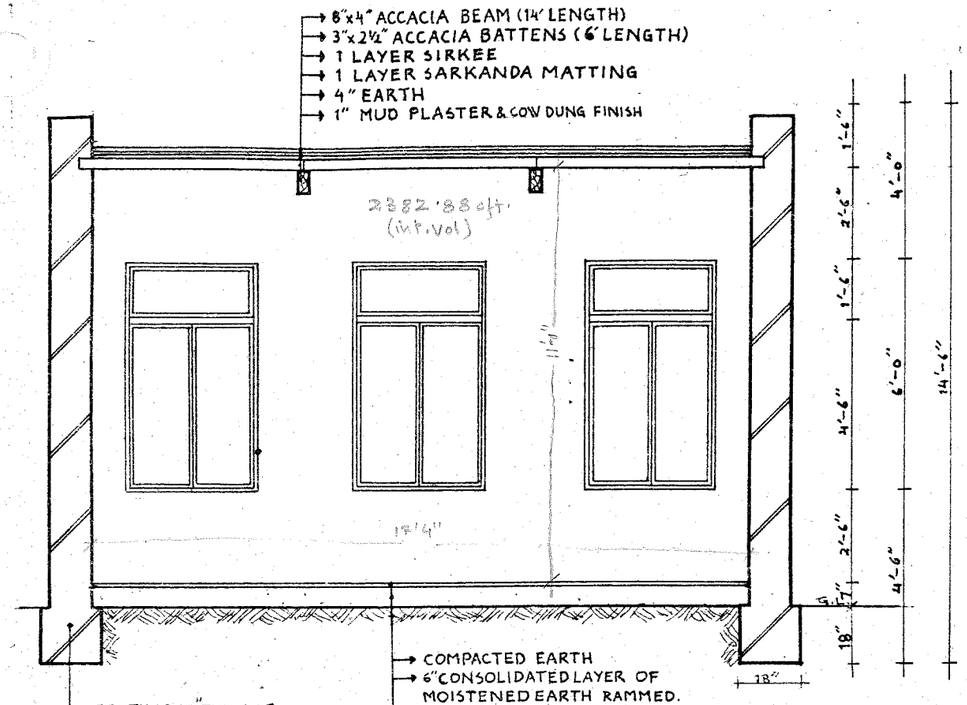
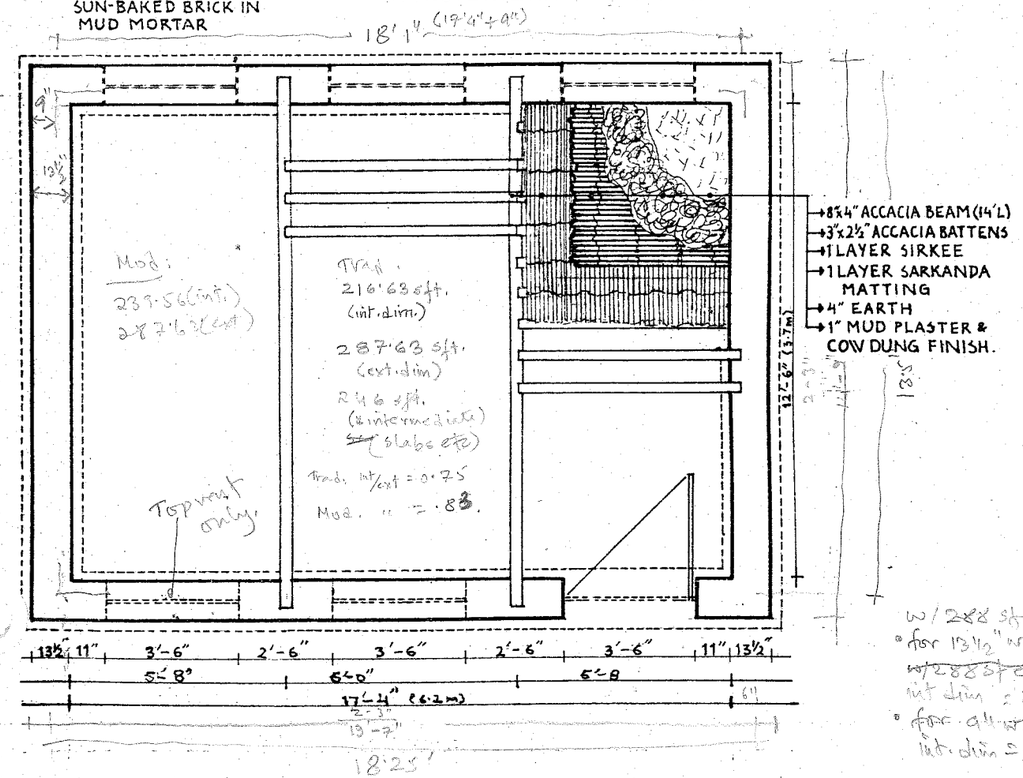
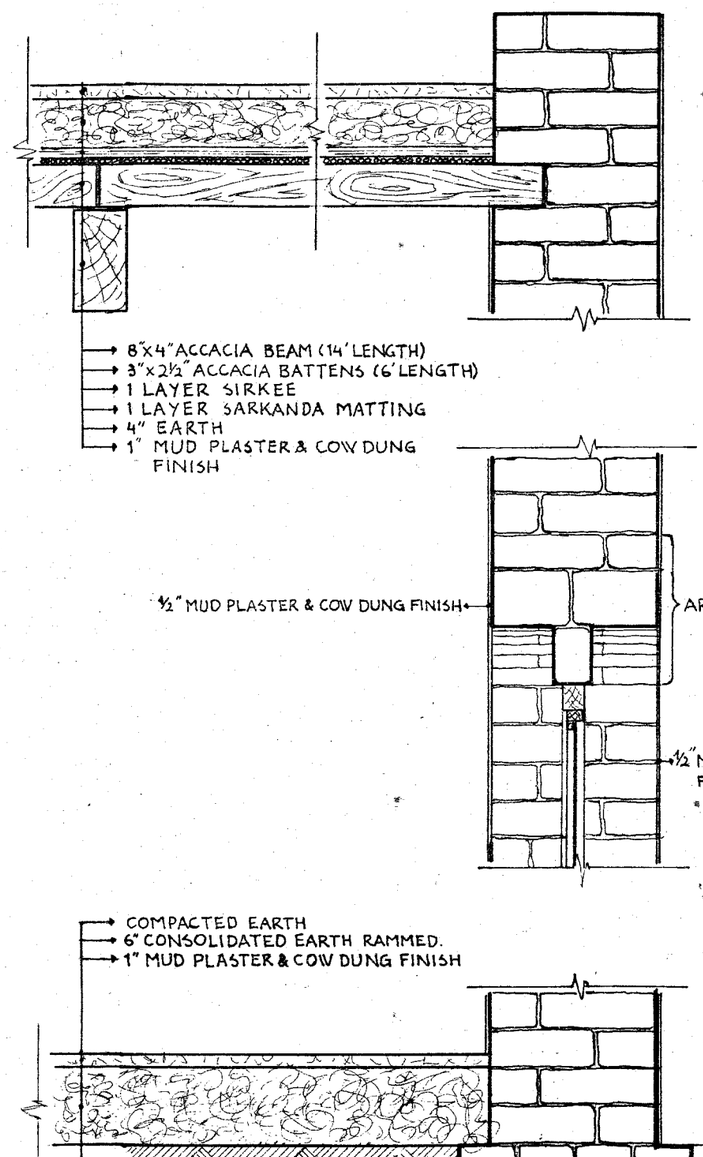

8"x4" ACCACIA BEAM (14' LENGTH)
3"x2½" ACCACIA BATTENS (6' LENGTH)
1 LAYER SIRKEE
1 LAYER SARKANDA MATTING
4" EARTH
1" MUD PLASTER & COW DUNG FINISH
2382.88 cft. (int. vol)
11'-4"
18'-4"
1'-6"
2'-6"
1'-6"
4'-6"
2'-6"
4'-6"
1'-6"
4'-0"
6'-0"
14'-4"
18"
1B"
COMPACTED EARTH
6" CONSOLIDATED LAYER OF MOISTENED EARTH RAMMED.
1" MUD PLASTER & COW DUNG FINISH
FOOTING 18" THICK OF SUN-BAKED BRICK IN MUD MORTAR


18'1¼" (19'4"+9")
9"
13½"
18'3"
8"x4" ACCACIA BEAM (14'L)
3"x2½" ACCACIA BATTENS
1 LAYER SIRKEE
1 LAYER SARKANDA MATTING
4" EARTH
1" MUD PLASTER & COW DUNG FINISH.
12'-6" (3.7m)
13½"
Mud:
237.56 (int)
287.63 (ext)
Trad.
216.63 sft.
(int. dim.)
287.63 sft.
(ext. dim)
246 sft.
(intermediate)
Trad. int/ext = 0.75
Mud. " = .83
Top wall only.
13½" 11" 3'-6" 2'-6" 3'-6" 2'-6" 3'-6" 11" 13½"
5'-8" 5'-0" 5'-8"
17'-4" (6.2m)
6"
19'-7"
18'2"
w/288 sft ext dim
for 13½" wall
w/288 sft ext dim for int dim = 217 sft.
for 9" wall int. dim = 239.5 sft.

T2


8"x4" ACCACIA BEAM (14' LENGTH)
3"x2½" ACCACIA BATTENS (6' LENGTH)
1 LAYER SIRKEE
1 LAYER SARKANDA MATTING
4" EARTH
1" MUD PLASTER & COW DUNG FINISH
½" MUD PLASTER & COW DUNG FINISH
ARCHED LINTEL
½" MUD PLASTER & COW DUNG FINISH
COMPACTED EARTH
6" CONSOLIDATED EARTH RAMMED.
1" MUD PLASTER & COW DUNG FINISH
G.L.
FOOTING 18" THICK OF SUN-BAKED BRICK IN MUD MORTAR.

T 2.1.

1. CONSTRUCTION PROCESS,

Inputs ~~Source~~, Quantities, Costs, Coefficients

INFORMATION SOURCE:

TECH-NOLOGY TYPE:

NO.	CONSTRUCTION: PROCESS	INPUTS	QTY.	DAYS	8 HRS	MATERIAL: TYPE	QUANTITY /Unit	QUANTITY Total	COST (RS) /Unit	COST (RS) Total	+ LABOUR: TYPE	QUANTITY /Unit	QUANTITY Total	/day Ms	/day L	COST (RS) /Unit	COST (RS) Total	= TOTAL COST (RS) Mt.+ L	RATE /unit L	RATE /unit M+L
	1		2	3		4	5	6	7	8	9	10	11	12	13	14	15	16		17
1.	FOUNDATION/PLINTH 2'6"		ST	4.75					ST	189.3										
1.1	Excavation 18"x18" includ. dressing & filling W/excavated earth watering and ramming lead up to 1 chain & lift upto 5'.0 in ordinary soil(17.1/.5,W2,32)		cft 2410	30						(0.04)	Labour (#/~~%cft~~) Mason	10.50 —	25 0.75	8.0	25 25	15 40	375 30	(0.14)	(0.18)		
1.2	Footings:18" thick of sun-baked brick in mud-mortar upto g.l.(21.1,W13,69)		1890	1.75		Earth(Cu.ft/%cft)	35.00	66	55/%cft	3630	Mason(#/%cft)	1.50	3	2		40	120				
						Sun-baked bricks (#/%cft)	1350.00	2551	60/1000	153.00	Labour (do)	3.75	7	6		15	105				
2.	WALLS		ST	5.6					ST	(0.17) 700.8						(0.21)	(0.38)				
2.1	13½" thick of sun-baked brick in mud mortar (21.15,W13,69)		7890	5.5		Earth(cuft/%cft)	35.00	276	55/%cft	151.80	Masons (#/%cft)	1.50	12	2		40	480	1728	119	219	
						Sun-baked bricks (#/%cft)	1350.00	10651	60/1000	639.00	Labour (do)	3.75	30	6		15	450				
2.2	Extra Labour for archwork including centering and decentering(21.2,W19,66)		10.0	0.12 = hr.							Masons(#/%cft)	1.00	0.4			40	4				
											Labour (do)	2.00	0.2			15	3				
3.	ROOF		ST	1.2						(0.25)						(0.05)	(.29)				
3.1	3rd class mud roof of 4" mud & 1" mud plaster over 1 layer Sarkanda matting & 1 layer sirkee(NA,W6,NA) & grass		cft 217.0	0.5		Straw(lbs./%sft)	34.00	74	ST	1112.0 —						ST.	210	1822	97	609	
			~~195~~ = 325 sft			Sirki(sft/%sft)	100.00	217	8/18sft	144.00	Masons(#/%sft)	.33	1.0	2		40	40				
			÷18=18			Sarkanda mat (sft/%sft) 1 load	100.00	217	6/18sft 20/load	108.00 20.00	Labour (#/%sft)	1.60	3.5	6		15	52				
						Earth(cft/%sft)	55.00	120	55/%cft.	66.00 ← (forgot to incl.)*										
3.2	Providing, hoisting & placing wooden beams 4"x8"x14'=(NA,W79,84)		# 2 = 8.1 # = 16.2 sft.	.20		Accacia beams 1 load beams bail eng transport	2.00	.2	225.0	450.00 30.00	Masons(#/6 in#) Labour (do)	1.00 3.00	0.3 1.5	2 6		40 15	12 23				
3.3	Providing, hoisting & placing wooden battens (2½"x3"x6'(NA,W79,84)=0.32 cft.		# 45 = 32 14 cft	.50		Accacia battens	45.00	45	8.0	360.00	Masons(#/30) Labour(do)	1.00 1.00	1.5 1.5	2 6		40 15	60 23				
4.	FLOOR		ST.	.60						(0.02)						(0.02)	(0.04)				
4.1	6" thick consolidated layer of moistened earth finished W/mud plaster(1") and cow-dung plaster finish (24.2,W20,87)		cft 217.0			Straw(seers/%sft)	17.00	37	ST	99.5 —						ST	95	195	44	90	
						Earth(cft/%sft)	82.00	178	55/%cft.	98.0	Masons(#/%sft) Labour(do)	.25 2.25	0.5 5.0	2 6		40 15	20 75				
						Cowdung(cft/%sft)	.75	2	—	—										
						Fine Clay (do)		2	75/%cft.	1.5										
5.	RENDERS		Total: 1636	1.65					ST	(0.02) 76.5						(0.02)	(0.11)				
5.1	Mud plaster on walls ½" thick (25.7,W20,97)	Inside	671			Earth Clay (do)	6.00	98	75/%cft.	73.5	Masons(#/%sft)	.17	3.0	2		40	120	471	24	29	
		outside+parap.	965			Straw(seers/%sft)	8.00	131	—	—	Labour (do)	.75	12.0	6		15	180				
5.2	Cow-dung plaster finish on walls/roof(25.7,W34,101)		1636 671			Earth clay (cft/%sft)	.25	4	75/%cft.	3.0	Masons (do)	.12	2.0	2		40	80				
	1636 + 217 = 1853 sft.		965			Cowdung(cft/%sft)	.25	4	—	—	Labour (do)	.06	1.0	6		15	15				
													?	(0.01)						
										(0.50)	Mason (usk)		24.0			(0.50)	(1.0)			
	TOTAL			13.8						2268.0 +66.0 324.0	Labour (usk)		37.0			2267	4535			
													?	(0.02)						

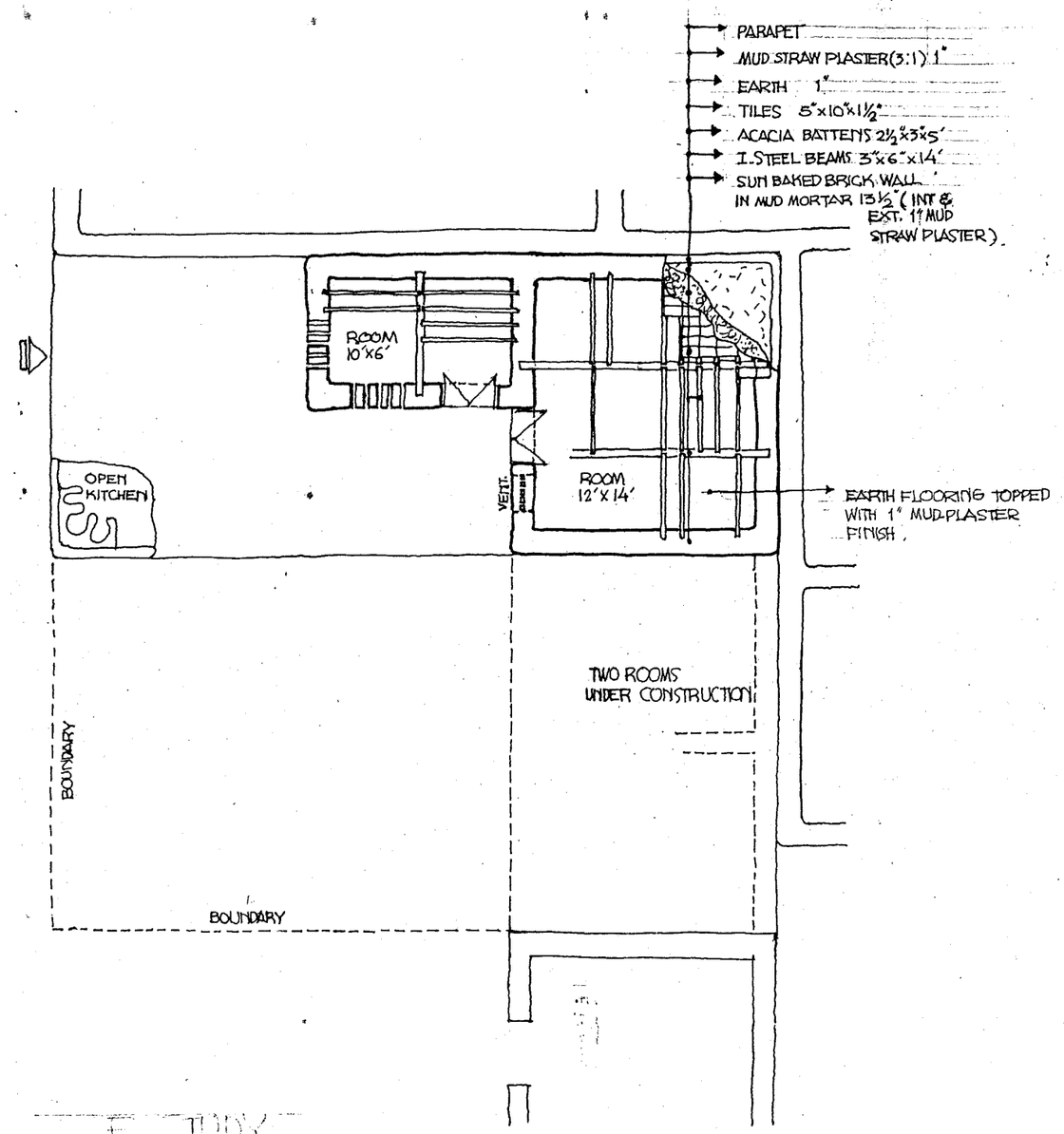
= Rs 21/sft.

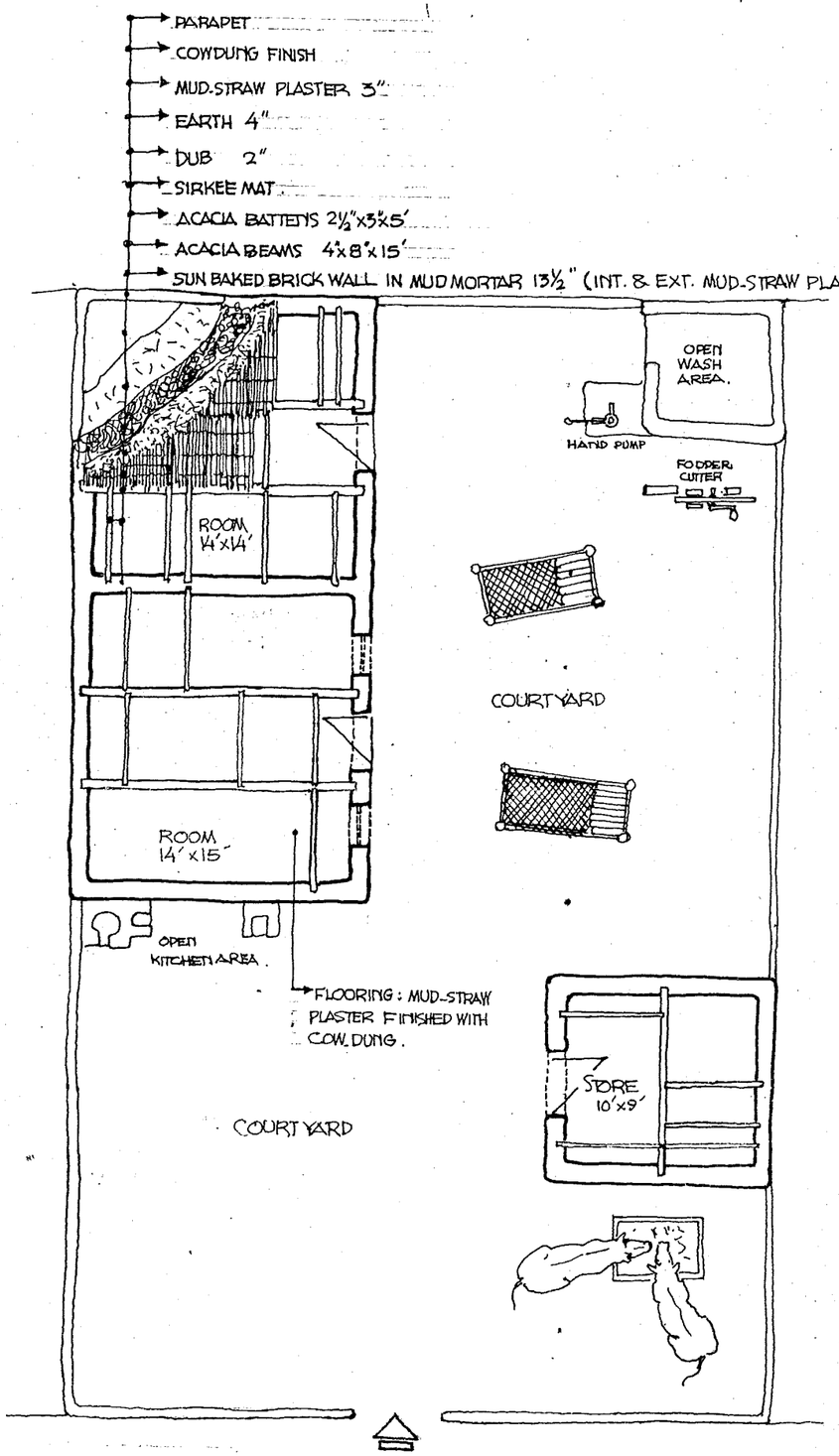
TYPE OF MATERIALS/ SPECIFICATIONS	UNIT	SOURCE OF MATERIAL			UNIT COST AT SOURCE (PAK.RS.)[a]		TRANSPORT COST (PAK.Rs.)			TOTAL UNIT COST ON SITE[d] (PAK.RS.)	COMMENTS
		Production	Builders' Source				Type of Transport[b]	Rate Per Unit			
			Type	Location	Range	Mode		Range	Mode[c]		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1 EARTH	100cft	Local[e]	Vacant field Plots for levelling.	Qabula[f]	Free	Free	Tractor-Trailer Cart Donkey bag	40-60 40-60 50-75	50 40 50	50.0 40.0 50.0	Transport cost includes labour for digging, loading and unloading, in which transport operator usually participates.
2 COW DUNG	1sft	Local	Villages	Qabula	Free	Free	Not Applicable (NAP)	(NAP)	(NAP)	Free	
3 STRAW	1 maund[g]	Local	Farms	Qabula	Free	Free	Cart Donkey bag	1.0 No data(ND)	1.0 ND	1.0 ND	
4 SAND a) Coarse Pit Sand	1cft	Local	Fields	Qabula	Free	Free	Tractor-Trailer Cart Donkey bag	1.0 1.0 1.0-1.25	1.0 1.0 1.0	1.0 1.0 1.0	Given free by landowners who want the land cleared for cultivation.
b) Coarse River Sand	1cft	Local	Sutlej river bed (8 miles away from Qabula)	Qabula Markaz	Free	Free	Tractor-Trailer Cart Donkey bag	.7-1.25 1.0 1.0-1.25	1.2 1.0 1.0	1.2 1.0 1.0	
c) Fine Harrow Sand	1cft	Lawrencepur	Materials Agents (Shopowners and truckers)	Sahiwal[h]	7.0[i]	7.0	Truck Tractor-Trailer	Col.(7) 1.00-1.25	Col.(7) 1.2	7.0 8.2	Agents' order/bring directly from Lawrencepur. Delivered on site.
5 AGGREGATE a) Fine aggregate	1cft	Taxila	Materials agents Materials agents	Qabula Arifwala	6.8-7.0 7.0-7.5	6.8 7.5	Truck Cart Truck	Col.(7) 1-1.5 Col.(7)	Col.(7) 1.0 Col.(6)	6.8 8.5 7.5	Agents order/bring directly from Taxila & Sargodha and delivered on site for large quantities. Smaller quantities purchased from shops, and brought to site by cart or troller.
b) Coarse aggregate	1cft	Sargodha	Materials agents Materials agents	Qabula Arifwala	5.8-7.0 7.0	6.0 7.0	Truck Cart Truck	-do- 1-1.5 Col.(7)	-do- 1.0 Col.(7)	6.0 7.0 7.0	
6 WHITE LIME (Block)	1 maund	Hasanabdal Faisalabad	Shops	Arifwala[j]		32.0	Bus Tractor-Trailer Truck	7.0 ND ND	7.0 ND ND	39.0 ND ND	Block lime preferred as powdered form is usually adulterated. Powdered on site. Trailer and Truck used for large amounts.
7 BRICK BALLAST	100cft	Local	Kilns	Qabula	150-200	200.0	Tractor-Trailer Cart Donkey bag	80-100 40-60 50-75	100.0 60.0 75.0	300.0 260.0 275.0	Transport cost includes labour for selection of appropriate size, loading and unloading.
8 SUN-BAKED BRICKS	Per 1,000 bricks	Local	Brick moulders[k]	Qabula	30-40	40.0	Cart Donkey bag	20-30 40-60	20.0 40.0	60.0 80.0	Cart is preferred to tractor-trailer since smaller numbers (500/load) are stacked and ride is less bumpy, hence fewer breakages. Delivery of small amounts at a time means, poor quality bricks can more easily be noted and returned. Least breakages occur in donkey bags, used for inaccessible sites.
			Kilns	Qabula	40-50	50.0	Cart Donkey bag	20-30 40-60	20.0 40.0	70.0 90.0	

TYPE OF MATERIALS/ SPECIFICATIONS (1)	UNIT (2)	SOURCE OF MATERIAL: Production (3)	SOURCE OF MATERIAL: Builders' Source Type (4)	SOURCE OF MATERIAL: Builders' Source Location (5)	UNIT COST AT SOURCE (PAK.RS.) Range (6)	UNIT COST AT SOURCE (PAK.RS.) Mode (7)	TRANSPORT COST (PAK.Rs.) Type of Transport (8)	TRANSPORT COST (PAK.Rs.) Rate Per Unit Range (9)	TRANSPORT COST (PAK.Rs.) Rate Per Unit Mode (10)	TOTAL UNIT COST ON SITE (PAK.RS.) (11)	COMMENTS (12)
9 FIRED BRICKS											
a) Class A	Per 1,000 bricks	Local	Kilns	Qabula	280-325	300.0	Tractor Trailer Cart Donkey bag	50 20-30 40-60	50.0 20.0 40.0	350.0 320.0 340.0	Same comments as in Sun-baked bricks apply. tractor-trailer rates are generally used for longer distances (4 miles or more)
b) Class B (Over-burnt or under burnt pieces).	Per 1,000 bricks	Local	Kilns	Qabula	175-200	200.0	Tractor Trailer Cart Donkey bag	50 20-30 40-60	50.0 20.0 40.0	250.0 220.0 240.0	
10 TILES											
a) 9"x4½"x1½"		Sahiwal	N O T	U S E D		IN	Q A B U L A				Transport charges for tiles are generally higher than those for bricks because they are more breakable and therefore require greater care in transport.
b) 10"x5"x1½"	Per 1,000 tiles	Local	Kilns	Qabula	500-550	500.0	Cart Donkey bag Tractor-trailer	40-50 50-70 50-75	50.0 60.0 70.0	550.0 560.0 570.0	
c) 12"x6"x2"	Per 1,000 tiles	Local	Kilns	Qabula	800-850	800.00	Cart Donkey bag Tractor-trailer	40-50 50-70 50-75	50.0 60.0 70.0	850.0 860.0 870.0	
11 DUB.GHAAS or SUR (dry grass)	1 mound	Local	Grow Wild particularly along water courses.	Qabula	Free	Free	NAP	NAP	NAP	FREE	Usually cut and carried in bundles by owner-builders' paid or self-help labour.
12 SARKANDA or KANEH (reed).											
a) Loose, in bundles	Per mat	Local	Shops Matmakers' Workshop.	Qabula Qabula	4.0-6.0	6.0	Cart	.50	.50	6.5	Sarkanda & Sirkee are from the same plant. Sarkanda is the lower thicker half, Sirkee the upper thinner half. Sarkanda is sometimes used in loose form (i.e. not woven into mats)which may be obtained free or by paying a fee to the landowner. Smaller quantities usually hand carried.
b) 6'x10' mats	1 maund (makes 5-6 mats)	Local	Shop Along water courses.	Qabula Qabula	30.0 Free-5.5	30.0 Free	Cart Cart	3.0 3.0	3.0 3.0	33.0 3.0	
13 SIRKEE(reed) MATS											
a) 2'to3' x6'	Per mat	Local	Shops Mat makers' Workshop.	Qabula Qabula	5.0-6.0	6.0	Cart	.50	.50	6.5	Transport required for large quantities only, usually can be carried by the buyer.
b) 2½' x 10'	Per mat	Local	Shops Mat makers' Workshop.	Qabula Qabula	15.0	15.0	Cart	.50	.50	15.5	
14 BEAMS											
a) Accacia											
4"x8"x12'	1 beam	Local	Sawmill	Qabula	200	200.00	Cart	2.0	2.0	202.0	Beams are usually purchased alongwith battens and are transported in one load. Otherwise transport cost is charged on a per beam basis.
4"x8"x14'	1 beam	Local	Sawmill	Qabula	200-250	250.0	Cart	2.0	2.0	252.0	
5"x10"x14'	1 beam	Local	Sawmill	Qabula	225	225.0	Cart	2.0	2.0	227.0	

TYPE OF MATERIALS/ SPECIFICATIONS (1)	UNIT (2)	SOURCE OF MATERIAL			UNIT COST AT SOURCE (PAK.RS.)		TRANSPORT COST (PAK.Rs.)			TOTAL UNIT COST ON SITE (PAK.RS.) (11)	COMMENTS (12)
		Production (3)	Builders' Source Type (4)	Builders' Source Location (5)	Range (6)	Mode (7)	Type of Transport (8)	Rate Per Unit Range (9)	Rate Per Unit Mode (10)		
b) Chil	1 cft	Azad Kashmir	Sawmill	Arifwala	120[1]	120.0	Tractor-Trailer				
c) Partal	1 cft	Azad Kashmir	Sawmill	Arifwala	100	100.0	Tractor-Trailer				
d) Deodar	a cft	Azad Kashmir	Sawmill	Arifwala	150	150.0	Tractor-Trailer				
15 ACACIA BATTENS								(Per load)	(Per Load)		
a) 2"x2½"x5'	1 batten	Local	Sawmill	Qabula	8.0	8.0	Cart	10-15	10	Varies with total quantity	Transport charges for battens are on a per load rather then per batten basis. A cart can take up to 70 battens at a time, a typical load is 50-70 battens or 30-40 battens with 2 beams.
b) 2½"x3"x5'	1 batten	Local	Sawmill	Qabula	90-100	10.0	Cart	10-15	10		
c) 2½"x3"x6'	1 batten	Local	Sawmill	Qabula	11.0-130	12.0	Cart	10-15	10		
16 ACACIA PLANKS											
a) 1"x12"x6'	1 plank	Local	Sawmill	Qabula	17	17	Cart	10-15	10	Varies with total quantity	Transport charges are on a per load basis.
b) 1"x12"x6'	1 plank	Local	Sawmill	Qabula	1.75	1.75	Cart	10-15	10		
17 CEMENT	1 bag (50 kg)	Hyderabad	Shops	Qabula	71-75	71.0	Tractor-Trailer	1.0	1.0	72.0	Prices are fixed by the government at Rs.70.5/bag but in Qabula shops are allowed to sell at Rs.0.50-1.0 more to cover transport costs. During shortages "Unofficial" payments are made to State Corp. agents so shops can get a share of the supply and shops raise their prices from Rs.72.75 in Qabula and Rs.75.80 in Arifwala.
							Cart	.50	.50	71.5	
			Cement Agency	Arifwala	70.5	70.5	Tractor-Trailer	3.0	3.0	73.5	
			Shops	Arifwala	70.5-80	70.5	Tractor-Trailer	3.0	3.0	73.5	
18 R.S. I. BEAMS											
a) 3"x6"											
- Itefaaq/Lasani	1 rft	Lahore	Shops	Qabula	20	20.0	Cart	.30-.60	.60	20.6	Names given are of various brands produced in Pakistan. The cheapest brands are made of recycled scrap iron and shavings. Transport by bus has added costs of transport from shop to the terminal and terminal to site, usually by cart. All transport costs include charges for loading and unloading.
				Arifwala	21.5	21.5	Tractor-Trailer				
							Bus	.40-.50	.50	22.0	
- Kamran	1 rft	Lahore	Shops	Qabula	17.0	17.0	Cart	.30-.60	.60	17.6	
- Qadri/Naveed	1 rft	Lahore	Shops	Qabula	13-14	13.5	Cart	.30-.60	.60	14.1	
b) 4"x8"	1 rft	Lahore	Shop	Arifwala	32	32	Cart	1.3-1.5	1.4	33.4	
- Itefaaq							Tractor-Trailer				
							Bus	.40-.50	.50	32.5	
- Imported	1 rft	Japan	Shops	Arifwala	48	48	Cart	1.3-1.5	1.4	49.4	
							Tractor-Trailer				
							Bus	.40-.50	.50	48.5	

TYPE OF MATERIALS/ SPECIFICATIONS (1)	UNIT (2)	SOURCE OF MATERIAL			UNIT COST AT SOURCE (PAK.RS.)		TRANSPORT COST (PAK.Rs.)			TOTAL UNIT COST ON SITE (PAK.RS.) (11)	COMMENTS (12)
		Production (3)	Builders' Source				Type of Transport (8)	Rate Per Unit			
			Type (4)	Location (5)	Range (6)	Mode (7)		Range (9)	Mode (10)		
19 T-IRONS	1 Kg.	Lahore	Shops	Qabula	5.0	5.0	Tractor-Trailer	.05-.10	.10	5.1	Each T-iron is approximately 1.5 Kg./rft. Transport by bus requires additional costs for transport (usually by cost) from shop to terminal and from terminal to site.
							Cart	.05-.10	.10	5.1	
			Shops	Arifwala	5-5.50	5.0	Tractor-Trailer	.20-.25	.20	5.2	
							Bus	.10-.15	.10	5.1	
							Cart	.20-.25	.20	5.2	
20 M.S. RODS											
a) 3/8"ø & ½"ø	1 Kg.	Lahore	Shops	Qabula	4.5	4.5	Cart				
							Tractor-Trailer				
b) 3/4"ø & 1"ø	1 Kg.	Lahore	Shops	Arifwala	6.25	6.25	Cart	.20-.25	.20	6.45	
							Tractor-Trailer	.20-.25	.20	6.25	
21 TAR COAL/BITUMIN ASPHALT	1 Kg.	Lahore	Shops	Sahiwal	4-8	4.0	NAP	NAP	NAP	4.0	
				Arifwala	8.0	8.0	NAP	NAP	NAP	8.0	
22 POLYTHENE	1 Kg.	Lahore	Shops	Qabula	28.0	28.0	NAP	NAP	NAP	28.0	May also be obtained free from used fertilizer bags.
23 SHUTTERING, DAILY RENTAL											
a) Acacia Beams	1 beam	Local	Shops Contractors	Oabula	2	2	Cart Tractor-Trailer				Average duration of rentals is 16 days. Some builders borrow shuttering for free.
b) R.S. I-Beams	1 beam				.40-.50	.50					
c) Acacia Battens	1 batten				1	1					
d) Acacia Planks	1 plank				.50-1	.50					
e) Bamboo	1 pole				2	2					


PARAPET
MUD STRAW PLASTER(3:1) 1"
EARTH 1"
TILES 5"x10"x1½"
ACACIA BATTENS 2½"x3"x5'
I.STEEL BEAMS 3"x6"x14'
SUN BAKED BRICK WALL IN MUD MORTAR 13½" (INT & EXT. 1" MUD STRAW PLASTER).
ROOM 10'x6'
OPEN KITCHEN
VENTI.
ROOM 12'x14'
EARTH FLOORING TOPPED WITH 1" MUD-PLASTER FINISH.
TWO ROOMS UNDER CONSTRUCTION
BOUNDARY
BOUNDARY


PARAPET
COWDUNG FINISH
MUD-STRAW PLASTER 3"
EARTH 4"
DUB 2"
SIRKEE MAT
ACACIA BATTENS 2½"x3"x5'
ACACIA BEAMS 4"x8"x15'
SUN BAKED BRICK WALL IN MUD MORTAR 13½" (INT. & EXT. MUD-STRAW PLASTER)
OPEN WASH AREA.
HAND PUMP
FODDER CUTTER
ROOM 14'x14'
COURTYARD
ROOM 14'x15'
OPEN KITCHEN AREA.
FLOORING: MUD-STRAW PLASTER FINISHED WITH COW DUNG.
STORE 10'x9'
COURTYARD

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE: Alladitta - Owner
Agricultural laborer. Basti Pir Chiragh
Qabula. Interview: 25.3.1983

TECH-NOLOGY TYPE: WALLS: Sun-baked bricks in mud-mortar
ROOF: RSI beams, Kikar battens, tile & mud straw plaster.
Room size 14'x12'

NO.	CONSTRUCTION: PROCESS / INPUTS	QTY.	DAYS / HRS	MATERIAL: TYPE	MATERIAL: QUANTITY /Unit	MATERIAL: QUANTITY Total	MATERIAL: COST (RS) /Unit	MATERIAL: COST (RS) Total	LABOUR: TYPE	LABOUR: QUANTITY /Unit	LABOUR: QUANTITY Total	/day Ms	/day L	LABOUR: COST (RS) /Unit	LABOUR: COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.0	FOUNDATION/PLINTH																
1.1	EXCAVATION: No excavation & foundation just levelled the ground.																Collect materials, friends to do labor & sought credit. Did not have much cash when construction started.
1.2	FOOTINGS: Sun-baked bricks laid 13" thick in mud mortar on level ground			Sun-baked bricks Earth		12,000 (whole) bldg.			Mason Labourer Family worker	2.0 4.0 4.0							Mud mortar made by family. Family workers are female. Rest of labour are all friends.
2.0	WALLS		2.0														
2.1	Sun-baked bricks laid 13" thick in mud mortar			Sun-baked bricks Earth		-do-			Mason Labourer Family Workers	2.0 4.0 4.0							Bricks 10' to parapet top.
3.0	ROOF		1.0														
3.1	RSI beams 6"x3"x14' & Kikar battens 5'x2½"x3" laid directly on sun-baked bricks/ends of battens in contact w/bricks are coated w/waste engine oil).			RSI beams RSI beam Kikar battens Waste Engine Oil		2.0 1.0			Mason Labourer Family Workers								RSI prices of 3 years ago. One RSI bought in Arifwala 1½ years ago because none available in Qabula. Battens brought by cart.
3.2	Tiles 10"x5"x1½" laid over w/mud strqa plaster 1" thick dry earth 1" thick & mud straw plaster (3:1) 1" thick.			Tiles		800											Bought locally transported by cart.
4.0	FLOOR																
4.1	Earth flooring tapped w/mud mortar 1" thick			Earth					Family Workers	4.0							
5.0	RENDERS																
5.1	Mud straw plaster 1"thick on both exterior & interior of walls.		3.0	Earth Straw					Family Workers	4.0							Duration includes all plaster work including roof Total Cost Rs.4000/ only material. Sell for Rs.10,000. Constructing 2 more rooms. Next priority is water supply (hand pump) & boundary wall.
	TOTAL																

TYPE OF MATERIALS/ SPECIFICATIONS (1)	UNIT (2)	SOURCE OF MATERIAL			UNIT COST AT SOURCE (PAK.RS.)		TRANSPORT COST (PAK.Rs.)			TOTAL UNIT COST ON SITE (PAK.RS.) (11)	COMMENTS (12)
		Production (3)	Builders' Source				Type of Transport (8)	Rate Per Unit			
			Type (4)	Location (5)	Range (6)	Mode (7)		Range (9)	Mode (10)		
1 EARTH	100 cft	Local[e]	Open fields Plots for levelling.	Chak Bedi[f]	Free	Free	Tractor-Trailer	60	60.0	60.0	Transport cost includes labour for digging loading and unloading, in which transport operator usually participates.
							Cart	40-45	45.0	45.0	
							Donkey bag	50	50.0	50.0	
2 COW DUNG	1 sft	Local	Villages	Chak Bedi	Free	Free	Not Applicable (NAP	NAP	NAP	Free	
3 STRAW	1 maund[g]		Fields	Chak Bedi	Free-6.0	Free	Cart	1.0	1.0	1.0	
							Donkey Bag	No Data(ND)	ND	ND	
4 SAND											
a) Coarse Pit Sand	1 cft	Local	Fields	Chak Bedi	Free	Free	Tractor-Trailer	.8-2.0	1.5	1.5	Given free by landowners who want the land cleared for cultivation. Sometimes,diggers have to go 3 to 6 feet deep to get sand.
							Cart	1.0-2.0	1.5	1.5	
							Donkey Bag	.90-1.25	1.2	1.2	
b) River Sand	1 cft	Local	River beds	Chak Bedi	Free	Free	Tractor-Trailer	1.0-2.0	1.5	1.5	
							Cart	1.25-1.3	1.3	1.3	
							Donkey bag	1.0-1.3	1.2	1.2	
c) Fine Harrow Sand	1 cft	Lawrencepur	Materials agents (Shopowners and truckers)	Sahiwal[h]	7.0[i]	7.0	Truck	Col.(7)	Col.(7)	7.0	Agents' order/bring directly from Lawrencepur. Delivered on site.
							Tractor-Trailer	1.0-1.25	1.2	8.2	
5 AGGREGATE											
a) Fine aggregate	1 cft	Taxila	Material agents	Pakpattan[j]	7.0-7.2	1.0	Truck	Col.(7)	Col.(7)	7.0	Agents order/bring directly from Taxila and Sargodha and delivered on site for large quantities. Smaller quantities purchased from shops, and brought to site by cart or troller.
							Trolly	1.5-2.0	2.0	9.0	
							Cart	1.0-1.5	1.5	8.5	
b) Course aggregate	1 cft	Sargodha	Material agents	Pakpattan	5.8-6.0	6.0	Truck	Col.(7)	Col.(7)	6.0	
							Trolly	1.5-2.0	2.0	8.0	
							Cart	1.0-1.5	1.5	7.5	
6 WHITE LIME(Block)	1 maund	Hasanabdal	Shops	Pakpattan	30-35	30	Bus	7.0	7.0	37.0	Block lime preferred as powdered form is usually adulterated. Powdered on site Trailer and Truck used for large amounts.
							Tractor Trailer	ND	ND	ND	
							Truck	ND	N	ND	
7 BRICK BALLAST	100 cft	Local	Kiln	Chak Bedi	100	100.0	Tractor-Trailer	70-75	75.0	175.0	Transport cost includes labour for selection of appropriate size, loading & unloading. To reduce costs, broken bricks(Rs.50/ 100 cft) are bought and further broken down to the proper size using self help or paid labour.
							Cart	30-50	50.0	150.0	
							Donkey bag	40-70	70.0	170.0	

TYPE OF MATERIALS/ SPECIFICATIONS	UNIT	SOURCE OF MATERIAL			UNIT COST AT SOURCE (PAK.RS.)		TRANSPORT COST (PAK.Rs.)			TOTAL UNIT COST ON SITE (PAK.RS.)	COMMENTS
		Production	Builders' Source				Type of Transport	Rate Per Unit			
			Type	Location	Range	Mode		Range	Mode		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8 SUN-BAKED BRICKS	Per 1.000 bricks	Local	Brick moulders[k]	Chak Bedi	35-40	35.0	Cart Donkey bag	20 40-60	20.0 40.0	50.0 75.0	Cart is preferred to tractor-trailer since smaller numbers (500/load) are stacked and ride is less bumpy, hence fewer breakages. Delivery of small amounts at a time means, poor quality bricks can more easily be noted and returned. Least breakage occur in donkey bags, used for inaccessible sites.
			Kiln	Chak Bedi	35-45	40.0	Cart Donkey bag	20 40-60	20.0 40	60.0 80.0	
9 FIRED BRICKS											
a) Class A	Per 1,000 bricks	Local	Kilns	Chak Bedi	300-350	300.0	Tractor-Trailer Cart Donkey bags	50-80 20.0 40-60	50.0 20.0 40.0	350.0 320.0 340.0	Same comments as in Sun-baked bricks apply. Tractor-trailer rates are generally used for longer distances (4 miles or more).
b) Class B overburnt or underburnt pieces.	Per 1,000 bricks	Local	Kilns	Chak Bedi	200-250	200.0	Tractor-Trailer Cart Donkey bags	50-80 20.0 40-60	50.0 20.0 40.0	250.0 220.0 240.0	
10 TILES											
a) 9"x4½"x1½"	Per 1,000 tiles	Sahiwal	NOT	USED	IN	CHAK	BEDI.				
b) 10"x5"x1½"	Per 1,000 tiles	Local	Kilns	Chak Bedi	600-625	600.0	Cart Donkey bag Tractor-Trailer	20.0 40-60 50-90	20.0 40.0 50.0	620.0 640.0 650.0	
c) 12"x6"x2"	Per 1,000 tiles	Local	Kilns	Chak Bedi	1,000	1000.0	Cart Donkey Bag Tractor Trailer	20.0 40-60 50-90	20.0 40.0 50.0	1020.0 640.0 1000.0	
11 DUB, GHAAS or SUR (dry grass)	1 maund	Local	Grow wild, Particular along water courses.	Chak Bedi	Free	Free	NAP	NAP	NAP	Free	Usually cut and carried in bundles by owner-builders' paid or self-help labour.
12 SARKANDA or KANEH (reed)											
a) Loose, in bundles	1 maund (makes 5 mats)	Local	Along water courses	Chak Bedi	Free-7.0	Free	Cart	2.0-3.0	2.0	2.0	Sarkanda & Sirkee are from the same plant. Sarkanda is the lower thicker half, Sirkee the upper thinner half. Sarkanda is sometimes used in loose form (i.e. not woven into mats)which may be obtained free or by paying a fee to the landowner. Smaller quantities usually hand carried.
			Shops	Pakpattan	30.0	30.0	Bus				
b) 6'x10' mats	Per mat	Local	Shops	Chak Bedi	5.0-6.0	6.0	Cart	.50	.50	6.5	
c) 6'x18' mats	Per mat	Local	Shops	Chak Bedi	12.5	12.5	Cart	.50	.50	13.0	

TYPE OF MATERIALS/ SPECIFICATIONS	UNIT	SOURCE OF MATERIAL			UNIT COST AT SOURCE (PAK.RS.)		TRANSPORT COST (PAK.Rs.)			TOTAL UNIT COST ON SITE (PAK.RS.)	COMMENTS
		Production	Builders' Source				Type of Transport	Rate Per Unit			
			Type	Location	Range	Mode		Range	Mode		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
13 SIRKEE (reed) MATS											
a) 3' x 6'	Per mat	Pakpattan	Shops	Pakpattan	5.0-6.0	6.0	Bus	15.0			Transport required for large quantities only, usually can be carried by the buyer.
		Haveli		Haveli[L]			Bus				
b) 3' x 10'	Per mat	Pakpattan	Shops	Pakpattan	15.0	15.0	Bus				
		Haveli		Haveli	15.o	15.0	Bus				
14 BEAMS											
a) Acacia											
4" x 8" x 12'	1 beam	Local	Sawmill	Chak Bedi	200-215	215.0	Cart	30-40	30	Varies with total quantity.	Beams are generally purchased alongwith battens. Transport charges are on a per load basis. A typical load is 2 beams plus 36-40 Battens.
4" x 8" x 14'	1 beam		Sawmill	Chak Bedi	200-250	250.0	Cart	30-40	30		
5" x 10" x 14'	1 beam		Sawmill	Chak Bedi			Cart	30-40	30		
b) Chil	1 cft	Azad Kashmir	Sawmill	Pakpattan	120.0[m]	120.0	Tractor-Trailer				
							Bus	5.0		Varies with length.	
c) Partal	1 cft	Azad Kashmir	Sawmill	Pakpattan	100.0	100.0	Tractor-Trailer				
							Bus	5.0	5.0	Varies with length	
d) Deodar	1 cft	Azad Kashmir	Sawmill	Pakpattan	150.0	150.0	Tractor-Trailer				
							Bus	5.0	5.0		
15 ACACIA BATTENS											
A) 2" x 2½" x 5'	1 batten	Local	Sawmill	Chak Bedi	8.0	8.0	Cart	30-40	30	Varies with length	Transport charges for battens are on a per load rather then per batten basis. A cart can take up to 70 battens at a time, a typical load is 50-70 battens or 30-40 battens with 2 beams.
2½" x 3" x 5'		Local	Sawmill	Chak Bedi	9.0	9.0	Cart	30-40	30		
2½" x 3" x 6'		Local	Sawmill	Chak Bedi	10.0-11.0	10.0	Cart	30-40	30		
16 ACACIA PLANKS											
a) 1" x 12" x 6'	1 plank	Local	Sawmill	Chak Bedi	17.0	17.0	Cart	30-40	30	Varies with total quantity.	Transport charges are on a per load basis.
b) 1" x 12" x 6"	1 plank	Local	Sawmill	Chak Bedi	1.75	1.75	Cart	30-40	30		
17 CEMENT	1 bag (50 Kg)	Hyderabad	Shops	Chak Bedi	71-75	72.0	Cart	1.0	1.0	73.0	Prices are fixed by the government at Rs.70.5/bag but these tend to be higher in shops and during shortages.
			Shops	Pakpattan	70.0-77	70.5	Cart	3.0	3.0	73.5	
			Cement agency	Pakpattan	70.5	70.5	Cart	3.0	3.0	73.5	
18 R.S. I-BEAMS											
a) 3" x 6"											
- Itefaaq/Lasani	1 rft	Lahore	Shops	Chak Bedi	20.0	20.0	Cart	.10-.15	.10	20.1	Names given are of various brans produced in Pakistan. The cheapest brands are made of recycled scrap iron and shavings. Transport by bus has added costs of transport from shop to the terminal and terminal to site, usually by cart. All transport costs include charges for loading and unloading. Available sizes & brands are limited in Chak Bedi. Some buyers go to Haveli or to Okara (30 mi. away) for T-irons.
				Pakpattan	19.5-21.0	19.5	Tractor-Trailer	2.3-2.5	2.3	21.8	
							Cart	2.3-2.5	2.3	21.8	
							Bus	.40-.50	.50	20.0	
- Kamran	1 rft	Lahore	Shops	Pakpattan	14.5-15.0	15.0	Tractor-Trailer	2.3-2.5	2.3	17.3	
							Cart	2.3-2.5	2.3	17.3	
							Bus	.40-.50	.50	15.5	
- Qadri/Naveed	1 rft	Lahore	Shops	Pakpattan	11.5-13.0	11.5	Tractor-Trailer	2.3-2.5	2.3	13.8	
							Cart	2.3-2.5	2.3	13.8	
								.40-.50	.50	12.0	

TYPE OF MATERIALS/ SPECIFICATIONS (1)	UNIT (2)	SOURCE OF MATERIAL			UNIT COST AT SOURCE (PAK.RS.)		TRANSPORT COST (PAK.Rs.)			TOTAL UNIT COST ON SITE (PAK.RS.) (11)	COMMENTS (12)
		Production (3)	Builders' Source				Type of Transport (8)	Rate Per Unit			
			Type (4)	Location (5)	Range (6)	Mode (7)		Range (9)	Mode (10)		
b) 4" x 6" - Itefaaq/Lasani	1 rft	Lahore	Shops	Pakpattan	21.5-22	21.5	Tractor-Trailer Cart Bus	2.3-2.5 2.3-2.5 .40-.50	2.3 2.3 .50	23.8 23.8 22.0	
c) 4" x 8" - Itefaaq/Lasani	1 rft	Lahore	Shops	Pakpattan	30-32	32.0	Tractor-Trailer Cart Bus	2.3-2.5 2.3-2.5 .40-.50	2.3 2.3 .50	34.3 34.3 32.5	
- Imported	1 rft	Japan	Shops	Pakpattan	48.0	48.0	Tractor-Trailer Cart Bus	2.3-2.5 2.3-2.5 .40-.50	2.3 2.3 .50	50.3 50.3 48.5	
19 T-IRONS	1 Kg.	Lahore	Shops	Pakpattan	4.5-5.0	5.0	Tractor-Trailer Cart Bus Truck	.25-.30 .25-.30 .10-.15 .07-.10	.25 .25 .10 .07	5.25 5.25 5.10 5.07	Each T-iron is approximately 1.5 kg/rft. Trucks used only for large quantities up to a maximum of 10 tons. Loading & unloading costs included.
20 M.S. RODS a) 3/8" & ½" ø	1 Kg	Lahore	Shops	Pakpattan	4.2-4.5	4.25	Tractor-Trailer Cart Bus Truck	.25-.30 .25-.30 .10-.15 .07-.10	.25 .25 .10 .07	4.5 4.5 4.6 4.3	
b) 3/4" & 1" ø	1 Kg	Lahore	Shops	Pakpattan	6.0	6.0	Tractor-Trailer Cart Bus Truck	.25-.30 .25-.30 .10-.15 .07-.10	.25 .25 .10 .07	6.25 6.25 6.10 6.07	
21 TAR COAL/BITUMIN ASPHALT	1 Kg	Lahore	Shops	Pakpattan	8.0	8.0	NAP	NAP	NAP	8.0	
22 POLYTHENE	1 Kg	Lahore	Shops	Pakpattan	28.0	28.0	NAP	NAP	NAP	28.0	
23 SHUTTERING, DAILY RENTAL											Average duration of rentals is 16 days. Some builders borrow shuttering for free.
a) Acacia beams	1 beam	Local	Shops Contractors	Pakpattan	2.0	2.0	Cart	Period 30-40	Period 30-40	Varies with quantity rented.	
b) R.S. I-beams	1 beam				2.0	2.0					
c) Acacia battens	1 batten				.50	.50					
d) Acacia Planks	1 plank				1.0	1.0					
e) Bamboo	1 pole				1.0	1.0					

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE: Mohammad Arif Owner. Laborour
Nanapur. Chak Bedi.
(23.3.1983)

TECHNOLOGY TYPE: WALLS: Sun-baked bricks in mud-mortar.
ROOF: Girder, Kikar battens, Kana mats with grass & mud.

NO.	CONSTRUCTION: INPUTS PROCESS	QTY.	DAYS 8 HRS	MATERIAL TYPE	MATERIAL QUANTITY /unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.0	FOUNDATION/PLINTH																Material Preparation: bricks made
1.1	EXCAVATION: 1' deep 2'wide		.5														6 mos. before 1500/day. Sand from
																	2 mi. away dug by owner & cart owner
1.2	FOOTINGS: 13" thick Sun-			Sun-baked bricks	12,000				Family workers	3.0							2 carts (5'x5') Rs.15/ the Owner &
	baked bricks in mud mortar									2.0							brother make bricks. (1 mixes mud:
																	1 moulds brick)
2.0	WALLS		3.0														Excavation by brother, relative & self
2.1	Sun-baked bricks in mud-			Sun-baked bricks					Mason	1.0							
	mortar 13" thick			Earth					Family workers	3.0							Local manson. Family worker: 1 makes
																	mix, 1bring mix, 1 bring bricks
3.0	ROOF																
3.1	Girders supporting kikar			Girders	2.0				Mason	1.0							Girders brought by bus from Haveli
	battens laid directly on			Kikar battens	36.0					3.0							½ day trip. Battens local sawmill
	sun-baked brick walls																on credit.
3.2	Kana mats W/ Sur on top.			Kana	3 mds.				Mason	1.0							Kana & Sur from dry bed. Cut by self
				Sur	4 mds.					3.0							& person (1 day). Paid landowner and
																	cart. Got 1 fartful.
3.3	1" thick mud-straw plaster		1.0	Earth					Family worker	1.0							Earth given free by land-owner in
	(1:1)			Straw													return for labor. Roof plastering by
4.0	FLOOR																self. Sirkee available in Haveli Rs.30
4.1	Dry rammed earth			Earth													for 10'x3' (pair) + 15 transported
																	by bus.
4.2	2" thick mud-straw plaster			Earth													
				Straw					Family worker								Floor plastering by wife.
5.0	RENDERS		2.0														
5.1	Walls (interior & exterior)			Earth					Family workers	2.0							Wall plaster by wife, self made mud
	mud-straw plaster ½".																plaster.
																	Started 7 days ago after material
																	gathered.

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE:

TECH-NOLOGY TYPE:

NO.	CONSTRUC-TION: PROCESS / INPUTS	QTY. /100	DAYS	8 HRS	MATERIAL TYPE	MATERIAL QUANTITY /unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /day /Unit	LABOUR QUANTITY /day Total	Ms	L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16
1.	FOUNDATION/PLINTH	3.92cft															
1.1	Excavation 2'6"x2'6" including dressing & filling with earth, watering and ramming lead upto 1 chain a lift up to 5' in ordinary soil (17.1/5,W2,32)									Labour(#/%cft)	10.50						
1.2	1"x2'6" bed of cement concrete plain handmixed, placing & watering 1:7:20 cement,sand, aggregate (20.1,W4,52)	1.17cft			Brick Ballast 1½"-2"(cft/%cft)	111.00		300/1cft.		Masons (do)	.25				60.		
					Sand (do)	9.00		125		Labour (do)	5.50				20.		
					Cement(cwt/%cft)	4.5		72.5 (1/50 kg)									
1.3	Footings 9" thick of fired bricks in 1:7, cement sand mortar(21.1,W12,64)	1.89			Sand (cft/%cft)	26.50	(1.77)			Masons (do)	2.00						
					Cement(cwt/%cft)	3.00				Labour (do)	4.08						
					Bricks(#/%cft)	1350.00		320/1000									
1.4	DPC 1:2:4, 1½" thick with two coats hot bitumin and polythene sheet 500 gauge. (NA,W80,59)	1.44sft			Sand (cft/%cft)	5.50	2.60				(65)						
					Cement(cwt/%sft)	2.25	0.73			Masons(do)	.50						
					Bitumin(lbs/%sft)	20.00	34.80	8/kg.		Carpenter(do)	.15						
					Stone ballast 3/4" (cft/%sft)	11.00		700/1cft.		Labour (do)	2.25						
					Polythene			28/kg.									
2.	WALLS	4.92cft															
2.1	9" thick of fired bricks in 1:7 cement mortar (21.1,W12,64)				Sand (cft/%cft)	26.50				Masons (do)	2.50						
					Cement(cwt/%cft)	3.00				Labour (do)	5.58						
					Bricks(#/%cft)	1350.00											
2.2	R.C.C. in Lintels (1:2:4) complete in all respects (1:2:4) (20.4,W4,52)	0.11cft.			Sand (%cft/cft)	44.00				Carpenter	6.00						
					Cement(cwt/cft)	17.60				Mason	6.00	1.0					
		? 0.09 ?			Aggregate(%cft/cft)	88.00		39kg*	750/1cft.	Labour	16.00	6.5					
					ms.bars,3/8"Ø(kg/1cft)			0.09kg:	450								
2.3	4½" thick fired Bricks in 1:4 cement mortar in parapet. (21,1,W11,64)				Sand (cft/%cft)	24.00				Mason	2.50						
					Cement(cwt/%Sft)	4.80				Labour	5.55						
					Bricks(#/%cft)	1350.00											
3.	ROOF	0.91cft.															
3.1	Reinforced cement concrete				Deodar Wood	5.50				Masons (do)	6.00						
a)	Preparing surface for RC work. 45"				Bolts,nut,nail	LS				Labour (do)	16.00						
					Oil & Grease	LS				Carpenter(do)	6.00						
b)	RCC(1:2:4) slabs complete including shuttering,pouring.,compacting, curing, renering. (20.4,W4,52)				Sand(cft/%cft)	48.00											
					Cement(cwt/%cft)	19.30											
					Shingle(cft/%cft)	88.00											
3.2	M.S. bars(steel)fabricating of MS for RCC or RBW including cutting, bending,laying 3.25kg in position, making joints & fastening along with				Binding wire (lbs/cwt)	.25				Blacksmith(do)	.50						
					Reinforcing steel(cwt/cwt)	1.10	3.25kg			Labour(#/cwt)	.50						
					ms bars,3/8"Ø (/kg)			450/100kg									

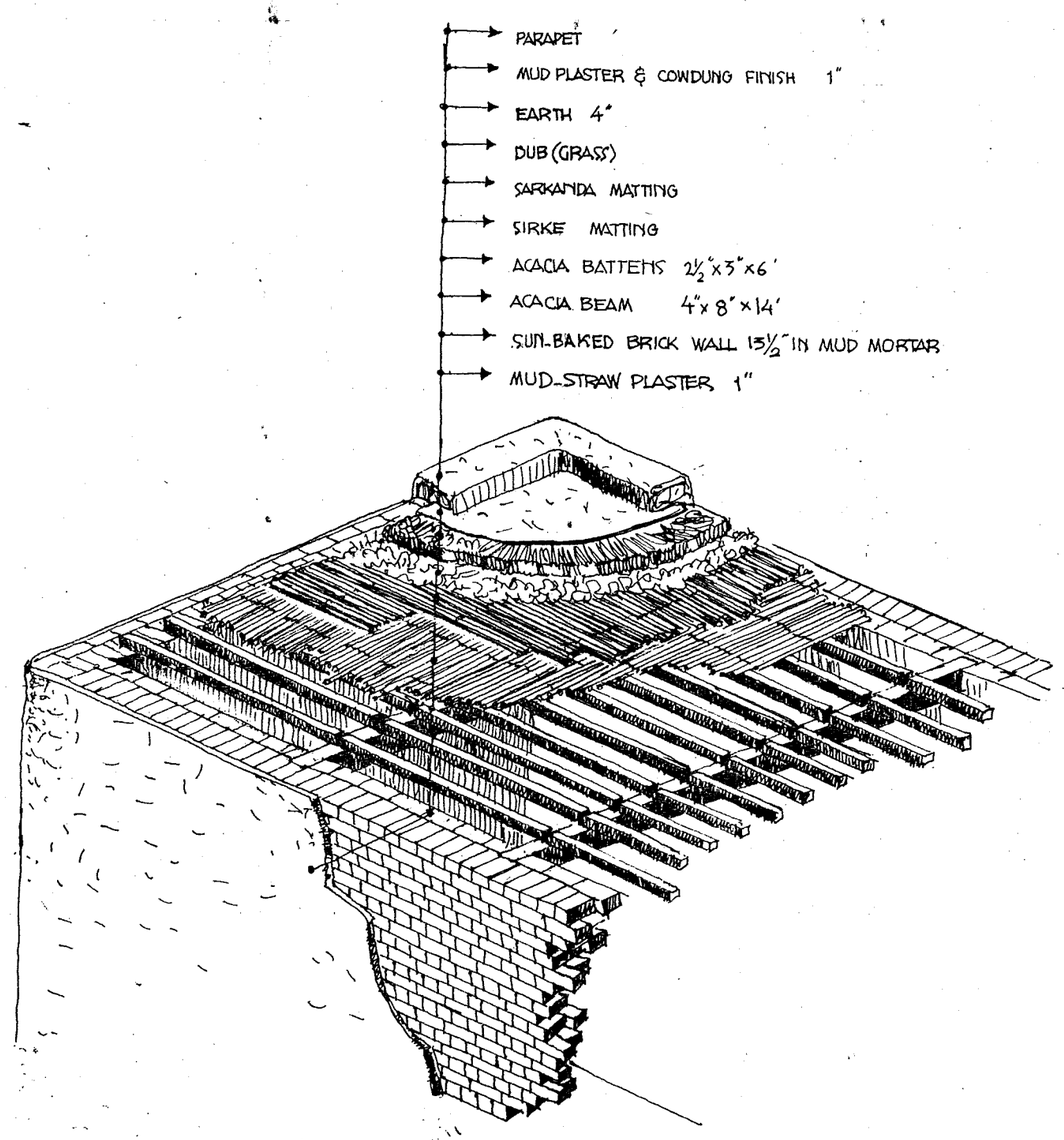
*steel = 11g x 3.57ft = 39kg

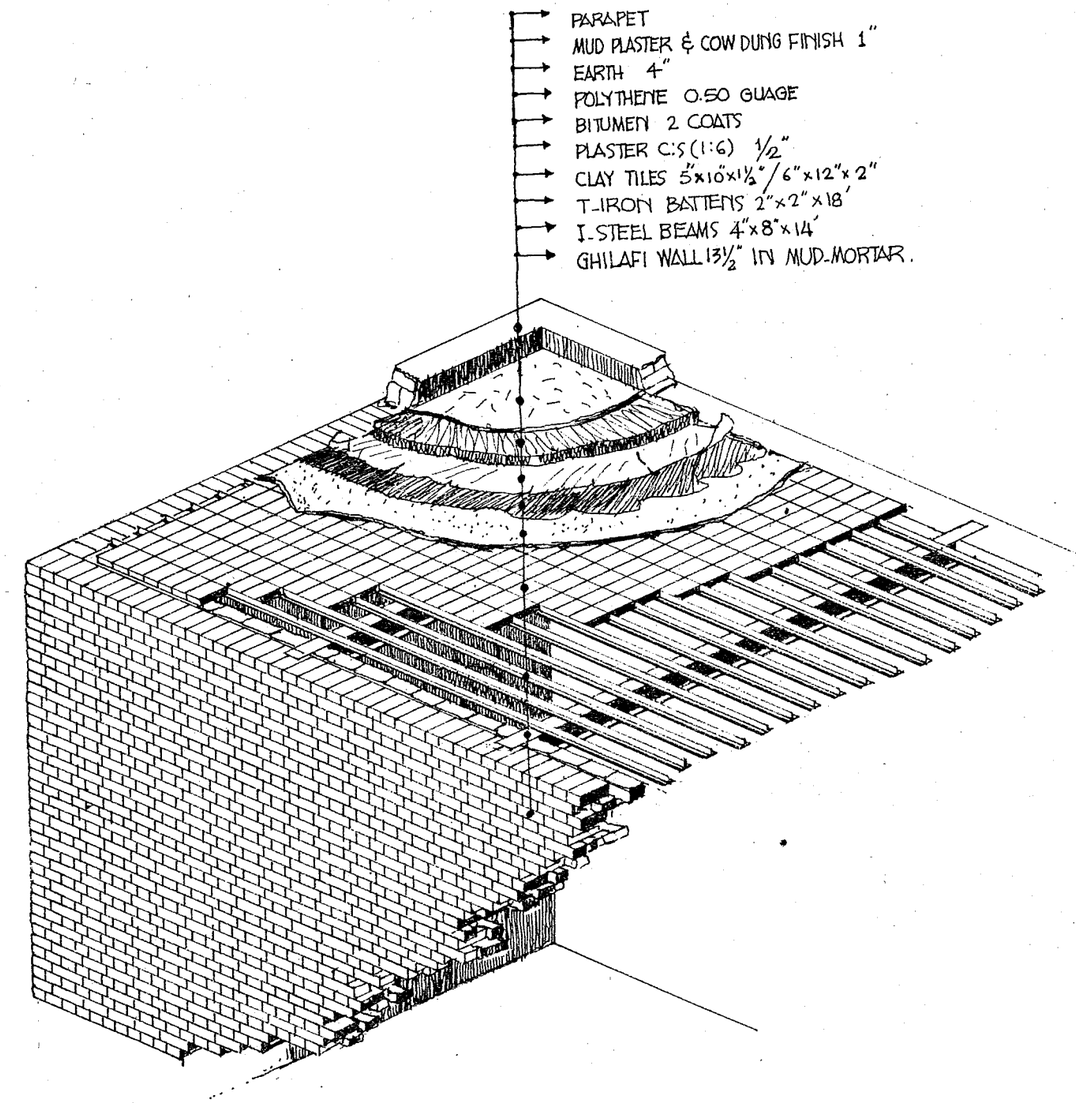
* 3.58kg/cft. of c.c. in 225/9

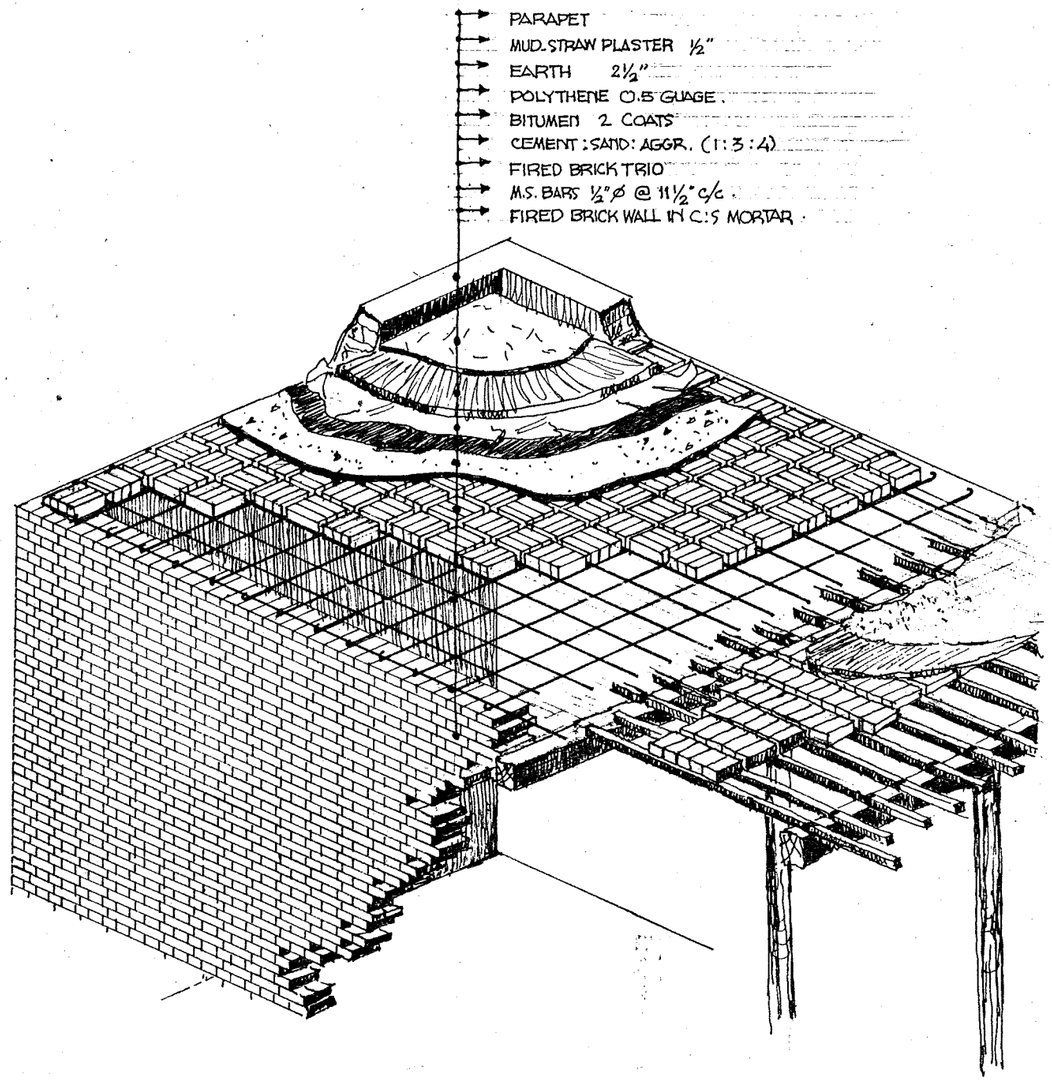
	complete in all respects (1:2:4) (20.4,W4,52)		Cement(cwt/cft)	17.60				Mason	6.00		
			Aggregate(%cft/cft)	88.00				Labour	16.00		
2.3	4½" thick fired Bricks in 1:4 cement mortar in parapet. (21,1,W11,64)	1/60	Sand (cft/%cft)	24.00				Mason	2.50		
			Cement(cwt/%Sft)	4.80				Labour	5.55		
			Bricks(#/%cft)	1350.00							
3.	ROOF										
3.1	Reinforced cement concrete		Deodar Wood	5.50				Masons (do)	6.00		
a)	Preparing surface for RC work.		Bolts,nut,nail	LS				Labour (do)	16.00		
			Oil & Grease	LS				Carpenter(do)	6.00		
b)	RCC(1:2:4) slabs complete including shuttering,pouring.,compacting, curing, renering. (20.4,W4,52)		Sand(cft/%cft)	48.00							
			Cement(cwt/%cft)	19.30							
			Shingle(cft/%cft)	88.00							
								Masn.			
3.2	M.S. bars(steel)fabricating of MS for RCC or RBW including cutting, bending,laying in position, making joints & fastening along with cost of bending wire and all wastage of steel incl. removal of rust from bars. (851,W5,55)		Binding wire (lbs/cwt)	.25				Blacksmith(do)	.50		
			Reinforcing steel(cwt/cwt)					Labour(#/cwt)	.50		
3.3	Single layer of tiles 9"x4½"x2" built over 4" earth & 1" mud plaster w/o straw grouted with cement sand 1:3 on top of slab provided polythene & 34 lbs. bitumin coating sand blended. (23.1,W25,78)	2·175	Sand (cft/%sft)	3.00				Masons(#/%sft)	1.25		
			Cement(cwt/%sft)	.50				Labour (do)	2.00		
			Earth (cft/%sft)	55.00	55/1000						
			Bitumin(lbs/%sft)	34.00							
			Tiles (#/%sft)	350.00	550/1000						
			Polythene								
4.	FLOOR	2·17									
4.1	6" thick flooring of consolidated layer of moistened earth including ramming. (24.1,W20,87)	1·17 cf.	Earth(cft/%sft)	70.00	·55			Mason(#/%sft)	.13		
								Labour (do)	1.25		
4.2	3" thick layers of sand filling rammed after sateuration to 2" compaction (24.3,W4after br.bllst 87)	071	Sand cft/%cft ~~(do)~~					Mason (dO)	.13		
								Labour	4.00		
4.3	Dry rammed brick ballast 1½"-2" gauge.(20.1,W4,51)	0·71	Brick Ballast (cft/%cft)	110.00				Labour (do)	3.00		
4.4	1½" cement concrete 1:2:4 (20.1,W4,52)	2·17sf, ·27 cf.	Stone Ballast	88.00				Masons (do)	1.00		
			Sand (cft/%cft)	44.00				Labour (do)	6.50		
			Cement(cwt/%cft)	17.00							
5.	RENDERS										
5.1	Cement pointing struck joints 1:2 on exterior of walls.(25.8,W33,99)	8.90sf.	Cement(cwt/%sft)	.72				Masons (do)	1.00		
			Sand ~~(do)~~ cft/%sf	1.80				Labour (do)	1.25		
5.2	Cement plaster 1:6 upto ½" thick interior of walls (25.8,W33,99)		Sand (cft/%sft)	4.00				Masons (do)	.75		
			Cement(cwt/%sft)	.53	0·6			Labour (do)	1.25	1·5	
								s.skilled,			
5.3	White washing (3 coats) (25.9,W34,101)		Rice(lbs./sft)	.25				Skilled(do)	.30		30
			White lime (mds/%sft)	0.10	44/md			Labour (do)	.20		20
	TOTAL:										

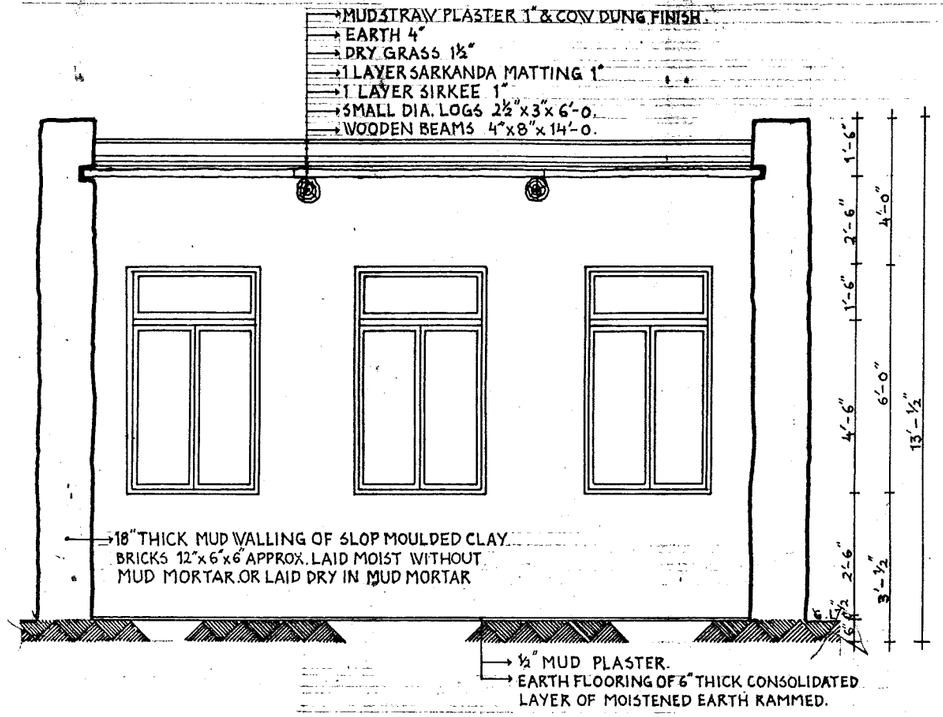
Master under Slab. 3/8 see #7.

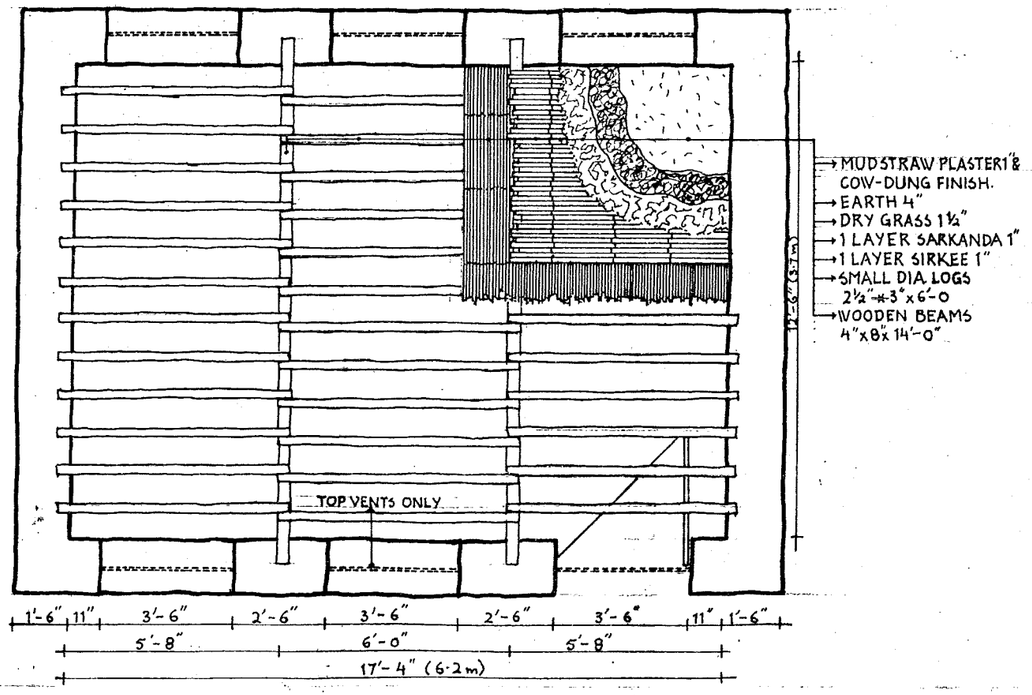
5.3 Cement plaster 1:6 3/8" thick on brick masonry surface (25.8,W33,99)

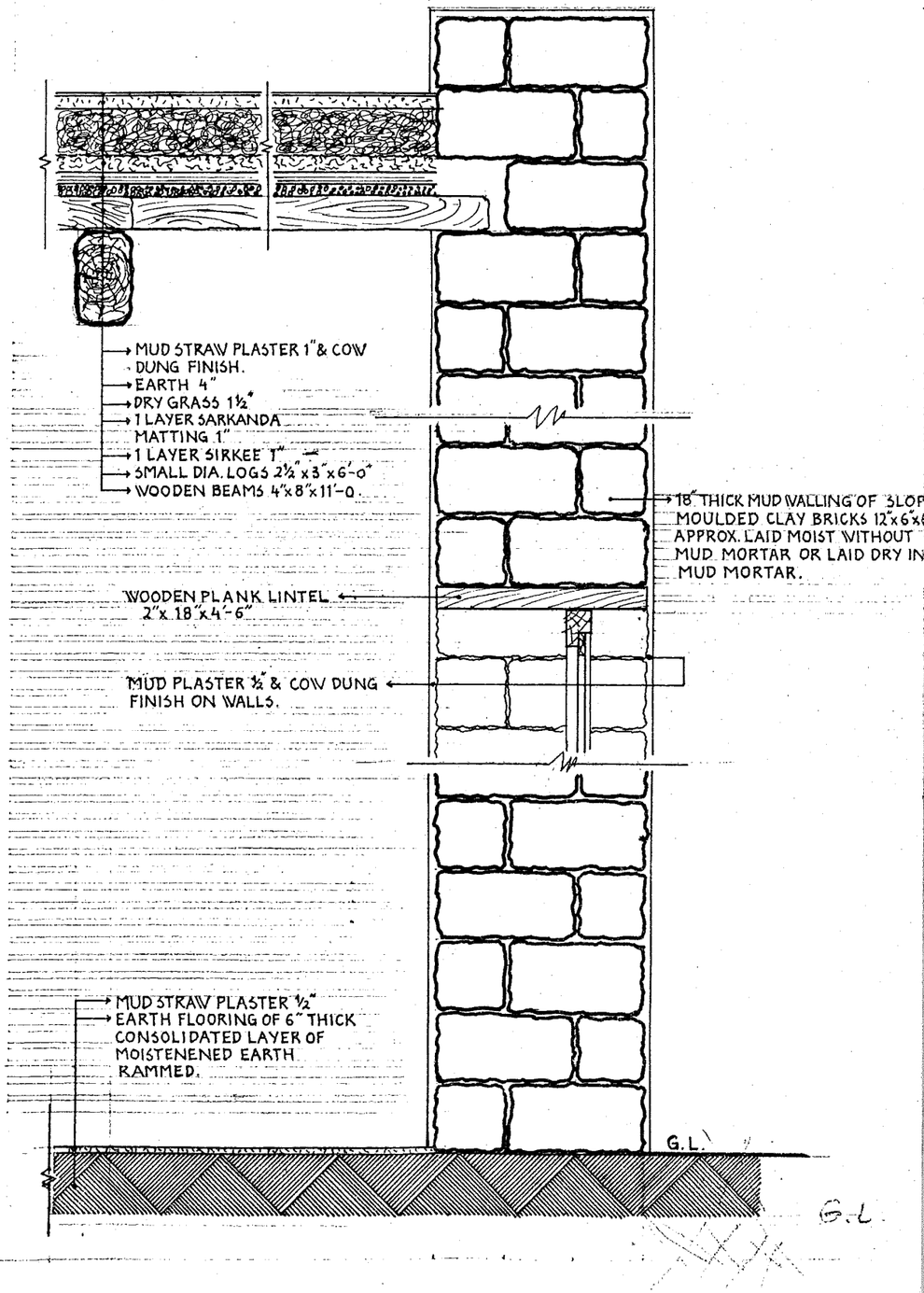

PARAPET
MUD PLASTER & COWDUNG FINISH 1"
EARTH 4"
DUB (GRASS)
SARKANDA MATTING
SIRKE MATTING
ACACIA BATTENS 2½"x3"x6'
ACACIA BEAM 4"x8"x14'
SUN-BAKED BRICK WALL 13½" IN MUD MORTAR
MUD-STRAW PLASTER 1"


PARAPET
MUD PLASTER & COW DUNG FINISH 1"
EARTH 4"
POLYTHENE 0.50 GUAGE
BITUMEN 2 COATS
PLASTER C:S (1:6) ½"
CLAY TILES 5"x10"x1½" / 6"x12"x2"
T-IRON BATTENS 2"x2"x18'
I-STEEL BEAMS 4"x8"x14'
GHILAFI WALL 13½" IN MUD-MORTAR.


PARAPET
MUD-STRAW PLASTER ½"
EARTH 2½"
POLYTHENE 0.5 GUAGE.
BITUMEN 2 COATS
CEMENT : SAND : AGGR. (1 : 3 : 4)
FIRED BRICK TRIO
M.S. BARS ½"ø @ 11½" c/c.
FIRED BRICK WALL IN C:S MORTAR.


MUD STRAW PLASTER 1" & COW DUNG FINISH.
EARTH 4"
DRY GRASS 1½"
1 LAYER SARKANDA MATTING 1"
1 LAYER SIRKEE 1"
SMALL DIA. LOGS 2½"x3"x 6'-0.
WOODEN BEAMS 4"x8"x 14'-0.
18" THICK MUD WALLING OF SLOP MOULDED CLAY BRICKS 12"x6"x6" APPROX. LAID MOIST WITHOUT MUD MORTAR OR LAID DRY IN MUD MORTAR
1'-6"
2'-6"
4'-0"
1'-6"
4'-6"
6'-0"
13'-½"
2'-6"
3'-½"
½" MUD PLASTER.
EARTH FLOORING OF 6" THICK CONSOLIDATED LAYER OF MOISTENED EARTH RAMMED.


MUD STRAW PLASTER 1" & COW-DUNG FINISH.
EARTH 4"
DRY GRASS 1½"
1 LAYER SARKANDA 1"
1 LAYER SIRKEE 1"
SMALL DIA. LOGS 2½"x3"x6'-0
WOODEN BEAMS 4"x8"x 14'-0"
12'-6" (3.7m)
TOP VENTS ONLY
1'-6" 11" 3'-6" 2'-6" 3'-6" 2'-6" 3'-6" 11" 1'-6"
5'-8" 6'-0" 5'-8"
17'-4" (6.2m)


MUD STRAW PLASTER 1" & COW DUNG FINISH.
EARTH 4"
DRY GRASS 1½"
1 LAYER SARKANDA MATTING 1"
1 LAYER SIRKEE 1"
SMALL DIA. LOGS 2½"x3"x6'-0"
WOODEN BEAMS 4"x8"x11'-0.
18" THICK MUD WALLING OF SLOP MOULDED CLAY BRICKS 12"x6"x
APPROX. LAID MOIST WITHOUT MUD MORTAR OR LAID DRY IN MUD MORTAR.
WOODEN PLANK LINTEL 2"x 18"x4'-6"
MUD PLASTER ½" & COW DUNG FINISH ON WALLS.
MUD STRAW PLASTER ½"
EARTH FLOORING OF 6" THICK CONSOLIDATED LAYER OF MOISTENENED EARTH RAMMED.
G.L
G.L

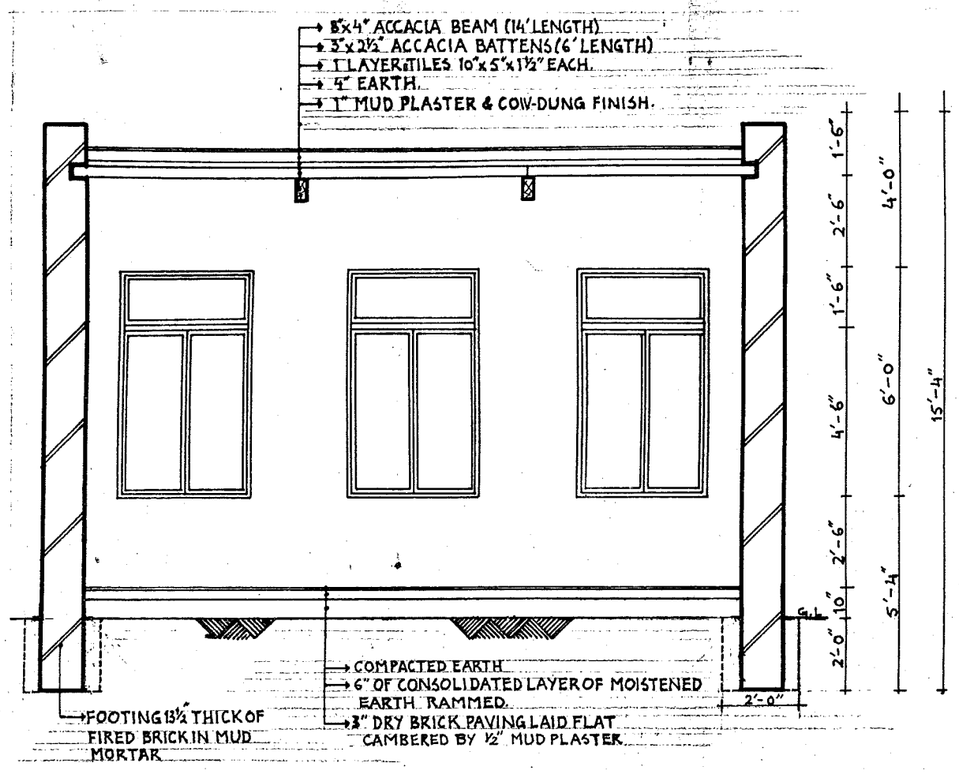
CONSTRUCTION PROCESS,

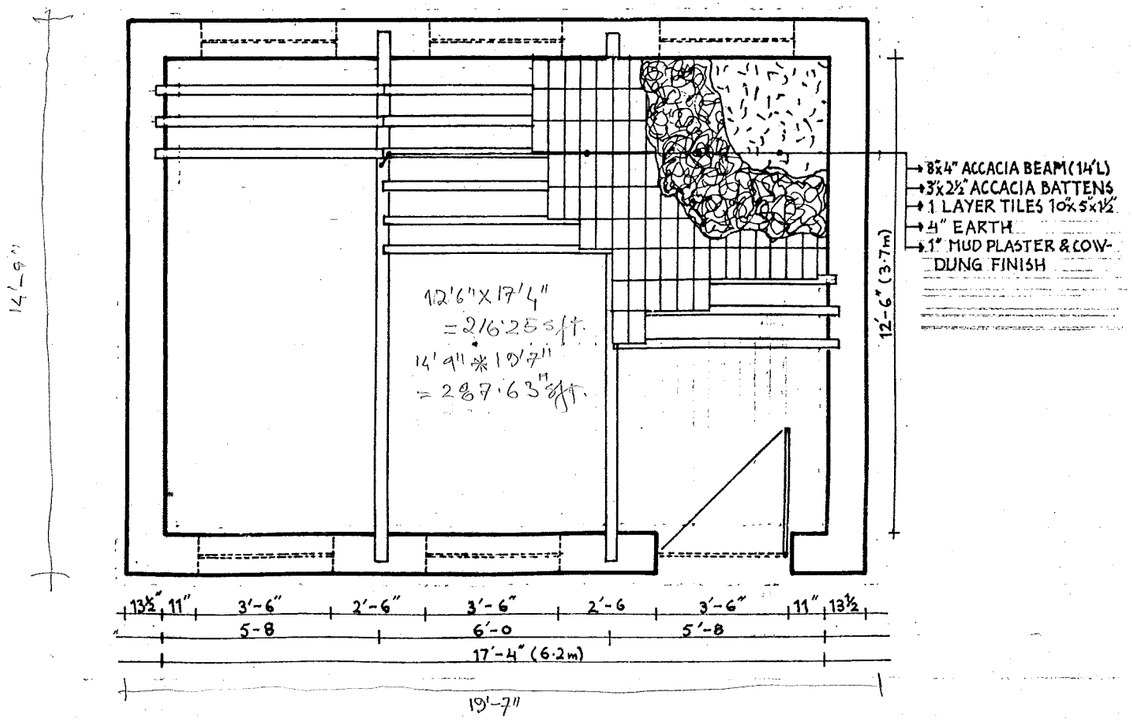
Inputs Source, Quantities, Costs.

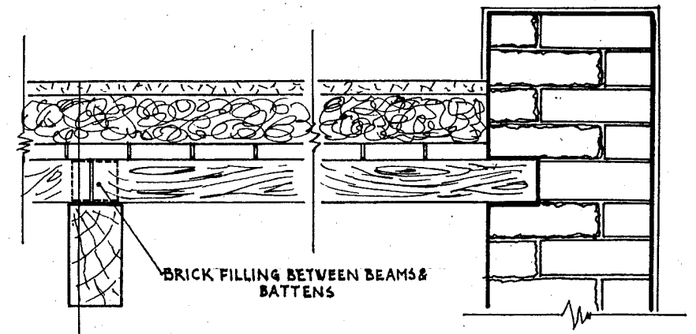
INFORMATION SOURCE:

TECH-NOLOGY TYPE:

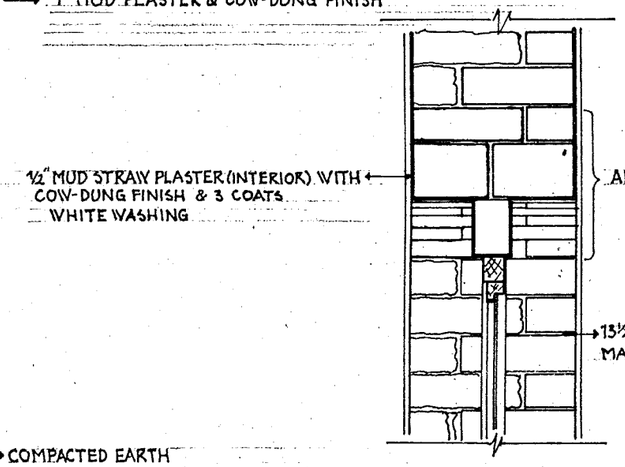
NO.	CONSTRUCTION: INPUTS PROCESS/STAGES.	QTY.	DAYS	8 HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	FOUNDATION/PLINTH																	
1.1	Earth Flooring of 6" thick consolidated layer of moistened earth including ramming.(24.1,W20.87)				Earth(cft/%cft)	70.00				Masons Labour	.13 1.25							
2.	WALLS																	
2.1	18" thick mud-walling of slop moulded clay bricks 12"x6"x6" approx. laid moist without mud-mortar (21.17,W6,69)				Earth (do)	130.00				Labour (#/%sft)	2.00							
2.2	Extra for timber lintels																	
3.	ROOF																	
3.1	3rd class mud roof of 4" thick mud & 1" thick mud plaster over 1" layer of Sarkanda matting & 1" layer of sirkee.(NA,W6,NA)				Straw(lbs/%sft) Sirki(Sft/%Sft) Sarkanda (do) Earth(Cft/%Sft)	34.00 100.00 100.00 55.00				Masons(do) Lahour(do)	.33 1.60							
3.2	Providing,hoisting & placing wooden beams 4"x8"x14'				Accacia beams					Masons (#/6) Labour (do)	1.00 3.00							
3.3	Providing,hoisting & placing small diameter logs 2½"x3"x6' on the roof (NA,W79,84)				Accacia logs					Mason (#/30) Labour(do)	1.00 1.00							
4.	FLOOR																	
4.1	½" mud plaster (25.21,W32,97)				Straw(Seers/%sft) Earth(cft/%sft)	8.00 6.0				Masons(#/%sft) Labour (do)	.15 .50							
5.	RENDERS																	
5.1	½" thick mud plaster on walls(25.7,W32,97)				Earth/clay(do) Straw(seers/5sft)	6.00 8.00				Masons (do) Labour (do)	.17 .55							
5.2	Cow-dung plaster on walls & roof (25.7,W34,101)				Earth/clay (do) Cowdung (do)	.25 .25				Masons (do) Labour (do)	.12 .06							
	TOTALS:																	

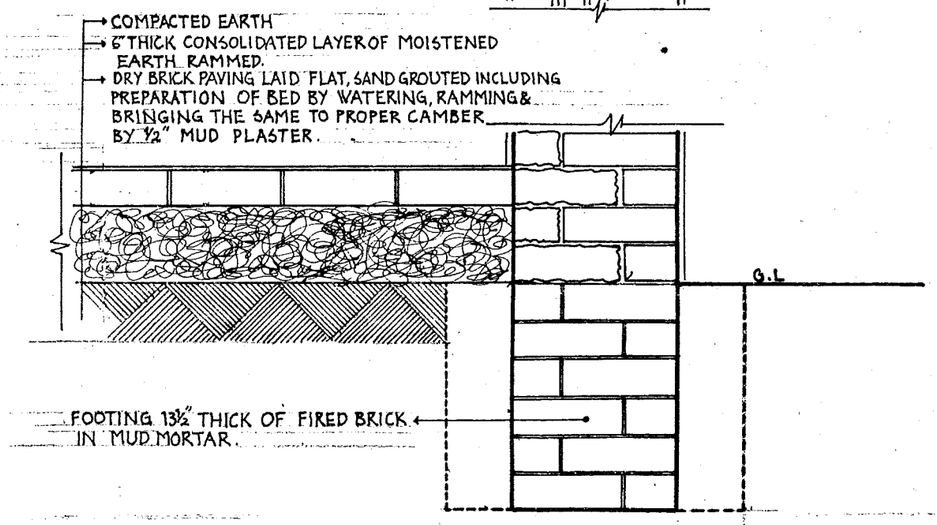






- 8"x4" ACACIA BEAM (14' LENGTH)
- 3"x2½" ACACIA BATTENS (6' LENGTH)
- 1 LAYER TILES 10"x5"x1½" EACH.
- 4" EARTH.
- 1" MUD PLASTER & COW-DUNG FINISH





I 1.

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3

CONSTRUCTION PROCESS,

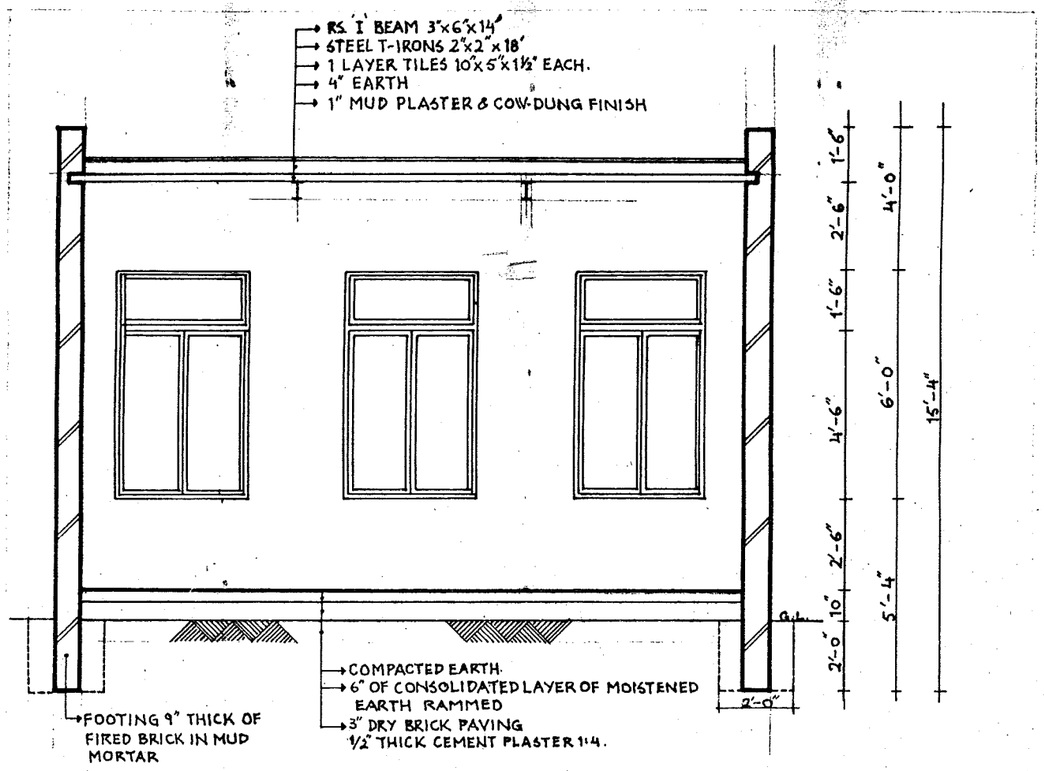
Inputs Source, Quantities, Costs.

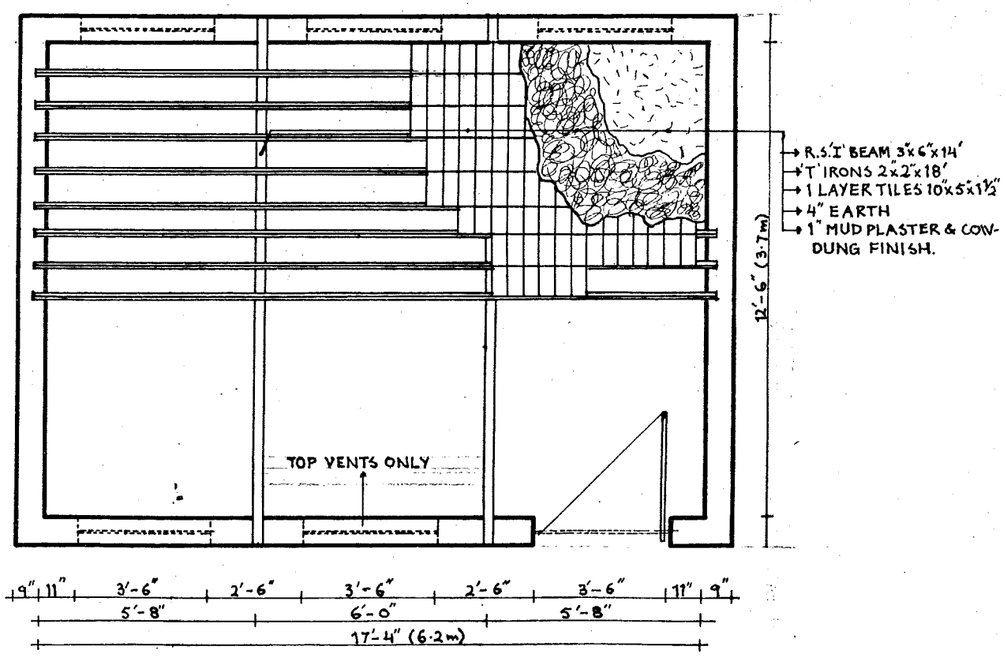
INFORMATION SOURCE:

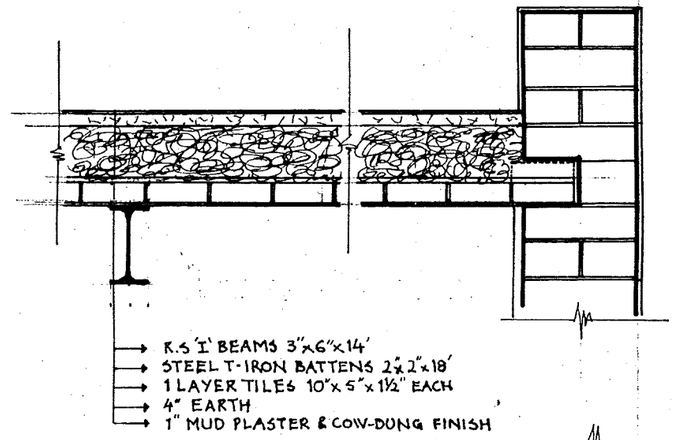
TECH-NOLOGY TYPE:

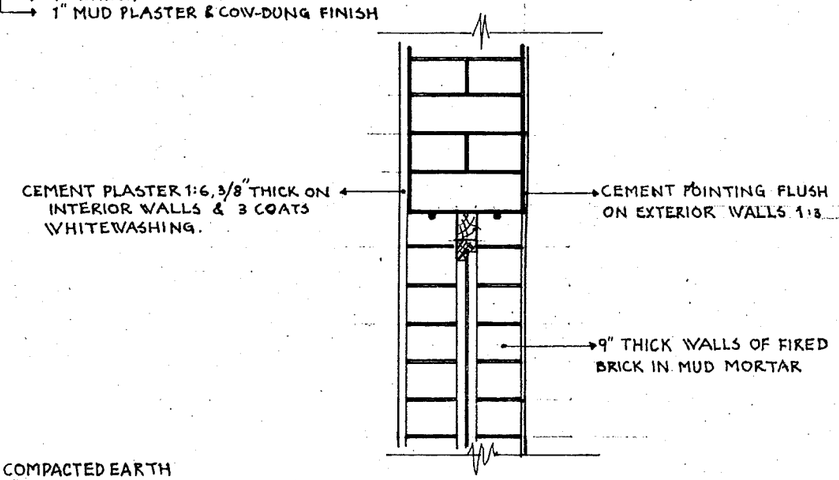
NO.	CONSTRUC-TION: INPUTS PROCESS	QTY.	DAYS	HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	FOUNDATION/PLINTH																	
1.1	Excavation 2' deep x 18"wide including dressing, filling w/excavated earth, watering & ramming lead up to 1 chain & lift upto 5.0' in ordinary soil (17.1/5,W2,32)									Labour	10.50							
1.2	Footings 13½" thick of fired brick in mud-mortar (21.1 to .4,W6,63)				Earth(Cft/%cft)	35.00				Mason(#/%cft)	1.50							
					Bricks(#/%cft)	1350.00				Labour (do)	3.12							
2.	WALLS																	
2.1	13½" thick walls of Ghilafi masonry in mud-mortar. (21.18,W6,69)				Earth(Cft/%cft)	36.50				Masons (do)	2.50							
					Fired brick (#/%cft)	675.00				Labour (do)	6.50							
					Sun-baked brick (#/%cft)	675.00												
2.2	Extra labour for archwork in brick masonry including centering & decentering (21.5,W19,66)									Masons (do)	1.00							
										Labour (do)	2.00							
3.	ROOF																	
3.1	2nd class tile roofing of 4" mud & 1" mud plaster with cow-dung plaster finish over 1 layer tiles of 10"x5"x1½" each.				Earth(cft/%sft)	55.00				Masons(#/%sft)	1.00							
					Tiles(#/%sft)	200.00				Labour (do)	4.00							
					straw(seers/%sft)	17.00												
					Clay(cft/%sft)	.75												
					Cowdung(do)	.75												
3.2	Providing,hoisting & placing wooden beams 4"x8"x14' in position(NA,W79,84)									Mason(#/6#)	1.00							
										Labour(do)	3.00							
3.3	Providing,hoisting & placwooden battens 2½"x3"x6' over beams (W79,84)									Masons(#/30#)	1.00							
										Labour (do)	1.00							
3.4	Filling spaces between beams & battens w/bricks (NA,W25,84) 78				Bricks(#/%sft)	45.00				Mason(#/%sft)	.17							
					Sand(cft/%cft)	.75				Labour (do)	.17							
4.	FLOOR																	
4.1	Earth flooring of 6" thick consolidated layer of moistened earth including ramming.(24.1.,W20,87)				Earth(cft/%sft)	70.00				Masons (do)	.125							
										Labour (do)	1.25							
4.2	Dry brick paving laid flat sand grouted including preparation of bed by watering ramming & bringing the same to proper camber by ½" mud				Sand (Cft/%cft)	5.00				Mason(#/%sft)	.50							
					Fired brick (#/%sft)	350.00				Labour (do)	1.08							

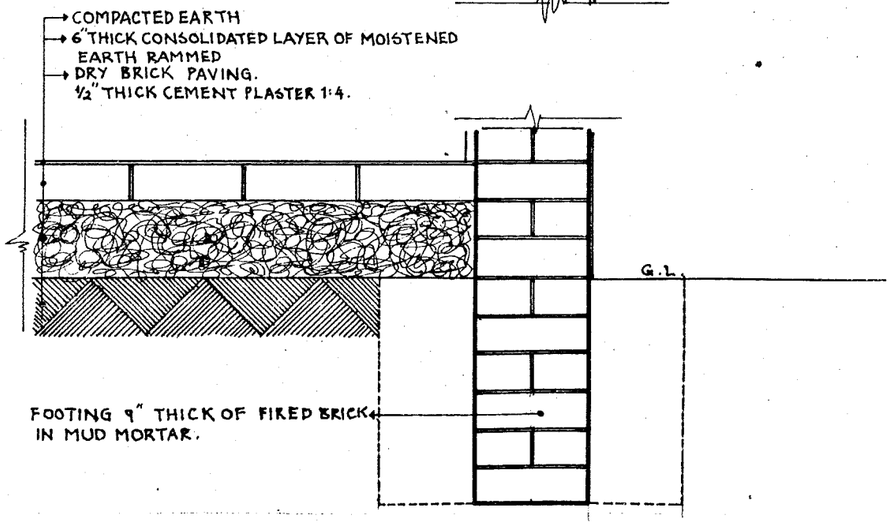
	cow-dung plaster finish over 1 layer tiles of 10"x5"x1½" each.		straw(seers/%sft)	17.00			
			Clay(cft/%sft)	.75			
			Cowdung(do)	.75			
3.2	Providing,hoisting & placing wooden beams 4"x8"x14' in position(NA,W79,84)					Mason(#/6#)	1.00
						Labour(do)	3.00
3.3	Providing,hoisting & placwooden battens 2½"x3"x6' over beams (W79,84)					Masons(#/30#)	1.00
						Labour (do)	1.00
3.4	Filling spaces between beams & battens w/bricks (NA,W25,84)78		Bricks(#/%sft)	45.00		Mason(#/%sft)	.17
			Sand(cft/%cft)	.75		Labour (do)	.17
4.	FLOOR						
4.1	Earth flooring of 6" thick consolidated layer of moistened earth including ramming.(24.1.,W20,87)		Earth(cft/%sft)	70.00		Masons (do)	.125
						Labour (do)	1.25
4.2	Dry brick paving laid flat sand grouted including preparation of bed by watering ramming & bringing the same to proper camber by ½" mud plaster (24.12,W20,87)		Sand (Cft/%cft)	5.00		Mason(#/%sft)	.50
			Fired brick (#/%sft)	350.00		Labour (do)	1.08
5.	RENDERS						
5.1	Mud-straw plaster ½" on walls'interior surface (25.7,W33,97)		Earth(cft/%sft)	6.00		Mason(#/%sft)	.17
			Straw(seer/%sft)	8.00		Labour (do)	.55
5.2	Cow-dung plaster finish on walls'interior surface (25.7,W34,101)		Earth(cft/%sft)	0.25		Mason(#/%sft)	.12
			Cowdung (do)	0.25		Labour (do)	.06
5.3	Whitewashing 3 coats (25.9,W34,101)		Rice(lbs./%sft)	..25		Skilled labour (#/%sft)	.30
			White lime (mds/%sft)	.10		Labour (do)	.20
	TOTAL						


R.S. 'I' BEAM 3"x6"x14'
STEEL T-IRONS 2"x2"x18'
1 LAYER TILES 10"x5"x1½" EACH.
4" EARTH
1" MUD PLASTER & COW-DUNG FINISH
1'-6"
2'-6"
4'-0"
1'-6"
6'-0"
15'-4"
4'-6"
2'-6"
10"
5'-4"
2'-0"
2'-0"
COMPACTED EARTH.
6" OF CONSOLIDATED LAYER OF MOISTENED EARTH RAMMED
3" DRY BRICK PAVING
½" THICK CEMENT PLASTER 1:4.
FOOTING 9" THICK OF FIRED BRICK IN MUD MORTAR


R.S.'I' BEAM 3"x6"x14'
T' IRONS 2"x2"x18'
1 LAYER TILES 10"x5"x1½"
4" EARTH
1" MUD PLASTER & COW-DUNG FINISH.
12'-6" (3.7m)
TOP VENTS ONLY
9" 11" 3'-6" 2'-6" 3'-6" 2'-6" 3'-6" 11" 9"
5'-8" 6'-0" 5'-8"
17'-4" (6.2m)


R.S 'I' BEAMS 3"x6"x14'
STEEL T-IRON BATTENS 2"x2"x18'
1 LAYER TILES 10"x5"x1½" EACH
4" EARTH
1" MUD PLASTER & COW-DUNG FINISH


CEMENT PLASTER 1:6, 3/8" THICK ON INTERIOR WALLS & 3 COATS WHITEWASHING.
CEMENT POINTING FLUSH ON EXTERIOR WALLS 1:3
9" THICK WALLS OF FIRED BRICK IN MUD MORTAR


COMPACTED EARTH
6" THICK CONSOLIDATED LAYER OF MOISTENED EARTH RAMMED
DRY BRICK PAVING.
½" THICK CEMENT PLASTER 1:4.
G.L.
FOOTING 9" THICK OF FIRED BRICK IN MUD MORTAR.

I2.

CONSTRUCTION PROCESS,

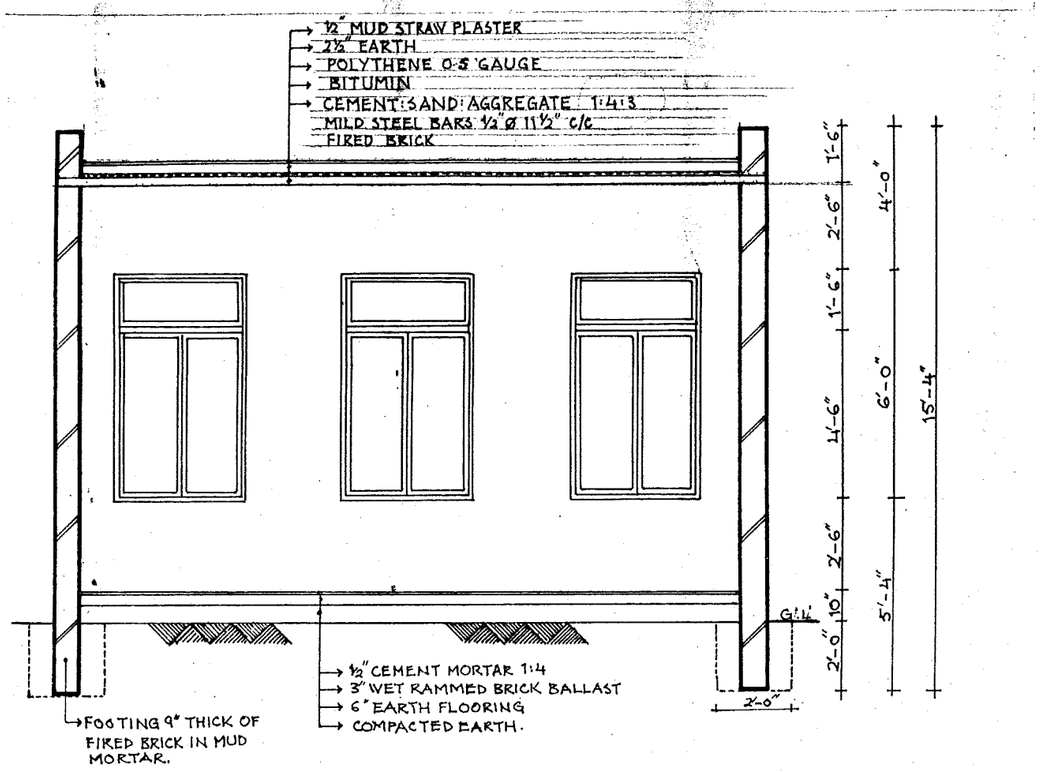
Inputs Source, Quantities, Costs.

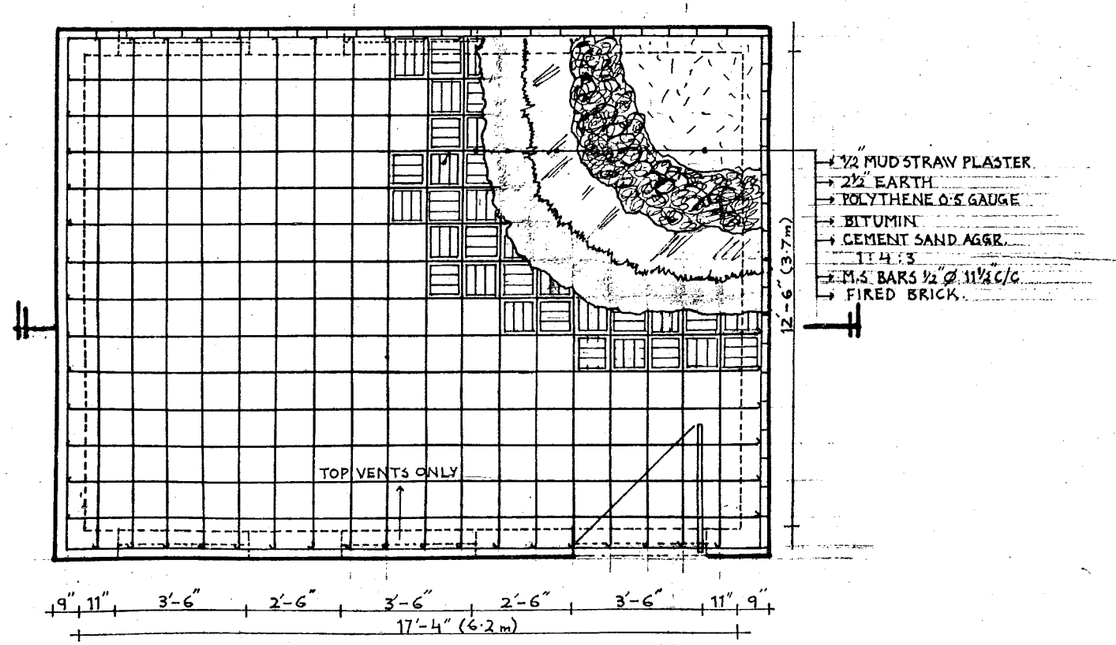
INFORMATION SOURCE:

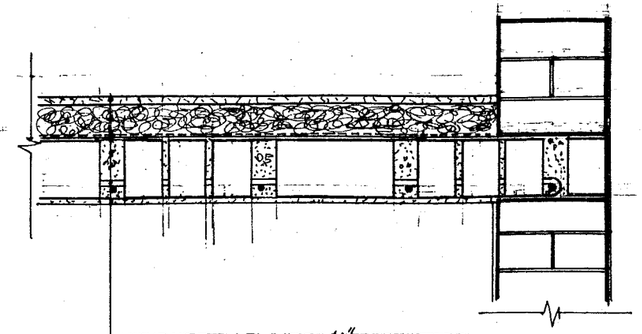
TECHNOLOGY TYPE:

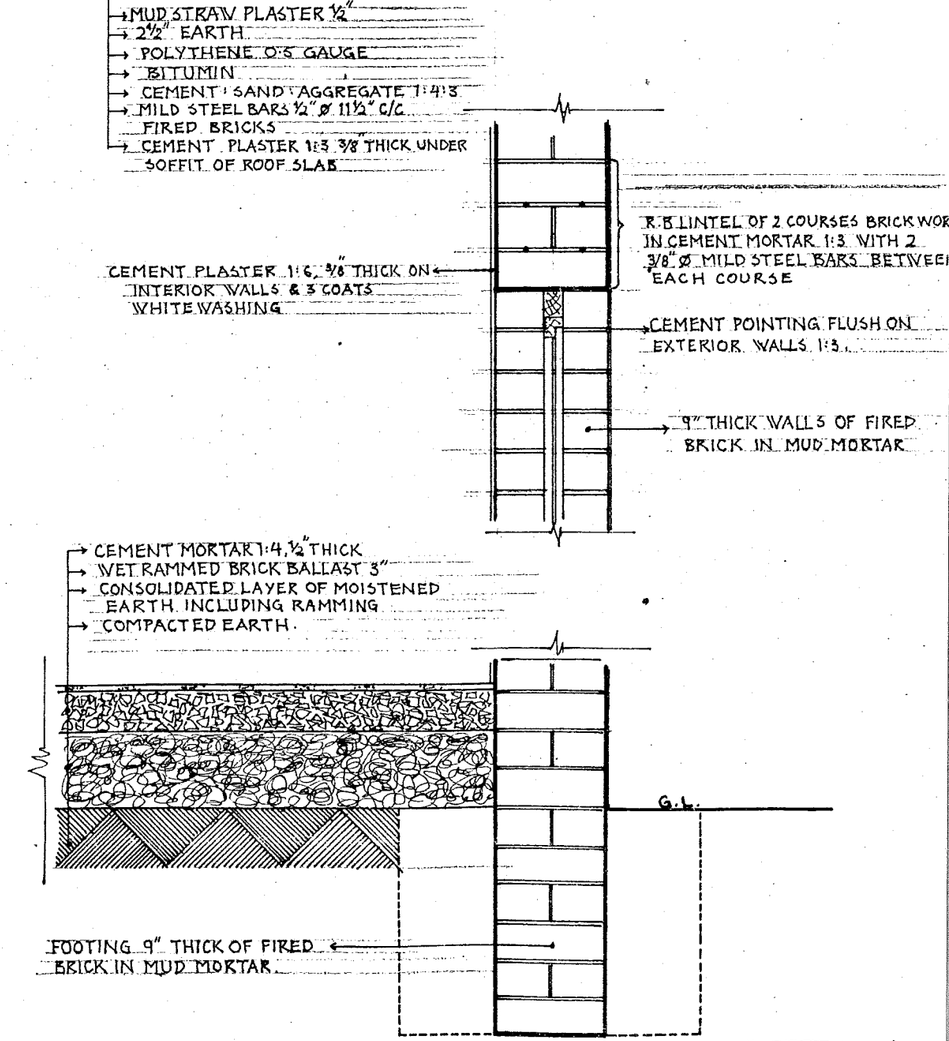
NO.	CONSTRUCTION: INPUTS PROCESS	QTY.	DAYS	HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	TOTAL COST(RS) Mt.+ L	
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	FOUNDATION/PLINTH																	
1.1	Excavation 2' deep and 18" wide including dressing, filling w/excavated earth, watering & ramming lead up									Labour (#/%cft)	10.50							
1.2	Footings 9" thick of fired brick in mud-mortar (21.1 to .4,W6,63)				Earth(cft/%cft)	35.00				Mason (do)	.13							
					Brick (do)	1550.00				Labour(do)	3.12							
2.	WALLS																	
2.1	9" thick of fire & brick in mud-mortar (21.9 to .4,W4,63)				Earth (do)	35.00				Masons(do)	2.00							
					Fired bricks	1350.00				Labour(do)	4.12							
2.2	Extra labour for archwork in brick masonry including centering & decentering (21.5,W19,66)									Masons(do)	1.00							28 RB lintels 3 rms bars laid under & between 2 courses of brickwork in 1:3 C.M. mortar over all openings.
										Labour(do)	2.00							
3.0	ROOF																	
3.1	2nd class tile roofing of 4"mud & 1" mud plaster with cow-dung plaster finish over 1 layer of tiles of 10"x5"x1½" each				Earth (cft/%sft)	35.00				Masons(#/%sft)	1.00							
					Tiles (#/%sft)	200.00				Labour (do)	3.00							
					Straw(seer/%sft)	17.00												
					Clay (cft/%sft)	.75												
					Cowdung (do)	.75												
3.2	Providing, hoisting & placing R.S. I beams 3"x6"x14' in position (NA,W79,84)									Masons(#/6#)	1.00							
										Labour (do)	3.00							
3.2	Providing, hoisting & placing steel T-irons 2"x2"x18' over beams(NA,W79,84)				T-iron (2"x2")					Masons(#/6#)	1.00							
										Labour (do)	3.00							
3.3	Filling spaces between beams & battens w/bricks in 1:3 cement-mortar (NA,W25,84)				Bricks (#/%sft)	45.00				Masons (do)	.17							
					Sand (cft/%sft)	.75				Labour (do)	.27							
					Cement(cwt/%cft)													
4.	FLOOR																	
4.1	Earth flooring of 6" thick consolidated layer of moistened earth, including ramming (24.1,W20,87)				Earth (cft/%sft)	70.00				Masons(#%sft)	.125							
										Labour (do)	1.25							
4.2	Dry Brick Paving				Sand (cft/%cft)	150.00				Masons (do)	.13							Dry Brick Pavers laid flat on 1" sand grouted bed, watered, rammed, carborundum rubbed. (24.12,W20,87)
										Labour (do)	4.25							
4.3	Cement Plaster 1:4, ½"thick (25.1 to .6,W32,98)				Sand (cft/%sft)	5.10				Masons (do)	1.00							
					Cement(cwt/%sft)	1.32				Labour (do)	1.50							

	4"mud & 1" mud plaster with cow-dung plaster finish over 1 layer of tiles of 10"x5"x1½" each	Tiles (#/%sft)	200.00		Labour (do)	3.00	
		Straw(seer/%sft)	17.00				
		Clay (cft/%sft)	.75				
		Cowdung (do)	.75				
3.1	Providing,hoisting & placing R.S. I beams 3"x6"x14' in position (NA,W79,84)				Masons(#/6#)	1.00	
					Labour (do)	3.00	
3.2	Providing,hoisting & placing steel T-irons 2"x2"x18' over beams(NA,W79,84)	T-iron (2"x2")			Masons(#/6#)	1.00	
					Labour (do)	3.00	
3.3	Filling spaces between beams & battens w/bricks in 1:3 cement-mortar (NA,W25,84)	Bricks (#/%sft)	45.00		Masons (do)	.17	
		Sand (cft/%sft)	.75		Labour (do)	.27	
		Cement(cwt/%cft)					
4.	FLOOR						
4.1	Earth flooring of 6" thick consolidated layer of moistened earth, including ramming (24.1,W20,87)	Earth (cft/%sft)	70.00		Masons(#%sft)	.125	
					Labour (do)	1.25	
4.2	Dry Brick Paving	Sand (cft/%cft)	150.00		Masons (do)	.13	
					Labour (do)	4.25	
4.3	Cement Plaster 1:4, ½"thick (25.1 to .6,W32,98)	Sand (cft/%sft)	5.10		Masons (do)	1.00	
		Cement(cwt/%sft)	1.32		Labour (do)	1.50	
5.	RENDERS						
5.1	Cement Pointing flush on walls' exterior 1:3. (25.8,W33,99)	Cement(cwt/%sft)	.53		Labour (do)	1.00	
		Sand (cft/%sft)	4.00		Masons (do)	1.00	
5.2	Cement plaster 1:6 upto 20' ht. 3/8" thick on walls interior.(15.1/.6,W33,99)	Sand(cft/%sft)	3.00		Masons(#/%sft)	.75	
		Cement(cwt/%sft)	.40		Labour (do)	1.25	
5.3	White washing 3 coats (25.9,W34,101)	Rice (lbs./%sft)	.25		Skilled (do)	.30	
		White lime(do)	.10		Labour (do)	.20	
	TOTAL:						


½" MUD STRAW PLASTER
2½" EARTH
POLYTHENE 0·5 GAUGE
BITUMIN
CEMENT: SAND: AGGREGATE 1:4:3
MILD STEEL BARS ½" Ø 11½" c/c
FIRED BRICK
1'-6"
2'-6"
1'-6"
4'-6"
2'-6"
10"
2'-0"
4'-0"
6'-0"
5'-4"
15'-4"
G.L.
2'-0"
½" CEMENT MORTAR 1:4
3" WET RAMMED BRICK BALLAST
6" EARTH FLOORING
COMPACTED EARTH.
FOOTING 9" THICK OF FIRED BRICK IN MUD MORTAR.


½" MUD STRAW PLASTER
2½" EARTH
POLYTHENE 0·5 GAUGE
BITUMIN
CEMENT SAND AGGR. 1:4:3
M.S. BARS ½" Ø 11½" C/C
FIRED BRICK.
12'-6" (3·7m)
TOP VENTS ONLY
9" 11" 3'-6" 2'-6" 3'-6" 2'-6" 3'-6" 11" 9"
17'-4" (4·2 m)




MUD STRAW PLASTER ½"
2½" EARTH
POLYTHENE 0·5 GAUGE
BITUMIN
CEMENT: SAND: AGGREGATE 1:4:3
MILD STEEL BARS ½" Ø 11½" C/C
FIRED BRICKS
CEMENT PLASTER 1:3 3/8" THICK UNDER SOFFIT OF ROOF SLAB
R.B.LINTEL OF 2 COURSES BRICK WORK IN CEMENT MORTAR 1:3 WITH 2 3/8" Ø MILD STEEL BARS BETWEEN EACH COURSE
CEMENT PLASTER 1:6, 3/8" THICK ON INTERIOR WALLS & 3 COATS WHITEWASHING
CEMENT POINTING FLUSH ON EXTERIOR WALLS 1:3.
9" THICK WALLS OF FIRED BRICK IN MUD MORTAR
CEMENT MORTAR 1:4, ½" THICK
WET RAMMED BRICK BALLAST 3"
CONSOLIDATED LAYER OF MOISTENED EARTH, INCLUDING RAMMING
COMPACTED EARTH.
G.L.
FOOTING 9" THICK OF FIRED BRICK IN MUD MORTAR.

I3a.

CONSTRUCTION PROCESS;

Inputs Source, Quantities, Costs.

TECH-NOLOGY TYPE:

NO.	CONSTRUC-TION: INPUTS PROCESS	QTY.	DAYS	HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.0	FOUNDATION/PLINTH																	
1.1	Excavation 2'6" deep & 2' wide including dressing. filling w/excavated earth, watering & ramming lead up									Labour(#/%cft)	10.50							
1.2	Footings 9" thick of fired brick in mud-mortar (21.1 to .4,W6,63)				Earth(cft/%cft)	35.00				Mason(do)	1.50							
					Brick (do)	1350.00				Labour(do)	3.12							
2.0	WALLS																	
2.1	9" thick of fird brick in mud mortar (21.9 to .4,W4,63)				Earth(cft/%cft)	35.00				Mason (do)	2.00							
					Fired bricks (#/%cft)	1350.00				Labour(do)	4.12							
2.2	a) R.B.lintels in 1:3 cement mortar for opening complete in all respect excluding cost of M.S. bars.				Bricks													
					Sand (cft/%cft)	48.0												
					Shingle(cft/%cft)	88.0												
					Cement(cwt/%cft)	19.30												
2.2	b) Fabrication of m.s bars for R.B.h) complete in all respect.(851,W5,55)				Binding wire(lbs/cwt)	.25				Mason (do)	0.50							
					Reinforcing Steel(cwt/cwt)	1.10												
3.0	ROOF																	
3.1	Fabricating M.S.bars for R.B.W. incl. cutting, beinding laying in position making joints and fastening incl. cost of binding wire wastage of steel and removal of rust from bars (851,W5,55).				Binding wire(lbs/cwt)	.25				Mason (do)	0.50							
					Reinforcing steel (cwt/cwt)	1.10				Labour (do)	0.50							
3.2	Providing and placing bricks in groups of 3 each between m.s.bars.				Bricks													
3.3	Reinforced cement concrete				Deodar Wood					Mason (do)	6.00							
a)	Preparing surface for R.C. work.				Bolts,nuts,nails	L.S.				Labour(do)	16.00							
					oild and grease.	L.S.				Carpenter(do)	6.00							
b)	R.C.C.(1:2:4) slabs complete incl. shuttering,pouring compacting, curing,rendering(20.4,W4,52)				Sand(cft/%cft)	48.00												
					Cement(cwt/%cft)	19.00												
					Shingle(cft/%cft)	88.00												
3.4	1 coat of bitumen laid hot blended with sand overlaid with 1 layer 500 gauge polythene sheet.				Sand(cft/%cft)	1.00				Labour (do)	1.00							
					Bitumen(lbs/%cft)	34.00												
					Fuelwood(Mds/&sft)	0.12												
					Polythene													
3.5	3" earth filling over roof including watering and ramming with 1" mud plaster finished with gobri. (23.1-3,W27,79)				Earth(cft/%sft)	45.00				Mason(#/%sft)	0.12							
					Straw(lbs/%sft)	34.00				Labour(do)	1.12							
					Clay(cftP%sft)	0.75												
					Cowdung (do)													

shuttering?

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE:

TECH-NOLOGY TYPE:

NO.	CONSTRUC-TION: INPUTS PROCESS	QTY.	DAYS	HRS	MATERIAL TYPE	QUANTITY /Unit	QUANTITY Total	COST (RS) /Unit	COST (RS) Total	LABOUR TYPE	QUANTITY /Unit	QUANTITY Total	/day Ms	/day L	COST (RS) /Unit	COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
4.0	FLOOR																	
4.1	6" consolidated layer of moistened earth including ramming.				Earth(cft/&sft)	70.00				Mason(#/%sft)	0.125							
										Labour(do)	1.25							
4.2	Wet rammed Brick Ballast				Brick Ballast (cft/sft)					Mason(#/%cft)								
										Labour(do)								
4.3	½" cement mortar 1:4				Sand(cft/%sft)													
					Cement(cwt/%sft)													
5.0	RENDERS																	
5.1	Cement pointing flush on wall exterior 1:3 (25.8,W33,99)				Cement(cwt/%sft)	0.53				Mason(#/%sft)	1.00							
					Sand(cft/%sft)	4.00				Labour (do)	1.00							
5.2	Cement plaster 1:6 upto 20' ht. 3/8" thick on walls interior(15.1/.6,W33,99)				Cement(cwt/%sft)	0.40				Mason(do)	0.75							
					Sand Icft/%sft)	3.00				Labour(do)	1.25							
5.3	Cement plaster 1:3, 3/8" thick under soffit of roof slab.				Sand(cft/%sft)	2.55				Mason (do)	0.75							
					Cement(cwt/%sft)	0.66				Labour(do)	1.00							
5.4	White washing 3 coats. (25.9,W34,101)				Rice(lbs/%sft)	0.25				Skilled Labour(#/%sft)	0.30							
					White lime (mds/%sft)	0.10				Labour(do)	0.20							
	TOTAL:																	

I3b
4b

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE:

TECH-NOLOGY TYPE:

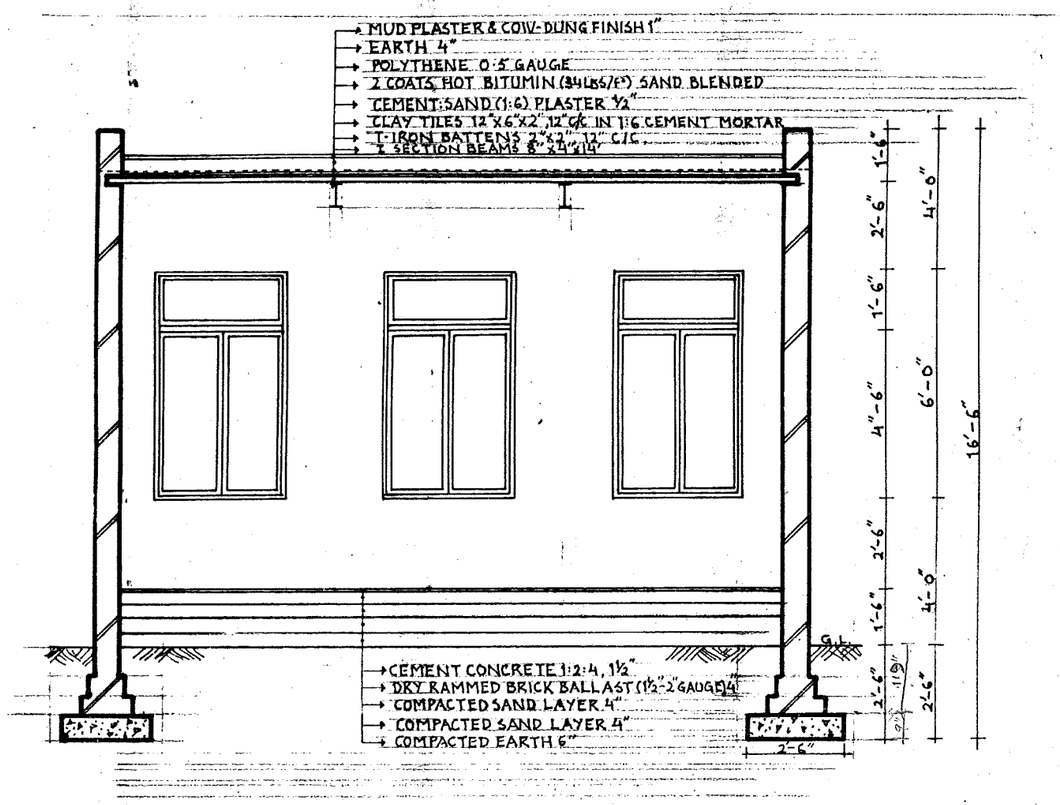
NO.	CONSTRUCTION: INPUTS PROCESS	QTY.	DAYS / HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.0	FOUNDATION																
1.1	Excavation 2'-6"x2'-6" incl. dressing & filling with earth,watering and ramming lead upto 1 chain and lift upto 5' in ordinary soil. (17.1/5,W2,32).								Labour(#/%cft)	10.50							
1.2	9"x2'-6" bed of cement concrete plain handmixed, placing and watering 1:7:20 cement, sand, aggregate. (20.1,W4,52).			Brick ballast 1½"-2"(cft/%cft)	110.00				Mason(#/%cft)	0.25							
									Labour (do)	5.50							
				Sand (do)	9.00												
				Cement(cwt/%cft)	4.50												
1.3	Footings 9" thick of fired bricks in 1:7 cement sand mortar (21.1,W12,64)			Sand(cft/%cft)	26.50				Mason (do)	2.00							
				Cement(cwt/%cft)	3.00				Labour(do)	4.08							
				Bricks(#/%cft)	1350												
1.4	DPC 1:2:4, 1½" with 2 coats of hot bitumen(W33,59)			Sand(cft/%sft)	3.60				Mason (do)	0.65							
				Cement(cwt/%sft)	0.73				Labour(do)	2.25							
2.0	WALLS																
2.1	9" thick of fired bricks in 1:7 cement mortar.			Sand(cft/%cft)	26.50				Mason (do)	2.50							
				Cement(cwt/%cft)	3.00				Labour (do)	5.58							
				Bricks(#/%cft)	1350												
2.2a	R.B. lintels in 1:3 cement mortar for openings complete in all respect excluding cost of M.S. bars.			Bricks													
				Sand(cft/%cft)	48.00												
				Cement(cwt/%cft)	19.30												
				Shingle(cft/%cft)	88.00												
2.2b	Fabricating M.S.bars for RBW complete in all respects (851,W5,55)			Binding Wire (lbs/cwt)	0.25				Mason (do)	0.50							
				Reinforcing Steel (cwt/cwt).	1.10												
3.0	ROOF																
3.1	Fabricating M.S.bars for RBW incl. cutting, bending, laying in position, making joints and fastening incl. cost of binding wire wastage of steel and removal of rust from bars(851,W5,55)			Binding Wire (lbs/cwt).	0.25				Mason (do)	0.50							
				Reinforcing steel (cwt/cwt)	1.10				Labour (do)	0.50							
3.2	Providing & placing bricks in groups of 3 each between m.s.bars.			Bricks													
3.3	Reinforced cement concrete			Deodar wood	5.50												
				Bolts,nuts,nails,	L.S.				Mason (do)								
a)	Preparing surface for R.C.C. work			oil and grease	L.S.				Labour (do)								
				Sand(cft/%cft)	48.00				Carpenter(do)								
				Cement(cwt/%cft)	19.30												
				Shingle(cft/%cft)	88.00												

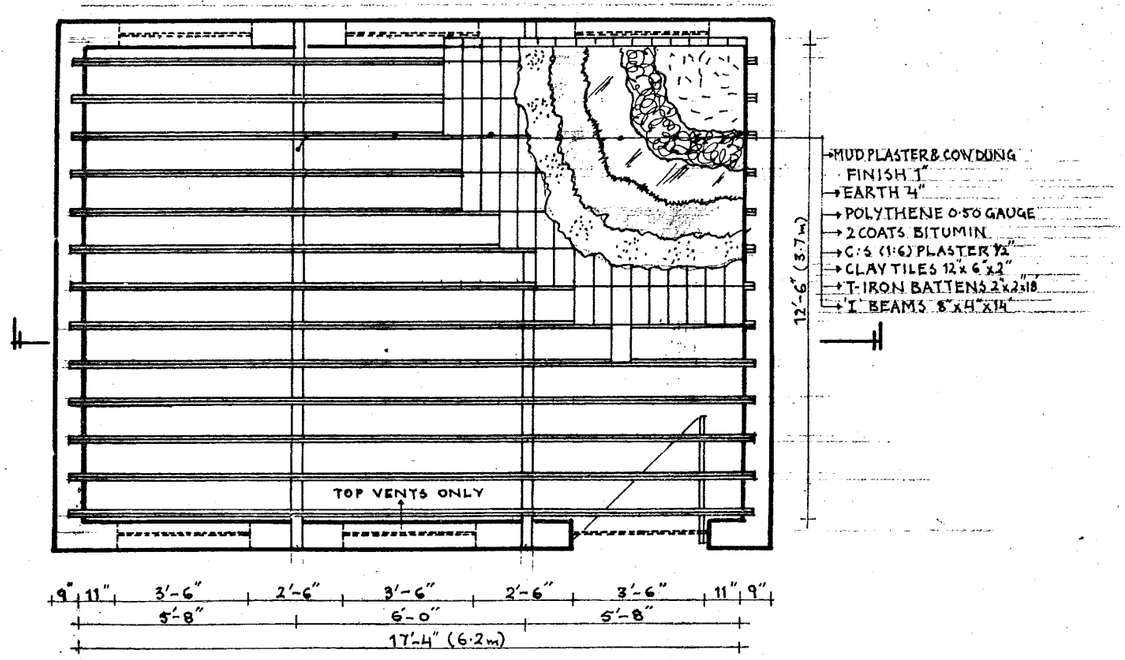
CONSTRUCTION PROCESS;
Inputs Source, Quantities, Costs.

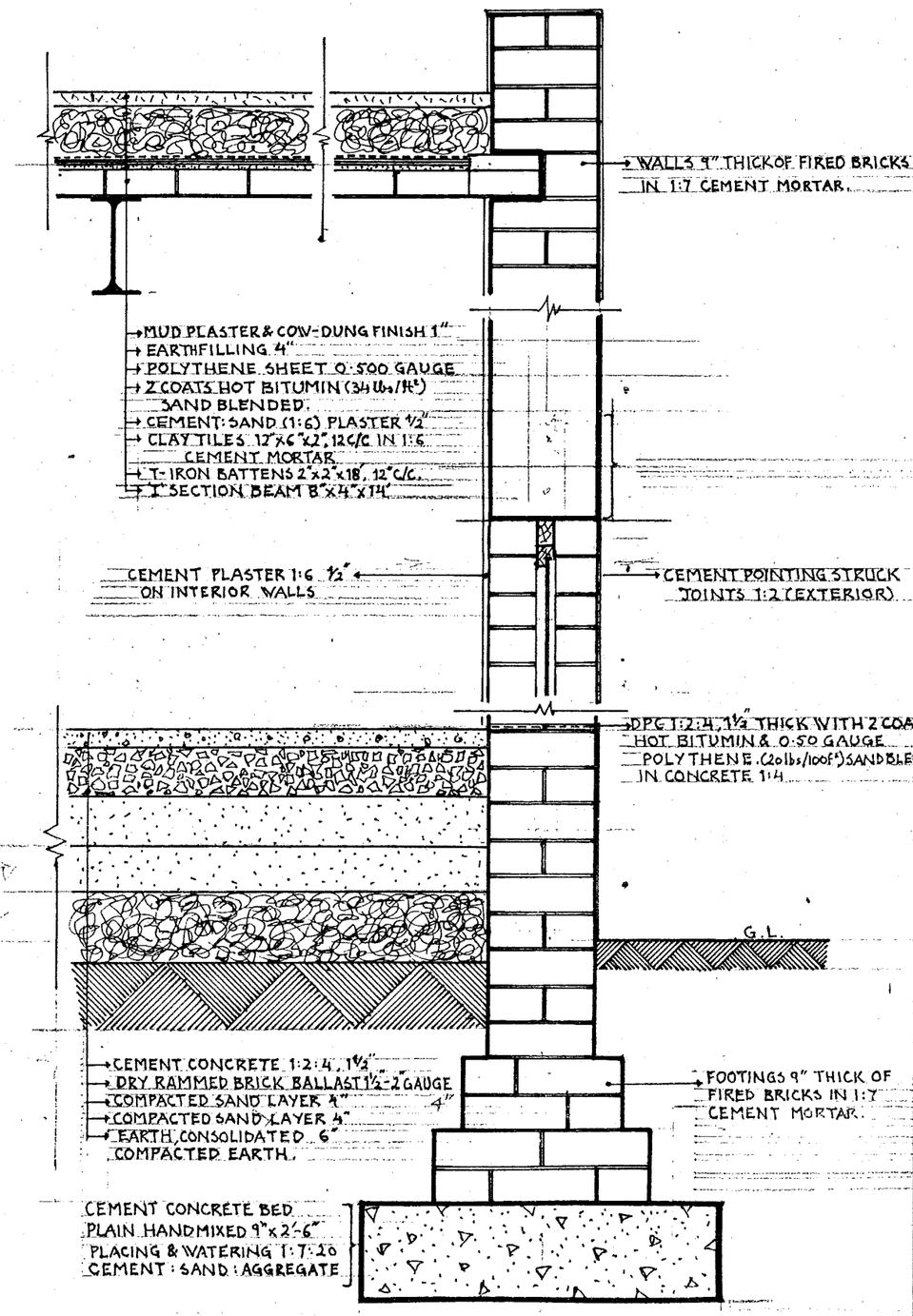
INFORMATION SOURCE:

TECHNOLOGY TYPE:

NO.	CONSTRUCTION: PROCESS: INPUTS	QTY.	DAYS	8 HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
3.3b)	Providing & alying R.C.C. 1:2:4 complete including shuttering,pouring,compacting,curing, rendering (20.4,W4,52).																	
3.4	Shingle layer of tiles 9"x4½"x2" built over 4" earth and 1" mud plaster w/o straw grouted with cement sand 1:3 on top of slab, provided polythene & 24 lbs bitumen coating sand blended. (23.1,W25,78)				Sand(cft/%sft) Cement(cwt/%sft) Earth(cft/%sft) Bitumen(lbs/%sft) Tiles(#/%sft) Polythene	3.00 0.50 55.00 34.00 350.00				Mason(#/%sft) Labour (do)	1.25 2.00							
4.0	FLOOR																	
4.1	6" thick flooring of consolidated layer of moistened earth including ramming (24.1,W20,87).				Earth(cft/%cft)	70.00				Mason (do) Labour(do)	0.13 1.25							
4.2	3" thick layers of sand filling rammed after saturation to 2" compaction (24.1,W20,87)				Sand					Mason (do) Labour(do)	0.13 4.00							
4.3	Dry rammed brick ballast 1½"-2" gauge(20.1,W4,51)				Brick Ballast (cft/%cft)	110.00				Labour(do)	3.00							
4.4	1½" cement concrete 1:2:4 (20.1,W4,52)				Stone Ballast (cft/%cft) Sand (do) Cement(cwt/%cft)	88.00 44.00 17.00				Mason (do) Labour(do)	1.00 6.50							
5.0	RENDERS																	
5.1	Cement pointing struck joints 1:2 on exterior of walls (25.8,W33,99)				Cement(cwt/%cft) Sand (cft/%cft)	0.12 1.80				Mason (do) Labour(do)	0.75 1.25							
5.2	Cement plaster 1:6 upto ½" thick interior of walls.				Sand (do) Cement(cwt/%cft)	2.55 0.66				Mason (do) Labour(do)	0.75 1.00							
5.3	White washing (3 coats) (25.9,W34,101)				Rice (lbs/%sft) White lime (mds/%sft)	0.25				Skilled Labour(do) Labour(do)	0.30 0.20							
	TOTAL:																	


MUD PLASTER & COW-DUNG FINISH 1"
EARTH 4"
POLYTHENE 0·5 GAUGE
2 COATS HOT BITUMIN (34 LBS/FT²) SAND BLENDED
CEMENT: SAND (1:6) PLASTER ½"
CLAY TILES 12"X6"X2" 12"C/C IN 1:6 CEMENT MORTAR
T-IRON BATTENS 2"x2" 12" C/C
I SECTION BEAMS 8"x4"x14"
CEMENT CONCRETE 1:2:4, 1½"
DRY RAMMED BRICK BALLAST (1½"-2" GAUGE) 4"
COMPACTED SAND LAYER 4"
COMPACTED SAND LAYER 4"
COMPACTED EARTH 6"
1'-6"
2'-6"
1'-6"
4"-6"
2'-6"
1'-6"
2'-6"
4'-0"
6'-0"
4'-0"
16'-6"
2'-6"
GL


MUD PLASTER & COW DUNG FINISH 1"
EARTH 4"
POLYTHENE 0·50 GAUGE
2 COATS BITUMIN
C:S (1:6) PLASTER ½"
CLAY TILES 12"x 6"x2"
T-IRON BATTENS 2"x2"x18"
I BEAMS 8"x4"x14"
12'-6" (3.7m)
TOP VENTS ONLY
9" 11" 3'-6" 2'-6" 3'-6" 2'-6" 3'-6" 11" 9"
5'-8"
6'-0"
5'-8"
17'-4" (6·2m)


WALLS 9" THICK OF FIRED BRICKS IN 1:7 CEMENT MORTAR.
MUD PLASTER & COW-DUNG FINISH 1"
EARTHFILLING 4"
POLYTHENE SHEET 0·500 GAUGE
2 COATS HOT BITUMIN (34 lbs/ft²) SAND BLENDED.
CEMENT: SAND (1:6) PLASTER ½"
CLAY TILES 12"x6"x2", 12 C/C IN 1:6 CEMENT MORTAR
T-IRON BATTENS 2"x2"x18", 12"C/C.
I SECTION BEAM 8"x4"x14"
CEMENT PLASTER 1:6 ½" ON INTERIOR WALLS
CEMENT POINTING STRUCK JOINTS 1:2 (EXTERIOR).
DPC 1:2:4, 1½" THICK WITH 2 COATS HOT BITUMIN & 0·50 GAUGE POLYTHENE (20lbs/100ft²) SANDBLE IN CONCRETE 1:4
G.L
CEMENT CONCRETE 1:2:4, 1½"
DRY RAMMED BRICK BALLAST 1½"-2" GAUGE
COMPACTED SAND LAYER 4"
COMPACTED SAND LAYER 4"
EARTH, CONSOLIDATED 6"
COMPACTED EARTH.
4"
FOOTINGS 9" THICK OF FIRED BRICKS IN 1:7 CEMENT MORTAR.
CEMENT CONCRETE BED PLAIN HANDMIXED 9"x2'-6" PLACING & WATERING 1:7:20 CEMENT : SAND : AGGREGATE

G1.
5

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE:

TECH-NOLOGY TYPE:

NO.	CONSTRUCTION: INPUTS PROCESS	QTY.	DAYS HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.0	FOUNDATION/PLINTH															
1.1	Excavation 2'6"x2'6" including dressing & filling with earth, watering and ramming lead upto 1 chain a lift up to 5' in ordinary soil (17.1/5,W2,32)								Labour (#/%cft)	10.50						
1.2	1"x2'6" bed of cement concrete plain bandmixed, placing & watering 1:7:20 cement, sand, aggregate (20,1,W,52)			Brick Ballast 1½"-2"(cft/%cft)	111.00				Masons (do)	.25						
				Sand (do)	9.00				Labour (do)	5.50						
				Cement(cwt/%cft)	4.5											
1.3	Footings 9" thick of fired bricks in 1"7, cement sand mortar(21.1,W12,64)			Sand(cft/%cft)	26.50				Mason (do)	2.00						
				Cement(cwt/%cft)	3.00				Labour (do)	4.08						
				Bricks (#/%cft)												
1.4	DPC 1:2:4, 1½" thick with two coats hot mitumin and polythene sheet 500 gauge. (NA,W80,W33,59)			Sand (cft/%cft)	3.60				Masons (do)	.65						
				Cement(cwt/%Sft)	0.72				Carpenter(do)	.15						
				Bitumin(lbs/%sft)	34.00				Labour (do)	2.25						
				Polythene												
2.0	WALLS															
2.1	9" thick of fired bricks in 1:7 cement mortar (21.1,W12.64)			Sand(cft/%cft)	26.50				Masons (do)	2.50						
				Cement(cwt/%cft)	3.00				Labour (do)	5.58						
				Bricks(#/%cft)	1350.00											
2.2a	RB lintels in 1:3 cement mortar for opening complete in all respect excluding cost of m.s. bars.			Bricks												
				Sand(cft/%cft)	48.00											
				Cement(cwt/%cft)	19.30											
				Shingle(cft/%cft)	88.00											
2.2b	Fabricating m.s.bars for RBW complete in all respects(851,W5,55)			Binding wire (lbs/cwt)	.25				Mason (do)	.50						
				Reinforcing steel(cwt/cwt)	1.10											
2.3	RCC 1:2:4 for bed plaste under RS beams. (20.1,W4,52)			Brick Ballast 1½"-2"(cft/%cft)	111.00				Masons (do)	.25						
				Sand (do)	9.00				Labour (do)	5.50						
				Cement(cwt/%cft)	4.50											
3.0	ROOF															
3.1	2nd class Tile Roofing of 4" mud & 1"mud plaster with cowdung finish over ½" cement plaster 1:6 w/ 1 layer polythene 500 gauge & hot bitumin coating sand blended over 1 layer tiles (12"x6"x1½") laid in 1.6 cement mortar incl. 1.2 cement pointing underside of tiles complete incl. curing etc.(23.2,W25,77)			Sand(cft/%sft)	8.94				Mason(#/%sft)	2.5						
				Cement(cwt/%sft)	1.18				Labour (do)	6.0						
				Earth(cft/%sft)	35.00											
				Bitumin(lbs/%sft)	34.00											
				Tiles(#/%sft)	200.00											
				Straw(srs/%sft)	17.00											
				Clay(cft/%sft)	0.75											
				Firewood(mnd/%sft)	0.20											
				Polythene												

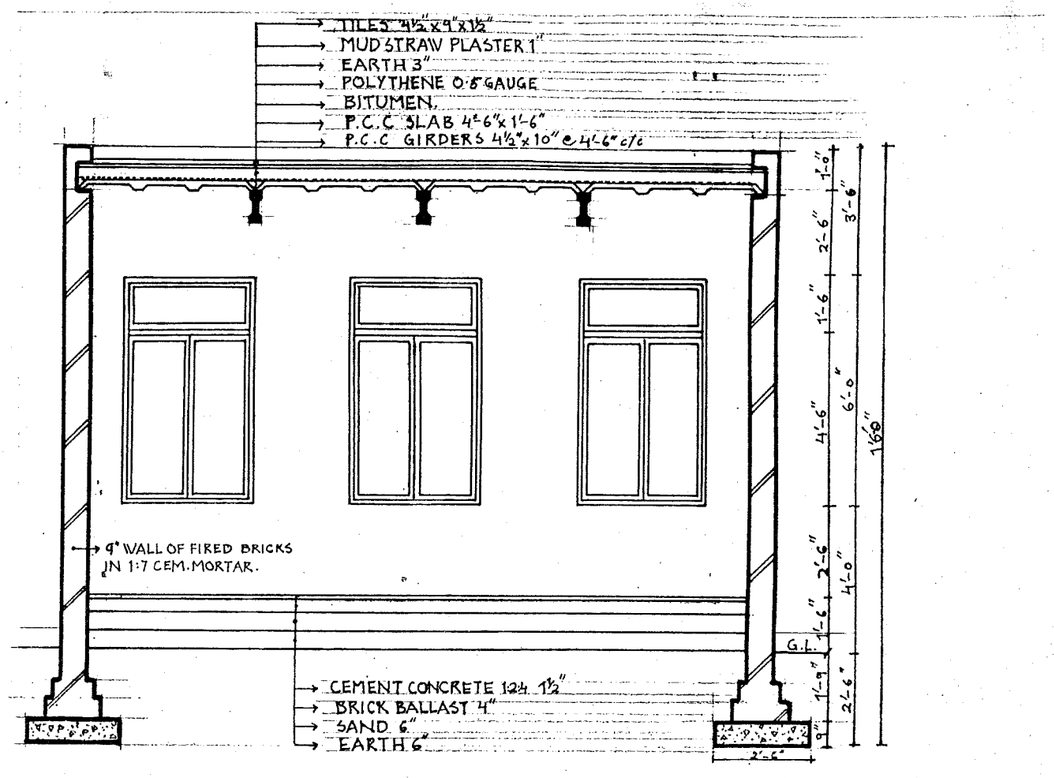
CONSTRUCTION PROCESS,

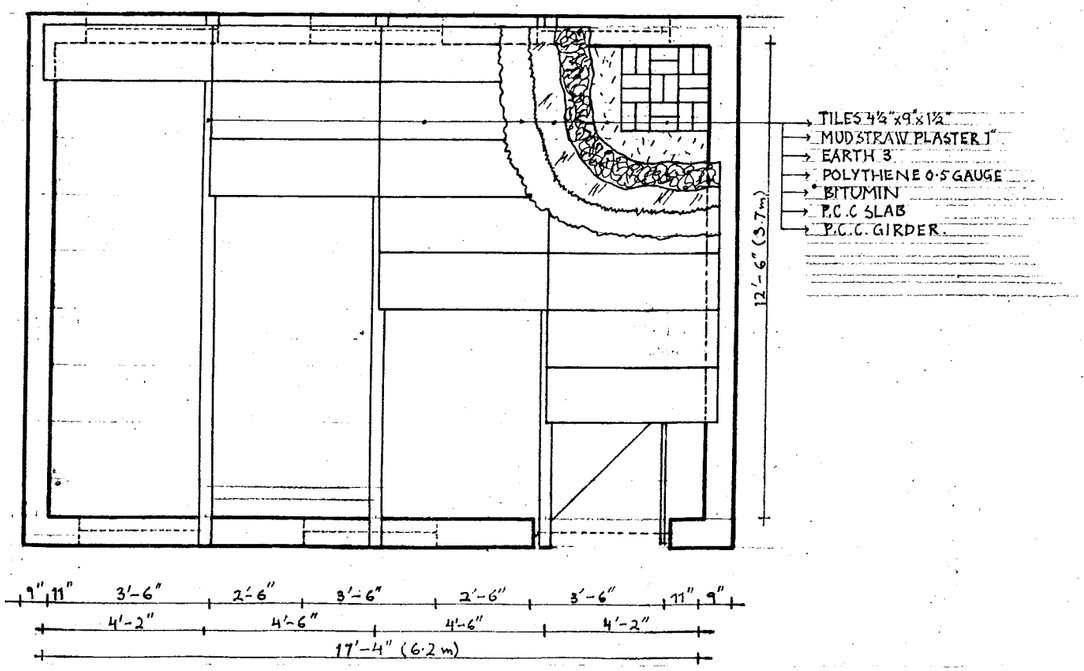
Inputs Source, Quantities, Costs.

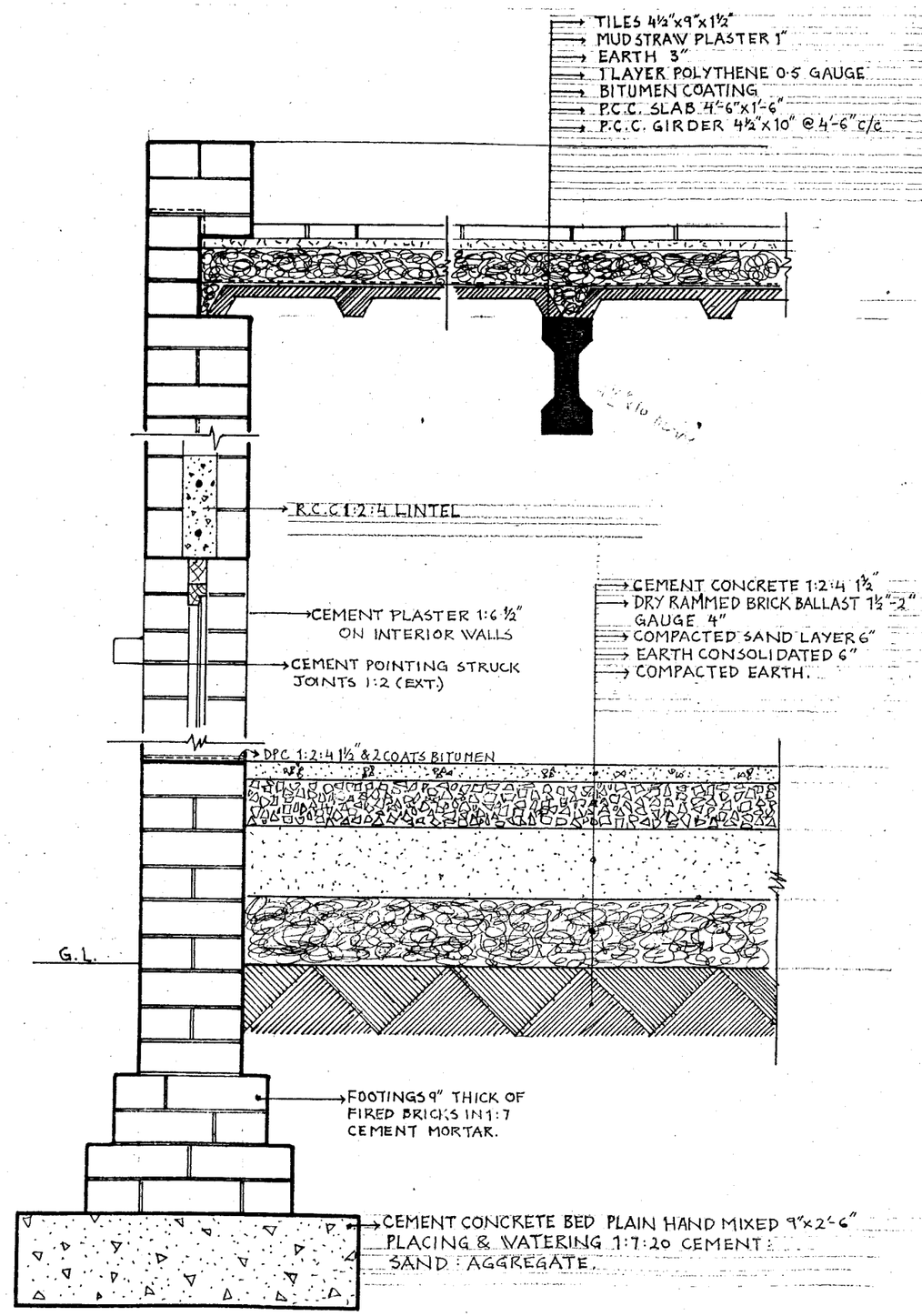
INFORMATION SOURCE:

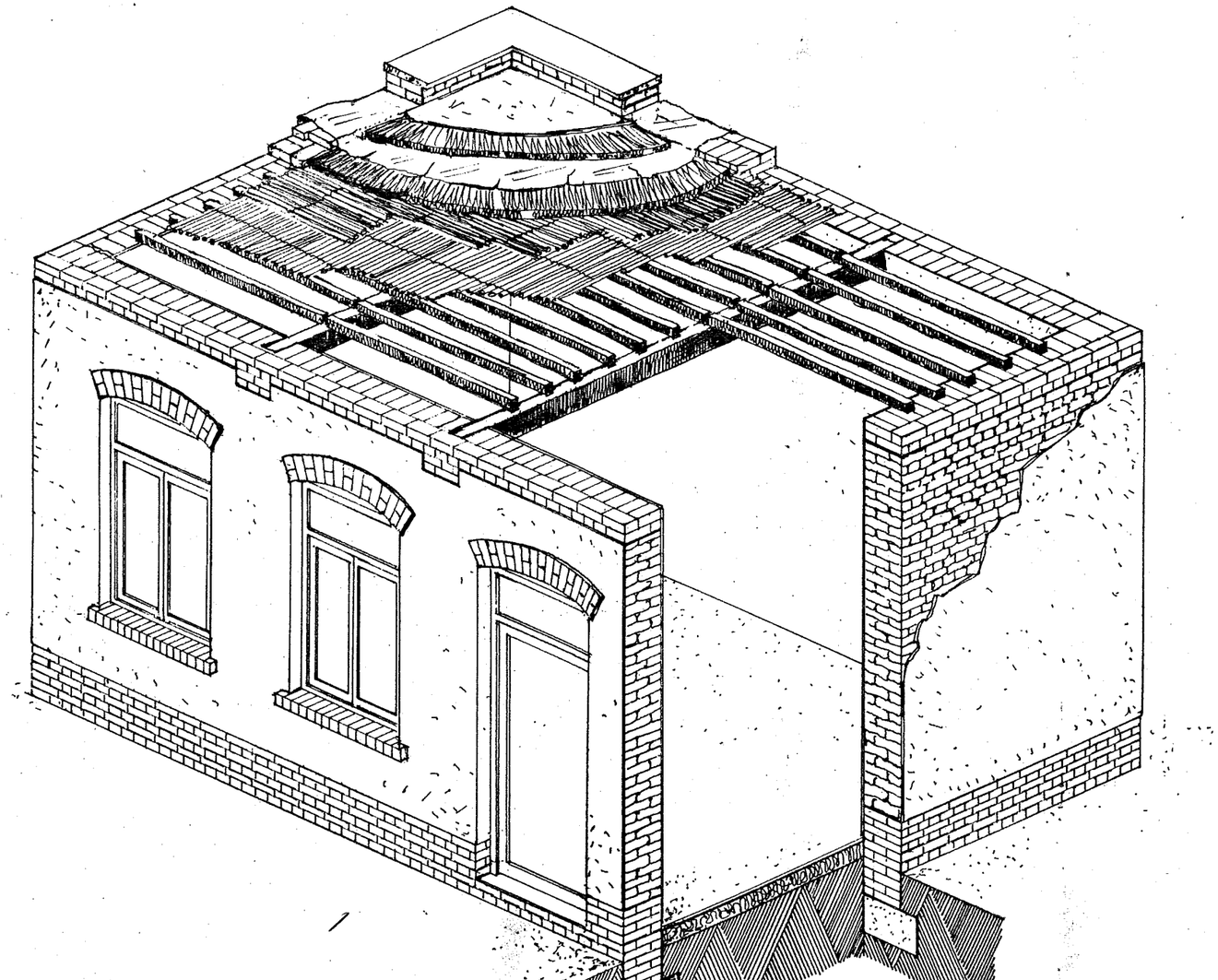
TECHNOLOGY TYPE:

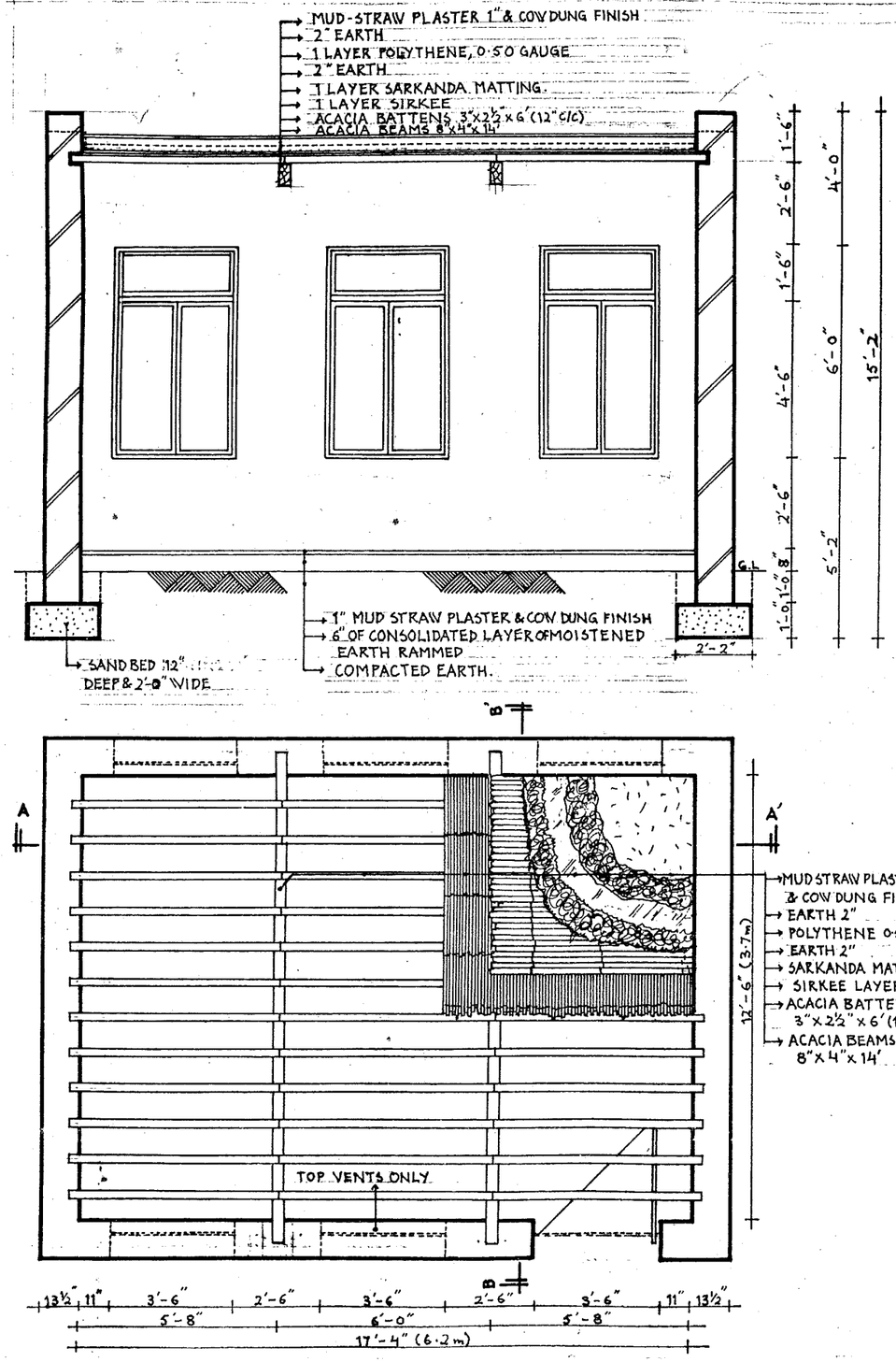
NO.	CONSTRUCTION: INPUTS PROCESS	QTY.	DAYS / HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	LABOUR /day Ms	LABOUR /day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	TOTAL COST(RS) Mt.+ L	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
3.2	Providing,hoisting,placing RSBeams 4"x8"x14" (NA,W79,84)			RS I Beams					Mason(#/6#)	1.00							
									Labour(do)	3.00							
3.3	Providing,hoising & placing T-irons 2"x2"x18' over beams (NA,W79,84)			T-irons.					Mason(#/20)	1.00							
									Labour(do)	3.00							
3.4	Painting RS Beams & T-iron (27.1,2,9, W52,118)			Oil paint (lbs/%sft)	5.50				Painter (#/%sft)	0.75							
									Labour	0.30							
3.5	Shingle layer of tiles 9"x4½"x2" built over 4" earth & 1" mud plaster w/o straw grouted with cement sand 1:3 on top of slab provided polythen ¢ 34 lbs bitumin coating sand blended(23.1,W25,78)			Sand (cft/%sft)	3.00				Masons(do)	1.25							
				Cement(cwt/%sft)	.50				Labour(do)	2.00							
				Earth(cft/%sft)	55.00												
				Bitumin(lbs/%sft)	34.00												
				Tiles (#/%sft	350.00												
				Polythene													
4.0	FLOOR																
4.1	6" thick flooring of consolidated layer of moistened earth including ramming.(24.1,W20,87)			Earth(cft/%cft)	70.00				Mason(#/%sft)	.13							
									Labour (do)	1.25							
4.2	3" thick layers of sand filling rammed after saturlation to 2" compaction (24.2,W20 after earth comp., 87)			Sand (do)					Mason (do)	.13							
									Labour (do)	4.00							
4.3	Dry rammed brick ballast 1½"-2" gauge.(20.1,W4,51)			Brick Ballast (cft)%cft)	110.00				Lahour (do)	3.00							
4.4	1½" cement concrete 1:2:4 (20.1,W4,52)			Stone Ballast	88.00				Masons (do)	1.00							
				Sand(cft/%cft)	44.00				Labour (do)	6.50							
				Cement(cwt/%cft)	17.00												
5.0	RENDERS																
5.1	Cement pointing struck joints 1:2 on exterior of walls. (25.8,W33,99)			Cement(cwt/%cft)	.12				Mason (do)	.75							
				Sand (do)													
5.2	Cement plaster 1:6 upto ½" thick interior of walls			Sand(cft/%sft)	4.00				Mason (do)	.75							
				Cement(cwt/%cft)	.53				Labour (do)	1.25							
5.3	Cement plaster 1:3, 3/8" thick under soffit of slab (25.1 to 6,W32,98)			Sand(cft/%sft)	2.55				Mason (do)	.75							
				Cement(cwt/%sft)	.66				Labour (do)	1.00 1.25							
5.4	White washing (3 coats) (25.9,W34,101)			Rice(lbs./sft)	.25				Skilled(do)	.30							
				White lime (mds/%sft)					Labour (do)	.20							
	TOTAL:																

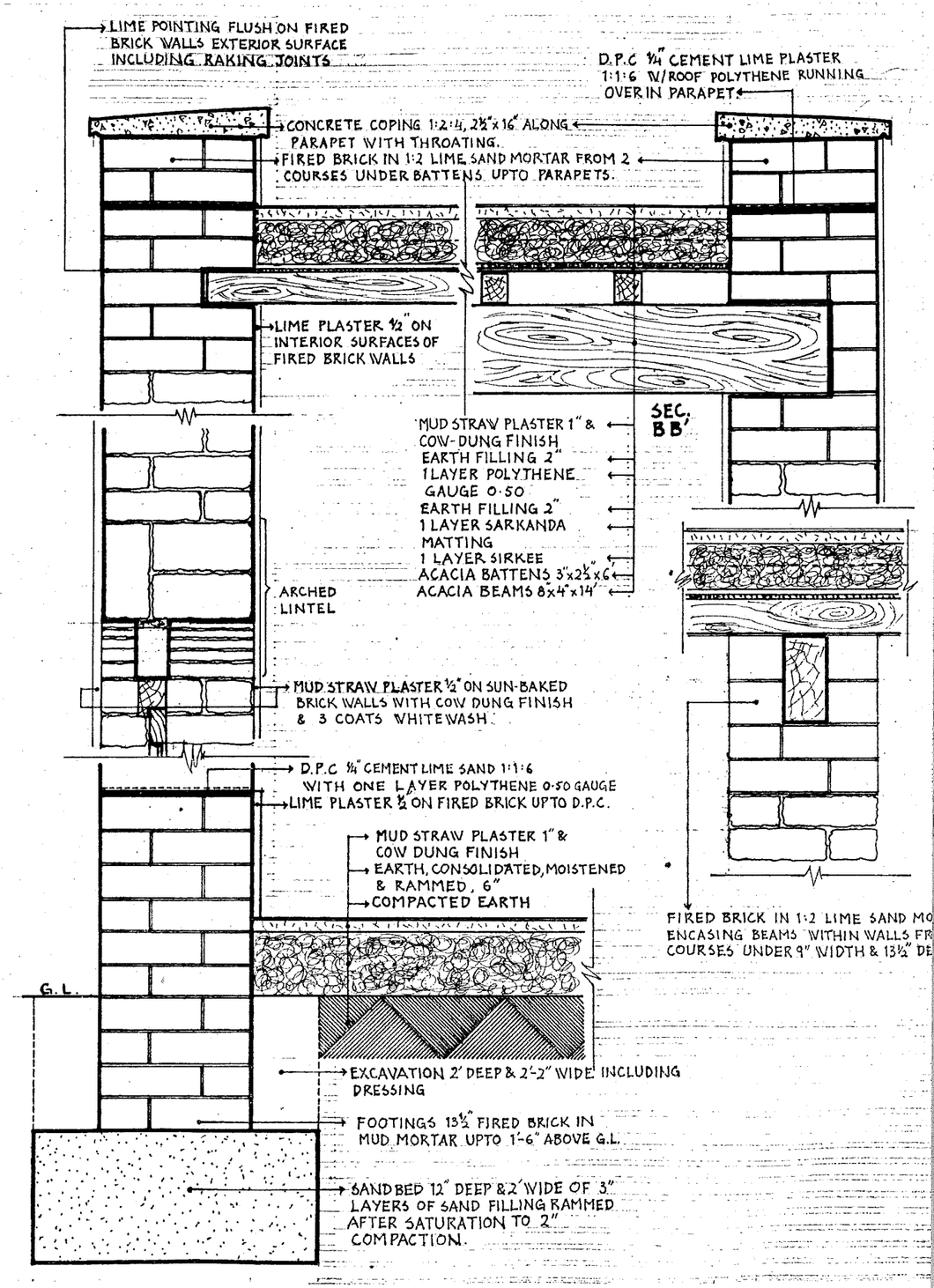

TILES 4½"x9"x½"
MUD STRAW PLASTER 1"
EARTH 3"
POLYTHENE 0·5 GAUGE
BITUMEN.
P.C.C SLAB 4'-6"x1'-6"
P.C.C GIRDERS 4½"x10" @ 4'-6" c/c
9" WALL OF FIRED BRICKS IN 1:7 CEM. MORTAR.
CEMENT CONCRETE 1:2:4 1½"
BRICK BALLAST 4"
SAND 6"
EARTH 6"
G.L.
1'-0"
2'-6"
3'-6"
1'-6"
6'-0"
4'-6"
16'-0"
2'-6"
4'-0"
1'-6"
1'-9"
2'-6"
9"
2'-6"


TILES 4½"x9"x½"
MUD STRAW PLASTER 1"
EARTH 3"
POLYTHENE 0·5 GAUGE
BITUMIN
P.C.C SLAB
P.C.C. GIRDER.
12'-6" (3.7m)
9" 11" 3'-6" 2'-6" 3'-6" 2'-6" 3'-6" 11" 9"
4'-2" 4'-6" 4'-6" 4'-2"
17'-4" (6·2 m)


TILES 4½"x9"x1½"
MUD STRAW PLASTER 1"
EARTH 3"
1 LAYER POLYTHENE 0·5 GAUGE
BITUMEN COATING
P.C.C. SLAB 4'-6"x1'-6"
P.C.C. GIRDER 4½"x10" @ 4'-6" c/c
R.C.C 1:2:4 LINTEL
CEMENT PLASTER 1:6 ½" ON INTERIOR WALLS
CEMENT POINTING STRUCK JOINTS 1:2 (EXT.)
CEMENT CONCRETE 1:2:4 1½"
DRY RAMMED BRICK BALLAST 1½"-2" GAUGE 4"
COMPACTED SAND LAYER 6"
EARTH CONSOLIDATED 6"
COMPACTED EARTH.
DPC 1:2:4 1½" & 2 COATS BITUMEN
G.L.
FOOTINGS 9" THICK OF FIRED BRICKS IN 1:7 CEMENT MORTAR.
CEMENT CONCRETE BED PLAIN HAND MIXED 9"x2'-6" PLACING & WATERING 1:7:20 CEMENT : SAND : AGGREGATE.




MUD-STRAW PLASTER 1" & COW DUNG FINISH
2" EARTH
1 LAYER POLYTHENE, 0·50 GAUGE
2" EARTH
1 LAYER SARKANDA MATTING.
1 LAYER SIRKEE
ACACIA BATTENS 3"x2½"x6'(12" C/C)
ACACIA BEAMS 8"x4"x14'
1'-6"
2'-6"
1'-6"
4'-6"
2'-6"
1'-0"
1'-6"
8"
4'-0"
6'-0"
5'-2"
15'-2"
G.L.
1" MUD STRAW PLASTER & COW DUNG FINISH
6" OF CONSOLIDATED LAYER OF MOISTENED EARTH RAMMED
COMPACTED EARTH.
2'-2"
SAND BED 12" DEEP & 2'-0" WIDE
B
A
A'
B
MUD STRAW PLASTER 1" & COW DUNG FINISH
EARTH 2"
POLYTHENE 0·50 GAUGE
EARTH 2"
SARKANDA MATTING
SIRKEE LAYER
ACACIA BATTENS 3"x2½"x6'(12" C/C)
ACACIA BEAMS 8"x4"x14'
12'-6" (3·7m)
TOP VENTS ONLY
13½" 11" 3'-6" 2'-6" 3'-6" 2'-6" 3'-6" 11" 13½"
5'-8"
6'-0"
5'-8"
17'-4" (6·2m)


LIME POINTING FLUSH ON FIRED BRICK WALLS EXTERIOR SURFACE INCLUDING RAKING JOINTS
D.P.C ¼" CEMENT LIME PLASTER 1:1:6 W/ROOF POLYTHENE RUNNING OVER IN PARAPET
CONCRETE COPING 1:2:4, 2½"x16" ALONG PARAPET WITH THROATING.
FIRED BRICK IN 1:2 LIME SAND MORTAR FROM 2 COURSES UNDER BATTENS UPTO PARAPETS.
LIME PLASTER ½" ON INTERIOR SURFACES OF FIRED BRICK WALLS
SEC. BB'
MUD STRAW PLASTER 1" & COW-DUNG FINISH
EARTH FILLING 2"
1 LAYER POLYTHENE GAUGE 0·50
EARTH FILLING 2"
1 LAYER SARKANDA MATTING
1 LAYER SIRKEE
ACACIA BATTENS 3"x2½"x6'
ACACIA BEAMS 8"x4"x14'
ARCHED LINTEL
MUD STRAW PLASTER ½" ON SUN-BAKED BRICK WALLS WITH COW DUNG FINISH & 3 COATS WHITEWASH.
D.P.C ¼" CEMENT LIME SAND 1:1:6 WITH ONE LAYER POLYTHENE 0·50 GAUGE
LIME PLASTER ½" ON FIRED BRICK UPTO D.P.C.
MUD STRAW PLASTER 1" & COW DUNG FINISH
EARTH, CONSOLIDATED, MOISTENED & RAMMED, 6"
COMPACTED EARTH
G.L.
EXCAVATION 2' DEEP & 2'-2" WIDE INCLUDING DRESSING
FOOTINGS 13½" FIRED BRICK IN MUD MORTAR UPTO 1'-6" ABOVE G.L.
SAND BED 12" DEEP & 2' WIDE OF 3" LAYERS OF SAND FILLING RAMMED AFTER SATURATION TO 2" COMPACTION.
FIRED BRICK IN 1:2 LIME SAND MO
ENCASING BEAMS WITHIN WALLS FR
COURSES UNDER 9" WIDTH & 13½" DE

Pr. I

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CONSTRUCTION PROCESS)

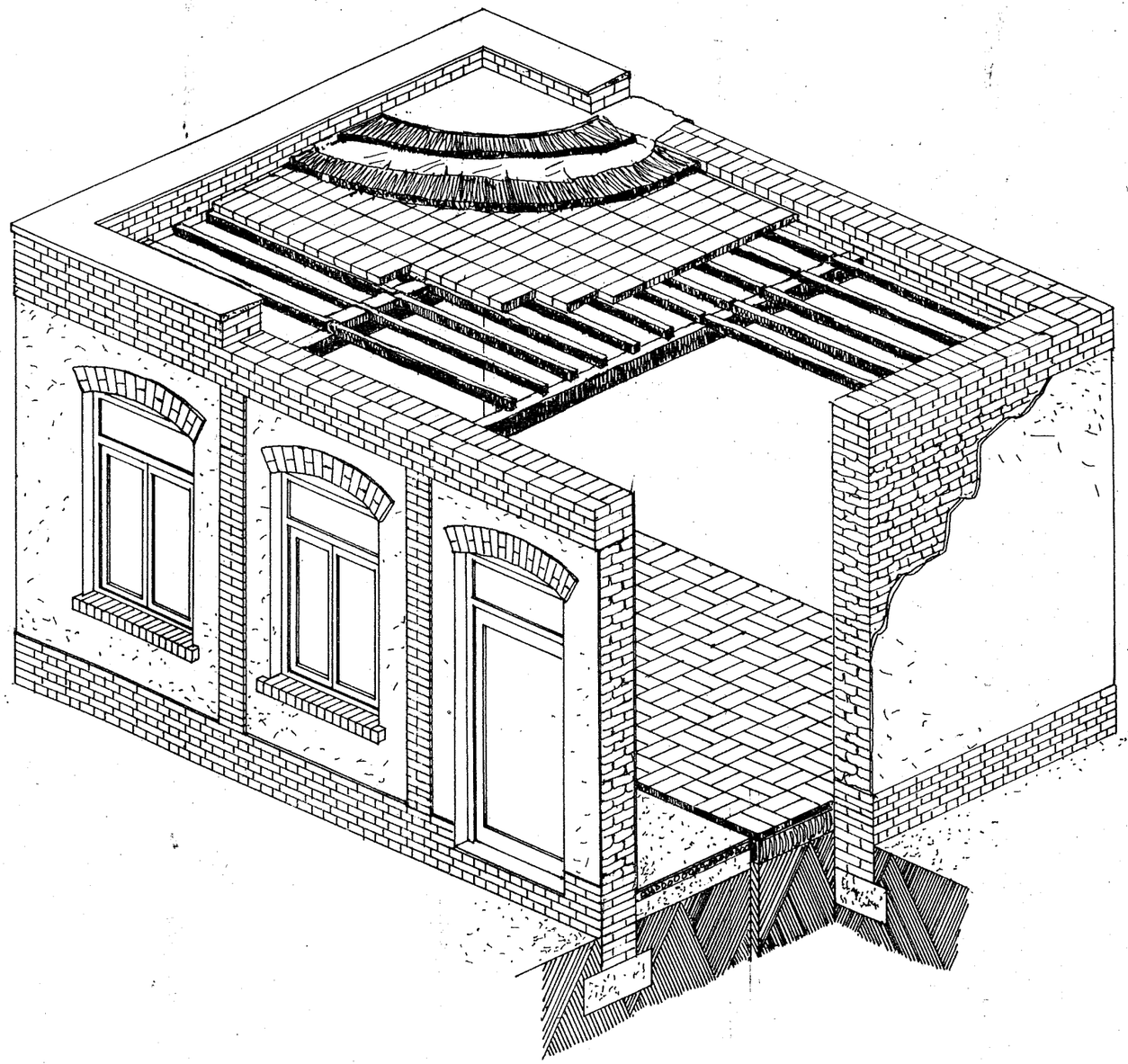
Inputs Source, Quantities, Costs.

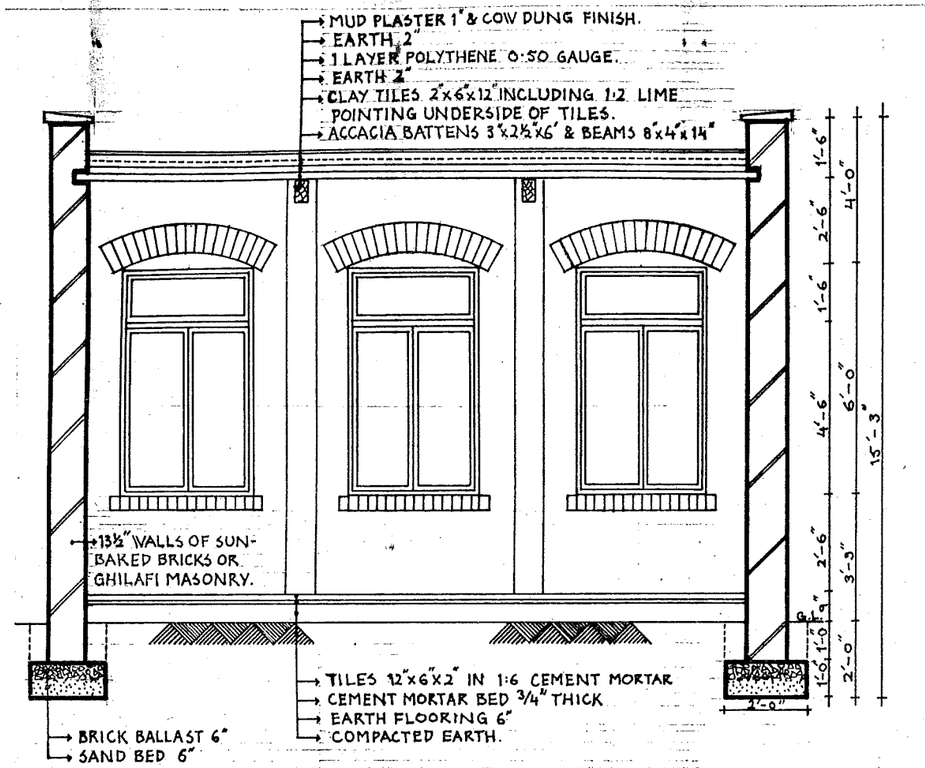
NOLOGY
TYPE:

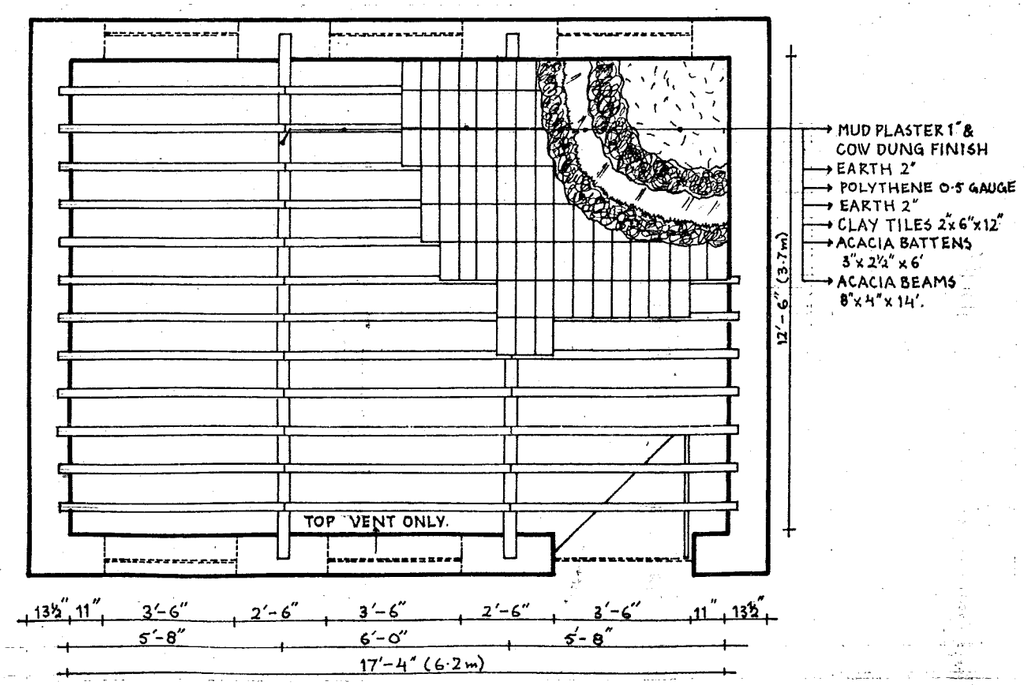
NO.	CONSTRUC- TION: INPUTS PROCESS	QTY.	DAYS	HRS	MATERIAL TYPE	QUANTITY /Unit	QUANTITY Total	COST (RS) /Unit	COST (RS) Total	LABOUR TYPE	QUANTITY /Unit	QUANTITY Total	/day Ms	/day L	COST (RS) /Unit	COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.0	FOUNDATION/PLINTH																	
1.1	Excavation 2' deep & 2'2" wide including dressing & filling w/excavated earth watering & ramming lead upto 1 chain & lift upto 5' in ordinary soil. (17.1/5,W2,32)	260cft								Mason(#/%cft)	1.50							
										Labour (do)	9.00							
1.2	Sand bed 12" deep & 2'wide of 3" layers of sand filling rammed after salturation to 2" compaction. (24.3,W20-3,87)	130cft			Sand cft/%sft.	133 cft	172.9cft			Masons(#/%cft)	0.125							
										Labour (do)	1.25							
1.3	Footings 13½" fired brick in mud-mortar upto 1'6" above g.l.(21.1,W6,64)	182cft			Earth(cft/%cft)	35	63.7cft			Mason(#/%cft)	1.50							
					Bricks(#/%cft)	1350	2457			Labour (do)	3.12							
1.4	DPC ¼" cement,lime, sand	68sft			Cement(cwt/%cft)	12.25				Mason(#/%cft)	0.75							
					Lime (Mds/%cft)	15.00												
					Sand)cft/%cft)	90.00				Labour (do)	1.25							
					Polythene(Kg/Sft)													
2.0	WALLS																	
2.1	13½" Sun-baked brick walls in mud-mortar(21.16.W13,69)	587cft			Earth(cft/%cft)	35.00	205.45cft			Mason(#/%cft)	1.5							
					Bricks(#/%cft)	1350	7924.5			Labour(do)	3.75							
2.2	Extra labour for archwork (21.5,W19,66)									Mason(#/%cft)	1.0							
										Labour(do)	2.0							
2.3	Fired brick in 1:2 lime sand mortar from 2 courses under battens upto parapets (21.1,W7,65)	8 cft			Sand(cft/%cft)	23.33	1.87cft			Mason(#/%cft)	2.50							
					Lime(Mds/%cft)	4.67	0.37mds			Labour(do)	5.58							
					Bricks(#/%cft)	1350	108											
2.4	Fired brick in 1:2 lime sand mortar encasing beams within walls from 2 courses under, 9" width & 13½" depth (21.1,W7,65)	136cft			Sand(cft/%cft)	23.33	31.28cft			Mason(#/%cft)	2.50							
					Lime(Mds/%cft)	4.67	6.35cft			Lahour (do)	5.58							
2.5	DPC ¼", cement lime plaster 1.1.6 w/roof polythene running over in parapet (49.2,W32)	72cft			Cement(cwt/%cft)	12.25	8.82cwt			Mason(#/%cft)	0.75							
					Lime (Mds/%cft)	15.00	10.8 mds			Labour(do)	1.25							
					Sand (cft/%cft)	90.00	64.8 cft											
2.6	Concrete Coping 1.2.4 2½"x16" along parapet with throating(20.1,W4,52)	18cft			Sand(cft/%cft)	44	7.92			Mason(#/%cft)	1.00							
					Aggregate(do)	88	15.84			Labour (do)	6.50							
					Cement(cwt/%cft)	17.6	316.80cwt											
3.0	ROOF																	
3.1	Mud roof of 1"mud-straw plaster w/2" earth fill above & below 1 layer polythene 500 gauge over 1 layer Sarkanda and sirkee matting (W-26-5)	217sft			Straw(lbs/%sft)	34	73.78lbs			Mason(#/%sft)	0.33							
					Sirki(sft/%sft)	100	217sft			Labour (do)	1.60							
					Sarkanda (do)	100	217sft											
					Earth(cft/%sft)	55	119.35cft											
					Polythene													

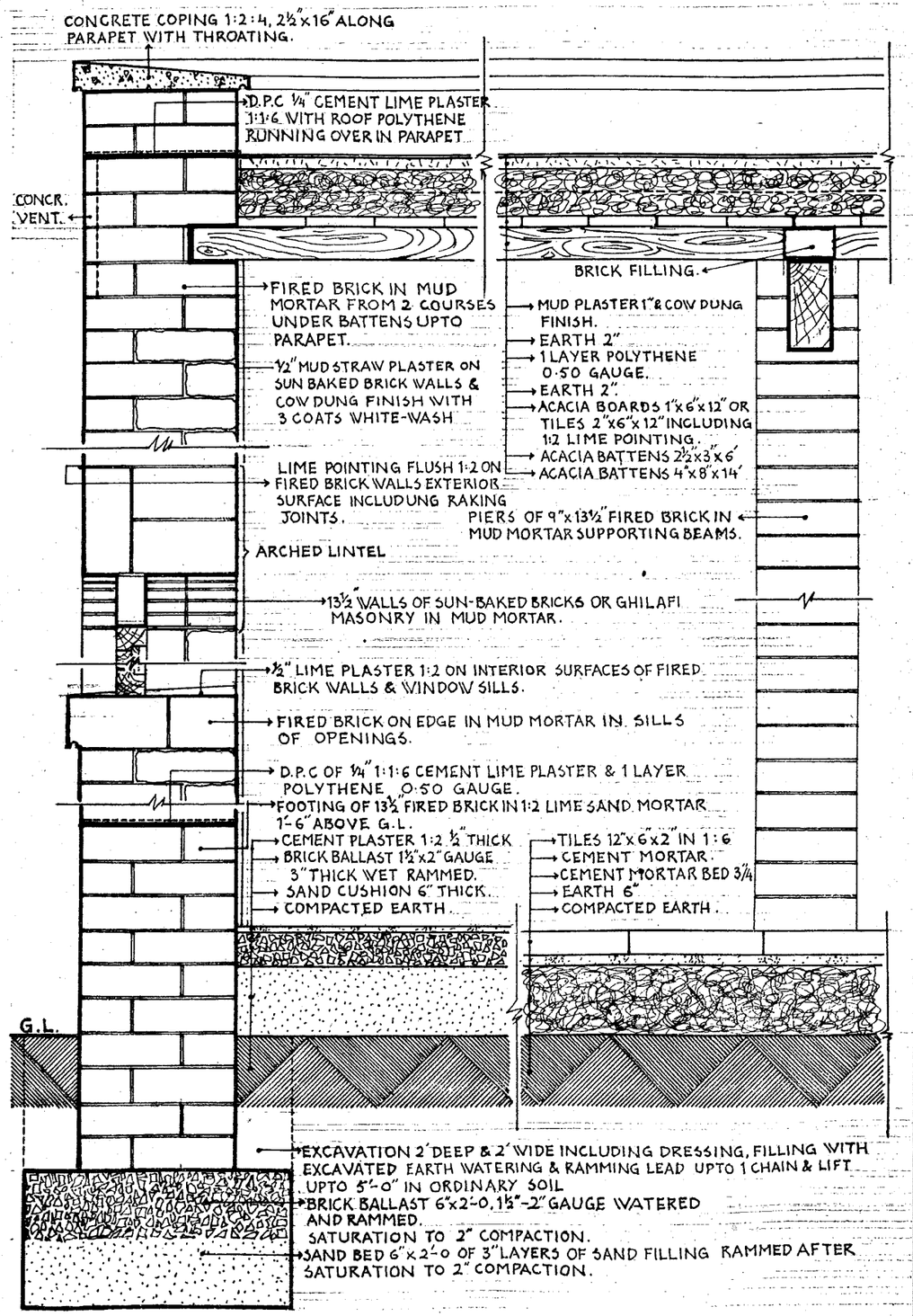
TYPE:

NO.	CONSTRUC- INPUTS TION: PROCESS	QTY.	8 DAYS HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
3.2	Providing, hoisting & placing acacia beams 4"x8"x14' (NA,W79,84)	# 2		Beams					Mason(#/6beam)	1.00							
									Labour(do)	3.00							
3.3	Providing,hoisting & placing acacia battens 2½"x3"x 6' over beams. (NA,W74,84)	#36		Battens					Mason(#/30)	1.00							
									Labour(do)	1.00							
3.4	Painting beams & battens w/2 coats hot coal tar prior to installation (29.8-11,W53,121)	255sft		Fuel(mds/%sft)	L.S.				Skilled Labour (#/%sft)	0.53							
				Coaltar paint (lbs/%lbs)	26	66.3lbs												
4.0	FLOOR																
4.1	6" consolidated layer of moistened earth w/1" mus-straw plaster & cow dung finish (24.2,W20,87)	217sft		Straw(seers/%sft)	17.00	36.89seer			Masons(#/%sft	0.25							
				Earth(cft/%sft)	82.00	177.94cft			Labour(do)	2.25							
				Cowdung (do)	0.75	1.63cft											
				Fine clay (do)		1.63cft											
5.0	RENDERING																
5.1	½" mud-straw plaster on sun-baked brick walls (25.7,W32,97)	1135sft		Earth(cft/%sft)	6	68.1 cft 90.8 cft			Mason(#/%sft)	0.17							
									Labour (do)	0.55							
5.2a	Cow dung plaster finish on sun-baked brick wall.			Earth (cft/%sft)	0.25				Mason(#/%sft)	0.12							
				Cowdung (do)	0.25				Labour (do)	0.06							
5.2b	Cow dung plaster finish on sun-baked brick roof. (25.7,W34,101)			Earth (do)	0.25				Mason (do)	0.12							
				Cowdung (do)	0.25				Labour (do)	0.06							
5.3	Lime pointing 1.2,flush on fired brick walls exterior surface including raking joints(25.8,W33,99)	253sft		Sand(cft/%sft)	1.80	4.55 cft			Mason(#/%sft)	0.50							
				White Lime	0.36	1.01 Mds			Labour (do)	1.00							
5.4	Lime plaster ½" on interior surfaces of fired brick walls & window sills(1:2) (25.1-6,W32,97)	108sft		Sand(cft/%sft)	3.40	3.67cft			Masons(#/%sft)	0.75							
				White Lime	0.68	0.73Mds			Labour (do)	1.25							
5.5	3 coats white wash. (W-34-24)	671sft		Rice(lbs/%sft)	0.25	1.7 lbs			Skilled Labour (#/%sft)	0.30							
				White LIme (Mds/%sft)	0.10	0.67Mds			Labour(#/%sft)	0.20							




MUD PLASTER 1" & COW DUNG FINISH.
EARTH 2"
1 LAYER POLYTHENE 0·50 GAUGE.
EARTH 2"
CLAY TILES 2"x6"x12" INCLUDING 1:2 LIME POINTING UNDERSIDE OF TILES.
ACCACIA BATTENS 3"x2½"x6' & BEAMS 8"x4"x14"
13½" WALLS OF SUN-BAKED BRICKS OR GHILAFI MASONRY.
TILES 12"x6"x2" IN 1:6 CEMENT MORTAR
CEMENT MORTAR BED ¾" THICK
EARTH FLOORING 6"
COMPACTED EARTH.
BRICK BALLAST 6"
SAND BED 6"
1'-6"
2'-6"
4'-0"
1'-6"
6'-0"
15'-3"
2'-6"
3'-3"
2'-0"
1'-0"
9"
2'-0"


MUD PLASTER 1" & COW DUNG FINISH
EARTH 2"
POLYTHENE 0·5 GAUGE
EARTH 2"
CLAY TILES 2"x6"x12"
ACACIA BATTENS 3"x2½"x6'
ACACIA BEAMS 8"x4"x14'.
12'-6" (3·7m)
TOP VENT ONLY.
13½" 11" 3'-6" 2'-6" 3'-6" 2'-6" 3'-6" 11" 13½"
5'-8" 6'-0" 5'-8"
17'-4" (6·2m)


CONCRETE COPING 1:2:4, 2½"x16" ALONG PARAPET WITH THROATING.
D.P.C ¼" CEMENT LIME PLASTER 1:1:6 WITH ROOF POLYTHENE RUNNING OVER IN PARAPET.
CONCR. VENT.
BRICK FILLING.
FIRED BRICK IN MUD MORTAR FROM 2 COURSES UNDER BATTENS UPTO PARAPET.
½" MUD STRAW PLASTER ON SUN BAKED BRICK WALLS & COW DUNG FINISH WITH 3 COATS WHITE-WASH
MUD PLASTER 1" & COW DUNG FINISH.
EARTH 2"
1 LAYER POLYTHENE 0·50 GAUGE.
EARTH 2"
ACACIA BOARDS 1"x6"x12" OR TILES 2"x6"x12" INCLUDING 1:2 LIME POINTING.
ACACIA BATTENS 2½"x3"x6'
ACACIA BATTENS 4"x8"x14'
LIME POINTING FLUSH 1:2 ON FIRED BRICK WALLS EXTERIOR SURFACE INCLUDUNG RAKING JOINTS.
PIERS OF 9"x13½" FIRED BRICK IN MUD MORTAR SUPPORTING BEAMS.
ARCHED LINTEL
13½" WALLS OF SUN-BAKED BRICKS OR GHILAFI MASONRY IN MUD MORTAR.
½" LIME PLASTER 1:2 ON INTERIOR SURFACES OF FIRED BRICK WALLS & WINDOW SILLS.
FIRED BRICK ON EDGE IN MUD MORTAR IN SILLS OF OPENINGS.
D.P.C OF ½" 1:1:6 CEMENT LIME PLASTER & 1 LAYER POLYTHENE 0·50 GAUGE.
FOOTING OF 13½ FIRED BRICK IN 1:2 LIME SAND MORTAR 1'-6" ABOVE G.L.
CEMENT PLASTER 1:2 ½" THICK
BRICK BALLAST 1½"x2" GAUGE 3" THICK WET RAMMED.
SAND CUSHION 6" THICK.
COMPACTED EARTH.
TILES 12"x6"x2" IN 1:6 CEMENT MORTAR.
CEMENT MORTAR BED ¾"
EARTH 6"
COMPACTED EARTH.
G.L.
EXCAVATION 2' DEEP & 2' WIDE INCLUDING DRESSING, FILLING WITH EXCAVATED EARTH WATERING & RAMMING LEAD UPTO 1 CHAIN & LIFT UPTO 5'-0" IN ORDINARY SOIL
BRICK BALLAST 6"x2'-0, 1½"-2" GAUGE WATERED AND RAMMED. SATURATION TO 2" COMPACTION.
SAND BED 6"x2'-0 OF 3" LAYERS OF SAND FILLING RAMMED AFTER SATURATION TO 2" COMPACTION.

Pr.29.

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE:

TECH-NOLOGY TYPE:

NO.	CONSTRUCTION: PROCESS INPUTS	QTY.	DAYS	8 HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16
1.0	FOUNDATION/PLINTH																
1.1	Excavation 2' deep and 2' wide including dressing, filling with excavated earth watering & ramming load upto 1 chain & lift upto 5' in ordinary soil. (17.1/5,W2,32)									Mason (#/% cft)	1.50						
										Labour(do)	9.00						
1.2	Sand bed 6"x2" of 3" layers of sand filling rammed after satluration to 2" compaction (24.3,W20 2.87)				* Sand(cft/%cft)	133				Masons (#/%sft)	0.125						
										Labour(do)	1.25						
1.3	Brick ballas 6"x2",1½"-2" gauge watered & rammed. (24.1,W4,87)				Brick Ballast (cft/%cft)	150											
1.4a	Footing of 13½" fired brick in 1:2 lime sand mortar upto 1.6" above g.r.(21.1,W13,64)(12C(i))				Sand(cft/%cft)	5.58				Mason (#/%sft)	0.13						
										Labour(do)	4.25						
1.4b	DPC of ¼" 1.1.6 cement lime plaster & 1 layer polythene 500 gauge. (49.2, W32)				Sand(cft/%cft)	90.00				Mason (#/%cft)	0.75						
					Cement(cwt/%cft)	12.25				Labour(do)	1.25						
					White lime (mds/%cft)	15.00											
					Polythene												
2.0	WALLS																
2.1	13½" sun-baked brick in mud-mortar. (21.16,W13,69)				Earth(cft/%cft)	35.00				Mason(#/%cft)	1.50						
					Sun Dried Bricks (#/%cft)	1350				Labour(do)	3.75						
2.2	Fired brick in mud-mortar from 2 courses under battens upto parapet. (21.1-6,W6,63)				Earth(cft/%cft)	35.00				Mason (do)	2.00						
					Fired Bricks (#/%cft)	1350				Labour(do)	4.13						
2.3	Extra labour for archwork (21.5, W19,66)									Mason (do)	1.0						
										Labour(do)	2.00						
2.4	Piers of 9"x13½"fired brick in mud mortar supporting roof beams. (21.1-6,W6,63)				Earth(cft/%cft)	35.00				Mason (do)	2.00						
					Fired Bricks (#/%cft)	1350				Labour(do)	4.13						
2.5	Fired brick on edge in mud-mortar in sills of openings (21.7-6,W6,63)				Earth(cft/%cft)	35.00				Mason (do)	2.00						
					Fired Bricks	1350				Labour(do)	4.13						
2.6	DPC ¼" cement lime plaster 1.1.6 with roof polythene running over in parapet. (49.9,W32)				Sand(cft/%cft)	90.00				Mason(#/%cft)	0.75						
					Cement(cwt/%cft)	12.25				Labour(do)	1.25						
					White lime (mds/%cft)	15.00											

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	g.r.(21.1,W13,64)(12C(i))						
1.4b	DPC of ¼" 1.1.6 cement lime plaster & 1 layer polythene 500 gauge. (49.2, W32)	Sand(cft/%cft) Cement(cwt/%cft) White lime (mds/%cft Polythene	90.00 12.25 15.00		Mason (#/%cft) Labour(do)	0.75 1.25	
2.0	WALLS						
2.1	13½" Ghilafi Masonary in mud mortar(21.18,W6, 69)	Earth(cft/%cft) Sun Dried Bricks (#/# cft) Fired Bricks(do)	36.50 6.75 6.75		Mason(#/%cft) Labour(do)	2.50 6.50	
2.2	Fired brick in mud-mortar from 2 courses under bations upto parapet	Earth(cft/%cft) Fired Brick (#/%cft)	35.00 1350		Mason (do) Labour(do)	2.00 4.13	
2.3	Extra labour for archwork (21.5,W19,66)				Mason (do) Labour(do)	1.0 2.00	
2.4	Piers of 9"x13½" fired brick in mud mortar supporting roof beams. (21.1-6,W6,63)	Earth(cft/%cft) Fired Bricks (#/%cft)	35.00 1350		Mason (do) Labour(do)	2.00 4.13	
2.5	Fired brick on edge in mud-mortar in sills of openings (21.7-6,W6,63)	Earth(cft/%cft) Fired Bricks	35.00 1350		Mason (do) Labour(do)	2.00 4.13	
2.6	DPC ¼" cement lime plaster 1.1.6 with roof polythene running over in parapet. (49.9,W32)	Sand(cft/%cft) Cement(cwt/%cft) White lime (mds/%cft) Polythene	90.00 12.25 15.00		Mason(#/%cft) Labour(do)	0.75 1.25	
2.7	Concrete coping 1:2:4 2½"x16" along parapet with throating (20.1,W4,52)	Stone Ballast (cft/%cft) Sand (do) Cement(cwt/%cft)	88.00 44.00		Mason(#/%cft) Labour (do)	1.00 6.50	

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE:

TECH-NOLOGY TYPE:

Pr. 2 a)

NO.	CONSTRUC-TION: PROCESS INPUTS	QTY.	DAYS 8 HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3.0	ROOF															
3.1	Acacia board roofing of 1" mud-straw plaster w/2" earth fill above & below 1 layer polythene 500 gauge over ocacia boards 1"x6"x12" including rail-ing & fixing. (NA,W25,77, 25.8,W33,99)			Earth(cft/%sft)	55.0				Mason(#/%sft)	2.5						
				Acacia Board (#/%sft)	200				Labour (do)	6.0						
				Straw(seer/%sft)	17											
				Clay(cft/%cft)	0.75											
				Cowdung(cft/%sft)	0.75											
				Polythene												
3.2	Providing hoisting & plac-ing Acacia beams 4"x8"x14' (NA,W79,84)								Mason(#/6beams)	1.0						
									Labour(do)	3.0						
3.3	Providing hoisting and placing Acacia battens 2½"x3"x6' over beams (NA,W79,84)								Mason (#/30 battens)	1.0						
									Labour(do)	1.0						
3.4	Painting, boarding beams & battens with 2 coats hot coal tar prior to instal-lation(278,11,W53,121)			Fuel(Mds/%sft)	L.S.				Skilled labour (#/%sft)	0.53						
				Coal Tar(lbs/%cft)	16.0											
4.0	FLOOR															
4.1	Sand cushion 6" thick of 3" layer sand filling rammed after saturation to 2" compaction (24.3,W20-3,87)			Sand(cft/%sft)	133.0				Mason(#/%sft)	0.125						
									Labour(do)	1.25						
4.2	Brick Balast 1½"-2" gauge 3" thick wet rammed, (20.1,W41,51)			Brick Ballast (cft/%cft)	110.0				Labour (#/%cft)	3.00						
4.3	Cement plaster 1:2, ½" thick (25.1-6,W32,98)			Sand(cft/%sft)	3.0				Mason(#/%sft)	0.75						
				Cement(cwt/%sft)	1.25				Labour(do)	1.25						
5.0	RENDERS:															
5.1	½" mud-straw plaster on sun-baked brick walls. (25.7,W32,97)			Earth(cft/%cft)	6.0				Mason(#/%sft)	0.17						
				Straw(seer/%cft)	8.0				Labour(do)	0.55						
5.2a	Cowdung plaster finish on sun baked brick walls.			Earth(cft/%sft)	0.25				Mason(#/%sft)	0.12						
				Cowdung (do)	0.25				Labour (do)	0.06						
5.2b	Cowdung plaster finish on sunbaked brick roof. (25.7,W34,101)			Earth(cft/%sft)	0.25				Mason(#/%sft)	0.12						
				Cowdung (do)	0.25				Labour (do)	0.06						
5.3	½" lime plaster 1.2 on interior surfaces of fired brick walls and window			Sand(cft/%sft)	3.40				Mason(#/%sft)	0.75						
				White Lime (Mds/%cft)	0.68				Labour(do)	1.25						

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE:

TECH-NOLOGY TYPE:

Pr 26.

NO.	CONSTRUCTION: INPUTS PROCESS	QTY.	DAYS	HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	TOTAL COST(RS) Mt.+ L	
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.0	FOUNDATION/PLINTH																	
1.1	Excavation 2' deep and 2' wide including dressing, filling with excavated earth watering & ramming load upto 1 chain & lift upto 5' in ordinary soil. (17.1/5,W2,32)									Mason (#/%cft)	1.50							
										Labour (do)	9.00							
1.2	Sand bed 6"x2" of 3" layers of sand filling rammed after satluration to 2" compaction (24.3,W20, 2.87)				* Sand (cft/%cft)	133				Masons (#/%sft)	0.125							
										Labour(do)	1.25							
1.3	Brick ballast 6"x2",1½"-2" gauge watered & rammed. (24.1,W4,87)				Brick Ballast (cft/%cft)	150												
1.4 a	Footing of 13½" fired brick in 1:2 lime sand mortar upto 1.6" above g.r.(21.1,W13,64)(12C(i))				Sand(cft/%cft	5.58				Mason (#/%sft)	0.13							
										Labour(do)	4.25							
1.4 b	DPC of ¼" 1.1.6 cement lime plaster & 1 layer polythene 500 gauge. (49.2, W32)				Sand(cft/%cft)	90.00				Mason (#/%cft)	0.75							
					Cement(cwt/%cft)	12.25				Labour(do)	1.25							
					White lime (mds/%cft	15.00												
					Polythene													
2.0	WALLS																	
2.1	13½" Ghilafi Masonary in mud mortar(21.18,W6, 69)				Earth(cft/%cft)	36.50				Mason(#/%cft)	2.50							
					Sun Dried Bricks (#/# cft)	6.75				Labour(do)	6.50							
					Fired Bricks(do)	6.75												
2.2	Fired brick in mud-mortar from 2 courses under batten upto parapet				Earth(cft/%cft)	35.00				Mason (do)	2.00							
					Fired Brick (#/%cft)	1350				Labour(do)	4.13							
2.3	Extra labour for archwork (21.5,W19,66)									Mason (do)	1.0							
										Labour(do)	2.00							
2.4	Piers of 9"x13½" fired brick in mud mortar supporting roof beams. (21.1-6,W6,63)				Earth(cft/%cft)	35.00				Mason (do)	2.00							
					Fired Bricks (#/%cft)	1350				Labour(do)	4.13							
2.5	Fired brick on edge in mud-mortar in sills of openings (21.7-6,W6,63)				Earth(cft/%cft)	35.00				Mason (do)	2.00							
					Fired Bricks	1350				Labour(do)	4.13							

	g.r.(21.1,W13,64)(12C(i))					
1.4b	DPC of ¼" 1.1.6 cement lime plaster & 1 layer polythene 500 gauge. (49.2, W32)	Sand(cft/%cft)	90.00	Mason (#/%cft)	0.75	
		Cement(cwt/%cft)	12.25	Labour(do)	1.25	
		White lime (mds/%cft)	15.00			
		Polythene				
2.0	WALLS					
2.1	13½" sun-baked brick in mud-mortar. (21.16,W13,69)	Earth(cft/%cft)	35.00	Mason(#/%cft)	1.50	
		Sun Dried Bricks (#/%cft)	1350	Labour(do)	3.75	
2.2	Fired brick in mud-mortar from 2 courses under battens upto parapet. (21.1-6,W6,63)	Earth(cft/%cft)	35.00	Mason (do)	2.00	
		Fired Bricks (#/%cft)	1350	Labour(do)	4.13	
2.3	Extra labour for archwork (21.5, W19,66)			Mason (do)	1.0	
				Labour(do)	2.00	
2.4	Piers of 9"x13½"fired brick in mud mortar supporting roof beams. (21.1-6,W6,63)	Earth(cft/%cft)	35.00	Mason (do)	2.00	
		Fired Bricks (#/%cft)	1350	Labour(do)	4.13	
2.5	Fired brick on edge in mud-mortar in sills of openings (21.7-6,W6,63)	Earth(cft/%cft)	35.00	Mason (do)	2.00	
		Fired Bricks	1350	Labour(do)	4.13	
2.6	DPC ¼" cement lime plaster 1.1.6 with roof polythene running over in parapet. (49.9,W32)	Sand(cft/%cft)	90.00	Mason(#/%cft)	0.75	
		Cement(cwt/%cft)	12.25	Labour(do)	1.25	
		White lime (mds/%cft)	15.00			
		Polythene				
2.7	Concrete coping 1:2:4 2½"x16" along parapet with throating (20.1,W4,52)	Stone Ballast (cft/%cft)	88.00	Mason(#/%cft)	1.00	
		Sand (do)	44.00	Labour(do)	6.50	
		Cement(cwt/%cft)	17.60			

CONSTRUCTION PROCESS,

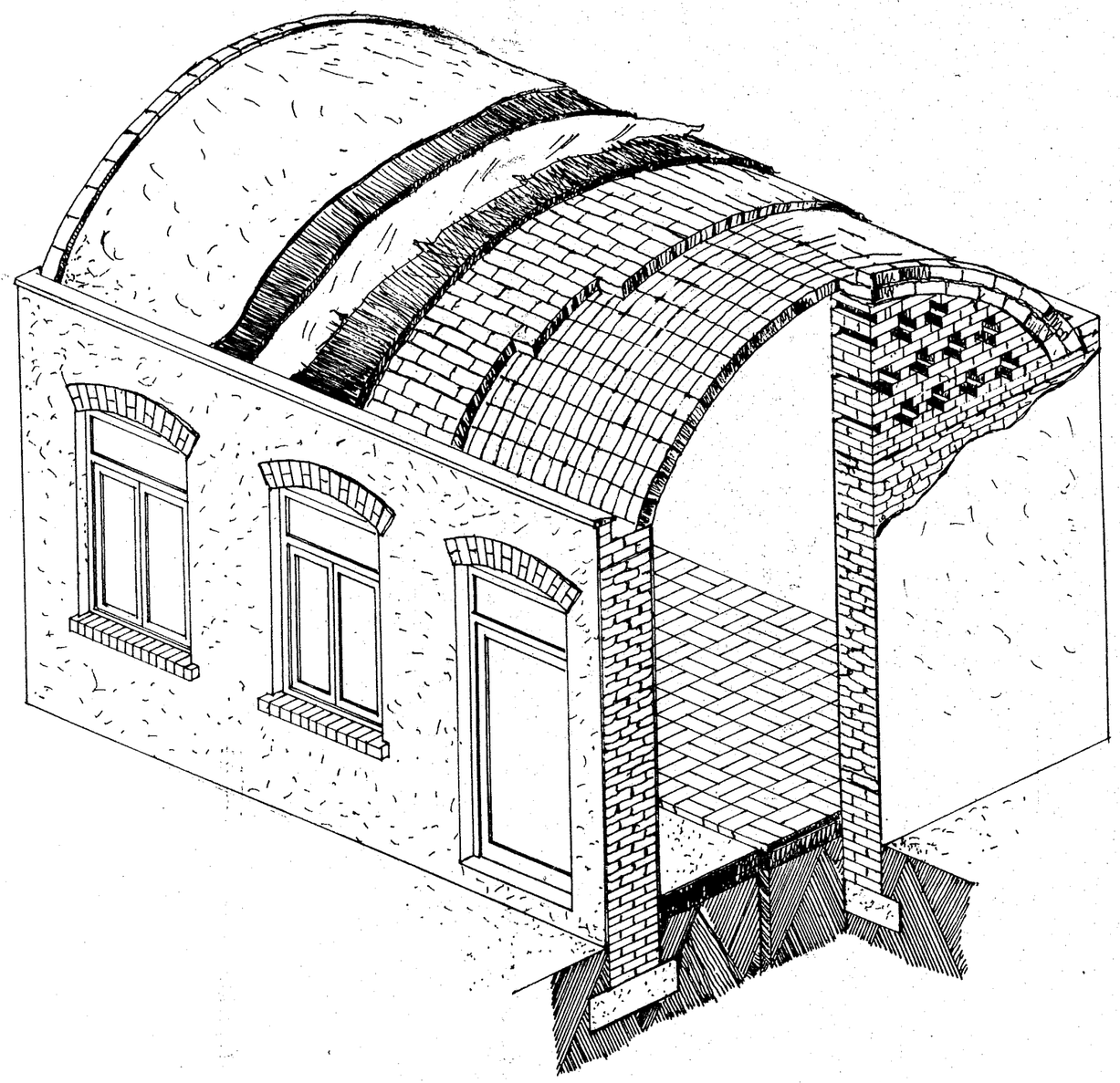
Inputs Source, Quantities, Costs.

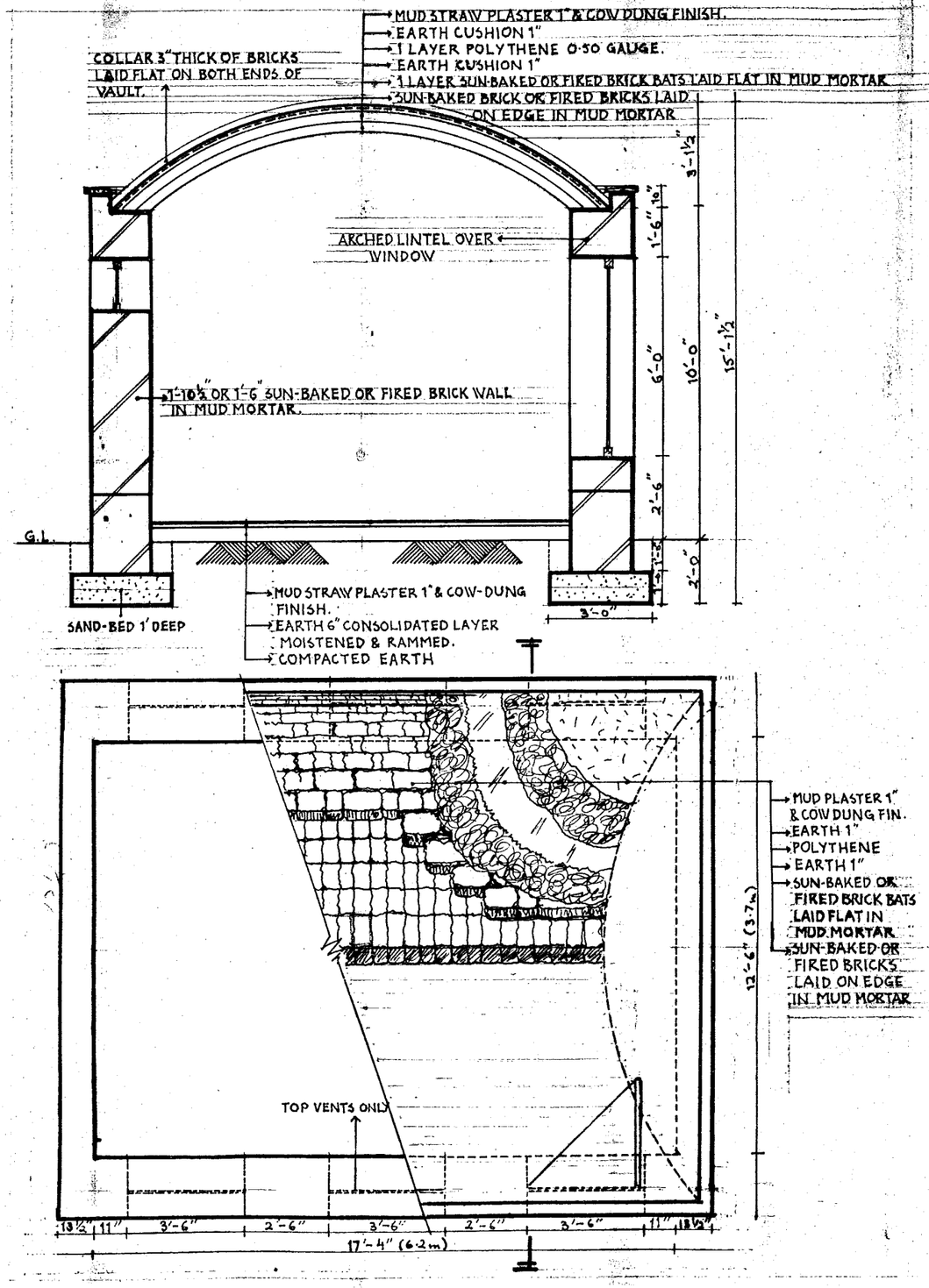
INFORMATION SOURCE:

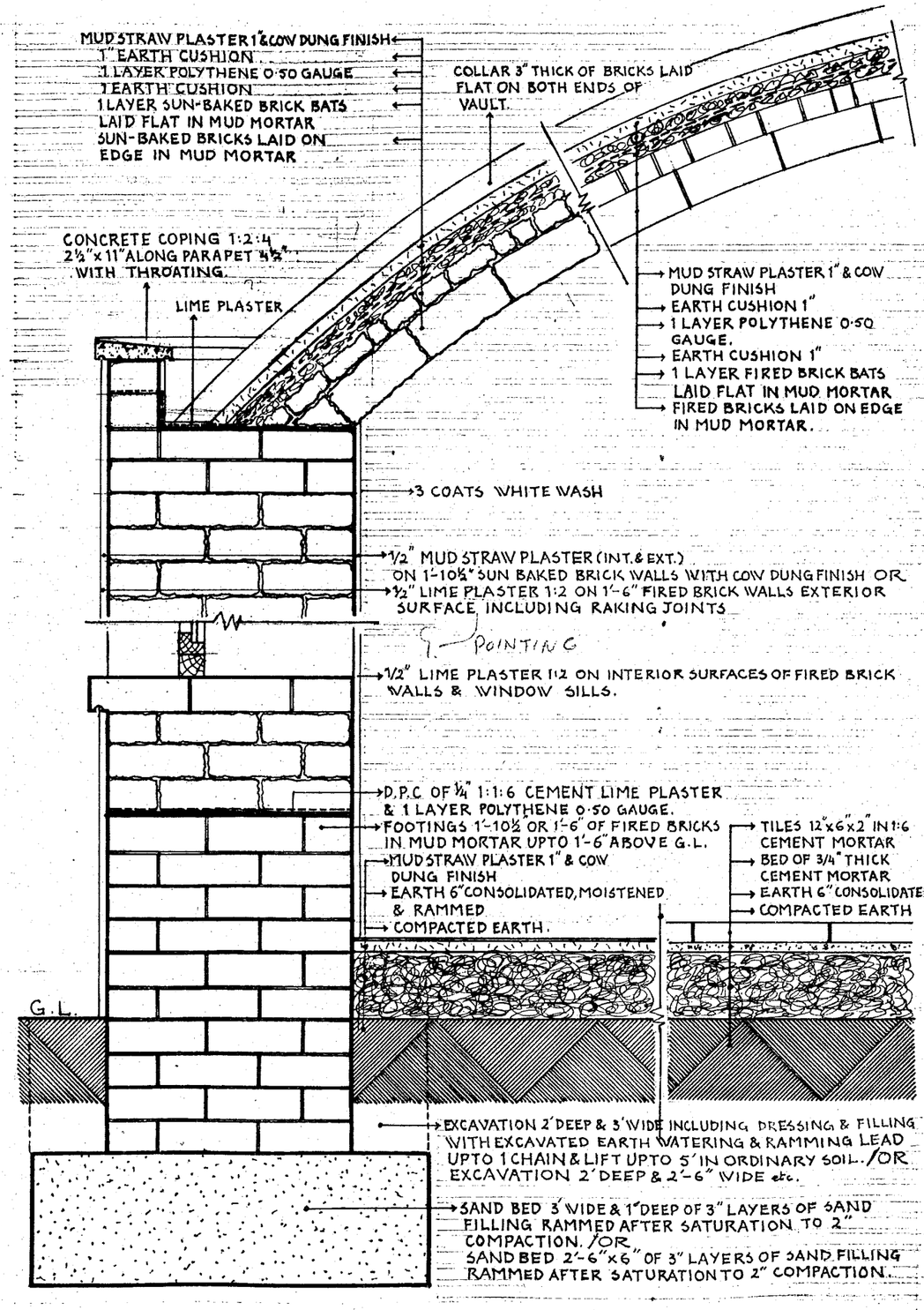
TECH-NOLOGY TYPE:

Dr. 2 b

NO.	CONSTRUC-TION: PROCESS: INPUTS	QTY.	DAYS	HRS	MATERIAL TYPE	QUANTITY /Unit	QUANTITY Total	COST (RS) /Unit	COST (RS) Total	LABOUR TYPE	QUANTITY /Unit	QUANTITY Total	/day Ms	/day L	COST (RS) /Unit	COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
3.0	ROOF																	
3.1	Tile roofing of 4" earth & 1" mud plaster with cow-dung finish sandwiching 1 layer 500 gauge polythene over day tiles 2"x6"x12" including 1.2 lime pointing underside of tiles complete including curing. (23.2,W25,77,25.8,W33,99)				Sand(cft/%sft)	8.94				Mason(#/%sft)	2.5							
					White Lime (Mds/%sft)	1.61				Labour(do)	6.0							
					Earth(cft/%sft)	55.00												
					Tiles(200/%sft)	200.00												
					Straw(Seer/%sft)	17.00												
					Clay(cft/%sft)	0.75												
					Cowdunk (do)	0.75												
					Polythene(Kg/Sft)													
3.2	Providing hoisting & placing Acacia Beams 4"x8"x14' (NA,W79,84)									Mason(#/6 beam)	1.0							
										Labour(do)	3.0							
3.3	Providing hoisting & placing Acacia battens 2½"x3"x6' over beams (NA,W79,84)									Mason (#/30 batten)	1.00							
										Labour(do)	1.00							
3.4	Painting, boarding, beams and battens w/2 coats hot coal tar prior to installation(27.8/11,W53,121)				Fuel(Mds/%sft)	L.S.				Skilled Labour(#/%sft)	0.53							
					Coal Tar (Lbs/%sft)	16.0												
4.0	FLOOR																	
4.1	Tiles 12"x6"x2" in 1:6 cement mortar over bed of 3/4" thick cement mortar 1:6 (W21-11)				Sand(cft/%sft)	8.00				Mason(#/%sft)	0.75							
					Cement(cwt/%sft)	1.10				Labour(do)	2.00							
					Tiles(#/%sft)	210.0												
4.2.	Earth flooring consisting of 6" thick consolidated layer of moistened earth including ramming(W20-2)				Earth(cft/%sft)	70.0				Mason(#/%sft)	0.125							
										Labour(do)	1.25							
5.0	RENDERS:																	
5.1	½" mud-straw plaster on sun-baked brick walls. (25.7,W32,97)				Earth(cft/%cft)	6.0				Mason(#/%sft)	0.17							
					Straw(seer/%cft)	8.0				Labour(do)	0.55							
5.2a	Cowdung plaster finish on sun baked brick walls.				Earth(cft/%sft)	0.25				Mason(#/%sft)	0.12							
					Cowdung (do)	0.25				Labour (do)	0.06							
5.2b	Cowdung plaster finish on sun baked brick roof. (25.7,W34,101)				Earth(cft/%sft)	0.25				Mason(#/%sft)	0.12							
					Cowdung (do)	0.25				Labour (do)	0.06							
5.3	Lime pointing flush 1.2 on fired brick walls exterior surface including raking joints(25.8,W33,99)				Sand(cft/%sft)	1.80				Mason(#/%sft)	0.50							
					White Lime (Mds/%cft)	0.36				Labour (do)	1.00							




MUD STRAW PLASTER 1" & COW DUNG FINISH.
EARTH CUSHION 1"
1 LAYER POLYTHENE 0·50 GAUGE.
EARTH CUSHION 1"
1 LAYER SUN-BAKED OR FIRED BRICK BATS LAID FLAT IN MUD MORTAR
SUN-BAKED BRICK OR FIRED BRICKS LAID ON EDGE IN MUD MORTAR
COLLAR 3" THICK OF BRICKS LAID FLAT ON BOTH ENDS OF VAULT.
ARCHED LINTEL OVER WINDOW
1'-10½" OR 1'-6" SUN-BAKED OR FIRED BRICK WALL IN MUD MORTAR.
3'-1½"
1'-6"
6'-0"
10'-0"
15'-1½"
2'-6"
2'-0"
G.L.
SAND-BED 1' DEEP
MUD STRAW PLASTER 1" & COW-DUNG FINISH.
EARTH 6" CONSOLIDATED LAYER MOISTENED & RAMMED.
COMPACTED EARTH
3'-0"
MUD PLASTER 1" & COW DUNG FIN.
EARTH 1"
POLYTHENE
EARTH 1"
SUN-BAKED OR FIRED BRICK BATS LAID FLAT IN MUD MORTAR
SUN-BAKED OR FIRED BRICKS LAID ON EDGE IN MUD MORTAR
12'-6" (3.7m)
TOP VENTS ONLY
13½" 11" 3'-6" 2'-6" 3'-6" 2'-6" 3'-6" 11" 13½"
17'-4" (6.2m)


MUD STRAW PLASTER 1" & COW DUNG FINISH
1" EARTH CUSHION
1 LAYER POLYTHENE 0·50 GAUGE
1 EARTH CUSHION
1 LAYER SUN-BAKED BRICK BATS LAID FLAT IN MUD MORTAR
SUN-BAKED BRICKS LAID ON EDGE IN MUD MORTAR
COLLAR 3" THICK OF BRICKS LAID FLAT ON BOTH ENDS OF VAULT.
CONCRETE COPING 1:2:4 2½" x 11" ALONG PARAPET 4½" WITH THROATING.
LIME PLASTER
MUD STRAW PLASTER 1" & COW DUNG FINISH
EARTH CUSHION 1"
1 LAYER POLYTHENE 0·50 GAUGE.
EARTH CUSHION 1"
1 LAYER FIRED BRICK BATS LAID FLAT IN MUD MORTAR
FIRED BRICKS LAID ON EDGE IN MUD MORTAR.
3 COATS WHITE WASH
½" MUD STRAW PLASTER (INT. & EXT.) ON 1'-10½" SUN BAKED BRICK WALLS WITH COW DUNG FINISH OR
½" LIME PLASTER 1:2 ON 1'-6" FIRED BRICK WALLS EXTERIOR SURFACE INCLUDING RAKING JOINTS
POINTING
½" LIME PLASTER 1:2 ON INTERIOR SURFACES OF FIRED BRICK WALLS & WINDOW SILLS.
D.P.C OF ¼" 1:1:6 CEMENT LIME PLASTER & 1 LAYER POLYTHENE 0·50 GAUGE.
FOOTINGS 1'-10½" OR 1'-6" OF FIRED BRICKS IN MUD MORTAR UPTO 1'-6" ABOVE G.L.
MUD STRAW PLASTER 1" & COW DUNG FINISH
EARTH 6" CONSOLIDATED, MOISTENED & RAMMED
COMPACTED EARTH.
TILES 12"x6"x2" IN 1:6 CEMENT MORTAR
BED OF ¾" THICK CEMENT MORTAR
EARTH 6" CONSOLIDATE
COMPACTED EARTH
G.L.
EXCAVATION 2' DEEP & 3' WIDE INCLUDING DRESSING & FILLING WITH EXCAVATED EARTH WATERING & RAMMING LEAD UPTO 1 CHAIN & LIFT UPTO 5' IN ORDINARY SOIL. /OR EXCAVATION 2' DEEP & 2'-6" WIDE etc.
SAND BED 3' WIDE & 1" DEEP OF 3" LAYERS OF SAND FILLING RAMMED AFTER SATURATION TO 2" COMPACTION. /OR SAND BED 2'-6" x 6" OF 3" LAYERS OF SAND FILLING RAMMED AFTER SATURATION TO 2" COMPACTION.

Inputs Source, Quantities, Costs.

Pr 3a.

TECH-NOLOGY TYPE:

NO.	CONSTRUCTION: PROCESS / INPUTS	QTY.	DAYS / HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.0	FOUNDATION/PLINTH																
1.1	Excavation 2Ø' deep & 3'-0" wide including dressing & filling with excavated earth watering & ramming lead upto 1 chain and lift upto 5' in ordinary soil/ (17.1/5,W2,32)								Mason(#/%cft) Labour (do)	1.50 9.00							
1.2	Sand Bed 3' wide and 1' deep of 3" layers of sand filling rammed after saturation to 2" compaction (24.3,W20-3,87)			Sand(cft/%cft)	133				Mason(#/%cft) Labour (do)	0.125 1.25							
1.3	Footings 1'-10½" Fired brick in mud-mortar upto 1'-6" above G.L.(21.1,W6,64)			Earth(cft/%cft) Bricks (#/%cft)	35 1350				Mason(#/%cft) Labour (do)	1.50 3.12							
1.4	D.P.C. ¼" Cement lime sand 1:1.6 with 1 layer polythene 500 gauge(49.2,W32)			Cement(cwt/%cft) Lime (Mds/%cft) Sand(cft/%cft) Polythene(Kg/cft)	12.25 15.00 90.00				Mason(#/%cft) Labour (do)	0.75 1.25							
2.0	WALLS																
2.1	1'-10½" Sun baked brick in mud mortar(21.16,W13,69)			Earth(cft/%cft) Sun Baked Bricks (#/%cft)	35.00 1350.00				Mason(#/%cft) Labour(do)	1.50 3.75							
2.2	Extra labour for archwork (21.5,W19,66)								Mason(#/%cft) Labour (do)	1.00 2.00							
2.3	Fired brick in mud mortar two cources below sills and vault spring point upto parapet(21.1-6,W6,63)			Earth(cft/%cft) Fired Bricks (#/%cft)	35.00 1350.00				Mason (#/%cft) Labour (do)	2.00 4.13							
2.4	D.P.C. ¼" 1:1:6 cement lime plaster with roof polythene ramming over in parapet(49.2,W32)			Sand(cft/%cft) Cement(cwt/%cft) White lime (Mds/%cft) Polythen(Kg/sft)	90.00 12.25 15.00				Mason(#/%cft) Labour (do)	0.75 1.25							
2.5	Concrete coping 1:2:4 2½"x11" along parapet with throating(20.4,W4,52)			Sand(cft/%cft) Aggregate(do) Cement(cwt/%cft)	44.00 88.00 17.60				Mason(#/%cft) Labour (do)	1.00 6.50							
2.6	Extra labour for archwall at both ends of vault.																
3.0	ROOF																
3.1	Vault of sun-baked brick on edge in mud mortar (21.16,W13,69)			Earth(cft/%cft)	35.00				Mason(#/%cft) Labour (do)								
3.2	One layer sun baked brick bats laied flat in mud-mortar over vault.			Earth(cft/%cft) Sun Baked Bricks Bats(#/%cft)	35.00 1350.00				Mason(#/%cft) Labour (do)								

Pr.3a.

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE:

TECH-NOLOGY TYPE:

NO.	CONSTRUCTION: INPUTS PROCESS	QTY.	DAYS	HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16
3.3	D.P.C. of 1 layer Polythene sanwiched between two 1" earth cushions(W27-10)				Polythene(Kg/%sft) Earth(cft/%sft)	 33.00				Mason(#/%sft) Labour (do)							
3.4	1"Mud Straw Plaster and gobri leeping(W32-1(ii))				Straw(seers/%sft) Cowdung(cft/%sft) Clay (do)	16.00 0.25 12.25				Mason(#/%sft) Labour (do)	0.32 1.02						
4.0	FLOOR																
4.1	6" Consolidated layer of moistened earth w/1" mud-straw plaster and cow-dung finish(24.2,W20,87)				Straw(seers/%cft) Earth(cft/%cft) Cowdung(do) Fine Clay(do)	17.00 82.00 0.75				Mason(#/%cft) Labour (do)	0.25 2.25						
5.0	RENDERING																
5.1	½" mud-straw plaster on sun-baked brick walls. (25.7,W32,97)				Earth(cft/%sft) Cowdung (do)	6.00 8.00				Mason(#/%cft) Labour (do)	0.17 0.55						
5.2	Cowdung plaster finish on sun-baked brick walls. (25.7,W32,101)				Earth(cft/%sft) Cowdung (do)	0.25 0.25				Mason(#/%cft) Labour (do)	0.12 0.06						
5.3	Lime pointing flush on fired bricks walls exterior surface including racking joints (25.8,W33,99)				Sand (cft/%sft) Lime (Mds/%sft)	1.80 0.36				Mason(#/%sft) Labour (do)	0.50 1.00						
5.4	Lime plaster ½" on interior surfaces of fired brick walls and window sills(1:2) (25.1-6,W32,97)				Sand (cft/%sft) White lime (Mds/%sft)	3.40 0.68				Mason(#/%sft) Labour (do)	0.75 1.25						
5.5	3 coats white wash (W34-24)				Rice(lbs/%sft) White lime (Mds/%sft)	0.25 0.10				Skilled Labour(#/%sft) Labour(#/%sft)	0.30 0.20						

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CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE:

TECH-NOLOGY TYPE:

Pr 36)

NO.	CONSTRUCTION PROCESS: INPUTS	QTY.	DAYS	HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	= TOTAL COST(RS) Mt.+ L	
	1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.0	FOUNDATION/PLINTH																	
1.1	Excavation 2' deep and 2'-6" wide including dressing filling with excavated earth watering and ramming lead upto, 1 chain and lift upto 5' in ordinary soil. (17-1/5,W2,30)									Mason(#/%cft) Labour(do)	1.50 9.00							
1.2	Sand bed 6"x2'-6" of 3" layers of sand filling rammed after saturation to 2" compaction. (24.3,W20-2,87)				Sand(cft/%cft)	133.00				Mason(#/%sft) Labour(do)	0.125 1.25							
1.3	Footings of 1'-6" Fired bricks in mud mortar (W6-1(i))				Earth(cft/%cft) Fired Bricks (#/%cft)	35.00 1350.0				Mason(#/%cft) Labour(do)	1.50 3.13							
1.4	D.P.C. of ¼" 1:1:6 cement lime plaster and 1 layer polythene 500 gauge (49-2,(.)32)				Sand(cft/%cft) Cement(cwt/%cft) White lime (mds/%cft) Polythene	90.00 12.25 15.00				Mason(#/%cft) Labour (do)	0.75 1.25							
2.0	WALLS																	
2.1	Fired bricks 1'-6" in mud mortar (W6-1(i))				Earth(cft/%cft) Fired Bricks	35.00 1350.00				Mason(#/%cft) Labour (do)	1.50 3.12							
2.2	Extra labour for archwork (21.5,W19,66)									Mason (do) Labour (do)	1.00 2.00							
2.3	2 coarses 4½" parapet walls in 1:1:6 cement lime mortar (W14.H)				Sand(cft/%sft) Cement(cwt/%sft) Lime(Mds/%sft) Fired Bricks (#/%sft)	6.00 0.80 0.40 338.00				Mason(#/%cft) Lahour (do)	1.25 2.80							
2.4	D.P.C. ¼" in 1:1:6 cement lime mortar with roof polythene 500 gauge running over in parapet(49-2,W32)				Sand(cft/%cft) Cement(cwt/%cft) White lime (Mds/%cft) Polythene	90.00 12.25 15.00				Mason(#/%cft) Labour(do)	0.75 1.25							
2.5	Concrete coping 1:2:4, 2½"x11" along parapet with throating (20-1,W4,52)				Cement(cwt/%cft) Sand (cft/%cft) Aggregate(do)	17.60 44.00 88.00				Mason(#/%cft) Lahour (do)	1.00 6.50							
2.6	Extra labour for arch wall at both ends of vault.																	
3.0	ROOF																	
3.1	Vault of Fired bricks on edge in mud mortar.				Earth(cft/%cft) Fired Bricks (#/%cft)	35.00 1350.00												

CONSTRUCTION PROCESS,

Inputs Source, Quantities, Costs.

INFORMATION SOURCE: Pr 3b.

TECH-NOLOGY TYPE:

NO.	CONSTRUCTION: INPUTS PROCESS	QTY.	DAYS 8 HRS	MATERIAL TYPE	MATERIAL QUANTITY /Unit	MATERIAL QUANTITY Total	MATERIAL COST (RS) /Unit	MATERIAL COST (RS) Total	LABOUR TYPE	LABOUR QUANTITY /Unit	LABOUR QUANTITY Total	/day Ms	/day L	LABOUR COST (RS) /Unit	LABOUR COST (RS) Total	TOTAL COST(RS) Mt.+ L
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3.2	One layer Sun baked brick bats laied flat in mud mortar over vault.			Earth(cft/%cft)	35.00											
				Sun Baked Brick Bats(#/%cft)	1350.00											
3.3	D.P.C. of 1 layer polythene sandwitched between 2 layers of ½" ~~cement lime plaster 1:1:6~~ over lapping parapet (49.2,W52)			Cement(50kg bag/%cft)	12.25				Mason(#/%cft)	0.75						
				Lime(putty)(cft/%cft)	15.00				Labour(do)	1.25						
				Sand(cft/%cft)	90.00											
				Polythene												
4.0	FLOORS															
4.1	Tiles 12"x6"x2" in 1:6 cement mortar over bed of 3/4" thick cement mortar 1:6 (W21-11)			Sand(cft/%sft)	8.00				Mason(#/%sft)	0.75						
				Cement(cwt/%sft)	1.10				Labour (do)	2.00						
				Tiles(#/%cft)	210.00											
4.2	Earth flooring consisting of 6" thick consolidated Layer of moistened earth including ramming(W20-2)			Earth(cft/%sft)	70.00				Mason(#/%sft)	0.125						
									Labour (do)	1.25						
5.0	RENDERING															
5.1	Lime pointing flush 1:2 of fired brick walls-exterior surface including raking joints(25.8,W33,99)			Sand(cft/%sft)	1.80				Mason(#/%sft)	0.50						
				White lime (Mds/%sft)	0.36				Labour (do)	1.00						
5.2	½" lime plaster 1:2 on interior surface of fired brick walls and window sills (25.1-6,W32(ii)97)			Sand(cft/%sft)	3.40				Mason(#/%sft)	0.75						
				White lime	0.68				Labour (do)	1.25						
5.3	3 coats white wash (25.9,W34,101)			Rice(lbs/%sft)	0.25				Skilled Labour(#/%sft)	0.30						
				White lime (Mds/%sft)	0.10				Labour (do)	0.20						