

Race Road Culvert Replacements Construction Costs

Summary

 Site West: 14' x 4.67' x 64' Concrete Box Culvert
 \$968,183

 Site East: 12.5' x 4.67' x 72' Concrete Box Culvert
 \$1,026,912

Inflation Mapping Scenarios

Multipliers are based on the following Future Value of Money and a starting value of 1 in the year 2018.

Use FVSchedule, using historical and predicted inflation rates and as calculated by Excel. As an example FVSCHEDULE(1,J17:J27) for year 2028

Year	Inflation Rate Assigned	Total Multiplier	Annual Multiplier Increase to Previous
2018	0%	1.00	
2019	12%	1.12	1.12
2020	18%	1.32	1.20
2021	18%	1.56	1.24
2022	18%	1.84	1.28
2023	14%	2.10	1.26
2024	6%	2.22	1.13
2025	12%	2.49	1.27
2026	12%	2.79	1.30
2027	12%	3.12	1.33
2028	12%	3.50	1.37
Historical Data			
Prediction			

This calculator is based on the schedule of the annual inflation rates that you develop. To use this chart, first enter your estimate of future inflation rate and if you want to change the historical rate, do that year by year to adjsut this schedule. Then enter the line at the year of your original Construction Cost Estimate, to include construction items only, not Administration or overheads etc. The inflation costs of administration and engineering have not changed the same as construction costs. Then use the difference in multiplier between your years of prediction of future cost and multiply the cost of construction times the difference in the Total Multiplier between the years. Therefore if you use the 2018 year cost estimate and want to predict the future value in 2023 you would use the dollar estimate of 2018 and multiply it times 2.10 to arrive at the value of construction Today. These historical values are based on my experiences and my interviews with General Contractors and is the opinion of Chinook Engineering. Chinook Engineering makes no warranty, express or implied that the bids or the negotiated cost of the Work will not vary from the Consultant's opinion of probable construction cost or predicted inflation rate schedule.

Jay Kidder,PE

Chinook Engineering Opinion of Probable Construction Costs



8.00%

Race Road Culvert Replacements Construction Costs

Site West: 14' x 4.67' x 64' Concrete Box Culvert

Project Name: Race Road Culvert Replacements Construction Costs

Chinook Project #: 22457 Date: 02/07/24

Estimate By: Jay S. Kidder, PE

Stream: Race Road Culvert Replacements

Annual Construction
Inflation Factor Applied to
Construction Total

Description	Unit	Quantity	Cost	Amount	Sub Total
Mobilization / Site Preparation					
Mobilize Access and Traffic control	L.S. L.S.	1	\$65,000.00 \$25,000.00	\$65,000 \$25,000	
Stream Bypass	L.S.	1	\$0.00	\$0	
Erosion Control	L.S.	1	\$5,000.00	\$5,000	
Dewater and foundation water contr Fish Removal	c EA L.S.	2 1	\$4,000.00 \$0.00	\$8,000 \$0	
Utilities 811, and Pothole & Replace	-	1	\$15,000.00	\$15,000	
MOBILIZATION / SITE PREP SUB	TOTAL				\$118,000
Excavation					
Grubbing and disposal on site	ACRES	0.11	\$10,000.00	\$1,148	
Tree falling stumps to remain Excavation, Common, at culvert	EA	0	\$650.00	\$0	
with end haul	C.Y.	1138	\$85.00	\$96,688	
Cut asphalt	LF	136	\$6.00	\$816	
Cut and demolish asphalt end haul	Ton	31	\$80.00	\$2,481	
EXCAVATION SUB TOTAL					\$101,132
Culvert Installation					
Culvert Base Precast Conc.	CY	63	\$2,300	\$144,474	
Culvert Traffic Slab top, Conc.	CY	36	\$2,300	\$81,778	
Culvert Ends, Conc. Install, crane or large excav.	CY L.S.	4 1	\$2,300 \$18,000	\$9,030 \$18,000	
Culvert disposal	EA	1 1	\$10,000	\$2,000	
Culvert Weld tabs	EA	128	\$30	\$3,840	
Backfill against culvert, CSBC	CY	1340	\$85	\$113,904	
Subgrade & Compaction subgrade	C.Y.	69	\$85	\$5,843	
Geotextile	SY	142	\$9.50	\$1,351	
Quarry Spalls and ditching	Ton	60	\$150	\$9,000	
Fill Road base crushed gravel Resurface with HMA Class A	C.Y. Ton	141 46	\$110 \$120	\$15,507	
Resultace with fivia Class A	1011	40	\$120	\$5,529	
BRIDGE INSTALLATION SUB TOT		\$410,255			
Channel Work HPA Req'd					
Streambed Gravel, Fishmix grade	C.Y.	7	\$110.00	\$815	
Culvert backfill in barrel	C.Y.	117	\$110.00	\$12,833	
Culvert Habitat Boulders Revegetation	Ton LS	32 1	\$110.00 \$4,000.00	\$3,520 \$4,000	
revegetation	LO		ψ+,000.00	ψ+,000	
CHANNEL WORK SUBTOTAL					\$21,168
CONSTRUCTION TOTAL					\$702,600
Sales Tax	8.80%				\$61,829
Admin/Planning	8.00%				\$56,208
Engineering Design Engineering Construction Manage.	15.00% 6.00%				\$105,390 \$42,156
Soils Lab Testing	0.00%	0	\$2,000.00		\$42,156 \$0
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PROJECT TOTAL					\$968,183

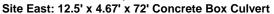
Opinions of Probable Construction Cost

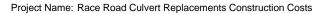
In providing opinions of probable construction cost, the Client understands that the Consultant (Chinook Engineering) has no control over the cost or availability of labor, equipment or materials, or over market condition or the Contractor's method of pricing, and the consultant's opinions of probable construction costs are made on the basis of the Consultant's professional judgment and experience. The Consultant makes no warranty, express or implied that the bids or the negotiated cost of the Work will not vary from the Consultant's opinion of probable construction cost.

Chinook Engineering

Opinion of Probable Construction Costs

Race Road Culvert Replacements Construction Costs





Chinook Project #: 22457 Date: 02/07/24 Estimate By: Jay S. Kidder, PE

Stream: Race Road Culvert Replacements

Inflation Factor Applied to 8.00%

Description	Unit	Quantity	Cost	Amount	Sub Total	
Mobilization / Site Preparation						
Mobilize	L.S.	1	\$65,000.00	\$65,000		
Access and Traffic control	L.S.	1	\$25,000.00	\$25,000		
Stream Bypass	L.S.	1	\$0.00	\$0		
Erosion Control	L.S.	1	\$5.000.00	\$5,000		
Dewater and foundation water contr	-	2	\$4,000.00	\$8,000		
Fish Removal	L.S.	1	\$0.00	\$0		
Utilities 811, and Pothole & Replace	-	1	\$15,000.00	\$15,000		
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MOBILIZATION / SITE PREP SUB	TOTAL				\$118,000	
Excavation						
Grubbing and disposal on site	ACRES	0.11	\$10,000.00	\$1,148		
Tree falling stumps to remain	EA	0	\$650.00	\$0		
Excavation, Common, at culvert						
with end haul	C.Y.	1264	\$85.00	\$107,431		
Cut asphalt	LF	136	\$6.00	\$816		
Cut and demolish asphalt end haul	Ton	31	\$80.00	\$2,481		
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EXCAVATION SUB TOTAL					\$111,876	
Culvert Installation						
Culvert Base Precast Conc.	CY	71	\$2,300	\$162,533		
Culvert Traffic Slab top, Conc.	CY	40	\$2,300	\$92,000		
Culvert Ends, Conc.	CY	4	\$2,300	\$9,030		
Install, crane or large excav.	L.S.	1	\$18,000	\$18,000		
Culvert disposal	EA	1	\$2,000.00	\$2,000		
Culvert Weld tabs	EA	144	\$30	\$4,320		
Backfill against culvert, CSBC	CY	1485	\$85	\$126,194		
Subgrade & Compaction subgrade	C.Y.	69	\$85	\$5,843		
Geotextile	SY	142		: 1		
	-		\$9.50	\$1,351		
Quarry Spalls and ditching	Ton	60	\$150	\$9,000		
Fill Road base crushed gravel	C.Y.	150	\$110	\$16,541		
Resurface with HMA Class A	Ton	46	\$120	\$5,529		
BRIDGE INSTALLATION SUB TOTAL \$452,341						
Channel Work HPA Req'd						
Cut Roots and clean up	C.Y.	5	\$65.00	\$325		
Fish mix stream sed. and cobble	CY	15	\$110.00	\$1,650		
Excavation, Channel change	C.Y.	9	\$80.00	\$693		
Streambed Gravel, Fishmix grade	C.Y.	7	\$110.00	\$815		
Culvert backfill in barrel	C.Y.	124	\$110.00	\$13,689		
Culvert Habitat Boulders	Ton	32	\$110.00	\$3,520		
Revegetation	LS	1	\$4,000.00	\$4,000		
	20	•	φ+,000.00	ψ+,000		
CHANNEL WORK SUBTOTAL					\$22,717	
CONSTRUCTION TOTAL					\$761,329	
Sales Tax	8.80%				\$61,829	
Admin/Planning	8.00%				\$56,208	
Engineering Design	15.00%				\$105,390	
Engineering Construction Manage.	6.00%	^	#0 000 00		\$42,156	
Soils Lab Testing		0	\$2,000.00		\$0	
PROJECT TOTAL					\$1,026,912	

Opinions of Probable Construction Cost

In providing opinions of probable construction cost, the Client understands that the Consultant (Chinook Engineering) has no control over the cost or availability of labor, equipment or materials, or over market condition or the Contractor's method of pricing, and the consultant's opinions of probable construction costs are made on the basis of the Consultant's professional judgment and experience. The Consultant makes no warranty, express or implied that the bids or the negotiated cost of the Work will not vary from the Consultant's opinion of probable construction cost.

