

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
শরণার্থী ত্রাণ ও প্রত্যাভাসন কমিশনারের কার্যালয়
কক্সবাজার
www.rrrc.gov.bd

ন.-৫১.০৪.২২০০.০০৬.০৩.৩১২.২০২৫(১৩)-২১০

তারিখ: ১৫ জানুয়ারি ২০২৬ খ্রি.

বিষয়: “BRAC” নামীয় সংস্থার ড্রয়িং-ডিজাইন এর প্রশাসনিক অনুমোদন।

সূত্র : (১) BRAC এর পত্র ন.-১৫৩৬, তারিখ: ১৪ ডিসেম্বর ২০২৫ খ্রি.

উপর্যুক্ত বিষয় ও সূত্রের পরিপ্রেক্ষিতে বলপূর্বক বাস্তবায়িত মিয়ানমার নাগরিকদের মানবিক সেবা প্রদানের লক্ষ্যে BRAC কর্তৃক এফডিএমএন ক্যাম্পসমূহে টেম্পরারি সেফার শেল্টার নির্মাণের জন্য ড্রয়িং-ডিজাইন দাখিল করা হয়েছে। উক্ত ড্রয়িং-ডিজাইন এর প্রশাসনিক অনুমোদন নির্দেশক্রমে প্রদান করা হলো।

সংযুক্তি: ড্রয়িং-ডিজাইন ১৮ (আঠারো) পাতা

১৫.০১.২৬

নওশের ইবনে হালিম

সহকারী সচিব

মোবাইল: ০১৮১৮-৭২৬৮৭২

ই-মেইল: contact@rrrc.gov.bd

রেজাউল করিম

সহযোগী পরিচালক ও অফিস ইনচার্জ

ব্র্যাক, কক্সবাজার

মোবাইল: ০১৮৯৪-৮৪১৬০২

ই-মেইল: rezaul.k@brac.net

অনুলিপি: সদয় জ্ঞাতার্থে/জ্ঞাতার্থে ও কার্যার্থে (জ্যেষ্ঠতার ক্রমানুসারে নয়):

১। অতিরিক্ত শরণার্থী ত্রাণ ও প্রত্যাভাসন কমিশনার (সকল), এ কার্যালয়।

২। জেলা প্রশাসক, কক্সবাজার।

৩। ক্যাম্প-ইনচার্জ, ক্যাম্প-(সকল), উখিয়া/টেকনাফ, কক্সবাজার।

৪। অফিস কপি।

CONCEPT
of
TEMPORARY SAFER SHELTER(TSS)

The Temporary Safer Shelter (TSS) strategy, developed by the S-CCCM Sector, addresses the increasing vulnerability of Rohingya refugees to environmental hazards such as fires, monsoon flooding, landslides, and extreme heat. Given the camp's diverse terrain—including flood-prone lowlands, steep slopes, and densely populated flatlands—a one-type-fits-all shelter model is insufficient. TSS introduces a modular, risk-sensitive shelter approach that prioritizes fire safety, structural resilience, and climate adaptability. All models are designed to be cost-effective, easy to dismantle, and built from locally available or regionally sourced materials. Mud tally shelter is one of the design of TSS concept.

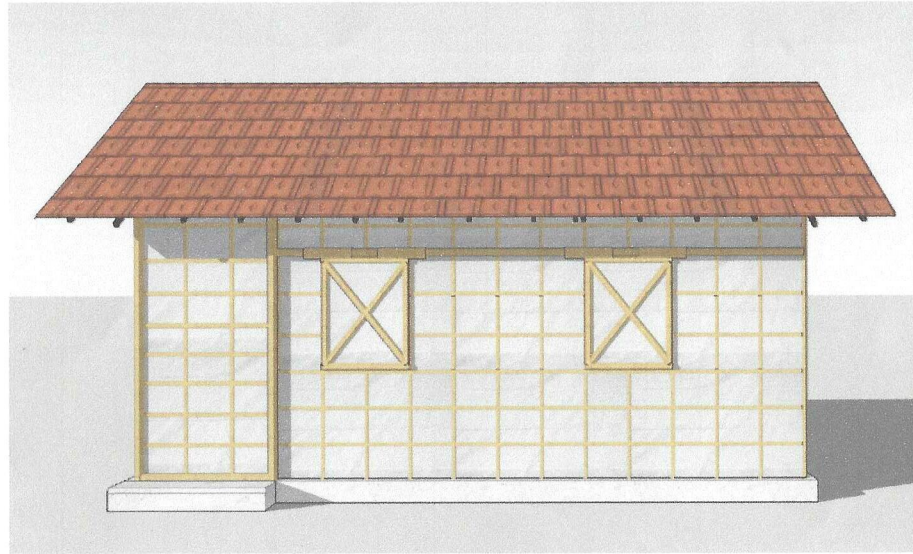
MUD-TALLY SHELTER

Amal
Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

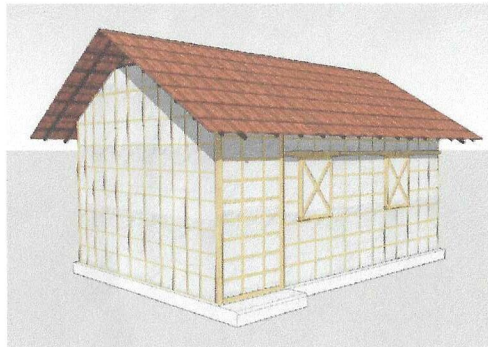


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সহকারী সচিব
আরআরআরসি অফিস, কক্সবাজার

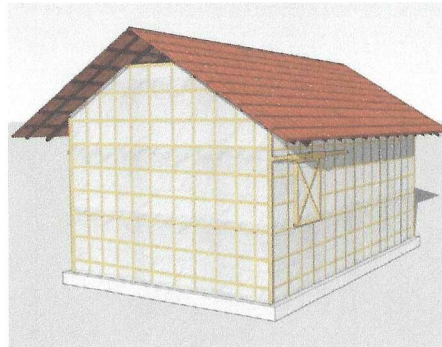
Afroza Sultana
Architect-Shelter
PIN: 1625271 HCMP-BRA
Ajm



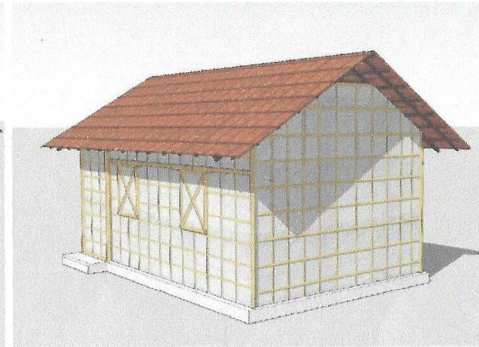
FRONT VIEW



LEFT VIEW



BACK VIEW



RIGHT VIEW

General Notes

Shelter size-10'x15'(150 sft)
Flooring: Sand & Cement
Wall: Geo-tex wall
Structure: MS angle , MS pipe
Roofing: Terracotta tiles(mud tally)

ISCG SCCCM SECTOR
SCCCM Sector Standards - Bangladesh

Rohingya
Refugee
Response
Bangladesh

SHELTER & CCM
SECTOR
Cox's Bazar, Bangladesh



Coordination Hub, Kabita Soroni, Motel Road,
Cox's Bazar-4700, Bangladesh

Project Title: TSS(Temporary Safer Shelter)
Terracotta tile(Mud-tally) Shelter

Project No: 01

Drawing No:

Scale: No scale

Sheet No: 3D View

Date: January 2026

Sketch & Planning by:
[Shelter taskforce Team]

Afroza Sultana

Drawn by:
Architect Afroza Sultana

Architect-Shelter

Design & Checked by:
Brac & Shelter Taskforce team

PIN: 1625271 HOMP-BRAC

Technical Support & Validated by:
SCCCM Sector-ISCG and RRRRC



SAVE WATER AND PLANT TREES
FOR NEXT GENERATION

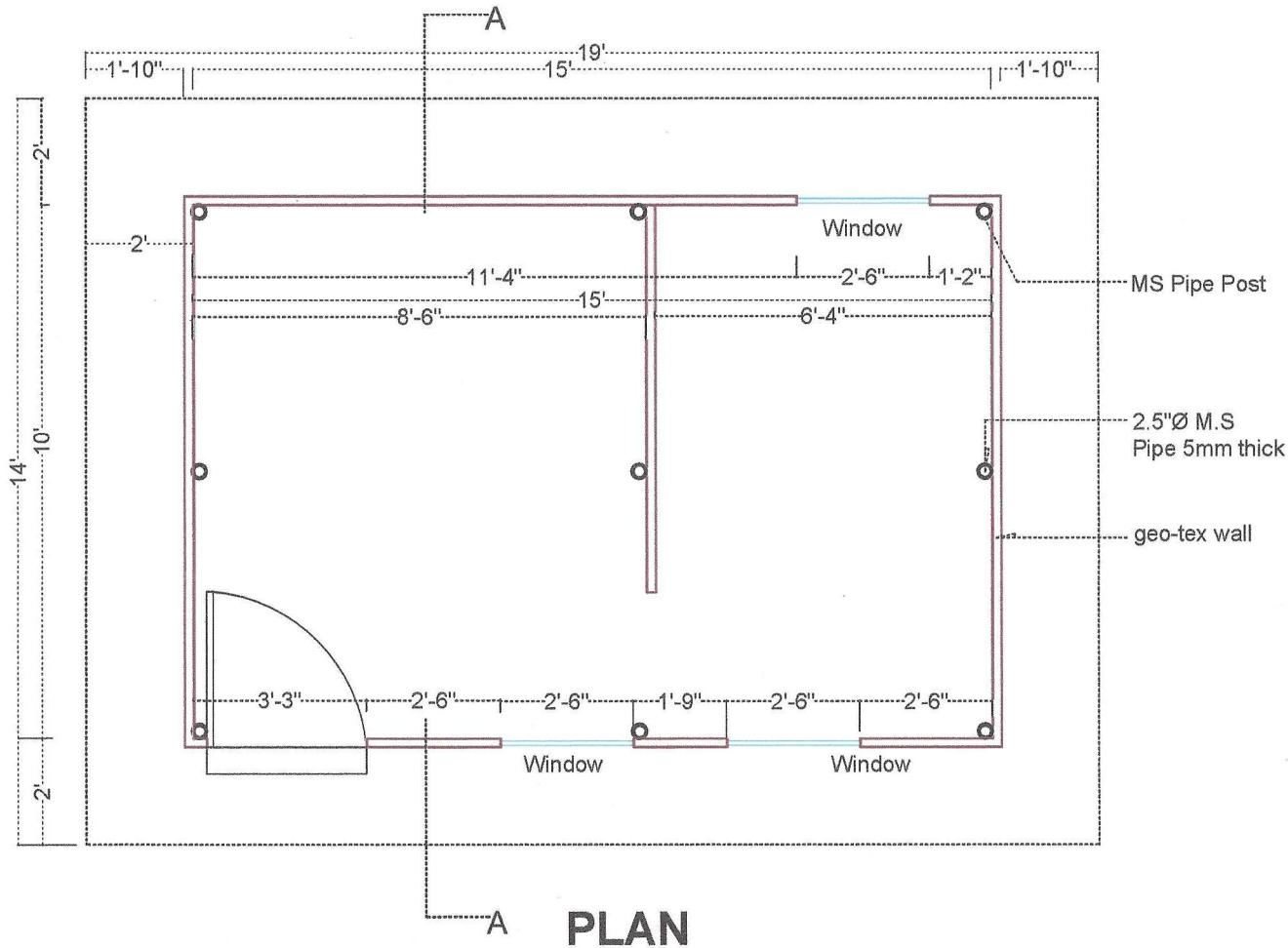
LEGEND:

Wire mesh Metal Tarpaulin Bamboo frame



Md. Ismail Hossain
Care & Maintenance Officer
RC Office, Cox's Bazar

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General Notes

Shelter size-10'x15'(150 sqft)
Flooring: Sand & Cement
Wall: Geo-text wall
Structure: MS angle, MS pipe
Roofing: Terracotta tiles(mud
tally)

ISCG SCCC Sector
SCCC Sector Standards - Bangladesh

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Response
Bangladesh
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SECTOR
Cox's Bazar, Bangladesh

Coordination Hub, Kabita Soroni, Motel Road,
Cox's Bazar-4700, Bangladesh

Project Title: TSS(Temporary Safer Shelter)
Terracotta tile(Mud-tally) Shelter

Project No: 01

Drawing No: 01

Scale: No scale

Sheet No: 01

Date: January 2026

Sketch & Planning by:
[Shelter taskforce Team]

Drawn by: **Afroza Sultana**
Architect Afroza Sultana

Design & Checked by: **Architect-Shelter**
Brac & Shelter Taskforce

Technical Support & Validated by:
SCCC Sector-ISCG and RRRC



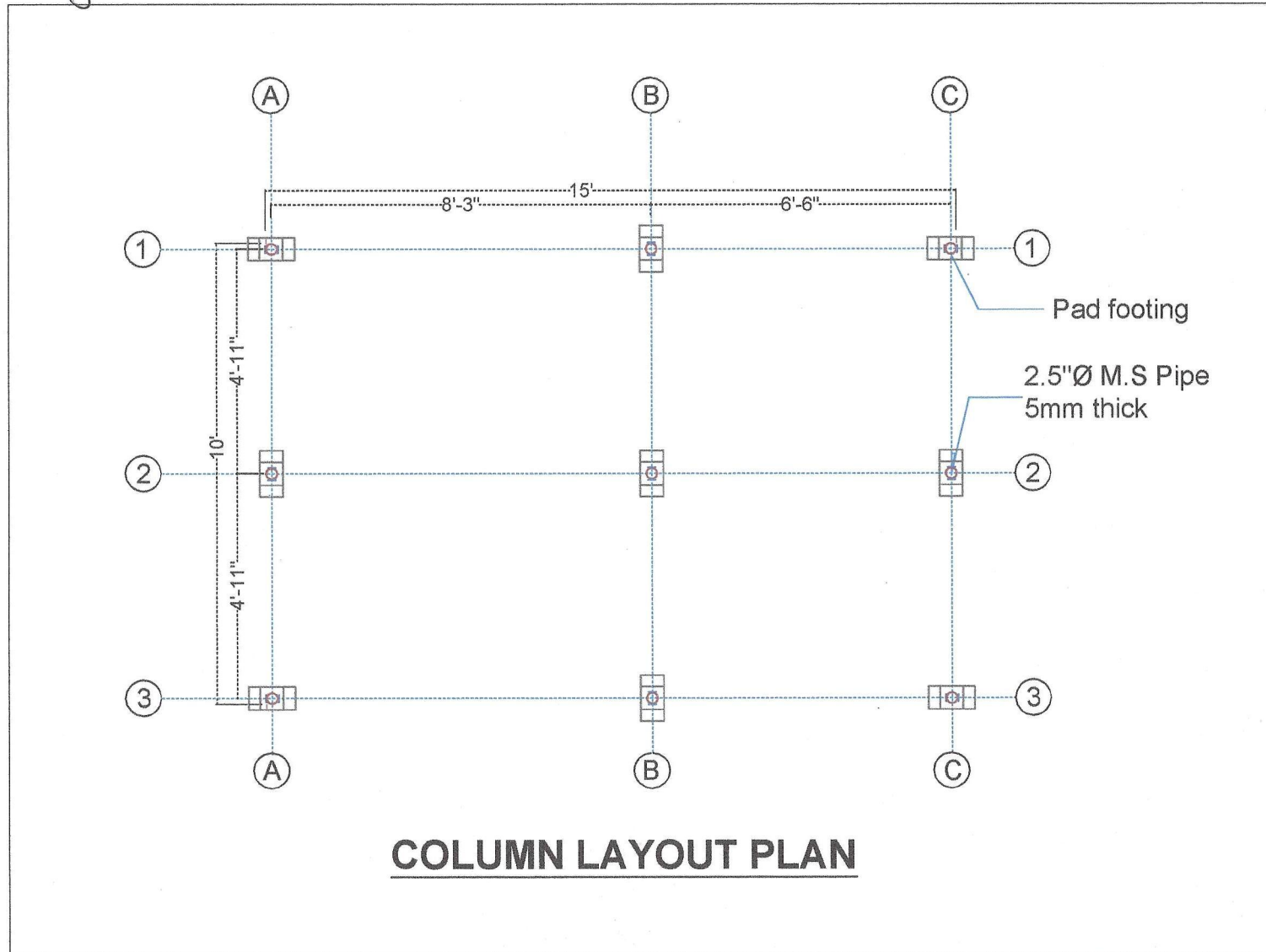
LEGEND:

wire mesh Metal Tarpaulin Bamboo frame



Handwritten signature:
Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

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COLUMN LAYOUT PLAN

General Notes

Shelter size-10'x15'(150 sft)
Flooring: Sand & Cement
Wall: Geo-tex wall
Structure: MS angle , MS pipe
Roofing: Terracotta tiles(mud tally)

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Refugee
Response
Bangladesh

SHELTER & CCCM
SECTOR
Cox's Bazar, Bangladesh



Coordination Hub, Kabita Soroni, Motel Road,
Cox's Bazar-4700, Bangladesh

Project Title: TSS(Temporary Safer Shelter)
Terracotta tile(Mud-tally) Shelter

Project No: 01

Drawing No: 02

Scale: No scale

Sheet No: 02

Date: January 2026

Sketch & Planning by:
[Shelter taskforce Team]

Drawn by:
Architect Afroza Sultana

Design & Checked by:
Brac & Shelter Taskforce team

Technical Support & Validated by:
SCCCM Sector-ISCG and RRRC

Afroza Sultana
Architect-Shelter
PIN: 1625271 HCMP-BRAC



SAVE WATER AND PLANT TREES
FOR NEXT GENERATION

LEGEND:

wire mesh
 Metal
 Tarpaulin
 Bamboo frame



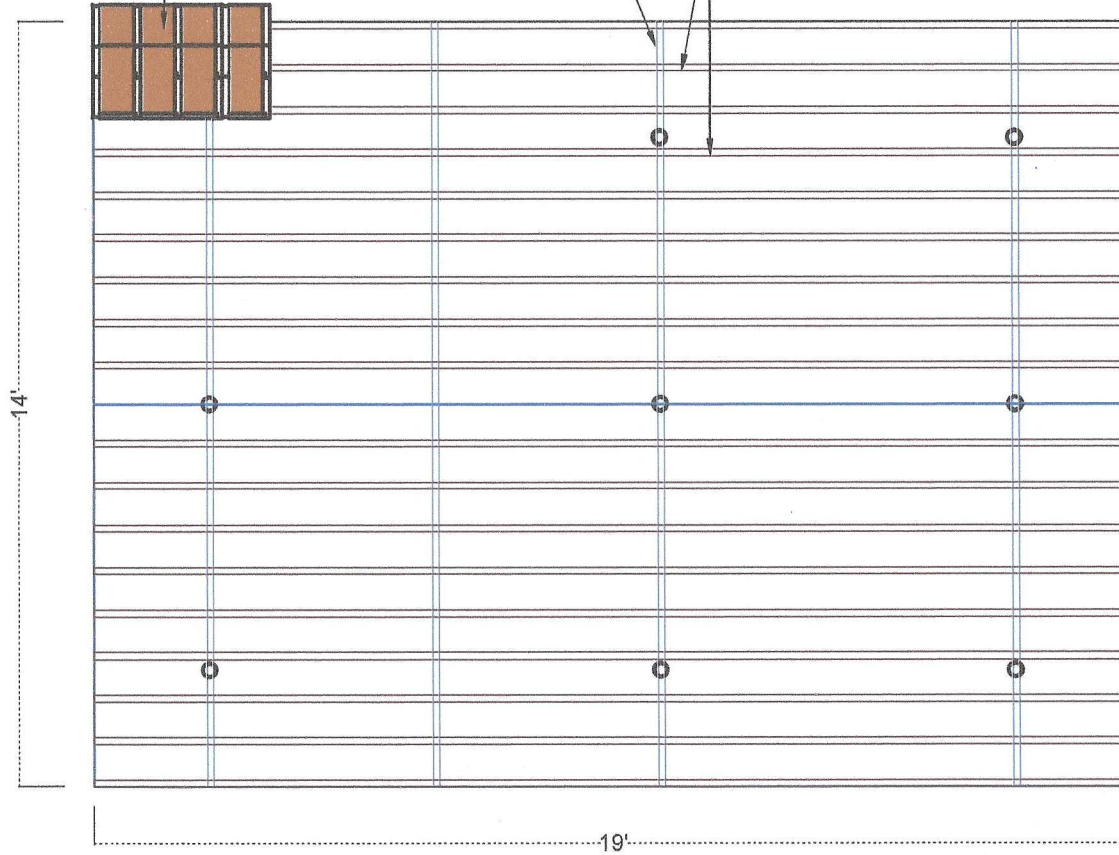
Md. Ismail Hossain
Md. Ismail Hossain
are & Maintenance Officer
RC Office, Cox's Bazar

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আবাসি অফিস, কক্সবাজার

250mmx400mm sizes
Terracotta Tiles
overlapping

1.5"x1.5"x4mm
MS angle rafter

1.5"x1.5"x4mm
MS angle Purlin



ROOF PLAN



SAVE WATER AND PLANT TREES
FOR NEXT GENERATION

LEGEND:

 wire mesh
  Metal
  Tarpaulin
  Bamboo frame



General Notes

Shelter size-10'x15'(150 sq ft)
Flooring: Sand & Cement
Wall: Geo-text wall
Structure: MS angle, MS pipe
Roofing: Terracotta tiles(mud tally)

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Response
Bangladesh

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SECTOR
Cox's Bazar, Bangladesh



Coordination Hub, Kabita Soroni, Motel Road,
Cox's Bazar-4700, Bangladesh

Project Title: TSS(Temporary Safer Shelter)
Terracotta tile(Mud-tally) Shelter

Project No: 01

Drawing No: 03

Scale: No scale

Sheet No: 03

Date: January 2026

Sketch & Planning by:
[Shelter taskforce Team]

Drawn by:
Architect: Afroza Sultana

Design & Checked by:
Brac & Shelter Taskforce team

Technical Support & Validated by:
SCCCM Sector-ISCG and RRRRC

Afroza Sultana
Architect-Shelter

PIN: 1625271 HCMP-BRAC

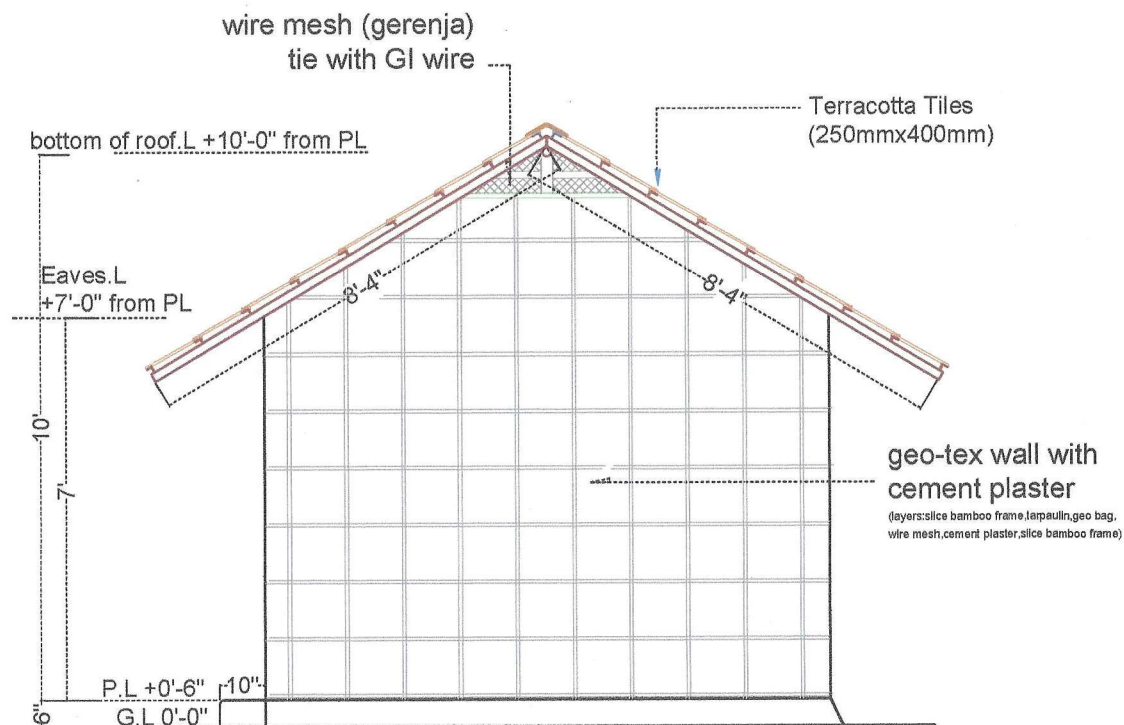
Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office Cox's Bazar

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আরআরআরসি অফিস, কক্সবাজার

[illegible]

General Notes

RRB



SIDE ELEVATION

General Notes

Shelter size-10'x15'(150 sq ft)
Flooring: Sand & Cement
Wall: Geo-tex wall
Structure: MS angle , MS pipe
Roofing: Terracotta tiles(mud tally)

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SCCCM Sector Standards - Bangladesh
Rohingya Refugee Response Bangladesh
SHELTER & CCCM SECTOR
Cox's Bazar, Bangladesh
Coordination Hub, Kabita Soroni, Motel Road, Cox's Bazar-4700, Bangladesh

Project Title: TSS(Temporary Safer Shelter)
Terracotta tile(Mud-tally) Shelter

Project No: 01

Drawing No: 05

Scale: No scale

Sheet No: 05

Date: January 2026

Sketch & Planning by:
(Shelter taskforce Team)

Drawn by:
Architect Afroza Sultana

Design & Checked by:
Brac & Shelter Taskforce team

Technical Support & Validated by:
SCCCM Sector-ISCG and RRRC

Afroza Sultana
Architect-Shelter

PIN: 1625271 HCMP-BRAC



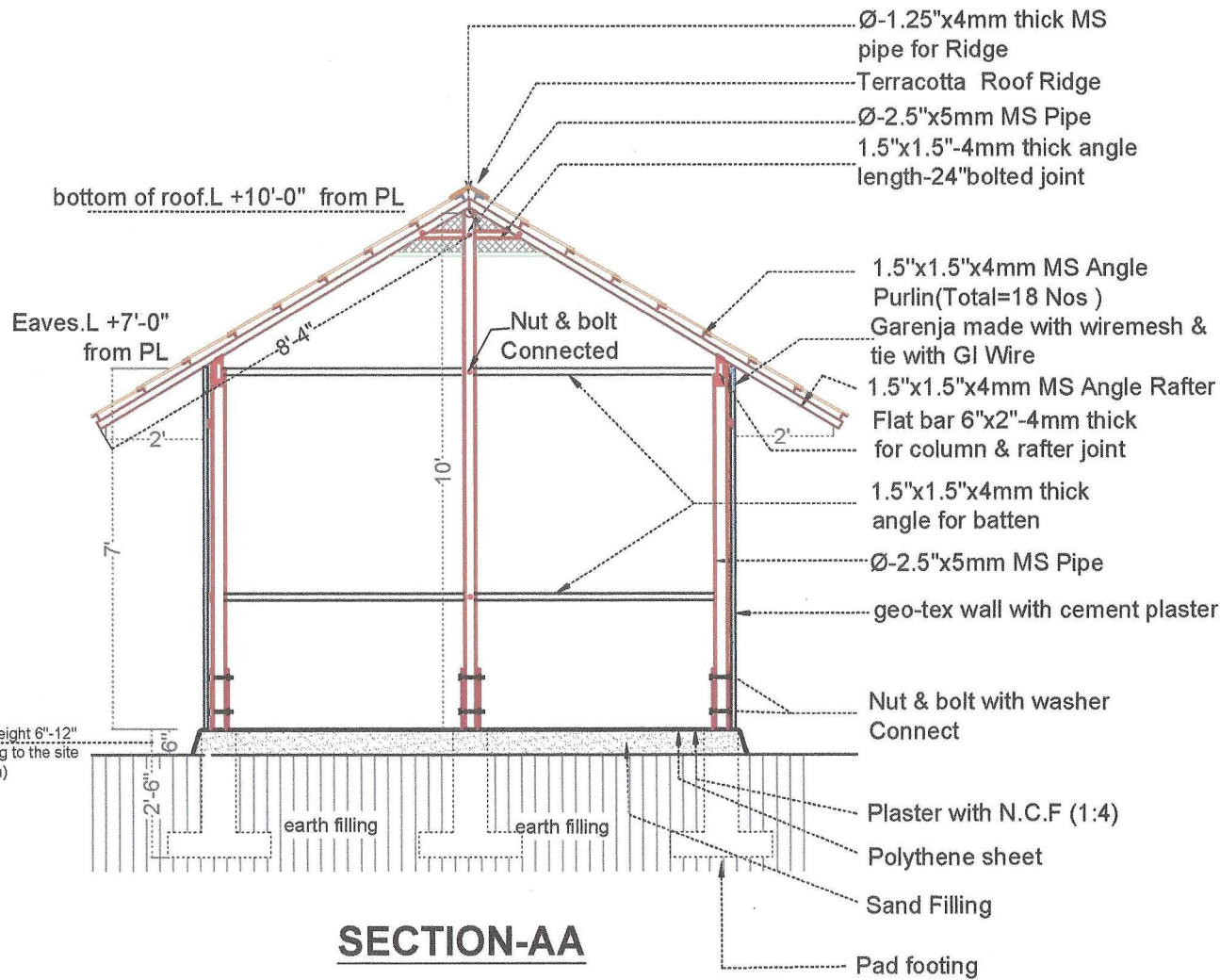
LEGEND:

wire mesh
 Metal
 Tarpaulin
 Bamboo frame



Signature
Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

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সহকারী সচিব
আব্রাহারআরাদি অফিস, কক্সবাজার



General Notes

Shelter size-10'x15'(150 sq ft)
Flooring: Sand & Cement
Wall: Geo-tex wall
Structure: MS angle , MS pipe
Roofing: Terracotta tiles(mud tally)

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Rohingya Refugee Response Bangladesh

SHELTER & CCCM SECTOR

Cox's Bazar, Bangladesh

Coordination Hub, Kabita Soroni, Motel Road, Cox's Bazar-4700, Bangladesh

Project Title: TSS(Temporary Safer Shelter)
Terracotta tile(Mud-tally) Shelter

Project No: 01

Drawing No: 06

Scale: No scale

Sheet No: 06

Date: January 2026

Sketch & Planning by:
[Shelter taskforce Team]

Drawn by:
Architect Afroza Sultana

Design & Checked by:
Brac & Shelter Taskforce team

Technical Support & Validated by:
SCCCM Sector-ISCG and RRRRC

Afroza Sultana
Architect-Shelter
PIN: 1625271 HCMP-BRAC



SAVE WATER AND PLANT TREES
FOR NEXT GENERATION

LEGEND:

wire mesh Metal Tarpaulin Bamboo frame



Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

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DOOR & WINDOW SCHEDULE

WINDOW	DRAWINGS
Type-01: Window made with geo-textile, wire-mesh, cement, core sand & bamboo frame .tie with 3mm rope with borak bamboo to side slide. size: (3'-0"x2'-6")	Outer View Inner View Window Net
Nos: 03	
DOOR	
type-01: Door made with geo-textile, wire-mesh, cement, core sand & bamboo frame . tie with 3mm rope with the side post. size: (7'-0"x3'-0")	Outer View Inner View
Nos: 01	

General Notes

Shelter size-10'x15'(150 sq ft)
 Flooring: Sand & Cement
 Wall: Geo-text wall
 Structure: MS angle , MS pipe
 Roofing: Terracotta tiles(mud tally)

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 Sector
 Cox's Bazar, Bangladesh
 Coordination Hub, Kabita Soroni, Motel Road,
 Cox's Bazar-4700, Bangladesh

Project Title: TSS(Temporary Safer Shelter)
 Terracotta tile(Mud-tally) Shelter

Project No: 01

Drawing No: 07

Scale: No scale

Sheet No: 07

Date: January 2026

Sketch & Planning by:
 (Shelter taskforce Team)

Drawn by:
 Architect Afroza Sultana

Design & Checked by:
 Brac & Shelter Taskforce team

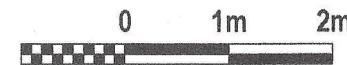
Technical Support & Validated by:
 SCCC Sector-ISC&G and RRRC

Afroza Sultana
 Architect-Shelter
 PIN: 1625271 HCMP-BRAC



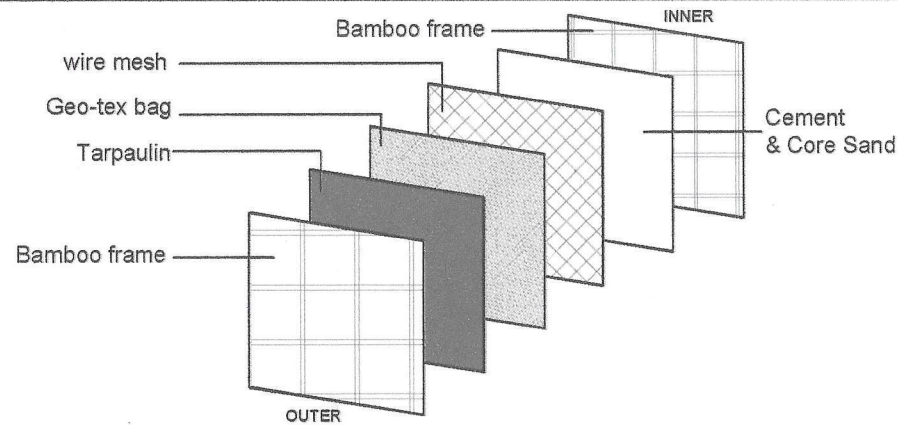
LEGEND:

wire mesh Metal Tarpaulin Bamboo frame

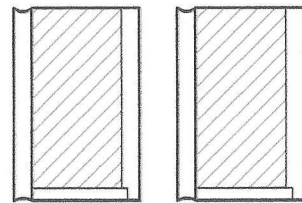


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 Care & Maintenance Officer
 RRRC Office, Cox's Bazar

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 সহকারী সচিব
 শাবলি অফিস, কক্সবাজার

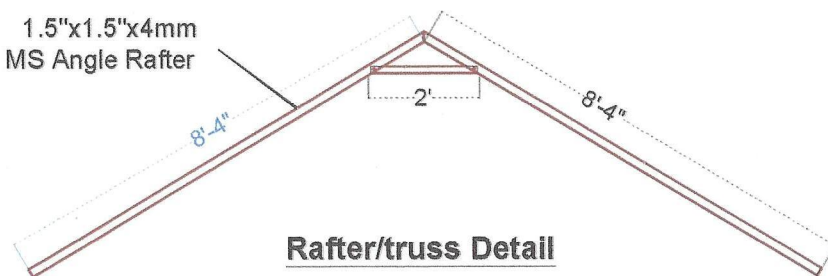


Layers of Geo-Text Wall

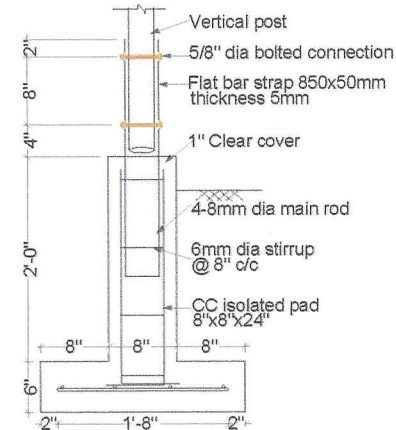


Terracotta Tiles(250mmx400mm)

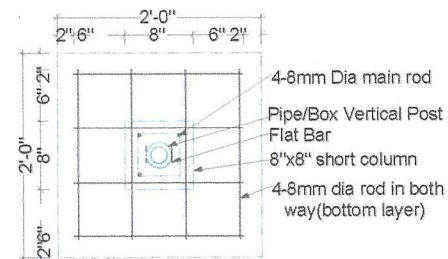
1.5"x1.5"x4mm
MS Angle Rafter



Rafter/truss Detail



Section of Precast Foundation



Plan of Precast Foundation

General Notes

Shelter size-10'x15'(150 sq ft)
Flooring: Sand & Cement
Wall: Geo-tex wall
Structure: MS angle, MS pipe
Roofing: Terracotta tiles(mud tally)

ISCG SCCC Sector

SCCCM Sector Standards - Bangladesh

Rohingya
Refugee
Response
Bangladesh

SHELTER & CCM
SECTOR
Cox's Bazar, Bangladesh



Coordination Hub, Kabita Soroni, Motel Road,
Cox's Bazar-4700, Bangladesh

Project Title: TSS(Temporary Safer Shelter)
Terracotta tile(Mud-tally) Shelter

Project No: 01

Drawing No: 08

Scale: No scale

Sheet No: 08

Date: January 2026

Sketch & Planning by:
[Shelter taskforce Team]

Drawn by:
Architect Afroza Sultana

Design & Checked by:
Brac & Shelter Taskforce team

Technical Support & Validated by:
SCCCM Sector-ISC and RRRC

Afroza Sultana

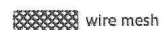
Architect-Shelter

25271 HCMP-BRAC



SAVE WATER AND PLANT TREES
FOR NEXT GENERATION

LEGEND:



wire mesh



Tarpaulin



Bamboo frame



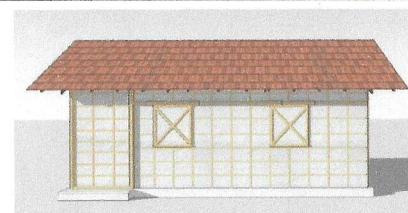
Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

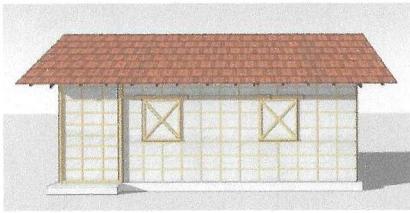
নওশের হোসেন শাহীন
সহকারী সচিব
আরআরআরসি অফিস, কক্স

COST ESTIMATION FOR TEMPORARY SAFER SHELTER:MUD-TALLY SHELTER

Rohingya
Refugee
Response
Bangladesh

SHELTER & CCCM
SECTOR
Cox's Bazar, Bangladesh



Flooring	Sand and Cement							
Footing	RCC Pad Footing							
Structure (Post + Beam)	MS Pipe/box and Angle							
Lower walling	Ferro Cement Wall							
Upper walling	Geotex Walling							
Roofing	Terracotta Tiles (Mud Tully)							
BOQ - Model Rectagular Shape Shelter 150 Sq-ft				Materials (USD)	1,444	TOTAL COST (USD)	Covered Space	150 sqft for 4 persons
				Labour (USD)	380	1,824		13.95 m²
SL	Items	Size/Specification	Location /Item	Unit	Quantity	Unit Cost (BDT)	Sub-Total (BDT)	Sub-Total (USD)
1	MS Pipe (2.5"dia x5mm)	MS Angle including fabrication and conforming to ASTM A36, with a minimum yield strength of 250 Mpa, 2.5inch Dia, 5mm Thickness	Column/Post	kg	158	160.00	25,322.93	\$ 211.02
2	MS Angle (1.5"x1.5"x4mm)	MS Angle including fabrication and conforming to ASTM A36, with a minimum yield strength of 250 MPa, MS Angle (1.5"x1.5"x4mm)	Rafter, Purlin, Frame	kg	394	160.00	62,964.74	\$ 524.71
3	MS Pipe (1.25"dia x4mm)	MS Angle including fabrication and conforming to ASTM A36, with a minimum yield strength of 250 Mpa, 1.25inch Dia, 4mm Thickness	Ridge	kg	16	160.00	2,558.05	\$ 21.32
4	Flat Bar (2"x4mm)	2inch flat bar, 4mm Thickness	Connection	kg	3	160.00	480.00	\$ 4.00
5	Footing	Pre Cast Pad footing; Base: 2'-0" x 2'-0" x 6" thick and Column: 8" x 8", height 24"	Foundation	Pcs	9	1,100.00	9,900.00	\$ 82.50
6	Geo textile Walling	Bamboo Slice Frame with Geotextile, Wire Mesh, and Net Cement Finishing	Walling, Window & Door	Sq-ft	410	100.00	41,000.00	\$ 341.67
7	Tarpaulin	Tarpaulin 4mx5m	Walling, Window & Door	Pcs	3.5	1,500.00	5,250.00	\$ 43.75
8	Terracotta Tiles (Mud Tully)	250mm x 400mm x 18mm & Rldge(25 Pcs)	Roofing	Pcs	375	35.00	13,125.00	\$ 109.38
9	Treated Borak Bamboo	Length: 20 ft. Diameter with maximal deviation 4 Inches: Upper side minimum 45mm & bottom side minimum 78mm.Thickness 18mm (bottom). Quality: Not raw and not fully ripe/dry no insect defeat. Maximum tolerance 5%. Treated	Column for Partition wall	Pcs	1	550.00	550.00	\$ 4.58
10	GI Wire	18BWG G.I Wire Mesh	Terracotta fixing with angles	Kg	4	125.00	500.00	\$ 4.17
11	Cement	Ordinary Portland Cement (OPC), Type 1/52.5 N,Size 50 KG Bag	Flooring protection	Bag	7	555.00	3,885.00	\$ 32.38
12	Filling Sand	Medium Sand having FM; 1.5 to 2.5, free of dust, clay & rubbish.	Flooring	Cft	113	28.00	3,150.00	\$ 26.25
13	Sand	Medium Sand having FM; 1.2 to 1.5, free of dust, clay & rubbish.	Flooring and Brick Wall joints	Cft	35	38.00	1,330.00	\$ 11.08
14	Wire Mesh	12BWG Galvanized Wire Mesh	Garanja	Sq-ft	23	15.00	345.00	\$ 2.88
15	Nut Bolts 10mm dia X 4",2"	MS nuts and Bolt 10mm dia, MS Washers 12 mm dia	Connection	kg	8	160.00	1,280.00	\$ 10.67
16	Lock & Chain	Small durable padlock with 2 keys, Thick cast iron chain (min. 3 feet long)	For door locking	Set	1	250.00	250.00	\$ 2.08
17	Red Oxide	Red/grey-oxide primer etc. all complete as per drawing, specification and direction of Engineer-in-charge.	Paint for MS	Liter	4	290.00	1,096.20	\$ 9.14
18	Thiner	Berger T-6, Elite T-1 or equivalent)	Paint for MS	Liter	2	150.00	300.00	\$ 2.50
19	Un skill labor	Labour (Unskilled) (Per hour/50Taka)	Earthwork and Walling	Man-days	80	350.00	28,000.00	\$ 233.33
20	Skill Labor	Labour (Skilled) (Per hour/114.28 Taka)	MS Angel & Ferro Cement Wall & Roofing	Man-days	22	800.00	17,600.00	\$ 146.67
Construction of TSS base cost						Total	218,886.92	\$ 1,824.06

Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

নওশের ইবনে হালিম
সহকারী সচিব
আবাসআবাসি অফিস, কক্সবাজার

Afroza Sultana
Architect-Shelter
PIN: 1625271 HCMP-BRA
Afroza

COST ESTIMATION FOR TEMPORARY SAFER SHELTER:MUD-TALLY SHELTER

Rohingya
Refugee
Response
Bangladesh

SHELTER & CCCM
SECTOR
Cox's Bazar, Bangladesh



Subject: Quantity calculations/Quantity sheet

S/No.	Description	UoM	Times	Qty	L (Ft)	W/B (Ft)	H/D (Ft)	Length (Ft)	Area (Sqft)	Volume (Cft)
SUB-STRUCTURE										
1.0	Site Clearance									
	Clear all vegetation, shrub and dispose at allocated site.	Sqft		1	12	17.00			204	
2.0	Excavation and Earthworks									
	2.1x 0.83	Cft		9	2.1	0.83	2.25			35.30
	Return, fill and ram	Cft								21.18
3.0	Footing									
	Pre Cast Pad footing; Base: 2'-0" x 2'-0" x 6" thick and Column: 8" x 8", height 24"	Pcs		9						
WALLING										
4.0	Waling									
	Geotex Walling	Sqft		1					410	
5.0	Partition Wall									
	Geotex Walling	Sqft		1					49	
6.0	Skeleton									
	For Main Frame									
	MS Pipe (2.5"dia x5mm)	ft		9	7 and 10			72		
	MS Angle (1.5"x1.5"x4mm)	ft		27	19 and 8.33 and 15 and 10 and 3			507.98		
	MS Pipe (1.25"dia x4mm)	kg		1	19			19		
	Flat Bar(2"x4mm)	kg							3	
	Nut Bolts 10mm dia X 4",2"	kg							8	
	Treated Borak Bamboo (20')	Pcs		1	20			20		
7.0	VENTILATION									
	12BWG Galvanized G.I Wire Mesh	Sqft							23	
8.0	ROOFING									
	250mm x 400mm x 18mm Terracotta Tiles (Mud Tully) & Ridge (25 Pcs)	Pcs		375						
9.0	Flooring									
	Cement	Bag		7						
	Filling Sand	Cft								113
	Sand	Cft								35
10.0	Finishing Work									
	Red Oxide	Liter		4						
	Thiner	Liter		2						
11.0	Security									
	Lock & Chain	Set		1						

Signature
Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

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Afroza Sultana
Architect-Shelter
PIN: 1625271 HCMP-BRAC
Afroza

200

	Grand Total for Floor works				181.06
5.0	Walling				
a	Material				
	Geotex Walling	Sq-ft	410	0.833	341.67
	Tarpaulin	Pcs	3.5	12.500	43.75
	Treated Borak Bamboo	Pcs	1	4.583	4.58
	Total Material Cost				390.00
b	Labour charge:				
	Skilled labor	Mandays	2	6.667	13.33
	Unskilled labor	Mandays	46	2.917	134.17
	Total Labour Cost				147.50
	Grand Total for Walling				537.50
6.0	Roofing and Garanja				
a	Material				
	Terracotta Tiles (Mud Tully)	Pcs	375	0.294	110.25
	12BWG Galvanized G.I Wire Mesh	Sqft	23	0.125	2.88
	Total Material Cost				113.13
b	Labour charge:				
	Skilled labor	Mandays	22	6.667	146.67
	Unskilled labor	Mandays	12	2.917	35.00
	Total Labour Cost				181.67
	Grand Total for Roofing and Garanja				294.79
6.0	Security				
a	Material				
	Lock & Chain	Set	1	2.083	2.08
	Grand Total for Security				2.08

Total Cost

1,970.72

[Signature]
Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

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Afroza Sultana
Architect-Shelter
PIN: 1625271 HCMP-BRAC
[Signature]

COST ESTIMATION FOR TEMPORARY SAFER SHELTER:MUD-TALLY SHELTER

Rohingya
Refugee
Response
Bangladesh

SHELTER & CCM
SECTOR
Cox's Bazar, Bangladesh



Subject: Rate analyze

S/No.	Description	UoM	Qty	Rate (USD)	Cost (USD)	Comment
1.0	Site Clearance	Sqft	204			
a	Labour charge:					
	Unskilled labour	Mandays	2	2.917	5.83	
2.0	Excavation and Earthworks	Cft	35.30			
a	Labour charge:					
	Unskilled labor	Mandays	4	2.917	11.67	
b	Tools & Tackles					
	Slashers, hoe etc.	%	8	0.080	0.93	
	Total for Earthworks				12.60	
3.0	Steel Works					
a	Material					
	MS Pipe (2.5"dia x5mm)	kg	158	1.340	212.08	
	MS Angle (1.5"x1.5"x4mm)	kg	394	1.340	527.33	
	MS Pipe (1.25"dia x4mm)	kg	16	1.340	21.42	
	Flat Bar (2"x4mm)	kg	2	1.340	2.68	
	Nut Bolts 10mm dia X 4", 2"	kg	8	1.340	10.72	
	Red Oxide	Liter	4	2.417	9.14	
	Thiner	Liter	2	1.327	2.65	
	Total Material Cost				786.02	
	Labour charge:					
	Skilled labor	Mandays	20	6.667	133.33	
	Unskilled labor	Mandays	6	2.917	17.50	
	Total Labour Cost				150.83	
	Grand Total for Steel works				936.86	
4.0	Floor and Footing					
a	Material					
	Cement	Bag	7	4.583	32.08	
	Pre Cast Pad footing; Base: 6"x6"x10" and Column: 27"x6"x6"	Pcs	9	9.167	82.50	
	Filling Sand	Cft	113	0.233	26.21	
	Sand	Cft	35	0.317	11.10	
	Total Material Cost				151.89	
b	Labour charge:					
	Skilled labor	Mandays	0	6.667	-	
	Unskilled labor	Mandays	10	2.917	29.17	
	Total Labour Cost				29.17	

DAILY LABOR WAGE RATE

Category	Rate (BDT)	Rate (USD)
Semi-skilled	455.00	3.7917
Unskilled	350.00	2.9167
Skilled	800.00	6.6667
material	1,444.06	
skilled	146.67	
unskilled	233.33	
	1,824.06	

Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

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Afroza Sultana
Architect-Shelter
PIN: 1625271 HCMP-BRAC

708

COST ESTIMATION FOR TEMPORARY SAFER SHELTER:MUD-TALLY SHELTER

Rohingya
Refugee
Response
Bangladesh

SHELTER & CCCM
SECTOR
Cox's Bazar, Bangladesh



Details materials Specifications

SL	Items	Unit	Specification	Remark
1	MS Pipe (2.5"dia x5mm)	kg	MS Angle including fabrication and conforming to ASTM A36, with a minimum yield strength of 250 Mpa, 2.5inch Dia, 5mm Thickness	
2	MS Angle (1.5"x1.5"x4mm)	kg	MS Angle including fabrication and conforming to ASTM A36, with a minimum yield strength of 250 MPa, MS Angle (1.5"x1.5"x4mm)	
3	MS Pipe (1.25"dia x4mm)	kg	MS Angle including fabrication and conforming to ASTM A36, with a minimum yield strength of 250 Mpa, 1.25inch Dia, 4mm Thickness	
4	Flat Bar (2"x4mm)	kg	2inch flat bar, 4mm Thickness	
5	Footing	Pcs	Pre Cast Pad footing; Base: 2'-0" x 2'-0" x 6" thick and Column: 8" x 8", height 24"	
6	Geotex Walling	Sq-ft	Bamboo Slice Frame with Geotextile, Wire Mesh, and Net Cement Finishing; Outer cover with Tarpaulin	
7	Terracotta Tiles (Mud Tully)	Pcs	250mm x 400mm x 18mm & Ridge (25 Pcs)	
8	GI Wire	Kg	18BWG G.I Wire Mesh	
9	Cement	Bag	Ordinary Portland Cement (OPC), Type 1/52.5 N, Size 50 KG Bag	
10	Filling Sand	Cft	Medium Sand having FM; 1.5 to 2.5, free of dust, clay & rubbish.	
11	Sand	Cft	Medium Sand having FM; 1.2 to 1.5, free of dust, clay & rubbish.	
12	Wire Mesh	Sq-ft	12BWG Galvanized Wire Mesh	
13	Nut Bolts 10mm dia X 4", 2"	kg	MS nuts and Bolt 10mm dia, MS Washers 12 mm dia	
14	Lock & Chain	Set	Small durable padlock with 2 keys, Thick cast iron chain (min. 3 feet long)	
15	Red Oxide	Galon	Red/grey-oxide primer etc. all complete as per drawing, specification and direction of Engineer-in-charge.	
16	Thiner	Liter	Berger T-6, Elite T-1 or equivalent)	

Signature
Md. Ismail Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

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আরআরআরসি অফিস, কক্সবাজার

Afroza Sultana
Architect-Shelter
PIN: 1625271 HCMP-BRAC
Signature

10/08/2024

D3	Roofing Installation	Site Supervisor and TMAE	During Construction	Verification Criteria ● Reference to Approved Drawing ● Tiles/CGI Quality ● Tiles/CGI Dimensions ● CGI Overlap ● Surface Preparation ● Tile/CGI Alignment and Pattern ● Handling and Transport ● Placement and Joint Connection ● Tile Overlap and Coverage ● Flashing and Waterproofing ● Ridge Installation ● Post-Placement Inspection	
D4	Windows and Door Installation	Site Supervisor and TMAE	During Construction	Verification Criteria ● Reference to Approved Drawing ● Frame Alignment and Positioning ● Connection with Frame ● Functionality Test	
E	Landscaping/Sub-site development				
E1	Landscaping/Sub-site development	Site Supervisor and TMAE	During Construction	Verification Criteria ● Land Preparation ● Soil Compaction ● Drainage System ● Ramp/Pathway Construction ● Plantation ● Sitting Place Decoration	
F	Visibility and Display				
F1	Visibility and Display Installation	Site Supervisor and TMAE	After Construction	Verification Criteria ● Reference to Approve Template ● Correct Location ● Secure Mounting and Fastening ● Weather Resistance	
G	Acceptance				
G1	Final Inspection and Handover	SCCCM Team	After Construction	Verification Criteria ● Reference to Approved Drawing	

H	Additional Notes				
H1					
H2					
H3					
H4					
H5					
H6					


 Md. Ismail Hossain
 Care & Maintenance Officer
 BRRC Office, Cox's Bazar


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Afroza Sultana
 Architect-Shelter
 PIN: 1625271 HCMP-BRAC


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C3	RCC Pre-Cast Footing Work	Site Supervisor and TMAE	During Construction	Verification Criteria ● Footing Size and Dimensions ● Positioning and Orientation ● Leveling and Alignment ● Footing Depth and Height Accordance to Drawing ● Lifting and Handling ● Placement Accuracy ● Post-Placement Inspection	
C4	Vity sand filling, Drassing, Compaction & Leveling	Site Supervisor and TMAE	During Construction	Verification Criteria ● Sand Quality ● Layering and Placement ● Compaction of Sand Layers ● Slope Considerations	
D	Super-Structure Work				
D1	MS Pipe Structure work	Site Supervisor and TMAE	During Construction	Verification Criteria ● Reference to Approved Drawing ● Anchoring and Foundation Connections ● Material Quality ● Fabrication Accuracy ● Connection and Joint Quality ● Positioning and Alignment ● Vertical Alignment ● Horizontal Platform Installation ● Rafter and Purlin Positioning ● Ridge Fixation ● Structural Stability ● Corrosion Protection ● Safety Standards Compliance ● Post-Placement Inspection	
D2	Wall Installation	Site Supervisor and TMAE	During Construction	Verification Criteria ● Reference to Approved Drawing ● CGI Quality ● CGI Dimensions ● Positioning and Alignment ● CGI Overlap ● Jointing and Connection ● Sealing and Waterproofing ● Post-Placement Inspection	

Ismael Hossain
Md. Ismael Hossain
Care & Maintenance Officer
RRRC Office, Cox's Bazar

নওশের ইবনে হালিম
সহকারী সচিব
আবাসআরআরসি অফিস, কক্সবাজার

Afroza Sultana
Architect-Shelter
PIN: 1625271 HCMP-BRAC

Afroza

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Quality Assurance/Quality Control (QA/QC) Management Plan

**Rohingya
Refugee
Response**
Bangladesh

**SHELTER & CCCM
SECTOR**
Cox's Bazar, Bangladesh



CONSTRUCTION QA/QC ELEMENTS CHECKLIST

Item Number	Activity Description	Responsible Party	Date/Phase of Inspection	Verification Criteria	Remarks/Comments
A Site Preparation					
A1	Site is suitable for Construction works	Site Planner	Before Construction Begins	Verification Criteria • Free from Flood Zone • Free from Land Slide Zone • Availability of Access • Can connect with nearby drainage channel	
A2	Site clearing and leveling	Site Supervisor	Before Construction Begins	Verification Criteria • Site is cleared from vegetation • Site is level or suitable in case of Stilt Type shelter	
B Material Procurement					
B1	Quality and Certification of materials	Procurement Team	Before and Upon Construction	Verification Criteria • Material Specification set during shelter design	
C Sub-Structure Work					
C1	Layout	Site Supervisor and TMAE	During Construction	Verification Criteria • Reference to Approved Plans • Boundary and Setback Accuracy • Positioning and Orientation • Verifying Diagonal Accuracy • Fixing GL and PL	
C2	Foundation	Site Supervisor and TMAE	During Construction	Verification Criteria • Location Reference to Approved Drawings • Positioning and Orientation • Excavation Accuracy • Foundation Bed Preparation • Leveling and Alignment	

Handwritten signature
Md. Ismail Hossain
Maintenance Officer
Office, Cox's Bazar

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Afroza Sultana
Shelter-Settlement
1625277 HCMP-BRAC
Handwritten signature