# One Room Construction Cost
(100 Sq Ft) Latest Estimation in 2021

- ✓ **Foundation PCC plinth beam and their cost.**

- ✓ **Brick cost calculation, number of bricks, quantity of cement sand and their cost.**

- ✓ **Concrete work, column, beam and slab.**

- ✓ **Reinforcement quantity and their cost.**

- ✓ **Tile flooring quantity and their cost.**

- ✓ **Labour work and their cost.**

C5F CONSTRUCTION
S E R V I C E S

Plan for 10'*10'
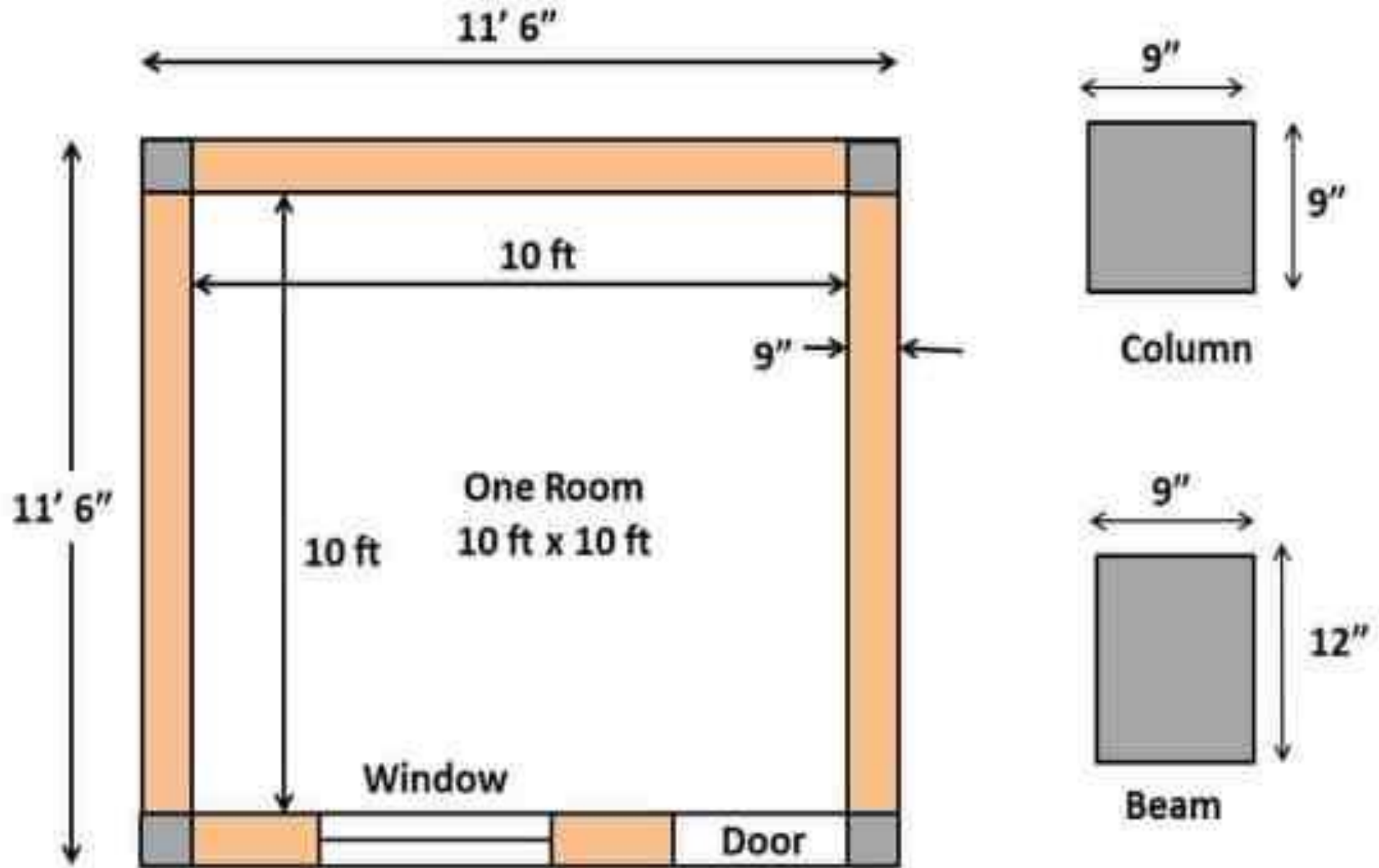
Footing/ Foundation cost for room size 10'×10'

Let Foundation size is 4'×4' and 4 feet depth, so volume of soil excavation for 4 footing = 4× 4'×4'×4' = 256 cubic feet. Converting into cubic meter 256/35.32 =7.25m3. Soil excavation rate is around RS 800 per m3 for hard soil and RS 300 per m3 for soft soil. We take soil excavation rate RS 400/m3 for this calculation.

Total cost of soil excavation for foundation = 7.25 × 400 = RS 2900.

Brick work quantity and cost calculation

Assume room 10'×10' have 9" brick wall on four side height up to 10 feet and parapet wall for partition wall will be of 4.5 inch. Outer dimension of room is 11.5'×11.5' and inner dimension of room excluding brick wall is 10'×10'.

- ✓ Area of one brick wall =10'×10' =100 SQ feet
  Area of 4 brick wall =4 ×100 = 400 SQ feet.
- ✓ Door size = 4'×7' = 28 SQ FT
- ✓ Window size = 3'×4'= 12 SQ FT

➢ Door and window size should be deducted from total area of brick wall.

➢ Net area of brick wall= 400 _ (28+12)= 360 SQ FT

➢ Volume of 9 inch thick brick wall = 360×9/12 = 270 cubic feet, converting into cubic meter we have 270/35.32=7.65 cubic meter.

➢ Consider parapet brick wall 3.5 feet height 4.5 inch thick, and outer dimension of room is 11.5'×11.5' = 132.25 SQ FT, total area of parapet brick wall on all four side = 11.5 × 3.5 ×4 =161 SQ FT.

➢ Volume of parapet wall =(4.5/12)×161=60 cubic FT, converting into cubic meter,60/35.32 = 1.70 cubic meter.

➢ Total brickwork = 4 brick wall + parapet wall = 7.65+ 1.70 = 9.35 cubic meter.
➢ Thumb Rule for brickwork 1 cubic meter of brickwork require 500 bricks, 1.26 bags of cement and 9.28 cubic feet sand quantity.

Brick quantity and their cost: number of brick in 9.35 cubic meter = 500×9.35= 4675 nos, suppose first class brick rate is around RS 8000 per thousand, so brick cost = 8000× (4675/1000) = RS 37400.

Cement quantity and their cost: quantity of cement required for 9.35 cubic meter brickwork is 1.26 × 9.35 = around 12 bags cement. Suppose market rate of cement is around rupees 400 per bag so cement cost = 12×400= RS 4800.

Sand quantity and their cost: quantity of sand required for 9.35 cubic meter brick work is 9.28 × 9.35 = 87 CFT. Market rate of sand is around rupees 40 per CFT then sand cost= 87 ×40 = RS 3480.

So total brickwork cost = brick cost + cement cost + sand cost = 37400 + 4800 + 3480 = RS 45680.

Concrete quantity and cost calculation for footing, Column, Plinth Beam, Wall Beam and RCC slab.

➢ Footing is 4 feet depth and column size is 9 inch into 12 inch and height of column is 10 feet up to slab and 3.5 feet above slab. There is four column.

➢ So column length is = 4'+10'+3.5'= 17.5'

➢ Total volume of concrete quantity for 4 column = 4 × (9"×12")×17.5' = 4 × 13.125 =52.5cubic feet.

➢ Plinth beam size 9"×12" for all around for length 11.5×4 = 46 feet.

➢ Total volume of concrete quantity for plinth beam = (9"×12")× 46 = 34.5 cubic feet.

➢ Wall beam size 9"×9" for all around for length 11.5×4 = 46 feet. Total volume of concrete quantity for wall beam = (9"×9")× 46' = 25.9 cubic feet.

➢ RCC slab 5 inch thick for 11.5'×11.5', concrete volume is 11.5'×11.5'×5/12' = 55 CFT.

- Total Weight volume of RCC concrete = concrete quantity for column + concrete quantity for RCC plinth beam + concrete quantity for RCC wall + concrete quantity for RCC slab = 52.5 +34.5+25.9+55 = 170 CFT.

- Converting 170cft into cubic metre,170/35.32 = 4.8m3. Ready mix concrete available in market is around rupees 4000 per m3 for M20 grade of concrete, so total material cost of concrete = 4000×4.8 = RS 19200.

Reinforcement cost and quantity calculation: suppose reinforcement required is 1% of concrete volume for RCC work like footing column beam and RCC slab.

Steel quantity = (1/100)×4.8m3 = 0.048m3

Weight of steel = 0.048m3 × 7850kg/m3 = 376.8kg, market rate of Steel is around 60 rupees per kg then total cost of Steel = 60×376.8 = RS 22600.

Labour cost for construction of house around 180 rupees per square foot without plastering and PCC or tile flooring.

So total outer area of one room is 11.5'×11.5 = 132.25 square foot, total labour cost = 180×132.25 = RS 23805.

Total cost for construction of one room: soil excavation cost + brick work cost + concreting cost + reinforcement cost + labour cost.

Total construction cost for one room:
2900+45680+19200+22600+23805 = Approx. RS 114200.

Construction cost for one room 10'×10' with parapet wall is around RS 114200, this total cost includes soil excavation cost RS 2900, brickwork cost RS 45680, concrete cost RS 19200, steel cost RS 22600 and labour cost RS 23805 without plastering PCC and tile flooring.

Consider finishing cost is about 60% of total construction cost of one room, finishing should be required plastering, PCC flooring, tile flooring, putty painting, electrical fitting, plumping, water and sanitization.

60% of construction cost of one room = (70/100)×114200= 85650.

Document Charges: 150

Total cost =114200+ 85650 +150 = RS 200000.

Total construction cost for fully furnished one room 10'×10' is around RS 182700, this total cost includes cost of building construction, plastering, PCC flooring, tile flooring, electrical fitting, plumbing, painting putty and water and sanitization.

Thank You.