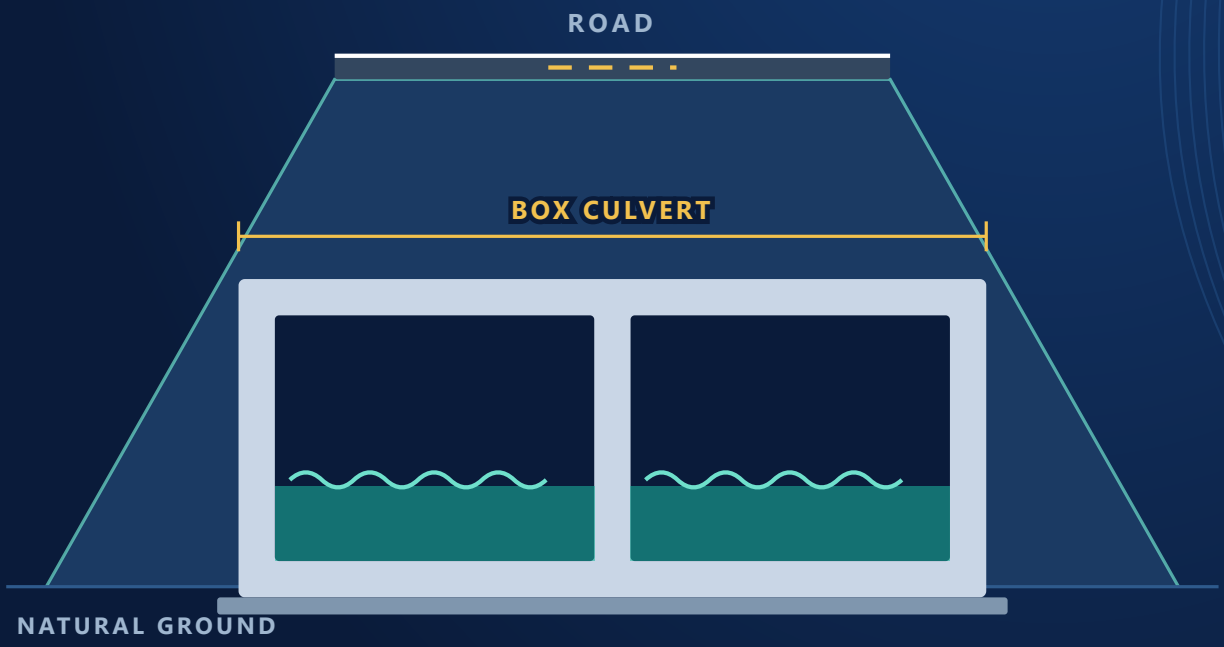
Box Culvert Quantities & Cost

Concrete, steel, excavation and the bill of quantities for a box culvert.



Sample Project

Client: Urban City

PREPARED & SUBMITTED BY

SP Consultant

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Box Culvert Quantity & Cost Estimate

Quantity and cost report · Generated 11/5/2026 3:17:59 PM

Project

Project	Sample Project
Prepared by	SP Consultant
Date	11/5/2026

Project Information

Culvert location / chainage	11+423
Size	1-1.5x1.5
Length / Span / Height	11.400 m / 1.500 m / 1.500 m
No. of cells	1
Currency	PKR

Barrel Geometry — Inputs

Slab thickness	0.275 m
Wall thickness	0.275 m
Haunch width × depth	0.15 m × 0.15 m
Barrel lean concrete thickness	0.1 m
Overall barrel width w1	2.050 m

Head Wall / Wing Wall / Apron / Toe Wall — Inputs

Parapet width × height	0.2 m × 0.3 m
Wing wall thickness	0.275 m
Fill slope	2 H:1V
Skew angle	0°
Apron slab thickness	0.275 m
Apron lean concrete thickness	0.1 m
Toe wall depth × width (each)	1 m × 0.2 m
Riprap spread length × depth	3 m × 1 m
Apron / toe wall width w2	6.841 m

Reinforcement Steel Ratios

Barrel steel ratio	110 kg/cu m
Head wall steel ratio	100 kg/cu m

Sample report: illustrative data, not for design use

Unit Rates

Excavation	PKR 364.53 / cu m
Concrete A3 (OG)	PKR 11,023 / cu m
Concrete A3 (UG)	PKR 10,102 / cu m
Concrete A3 (Elevated)	PKR 11,500 / cu m
Lean concrete	PKR 7,750 / cu m
Reinforcing steel	PKR 180,000 / ton
Loose riprap Class C	PKR 2,750 / cu m
Contingency	5%

Barrel Quantities

Component	Qty / m	Length (m)	Total	Unit
Bottom slab	0.564	11.400	6.427	cu m
Top slab	0.564	11.400	6.427	cu m
Walls (n+1=2)	0.825	11.400	9.405	cu m
Haunches	0.045	11.400	0.513	cu m
A3 concrete (barrel)	1.998	11.400	22.772	cu m
Reinforcing steel	–	–	2.505	ton
Excavation	–	–	6.427	cu m
Lean concrete	–	–	2.337	cu m

Head Wall / Wing Wall / Apron / Toe Wall Quantities (both ends)

Component	Qty (both ends)	Unit
Parapet (2 no.)	0.246	cu m
Wing walls (4 no.)	7.247	cu m
Apron slab (2 no.)	10.147	cu m
Toe wall (2 no.)	2.737	cu m
A3 concrete (head wall)	20.376	cu m
Reinforcing steel	2.038	ton
Apron excavation	10.147	cu m
Toe wall excavation	2.737	cu m
Apron lean concrete	3.690	cu m
Loose riprap	41.048	cu m

Quantity & Cost Summary — BOQ

Item	Description	Qty	Unit	Rate	Cost
107 a	Excavation	66.385	cu m	PKR 364.53	PKR 24,199
401 a1 i	Concrete A3 (OG)	17.165	cu m	PKR 11,023	PKR 189,208
401 a1 ii	Conc. Class A3 (UG)	19.310	cu m	PKR 10,102	PKR 195,074
401 a3 i	Conc. Class A3 (Elevated)	6.673	cu m	PKR 11,500	PKR 76,737

Item	Description	Qty	Unit	Rate	Cost
401 a1 i	Lean concrete	6.027	cu m	PKR 7,750	PKR 46,708
401 a3 iii	Reinforcing steel	4.543	ton	PKR 180,000	PKR 817,652
401 f	Loose riprap Class C	41.048	cu m	PKR 2,750	PKR 112,881
Total cost					**PKR 1,462,459**
Total cost + 5.0% contingency					**PKR 1,535,582**

Generated with the Box Culvert Quantity & Cost Estimate — https://shahidpervaiz.net/EngineeringDesignTools/box_culvert_calculator.
Quantities and costs are estimates from the entered data and rates; check them before use.