

METAL MATRIX ENGINEERING PRIVATE LIMITED

STUDENT ACCOMMODATION SYSTEM

G+5 Multi-Storey · 104 Rooms · 120 Students · RC Frame + LGS Infill + CLC
Ground Floor: Communal Kitchen · Dining 20–25 Seats · Common Room · Laundry
External: Covered Cycle Parking (150 spaces) · Car Park (30 spaces)
FC700 Wall Infill · FC1000 Floor Screed · SitelQ Live Monitoring · IS 801:2015

For Universities · Colleges · Student Housing Developers · NRI Education Investors

104

Rooms

96 single + 8 accessible

120

Students

16 twin rooms included

GF

Welfare

Kitchen + dining + common

150

Cycle spaces

Covered Sheffield stands

STC 52+

Acoustic

FC1000 inter-floor screed

DESIGN PHILOSOPHY

Purpose-Built Student Living — Not a Dormitory, Not a Hotel

Student accommodation sits between a hotel and a home. Students live here for 9–12 months at a time. The building must support focused study, social connection, and personal independence simultaneously. MME's system delivers this through a thoughtfully designed room layout, excellent acoustic separation (so the student next door does not disturb your 2 AM revision), a communal ground floor that encourages interaction without forcing it, and external infrastructure that recognises how students actually travel.

FOR THE STUDENT — Study, Sleep, and Privacy

Single study rooms with dedicated desk, wardrobe, and en-suite — privacy when needed
 FC1000 CLC floating screed: STC 52+ inter-floor — footsteps from above are not heard
 FC700 wall infill: Rw 44–48 dB — neighbour's music stays on their side of the wall
 Individual room thermostat — students control their own temperature
 Full-width desk with task lighting and power points at seated height
 Blackout blind provision — essential for students sleeping at variable hours

FOR THE INSTITUTION — Management and Welfare

Communal kitchen + 20–25 seat dining on the ground floor — social hub of the building
 Common room with lounge seating, TV, and flexible study tables
 Laundry room ground floor — 8 washers + 8 dryers for 120 students
 Cycle store for 150 bikes — because most students cycle or use public transport
 Car park for 30 cars — for students who commute from home or have cars
 SiteIQ QR code in every room links to the building manual — no lost instruction books

Why RC Frame + LGS Infill for G+5 Student Accommodation

Like the MME G+5 Hotel, a six-storey student block cannot use load-bearing LGS as the primary structure — stacked axial loads reach 65–95 kN at ground floor. The RC frame carries gravity and lateral loads; MME's LGS panels and CLC system form all walls, partitions, and floor screeds. The LGS column grid is designed to the student room module (3.6m width) giving a clean, efficient 3.6m × 4.5m column bay that wastes no floor area.

FLOOR SCHEDULE

Ground Floor Welfare + Six Floors of Student Rooms

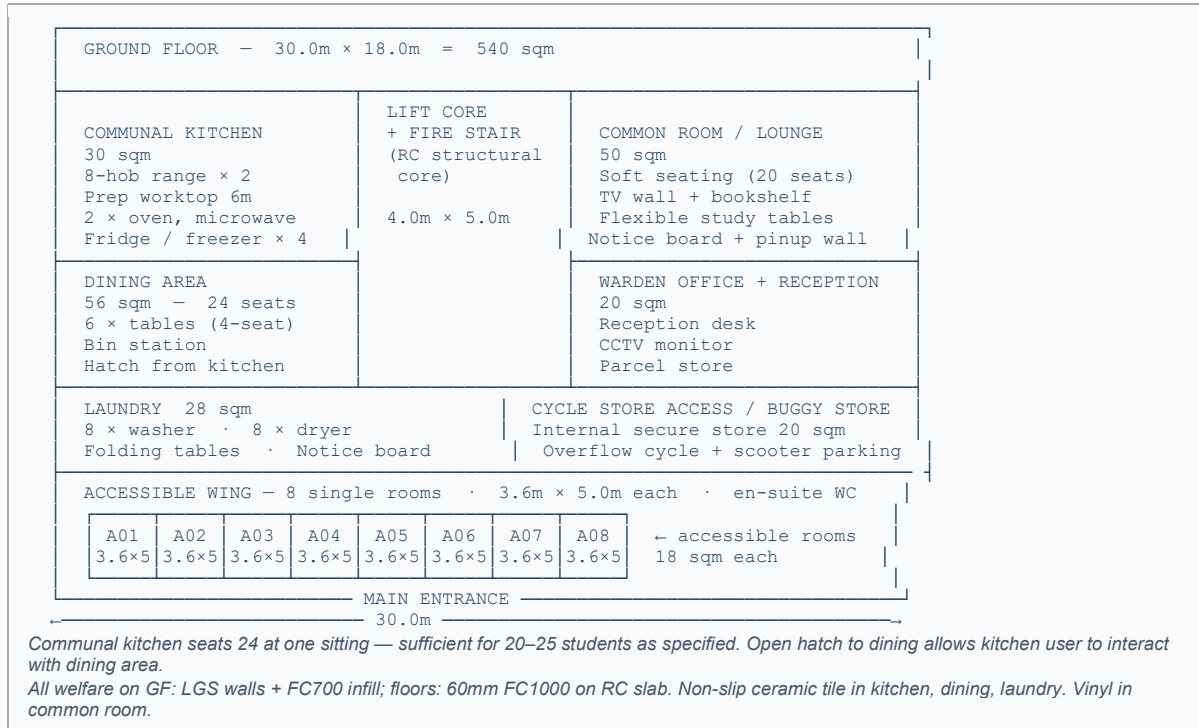
Level	Primary Use	Rooms	Students	Net Area	Key Notes
Ground Floor	Communal kitchen + dining (20–25 seats) · Common room / lounge · Warden office + reception · Laundry room · 8 × accessible single rooms · Cycle store access	8 accessible rooms + welfare	8 students + all 120 welfare	~540 sqm	All wet services on GF. Accessible rooms on GF — no lift required for mobility users. Communal kitchen serves all 120 students.
Floor 1 (1F)	16 × standard single study rooms (8 each wing) · Cleaner's store on landing	16 rooms	16 students	~540 sqm	Twin-wing layout — Wing A north-facing 8 rooms, Wing B south-facing 8 rooms. Central core: lift + fire stair.
Floor 2 (2F)	16 × standard single study rooms · 2F quiet study area (open plan 20 sqm on landing)	16 rooms	16 students	~540 sqm	Same layout as 1F. Quiet study zone at lift lobby — soft seating + study carrels.
Floor 3 (3F)	14 × standard single rooms · 2 × twin study rooms (larger room for 2 students)	16 rooms	18 students	~540 sqm	2 twin rooms accommodate 2 students each — for students who prefer shared room at lower rate.
Floor 4 (4F)	14 × standard single rooms · 2 × twin rooms · 4F kitchenette alcove (compact, 3 hob + sink)	16 rooms	18 students	~540 sqm	Small kitchenette alcove on 4F and 5F landing — supplement for students not wanting to go to GF kitchen
Floor 5 (5F)	14 × standard single rooms · 2 × twin rooms · Rooftop terrace access	16 rooms	18 students	~540 sqm	Roof terrace access via 5F stairwell — outdoor study / social space
Roof	Rooftop terrace (part) · MEP plant room · Solar PV array · Water tanks	—	Outdoor amenity	~200 sqm usable	Solar PV 50 kWp supplies ~40% of building electrical load — reduces energy bills passed to students
External — Cycle Store	Covered cycle store adjacent to building entrance — LGS canopy structure	—	150 cycle spaces	~280 sqm covered	Sheffield stands at 500mm centres; 2 rows under LGS canopy; CCTV; card access
External — Car Park	Surface car park 30 spaces — painted hardstanding	—	30 cars	~900 sqm hardstanding	Standard 2.5m × 5.0m bays; 6m aisle; disabled 3.3m × 5.0m × 3 spaces; EV charging × 4
TOTAL	GF welfare + 5 upper floors	104 rooms (96 single + 8 accessible)	120 students	~3,420 sqm GFA	RC 3.6m column grid to match room module

FLOOR PLANS

Ground Floor Welfare + Typical Student Floor

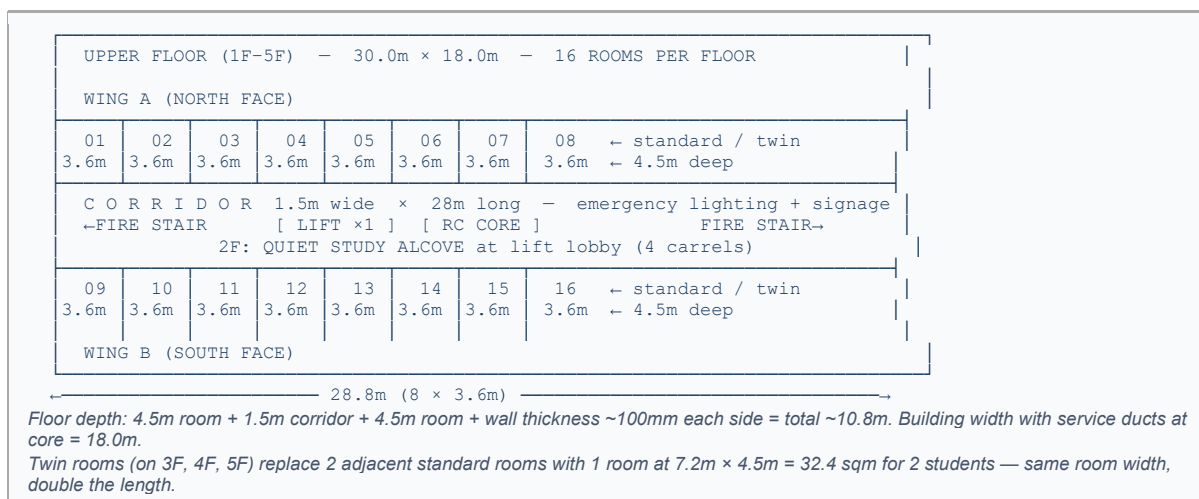
Ground Floor — Welfare, Kitchen, Dining, Accessible Rooms (30m × 18m)

The ground floor combines all student welfare facilities on one level with 8 accessible rooms along the accessible wing. The communal kitchen and dining area face the courtyard garden. The common room is adjacent to the main entrance.



Typical Student Floor Plan — Floors 1–5 (30m × 18m) — Twin Wing

Each upper floor has two wings of 8 rooms each (Wing A north + Wing B south) separated by a central corridor and lift/stair core. All rooms are single-aspect — either north or south facing. The central corridor is 1.5m wide.



ROOM LAYOUTS

Single Study Room + Twin Room + Accessible Room — Internal Arrangements

Standard Single Study Room — 3.6m × 4.5m = 16.2 sqm

SINGLE STUDY ROOM — 3.6m × 4.5m = 16.2 sqm gross

BED ZONE — Single bed 900mm × 2,000mm
 Bed: 300mm AFF · Storage drawers under bed
 Bedside shelf (wall-mounted) 450mm × 300mm
 Window: 2,400mm wide × 1,200mm high — full-width to room
 Blackout blind (motorised track, student actuated)

EN-SUITE
 1.4m × 2.0m
 = 2.8 sqm
 WC · Basin
 Shower 800×800mm
 Heated towel rail
 Mirror + shelf

STUDY DESK ZONE
 Desk: 1,600mm × 600mm — full wall width
 Fixed shelving above desk to ceiling
 2 × 13A power + 2 × USB at desk height
 Pinboard above desk
 Ergonomic chair (student to provide)

WARDROBE + ENTRANCE · 1,200mm wide wardrobe (rail + shelf + safe)
 Door 800mm clear outward-opening · Coat hooks × 3 · Card key

Ceiling height: 2,650mm clear (after 60mm FC1000 screed + structural slab + suspended ceiling void ~700mm).

AC: fancoil unit (FCU) concealed above wardrobe in services void — individual thermostat. Reversible heat pump — heating and cooling in one unit.

Internet: CAT6 data point at desk + Wi-Fi AP in corridor (1 per 8 rooms). All data points wired to comms room on GF.

Twin Study Room — 7.2m × 4.5m = 32.4 sqm (2 Students)

TWIN STUDY ROOM — 7.2m × 4.5m = 32.4 sqm (2 students, 16.2 sqm each)

STUDENT A ZONE (3.6m)
 Single bed 900 × 2,000mm
 + under-bed storage

STUDENT B ZONE (3.6m)
 Single bed 900 × 2,000mm
 + under-bed storage

EN-SUITE A
 1.2m × 1.8m = 2.2
 WC · Basin
 Shower 800×800mm

STUDY DESKS — BACK-TO-BACK
 Each desk: 1,400mm × 600mm
 Acoustic divider panel 1,200mm high
 between students (privacy + sound)
 2 × power + 2 × USB per student side

EN-SUITE B
 Same as A

SHARED WARDROBE WALL
 2 × 900mm wardrobe sections (1 per student)
 Shared door 800mm clear · 2 × coat hooks

Each student has their own en-suite — no shared bathroom in twin room. Acoustic divider panel at desks provides study privacy without physical separation of room.

Twin room created by removing one LGS partition between two standard rooms — the partition is non-structural and can be reinstated to return to 2 × single rooms.

Accessible Room — 3.6m × 5.0m = 18.0 sqm (Ground Floor Only)

ACCESSIBLE SINGLE ROOM — 3.6m × 5.0m = 18 sqm (Part M compliant)

ACCESSIBLE EN-SUITE — 2.0m × 2.4m = 4.8 sqm
 WC: wall-hung; grab rail both sides; 800mm clear either side
 Roll-in shower: 1,200mm × 1,200mm; fold-down seat; 2 × grab rail
 Basin: 720mm AFF wall-hung; knee clearance; lever tap
 Mirror: 900–1,700mm AFF · Alarm pull cord at 100mm AFF

BED ZONE: 1,200mm wide hospital-grade adjustable bed (student prov)
 1,000mm clear turning circle both sides of bed
 Adjustable desk: 600–850mm height range; clear knee recess below
 1,500mm × 1,500mm clear turning circle in room centre
 Wardrobe: 1,200mm; 900mm AFF rail option + full-height option

DOOR: 900mm clear (wider than standard) — outward opening — level sill
ALARM PULL CORD: at 100mm AFF and 800mm AFF — emergency call system

Accessible rooms on ground floor only — no lift dependency for mobility users. Each accessible room has direct level access from the main entrance.

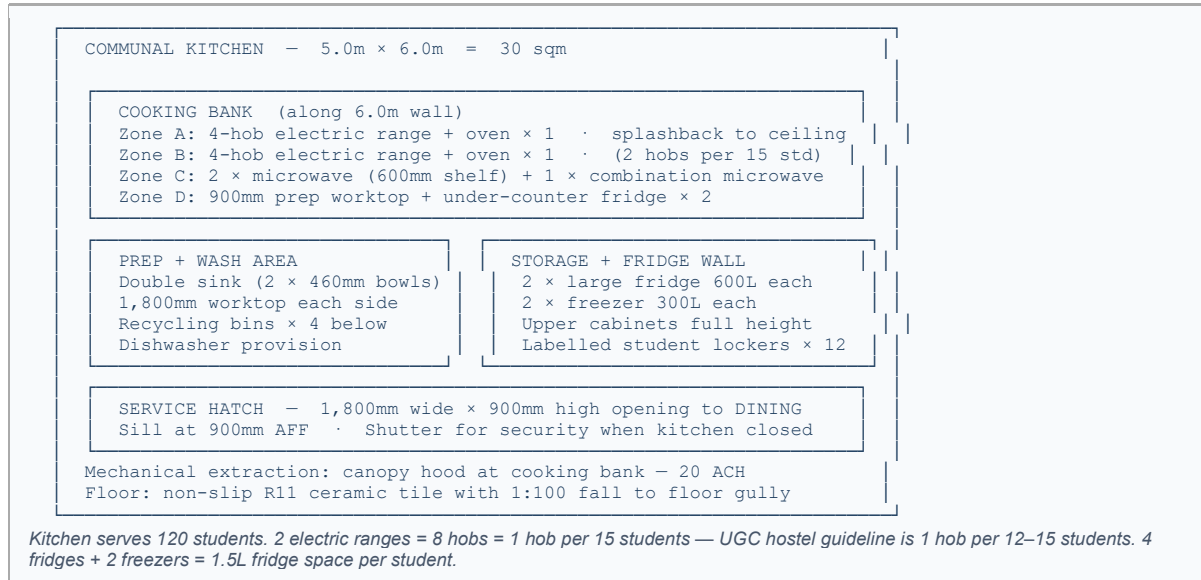
NBC 2016 Part 3 (Universal Design) + UGC Hostel Building guidelines for accessible provision.

COMMUNAL KITCHEN & DINING

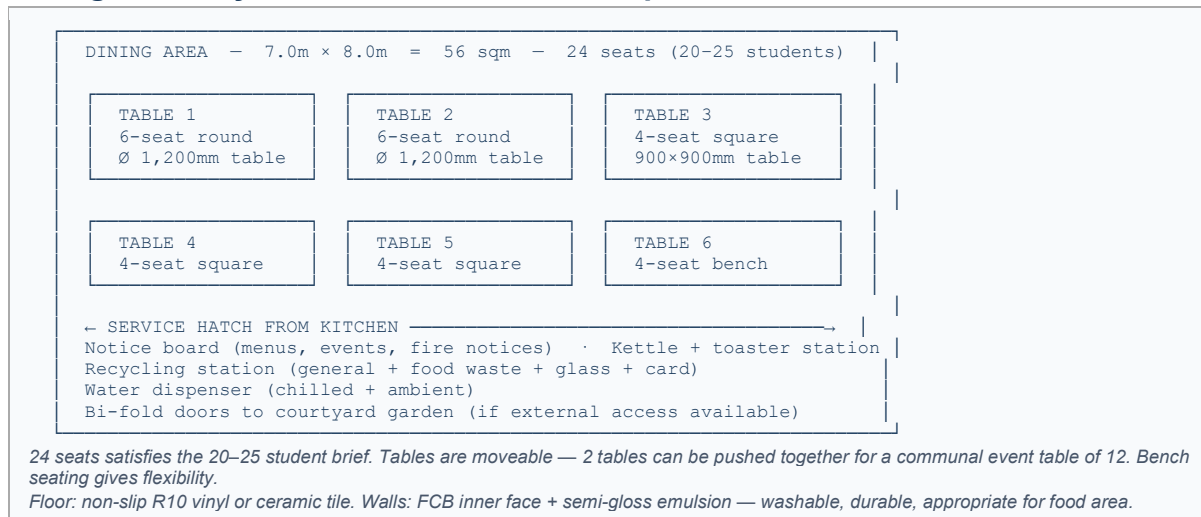
Heart of the Building — 20–25 Students at a Time

The communal kitchen and dining area is the social heart of any well-designed student building. MME sizes and fits out this space to seat 20–25 students comfortably at a single sitting — meeting your brief exactly — while maintaining clear sight lines from the kitchen hatch to the dining area for informal supervision.

Kitchen Layout — 5.0m × 6.0m = 30 sqm



Dining Area Layout — 7.0m × 8.0m = 56 sqm — 24 Seats

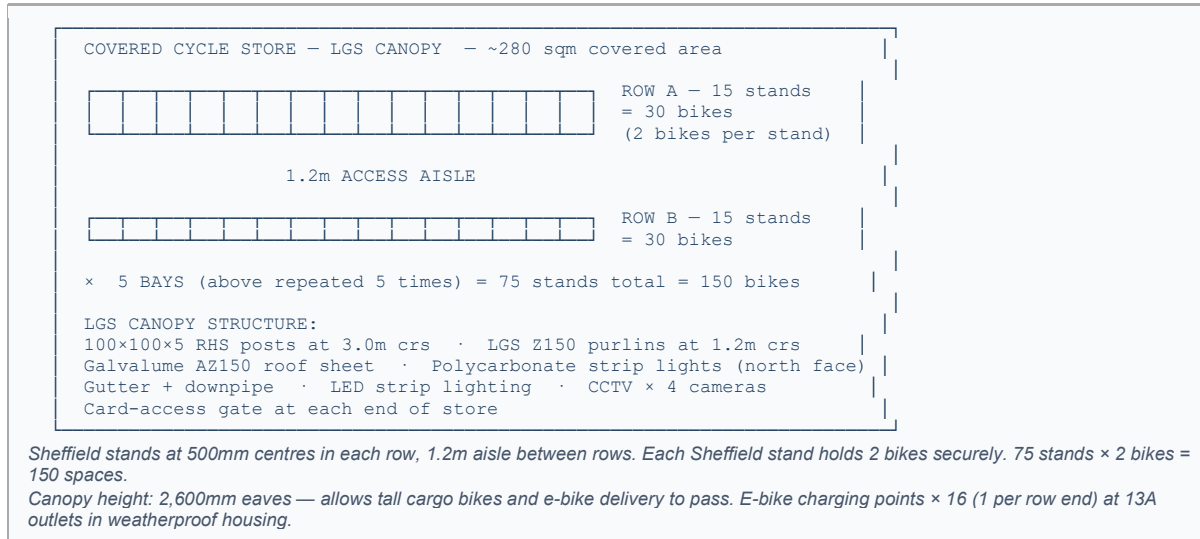


EXTERNAL PARKING

Covered Cycle Store (150 spaces) + Car Park (30 spaces)

Covered Cycle Store — LGS Canopy Structure

150 covered cycle spaces is the headline number — 1.25 spaces per student, consistent with sustainable transport planning guidelines and university campus cycle strategies. The cycle store is a simple LGS canopy structure with Sheffield stands — designed, fabricated, and installed by MME as part of the main contract.



Cycle Store Specification

Element	Specification	Quantity	Notes
LGS canopy structure	100×100×5 RHS galvanised posts; Z150 purlins at 1.2m; Galvalume roof sheet 0.5mm; gutter + downpipe	As per layout	Posts set in concrete pad footings — 4 per post; demountable
Sheffield cycle stands	Hot-dip galvanised steel U-stands; 16mm dia rod; 900mm high; bolt-down to concrete	75 stands	1 stand = 2 bikes secured by frame and wheel; prevents easy theft of wheel-only
E-bike charging points	13A weatherproof socket in steel cabinet; RCD protected; 1 cable per 2 stands	16 outlets	Increasing e-bike usage on campus — 16 outlets serves ~20% of users simultaneously
CCTV	IP66 dome cameras; 4MP; wide-angle; PoE; night vision; connected to warden's CCTV monitor on GF	4 cameras	Full coverage of all rows; feeds to GF warden office monitor and cloud storage
Access control	RFID card reader + electric gate at each entrance; student ID card access; audit log	2 gates	Only registered students can enter — reduces theft risk significantly
Lighting	LED strip at eaves; 200 lux minimum at stand level; PIR sensor controlled	8 LED strips	Motion-sensor activated — reduces energy consumption
Repair station	Wall-mounted bike repair stand + basic tool kit (pump, tyre levers, hex keys)	1 station	Popular facility in student cycle stores — reduces maintenance requests

Car Park — 30 Spaces on External Hardstanding

Parameter	Specification	Notes
Total spaces	30 standard + 3 disabled (3.3m × 5.0m) + 4 EV charging bays = 37 bays total	1 space per 3.2 students — deliberately limited to discourage car dependency; cycle provision compensates
Bay dimensions (standard)	2.5m × 5.0m — IS 800 / NBC 2016 standard parking bay	2-way aisle at 6.0m between rows
Surface	Permeable block paving or tarmac; 150mm compacted hardcore base; white-painted bay markings; wheel stops	Permeable surface preferred — reduces surface water runoff; SuDS compliance
EV charging	4 × Type 2 7kW EV charger; dedicated EVSE sub-panel; management app for students	Future-proofed: conduit for 8 additional chargers if demand increases
Lighting	LED column lights at 8m centres; 50 lux average at ground level	Automatic dusk-to-dawn control + PIR activation
CCTV	3 × IP CCTV cameras at entrance + rear of car park	Same system as cycle store — feeds to warden office
Barrier / access control	Rising arm barrier at entry; ANPR camera (optional — reads student vehicle registrations)	Reduces unauthorised parking — important in urban settings
Accessible parking	3 spaces at 3.3m × 5.0m adjacent to building entrance — max 10m from accessible room doors	NBC 2016 Part 3 — accessible provision mandatory

STRUCTURAL SYSTEM

RC Frame + LGS Infill Panels + FC700 Walls + FC1000 Floors

Why This System for Student Accommodation

Student accommodation has specific structural requirements that differ from hotels. Room widths are narrower (3.6m vs 4.0–5.0m in hotels), so the RC column grid tightens to 3.6m — giving efficient structural spans and eliminating wasted corridor area. Live loads are lower (1.5 kN/m² residential vs 2.0 kN/m² hotel), allowing a thinner RC slab. The LGS partition system between rooms is non-structural — if room layouts need to change in future, removing an LGS+CLC partition is a manageable refurbishment task.

Wall Build-Up — Room-to-Room Partition (Critical for Acoustic Privacy)

Layer	Material	Thickness	Acoustic Function	Fire Class
Room A face	12mm compressed FCB — painted	12mm	Stiffness + mass	A1
LGS stud	100×50×12 G550 Z275 at 600mm crs. (non-structural)	100mm	Cavity for CLC	Steel A1
FC700 CLC infill	FC700 — 700 kg/m³; 3.0–4.0 N/mm² 7-day strength; pumped full cavity	100mm	ACOUSTIC MASS — +8–10 dB Rw over empty stud; STC floor to floor breaks the flanking path	A1
Room B face	12mm FCB — painted	12mm	Stiffness + mass	A1
TOTAL PARTITION	FCB + LGS + FC700 + FCB	224mm	Rw 44–48 dB — student hears nothing next door at normal volume	All A1 throughout

Floor Build-Up — FC1000 Floating Screed on RC Slab

Layer	Material	Thickness	Student Benefit
RC structural slab	150–175mm RC one-way slab (lighter than hotel — 1.5 kN/m² live load)	150–175mm	Primary structural floor + mass for airborne sound
Resilient acoustic mat	5mm dense rubber mat (ACO Regupol or similar)	5mm	Decouples screed from slab — IIC improvement +12 dB — CRITICAL for footsteps from above
FC1000 CLC screed	60mm FC1000 at 1,000 kg/m³ — floating on mat; 7-day: 6–8 N/mm²	60mm	Floating mass: STC 50+ combined. Self-levels ±2mm — perfect for vinyl and carpet over
Floor finish per space	Bedroom: carpet tile on FC1000. Kitchen/dining/WC: non-slip ceramic tile. Corridor: vinyl plank.	8–12mm	Carpet in bedrooms: additional 3–5 IIC points + thermal comfort underfoot
TOTAL	RC slab + mat + FC1000 + carpet	~240mm above structural slab	STC 52–55 + IIC 55+ with carpet — student hears nothing from above

External Wall — Insulation and Cladding

Layer	Material	Thickness	Performance
LGS stud	100×50×15 G550 Z275 at 600mm crs. — wind load governs (non-structural infill)	100mm	Structural: lateral wind load; IS 801 capacity confirmed
FC700 CLC infill	FC700 in stud cavity — same as partition	100mm	Thermal + acoustic + fire + wind bracing of stud
FCB inner face	12mm FCB — painted (bedroom wall)	12mm	Fire lining A1; paint substrate
FCB outer face + render	12mm FCB outer + 15mm polymer render + silicone finish coat	27mm	Weather protection; durable; low maintenance; matches campus aesthetic if required
TOTAL EXTERNAL WALL	FCB + LGS + FC700 + FCB + render	~240mm	U-value 0.30–0.35 W/m²K. Rw 46+ dB external sound. FRL 60–90 min. ECBC 2017 ✓

WELFARE & COMPLIANCE

UGC Hostel Guidelines + NBC 2016 + IS 2553 Acoustic

Requirement	Guideline / Regulation	MME Provision	Status
Minimum room area (single)	UGC: 9.5–12.0 sqm minimum for single; NBC: no specific minimum but 10 sqm practical	16.2 sqm single room (3.6×4.5m) — well above UGC minimum	Exceeds ✓
Study desk per student	UGC: minimum 1 × study desk per student	Fixed desk 1,600×600mm in every single room; shared back-to-back desk with divider in twin rooms	Compliant ✓
Wardrobe / storage	UGC: minimum 1 × wardrobe per student	1,200mm wardrobe with rail, shelf, and personal safe in every room	Compliant ✓
En-suite bathroom	Good practice (not mandatory UGC); strongly preferred for premium student accommodation	En-suite in every room — WC + basin + shower 800×800mm	Good practice exceeded ✓
Communal kitchen	UGC: 1 cooking hob per 12–15 students	8 hobs (2 ranges × 4-hob) for 120 students = 1:15	Meets guideline ✓
Dining capacity	UGC: communal dining recommended	24 seats — satisfies 20–25 student brief; seats ~20% of residents simultaneously	Brief met ✓
Laundry facilities	Good practice: 1 washer per 8–10 students	8 washers + 8 dryers for 120 students = 1:15	Good practice met ✓
Cycle parking	Institution/planning authority requirement	150 covered spaces = 1.25 per student — cycle infrastructure standard	Exceeds typical requirement ✓
Accessible rooms	NBC 2016 Part 3: minimum 5% of rooms accessible	8 accessible rooms / 104 total = 7.7% — above 5% minimum	Exceeds minimum ✓
Fire escape travel distance	NBC 2016: ≤22.5m to nearest escape stair (residential)	External stair each end of floor — max travel from any room: 14.4m (half of 28.8m corridor)	Compliant ✓
Acoustic — room partition	IS 2553: $R_w \geq 35$ dB for residential partition	R_w 44–48 dB — LGS + FC700 + FCB	Exceeds ✓
Acoustic — floor (impact)	IS 2553: $I_{IC} \geq 45$ dB for residential floor	I_{IC} 55+ with carpet + resilient mat + FC1000	Exceeds ✓
Thermal — room	ECBC 2017: U-value wall ≤ 0.44 W/m ² K	U-value 0.30–0.35 W/m ² K with FC700 external wall	Compliant ✓
CCTV security	Institution policy (variable)	CCTV at entrance, car park, cycle store, and floor landings — all feeds to warden GF monitor	Standard provision ✓
Warden / manager office	UGC: on-site warden accommodation for 24-hr welfare	Warden office on GF + direct access to reception and main entrance	Compliant ✓

CONSTRUCTION PROGRAMME

RC Frame + Rolling LGS + CLC — 16 Months to First Occupancy

Student accommodation has a fixed occupancy deadline — the academic year start in September or January. MME's rolling programme ensures structural and fit-out completion on time with a 6-week buffer before the first student arrivals.

Month	RC Frame	MME LGS + CLC Activity	Fit-Out + MEP
Month 1–2	Foundations; column starter bars; GF slab	MME DesignAI produces panel co-ordination drawings to 3.6m column grid	Services engineer finalises room MEP routing
Month 3–4	1F + 2F columns and slab struck	GF LGS infill panels + FC700 wall infill poured; GF accessible room partitions	MEP 1st fix GF kitchen + laundry + accessible rooms
Month 5–6	3F + 4F columns and slab struck	1F LGS panels + FC700. FC1000 screed GF. GF kitchen + dining fit-out commences.	1F–2F MEP 1st fix. GF floor tiling.
Month 7–8	5F + roof slab struck	2F–3F LGS + FC700. FC1000 1F + 2F. External cladding + render GF–2F.	GF complete — kitchen equipment installed. 1F–2F MEP 2nd fix.
Month 9–10	RC complete + plant room	4F–5F LGS + FC700. FC1000 3F + 4F. External cladding all floors.	3F–4F MEP. 1F room fit-out (desk, wardrobe, FCB painting, door sets).
Month 11–12	Rooftop cycle store structure (LGS canopy)	FC1000 5F. LGS canopy cycle store. External car park surfacing.	5F MEP. 2F–3F room fit-out. Lift installation.
Month 13–14	Snagging + inspections	Punch-list all floors. SiteIQ Module 5 compliance documents. SE sign-off.	4F–5F room fit-out. Furniture delivery. IT cabling.
Month 15	Building Regulations inspection; fire inspection; occupancy certificate	MME structural certificates issued. All QR codes registered in SiteIQ.	Final clean. Student move-in induction prepared.
Month 16 = FIRST OCCUPANCY	—	—	Students move in. Building fully operational.
TOTAL	16 months	Full build	6-week buffer before September academic start (if Month 1 = May previous year)

COST ESTIMATE

Indicative Build Cost — Student Accommodation 104 Rooms

Cost Element	Scope	Low (₹L)	High (₹L)	Notes
RC primary frame (foundations + columns + slabs — 3.6m grid)	Civil contractor	₹380L	₹520L	~₹1,100–1,500/sqm on 3,420 sqm GFA; thinner slab vs hotel saves cost
MME: External LGS infill panels (100×50×15 + FC700 + render)	MME	₹55L	₹75L	~2,500 sqm external wall at ₹2,200–3,000/sqm all-in
MME: Internal LGS room partitions (100×50×12 + FC700 + FCB)	MME	₹65L	₹85L	~7,200 sqm partitions at ₹900–1,200/sqm
MME: FC700 CLC wall infill (external + internal)	MME	₹58L	₹72L	~900 m³ FC700 total at ₹6,500/m³
MME: FC1000 CLC floating screed (60mm × 3,420 sqm)	MME	₹19L	₹25L	205 m³ FC1000 at ₹9,000/m³ installed (includes resilient mat)
MME: Resilient acoustic mat (under FC1000)	MME	₹6L	₹8L	3,420 sqm × ₹180/sqm
MME: External render + FCB substrate (all floors)	MME	₹22L	₹30L	1,800 sqm façade × ₹1,200–1,700/sqm including hat rails
MME: Aluminium double-glazed windows (study rooms)	MME	₹35L	₹50L	~1,200 sqm glazing at ₹2,800–4,200/sqm
MME: LGS cycle canopy + Sheffield stands + fittings	MME	₹18L	₹25L	LGS canopy 280 sqm + 75 stands + CCTV + access control + EV charging
Car park surfacing + markings + lighting + CCTV + barrier	Civil + electrical	₹15L	₹22L	900 sqm hardstanding at ₹1,200–1,500/sqm + MEP
MME: External LGS fire escapes (2 stairs × 5 flights)	MME	₹20L	₹28L	Galvanised open-riser stair; same spec as hotel
MME: SitelQ + QR + IS 801 calculations + SE stamp	MME	₹10L	₹14L	All floors; per-floor SE-stamped IS 801 drawings
Lift installation (1 passenger + 1 service)	Lift contractor	₹40L	₹60L	IS 14665; 8-person passenger lift sufficient for 120 students
MEP — plumbing (120 en-suites + GF welfare)	Plumbing contractor	₹55L	₹80L	En-suite per room + communal kitchen + laundry + GF welfare
MEP — HVAC (FCU per room + MVHR + GF extract)	HVAC contractor	₹60L	₹90L	Individual room FCU; MVHR in corridor ceiling void per floor; kitchen extract
Electrical (LV + emergency + IT + CCTV + EV charging)	Electrical contractor	₹50L	₹75L	Individual room metering recommended — students pay own electricity
Fire detection + suppression (sprinklers G+5 mandatory)	Fire contractor	₹35L	₹55L	NBC 2016 Part 4; addressable fire panel; sprinkler all floors
Room fit-out (desk + wardrobe + door + paint + FCB)	Interior contractor	₹30–35L × 104 rooms = ₹31–36L		Desk + wardrobe + internal door + painting; no bed/mattress — student provides
GF fit-out (kitchen + dining + laundry + common room + warden)	Interior + kitchen contractor	₹35L	₹55L	Commercial kitchen equipment + furniture + signage

Cost Element	Scope	Low (₹L)	High (₹L)	Notes
MME site supervision (16 months × 2 supervisors)	MME	₹20L	₹26L	LGS supervisor + CLC supervisor rolling programme
Professional fees (architects, SE, MEP, PM, CDM)	Consultants	₹65L	₹100L	Approx. 4–6% of construction cost
TOTAL PROJECT COST (excl. land)	All	₹1,038L	₹1,435L	₹10.4–14.4 Crores
COST PER ROOM (104 rooms)		₹10.0L	₹13.8L	Mid-range student accommodation benchmark
COST PER BED (120 beds including twins)		₹8.7L	₹12.0L	Competitive for purpose-built student accommodation

REVENUE MODEL

Indicative Income — Student Accommodation Investment

Room Type	Qty	Monthly Rent (est.)	Annual Occupancy	Annual Revenue
Single room — standard (3.6×4.5m)	88 rooms	₹8,000–12,000/month	10 months (academic year)	$88 \times ₹10,000 \times 10 = ₹88L$
Accessible single room (GF)	8 rooms	₹8,000–11,000/month	10 months	$8 \times ₹9,500 \times 10 = ₹7.6L$
Twin room (per student, 2 per room)	16 rooms (32 beds)	₹6,000–8,500/person/month	10 months	$32 \times ₹7,250 \times 10 = ₹23.2L$
Summer let (all rooms, 2 months)	All 104 rooms	₹5,000–7,000/month	2 months (off-peak)	$104 \times ₹6,000 \times 2 = ₹12.5L$
Laundry machine income	16 machines	Pay-per-use — ₹30/wash	2,500 uses/machine/year	$16 \times ₹30 \times 2,500 = ₹12L$
Car park permit income	30 spaces	₹1,200/month/space	12 months	$30 \times ₹1,200 \times 12 = ₹4.3L$
TOTAL ANNUAL REVENUE (stabilised Y2)				~₹147 Lakhs (~₹1.47 Crores/year)
NET OPERATING INCOME (after 30% operating costs)				~₹103 Lakhs (~₹1.03 Crores/year)
PAYBACK (at ₹12 Crore mid-point project cost)				~11.7 years — consistent with student accommodation PBSA benchmark

INVESTMENT CASE — STUDENT ACCOMMODATION IN INDIA

These projections assume 95% academic year occupancy (10 months) and full summer let occupancy. Actual performance will vary with location, university partnership, and local student housing market.

Purpose-Built Student Accommodation (PBSA) is one of India's fastest-growing real estate asset classes. UGC-accredited universities are actively seeking PBSA development partners for off-campus accommodation.

NRI investor note: Indian student accommodation offers 7–9% gross yield at current market rents — above typical residential property yield of 2–3%. Mohandoss's UK network includes Tamil diaspora who are actively looking at Indian education infrastructure investments.

TECHNOLOGY

SitelQ Construction Monitoring + QR Room Records

SitelQ serves two distinct purposes in a student accommodation project: during construction it provides the developer and their lender with live structural progress monitoring; after handover, the QR code on every room door provides the building manager with a permanent digital record of every component in the room.

SitelQ Module	During Construction	After Handover
Module 1 — CV Quality Control	AI checks panel plumb, FC700 fill level, screed flatness per floor	Not active — building occupied
Module 2 — Tilt Sensors	Monitors LGS panels during RC loading; alerts if panel moves >3mm/m	Not active post-construction
Module 3 — FC Monitoring	Density sensor on CLC pump — every FC700 and FC1000 batch logged	Not active — retained in compliance record
Module 4 — Schedule Tracking	Daily progress vs 16-month programme; predicted first-occupancy date	Not active
Module 5 — Compliance Docs	Auto-generates IS 801 structural certificate per floor; FC cube test log; Building Regulations documentation	Compliance file accessible to building manager indefinitely — download at any time
QR Room Record	Every wall panel QR scanned at installation — linked to SE calculation	QR on room door links to: LGS section spec, SE calc ref, FC700 cube test, installation date, contractor. Building manager scans for maintenance queries.
Module 6 — Developer Dashboard	Live BIM — every panel green on scan; % complete per floor	Read-only archive: shows construction history for each room

POST-HANDOVER VALUE OF QR TRACEABILITY

Post-occupancy use of SitelQ: when a student reports a noise complaint or a wall defect, the building manager scans the QR code on the nearest LGS panel. The database shows: exactly when that panel was installed, which batch of FC700 was poured into it, what the 7-day cube test result was, and who signed it off. This level of traceability is valuable for insurance claims, warranty disputes, and future refurbishment planning.

DesignAI integration: if the building owner wants to convert 2 single rooms to 1 twin room in future, DesignAI generates the revised structural check and panel removal sequence in 48 hours — referencing the original IS 801 calculations.

WHY MME

What Makes Our System Right for Student Accommodation



FC700 Partitions — The Quiet Student Understands

The single most common student accommodation complaint is noise from adjacent rooms. LGS partitions filled with FC700 CLC achieve R_w 44–48 dB — well above the IS 2553 minimum of $R_w \geq 35$ dB. A student playing music at 60 dB in their room produces ~14–16 dB in the room next door — below ambient. The CLC mass is the reason.



FC1000 Floating Screed — Footsteps Stay Upstairs

Impact sound (footsteps, dropped objects) is the second most common complaint. 60mm FC1000 on a 5mm resilient mat achieves IIC 55+ with carpet — equivalent to a 4-star hotel floor. Carpet in bedrooms adds another 3–5 IIC points. A student walking to their bathroom at 3 AM does not wake the student below.



150 Covered Cycle Spaces — LGS Canopy Built by MME

The cycle store is not an afterthought — it is designed, fabricated, and installed by MME as part of the main contract. Sheffield stands, CCTV, e-bike charging, card access, and a bike repair station. Students who arrive with a bike on Day 1 leave with a well-looked-after bike on the last day.



8 Accessible Rooms — Ground Floor, No Lift Dependency

Every accessible room is on the ground floor with direct level access from the main entrance. Roll-in shower, grab rails, lower desk height, 1,500mm turning circle, alarm pull cord at 100mm AFF. Designed to NBC 2016 Part 3 — not a minimum-compliance afterthought.



Communal Kitchen — 24 Seats, 8 Hobs, 4 Fridges

The communal kitchen is designed around how students actually cook: multiple people using the same kitchen at the same time, needing their own fridge shelf, their own hob, somewhere to sit while their pasta boils. 8 hobs (1 per 15 students), 4 large fridges, a service hatch to the dining area, and labelled cupboard space for every resident.



16-Month Programme — In Before the Academic Year

Student accommodation has a fixed deadline: September. MME's rolling programme completes structural works, fit-out, and commissioning 6 weeks before first occupancy — giving the building manager time for induction, snagging, and staff training. If structural completion runs 2 weeks late, there is still buffer. Other systems do not have this margin.

HOW TO PROCEED

From University Brief to Student Move-In

1

Share your brief and site plan

Number of students, room mix, site plan, car park preference. DesignAI generates layout, room schedule, cost estimate, and IS 801 panel grid in 48 hours. No charge.

2

Architect co-ordination

MME overlays the LGS panel grid on your architect's RC structural drawings. 3.6m column grid to match room module. SE co-ordinates IS 456 (RC frame) + IS 801 (LGS panels) as one scope.

3

MME contract for LGS + CLC scope

Sign MME supply-and-install for LGS panels, FC700 wall infill, FC1000 screed, external cladding, cycle store canopy, and fire escapes. 40% advance triggers Sanand production.

4

Rolling installation — 2 floors behind RC

MME installs 2 floors behind the RC frame. FC1000 2 floors behind LGS. Room fit-out 4 floors behind RC. SiteIQ live from Day 1.

5

First occupancy Month 16

All rooms fitted out. Cycle store operational. Car park marked. Communal kitchen equipped. SiteIQ compliance files handed to building manager. Students move in.

CONTACT MME — STUDENT ACCOMMODATION ENQUIRIES

Gujarat (Sanand GIDC factory): +91 79 XXXX XXXX · Tamil Nadu (SIPCOT): +91 44 XXXX XXXX

Student accommodation enquiries: student@mme.build · General: lgs@mme.build

DesignAI student layout tool: designai.mme.build/student · SiteIQ: siteiq.mme.build

Factory: MME Gujarat · Sanand GIDC Industrial Estate · Sanand · Ahmedabad · Gujarat 382110

Head office: MME Pvt. Ltd. · SIPCOT Industrial Estate · Sriperumbudur · Tamil Nadu 602105

METAL MATRIX ENGINEERING PRIVATE LIMITED

120 Students. 104 Rooms. 16 Months.

RC Frame · LGS Infill · FC700 Walls · FC1000 Floors · Covered Cycle Store

Rw 44–48 dB Room Partitions · STC 52+ + IIC 55+ Inter-Floor · 24-seat Communal Dining

8 Accessible Rooms · 150 Cycle Spaces · 30 Car Spaces · 4 EV Charging

IS 801:2015 · IS 456:2000 · IS 1893:2016 · IS 2553 Acoustic · NBC 2016 · UGC Guidelines

student@mme.build · lgs@mme.build · designai@mme.build / student

Gujarat: +91 79 XXXX XXXX · Tamil Nadu: +91 44 XXXX XXXX

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