Datable Attention       144 \$7:10m \$1:00m \$5:00m \$5:00m \$5:00m \$5:00m \$1:00m \$5:00m \$1:00m \$	Inderdrain pipe Total for Item - 4040043 14 34,506.80 541,932.00 S2,100,741.	70 \$3.88	4 \$/H		
Total for them - Bounds factor     44 5 / f       Total for them - Bounds Factor     5 160,000 fsm     44 5 / f       Total for them - Bounds Factor     5 160,000 fsm     13 5 / f       Conc Barrer: Double Face, Type A UNITS: Fi     5 160,000 fsm     13 5 / f       Conc Barrer: Double Face, Type A UNITS: Fi     5 160,000 fsm     13 5 / f       Conc Barrer: Double Face, Type A UNITS: Fi     5 160,000 fsm     13 5 / f       Conc Barrer: Double Face, Type A UNITS: Fi     5 2 2 2 000 fsm     2 5 6 1 5 / m       Total for them - Botodori 5 1, 132,07 12, 440 00 5 15 5 7     16 5 / f     15 5 / f       Valley Calmer: Concrete Wills: Fi     5 2 2 2 000 fsm     2 4 5 / f       Valley Calmer: Concrete Wills: Fi     5 2 3 3, 200 fsm     5 2 4 3 5 / m       Valley Calmer: Concrete Wills: Fi     5 2 3 3, 200 fsm     5 2 4 3 5 / m       Valley Calmer: Concrete Wills: Fi     5 7 4 5 / m     17 5 4 5 / m       Valley Calmer: Concrete Wills: Fi     5 2 3 3, 200 fsm     5 2 4 3 5 / m       Total for them - 2000001 3 2 0 10 120 12 0 120 120 120 120 120 120	Underdrain. Pipe, Open-Graded, 6 inch UNITS: Ft 4 (runs) x 1000 m x \$15/m			15 \$/m	
Cono Barrier, Double Face, Type A UNITS: F1 Cono Barrier, Double Face, Type A UNITS: F1 1000 nr \$1600 mr 1000 nr \$1700 mr 1000 nr \$170 mr 1000 n	Double-faced concrete median barrier Total for them - 8040005 8 810 50 8 420 00 \$369 682 54 \$43 9				
Total for lime - 040000 17 1380 22 2.158.00 553.374.24 512.30       135 / ft         Concrete galare streen       1000 m x \$1/m       = \$ 47,000 ft         Taal for lime - 040005 9 1138.07 1389 22 2.158.00 \$533.315.07 \$15.97       16 5 / ft         Taal for lime - 040005 9 1138.07 \$15.97       16 5 / ft         Taal for lime - 040005 9 1138.07 \$15.97       16 5 / ft         Taal for lime - 020001 132 10.164.33 3.345.535.00 \$12.472.897.01 \$37.33       4 \$ \$ / \$ / \$ / \$ / \$ / \$ \$ / \$ \$ / \$ \$ / \$	Conc Barrier, Double Face, Type A UNITS: Ft	160 000		160 \$/m	
Train for them - uponotic 5 1,152.07 12,440,005 152.97 4,24 512.30 13 5,14 13 5,14 1000 mx \$47 m 5 116 5,17 168 118 - 620009 17 1.389 52 22,158 00 5595.97 55 57 16 5 17 168 118 - 020009 17 1.389 52 22,158 00 5595.45 57 51 59 7 16 5,17 168 118 - 020009 17 1.389 52 22,158 00 553 51 50 7 51 59 7 16 5,17 168 118 - 020009 17 1.389 52 22,158 00 553 51 50 7 51 59 7 16 57 4 5 5 7 m 14 (1000 mx \$5,300 mx \$550 mm 24 (1000 mx \$5,300 mx \$550 mm 22 (1000 mx \$5,300 mx \$55,300 mx \$5,300 mx \$55,300 mx \$55	TUUU m x \$150/m = \$ Concrete glare screen	nnn'r			
1000 mx \$47/m       = \$ 47,000 km         1000 mx \$47/m       = \$ 47,000 km         Concreate valing guider. Conc UNITS: File         7 valiey outer. Conc UNITS: File       = \$ 232,000 km         7 valiey outer. Conc UNITS: File       = \$ 233,000 km         7 valiey outer. Conc UNITS: File       = \$ 233,200 km         7 valiey outer. Conc UNITS: File       = \$ 233,200 km         7 valiey outer. Conc UNITS: File       = \$ 233,200 km         7 valiey outer. Conc UNITS: File       = \$ 233,200 km         7 valiey outer. Conc UNITS: File       = \$ 233,200 km         4 (mus) x 000 m x \$53.0m <sup>3</sup> = \$ 233,200 km         4 m x 1000 m x \$53.0m <sup>3</sup> = \$ 233,200 km         17 \$6,17       0 (mus) x 100 m x \$55.759 427,722.00 \$19,21.288.18,449         17 \$6,17       0 (mus) x 100 m x \$55.769 427,722.00 \$19,21.2856         17 \$6,17       0 (mus) x 100 m x \$57.74 \$7 m         2000 x \$60.00 m x \$60.00 mm       = \$ 186,000 km         17 \$6,17       14,764 \$7 m         2000 x \$60.00 m x \$60.00 mm       = \$ 186,000 km         2000 x \$60.00 m x \$60.00 ms       = \$ 186,000 km         2000 x \$60.00 m x \$60.00 ms       = \$ 186,000 km         2000 x \$60.00 ms       = \$ 186,000 km         2000 x \$60.00 ms       = \$ 186,000 km         2000	Total for Item - 8040015 9 1,182.07 12,440.00 \$152,974.24 \$1 Glare Screen. Conc UNITS: Ft	2.30	13 \$ / ft 42.651 \$ / m	47 \$/m	
Tada for trem - 2020060 17 1.389.52.22.158.00 535.345.07 \$15.97 16 \$ / 1 * 16 \$ / 1 * 16 * 0.24000 17 1.389.52.2158.00 535.345.07 \$15.97 15.00 ft mm 4 (units: F1 * 242.500 ft m 4 (units: F1 * 242.500 ft m 5 * 233,200 ft m 4 (units: 57.59 427.785.00 \$12.472.897.01 \$3.73 4 \$ \$ / \$ * 94 f m * 1000 m x \$5.30m <sup>3</sup> = \$ 2.33,200 ft m 4 m x 1000 m x \$5.30m <sup>3</sup> = \$ 2.33,200 ft m 4 m x 1000 m x \$5.30m <sup>3</sup> = \$ 2.33,200 ft m 4 m x 1000 m x \$5.30m <sup>3</sup> = \$ 2.33,200 ft m 4 m x 1000 m x \$5.30m <sup>3</sup> = \$ 2.33,200 ft m 1.75 f m 4 m x 1000 m x \$5.30m <sup>3</sup> = \$ 2.33,200 ft m 4 m x 1000 m x \$5.30m <sup>3</sup> = \$ 2.33,200 ft m 4 m x 1000 m x \$5.30m <sup>3</sup> = \$ 2.33,200 ft m 1.75 f m 100 m x \$5.30m <sup>3</sup> = \$ 2.33,200 ft m 7 m 100 m x \$5.30m <sup>3</sup> = \$ 2.33,200 ft m 1.75 f m 100 m x \$5.714 \$ f m 100 \$ f m 3.000 m x \$5.714 \$ f m 100 \$ f m 3.000 m x \$5.714 \$ f m 100 \$ f m 3.000 m x \$5.714 \$ f m 3.000 m x \$5.714 \$ f m 100 \$ f m 3.000 m x \$5.714 \$ f m 100 \$ f m 3.000 \$ f m 2.500 \$ f m 2.500 \$ m \$ 100 \$ f m \$ 100 \$ f m \$ 3.000 \$ f m \$ 100 \$ f m \$ 100 \$ f m \$ 100 \$ f m \$ 3.000 \$ f m \$ 100 \$	Ę				
valey durater, Londo my SS6/m       = \$ 232,000       km       2.433.3 / m         Parement removal       radia for them - 20400 my SS6/m       = \$ 233,200       km         Parement removal       4 (ms) x (000 m x SS.30m <sup>2</sup> )       = \$ \$ 233,200       km         At m x (1000 m x SS.30m <sup>2</sup> )       = \$ \$ 233,200       km       4.764 \$ / m <sup>2</sup> At m x (1000 m x SS.30m <sup>2</sup> )       = \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	060 17 1,389.52	15.97	16 \$ / ft		
Parament removal         4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Valley Gutter, Cons UNI 5. Ft 4 (runs) x 1000 m x 558/m			E / ¢ oc	
Part, Rem UNITS: Syd       4.784 \$/m <sup>4</sup> 4.784 \$/m <sup>4</sup> At mx 1000 mx \$5:30m <sup>2</sup> = \$ 233,200 fkm       4.784 \$/m         Curb and guter removal       Total for them - 200006 561 1557.59 427.782.00 \$1921 238.91 \$4.49       4.5 \$/ft         Curb and guter removal       4 (urus) x 1000 m x \$17m       = \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ 000 fkm       4.754 \$/m         Curb and guter removal       2040012 F1 Conc Barrier, Rem UNITS: F1       = \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Pav	897.01 \$3.73	4 \$ / syd		
Curb and gutter removal Curb and Gutter. Rem UNITS: F1 Cub and Gutter. Rem UNITS: F1 Cub and Gutter. Rem UNITS: F1 4 (runs) x 1000 m x \$17/m 4 (runs) x 1000 m x \$17/m 4 (runs) x 1000 m x \$17/m Correcte barrier removal Correcte barrier removal Note: Concrete barrier removal a 000 m x \$62/m Correcte barrier removal Correcte barrier removal Correcte barrier removal Correcte barrier removal Correcte barrier removal Correcte barrier removal Correcte Rem UNITS: F1 Correcte Rem CONT 201 12.59 3.216.00 \$8240, F61.76 \$12.47 Correcte Rem 2030014 201 12.59 3.216.00 \$8240, F61.76 \$12.47 Correcte Rem 24 inch to 43 inch UNITS: F1 Correcte Rem 23000 m x \$62/m Correcte Rem 24 inch to 43 inch UNITS: F1 Correcte Rem 24 inch to 43 inch UNITS: F1 Correcte Rem 24 inch to 48 inch UNITS: F1 Correcter. Rem 24 inch to 48 inch UNITS: F1 Corrected Rem 25 inch to 58 5.304 Corrected Rem 26 f14 m <sup>2</sup> Corrected Rem 200010 238 5.61.37 2.025.119.00 56.161.000.58 53.04 Corrected Rem 26 f14 m <sup>2</sup> Corrected Rem 20010 238 5.61.37 2.025.119.00 56.161.000.58 53.04 Corrected Removed at this time. Will be determined by Geopak modeling in the future. Total F1 F1 F2 Store 75.135.77 Km F2 4.382,372 km F2 4.382,372 km F2 4.382,372 km F2 4.382,372 km F2 4.382,372 km F2 4.382,372 km F2 4.382,	Pavt, Rem UNITS: Syd 44 m x 1000 m x \$5.30/m <sup>2</sup> = \$			5.30 \$ / m <sup>2</sup>	
Curb and Gutter, Rem UNITS: F114.764 \$/m4 $4.764 $/m$ $4.764 $/m$ 4 $4.764 $/m$ $4.764 $/m$ 4 $4.764 $/m$ $4.764 $/m$ 4 $4.764 $/m$ $4.764 $/m$ Concrete barrier movalConcrete barrier. Rem2040012 Ft Conc Barrier, Rem $5.774 $/m$ 2040012 Ft Conc Barrier, Rem $5.774 $/m$ 2040012 Ft Conc Barrier, Rem $5.774 $/m$ 2040012 Ft Concete barrier are also used as retaining walls on both sides of the note: Concrete barrier are also used as retaining walls on both sides of the 300 m x \$82/m $1.7 $/4$ Data to the side of as the side of the 300 m x \$82/mData for then - 2030016 44 431.26 9 3.216.00 \$824,065.12 \$256.25Drating are movalDrating are movalTotal for then - 2030016 44 431.28 1.261 76 \$12.47Also to the other on both sides of each direction and only one storm drain pipe in the middle.Structures on both sides of each direction and only one storm drain pipe in the middle.Structures on both sides of each direction and only one storm drain pipe in the middle.Structures on both sides of each direction and only one storm drain pipe in the middle.Structures on both sides of each direction and only one storm drain pipe in the middle.Structures on both sides of each direction and only one storm drain pipe in the middle.Structures on both sides of each direction and only one storm drain pipe in the middle.Structures on bot	Curb and gutter removal Total for Item - 2040006 286 1,557,59 427,782.00 \$1,921,238.	91 \$4.49	4.5 \$/ft		
Concrete barrier removal 2040012 Fr Conc Barrier Rem 17 \$/ft 10 fains DOT price used. DOT similar Note: Concrete barrier are also used as retaining walls on both sides of the 3000 m x \$62/m Drainage removal Total for then - 2000011 201 12.59 3.216.00 \$824.085.12 \$255.25 Dr Structure, Rem UNITS: Fa 3000 m x \$64m + 4 * 22 structures x \$290 Structure, Rem UNITS: Fa 3000 m x \$64m + 4 * 22 structures x \$290 Note: Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle. Earthwork Note: Reugh quantity estimated. Earthwork will need to come from actual Geopak modeling Total for them - 200016 301 13,775.63 4.339.525.00 \$15,387.931 46 \$3.55 Mote: Reugh quantity estimated. Earthwork will need to come from actual Geopak modeling Total for them - 2050016 301 13,775.63 4.339.525.00 \$15,387.931 46 \$3.55 Mote: Reugh quantity estimated. Earthwork will need to come from actual Geopak modeling Total for them - 2050016 301 13,775.03 4.339.525.00 \$15,387.931 46 \$3.55 Mote: Reugh quantity estimated to a factor actual Geopak modeling Total for them - 2050010 233 8.561.37 2.025.119.00 \$6.161,080.56 \$3.04 Structure. Embankment. CIP UNITS: Cyd Earth UNITS: Cyd Mote: Embankment CIP UNITS: Cyd Mote: Embankment CIP UNITS: Cyd Mote: Embankment CIP UNITS: Cyd Structure = \$3,033,765 / km Note: Embankment cIP UNITS: Cyd =\$ 3,033,765 / km Mote: Embankment cIP UNITS: Cyd =\$ 3,033,765 / km Mote: Embankment CIP UNITS: Cyd =\$ 4,882,372 / mile =\$ 4,	Curb and Gutter, Rem UNITS: Ft 4 (runs) x 1000 m x 517/m = \$			17 \$/m	
Indiana DOT price used, ODOT similar 55.774 \$ / m 55.774 \$ / m 55.774 \$ / m 300 mx \$62/m 56.774 \$ / m 300 mx \$62/m 56.774 \$ / m 300 mx \$62/m 56.774 \$ / m 300 mx \$62/m 126 used as retaining walls on both sides of the 300 mx \$62/m 125 state are also used as retaining walls on both sides of the 300 mx \$62/m 125 state are also used as retaining walls on both sides of the 300 mx \$62/m 125 state are also used as retaining walls on both sides of the 300 mx \$62/m 125 state are also used as retaining walls on both sides of \$7.74 \$ / m 300 mx \$66/m + 4 * 22 structures \$256.25 m Structures \$26.00 \$ \$5.47 \$ 12.5 \$ / m 300 mx \$546/m + 4 * 22 structures \$200 \$ \$ 163,520 \$ / m 300 mx \$546/m + 4 * 22 structures \$200 \$ \$ 163,520 \$ / m 300 mx \$546/m + 4 * 22 structures \$25.00 \$ \$ 15,387,931 46 \$ 35.5 \$ 35.6 \$ / m 300 mx \$546/m + 4 * 22 structures \$25.00 \$ \$ 16,387,931 46 \$ 35.5 \$ 3.5 \$ / m 300 mc \$4 modeling \$ 100 \$ / m 3 \$ 35.6 \$ / m 3 \$ 300 mx \$546/m + 1 * 22 structures \$25.00 \$ \$ 15,387,931 46 \$ 35.5 \$ 3.5 \$ / m 3 \$ 2.7 \$ / m 3 \$ 35.6 \$ / m 3 \$ 2.7 \$ / m 3 \$ 35.6 \$ / m 3 \$ 2.7 \$ / m 3 \$ 35.6 \$ / m 3 \$ 2.7 \$ / m 3 \$ 2.0 \$ / m 3 \$ 2.7 \$ / m 3 \$ 0.0 \$ / m 3 \$ 2.7 \$ / m 3 \$ 0.0 \$ / m 3 \$ 0.0 \$ / m 3 \$ 2.7 \$ / m 3 \$ 0.0 \$ / m 3 \$ 2.7 \$ / m 3 \$ 0.0 \$ / m \$ 0.0 \$ / m 3 \$ 0.0 \$ / m \$ 0.0 \$ / m 3 \$ 0.0 \$ / m \$ / m \$ 0.0 \$	Concrete barrier removal 2040012 Ft Conc Barrier. Rem				
Total for them - 2030011 2011 2.58 3.216.00 8324,065.12 \$525.25 Total for them - 2030011 2011 2.58 3.216.00 \$324,065.12 \$5256.25 Total for them - 2030016 44 31.28 19,944.00 \$248,761.76 \$12.47 Total for them - 2030016 44 431.28 19,944.00 \$248,761.76 \$12.47 Total for them - 2030016 44 431.28 19,944.00 \$248,761.76 \$12.47 Sever, Rem. 24 inch to 48 inch UNITS: F1 3000 m x \$46/m + 4 * 22 structures x \$290 Note: Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle. <b>Earthwork</b> Note: Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle. <b>Earthwork</b> Note: Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle. <b>Earthwork</b> Note: Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle. <b>Earthwork</b> Note: Carbon quantity estimated. Earthwork will need to come from actual Geopak modeling Total for item - 2050016 301 13.775.63 4.339.525.00 \$15,387,931.46 \$3.55 Total for item - 2050016 301 13.775.63 4.339.525.00 \$161,080.58 \$3.04 Total for item - 2050010 233 8.561.37 2.025,119.00 \$6,161,080.58 \$3.04 Assume an excavation area of 144 m <sup>2</sup> Assume an excavation area of 144 m <sup>2</sup> Assume an excavation area of 144 m <sup>2</sup> Total for item - 2050010 233 8.561.37 2.025,119.00 \$6,161,080.58 \$3.04 Total for item - 2050010 233 8.561.37 2.025,119.00 \$6,161,080.58 \$3.04 Total for item - 2050010 233 8.561.37 2.025,119.00 \$6,161,080.58 \$3.04 Total for item - 2050010 233 8.561.37 2.025,119.00 \$6,161,080.58 \$3.04 Total for item - 2050010 233 8.561.37 2.025,119.00 \$6,161,080.58 \$3.04 Total for item - 2050010 233 8.561.37 2.025,119.00 \$6,161,080.58 \$3.04 Total for item - 2050010 233 8.561.37 2.025,119.00 \$6,161,080.58 \$3.04 Total for item - 2050010 233 8.561.37 2.025,119.00 \$6,161,080.58 \$3.04 Total for item - 2050010 233 8.561.37 2.025,119.00 \$6,161,080.58 \$3.04 Total for item - 2050010 233 8.561.37 2.025	Indiana DOT price used, ODOT similar Note: Concrete transmission used as retaining walls on both	a cidae of the	55.774 \$/m	62 \$/m	
Dramage removal         Tdai for them - 2030011 201 12:59 3.216.00 \$824.085.12 \$256.25         Tdai for them - 2030011 201 12:59 3.216.00 \$824.085.12 \$256.25         Tdai for them - 2030011 64 431.28 19.944.00 \$248.761.76 \$12.47       12.5 \$/ft         Sever, Rem. 24 inch to 48 inch UNITS: Ft       41.010 \$/m         3000 m x \$46/m + 4 * 22 structures x \$290       \$ 163,520 km         All cort Rem. 24 inch to 48 inch UNITS: Ft       41.010 \$/m         3000 m x \$46/m + 4 * 22 structures x \$290       \$ 163,520 km         All cort Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle.         All cort Rem - 2050016 301 13.775.63 4.339.525.00 \$15,387.931.46 \$3.55       3.6 \$/ cyd         Anthwork       Note: Reugh quantity estimated. Earthwork will need to come from actual Geopak modeling       4.709 \$/m <sup>3</sup> Action: Earth UNITS: Cyd       \$ 113,645 km       4.709 \$/m <sup>3</sup> Assume an excavation area of 144 m <sup>2</sup> \$ 119,645 km       3.1 \$/ cyd         Assume an excavation area of 144 m <sup>2</sup> \$ 36,272 km       4.055 \$/ m <sup>3</sup> Assume an excavation area of 144 m <sup>2</sup> \$ 36,272 km       4.055 \$/ m <sup>3</sup> Assume an excavation area of 144 m <sup>2</sup> \$ 3,033,755 km       4.055 \$/ m <sup>3</sup> Assume an excavation area of 144 m <sup>2</sup> \$ 3,033,755 km       4.055 \$/ m <sup>3</sup> Assume an excavatio	3000 m x \$62/m		E		
cure. Kem UNI15: Ea at term - 2030016 44 431.28 19,944,00 \$248,761.76 \$12.47 12.5 \$/ft Rem. 24 inch to 48 inch UNITS: Ft at term - 2030016 44 431.28 19,944,00 \$248,761.76 \$12.47 Rem. 24 inch to 48 inch UNITS: Ft at term - 2030016 at 431.28 19,944,00 \$248,761.76 \$12.47 Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle. Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle. Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle. Rough quantity estimated. Earthwork will need to come from actual Geopak modeling at term - 2050016 301 13.775.63 4,339.525.00 \$15,387,931.46 \$3.55 3.55 3.55 3.55 \$7.57 \$m^3 e an excavation area of 144 m <sup>2</sup> = \$ 119,645 \$m^3 e an excavation area of 144 m <sup>2</sup> = \$ 119,645 \$m^3 e an excavation area of 144 m <sup>2</sup> = \$ 3,033,765 \$m^3 Embankment not used at this time. Will be determined by Geopak modeling in the future. Total = \$ 3,033,765 \$m^3 \$7.50 \$m^3 \$m^3 \$m^3 \$7.50 \$m^3 \$m^3 \$m^3 \$7.50 \$m^3 \$m^3 \$m^3 \$m^3 \$m^3 \$m^3 \$m^3 \$m^3	Dra	1.25		22 existing	structures in 1000 m (@ 150' spacir
Sever. Rem. 24 inch to 48 inch UNITS: Ft $41.010 \ \text{s/m}$ $46 \ \text{s/m}$ $3000 \ \text{m} \times 546 \ \text{m} + 4^{*} 22 \ \text{structures} \times 8290 \ \text{s} 5.250 \ \text{km}$ $41.010 \ \text{s/m}$ $46 \ \text{s/m}$ $3000 \ \text{m} \times 546 \ \text{m} + 4^{*} 22 \ \text{structures} \ \text{on both sides of each direction and only one storm drain pipe in the middle.46 \ \text{s/m}46 \ \text{s/m}Note: Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle.46 \ \text{s/m}46 \ \text{s/m}Note: Rough quantity estimated. Earthwork will need to come from actual Geopak modeling3.6 \ \text{s}^{\prime} \ \text{cyd}5.2 \ \text{s/m}^3Note: Rough quantity estimated. Earthwork will need to come from actual Geopak modeling4.709 \ \text{s/m}^35.2 \ \text{s/m}^3Note: Rough quantity estimated. Earthwork will be detormined by Geopak modeling in the future.4.709 \ \text{s/m}^35.2 \ \text{s/m}^3Assume an excavation area of 144 \ \text{m}^2= \text{s}119, 645 \ \text{km}3.1 \ \text{s/cyd}4.5 \ \text{s/m}^3Assume an excavation area of 144 \ \text{m}^2= \text{s}13, 66.161, 080.58 \ \text{s}.03 \ \text{km}3.1 \ \text{s/cyd}4.5 \ \text{s/m}^3Assume an excavation area of 144 \ \text{m}^2= \text{s}3.03, 765 \ \text{km}3.056 \ \text{s/m}^34.5 \ \text{s/m}^3Assume an excavation area of 144 \ \text{m}^2= \text{s}3.03, 765 \ \text{km}4.55 \ \text{s/m}^3Assume an excavation area of 144 \ \text{m}^2= \text{s}3.033, 765 \ \text{km}4.55 \ \text{s/m}^3Assume an excavation area of 144 \ \text{m}^2= \text{s}3.033, 765 \ \text{km}4.055 \ \text{s/m}^3Assume an excavation area of 16$	Dr Structure, Rem UNITS: Ea Total for Item - 2030016 44 431.28 19,944.00 \$248,761.76 \$12	.47	12.5 \$ / ft	290 \$7 ea	
Note: Assume exist drainage structures on both sides of each direction and only one storm drain pipe in the middle. <b>Earthwork</b> Note: Rough quantity estimated. Earthwork will need to come from actual Geopak modeling Note: Rough quantity estimated. Earthwork will need to come from actual Geopak modeling Total for them - 2050016 301 13,775,63 4,339,525,00 \$16,387,931.46 \$3.55 3, 65 / cyd Assume an excavation area of 144 m <sup>2</sup> = \$ 119,645 / km Assume an excavation area of 144 m <sup>2</sup> = \$ 119,645 / km Assume an excavation area of 144 m <sup>2</sup> = \$ 361.37 2,025,119,00 \$6,161,080.58 \$3.04 3.15 / cyd Embankment. CIP UNITS: Cyd = \$ 36,272 / km 4,055 \$ / m <sup>3</sup> Note: Embankment cot used at this time. Will be determined by Geopak modeling in the future. Total = \$ 3,033,765 / km 7 000 / km = \$ 3,034 / m 5 3,000 / mile = \$ 4,882,372 /	Sewer, Rem, 24 inch to 48 inch UNITS: Ft 3000 m x \$46/m + 4 * 22 structures x \$290 = \$	163,520 Ar	41.010 \$/m n	46	
Work will need to come from actual Geopak modeling       3.6 \$ / cyd       5.2 \$ / m <sup>3</sup> = \$ 119,645 km       3.6 \$ / cyd       5.2 \$ / m <sup>3</sup> = \$ 119,645 km       3.1 \$ / cyd       5.2 \$ / m <sup>3</sup> 2.025,119.00 \$6,161,080.58 \$ 3.04       3.1 \$ / cyd       4.5 \$ / m <sup>3</sup> 2.025,119.00 \$6,161,080.58 \$ 3.04       3.1 \$ / cyd       4.5 \$ / m <sup>3</sup> ne. Will be determined by Geopak modeling in the future.       4.055 \$ / m <sup>3</sup> 4.5 \$ / m <sup>3</sup> Total       = \$ 3,033,765 / km       Rounded:       = \$ 3,034,000 / km         = \$ 3,034 / m       = \$ 3,034 / m       = \$ 4,882,000 / mle         = \$ 4,882,372 / mile       = \$ 4,882,000 / mle	Note: Earthwork	direction and onl	y one storm drain pipe in the n	iddle.	
= \$ 119,645 km       4./09 \$/ III       5.2 \$/ III         2.025,119.00 \$6.161,080.58 \$3.04       3.1 \$ / cyd       4.5 \$ / m <sup>3</sup> ac. Will be determined by Geopak modeling in the future.       4.055 \$ / m <sup>3</sup> 4.5 \$ / m <sup>3</sup> ne. Will be determined by Geopak modeling in the future.       5,033,765 / km       Rounded:       5,3,034,000 / km         Total       = \$ 3,033,765 / km       Rounded:       = \$ 3,034,000 / km         = \$ 3,034 / m       = \$ 3,034 / m       = \$ 4,882,000 / mile	roue: rough quantity estimated. Eatimwork will need to come Total for them - 2050016 301 13,775.63 4,339,525.00 \$15,387, rounted - rout united - 24	пот асца Сео 931.46 \$3.55	2.6 \$ / cyd 3.6 \$ / cyd	6 6 1	
1 \$ / cyd 5 \$ / m <sup>3</sup> Rounded: = \$ 3,034,000 / km = \$ 3,000 / m = \$ 4,882,000 / mile				0.2 \$/ W	Preliminary earthwork calculations by Jen con Jan 8, 2007
Rounded: = 5	Total for Item - 2050010 233 8,561.37 2,025,119,00 \$6,161,08( Embankment, CIP UNITS: Cyd Note: Embankment not used at this time. Will be determined b	0.58 \$3.04 36,272 /kr v Geopak model	3.1 \$ / cyd n 4.055 \$ / m <sup>3</sup> ing in the future.	4.5 \$ / m <sup>3</sup>	
3,034 / m = \$ 4,882,372 / mile = \$	<u>Totel</u> = <b>\$</b>	3,033,765 / km			
4,882,372 / mile = \$	<b>S</b> =	3,034 / m			
		4,882,372 / mile			

26777 Central Park Boulevard - Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com       Project     Detroit River International Crossing       By:     Lam Nguyen       Date     12/20/06       Check:     RH/RS/DG       Date     12/22/06	b No. ubject	: <u>646294</u> :: <u>Practical Alternative</u> Cost Estimates
1-lane Ramp		
		0,000
Conversion ractors: $1  \text{tr} = 0.3048  \text{m}$ 1 $1  \text{tr}^2 = 0.0929  \text{m}^2$ 1	1 ya <sup>-</sup> = 1 ya <sup>3</sup> =	0.7646 m <sup>3</sup>
G-201 and G-205 Series 1-lane ramps at full 4.8 m width	Statewide Unit Prices Converted Metric Price	Unit Price Used: Adiusted for Metro Region
1. Non-reinforced concrete pavement		
Total for Item - 6020106 10 16,050.10 149,434.00 \$3,390,177.38 \$22.69	23 \$/ syd	2
Conc Pavt, Nonreint, 9 inch UNITS: Syd 4.8 m x 1000 m x \$31/m <sup>2</sup> = 5 148.800 /km	2/.508 \$/m <sup>2</sup>	31 S/ m <sup>-</sup>
(left) L 75 56 780 00 \$1 157 318 73 9	pvs / \$ CC	
Shoulder, Nonreinf Conc UNITS: Syd	26.312 \$/m <sup>2</sup>	29 S / m <sup>2</sup>
<ol> <li>Non-reinforced concrete shoulder (right) Total for them - 6020222 9.8 914.75 56.780 00 \$\$1.157.318.72 \$\$20.38</li> </ol>	22 \$ / svd	
Shoulder, Nonreinf Conc UNITS: Syd	26.312 \$/m <sup>2</sup>	29 S / m <sup>2</sup>
<ol> <li>Open graded drainage layer (100 mm depth)</li> <li>Total for them - 3030001 4 2 859 50 11 438 00 \$59 324 67 \$5 19</li> </ol>	5.2 \$1 svd	
Open-Graded Dr Cse. 4 inch UNITS: Svd	$6.219 \ \text{s/m}^2$	6.90 S/m <sup>2</sup>
$11.5 \text{ m} \times 1000 \text{ m} \times 86.90/\text{m}^2$ = \$ 79,350 /km		
5 m beyond back of curb		
<ol> <li>Geotextile separator Total for Item - 3030020 47 34 147 53 1 985 442 00 \$2 029 020 39 \$1 02</li> </ol>	1 \$ / svd	
Geotextile Separator UNITS: Syd	1.196 \$ / m <sup>2</sup>	1.40 S/m <sup>2</sup>
11.5 m x 1000 m x \$1.40/m <sup>2</sup> = \$ 16,100 /km		
Assume 0.5 m beyond back of curb		
6. Subbase (300 mm depth) Total for litem - 3010002 252 7.845.54 1.959 885.00 \$15.177.681.23 \$7.74	8 \$ / cvd	
Subbase, CIP UNITS: Cyd	10.464 \$/m <sup>3</sup>	12 S / m <sup>3</sup>
13.5 m x 0.3 m x 1000 m x \$12/m <sup>3</sup> = \$ <b>48,600</b> /km		
Assume 1.5 m beyond back of curb 7. Underdrain pipe		
Total for Item - 4040043 14 34,506.80 541,932.00 \$2,100,741.70 \$3.88	4 \$/ft	
d, 6 inch UNITS: Ft	13.123 \$/m	15 S/m
Z (runs) X 1000 m X \$15/m = \$ 30,000 /km 8 Irhan fraeway ciirh		
C. Cloain neeway curb Total for litem - 8020032 2 300.50 601.00 \$9,490.00 \$15.79	16 \$ / ft	
Curb and Gutter, Conc, Det D3 UNITS: Ft	52.493 \$/m	58 \$/m
9. Earmwork Mate: Dough quantity actimated - Earthwork will need to some from extual Coo	andolina doug	
Total for Item - 2050016 301 13, 775.63 4, 339,525.00 \$15, 387,931.46 \$3.55 3.6 \$1.6 \$	26 \$ / cyd	
Excavation, Earth UNITS: Cyd	4.709 \$/m <sup>3</sup>	5.20 \$/m <sup>3</sup>
Assume an excavation area of 20 m <sup>2</sup> = $\$$ <b>104,000</b> /km		
Total for Item - 2050010 233 8,561.37 2,025,119.00 \$6,161,080.58 \$3.04	3.1 \$/ cyd	
Embankment, CIP UNITS: Cyd	4.055 \$/m <sup>3</sup>	4.50 S/m <sup>3</sup>
Note: Embankment not used at this time. Will be determined by Geopak modeling in the future.	ling in the future.	

Note: See reference documentation for detail on ramp quantity calculation

665,000 / km

ŝ

Rounded:

664,650 / km

5

Total

1,070,000 / mile

6<del>9</del> 11

1,069,650 / mile

∳ ∥

665 / m

€<del>2</del> ∥

670 / m

<del>69</del> ∥ D - Cost Est/071016 DRIC Cost Reports\05.0300 Idy/05.0000 Doc F:\646294\_DRIC\_St

26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com Project Detroit River International Crossing	ġ	646294
Lam Nguyen RH/RS/DG	Subject:	:: Practical Alternative Cost Estimates
2-lane ramp		
Conversion factors: 1 ft = 0.3048 m 1 ft <sup>2</sup> = 0.0929 m <sup>2</sup>	1 ya <sup>-</sup> = 1 ya <sup>3</sup> =	0.7646 m <sup>3</sup>
G-210 and G-240 Series 2-lane ramps at full 7.2 m width	Statewide Unit Prices Converted Metric Price	es Unit Price Used: rice Adiusted for Metro Revion
1. Non-reinforced concrete pavement		
Total for Item - 6020106 10 16,050.10 149,434.00 \$3,390,177.38 \$22.69	23 \$ / syd	·
S: Syd	27.508 \$ / m <sup>2</sup>	31 \$ / m <sup>2</sup>
7.2 m × 1000 m × \$31/m <sup>2</sup> = \$ 223,200 /km		
<ol> <li>Non-reinforced concrete shoulder (reit, Total for Item - 6020222 9 8,914.75 56,780.00 \$1,157,318.72 \$20.38</li> </ol>	22 \$ / syd	
Shoulder, Nonreinf Conc UNITS: Syd	26.312 \$ / m <sup>2</sup>	29 \$ / m²
1.8 m x 1000 m x \$29/m <sup>2</sup> = \$ <b>52,200</b> /km		
3. Non-reinforced concrete shoulder (right)	20 & / evd	
	26.312 \$ / m <sup>2</sup>	29 \$ / m²
2.4 m x 1000 m x \$29/m <sup>2</sup> = \$ 69,600 /km		
4. Open graded drainage layer (100 mm depth) Total for them 2020001 4.2 250 50 41 422 00 650 224 67 65 40		
	0.4 4/ 500 8 240 6 / m <sup>2</sup>	6 00 ¢ / m <sup>2</sup>
	0.413 4	0.60
5 m beyond back of curb		
5. Geotextile separator		
Total for Item - 3030020 47 34,147.53 1,985,442.00 \$2,029,020.39 \$1.02	1 \$ / syd	•
	1.196 \$ / m <sup>2</sup>	1.40 \$ / m <sup>z</sup>
14 m × 1000 m × \$1.40/m <sup>2</sup> = \$ <b>19,600</b> /km		
Assume 0.5 m beyond back of curb		
o. Subbase (Sou finit deput) Total for Item - 3010002 252 7 845 54 1 959 885 00 \$15 177 681 23 \$7 74	8 \$ / cvd	
Subbase, CIP UNITS: Cyd	10.464 \$ / m <sup>3</sup>	12 \$ / m <sup>3</sup>
16 m x 0.3 m x 1000 m x \$12/m <sup>3</sup> = \$ <b>57,600</b> /km		
Assume 1.5 m beyond back of curb		
7. Underdrain pipe T-otal for them - 4040043 14 34 506 80 541 932 00 \$2 100 741 70 \$3 88	4374	
Underdrain Pipe Open-Graded 6 inch UNITS: Ft	13.123.\$/m	15 \$ / m
2 (runs) x 1000 m x \$15/m = \$ 30,000 /km		
Total for Item - 8020032 2 300.50 601.00 \$9,490.00 \$15.79	16 \$ / ft	
	52.493 \$ / m	58 \$ / m
2 (runs) x 1000 m x \$58/m 9. Earthwork		
S. carutivork Rough guantity estimated Earthwork will need to come from actual Geopak modeling	modelina	
$\odot$	3.6 \$ / cyd	
Excavation, Earth UNITS: Cyd	4.709 \$ / m <sup>3</sup>	5.20 \$ / m <sup>3</sup>
Assume an excavation area of 20 m <sup>2</sup> = $\$$ <b>104,000</b> /km		
Total for Hom 20050010 233 8 561 37 2 025 110 00 66 161 080 58 63 01	0101010	
Forder for restrict - 200001 or 200 0, out of 2,020, i 10,00 00, i 0 1,000,00 00,04 Embankment CIPTINITS: Oud	0.1 % / cyu 4 055 \$ / m <sup>3</sup>	4 50 \$ / m <sup>3</sup>
Note: Embankment not used at this time. Will be determined by Geonak modeling in the future	deling in the future	

Note: See reference documentation for detail on ramp quantity calculation

1,237,000 / mile

ŝ

1,237,264 / mile

69 11

769 / m

6<del>)</del> 11

770 / m

ŝ

769,000 / km

\$

l 2 2

768,800 / km

5

Total

lab2-lane Ramp xls D - Cost Est\071016 DRIC Cost Estin orts\05.0300 F:\646294\_DRIC\_Study\05.0000 Do

26777 Central Park Boulevard · Suite 275 · Project <u>Detroit River Int</u> D./·	llevard · Suite 275 · Southfield. Michigan 480 Detroit River International Crossing Lam Norwood	field, Michigan 48076 ional Crossing	76 · (248) 262-001	Southfield. Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com ernational Crossing Data 13.20006	988 · www.	barsons.com Job No.: <u>646294</u> Subject: <u>Dractios</u>	s.com Job No.: <u>646294</u> S.thiadt <u>Dractical Alternativo</u>
sok:	RH/RS/DG	Date 12/28/06				oubject.	
Construct 10 m Wide Service Drive	Service Drive						
Conversion factors:	ictors: 1 ft 1 ft <sup>2</sup>		0.3048 m 0.0929 m <sup>2</sup>	~ ~	yd² yd³	пп	0.8361 m² 0.7646 m³
					Statew Convel	Statewide Unit Prices Converted Metric Price	<ul> <li>Unit Price Used:</li> <li>Adjusted for Metro Region</li> </ul>
1. Bituminous pavement Total for Item - 502	ninous pavement Total for Item - 5020057 78 7,571.12 547,071.00 \$24,852,037.33 \$45.43	71.12 547,071.0	0 \$24,852,037	.33 \$45.43		46 \$ / ton	
HMA, 5E3 UNITS: TON 10 m x 0.254 m x 1000 m) 150 lb/ft <sup>3</sup> x 1 ton/2000 lb x	HMA, be3 UNITS: Ton 10 m x 0.254 m x 1000 m x \$130 / m3 150 lb/ft <sup>3</sup> x 1 ton/2000 lb x (1 ft/0.3048	<pre>&lt; \$130 / m3 = { (1 ft/0.3048m)<sup>3</sup> = 2.65 ton/m<sup>3</sup></pre>	= \$ 35 ton/m <sup>3</sup>	<b>330,200</b> /km	121.5	121.900 \$ / m	13U \$ / m
Note: use 10" bituminous pavement 2. Open graded drainage layer (100 mm depth)	Note: use 10" bituminous pavement a graded drainage layer (100 mm de	ment <b>nm depth)</b>					
Total for Item	Total for Item - 3030001 4 2,859.50 11,438.00 \$59,324.67 \$5.19 Come Conded Pr. Con. 4 instal INUTE: Sud	9.50 11,438.00	\$59,324.67 \$5.	19	<u>د</u> د	5.2 \$ / syd	800 81 m2
10 m x 1	10 m x 1000 m x \$6.90/m <sup>2</sup>	2	<del>မှ</del> ။	<b>69,000</b> /km	2		
3. Geotextile separator	or						
Total for Item	Total for Item - 3030020 47 34,147.53 1,985,442.00 \$2,029,020.39 \$1.02	147.53 1,985,44	t2.00 \$2,029,02	20.39 \$1.02		1 \$ / syd	ſ
Geotextile Se	Geotextile Separator UNITS: Syd 11.2 v 1000 m v \$1.40/m <sup>2</sup>	g	€ II	15 680 <i>l/</i> m	<u>-</u>	96 S / m <sup>+</sup>	1.40 S/m <sup>2</sup>
A Subbase (300 mm denth)			9 I				
nanc	Total for litem - 3010002 252 7,845.54 1,959,885.00 \$15,177,681.23 \$7.74	345.54 1,959,86	35.00 \$15,177,6	81.23 \$7.74		8 \$ / cyd	i
Subbase, CIP UNITS: Cyd	UNITS: Cyd				10.4	10.464 \$ / m <sup>3</sup>	12 \$ / m³
16 m x C	16 m x 0.3 m x 1000 m x \$	m x \$12/m <sup>3</sup>	<del>မှ</del> ။	<b>57,600</b> /km			
5. Underdrain pipe Total for Item	drain pipe Total for Item - 4040043 14 34,506.80 541,932.00 \$2,100,741.70 \$3.88	506.80 541,932	.00 \$2,100,741	.70 \$3.88		4 \$ / ft	
Underdrain, P	Underdrain, Pipe, Open-Graded, 6 inch UNITS: Ft	I, 6 inch UNITS	Ť		13.1	13.123 \$ / m	15 \$/m
2 (runs) x 1000 m)	2 (runs) x 1000 m x \$15/m		\$ <del>)</del> ∥	<b>30,000</b> /km			
Total for Item	Total for ltem - 8020016 134 1,506.98 200,681.00 \$2,937,914.81 \$14.64	506.98 200,681	.00 \$2,937,914	.81 \$14.64		15 \$ / ft	
Curb and Gutt	Curb and Gutter, Conc, Det B2 UNITS: Ft	UNITS: Ft	•		49.2	49.213 \$ / m	55 \$/m
2 (runs) X 7. Earthwork	2 (runs) x 1000 m x \$55/m rk		99 11	<b>110,000</b> /km			
	Note: Rough quantity estimated. Earthwork will need to come from actual Geopak modeling. Total for Item - 2050016 301 13 775 63 4 339 525 00 \$15 387 931 46 \$3 55	d. Earthwork w 775 63 4 339 5	ill need to come 525 00 \$15 387	e from actual Ge 931 46 \$3 55	opak moo	deling. 3.6.5./ cvd	
Excavation, E	Excavation, Earth UNITS: Cyd				4.7	4.709 \$ / m <sup>3</sup>	5.20 \$ / m <sup>3</sup>
Assume an ex	Assume an excavation area of 30 $m^2$	30 m²	€ <del>)</del> 	156,000 /km			
Total for Item	Total for ltem - 2050010 233 8.561.37 2.025.119.00 \$6.161.080.58 \$3.04	561.37 2.025.11	9.00 \$6.161.08	30.58 \$3.04	.,	3.1 \$ / cvd	

4.50 \$ / m<sup>3</sup> 769,000 / km 770 / m <del>(?)</del> ∥ ŝ Rounded: Total for Item - 2050010 233 8,561.37 2,025,119.00 \$6,161,080.58 \$3.04 3.1 \$ / cyd Embankment, CIP UNITS: Cyd A.055 \$ / m<sup>3</sup> A.04: Embankment not used at this time. Will be determined by Geopak modeling in the future. 768,480 / km 768 / m \$÷ ∥ ₩ 11 Total

1,237,000 / mile

<del>69</del> Ⅱ

1,236,749 / mile

€<del>9</del> II TabCon 10m SerDr XIS dix D - Cost Est/071016 DRIC Cost Estin ts\_Reports\05.0300 F:\646294\_DRIC\_Study\05.0000 Doc

:6777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com	Job No.: 646294	Subject: Practical Alternative	Cost Estimates	
thfield, Michigan 48076 · (24	lational Crossing	Date 12/20/06	Date 12/22/06	
Boulevard · Suite 275 · Sou	Detroit River Intern	Lam Nguyen	RH/RS/DG Date 12/2	
26777 Central Park	Project	By:	Check:	

# Remove Existing 10m Wide Service Drive

only side gutter 6 g a Remove existing road per lane,

4 m²	Unit Price Used: Adjusted for Metro Region	5.00 \$/m <sup>2</sup>		2 <del>8</del> 7		\$ 84,000 / km	\$ 84 / m	\$ 135,000 / mile
1 $yd^2$ = 0.8361274 m <sup>2</sup>	Statewide Unit Prices Converted Metric Price 3.8 \$ / syd	4.545 \$ / m <sup>2</sup>		4.5 \$/ft 14 764 \$/m		Rounded: = \$	\$ II	<del>\$</del>
	2,897.01 \$3.73		<b>50,000</b> /km	8.91 \$4.49	<b>34,000</b> /km	84,000 / km	84 / m	135,185 / mile
0.3048 m 0.0929 m <sup>2</sup>	302 10,164,38 3,345,535.00 \$12,472,897.01 \$3.73		9 11	782.00 \$1,921,23	8 II	\$ "	\$ II	\$ 
	164.38 3,3 <sup>,</sup>			57.59 427,1		Total		
1 ff 1 ff <sup>2</sup>		-	1 x \$5/m <sup>2</sup>	06 286 1,5	x \$17/m			
Conversion factors:	<ol> <li>Pavement removal Total for ltem - 2040011</li> </ol>	Pavt, Rem UNITS: Syd	10 m x 1000 m x S5/m <sup>2</sup>	<ol> <li>Curb and gutter removal</li> <li>Total for Item - 2040006 286 1,557.59 427,782.00 \$1,921,238.91 \$4.49</li> <li>Curb and Gutter Rem UNITS: Ft</li> </ol>	2 (runs) x 1000 m x \$17/m			

10m SerDr Est/071016 DRIC Cost ò 05.0300 8 dy/05.0000 F:\646294\_DRIC\_

26777 Central Park Boulevard · Suite 275 · Southfield. Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com Project Detroit River International Crossing By: Lam Nguyen Date 12/20/06 Check: RH/RS/DG Date 12/20/06	Fax: (248) 262-0	988 - www.parsons.com Job No.: Subject:	: <u>646294</u> : Practical Alternative Cost Estimates
Construct Local Road per Lane			
Conversion factor: 1 ft = $0.3048 \text{ m}$ 1 ft <sup>2</sup> = $0.0929 \text{ m}^2$		1 yd <sup>2</sup> = 1 yd <sup>3</sup> =	0.8361 m² 0.7646 m³
		Statewide Unit Prices Converted Metric Price	es Unit Price Used: rice Adjusted for Metro Region
<ol> <li>Bituminous pavement Total for Item - 5020057 78 7,571.12 547,071.00 \$24,852,037.33 \$45.43</li> </ol>	3 \$45.43	46 S / ton	
HMA, 5E3 UNITS: Ton 3.6 m × 0.254 m × 1000 m × \$130 / m³ = \$ 11	<b>118.872</b> /km	121.900 \$ / m <sup>3</sup>	130 \$ / m²
n) <sup>3</sup> = 2.65 ton/m <sup>3</sup>			
		5.2 \$ / syd	
TS: Syd		6.219 \$ / m <sup>2</sup>	6.90 \$1m <sup>2</sup>
3. Geotevtile senerator	24,840 /Km		
Concerne separation Total for Item - 3030020 47 34,147.53 1,985,442.00 \$2,029,020.39 \$1.02	39 \$1.02	1 \$ / syd	
		1.196 \$ / m <sup>2</sup>	1.40 \$/m <sup>2</sup>
4 × 1000 m × \$1.40/m <sup>2</sup> = \$	<b>5,600</b> /km		
4. Subbase (300 mm deptn) Total for Item - 3010002 252 7,845.54 1,959,885.00 \$15,177,681.23 \$7.74	1.23 \$7.74	8 \$ / cyd	
Subbase, CIP UNITS: Cyd		10.464 \$ / m <sup>3</sup>	12 \$ / m <sup>3</sup>
x 0.3 m x 1000 m x \$12/m <sup>3</sup> = \$	17,280 /km		
<ol> <li>Underdrain pipe Total for Item - 4040043 14 34,506.80 541,932.00 \$2,100,741.70 \$3.88</li> </ol>	33.88	4 S/ft	
Underdrain, Pipe, Open-Graded, 6 inch UNITS: Ft		13.123 \$ / m	15 \$/m
1 (runs) x 1000 m x \$15/m = \$ 14 6 Curb and Gutter Detail 82	<b>15,000</b> /km		
Total for Item - 8020016 134 1,506.98 200,681.00 \$2,937,914.81 \$14.64	1 \$14.64	15 \$/ft	
: UNITS: Ft		49.213 \$ / m	55 S/m
3	om actual Ge	opak modeling	
rucarium renin - zuoduro our roj, zuod 4,odo azoudu arujaar, od r.40 puida Excavation: Earth UNITS: Ovd	00.00 04.10	3.0 a/ cyu 4.709 S / m <sup>3</sup>	5.2 S / m <sup>3</sup>
10 m <sup>2</sup> = \$	<b>52,000</b> /km		
Total for Item - 2050010 233 8,561.37 2,025,119.00 \$6,161,080.58 \$3.04	58 \$3.04	3.1 \$ / cyd	
Embankment, CIP UNITS: Cyd		4.055 \$ / m <sup>3</sup>	4.5 \$ / m³
Note: Embankment not used at this time. Will be determined by Geopak modeling in the future.	Geopak mod	eling in the future.	

464,000 / mile

\$9 II II

464,444 / mile

\$\$ || ||

289 / m

290 / m

289,000 / km

\$

288,592 / km

**8** 

Total

on Local Rd Cost Est/071016 DRIC Cost F:\646294\_DRIC\_Study\05.0000 Do

PARSONS 26777 Central Park Boulevard - Suite 275 - Southfield, Michigan 48076 - (248) 262-0013 - Fax: (248) 262-0988 - www.parsons.com Project Detroit River International Crossing Bv: D. Greenwood Date 10/10/07	cked By: L. Nguyen Date 10/10/07	Construct Boulevard per longitudinal meter: four lanes with 8.5m avg median width	Start with base cost for travel lanes four lanes 1160 \$ / m (figure from Construct Local Road)	Add cost for grass median median	= 0.3048  m 1 yd <sup>2</sup> =	$1 \text{ ft}^2$ = 0.0929 m <sup>2</sup> 1 yd <sup>2</sup> = 0.7646 m <sup>2</sup>
---	----------------------------------	---	--	-------------------------------------	---------------------------------	--

	Unit Price Used: Adjusted for Metro Region		130 S / m			6.90 \$/m <sup>2</sup>		1.40 \$/m <sup>2</sup>			12 \$ / m³			15 \$/m			55 S/M			5.2 \$ / m <sup>3</sup>			4.5 \$ / m³	289,000 / km	290 / m	464,000 / mile
0.8361 m <sup>2</sup> 0.7646 m <sup>3</sup>	Unit Price Used: Adjusted for Met					9		~																= \$ 289,	\$ II	= \$ 464,
11 11	Statewide Unit Prices Converted Metric Price	46 \$ / ton	121.900 \$ / m <sup>2</sup>		5.2 \$ / syd	6.219 \$ / m <sup>2</sup>	hys / S f	1.196 S / m <sup>2</sup>		8 \$ / cyd	10.464 \$ / m <sup>3</sup>		4 \$ / ft	13.123 \$ / m		15 S/ft	49.213 \$ / m		tk modeling 3.6 S / cyd	4.709 \$ / m <sup>3</sup>		3.1 S / cyd	4.055 \$ / m <sup>3</sup> g in the future.	Rounded:		
2 1 yd <sup>2</sup>	ωO	37.33 \$45.43	<b>118,872</b> /km		5.19	<b>24.840</b> /km	020 39 \$1 02		5,600 /km	7,681.23 \$7.74		17,280 /km	41.70 \$3.88	<b>15.000</b> /km		14.81 \$14.64	<b>55,000</b> /km		Note: Kough quartity estimated. Earthwork will need to come from actual Geopak modeling Total for Item - 2050016 301 13,775.63 4,339,525.00 \$15,387,931.46 \$3.55 3.6 \$,		<b>52,000</b> /km	080.58 \$3.04	Embankment, CIP UNITS: Cyd Note: Embankment not used at this time. Will be determined by Geopak modeling in the future.	288,592 / km	289 / m	464,444 / mile
. 0.3048 m . 0.0929 m <sup>2</sup>		ninous pavement Total for Item - 5020057 78 7,571.12 547,071.00 \$24,852,037.33 \$45.43	<del>ମ</del> "	(1 ft/0.3048m) <sup>3</sup> = 2.65 ton/m <sup>3</sup> pavement	100 mm depth) 2,859.50 11,438.00 \$59,324.67 \$5.19	رم ۳	xtile separator Total for [tem - 3030020 47 34 147 53 1 985 442 00 \$2 029 020 39 \$1 02	· · · · · · · · · · · · · · · · · · ·	6 <del>9</del> 11	ase (300 mm depth) Total for Item - 3010002 252 7,845.54 1,959,885.00 \$15,177,681.23 \$7.74	e	99 11	<b>idrain pipe</b> Total for Item - 4040043 14 34,506.80 541,932.00 \$2,100,741.70 \$3.88	UNITS: Ft = \$	•	Total for Item - 8020016 134 1,506.98 200,681.00 \$2,937,914.81 \$14.64	Ft = \$		Note: Rough quantity estimated. Earthwork will need to come from actual G Total for Item - 2050016 301 13,775.63 4,339,525.00 \$15,387,931.46 \$3.55		\$ ∥	Total for Item - 2050010 233 8,561.37 2,025,119.00 \$6,161,080.58 \$3.04	e. Will be determine	Total = \$	<b>\$</b> =	\$ II
1 ft 1 ft <sup>2</sup> = =		0057 78 7,571.12 54	E	00 lb x (1 ft/0.3048rr ninous pavement	<b>layer (100 mm dept</b> 0001 4 2,859.50 11,4	Open-Graded Dr Cse, 4 inch UNITS: Syd 3.6 m x 1000 m x \$6.90/m <sup>2</sup>	0000 47 34 147 53 1	r UNITS: Syd	\$1.40/m <sup>2</sup>	1) 3002 252 7,845.54 1	S: Cyd	x 1000 m x \$12/m <sup>2</sup>	0043 14 34,506.80 5	Underdrain, Pipe, Open-Graded, 6 inch UNITS: Ft 1 (runs) x 1000 m x \$15/m	B2	0016 134 1,506.98 2	onc, Det B2 UNITS: m x \$55/m	l	ity estimated. Earth 0016 301 13,775.63	INITS: Cyd	ion area of 10 m <sup>2</sup>	0010 233 8,561.37 2	JNITS: Cyd t not used at this tim	I-		
Conversion factor:		1. Bituminous pavement Total for Item - 5020	HMA, 5E3 UNITS: 10n 3.6 m x 0.254 m x 1000 m	150 lb/ft <sup>3</sup> x 1 ton/2000 lb x (1 ft/0.304 Note: use 10" bituminous pavement	<ol> <li>Open graded drainage layer (100 mm depth) Total for ltem - 3030001 4 2,859.50 11,43</li> </ol>	Open-Graded Dr Cse, 4 inch UNI 3.6 m x 1000 m x \$6.90/m <sup>2</sup>	3. Geotextile separator Total for Item - 3030	Geotextile Separator UNITS: Syd	4 × 1000 m × \$1.40/m <sup>2</sup>	4. Subbase (300 mm depth) Total for Item - 30100	Subbase, CIP UNITS: Cyd	4.8 m x 0.3 m x 1000	5. Underdrain pipe Total for Item - 4040	Underdrain, Pipe, Open-Gr 1 (runs) x 1000 m x \$1	6. Curb and Gutter, Detail B2	Total for Item - 8020	Curb and Gutter, Conc, Det B2 UNITS: Ft 1 (runs) x 1000 m x \$55/m	7. Earthwork	Note: Rough quant Total for Item - 2050	Excavation, Earth UNITS: Cyd	Assume an excavation area of 10 $m^2$	Total for Item - 2050	Embankment, CIP UNITS: Note: Embankment not us			

tes.xls TabCon Blvd D - Cost Est/071016 DRIC Cost Estin orts\05.0300 F:\646294\_DRIC\_Study\05.0000 Doc

d · Suite 275 · Southfield. Michigan 48076 · (248) 262-0013 · Fax: (248) 262-0988 · www.parsons.com	Job No.: 646294	Subject: Practical Alternative	Cost Estimates	
Southfield, Michigan 48076 (248) 262-001	ternational Crossing	Date 12/20/06	Check: RH/RS/DG Date 12/22/06	
Central Park Boulevard · Suite 275 ·	ct Detroit River Int	Lam Nguyen	K: RH/RS/DG	
26777 Centri	Project	By:	Check:	

# Remove Existing Road per lane

Remove existing road per lane, assuming curb and gutter with drainage system removal on one side only

1 m²	Unit Price Used: Adjusted for Metro Region	5\$/m²		5 L		\$ 35,000 / km	\$ 35 / m	\$ 56,000 / mile
1 yd <sup>2</sup> = 0.8361 m <sup>2</sup>	Statewide Unit Prices Converted Metric Price 3.8 \$ / syd	4.5448 \$ / m <sup>2</sup>		4.5 \$/ft		Rounded: = \$	\$ "	<b>S</b> =
·-	3.73		/km		/ km	, km	E	/ mile
ε <sup>°</sup> ε	,472,897.01 \$		18,000	,238.91 \$4.49	<b>17,000</b> / km	35,000 / km	35 / m	56,327 / mile
0.3048 m 0.0929 m <sup>2</sup>	45,535.00 \$12		<del>မှ</del> ။	782.00 \$1,921	<b>↔</b> Ⅱ	\$ 	\$ II	\$ <del>\$</del> 11
нп	4.38 3,3			59 427,		Total		
1 ft 1 ft <sup>2</sup>	011 302 10,16	byd	n x \$5/m <sup>+</sup>	006 286 1,557. 2011 NITS: Et	1X \$17/m			
Conversion factor:	<ol> <li>Pavement removal Total for Item - 2040011 302 10,164.38 3,345,535.00 \$12,472,897.01 \$3.73</li> </ol>	Pavt, Rem UNITS: Syd	3.6 m × 1000 m × \$5/m <sup>4</sup> 2. Curb and gutter removal	Total for Item - 2040006 286 1,557.59 427,782.00 \$1,921,238.91 \$4.49	1 (run) x 1000 m x \$17/m			

Exist Rd Cost Est/071016 DRIC Cost ò 0300 05. F:\646294\_DRIC\_Study\05.0000 Do

13 · Fax: (248) 262-0988 · www.parsons.com	Job No.: 646294	Subject: Practical Alternative	Cost Estimates	
te 275 · Southfield, Michigan 48076 · (248) 262-001	ver International Crossing	yen Date 12/20/06	Check: RH/RS/DG Date 12/22/06	
26777 Central Park Boulevard · Suite	Project Detroit Riv	By: Lam Nguy	Check: RH/RS/DC	

# Remove Existing 1-Lane Ramp

Remove existing road per lane, assuming curb and gutter with drainage system removal on one side only

1 m²	Unit Price Used: Adjusted for Metro Region ह ⊛ / m²		17 S/m		\$ 41,000 / km	\$ 41 / m	\$ 66,000 / mile
$1 \text{ yd}^2 = 0.8361 \text{ m}^2$	Statewide Unit Prices Converted Metric Price 3.8 \$ / syd		4.5 \$ / ft 14.764 \$ / m		Rounded: = \$	\$ "	\$ I
-	3.73	/km	_	/ km	/ km	41 / m	/ mile
	897.01 \$	<b>24,000</b> /km	91 \$4.49	<b>17,000</b> / km	41,000 / km	41	65,983 / mile
0.3048 m 0.0929 m <sup>2</sup>	,535.00 \$12,472,	\$ II	2.00 \$1,921,238.	<b>\$</b> ∥	<del>\$</del> 11	\$ I	\$ <del>\$</del> 11
ни	38 3,345		9 427,78		Total		
1 ft 1 ft <sup>2</sup>	11 302 10,164. d	u x \$5/m²	06 286 1,557.5 UNITS: Ft	x \$17/m			
Conversion factor:	<ol> <li>Pavement removal Total for litem - 2040011 302 10,164.38 3,345,535.00 \$12,472,897.01 \$3.73 Dave Demonstrates Solid</li> </ol>	4.8 m × 1000 m × 55/m <sup>2</sup> 2. Curh and cutter removal	Total for Item - 2040006 286 1,557.59 427,782.00 \$1,921,238.91 \$4.49 Curb and Gutter. Rem UNITS: Ft	1 (run) x 1000 m x \$17/m			

Exist Cost 0 DRI Est\071016 Cost å F:\646294\_DRIC\_Study\05.0000 Ramp

ntral Park Boulev	· Fax: (248)	262-0988 · www.parson			
Project Detroit River International Crossing By: Lam Nguyen Date 12/22/06 Check: RH/RS/DG Date 12/28/06			Job No.: 646 Subject: <u>Pra</u>	646294 Practical Alternative Cost Estimates	ernative les
Storm Drainage			Statewide Unit Prices		
<ol> <li>Freeway storm sewer Total for ltem - 4030010 73 3.28 245.00 \$514,342.72 \$2,099.36</li> </ol>	9.36		Converted Metric Price 2300 S / EA		
Dr Structure, 60 inch dia UNITS: Ea Total for Item - 4020993 21 398.28 11,143.00 \$648,900.18 \$58.23	\$58.23		59 S / ft		
Sever, CHV, 24 Inch, IF Det B ONLES. FT 3000 m x \$220/m + 4* 22 structures x \$2300	ю II	862,400 / km			HI / @ 077
Total	<del>ር</del> በ	862,400 / km	Rounded:	\$ "	862,000 / km
	<del>ያ</del> ዘ	862 / m		\$ "	860 / m
	<del>د</del> ه	1,387,898 / mile		<b>\$</b> ∥	1,388,000 / mile
<ol> <li>Local road storm sewer Total for Item - 4030005 249 12 67 3 974 00 \$4 759 356 85 \$1 197 62</li> </ol>	\$1 197 62	~	1350 S7 FA		
Dr Structure, 48 inch dia UNITS: Ea Total for Item - 4020602 22 596.56 12,686.00 \$442,118.04 \$34.85	\$34.85		22 @ 150' SPACING PER SIDE 35 S / ft	ING PER	SIDE
Sewer, CI E, 18 inch, Tr Det B UNITS: Ft 1000 m x \$130/m + 22 structures x \$1350	မာ II	159 <b>,700</b> / km	114.829 \$/m		130 \$ / m
Total	<del>69</del> ∥	159,700 / km	Rounded:	<del>\$</del> "	160,000 / km
	<b>⇔</b> ∥	160 / m		\$ "	160 / m
	<del>69</del> ∥	257,012 / mile		\$ II	257,000 / mile
3. Freeway and local road drainage system removal Total for Item - 2030011 201 12.59 3,216.00 \$824,085.12 \$256.25 Districture Bern LIMITS: Ea	256.25		290 \$ / EA 23 @ 150' SDACING DEP SIDE		L L L L
To Structure, Neth ONLIS, Ed Total for Item - 2030015 169 714, 93 153, 149:00 \$1,571,659.66 \$10.26 Course Part January 18, 18, 18, 18, 25	9.66 \$10.2	6	11 S/ft		
Sever, Kern, Less man 24 mon UNI 13, Ft 1000 m x \$40/m + 22 structures x \$290	9 11	<b>46,380</b> / km			H ( 0 )+
Total	<del>ся</del> II	46,380 / km	Rounded:	<b>⇔</b> ∥	46,000 / km
	<b>⇔</b> ∥	46 <i>i</i> m		\$ "	46 / m
	69 	74.641 / mile		<b>9</b> 11	75.000 / mile

ge N07101 F:\646294\_DRIC\_Study\05.0000

62-0013 · Fax: (248) 262-0988 · www.parsons.com	Job No.: 646294	Subject: Practical Alternative	Cost Estimates	
26777 Central Park Boulevard · Suite 275 · Southfield, Michigan 48076 · (248) 2	Project Detroit River International Crossing	Lam Nguyen Date	Check: RH/RS/DG Date	

# Int

Interchange Ramp Bridge & Retaining Wall Cost Basis	np Bridge & F	Retaining Wa	all Cost Basis			
Conversion factors		ft/m 0.3048	ft <sup>2</sup> /m <sup>2</sup> 0.092903	m/ff 3.28084		
References: MDOT Design Guide 6.05.04 MDOT Design Guide Appendix 2.02.19	∋ 6.05.04 ∋ Appendix 2.02.19					
Cross Sections Single Lane Urban Ramp	Ramp		Unit Costs Notes: Structure	IS Structure unit costs do not include MOT or contingency.	MOT or contingency.	
Lt. Shidr Lane	1.2 m 4.8 m		Ramp St	Ramp Structure under 10m		
Rr. Shidr Total 2-Lane Urban Ramp	8.4 m	28 ft		New Bridge	\$/ft <sup>2</sup> \$/fm <sup>2</sup> \$ 110 \$ 1.184	With 6% inflation factor in 2 years: \$1,260
Lt. Shidr Lane Rr. Shidr Total	1.2 m 7.2 m 2.4 m 10.8 m	4 ft 24 ft 8 ft 35 ft	Ramp Q	Ramp Structure over 10m New Bridge	\$/ft <sup>2</sup> \$/m <sup>2</sup> \$ 145 \$ 1.561	With 6% inflation factor in 2 years: \$1,650
1-Lane Slip Ramp Lt. Shldr Lane Dr. Shldr	1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	4 tt 12 tt 2 tt	Demolition Cost: Entire bri	Cost: Entire bridge, grade separation	\$/ft <sup>2</sup> \$/m <sup>2</sup> \$ 24 \$ 258	With 6% inflation factor in 2 years: <mark>\$270</mark>
Total	0.8 m 9.9	22 ft	Entire bri	Entire bridge, over water	\$ 28 <b>\$</b> 301	<b>S</b> 320
Retaining Wall Cost Basis	Cost Basis					

# Å

References: ?

<u>Unit Costs</u> Notes: Structure unit costs do not include MOT or contingency.

Retaining Walls 1.2m height or less

S/m S/ft<sup>2</sup> 5 50 \$ S Wall

ater than 1.2m **MSE Retaining Walls** 

53 S/m S/ft<sup>2</sup> 70 \$ s Wall

Б With 6% inflati \$800

II 2

Retaining Wall Quantiti computed by Structure

Gravity wall MSE wall Soldier Pile wall

50 \$/ stf 538.1955 \$/ m2 70 \$/ stf 753.4737 \$/ m2 250 \$/ stf 2690.978 \$/ m2

factor in 2 years:

With 6% inflation fi \$570

Appendix D: Detailed Cost Estimates

F:\646294

MAIN RIVER BRIDGE DETAILED COST ESTIMATES

CONCEPTUAL BRIDGE COST ESTIMATE TO COME

MISCELLANEOUS COST ESTIMATE DETAIL

# Total Estimate Parcel Acquisitions Summary of SEV Acquisitions

		Alt. 1	Alt. 2	Alt. 3	Alt. 5	Alt. 7	Alt. 9	Alt. 11	Alt. 14	Alt. 16
Commercial										
SEV Value		\$1,373,209	\$1,362,459	\$1,488,109	\$2,325,888	\$1,376,359	\$1,365,609	\$1,491,259	\$1,458,809	\$1,697,009
No. of Parcels		30	30	30	58	31	31	31	28	33
Commercial Vacant			<u>0017.054</u>							<u> </u>
SEV Value No. of Parcels		\$964,004 47	\$617,254 53	\$1,130,404 53	\$689,304 58	\$963,608 47	\$616,858 53	\$1,130,008 53	\$619,554 46	\$653,354 53
	_	47		55	50	4/	55		40	
Industrial SEV Value*		\$4,287,128	\$4,287,128	\$4,340,028	\$4,396,039	\$3,393,195	\$3,393,195	\$3,446,095	\$4,301,678	\$4,301,678
No. of Parcels		66	66	67	85	81	81	82	67	67
Industrial Vacant				07				02	0,	0,
SEV Value		\$3,288,835	\$3,288,835	\$3,294,435	\$3,030,235	\$3,755,079	\$3,755,079	\$3,760,679	\$3,288,835	\$3,377,635
No. of Parcels		86	86	86	86	93	93	93	86	89
Residential										
SEV Value		\$1,904,007	\$1,900,057	\$1,831,107	\$2,571,607	\$1,779,127	\$1,775,177	\$1,706,227	\$1,500,357	\$1,952,857
No. of Parcels		231	231	231	297	232	232	232	191	239
Residential Vacant										<u> </u>
SEV Value		\$687,286 484	\$674,436	\$695,986 480	\$769,886 508	\$768,623	\$755,773 416	\$777,323 478	\$617,736 450	\$672,636
No. of Parcels Miscellaneous		404	418	400	506	482	410	4/0	450	479
SEV Value		\$120,000	\$120,000	\$100,000	\$111,050	\$40,000	\$40,000	\$20,000	\$100,000	\$191,700
No. of Parcels		3	3	1	2	2	2	0	1	3
Totals		,	,	·	-	-	-	, i	·	Ť
SEV Value	г	\$12,624,469	\$12,250,169	\$12,880,069	\$13,894,009	\$12,075,991	\$11,701,691	\$12,331,591	\$11,886,969	\$12,846,869
No. of Parcels	Ē	947	887	948	1094	968	908	969	869	963
Residential SEV Commercial SEV		\$2,591,293 \$10,033,176	\$2,574,493 \$9,675,676	\$2,527,093 \$10,352,976	\$3,341,493 \$10,552,516	\$2,547,750 \$9,528,241	\$2,530,950 \$9,170,741	\$2,483,550 \$9,848,041	\$2,118,093 \$9,768,876	\$2,625,493 \$10,221,376
Residential FMV = (SEV x 2) Commercial FMV = (SEV x2)		\$5,182,586 \$20,066,352	\$5,148,986 \$19,351,352	\$5,054,186 \$20,705,952	\$6,682,986 \$21,105,032	\$5,095,500 \$19,056,482	\$5,061,900 \$18,341,482	\$4,967,100 \$19,696,082	\$4,236,186 \$19,537,752	\$5,250,986 \$20,442,752
Residential relocation cost contingency = (FMV x 4) Commercial relocation cost contingency = (FMV x 6) Subto	tal –	\$20,730,344 \$120,398,112 \$141,128,456	\$20,595,944 \$116,108,112 \$136,704,056	\$20,216,744 \$124,235,712 \$144,452,456	\$26,731,944 \$126,630,192 \$153,362,136	\$20,382,000 \$114,338,892 \$134,720,892	\$20,247,600 \$110,048,892 \$130,296,492	\$19,868,400 \$118,176,492 \$138,044,892	\$16,944,744 \$117,226,512 \$134,171,256	\$21,003,944 \$122,656,512 \$143,660,456
Additional Contingency	20%	\$28,225,691	\$27,340,811	\$28,890,491	\$30,672,427	\$26,944,178	\$26,059,298	\$27,608,978	\$26,834,251	\$28,732,091
<u>Special Cost Considerations</u> Industrial & Commercial Area (Acre) Environmental Cleanup Complexity (hi/med/low) Environmental Remediation ** Demolition		96 med \$6,572,727 \$2,800,000	97 med \$6,634,091 \$3,000,000	101 med \$6,906,818 \$3,000,000	103 med \$7,009,091 \$3,000,000	108 med \$7,390,909 \$3,000,000	109 med \$7,452,273 \$3,000,000	113 med \$7,725,000 \$3,000,000	97 med \$6,613,636 \$3,500,000	103 med \$7,022,727 \$3,500,000
Total (FMV Contingency + Special Cost Considerations)		\$178,726,874	\$173,678,958	\$183,249,765	\$194,043,654	\$172,055,979	\$166,808,063	\$176,378,870	\$171,119,144	\$182,915,274
Total Acquisition Cost		\$179,000,000	\$173,700,000	\$183,200,000	\$194,000,000	\$172,100,000	\$166,800,000	\$176,379,000	\$171,119,000	\$182,915,000
Notes: ** Remediation Cost Basis Hi remediation (\$60 Million/220 acres) \$272.7	27 acre									
Med remediation (\$30 Million/220 acres)	64 acre									
Low remediation (\$1 Million/220 acres)	645 acre									

UTILITY COST ESTIMATES

OPINION OF PROBABLE CONSTRUCTION COST	CONSTRUCTION COST FE: January 28, 2008 IO. AM SY: AK IR:	COST		Ь	ю	_	÷ €.	÷ 44	க	<del>сл</del> а	<del>မ</del>	<u>г</u> Ф	0 \$ 5,497,000.00	о. Э 64	• <del>6</del> 7		_	\$ 1	ю	ں م	ю •	0 \$ 4,5/U,22U.UU	- ب	÷	\$ 4,	\$ 12,	\$	Ь	Ь	\$	<del>сл</del> е	\$ 1/3,869,425.00	= \$ 174,000,000.00
	DATE: DATE: PROJECT NO. ESTIMATOR: CHECKED BY: CURRENT ENR:	UNIT PRICE	\$ 300.00				200				\$ 2,500.00		\$ 250.00 \$			\$ 7,000,000.00	1,000,			~~~~~		00.001 &	2.000.0			٦,				\$ 500.00	\$ 500.00		OPINION OF PROBABLE COST
			亡	正	₽Ĺ	ᄕ	ᆁᇤ	: æ	亡	ш	۳	tت   i	ᆂᆸ	╧┃ѽ	╔	Ξ	Mi	亡	亡	ш	æ∣i	ᆸ	: :=	世	т	т	ť	亡	武	武	武		ЧЧ
		PROJ. TOTAL	21700	1000	2000		20420	15500	8950	4450	3550	2700	21988	18399	006	4.1	0.32	3700	9 <u>2</u>	12200	1500	28150	0.85	500	23700	8000	1000	500	20628	4500	1400		
NCI NORTHWEST CONSULTANTS, INC.	PROJECT: Corradino - DRIC LOCATION: Alternative 1 BASIS FOR ESTIMATE: [X] CONCEPTUAL [] PRELIMINARY [] FINAL WORK: Utility Relocation	Description	Overhead Coaxial Cable, (including pole reloc)		Underground Fiber Cable (including trenching)	Underground Caple		Sewer, 15 x 20 inch to 42 inch (incl trenching, man)	Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)	Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)	Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc)	Sewer, 9 × 8 ft to 10 × 10 ft (incl trenching, manholes, et	<ul> <li>Water Main, 6 inch to 12 inch (incl trenching, manholes, etc)</li> <li>Weter Main, 6 inch to 12 inch (mmovel cells)</li> </ul>		Water Main, 42 inch or Greater (incl trenching, manholes, etc)	120kV & Control Line	120kV & 230kV Line and Transmission Towers	Fiber Cable	Cable	Conduit	Metallic Conduit	Gas Main, 2 inch to 16 inch Gas Main 2 inch to 16 inch (removal only)		Fiber Cable	Street Lighting (including pole reloc)	24 kV (underground)	28/48 kV (underground)	Cable	Cable in Ducts		-	Subtotal	ROUNDED TOTAL
SN	PROJECT: LOCATION: BASIS FOR ESTI WORK:	Utility Company	Comcast			ПГ	D\\\SD-Sewer						DWSD-Water			ITC		Level3	Lightcore	MCI	-	IVIICNCON		Nextel	PLD			Qwest	SBC		Telecom/AT&T		

Appendix D: Detailed Cost Estimates

NG	NG NORTHWEST CONSULTANTS, INC.				С С С	NOINI	OPINION OF PROBABLE CONSTRUCTION COST
PROJECT: LOCATION:	Corradino - DRIC Alternative 2			Id	DATE: PROJECT NO.		January 28, 2008
BASIS FOR ESTIM WORK:	BASIS FOR ESTIMATE: [X] CONCEPTUAL [] PRELIMINARY [] FINAL WORK: Utility Relocation			<u>ج</u> د ۳	ESTIMATOR: CHECKED BY: CURRENT ENR:		AM AK
Utility Company	Description	PROJ. TOTAL	UNIT	7 5	UNIT PRICE		COST
Comcast	Overhead Coaxial Cable, (including pole reloc)	23500	Ft	Ś	300.00	မာ	7,050,000.00
	Overhead Fiber Cable (including pole reloc)	100	ئتا	φ.	400.00	မာ	400,000.00
NTE	Underground Fiber Caple (including trenching) Linderground Cable		ᄕᆸᅕ	ъч		<del>л</del> 4	1, uuu, uuu.uu 12 aan nnn nn
1 1	Substation		L	~	5,000,000,00	မှ	15,000,000.00
DWSD-Sewer	Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)	19020	τ		250.00	ω	4,755,000.00
	Sewer, $15 \times 20$ inch to 42 inch (incl trenching, manholes, etc)	14750	Ŧ	Ь	500.00	க	7,375,000.00
		8650	亡	ŝ	1,000.00	φ	8,650,000.00
	ft (incl trenching, manholes, etc)	4950	tت ا	ω.	1,500.00	မာ	7,425,000.00
	to / X o tt (Incl trenching, manholes 0 v 10 # /incl trenching, monholes	3020	디	<del>л</del> 6	2,500.00	<u>ب</u>	12 E00 000 001
DWSD-Water	земег, эх аттю то х то п (inci trencning, mannoles, екс) Water Main 6 inch to 12 inch (inci trenching manholes etc)	∠/UU 19888	ᆸ	ጉ ዓ	250.00	പെപ	4 972 000 00
	Water Main, 6 inch to 12 inch (removal only)	21612	: 12	ь 69	25.00	ы Со	540,300.00
	Water Main, 16 inch (incl trenching, manholes, etc)	18249	Ę	க	500.00	ω	9,124,500.00
	Water Main, 42 inch or Greater (incl trenching, manholes, etc)	850	ш		1,000.00	க	850,000.00
ITC	120kV & Control Line	4.1	Mi		7,000,000.00	க	28,700,000.00
	120kV & 230kV Line and Transmission Towers	0.32	Mi		1,000,000.00	ω	320,000.00
Level3	Fiber Cable	3700	tt   t	ωе	500.00	မာေ	1,850,000.00
	cable Concluit	12000	i   tt	÷ €	500.00	<b>.</b>	
5	Metallic Conduit	1500	: 12	<b>ь</b> 69	500.00	မှ	750,000.00
Michcon	Gas Main, 2 inch to 16 inch	29135	Ę	ь	150.00	Ь	4,370,250.00
	Gas Main, 2 inch to 16 inch (removal only)	28265	亡		15.00	ல	
	High Pressure Gas Main	1.14	Mi	<mark>\$ 2,0(</mark>	2,000,000.00	ல	2,280,000.00
	Fiber Cable	500	۲Ľ	ь	500.00	ல	250,000.00
PLD	Street Lighting (including pole reloc)	21500	武	Ь	200.00	ல	4,300,000.00
	24 kV (underground)	6600	۲Ľ	Ь	1,500.00	ல	9,900,000.00
	28/48 kV (underground)	1000	۲Ľ	Ь	500.00	ல	500,000.00
Qwest	Cable	500	۲Ľ	Ь	500.00	ல	250,000.00
SBC	Cable in Ducts	25596	亡	Ь	300.00	ல	7,678,800.00
	Fiber Cable in Ducts	4700	т	ф	500.00	ω	2,350,000.00
Telecom/AT&T	Fiber Cable	1400	۲Ľ	ക	500.00	ω	700,000.00
	Subtotal					φ	172,154,825.00
	ROUNDED TOTAL O	OPINION OF PROBABLE COST	JF PR	OBABL	E COST =	ъ	173,000,000.00

OPINION OF PROBABLE CONSTRUCTION COST DATE: January 28, 2008 PROJECT NO. ESTIMATOR: AM CHECKED BY: AK CURRENT ENR:	L UNIT DRICE COST	Ft \$ 300.00 \$ 6,	Ft         \$         400.00         \$         400,000.00           Ft         \$         500.00         \$         1.000.000.00	Ft \$ 150.00 \$ 1	LS <b>\$ 15,000,000.00</b> \$ 1	Ft \$ 250.00 \$		Ft \$ 1,500.00 \$	Ft \$ 2,500.00 \$	Ft \$ 5,000.00 \$ 1	Ft \$ 250.00 \$ 3,	2 Ft \$ 25.00 \$ 540,300.00	Ft \$ 1.000.00 \$	Mi \$ 7,000,000.00 \$ 23,	Mi \$ 1,000,000.00 \$	Ft \$ 500.00 \$ 1,	t t	Ft \$ 500.00 \$		Ft \$ 150.00 \$ 1,	Ft         \$         150.00         \$         1,           Ft         \$         15.00         \$         1,	Ft         \$         150.00         \$         1,           Ft         \$         15.00         \$         1,           Mi         \$         2,000,000.00         \$         1,	Ft         \$         150.00         \$         1,           Ft         \$         15.00         \$         1,           Mi         \$         2,000,000.00         \$         1,           Ft         \$         500.00         \$         1,	Ft       \$       150.00       \$       1,         Ft       \$       15.00       \$       1,         Mi       \$       2,000,000.00       \$       1,         Ft       \$       500.00       \$       1,         Ft       \$       2000,000.00       \$       3,	Ft         \$         150.00         \$         1,           Ft         \$         150.00         \$         1,           Mi         \$         2,000,000.00         \$         1,           Ft         \$         500.00         \$         1,           Ft         \$         500.00         \$         1,           Ft         \$         2,000.00         \$         3,           Ft         \$         1,500.00         \$         3,	Ft       \$       150.00       \$       1,         Ft       \$       150.00       \$       1,         Mi       \$       2,000,000.00       \$       1,         Ft       \$       500,00       \$       3,         Ft       \$       1,500.00       \$       3,         Ft       \$       1,500.00       \$       3,         Ft       \$       1,500.00       \$       3,         Ft       \$       500.00       \$       3,	Ft         \$         150.00         \$         1,           Ft         \$         150.00         \$         1,           Mi         \$         2,000,000.00         \$         1,           Ft         \$         500.00         \$         1,           Ft         \$         2,000,000         \$         1,           Ft         \$         2,000,000         \$         3,           Ft         \$         1,500.00         \$         3,           Ft         \$         5,000.00         \$         10,           Ft         \$         5,000.00         \$         10,	Ft       \$       150.00       \$       1,         Ft       \$       150.00       \$       1,         Mi       \$       2,000,000.00       \$       1,         Ft       \$       500.00       \$       1,         Ft       \$       2,000,000       \$       1,         Ft       \$       2,000,00       \$       10,         Ft       \$       1,500.00       \$       10,         Ft       \$       5,000,00       \$       10,         Ft       \$       5,000,00       \$       10,         Ft       \$       5,000,00       \$       3,         Ft       \$       3,000,00       \$       3,	Ft       \$       150.00       \$       1,         Ft       \$       150.00       \$       1,         Mi       \$       2,000,000       \$       1,         Ft       \$       2,000,000       \$       1,         Ft       \$       2,000,000       \$       1,         Ft       \$       2,500.00       \$       1,0         Ft       \$       1,500.00       \$       10         Ft       \$       500.00       \$       3,0         Ft       \$       500.00       \$       3,0         Ft       \$       500.00       \$       3,0	Ft       \$       150.00       \$       1,         Ft       \$       150.00       \$       1,         Mi       \$       2,000,000.00       \$       1,         Ft       \$       500.00       \$       1,         Ft       \$       500.00       \$       1,         Ft       \$       2,000,00       \$       10,         Ft       \$       1,500.00       \$       10,         Ft       \$       5,000,00       \$       10,         Ft       \$       3,00.00       \$       10,         Ft       \$       5,00.00       \$       1,         Ft       \$       5,00.00       \$       1,         Ft       \$       5,00.00       \$       1,
	PROJ. TOTAL	21700	1000 2000	80600	~		etc) 14/5U	4950			c) 14988	21612	etc) 850	$\vdash$	0.32	2000	00/	1700	222	10835	10835	10835 28265 0.81	10835 10835 28265 0.81 500	10835 10835 28265 0.81 500 17200	10835 10835 28265 0.81 500 17200 6900	10835 10835 28265 0.81 500 17200 6900 1000	10835 10835 28265 0.81 500 17200 6900 1000 500	10835 28265 28265 0.81 500 17200 6900 1000 500 1089	10835       10835       28265       0.81       500       17200       6900       1000       500       1000       500       1000       500       1000       500       1000       500       1000       500       500       500       500	10835       10835       28265       0.81       0.81       17200       6900       17200       6900       1000       1000       2500       1400       1400
PROJECT: CONSUL TANTS, INC. PROJECT: Corradino - DRIC LOCATION: Corradino - DRIC LOCATION: Corradino - DRIC LOCATION: Corradino - DRIC MORK: Utility Relocation WORK: Utility Relocation	Description	Overhead Coaxial Cable, (including pole reloc)	Overhead Fiber Cable (including pole reloc) Underground Fiber Cable (including trenching)	Underground Cable	Substation	Sewer, 6 inch to 15 inch (incl trenching, manholes, etc)	loles,	Sewer, 3 it to 10.3 it (incl trenching, manholes, etc) Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)	Sewer, 5.5 x 5.5 ft to 7 x 5 ft (incl trenching, manholes, etc)	Sewer, $9 \times 8$ ft to $10 \times 10$ ft (incl trenching, manholes, et	100 X	Water Main, 6 Inch to 12 Inch (removal only)	holes,	120kV & Control Line	120kV & 230kV Line and Transmission Towers	~	Cable Conduit	Concurt Metallic Conduit		Gas Main, 2 inch to 16 inch	Gas Main, 2 inch to 16 inch Gas Main, 2 inch to 16 inch (removal only)	Gas Main, 2 inch to 16 inch Gas Main, 2 inch to 16 inch (removal only) High Pressure Gas Main	Gas Main, 2 inch to 16 inch Gas Main, 2 inch to 16 inch (removal only) High Pressure Gas Main Fiber Cable	Gas Main, 2 inch to 16 inch Gas Main, 2 inch to 16 inch (removal only) High Pressure Gas Main Fiber Cable Street Lighting (including pole reloc)	Gas Main, 2 inch to 16 inchGas Main, 2 inch to 16 inch (removal only)High Pressure Gas MainFiber CableStreet Lighting (including pole reloc)24 kV (underground)	Gas Main, 2 inch to 16 inchGas Main, 2 inch to 16 inch (removal only)High Pressure Gas MainFiber CableStreet Lighting (including pole reloc)24 kV (underground)28/48 kV (underground)	Gas Main, 2 inch to 16 inch Gas Main, 2 inch to 16 inch (removal only) High Pressure Gas Main Fiber Cable Street Lighting (including pole reloc) 24 kV (underground) 28/48 kV (underground) Cable	Gas Main, 2 inch to 16 inchGas Main, 2 inch to 16 inch (removal only)High Pressure Gas MainFiber CableStreet Lighting (including pole reloc)24 kV (underground)28/48 kV (underground)CableCable in Ducts		
PROJECT: LOCATION : BASIS FOR ESTIM WORK:	Utility Company	Comcast		DTE		DWSD-Sewer					DWSD-Water			ITC		Level3	Lightcore			Michcon	Michcon	Michcon	Michcon Nextel	Michcon Nextel PLD	Michcon Nextel PLD	Michcon Nextel PLD	Michcon Nextel Qwest	Michcon Nextel PLD Qwest SBC	Michcon Nextel PLD SBC SBC	Michcon Nextel PLD SBC SBC

Appendix D: Detailed Cost Estimates

# Detroit River International Crossing Conceptual Engineering Report

OPINION OF PROBABLE CONSTRUCTION COST	DATE: January 28, 2008 PROJECT NO. ESTIMATOR: AM CHECKED BY: AK CURRENT ENR:	T COST	6, \$	ல	300.00 \$ 13,000,000.00	- <del>-</del> -	ф	ю	ω	<del>л</del> 6.	5,000.00 \$ 5,000,000.00	<del>с</del>	θ	Ь	ω	\$ 29,	ю	500.00 \$ 1,850,000.00 500.00 \$ 350.000.00	o o o	ω	150.00 \$ 4,235,250.00	Ь	ъ В	ю	ь	<del>8</del> 12	ы	ь	ь	ۍ ک	500.00 \$ 700,000.00	\$ 165,900,250.00	COST = \$ 166,000,000.00
	PROJ ESTI CHEC CURRE	PRICE	\$		ው ት	15,000				ት 			Ь		٦,( ع		1,000		, ж.				2,000,	с <del>у</del>		-		су су			су су		OF PROBABLE (
					E a						: # 					Ξ	≣li	t d					Ξ							۳	۳		
		PROJ. TOTAL	21700	1000	93100 93100		24600	11750	8500 8500	4850 2850	1000	14951	22399	16778	3000	4.26	0.32	200/2	12200	1500	28235	28265	1.1	500	23700	808	<u>1</u> 00	20	22581	4300	1400		
NG NORTHWEST CONSULTANTS, INC.	PROJECT: Corradino - DRIC LOCATION: Alternative 7 BASIS FOR ESTIMATE: [X] CONCEPTUAL [] PRELIMINARY [] FINAL WORK: Utility Relocation	Description	Overhead Coaxial Cable, (including pole reloc)	Overhead Fiber Cable (including pole reloc)	Underground Flaer Cable (incluaing trenching) Underground Cable			Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)	5 ft (incl trenching, manholes	Sewer, 13 π to 16 π (incl trencning, mannoles, etc) Sewer 55 x 55 ft to 7 x 5 ft (incl trenching manholes, etc)	Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)	Water Main, 6 inch to 12 inch (incl trenching, manhole	Water Main, 6 inch to 12 inch (removal only)	Water Main, 16 inch (incl trenching, manholes, etc)	Water Main, 42 inch or Greater (incl trenching, manholes, etc)	120kV & Control Line	120kV & 230kV Line and Transmission Towers	Fiber Cable Cable	Conduit	Conduit	Gas Main, 2 inch to 16 inch	Gas Main, 2 inch to 16 inch (removal only)	High Pressure Gas Main	Fiber Cable	Street Lighting (including pole reloc)	24 kV (underground)	28/48 kV (underground)	Cable	Cable in Ducts			Subtotal	
NC	PROJECT: Location: Basis for estin Work:	Utility Company	Comcast		DTF		DWSD-Sewer					DWSD-Water				ПС	<b>-</b>	Level3	MCI		Michcon			Nextel	PLD			Qwest	SBC		Telecom/AT&T		

OPINION OF PROBABLE CONSTRUCTION COST	DATE: January 28, 2008 PROJECT NO. ESTIMATOR: AM CHECKED BY: AK CURRENT ENR:	UNIT COST	300.00 \$ 6,510,000.00	မ	150 00 \$ 13 860 000 00	- Г + Ф	<del>ф</del>	Ь	ю	ωч		» ю	\$	500.00 \$ 8,389,000.00	க	\$ 29,	ю	500.00 \$ 1,850,000.00 500.00 \$ 350,000.00	<u>ہ</u>	÷ د	\$ 4,	Ь	ۍ بې	ю	<del>မာ</del>	\$ 12	ь	ю	Ь	\$ 70	500.00 \$ 700,000.00	\$ 165,480,650.00	E COST = \$ 166,000,000.00
	P.R. CHI		÷	<del>फ</del> (	<del>ନ</del>	and the second				မ မ			\$	¢				မ မ	<del>,</del> ю	بە	ഗ			ю	<del>сл</del>	<del>ю</del>	ю	ഗ	ю	ல	ь		OPINION OF PROBABLE COST
							۲Ţ			_	╧╽┷			亡		Ξ		t t					Ξ			_	۲				۳		
		PROJ. TOTAL	21700	1000	2000 197400	-	24600	11750	8500	4850		14951	22399	16778	3000	4.26	0.32	3700	12200	1500	28235	28265		200	23700	8000	<u>,</u> 000	20 20	21699	4200	1 1 4 0		
NC NORTHWEST CONSULTANTS, INC.	PROJECT: Corradino - DRIC LOCATION: Atternative 9 BASIS FOR ESTIMATE: [X] CONCEPTUAL [] PRELIMINARY [] FINAL WORK: Utility Relocation	Description	Overhead Coaxial Cable, (including pole reloc)	Overhead Fiber Cable (including pole reloc)	Underground Fiber Cable (including trenching) Underground Cable	Substation		Sewer, $15 \times 20$ inch to 42 inch (incl trenching, manholes, etc)	5 ft (incl trenching, manholes	Sewer, 13 ft to 16 ft (incl trenching, manholes, etc)	Sewer, 3.3 × 3.3 it to 7 × 3 it (ittel it effetting) final filoes, etc.) Sewer 9 × 8 ft to 10 × 10 ft (incl trenching manholes, etc.)	Water Main, 6 inch to 12 inch (incl trenching, manual)		Water Main, 16 inch (incl trenching, manholes, etc)	Water Main, 42 inch or Greater (incl trenching, manholes, etc)		120kV & 230kV Line and Transmission Towers	Fiber Cable	Conduit	Metallic Conduit	Gas Main, 2 inch to 16 inch	Gas Main, 2 inch to 16 inch (removal only)	High Pressure Gas Main	Fiber Cable	Street Lighting (including pole reloc)	24 kV (underground)	28/48 kV (underground)	Cable	Cable in Ducts	_		Subtotal	
NCI	PROJECT: Location: Basis for estin Work:	Utility Company	Comcast		DTF		DWSD-Sewer					DWSD-Water				ЦС	-	Level3	MCI		Michcon			Nextel	PLD			Qwest	SBC		Telecom/AT&T		

PROJECT: COMBULIANIS, INC.	D F BATE: O	OPINIC CONS	OPINION OF PROBABLE CONSTRUCTION COST FE: January 28, 2008
al [] Preliminary [] Final	PROJECT NO. ESTIMATOR: CHECKED BY: CURRENT ENR:	으 端 똤 诺 	AM AK
PROJ. TOTAL			COST
Cable, (including pole reloc) 20200	Ft \$ 300.00	\$ 0	6,060,000.00
Overhead Fiber Cable (including pole reloc) 700 100 100 700 700 700 700 700 700 700	Ft \$ 400.00	မ ၀ ၀	280,000.00 950.000.00
	<del>ب</del> بو		13,305,000.00
1	LS \$15,000,000.00		15,000,000.00
	φ		6,180,000.00
noles, etc)	မာ မ		7,375,000.00
o it to 10.5 it (incl trenching, mannoles, etc) 5400 13 ft to 16 ft (incl trenching, manholes, etc) 5400	Ft \$ 1,000.00	_	8,100,000.00
anholes, etc)	Ф	ю 0	7,550,000.00
() ()	မ		13,500,000.00
Water Main, 6 inch to 12 inch (incl trenching, manholes, etc) 11201	сч со-		2,800,250.00
	Ft \$ 25.00	_	559,975.00 6 64 4 000 00
Water Main, To much (mich denorming, maninoles, etc) 1/220 Water Main, 42 inch or Greater (incl trenching, manholes, etc) 3000	- به د	э 9 0	3,000,000,00
4.16			29,120,000.00
120kV & 230kV Line and Transmission Towers 0.32	\$ 1,000		320,000.00
2/100	Ft \$ 500.00	ი ი ი	1, UOU, UUU. UU 400. 000. 00
10600	ь С	-	5,300,000.00
1700			850,000.00
22235	<del>с</del>		3,335,250.00
to 16 inch (removal only) 28265	မာ	_	423,975.00
0.99	\$ 2,000,		1,980,000.00
800	<del>сл</del>		400,000.00
18000	Ь	_	3,600,000.00
8100	ب ج		12,150,000.00
700	Ь	မ O	350,000.00
500	ь		250,000.00
13807	ь		4,142,100.00
2400	Ft \$ 500.00		1,200,000.00
1600			800,000.00
		\$	167,945,550.00
ROUNDED TOTAL OPINION C	OPINION OF PROBABLE COST	↔ 	168,000,000.00
		П	168,000,000.

OPINION OF PROBABLE CONSTRUCTION COST	DATE:     January 28, 2008       PROJECT NO.     AM       ESTIMATOR:     AM       CHECKED BY:     AK       CURRENT ENR:	UNIT COST PRICE	300.00 \$ 6,	ω	5 150.00 \$ 14.400.000.00	15,000,000.00 \$	250.00 \$	<del>сл</del> ания Постания По	1,000.00 \$	<del>ი</del>	5,000.00	250.00 \$	25.00 \$	500.00 \$ 8,	1,000.00 \$	7,000,000.00 \$ 29,	1,000,000.00 \$	500.00 \$ 1, 500.00 \$		500.00 \$	150.00 \$ 4,	15.00 \$	2,000,000.00 \$ 2	500.00 \$	200.00 \$	1,500.00 \$ 13,	500.00 \$	Ь	300.00 \$	ۍ ک	500.00 \$	\$ 182,984,025.00	OF PROBABLE COST = \$ 183,000,000.00
		UNIT			ت ط					E tt									E t												ц Ц		F PRO
		PROJ.	22500	000 000 000	00096	~	19020	17450	8950 5450	3020	2700	20988	21612	17149	850	4.22	0.32	900 1900	1/600	1600	29535	28265	1.14	500	29000	9200	<u>1</u> 00	1400	23910	4800	1400		
NCI NORTHWEST CONSULTANTS, INC.	PROJECT: Corradino - DRIC LOCATION: Alternative 16 BASIS FOR ESTIMATE: [X] CONCEPTUAL [] PRELIMINARY [] FINAL WORK: Utility Relocation	/ Description	Overhead Coaxial Cable, (including pole reloc)	Overhead Fiber Cable (including pole reloc)	Underground Fibel Cable (Inciduality Henching) Underground Cable	Substation		Sewer, 15 x 20 inch to 42 inch (incl trenching, manholes, etc)	Sewer, 6 ft to 10.5 ft (incl trenching, manholes, etc)	Sewer, 15 π το 16 π (incl trenching, mannoles, etc) Sewer: 5.5 × 5.5 ft to 7 × 5 ft (incl trenching, manholes, etc)	Sewer, 9 x 8 ft to 10 x 10 ft (incl trenching, manholes, etc)	Water Main, 6 inch to 12 inch (incl trenching, manhole	Water Main, 6 inch to 12 inch (removal only)		Water Main, 42 inch or Greater (incl trenching, manholes, etc)	120kV & Control Line	120kV & 230kV Line and Transmission Towers		Cable Conduit	Metallic Conduit		Gas Main, 2 inch	High Pressure Gas Main	Fiber Cable	Street Lighting (including pole reloc)	24 kV (underground)	28/48 kV (underground)	Cable	Cable in Ducts			Subtotal	
S	PROJECT: Location: Basis for es Work:	Utility Company	Comcast		DTE		DWSD-Sewer					DWSD-Water				IC		Level3		D	Michcon			Nextel	PLD			Qwest	SBC		Telecom/AT&T		