

MUMSA CONTAINER CAFETERIA

PLAN 3D



CONTAINER CAFETERIA - STRUCTURAL DESIGN

TWO 40ft SHIPPING CONTAINERS STACKED – 200 PERSON OCCUPANCY

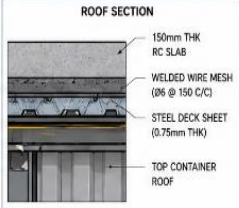
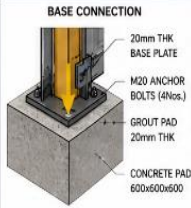
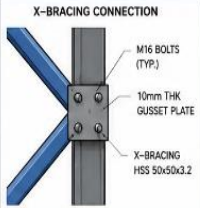
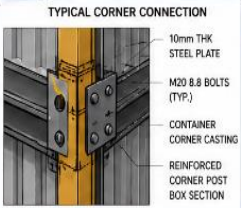
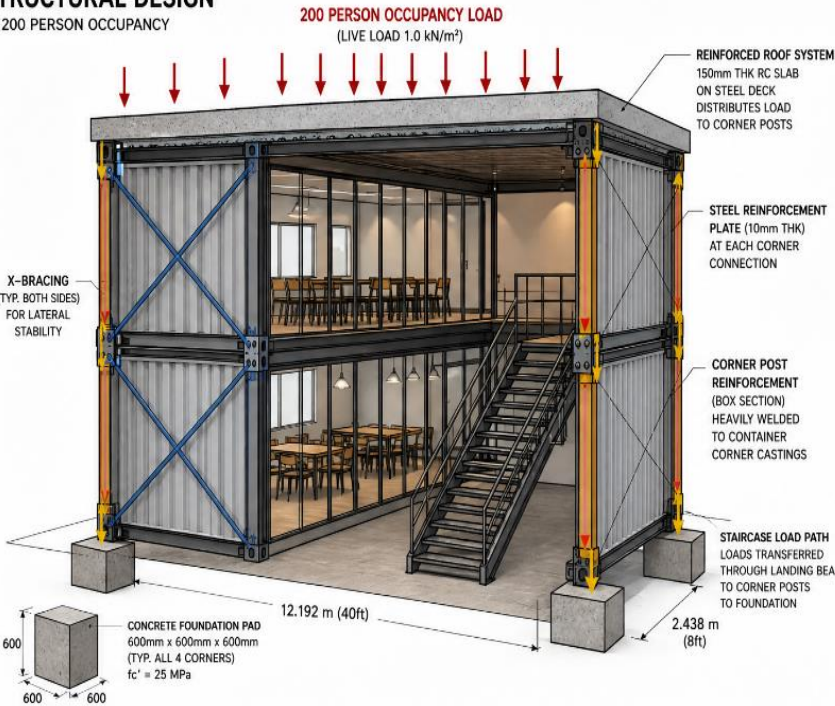
1. DESIGN LOADS	
OCCUPANCY LOAD	
200 PERSONS × 1.0 kN/m ² (DINING)	= 200.0 kN
FURNITURE & EQUIPMENT ALLOWANCE	= 20.0 kN
LIVE LOAD TOTAL	= 220.0 kN
CONTAINER SELF WEIGHT	
40ft HC CONTAINER × 4,100 kg × 2 UNITS	= 80.4 kN
ROOF CONCRETE SLAB	
150mm THK RC SLAB	= 36.0 kN
STEEL MEMBERS & STAIRS ALLOWANCE	= 15.0 kN
DEAD LOAD TOTAL	= 131.4 kN
TOTAL FACTORED LOAD (1.2D + 1.6L)	= 451.0 kN

2. LOAD CALCULATIONS	
TOTAL FACTORED LOAD, P _u	= 451.0 kN
DISTRIBUTED TO 4 CORNERS	= 112.8 kN / CORNER
AREA PER CONCRETE PAD	= 0.36 m ² (600x600)
FACTORED SOIL PRESSURE	= 112.8 / 0.36 = 313 kN/m ²

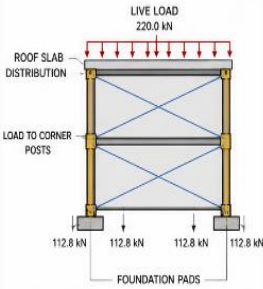
3. FOUNDATION CHECK	
ASSUME ALLOWABLE SOIL BEARING CAPACITY	= 200 kN/m ²
REQUIRED PAD AREA PER CORNER	= 112.8 / 200 = 0.564 m ²
PROVIDED PAD AREA	0.36 m ²
SAFETY FACTOR (BEARING)	= 0.564 / 0.36 = 1.57 OK

4. SAFETY FACTORS	
STRENGTH DESIGN (STEEL)	ϕ = 0.90
STRENGTH DESIGN (CONCRETE)	ϕ = 0.75
SERVICEABILITY (DEFLECTION)	L/360
OVERALL STRUCTURE	≥ 1.5 OK

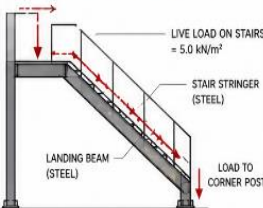
LEGEND	
	VERTICAL LOAD PATH
	LATERAL LOAD PATH
	LOAD TRANSFER PATH
	CORNER POST (REINFORCED)
	X-BRACING (LATERAL SYSTEM)
	STEEL REINFORCEMENT PLATE



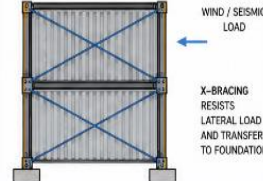
5. LOAD DISTRIBUTION DIAGRAM



6. INTERNAL STAIRCASE LOAD PATH

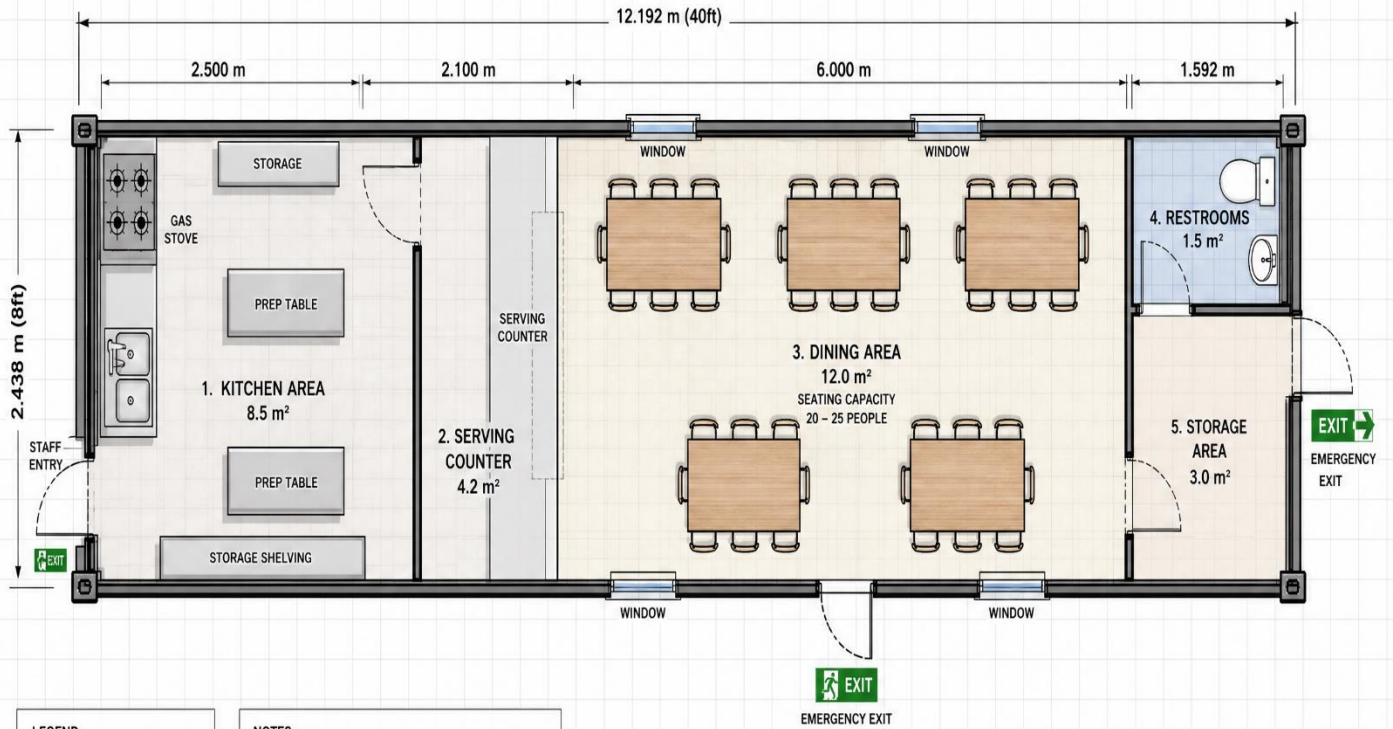


7. LATERAL LOAD RESISTING SYSTEM



8. NOTES

- ALL STEEL MEMBERS: ASTM A36 (F_y = 250 MPa)
- ALL WELDS: 6mm FILLET WELD U.N.O.
- ALL BOLTS: GRADE 8.8 U.N.O.
- CONCRETE: f_c' = 25 MPa
- DESIGN IN ACCORDANCE WITH AISC 360, IBC 2018, ASCE 7
- CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE

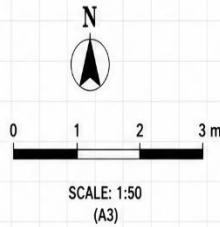


LEGEND

- CONTAINER WALL
- INTERIOR PARTITION
- DOOR (SWING)
- WINDOW
- EXIT EMERGENCY EXIT
- EMERGENCY EXIT SIGN

NOTES:

- ALL DIMENSIONS ARE IN METERS.
- EXTERNAL CONTAINER DIMENSIONS: 12.192m x 2.438m (40ft x 8ft)
- TOTAL GROUND FLOOR AREA: 29.2 m²
- ALL DOORS OPEN OUTWARD TO DIRECTION OF EGRESS WHERE APPLICABLE.
- EMERGENCY EXITS ARE CLEARLY MARKED AND UNOBSTRUCTED.
- WINDOWS PROVIDE NATURAL LIGHT AND VENTILATION.



SHIPPING CONTAINER CAFETERIA MAKERERE UNIVERSITY

GROUND FLOOR PLAN

CONTAINER SIZE: 40ft x 8ft (12.192m x 2.438m)	DRAWN BY: ARCHITECTURAL DESIGN UNIT
TOTAL FLOOR AREA: 29.2 m²	DATE: MAY 2024
DRAWING NO.: MKU-CC-01	REVISION: A

CONTAINER CAFETERIA
SECOND FLOOR PLAN

CONTAINER SIZE:
40ft x 8ft (12192mm x 2438mm)
TOTAL USABLE AREA: 29.7 m²



LEGEND

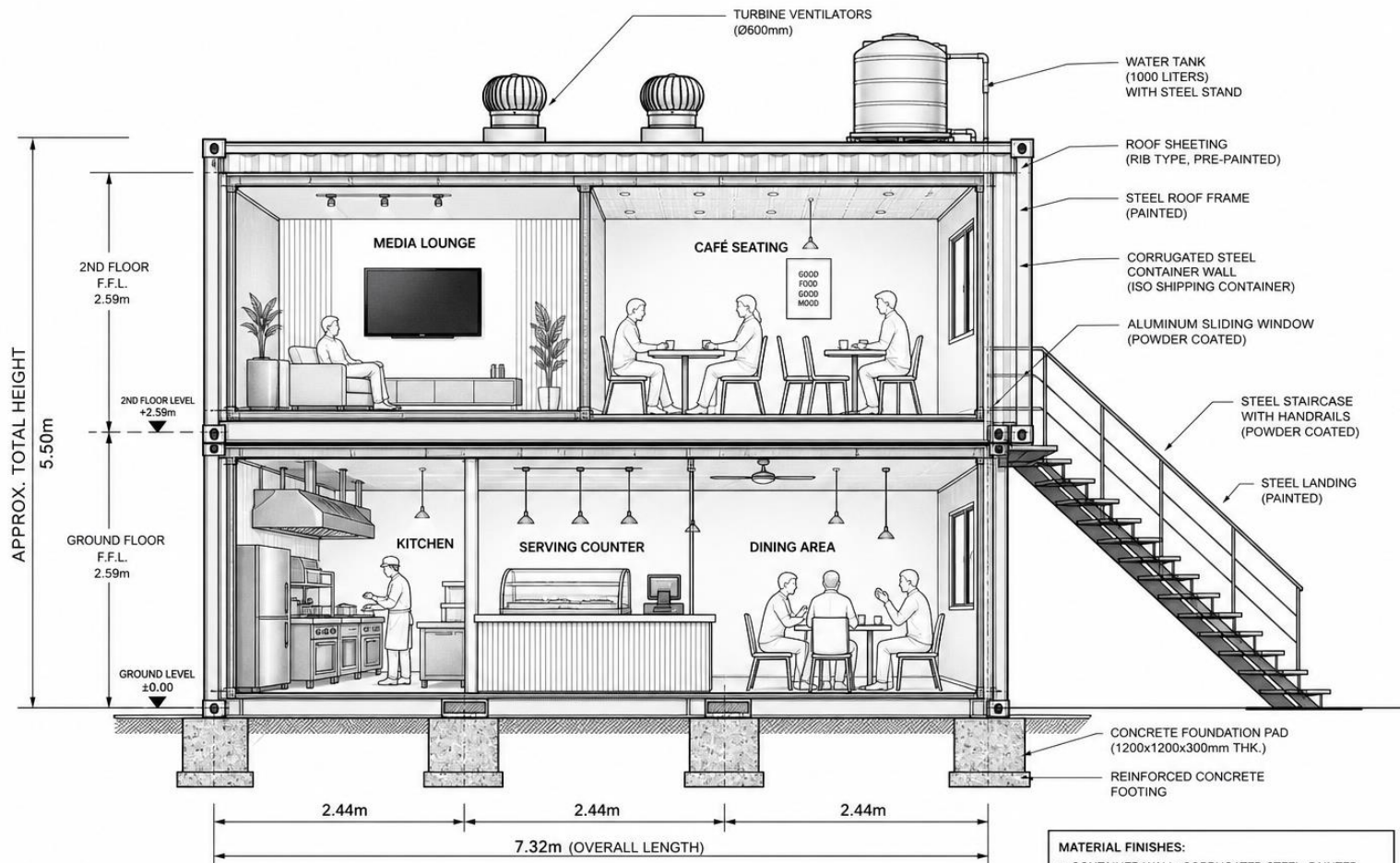
LOUNGE SEATING	STAIRCASE
CAFÉ CHAIRS	HANDRAIL
TABLE / COUNTER	SKYLIGHT
PANTRY FIXTURES	EMERGENCY EXIT

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS
- AREAS ARE APPROXIMATE USABLE SPACE
- FURNITURE LAYOUT FOR PRESENTATION ONLY
- TV SIZE: 55 INCH (SHOWN)
- CEILING HEIGHT: 2400mm (CLEAR)
- CONTAINER STRUCTURE AS PER ISO STANDARDS

CONTAINER CAFETERIA - SECOND FLOOR PLAN

PROJECT NO.	CC-2024-02	DATE	25 MAY 2024
DRAWN BY	ARCHITECT	SCALE	1:50
SHEET NO.	A-102	REV.	A



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SIDE ELEVATION – CONTAINER CAFETERIA

SCALE 1:50

MATERIAL FINISHES:

- CONTAINER WALL: CORRUGATED STEEL, PAINTED (COLOR: LIGHT GRAY)
- STEEL MEMBERS: PAINTED (DARK GRAY)
- WINDOWS: ALUMINUM, POWDER COATED (BLACK)
- STAIRCASE & HANDRAILS: STEEL, POWDER COATED

NOTES:

- ALL DIMENSIONS ARE IN METERS
- DO NOT SCALE FROM DRAWING