



# DESIGN REPORT

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BA (HONS) INTERIOR ARCHITECTURE AND DESIGN

6CTA1101-0905-2024 - FINAL PROJECT (IAD)

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# DESIGN CONCEPT DEVELOPMENT

Early Stages for Ideas  
Concept Exploration  
Final Concept



# FINDING A PROGRAMME IDEA

**Programme ideas cannot be used from last year:**

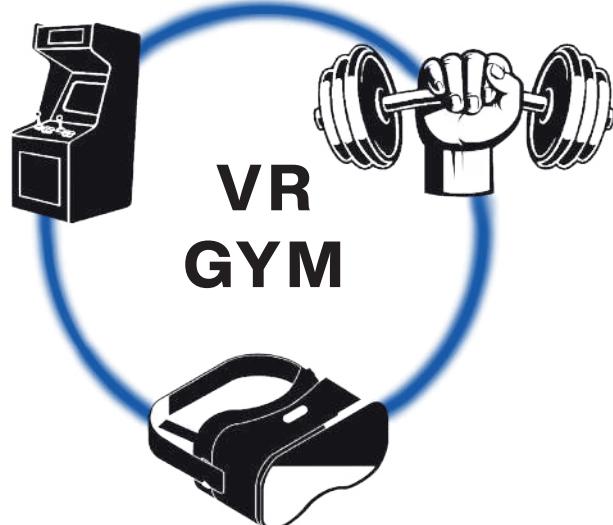
- Restaurant
- Goal 11: Sustainable Cities and Communities

## Choosing the idea

I began choosing the idea but have mixture to expand the strategy and improvising.

I have chosen 'Gym' for the programme ideas but need to have something instead not just a gym. The other ideas I cannot use because it is too basic that it is already explored that exists or used.

Gaming is good thing that keep the distraction same as a gym so it will have a mixture like 'Arcade-Gym Mixture'.



EXERCISING AND STAYING ACTIVE FOR PHYSICAL AND MENTAL HEALTH

The programme ideas for the building I've chosen:

**'VR GYM'.**

## WHY CHOSEN 'VR GYM'

### Isolation and Recluse



Isolation can make people feel abandoned and forgotten, leading to withdrawal. This was common during the 2020 lockdown due to lack of contact with loved ones.

### Social Media Addiction



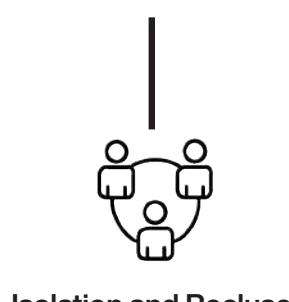
Social media harms mental health, spreading harsh opinions and judgment. Obsession with it can hurt self-worth, making it important to disconnect.

### Aftermath of Lockdown 2020

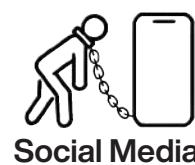


Lockdown increased laziness, reduced activity, and harmed mental health. Remote work made inactivity and social disconnection even worse.

## LINKING ALL THREE MAIN POINTS FOR IDEAS FOR DESIGNING



Meeting new or old help their communications

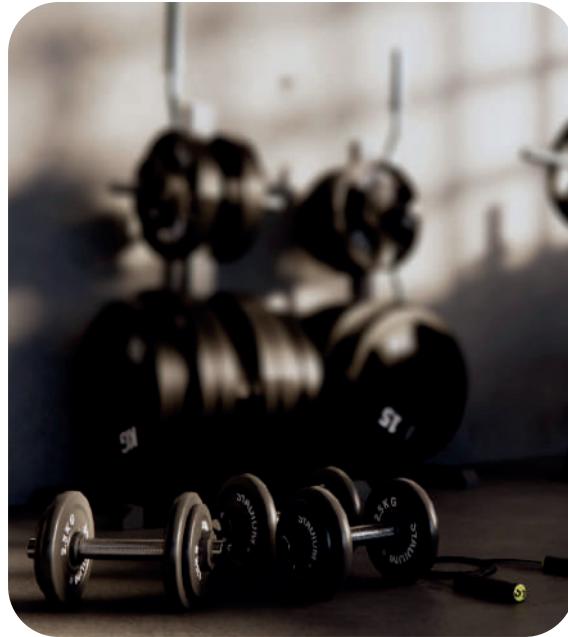


Using Technology addiction as advantage

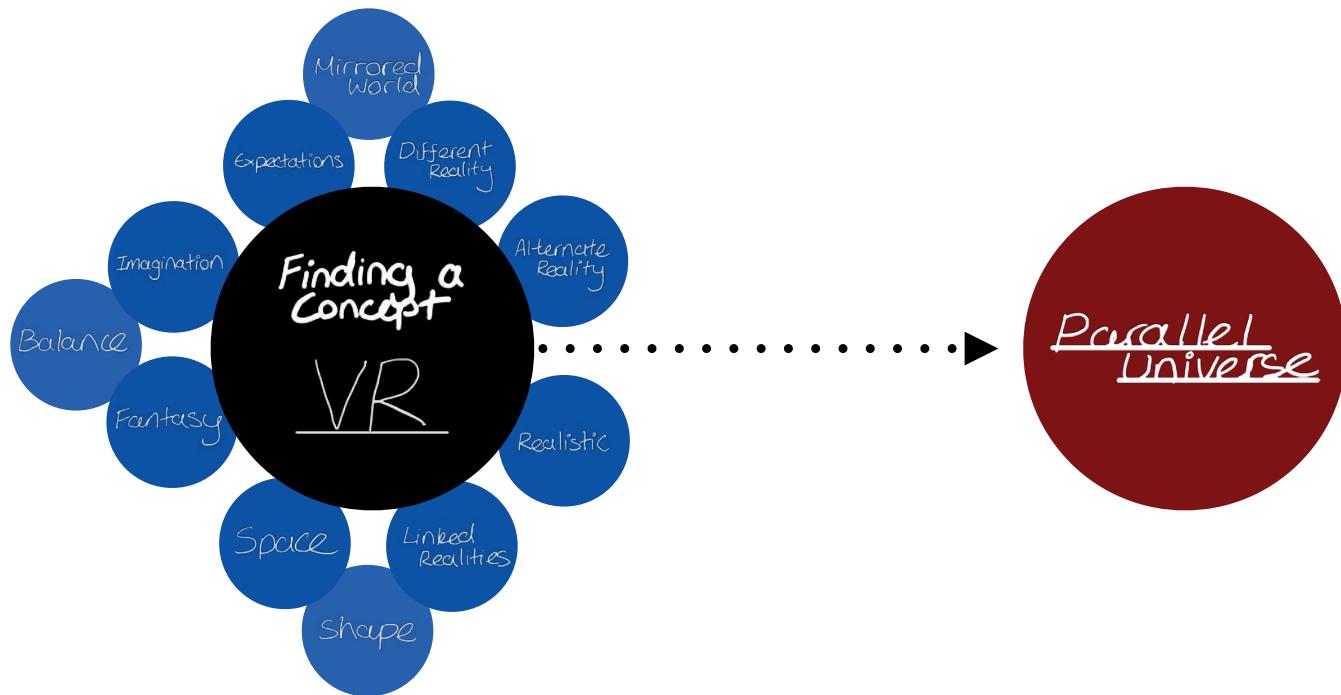


Gym helps mental health and lose weight



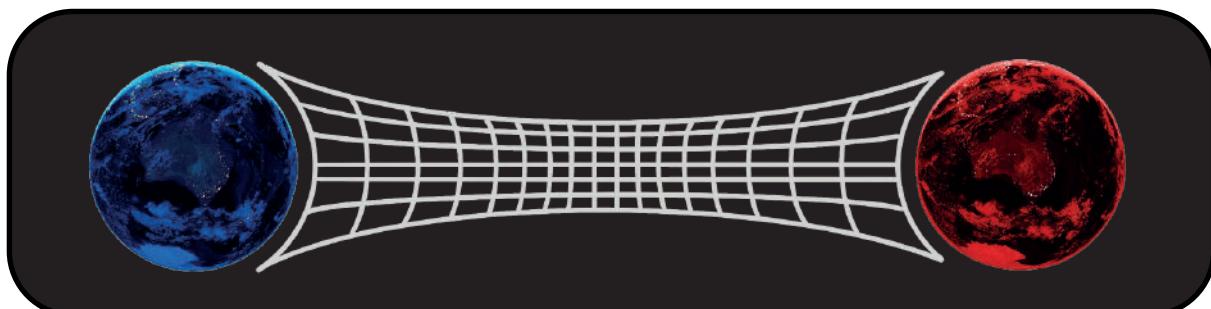


## FINDING A CONCEPT

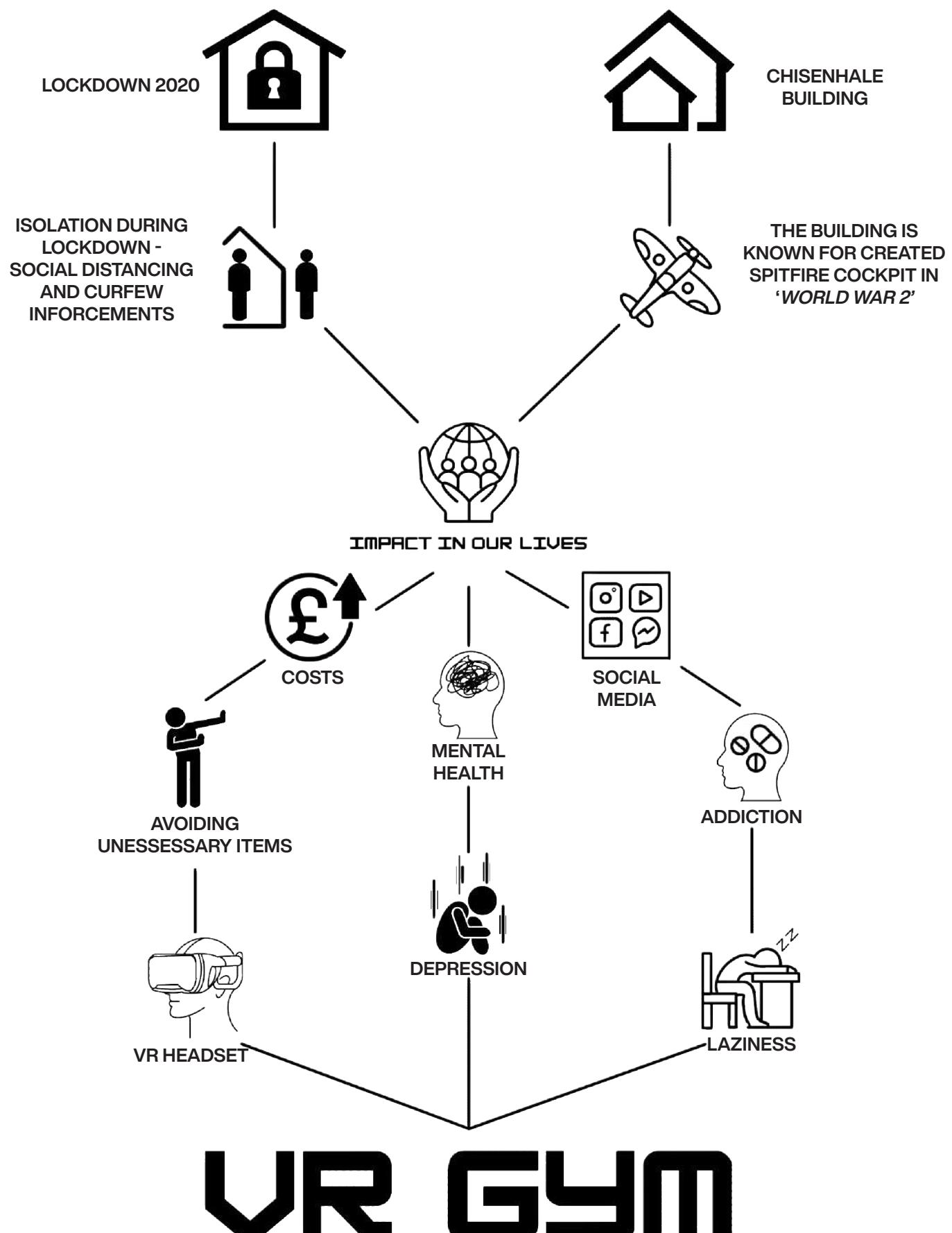


These ideas led me to the conclusion that the concept I would develop is:

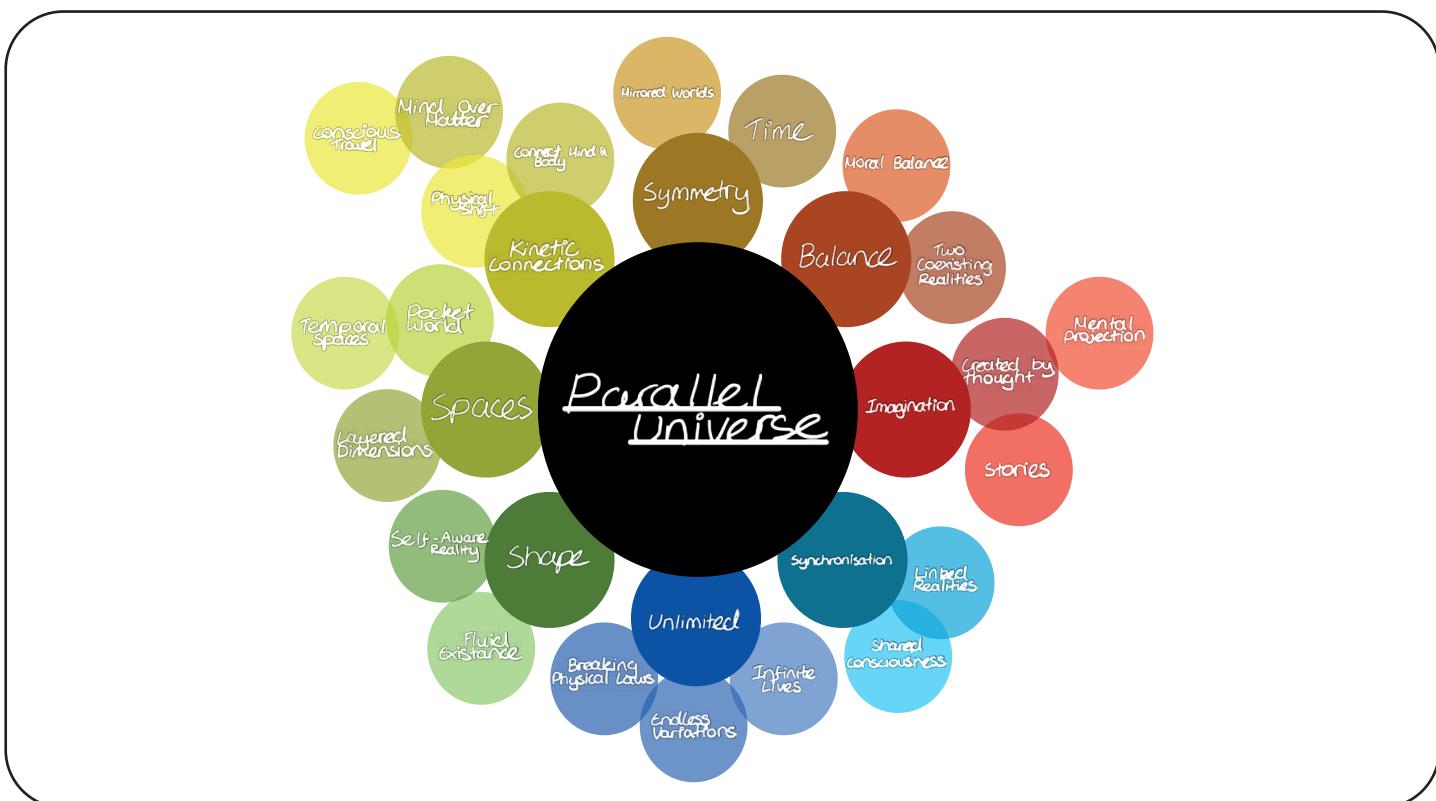
**'PARALLEL UNIVERSE'.**



## LINKING ALL OF THE IDEAS



# EXPLORING THE CONCEPT



A parallel universe is a theoretical idea suggesting that there could be other universes besides our own. These other universes might have different physical laws, structures, or events happening within them. The concept often comes from scientific theories like quantum mechanics and string theory.

## Key Points

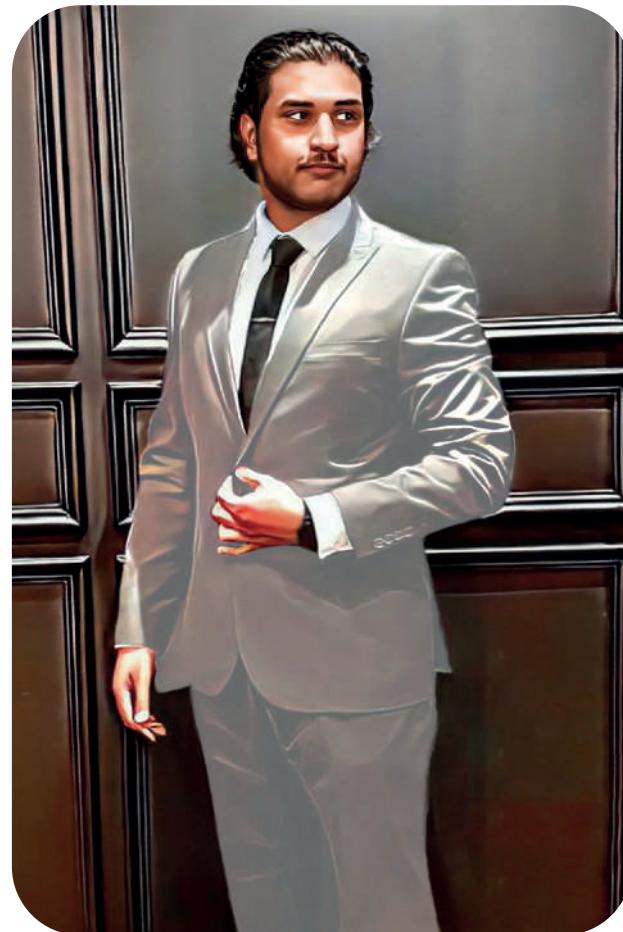
- **Definition:** Parallel universes are theoretical separate realities existing alongside our own universe.
- **Origin:** The concept comes from scientific theories like quantum mechanics and string theory.
- **Characteristics:** These universes might have different physical laws, structures, or events happening within them.
- **Implications:** The idea suggests that our reality could be just one of many possible universes.



## EXAMPLE OF PARALLEL UNIVERSE



PRESENT DAY



ALTERNATE REALITY

From this images there are **difference** representing the world of **what if** thing changes in their own **realities**.

### Present Day:

This image shows the **current** realities where everything is normal and the person is who he is wearing his casual black suit.

### Alternate Reality:

This image show that is **different** than the present day; The person wearing the white suit instead of a black suit. That person is **different** but the same person as the present day.

### Reasons for Different Clothing

- Cultural Influences: Different societal norms and values.
- Technological Advancements: Availability of materials and designs.
- Environmental Factors: Adapting to different environments.
- Personal Choices: Influenced by external factors in each reality.

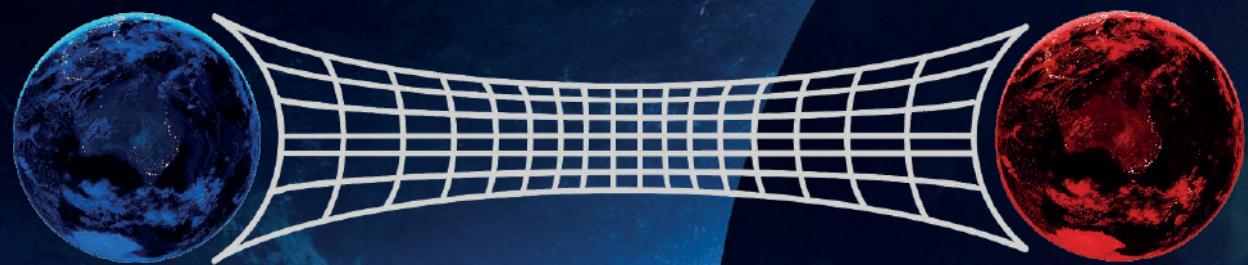
The person has the same core personality but makes different clothing choices based on the context of each reality. In the present day, He choose a traditional black suit. In the alternate reality, His choice of a white suit might represent a break from tradition, embracing new norms or aesthetics.

# PARALLEL UNIVERSE

## FINAL CONCEPT

### DESIGN CONCEPT: PARALLEL UNIVERSE

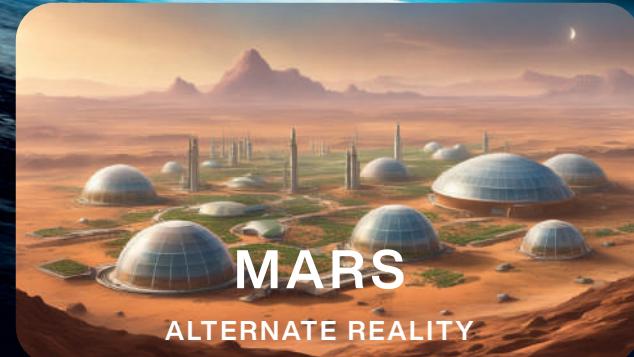
The design concept for the VR Gym is inspired by the idea of a parallel universe, where users step into an alternate reality that offers an entirely new way of living. This universe is a second life, disconnected from the real world, where familiar rules no longer apply. Users become characters in a simulation, immersed in environments that reimagine life, technology, and possibilities. It's a space where imagination takes precedence, creating endless opportunities to explore alternate versions of reality and oneself.



### IDEAS

The VR Gym expands the idea of **parallel universes** by exploring the limitless possibilities of **alternate realities**. What if humanity thrived not on Earth, but on **Mars, Jupiter, or Saturn**? In this world, places like Tokyo and Paris are well-known, but people will seek something beyond the ordinary, something **never seen before**.

Here, the familiar rules of life no longer apply. Technology, environments, and even identities transform into something entirely new, creating an experience that feels both thrilling and unpredictable. Users step into a reality where every action causes ripples, shaping a world that redefines existence itself.



PARALLEL UNIVERSE

## PORTAL

The portal is a gateway between worlds, transporting users from their familiar reality to entirely new ones. Instead of taking them to places like Paris or Tokyo, it opens doors to unimaginable destinations.

Inside, users travel through a star-filled void, experiencing a breathtaking, hyperspace-like journey. Upon emerging, they step into an entirely new world—be it a distant planet or galaxy—making the portal not just a tool for travel, but an exciting adventure in itself.



# PARALLEL UNIVERSE

## FINAL CONCEPT



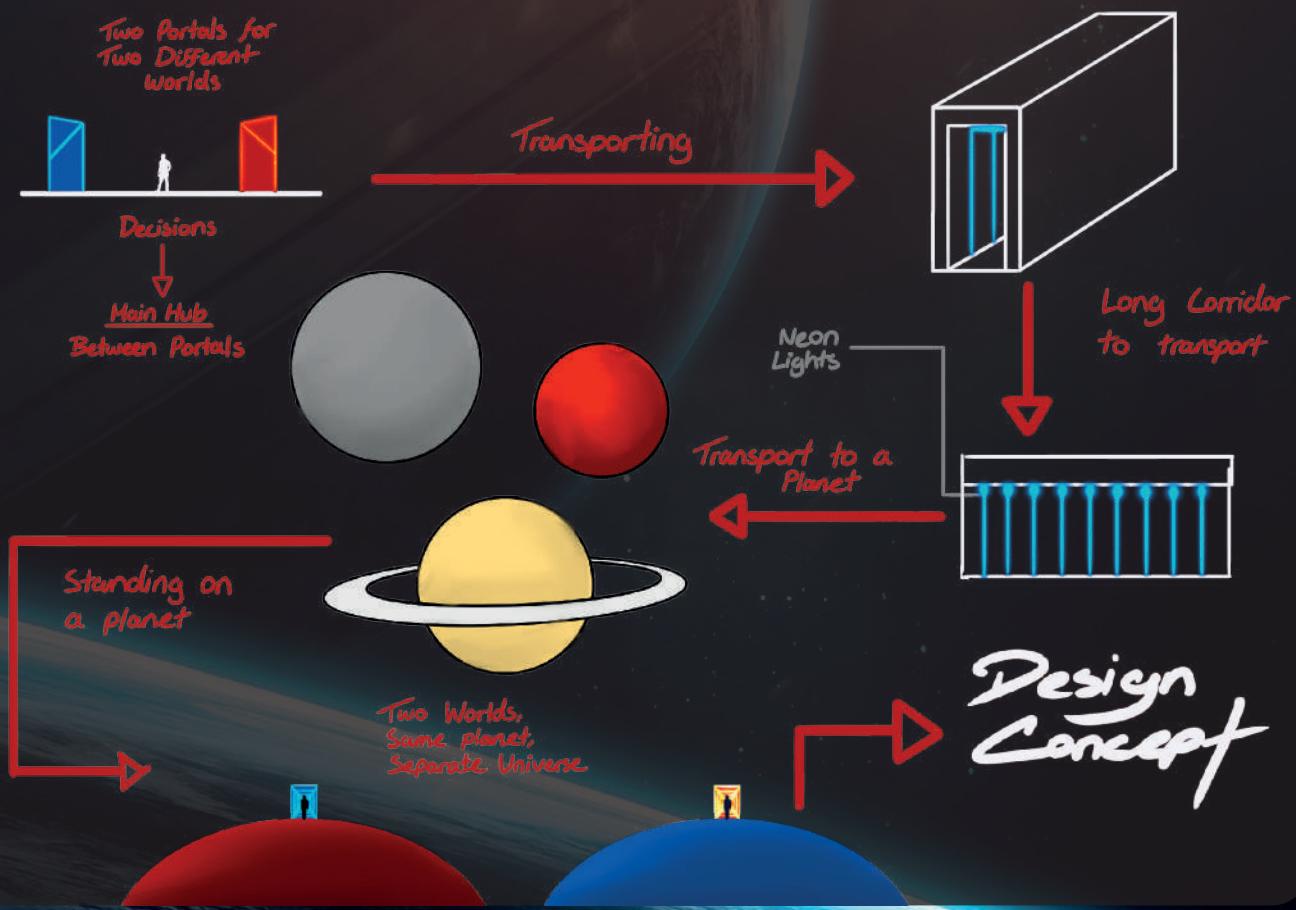
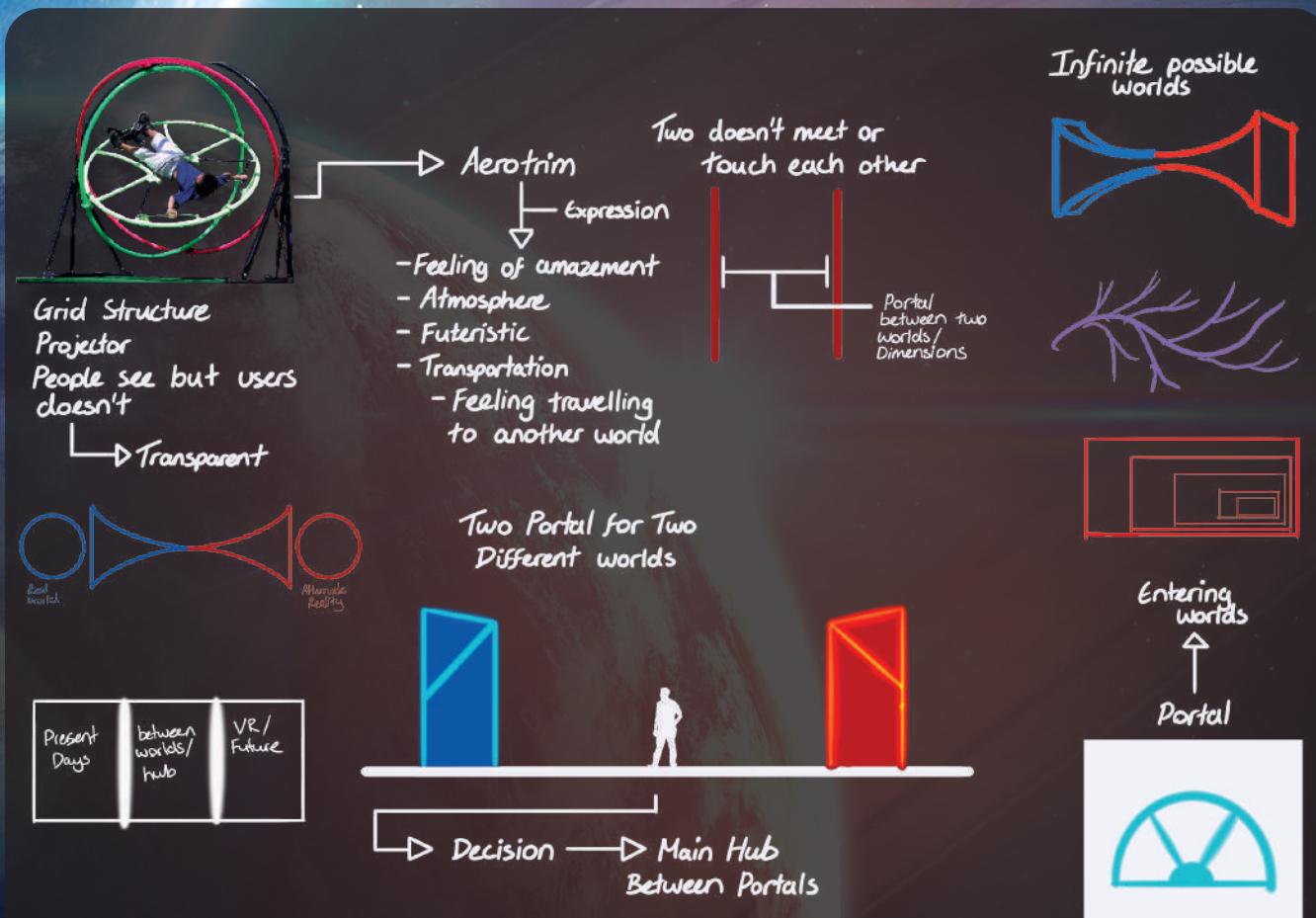
### HUB

The hub serves as the central connection point between the two universes, acting as a bridge that links the real world and the alternate reality without allowing them to merge. This space is designed as a neutral ground, offering a moment of pause for users to prepare for their next journey.

In the hub, the two universes exist in harmony, yet they remain distinctly separate. They cannot collide or interact directly, emphasizing the boundaries that keep these worlds apart. Instead, the hub acts as a cosmic station where users can choose their next destination and reflect on the journey so far.

The design of the hub highlights its role as a transition space. It feels otherworldly, with an atmosphere that captures the essence of both universes without fully belonging to either. Walking through the hub feels like stepping into the unknown, a space where possibilities converge but never overlap. It's the perfect starting point for a journey into the parallel universe, maintaining the delicate balance between exploration and separation.

## FINAL CONCEPT



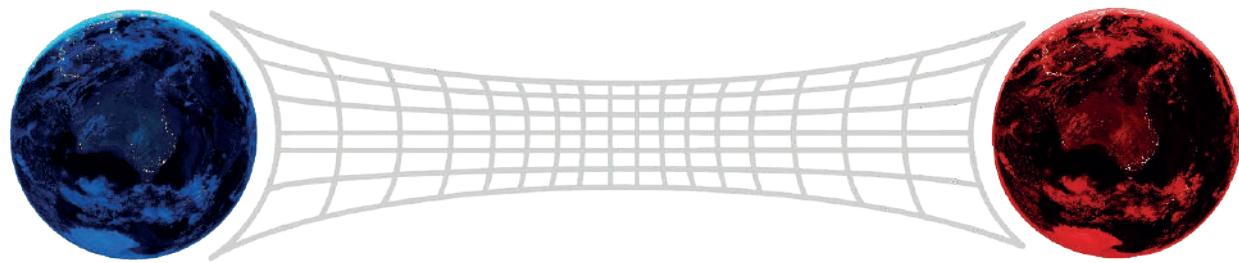


# BUILDING STRATEGIES

Strategy Development

Final Strategies





## 5 MAIN WORD TO DESCRIBE THE CONCEPT

**BALANCE**

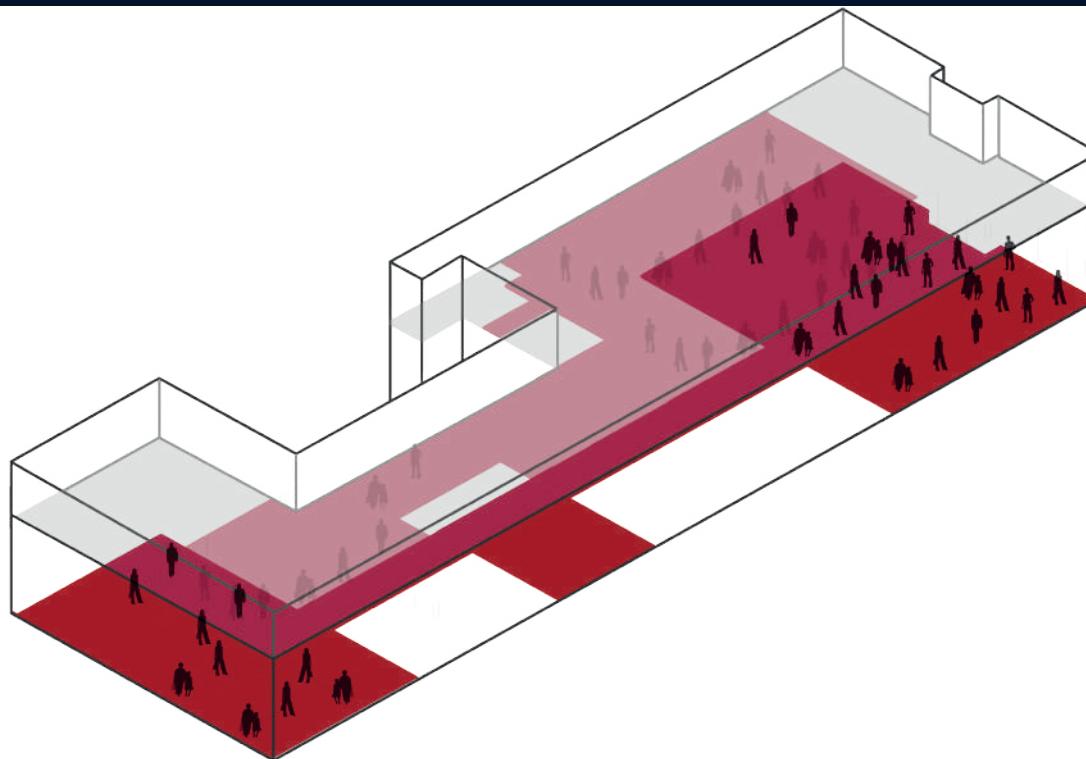
**MIRRORED WORLD**

**SPACES**

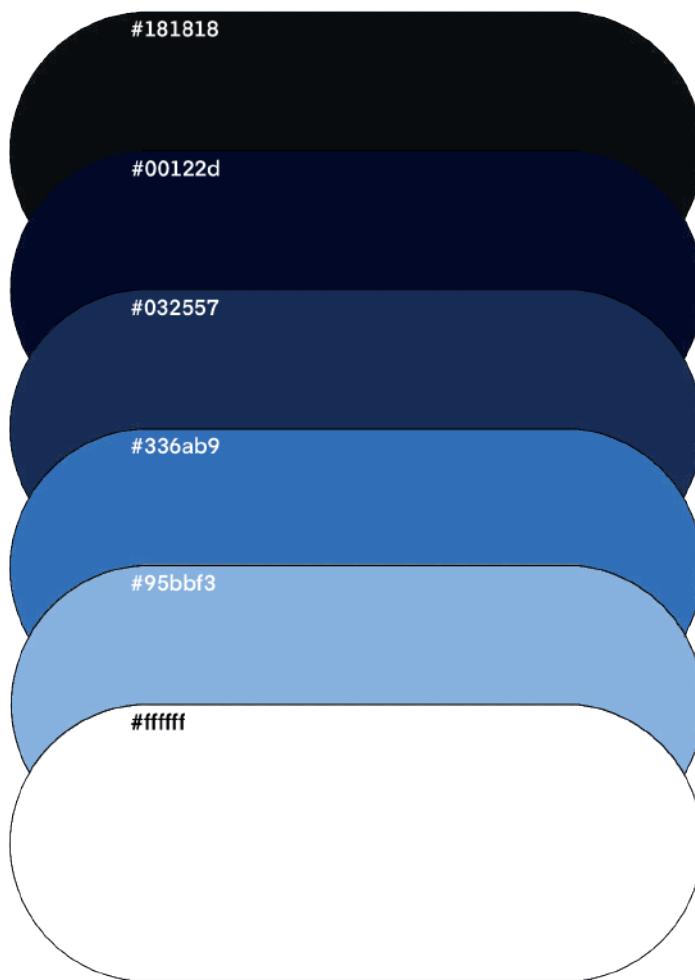
**SHAPE**

**LINKED REALITY**

Strategy Word	What It Means	Design Strategy Example
Balance	Real + virtual must work together	Design calm areas vs. high-energy zones to support both mental + physical health.
Mirrored World	A world that reflects but distorts reality	Use symmetry, reflective materials, and duplicated shapes to feel “unreal.”
Spaces	Defined zones for different VR experiences	Divide the gym into themed zones (planets) for different workouts.
Shape	Non-traditional, sci-fi inspired forms	Use curved walls, glowing outlines, pod-like shapes like in “Tron.”
Linked Reality	Real actions + virtual feedback	Use lighting, screens, and sounds that react to movement in VR.



The area shows the spaces based on the 5 main words from the concept. It acts as 2 reality spaces that is separate from their respective area.



## TECHNOLOGY THEMED

The inspiration of the colour palette is based on a futuristic theme ad it represents technology that we are living in currently.

The colour can attract users who are obsessed with their phones and their technology which this can be an advantage for them to gain attention and finding out what it is.

- Age Group: 16+
- Introducing “VR Gym,” a revolutionary fitness destination that redefines workout experiences by merging real and virtual worlds, offering users an exciting and immersive journey through parallel realities.
- Creating a comfortable and stimulating atmosphere by applying sustainable design principles, utilizing recycled, upcycled, and locally sourced materials for furniture, decor, and construction.
- Implement energy-efficient lighting, low-energy VR systems, and eco-friendly building materials to minimize environmental impact.
- Blend advanced VR technology with a visually captivating futuristic aesthetic to craft distinct spaces—“Modern Gym” for traditional equipment and “Virtual Gym” for futuristic workouts, connected by a central “Hub” that serves as a portal between two worlds.
- Ensure accessibility for individuals with disabilities by providing adaptive equipment, wide layouts, and VR assisted guidance.
- Accessible locker rooms and relaxation areas further accommodate all users.
- “VR Gym” offers a unique narrative-driven experience where users can explore and transition between worlds, bringing fresh motivation and a sense of wonder to fitness.

# DESIGN DEVELOPMENT PROCESS

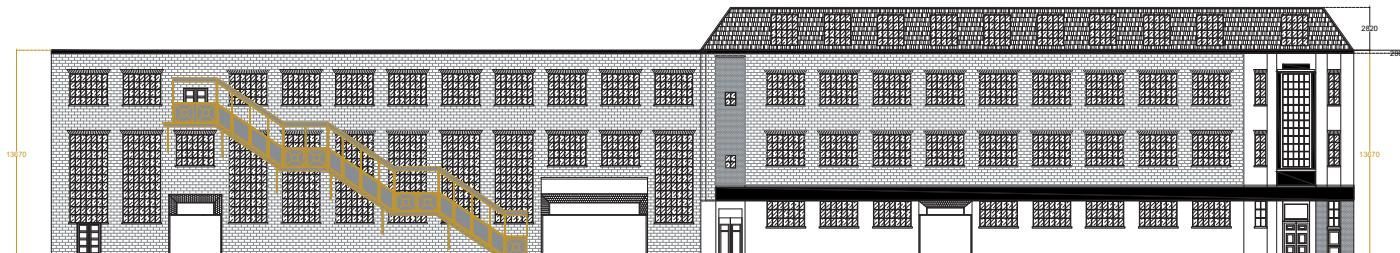
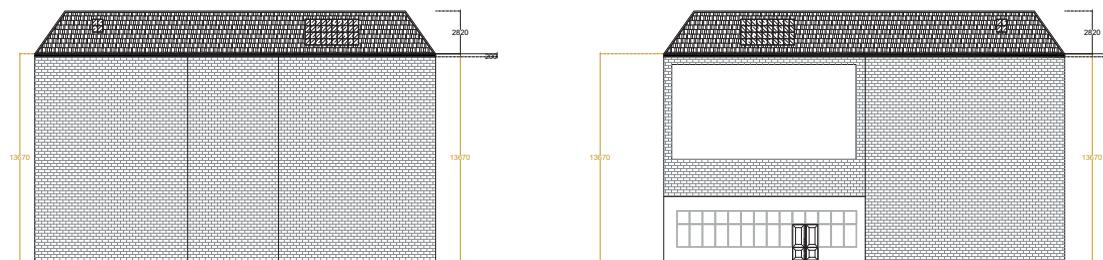
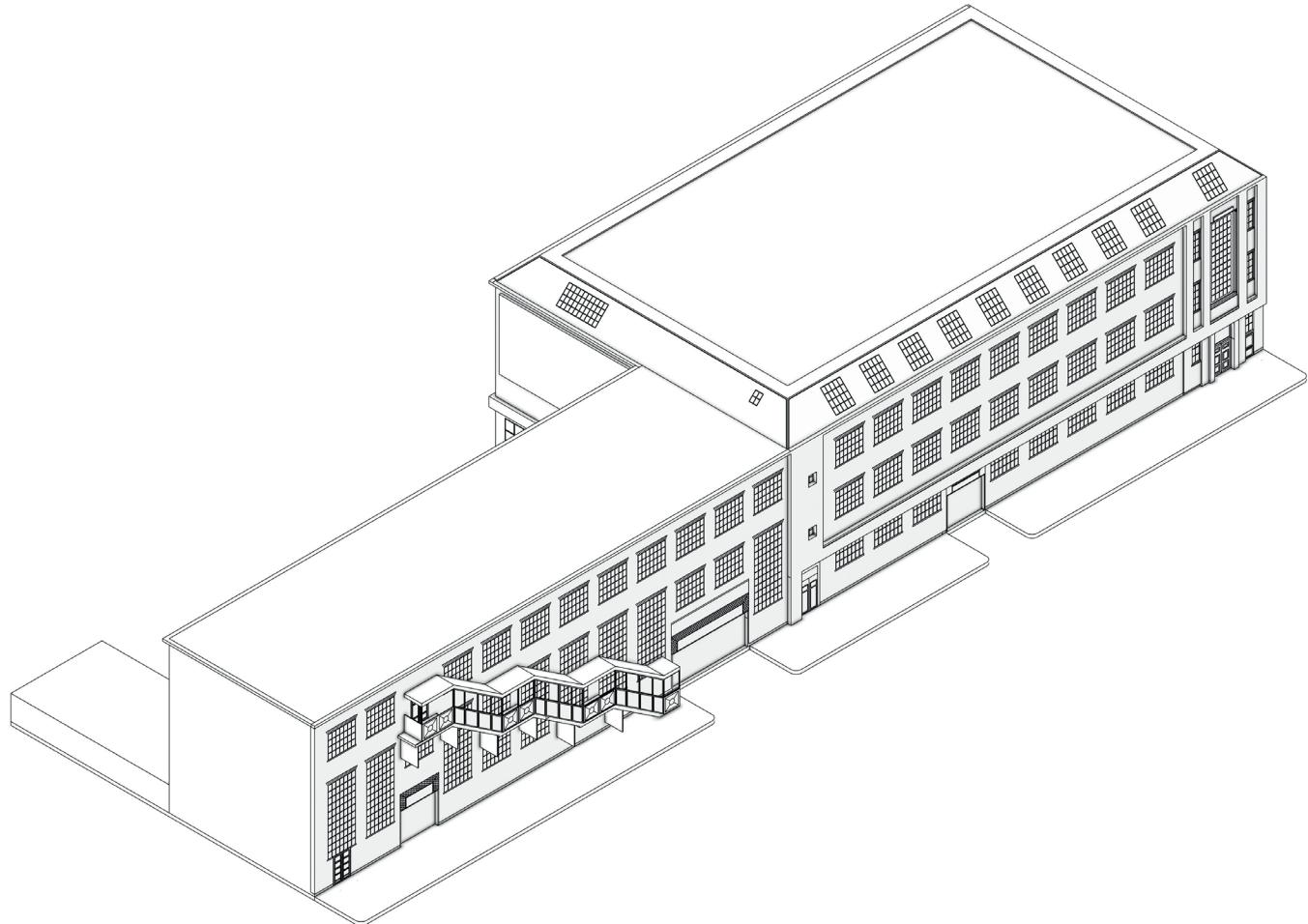
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CAD Drawings and Technical Documentation

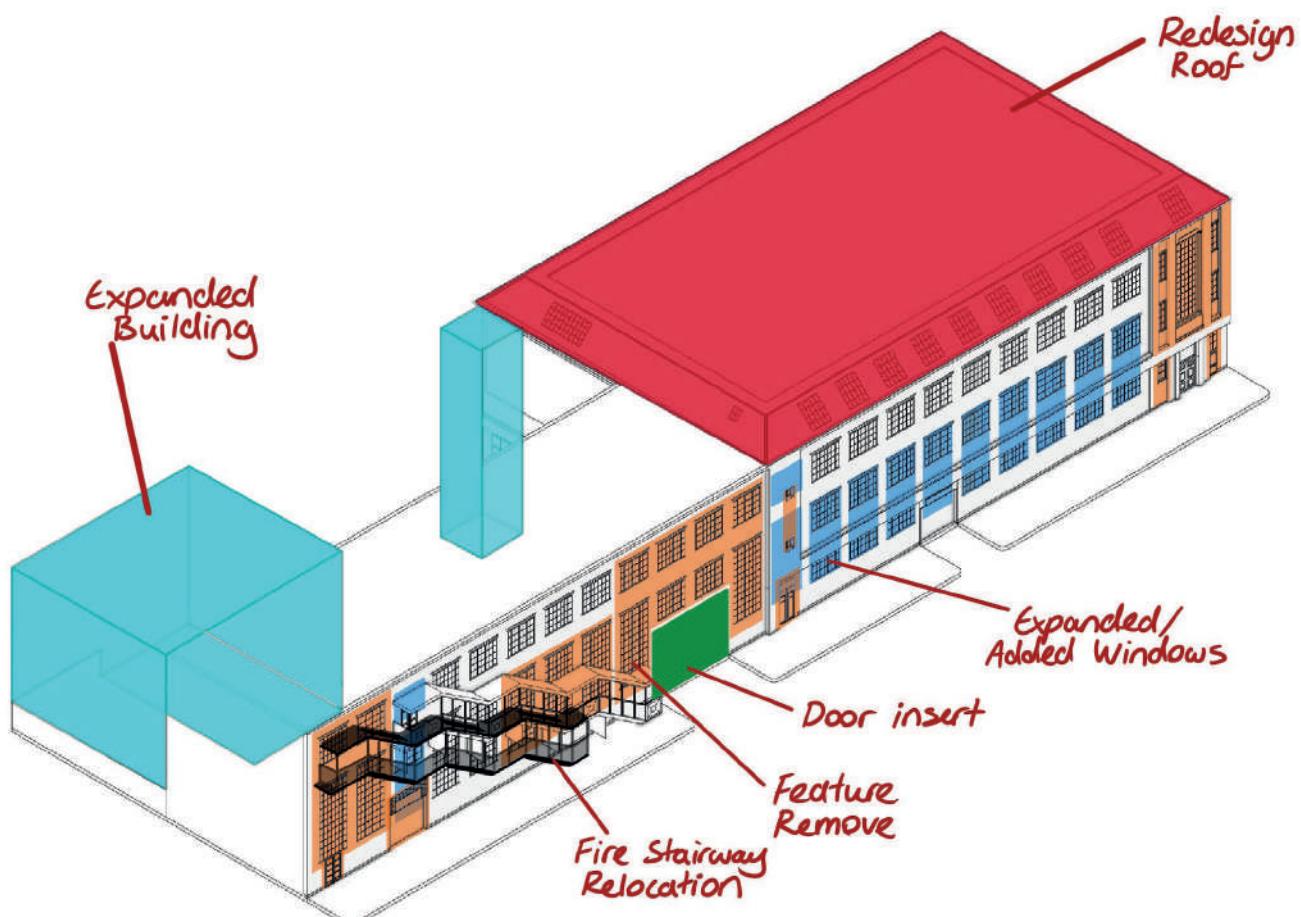
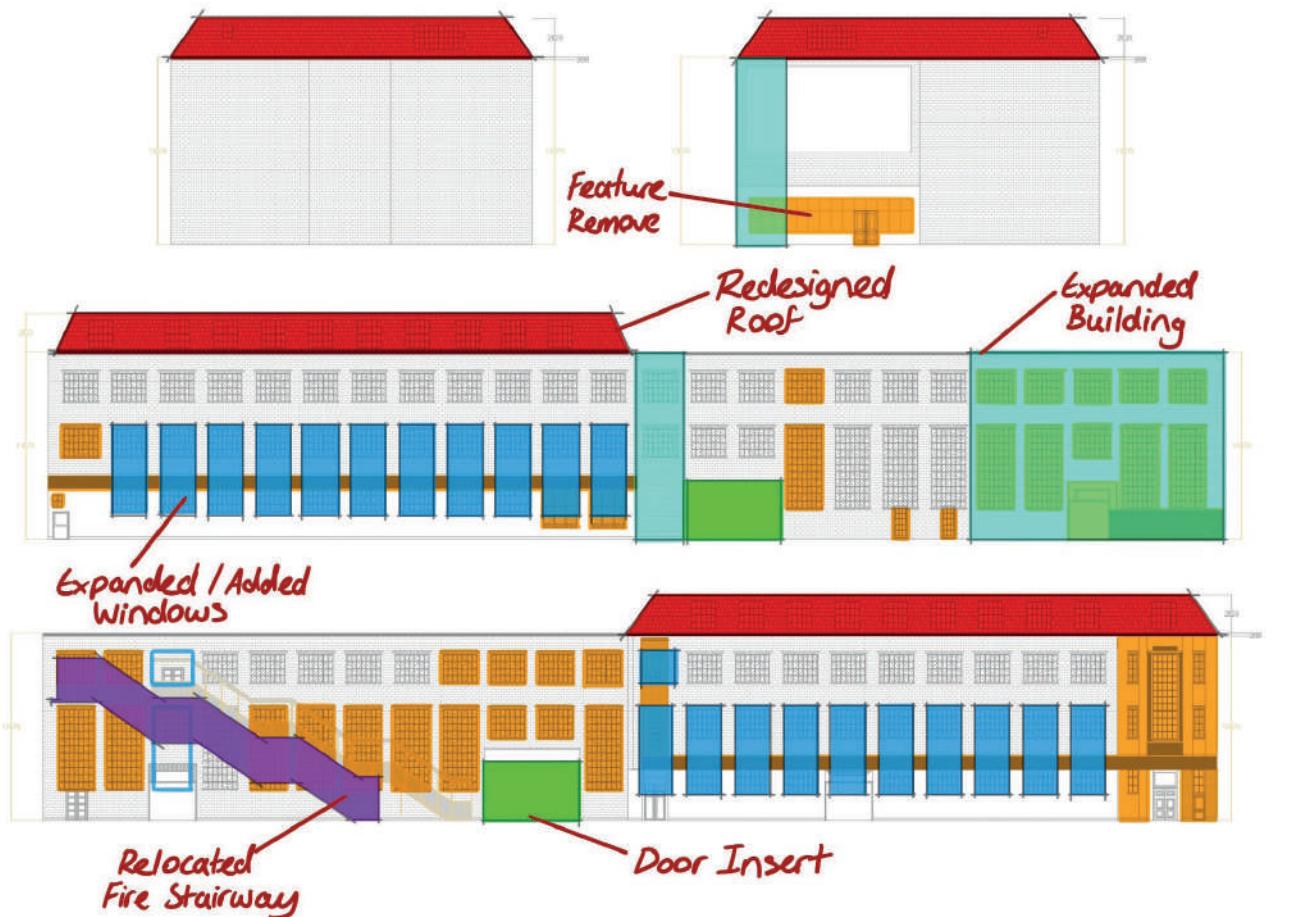
Process Highlights



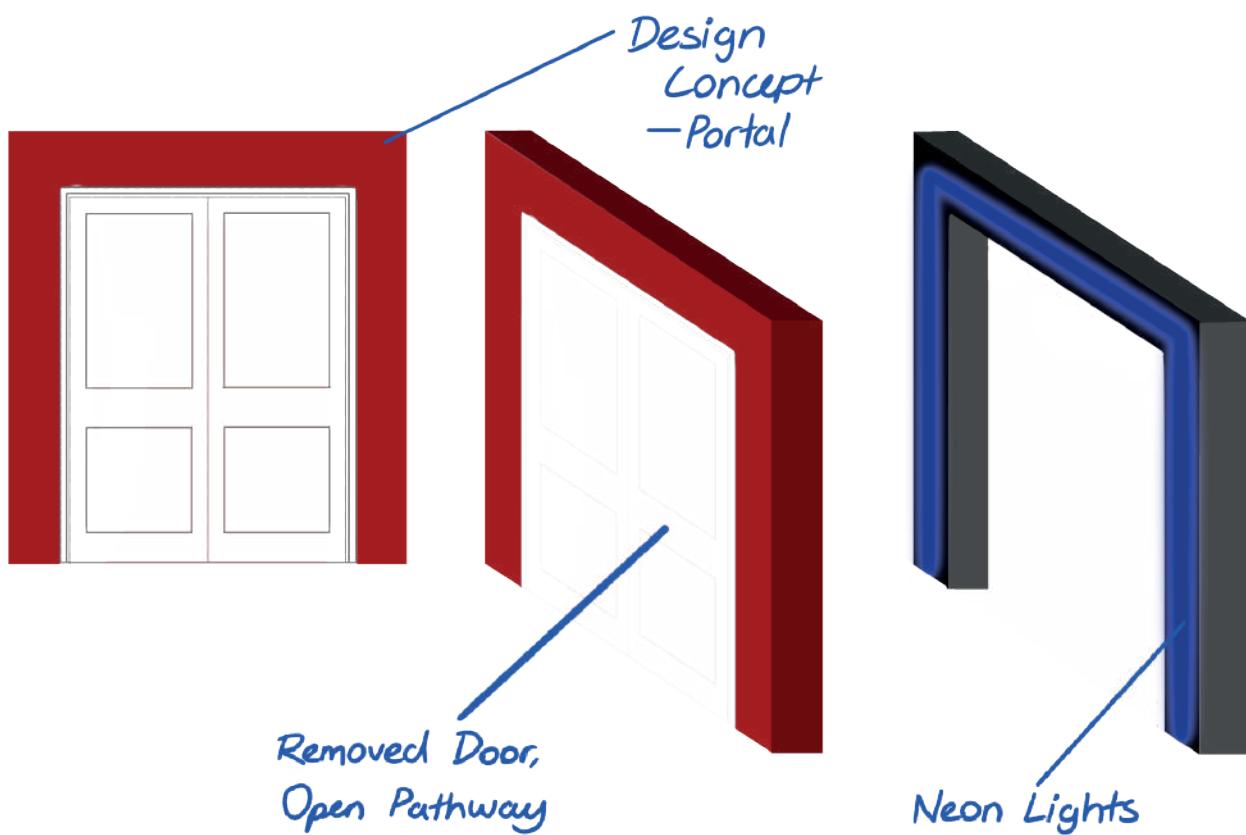
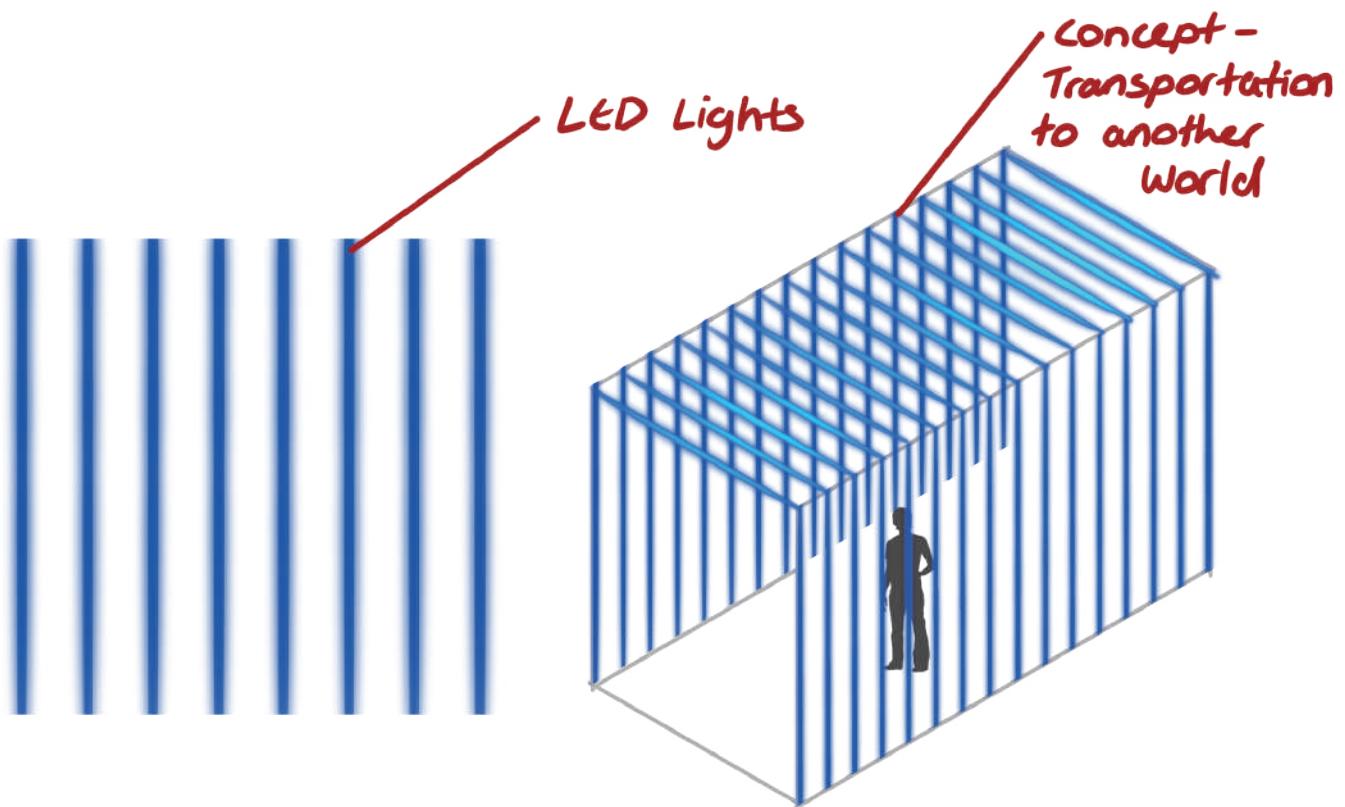
## EARLY DRAWINGS AND SKETCHES



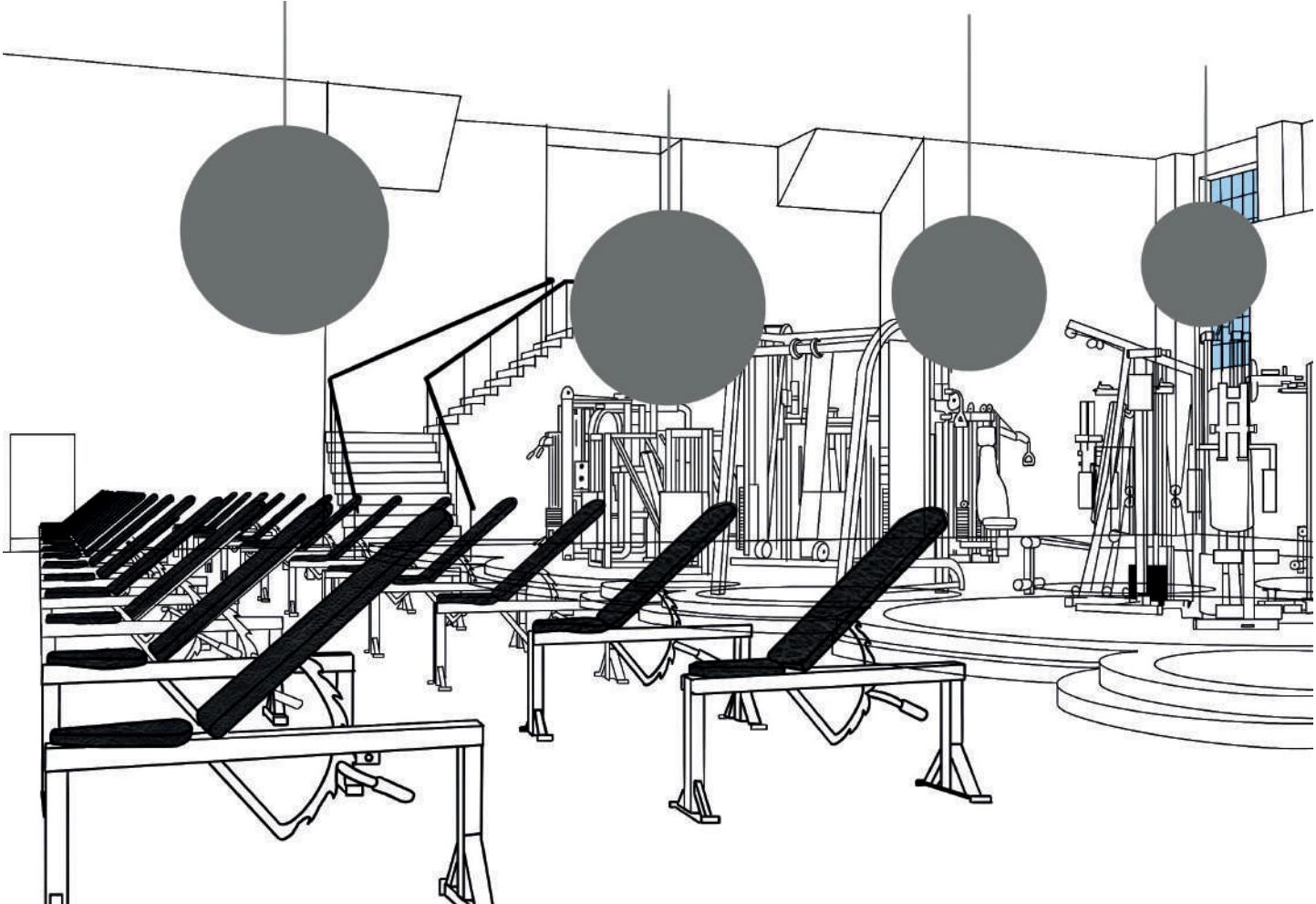
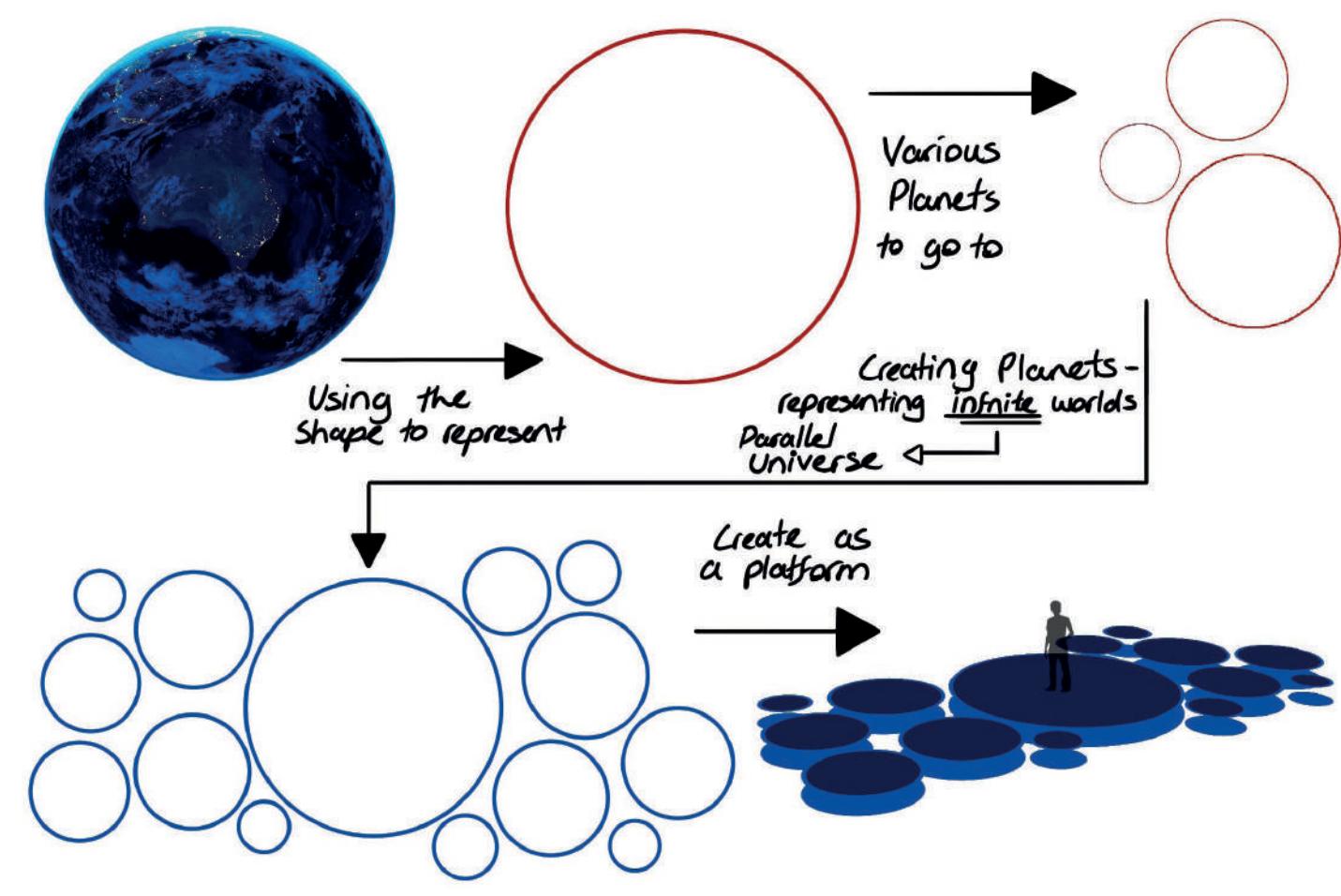
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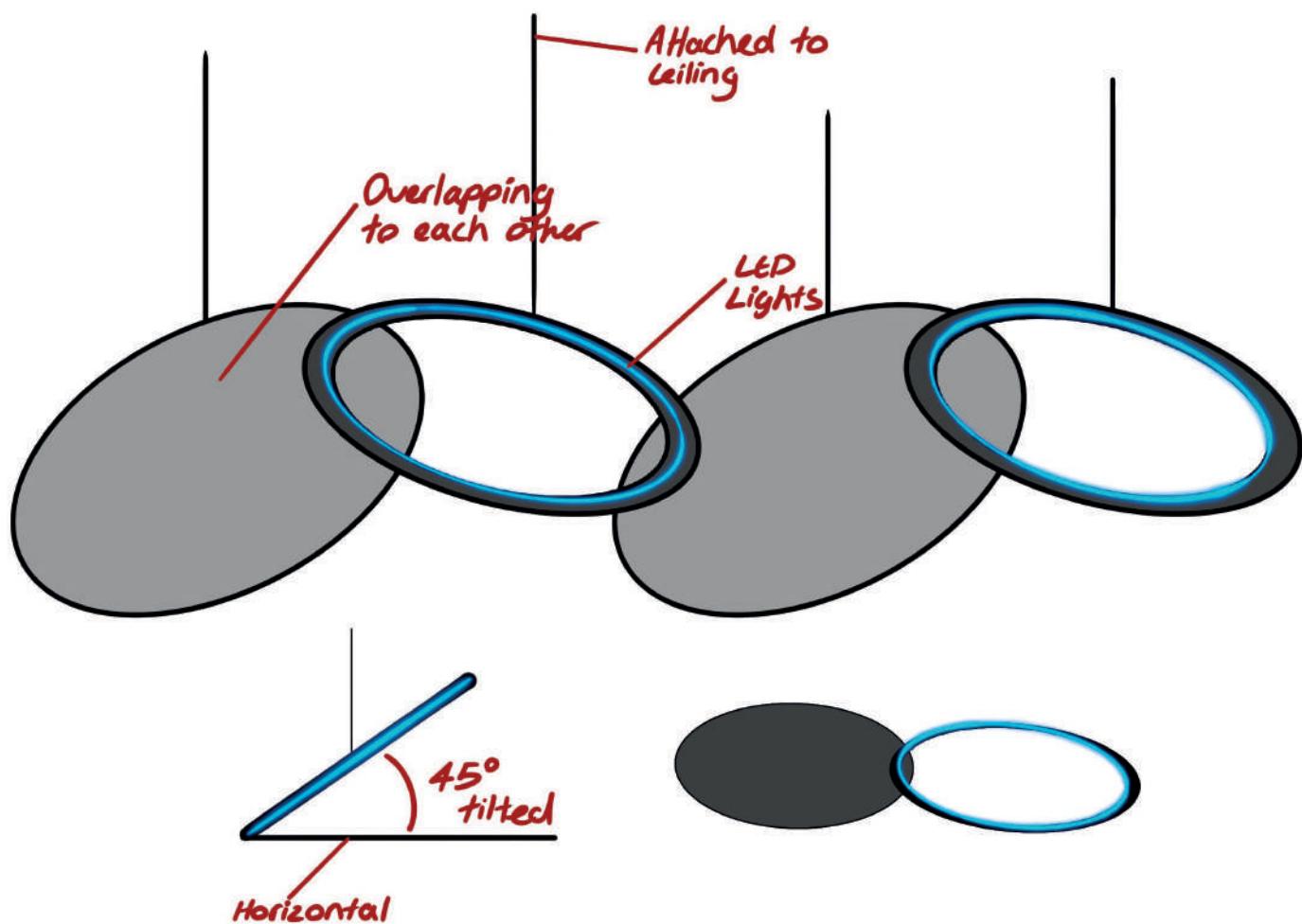
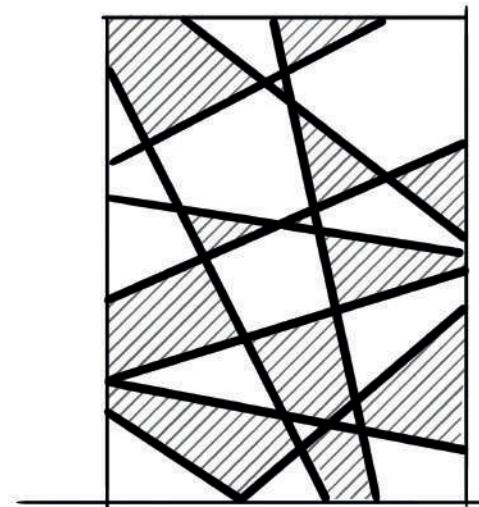
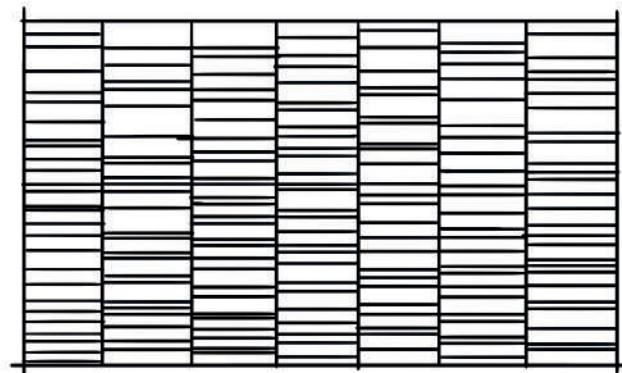
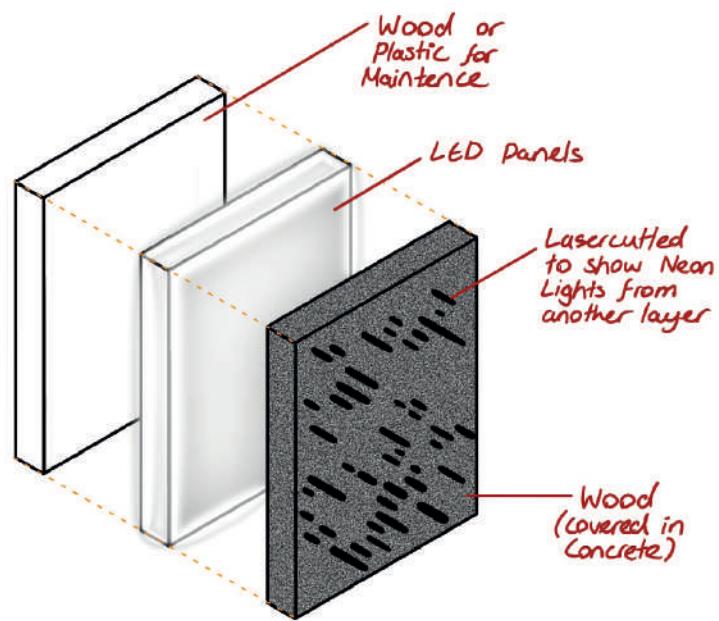
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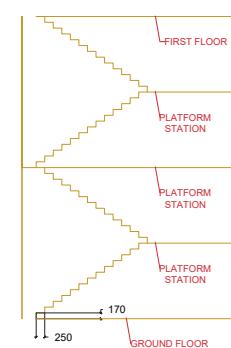
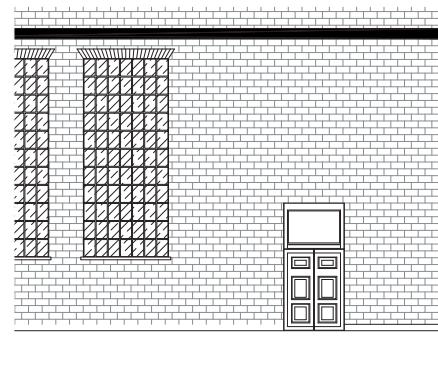
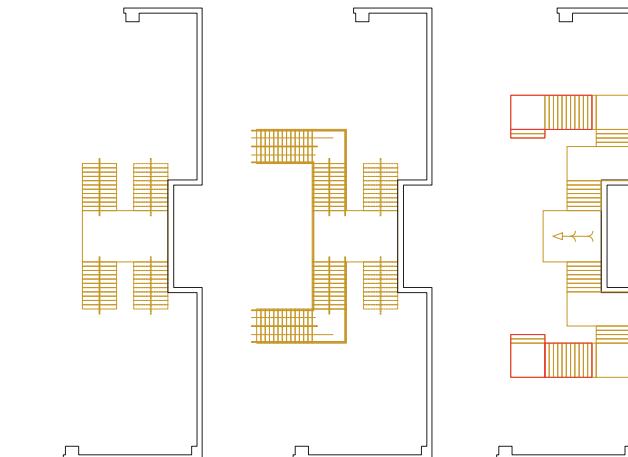
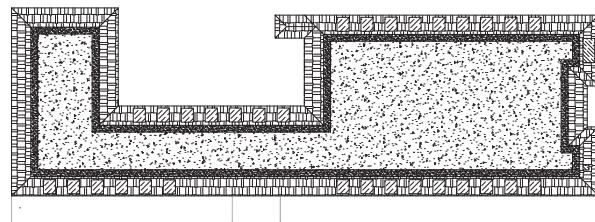
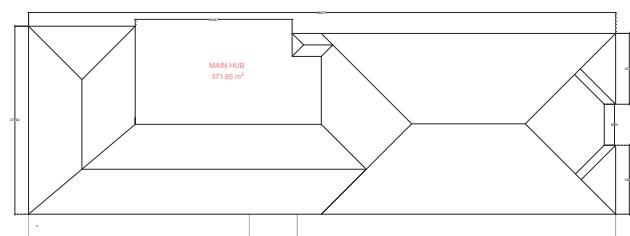
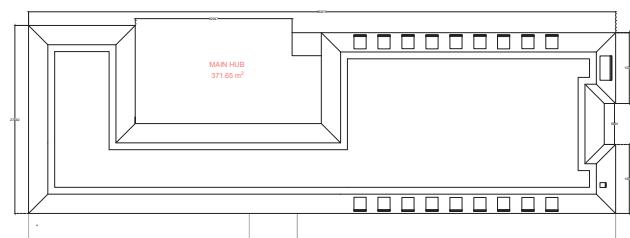
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## EARLY DRAWINGS AND SKETCHES



CAD DRAWINGS AND TECHNICAL DOCUMENTATION



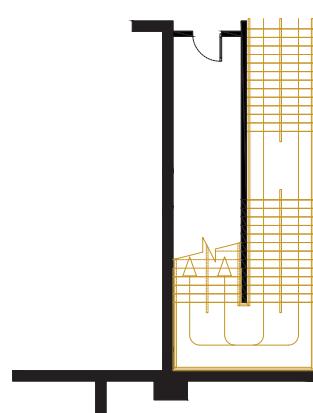
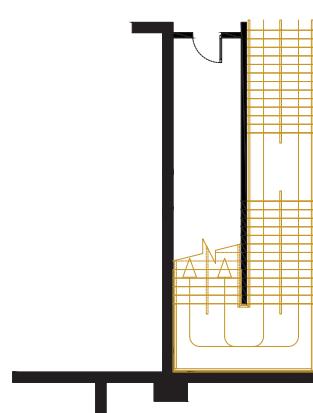
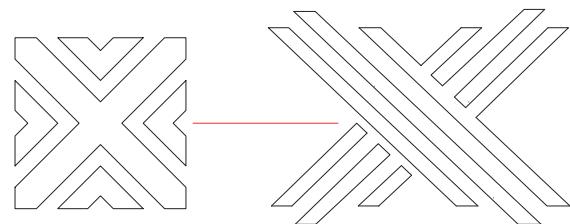
VirtuXGym

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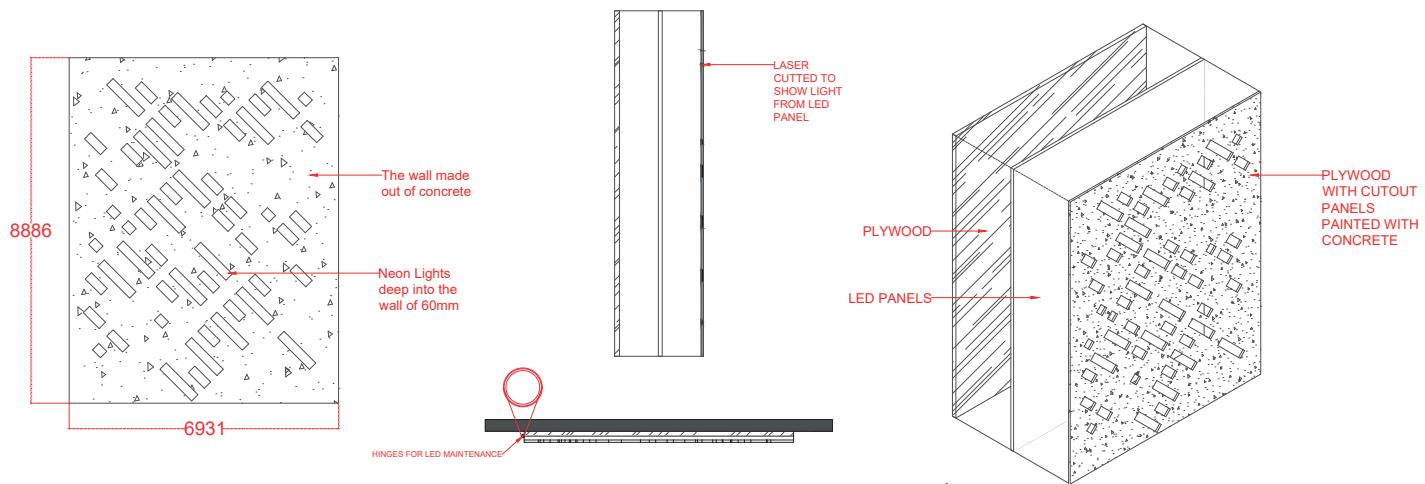
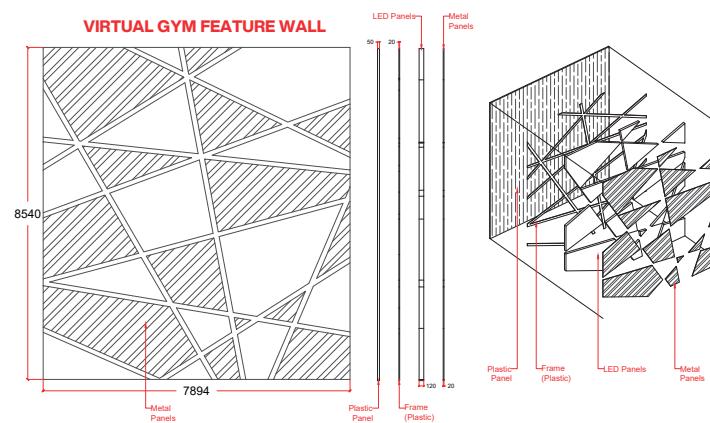
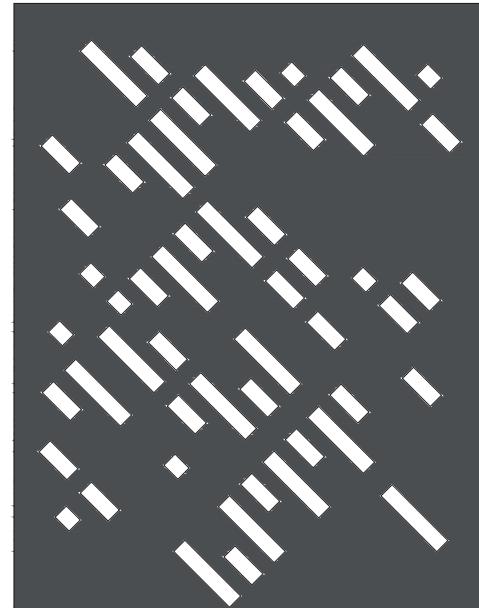
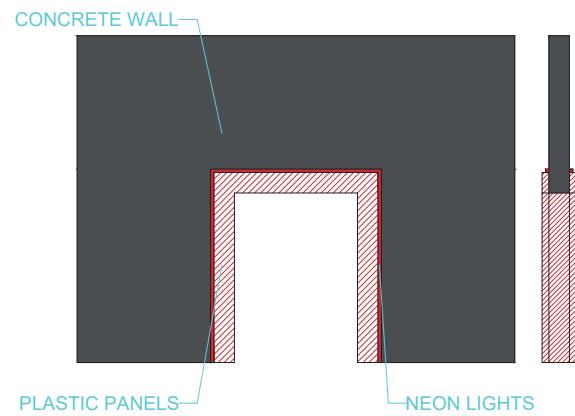
**VIRTUXGYM**

**VIRTU X GYM**

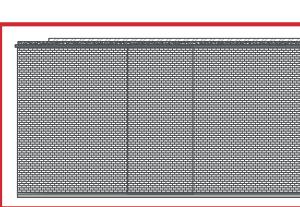
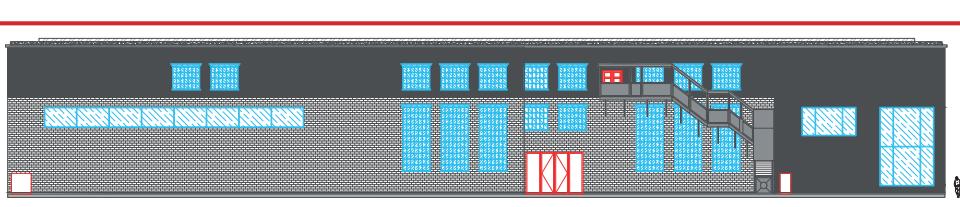
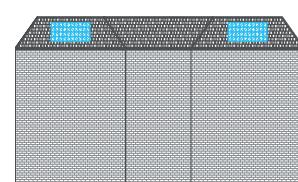
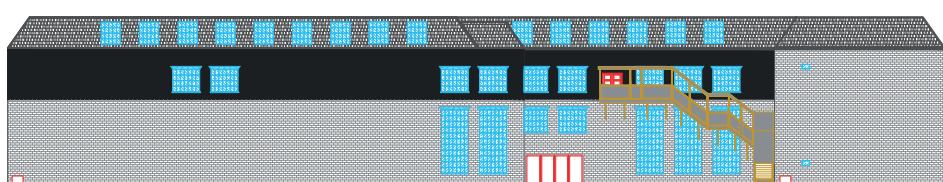
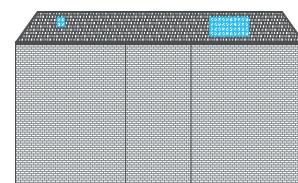
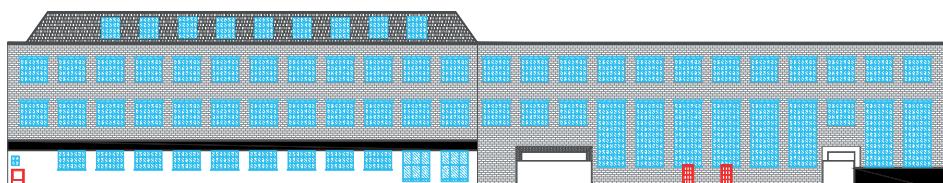
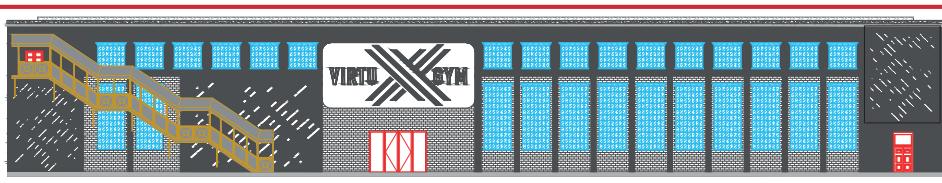
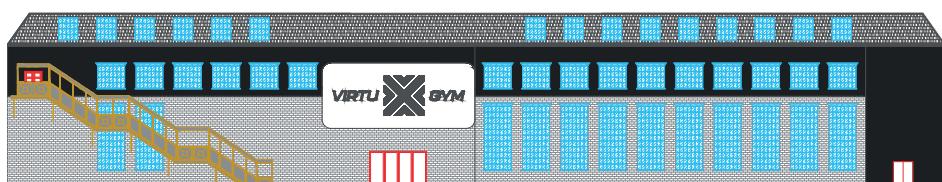
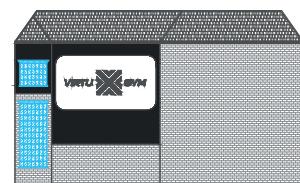
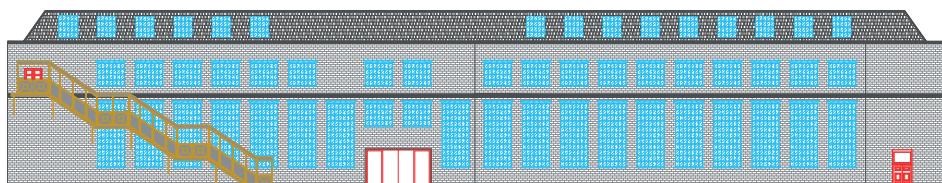
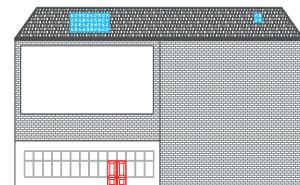
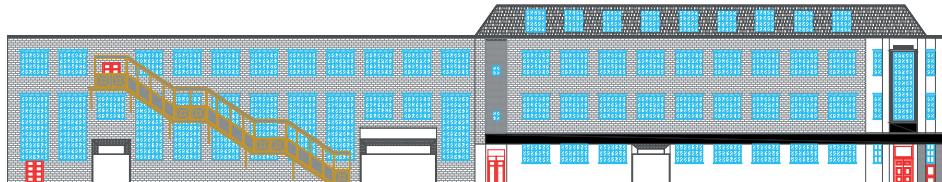
**VIRTU X GYM**



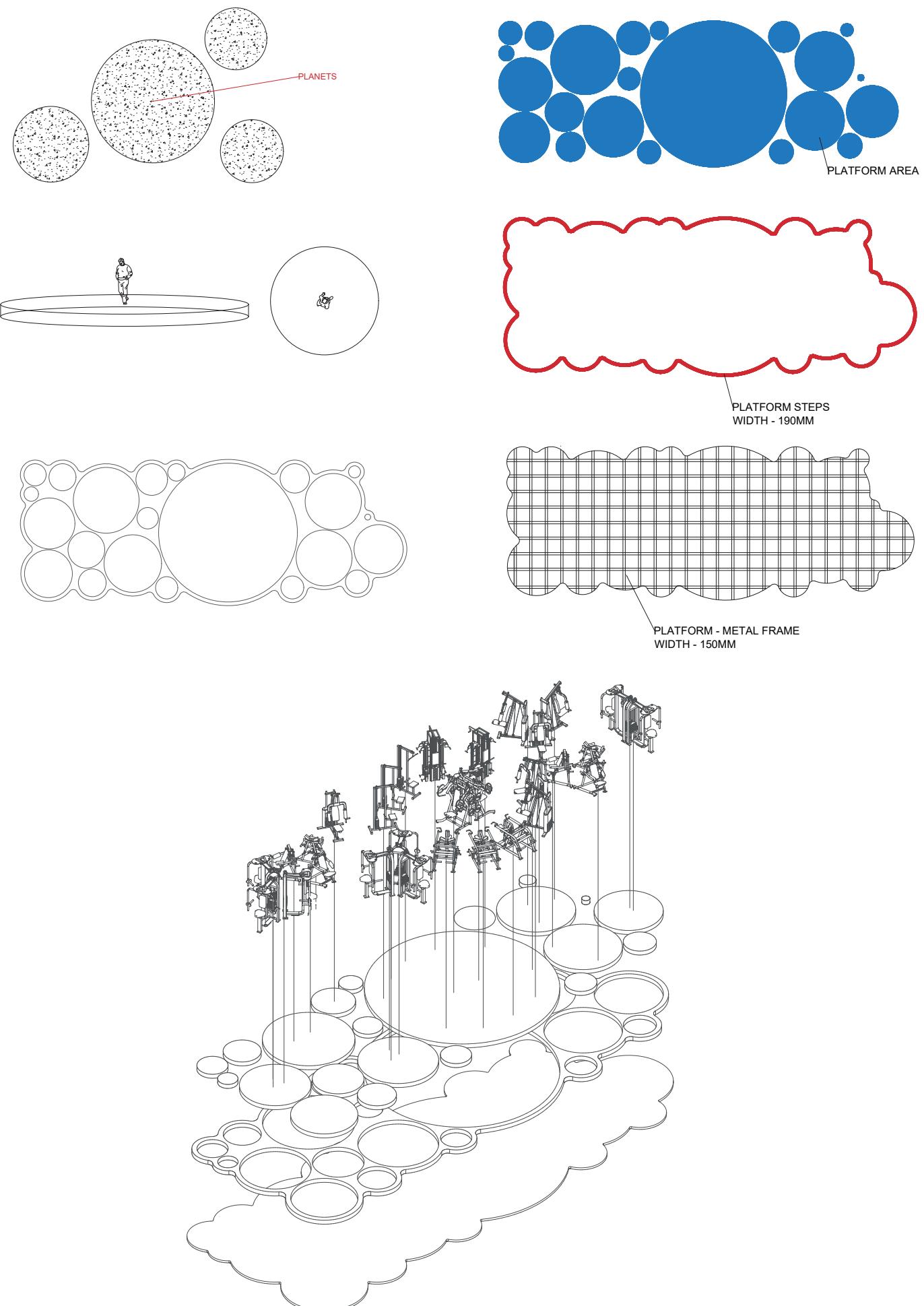
## CAD DRAWINGS AND TECHNICAL DOCUMENTATION



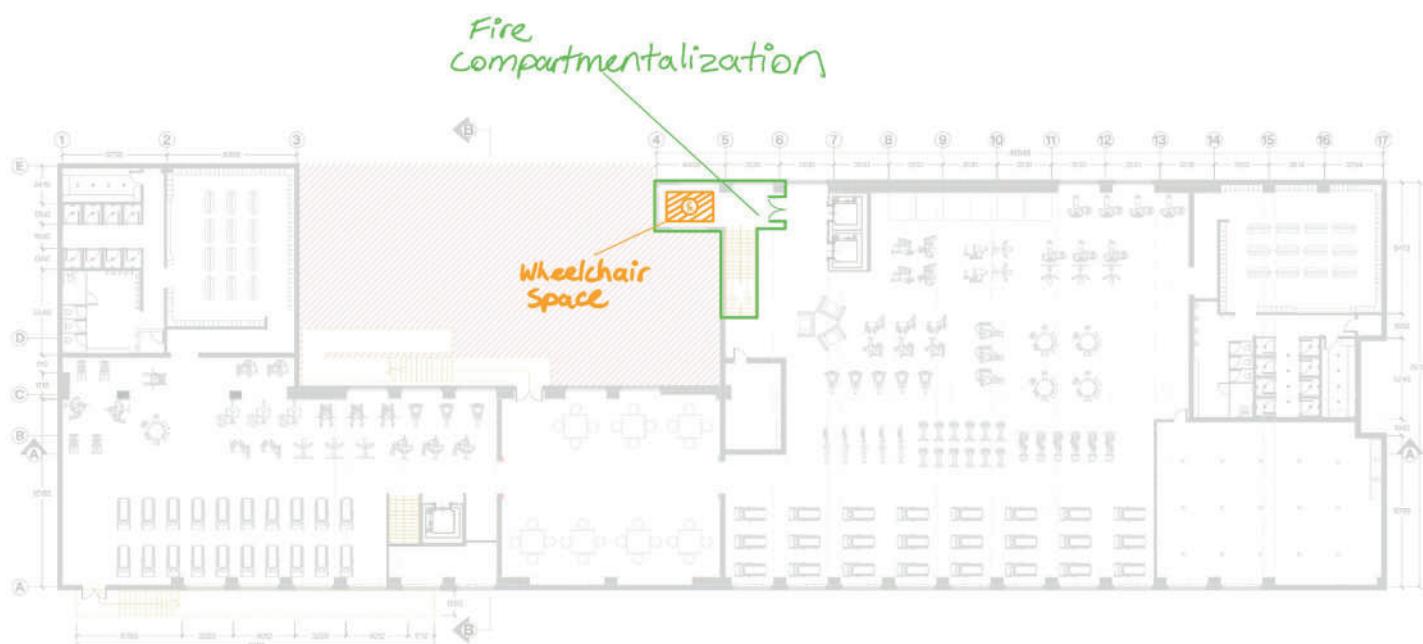
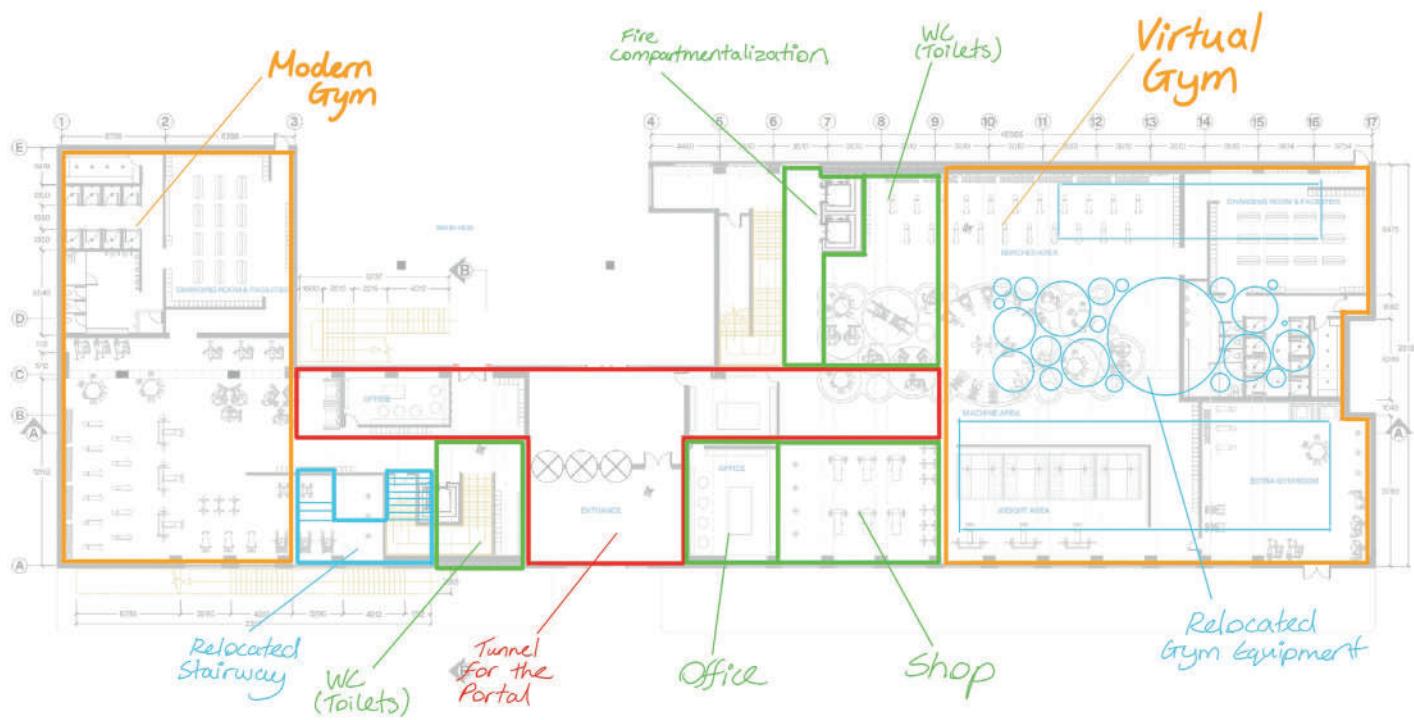
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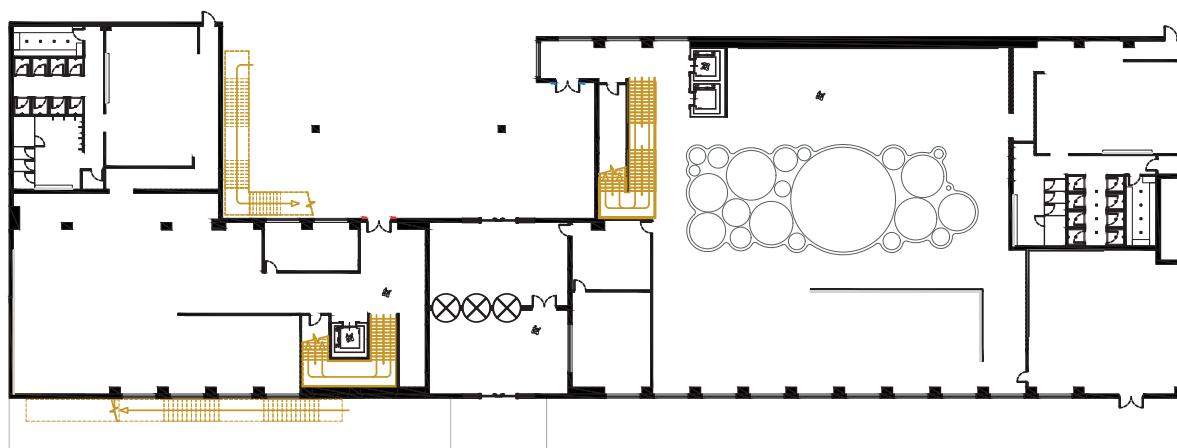
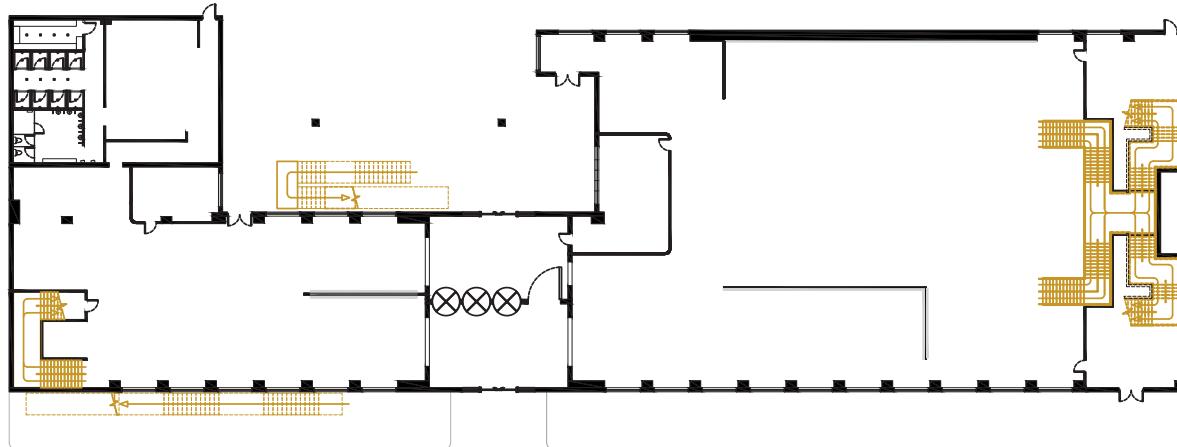
## CAD DRAWINGS AND TECHNICAL DOCUMENTATION



## PROCESS HIGHLIGHTS



## PROCESS HIGHLIGHTS





# FINAL DESIGN

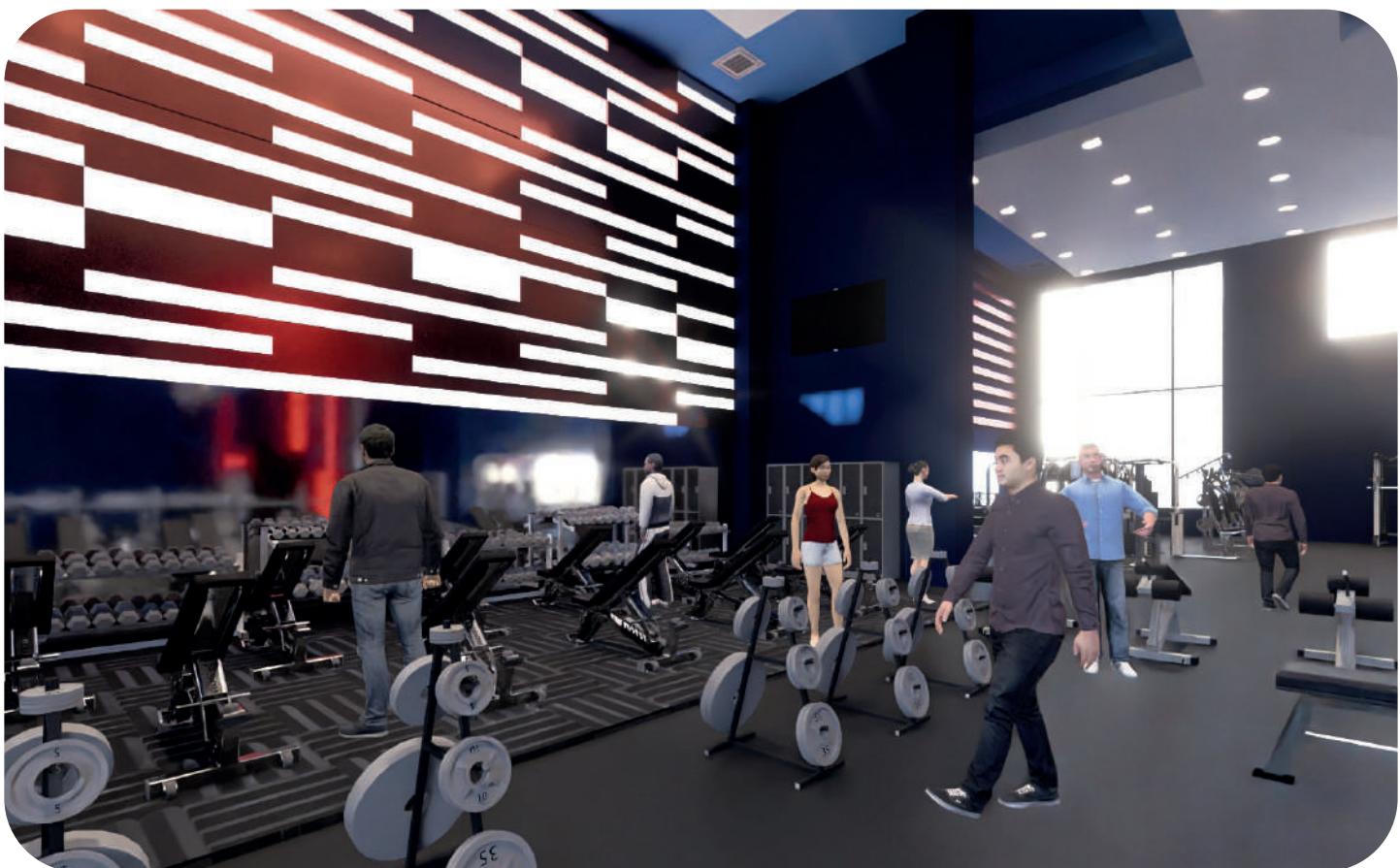
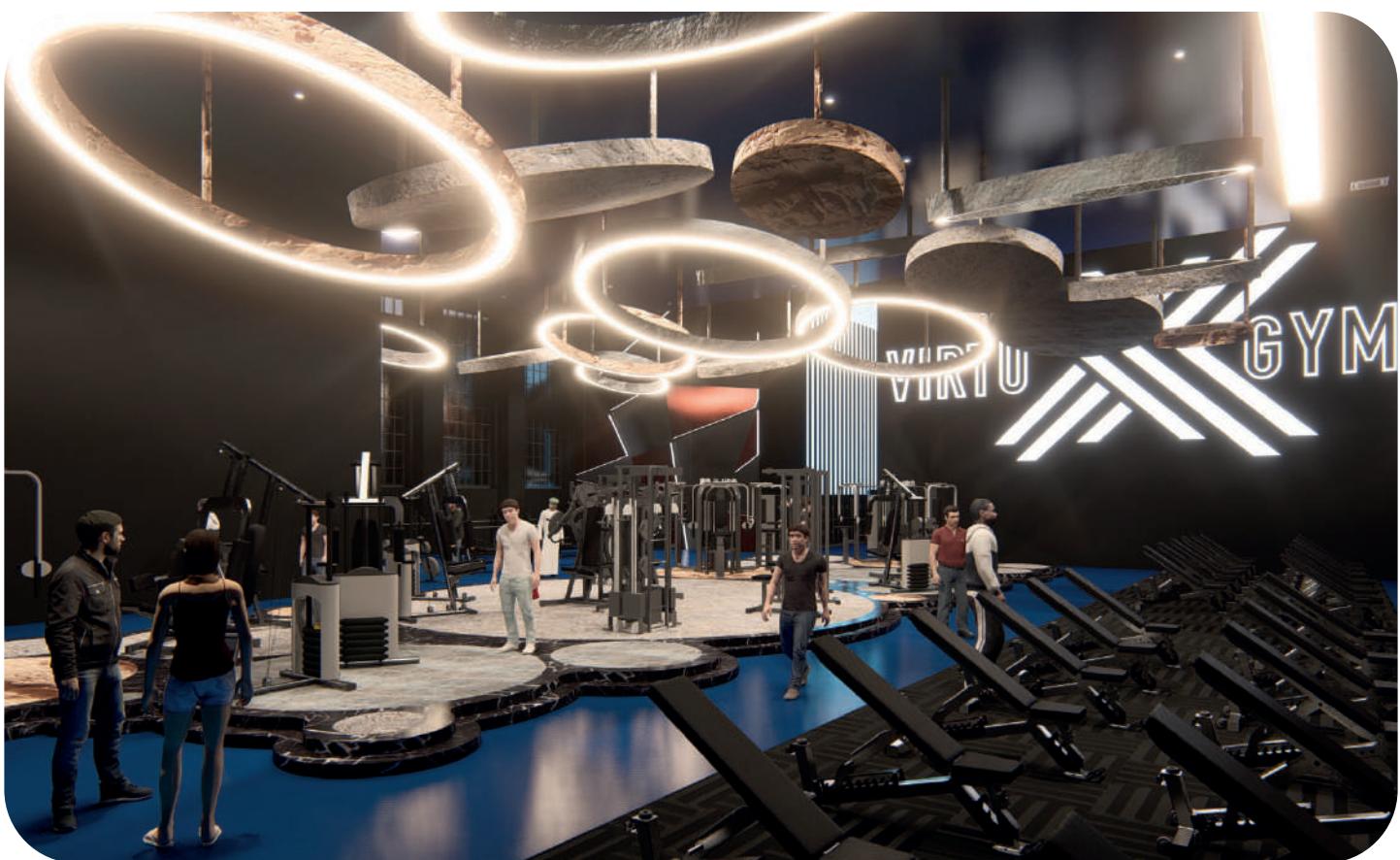
Selection of Renders



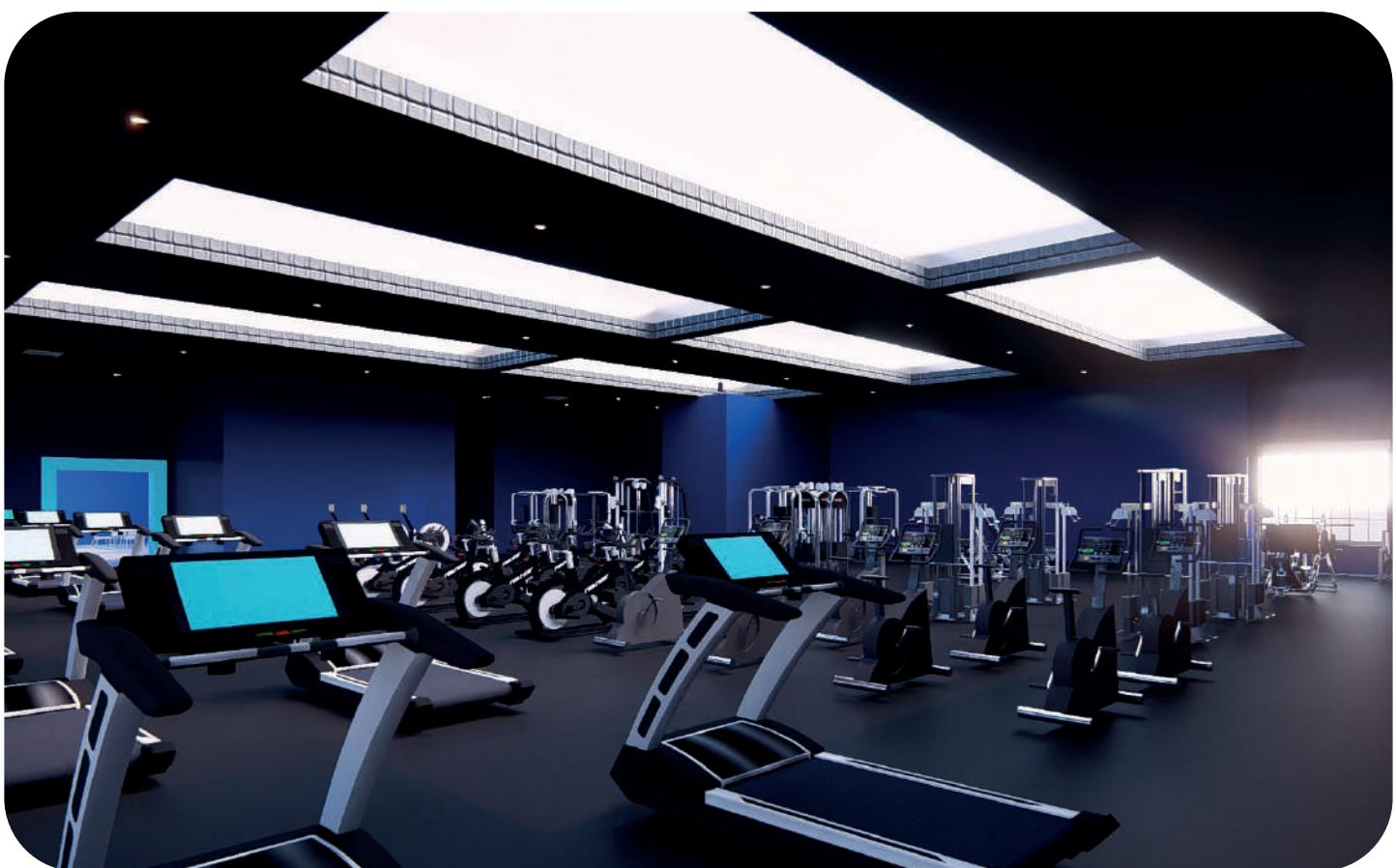
SELECTION OF RENDERS



SELECTION OF RENDERS



SELECTION OF RENDERS





A dark blue abstract background featuring a hexagonal grid pattern. Several bright, glowing white and yellowish circular nodes are scattered across the grid, connected by thin white lines. A large, semi-transparent, light blue circle is centered in the middle-right area, containing the text "FF & E".

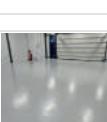
**FF & E**





## F F & E

Walls and Flooring £-211.98

	<b>Acoustic Panels</b> £105.99 -	Wooden Wall Panel   Black Oak   Premium 3-sided Wood Veneer Product Name <a href="#">ø</a> akuwoodpanel Brand	- Product Code - Lead time -	Black Colour - Finish
	<b>Concrete</b> £6.99 -	Blue Circle General Purpose Grey Cement, 25kg Bag Product Name <a href="#">ø</a> B&Q Brand	5018719100046 Product Code - Lead time -	Grey Colour Concrete Finish
	<b>Steel</b> £52 -	GoodHome Polished Steel Single Brushed effect Stainless steel Splashback Product Name <a href="#">ø</a> B&Q Brand	- Product Code - Lead time -	Steel Colour Polished Finish
	<b>VOC Paint for Walls</b> £34 -	Dulux Walls & ceilings Natural slate Matt Emulsion paint, 5L Product Name <a href="#">ø</a> Dulux Brand	5010212647776 Product Code - Lead time -	Grey Colour - Finish
	<b>Pedisystems Entrance Matting</b> UNKNOWN -	BaseTread GB-200 Product Name Base Specialties Brand	- Product Code - Lead time -	Black Colour - Finish
	<b>Epoxy Resin</b> £123.54 -	Anti Slip Epoxy Resin Floor Paint Product Name <a href="#">ø</a> Watco Brand	- Product Code - Lead time -	Grey Colour Mid gloss, fine texture Finish
	<b>Toilet / Shower Tiles (Wall)</b> £23.04 /M² -	Havard Grey Stone Effect Wall & Floor Tiles Product Name <a href="#">ø</a> victorianplumbing Brand	HAV3366GRE Product Code - Lead time -	Grey Colour Matt Finish
	<b>Vinyl (LVT or Sheet)</b> £10.99 -	Cement Tile Design Cushioned Vinyl Flooring Sheet Cobalt Grey Product Name <a href="#">ø</a> best4flooring Brand	CU-574-CG Product Code - Lead time -	Blues Colour Sheet Vinyl Finish
	<b>Tiles Floor (Toilets)</b> £24.61 /M² -	Sula Matt White Marble Effect Wall and Floor Tiles Product Name <a href="#">ø</a> victorianplumbing Brand	SUL4545M Product Code - Lead time -	White Colour Matt Finish

Lighting & Ceiling £19,518.75

	<b>Downlighter</b> £19.95 -	Revive Chrome IP65 LED Tiltable Downlight Product Name <a href="#">ø</a> victorianplumbing Brand	RV175BCHR Product Code - Lead time -	White Colour - Finish
	<b>Air Conditioner</b> £637.99 -	iPAC Ceiling Cassette Air Conditioning Multi Indoor Unit Product Name <a href="#">ø</a> iPAC Brand	iPAC-120CC-I Product Code - Lead time -	White Colour - Finish
	<b>Smoke Detector</b> £19.99 -	FireAngel SW1-R Mains Interlinked Optical Smoke Alarm Product Name <a href="#">ø</a> FireAngel Brand	396CC Product Code - Lead time -	White Colour - Finish



## F F & E

oak Material	- Width (mm) 2400 Length (mm)	600 Height (mm) - Depth (mm)	£105.99 Unit RRP £-211.98 Total RRP	£105.99 Client Unit £-211.98 Client Total	- Supplier Company - Supplier Email
Cement Material	N/A Width (mm) N/A Length (mm)	N/A Height (mm) N/A Depth (mm)	Unit RRP Total RRP	Client Unit £0.00 Client Total	- Supplier Company - Supplier Email
Stainless steel Material	600 Width (mm) - Length (mm)	800 Height (mm) 10 Depth (mm)	£52.00 Unit RRP £0.00 Total RRP	£52.00 Client Unit £0.00 Client Total	- Supplier Company - Supplier Email
- Material	- Width (mm) - Length (mm)	- Height (mm) Depth (mm)	£34.00 Unit RRP £0.00 Total RRP	£34.00 Client Unit £0.00 Client Total	- Supplier Company - Supplier Email
Corrosion-Resistant 6063-T5&T6 aluminum with numerous insert options Material	UNKNOWN Width (mm) UNKNOWN Length (mm)	UNKNOWN Height (mm) UNKNOWN Depth (mm)	Unit RRP Total RRP	Client Unit £0.00 Client Total	- Supplier Company - Supplier Email
- Material	N/A Width (mm) N/A Length (mm)	N/A Height (mm) N/A Depth (mm)	£123.54 Unit RRP £0.00 Total RRP	£123.54 Client Unit £0.00 Client Total	- Supplier Company - Supplier Email
Porcelain Material	660 Width (mm) 330 Length (mm)	- Height (mm) 9 Depth (mm)	£23.04 Unit RRP £0.00 Total RRP	£23.04 Client Unit £0.00 Client Total	- Supplier Company - Supplier Email
Cement Material	3 Width (mm) 3 Length (mm)	- Height (mm) - Depth (mm)	£10.99 Unit RRP £0.00 Total RRP	£10.99 Client Unit £0.00 Client Total	- Supplier Company - Supplier Email
Porcelain Material	450 Width (mm) 450 Length (mm)	- Height (mm) 85 Depth (mm)	£24.61 Unit RRP £0.00 Total RRP	£24.61 Client Unit £0.00 Client Total	- Supplier Company - Supplier Email
Chrome Material	93 Width (mm) 93 Length (mm)	- Height (mm) - Depth (mm)	£19.95 Unit RRP £379.05 Total RRP	£19.95 Client Unit £379.05 Client Total	- Supplier Company - Supplier Email
Metal Material	570 Width (mm) 570 Length (mm)	260 Height (mm) - Depth (mm)	£637.99 Unit RRP £19,139.70 Total RRP	£637.99 Client Unit £19,139.70 Client Total	- Supplier Company - Supplier Email
- Material	105 Width (mm) 105 Length (mm)	59 Height (mm) - Depth (mm)	£19.99 Unit RRP £0.00 Total RRP	£19.99 Client Unit £0.00 Client Total	- Supplier Company - Supplier Email



## F F & E

 <b>Fan System</b> £81.99 54410	Vent-Axia 441625 Lo-Carbon Silhouette 100mm (4") Axial Bathroom Extractor Fan with Timer White 230V Product Name ↗ Vent-Axia Brand	54410 Product Code - Lead time 0 Qty	White Colour - Finish	ABS Mater
 <b>Emergency Light</b> - -	Emergency Function 12W/18W Adjustable Wattage Tri Color CCT LED IP65 Bulkhead Product Name ↗ Uno Lighting Brand	- Product Code - Lead time 0 Qty	White Colour - Finish	Bezel Mater

Built-in Fixtures & Access Equipment £0.00

 <b>Single Door</b> £584.00 -	Full Panel Single Door – Flintmore Solid Product Name ↗ AWM Windows and Doors Brand	88795 Product Code - Lead time 0 Qty	Black Colour - Finish	Flint Mater
 <b>Double Door</b> £902.66 -	Anthracite Grey uPVC French Doors – Made to Measure Product Name ↗ AWM Windows and Doors Brand	756133 Product Code - Lead time 0 Qty	Grey Colour - Finish	- Mater
 <b>Turnstile Door</b> £3,195.00 -	Harby Full Height Pedestrian Turnstile Product Name ↗ Store Fitting Direct Brand	SFD30-HARBY SINGLE FULL HEIGHT Product Code - Lead time 0 Qty	Black Colour - Finish	Gavia Mater
 <b>Elevator</b> - -	N/A Product Name N/A Brand	- Product Code - Lead time 0 Qty	Any Colour Any Finish	- Mater
 <b>Automatic Telescopic Door</b> - -	SDK400 Series - Automatic Telescopic Sliding Door Product Name ↗ North Valley Metal Brand	SDK400 Series Product Code - Lead time 0 Qty	Any Colour Any Finish	Any Mater
 <b>Lockers</b> £290.95 -	Equinox Black Antibacterial Probe Lockers Product Name ↗ ActiveCoat Brand	15879841 Product Code - Lead time 0 Qty	- Colour - Finish	Blac Mater

Gym Equipments & Others £171,293.85

 <b>Treadmill</b> £2,449 -	Commercial Treadmill, Speed 1-16KM/H, 0-15% Auto Incline Product Name ↗ JTX Brand	- Product Code - Lead time 45 Qty	- Colour - Finish	Blac Mater
 <b>Rowing Machine</b> £499 -	JTX Freedom Air Rowing Machine Product Name ↗ JTX Brand	- Product Code - Lead time 5 Qty	Black Colour - Finish	- Mater
 <b>Bike Machine</b> £399 -	JTX Racer-M: Home Connect+ Bike Product Name ↗ JTX Brand	- Product Code - Lead time 12 Qty	Black Colour - Finish	- Mater
 <b>Stair Climber</b> £3,945.00 -	StairMaster 4G Gauntlet StepMill Product Name ↗ StairMaster Brand	- Product Code - Lead time 6 Qty	Black Colour - Finish	- Mater
 <b>Rubber Mat</b> £44.99 -	BodyMax Enduramax Black Rubber Gym Floor Tiles Product Name ↗ BodyMax Brand	- Product Code - Lead time 30 Qty	- Colour - Finish	Rubl Mater



## F F & E

ABS Plastic Material	160 Width (mm)	160 Height (mm)	£81.99 Unit RRP	£81.99 Client Unit	- Supplier Company
	- Length (mm)	97 Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
Bezel Material	320 Width (mm)	75 Height (mm)	£28.99 Unit RRP	£28.99 Client Unit	- Supplier Company
	320 Length (mm)	75 Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
Flintmore Solid Material	- Width (mm)	1800 Height (mm)	£584.00 Unit RRP	£584.00 Client Unit	- Supplier Company
	900 Length (mm)	150 Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
- Material	- Width (mm)	1800 Height (mm)	£902.66 Unit RRP	£902.66 Client Unit	- Supplier Company
	1800 Length (mm)	- Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
Gavinised Finish Material	1400 Width (mm)	2125 Height (mm)	£3,195.00 Unit RRP	£3,195.00 Client Unit	- Supplier Company
	- Length (mm)	- Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
- Material	Any Width (mm)	Any Height (mm)	Unit RRP	Client Unit	- Supplier Company
	Any Length (mm)	Any Depth (mm)	Total RRP	£0.00 Client Total	- Supplier Email
Any Material	Any Width (mm)	Any Height (mm)	Unit RRP	Client Unit	- Supplier Company
	Any Length (mm)	Any Depth (mm)	Total RRP	£0.00 Client Total	- Supplier Email
Black powder coated Material	305 Width (mm)	1780 Height (mm)	£290.95 Unit RRP	£290.95 Client Unit	- Supplier Company
	- Length (mm)	305 Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
Black Material	880 Width (mm)	1540 Height (mm)	£2,449.00 Unit RRP	£2,449.00 Client Unit	- Supplier Company
	2160 Length (mm)	- Depth (mm)	£110,205.00 Total RRP	£110,205.00 Client Total	- Supplier Email
- Material	550 Width (mm)	880 Height (mm)	£499.00 Unit RRP	£499.00 Client Unit	- Supplier Company
	2300 Length (mm)	- Depth (mm)	£2,495.00 Total RRP	£2,495.00 Client Total	- Supplier Email
- Material	610 Width (mm)	1290 Height (mm)	£399.00 Unit RRP	£399.00 Client Unit	- Supplier Company
	1450 Length (mm)	- Depth (mm)	£4,788.00 Total RRP	£4,788.00 Client Total	- Supplier Email
- Material	740 Width (mm)	1630 Height (mm)	£3,945.00 Unit RRP	£3,945.00 Client Unit	- Supplier Company
	1370 Length (mm)	- Depth (mm)	£23,670.00 Total RRP	£23,670.00 Client Total	- Supplier Email
Rubber Material	10 Width (mm)	- Height (mm)	£44.99 Unit RRP	£44.99 Client Unit	- Supplier Company
	10 Length (mm)	- Depth (mm)	£1,349.70 Total RRP	£1,349.70 Client Total	- Supplier Email



## F F & E

	<b>Benches</b> £399.95	Mirafit M450 Adjustable Weight Bench Product Name Ø  Mirafit Brand	- Product Code  - Lead time 42 Qty	- Colour  - Finish
	<b>Benches with Rack</b> £99.95	Mirafit M1 Folding Weight Bench with Dip Station Product Name Ø  - Brand	- Product Code  - Lead time 14 Qty	- Colour  - Finish
	<b>Sit up Bench</b> £129.95	Mirafit Sit Up Bench Product Name Ø  - Brand	- Product Code  - Lead time 3 Qty	- Colour  - Finish
	<b>Dumbell Hanger</b> £599.95	Mirafit Rubber Dumbbell Set with Storage Rack Product Name Ø  - Brand	- Product Code  - Lead time 12 Qty	- Colour  - Finish
	<b>Smith Machine</b> £499.95	Mirafit M210 Half Power Rack with Pulley System Product Name Ø  - Brand	- Product Code  - Lead time 6 Qty	- Colour  - Finish
	<b>Pull Up Station</b> £249.95	Mirafit Commercial Series VKR Dip/Pull Up Station Product Name Ø  - Brand	- Product Code  - Lead time 0 Qty	- Colour  - Finish
	<b>Leg Raise</b> £179.10	Tunturi UB60 Weight Bench Product Name Ø  - Brand	- Product Code  - Lead time 0 Qty	- Colour  - Finish
	<b>Chest Press</b> £539.10	Marcy PM4400 Home Multi Gym Product Name Ø  - Brand	- Product Code  - Lead time 0 Qty	- Colour  - Finish
	<b>Machine Press</b> £879.20	Taurus Pro Iso Seated Shoulder Press Product Name Ø  - Brand	- Product Code  - Lead time 0 Qty	- Colour  - Finish
	<b>Cable Extension</b> £584.10	BodyMax Cable Motion Rack System Product Name Ø  - Brand	- Product Code  - Lead time 0 Qty	- Colour  - Finish
	<b>Indoor Bungee Jumping</b> £105.00	PRIOR FITNESS Professional Bungee Fitness Equipment Set, 4D Bungee Dance Rope, Exercise Bungee Heavy Bungee Cord, Antigravity Sturdy Bungee Workout Equipment for Home Gym Studio Indoor Exercise Product Name Ø  PRIOR FITNESS Brand	- Product Code  - Lead time 0 Qty	Black Colour  - Finish

Changing Room £9,256.92

	<b>Benches</b> £370.95	Single Sided Cloakroom Benches Product Name Ø  Probe Brand	15895515 Product Code  - Lead time 0 Qty	Black Colour  - Finish
	<b>Urinal toilet</b> £99.95	Arezzo Modern Urinal Product Name Ø  victorianplumbing Brand	AZURI Product Code  - Lead time 0 Qty	White Colour  Gloss Finish
	<b>Sink</b> £599.00	Connect Vanity Unit Sink Product Name Ø  cubiclewarehouse Brand	- Product Code  - Lead time 2 Qty	- Colour  - Finish



## F F & E

Metal/Leather Material	705 Width (mm)	450 Height (mm)	£399.95 Unit RRP	£399.95 Client Unit	- Supplier Company
	1365 Length (mm)	- Depth (mm)	£16,797.90 Total RRP	£16,797.90 Client Total	- Supplier Email
Metal/Leather Material	250 Width (mm)	- Height (mm)	£99.95 Unit RRP	£99.95 Client Unit	- Supplier Company
	1110 Length (mm)	5 Depth (mm)	£1,399.30 Total RRP	£1,399.30 Client Total	- Supplier Email
- Material	- Width (mm)	- Height (mm)	£129.95 Unit RRP	£129.95 Client Unit	- Supplier Company
	- Length (mm)	- Depth (mm)	£389.85 Total RRP	£389.85 Client Total	- Supplier Email
- Material	- Width (mm)	800 Height (mm)	£599.95 Unit RRP	£599.95 Client Unit	- Supplier Company
	2245 Length (mm)	570 Depth (mm)	£7,199.40 Total RRP	£7,199.40 Client Total	- Supplier Email
- Material	1610 Width (mm)	2200 Height (mm)	£499.95 Unit RRP	£499.95 Client Unit	- Supplier Company
	- Length (mm)	1720 Depth (mm)	£2,999.70 Total RRP	£2,999.70 Client Total	- Supplier Email
- Material	- Width (mm)	- Height (mm)	£249.95 Unit RRP	£249.95 Client Unit	- Supplier Company
	- Length (mm)	- Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
- Material	- Width (mm)	- Height (mm)	£179.10 Unit RRP	£179.10 Client Unit	- Supplier Company
	- Length (mm)	- Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
- Material	- Width (mm)	- Height (mm)	£539.10 Unit RRP	£539.10 Client Unit	- Supplier Company
	- Length (mm)	- Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
- Material	- Width (mm)	- Height (mm)	£879.20 Unit RRP	£879.20 Client Unit	- Supplier Company
	- Length (mm)	- Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
- Material	- Width (mm)	- Height (mm)	£584.10 Unit RRP	£584.10 Client Unit	- Supplier Company
	- Length (mm)	- Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
- Material	- Width (mm)	- Height (mm)	£105.00 Unit RRP	£105.00 Client Unit	- Supplier Company
	- Length (mm)	- Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
Zeolite Material	1500 Width (mm)	1350 Height (mm)	£370.95 Unit RRP	£370.95 Client Unit	- Supplier Company
	- Length (mm)	375 Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
Quality Vitreous China Material	310 Width (mm)	570 Height (mm)	£99.95 Unit RRP	£99.95 Client Unit	- Supplier Company
	- Length (mm)	310 Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
- Material	- Width (mm)	850mm Height (mm)	£599.00 Unit RRP	£599.00 Client Unit	- Supplier Company
	2000mm Length (mm)	600mm Depth (mm)	£1,198.00 Total RRP	£1,198.00 Client Total	- Supplier Email



## F F & E

	<b>Toilet</b> £229.95 - -	Metro Rimless Close Coupled Modern Toilet + Slim Soft Close Seat Product Name ⚡ victorianplumbing Brand	METCCSLM Product Code - Lead time 12 Qty	White Colour - Finish	- Mater
	<b>Mirror</b> £213.96 - -	Roca Victoria-N Rectangular Mirror Product Name ⚡ victorianplumbing Brand	812336406 Product Code - Lead time 2 Qty	N/A Colour - Finish	Alun Mater
	<b>Toilet (Disabled)</b> £345.95 - -	Nuie Close Coupled Doc M Pack 5 x Grab Rails and Mixer Tap - White Product Name ⚡ heatandplumb Brand	PMDOCMP001 Product Code - Lead time 4 Qty	White Colour - Finish	Vitre Mater
	<b>Toilet Cubicle Door Pack</b> £264 – £282 - -	Toilet Cubicle Door Pack Product Name ⚡ Cubicle Store Brand	CSDOOR Product Code - Lead time 12 Qty	Dust Grey Colour - Finish	- Mater
	<b>Basin</b> £79.95 - -	Cubo Basin + Full Pedestal Product Name ⚡ victorianplumbing Brand	CBFP Product Code - Lead time 4 Qty	White Colour - Finish	- Mater
	<b>Shower</b> £129.95 - -	Grohe Precision Flow Thermostatic Shower Mixer 1/2" with Shower Set for Low Pressure Product Name ⚡ Grohe Brand	34807000 Product Code - Lead time 0 Qty	Silver Colour Chrome Finish	- Mater
	<b>Hand Dryer</b> £179.95 - -	Blue Dry Blue Storm Hand Dryer - White Product Name ⚡ BlueDry Brand	HD-BD1004W Product Code - Lead time 0 Qty	White Colour - Finish	- Mater
	<b>Sauna Seating</b> £406.00 - -	Tylo Pre-fabricated Sauna Interior Benches Aspen Alder Product Name ⚡ Tylo Brand	- Product Code - Lead time 0 Qty	Brown Colour - Finish	Ther Mater

Total Schedule Value  
£199,857.54



## F F & E

-	375 Width (mm)	820 Height (mm)	£229.95 Unit RRP	£229.95 Client Unit	- Supplier Company
	650 Length (mm)	- Depth (mm)	£2,759.40 Total RRP	£2,759.40 Client Total	- Supplier Email
Aluminium Material	19 Width (mm)	700 Height (mm)	£213.96 Unit RRP	£213.96 Client Unit	- Supplier Company
	1200 Length (mm)	- Depth (mm)	£427.92 Total RRP	£427.92 Client Total	- Supplier Email
Vitreous China Material	- Width (mm)	- Height (mm)	£345.95 Unit RRP	£345.95 Client Unit	- Supplier Company
	- Length (mm)	- Depth (mm)	£1,383.80 Total RRP	£1,383.80 Client Total	- Supplier Email
-	- Width (mm)	- Height (mm)	£264.00 Unit RRP	£264.00 Client Unit	- Supplier Company
	- Length (mm)	1600 Depth (mm)	£3,168.00 Total RRP	£3,168.00 Client Total	- Supplier Email
-	520 Width (mm)	800 Height (mm)	£79.95 Unit RRP	£79.95 Client Unit	- Supplier Company
	- Length (mm)	- Depth (mm)	£319.80 Total RRP	£319.80 Client Total	- Supplier Email
-	317 Width (mm)	620 Height (mm)	£129.95 Unit RRP	£129.95 Client Unit	- Supplier Company
	- Length (mm)	81 Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
-	237 Width (mm)	270 Height (mm)	£179.95 Unit RRP	£179.95 Client Unit	- Supplier Company
	- Length (mm)	200 Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email
ThermoAspen Material	446mm Width (mm)	- Height (mm)	£406.00 Unit RRP	£406.00 Client Unit	- Supplier Company
	1520mm Length (mm)	- Depth (mm)	£0.00 Total RRP	£0.00 Client Total	- Supplier Email





# BUILDING REGULATIONS

Part B: Fire Safety

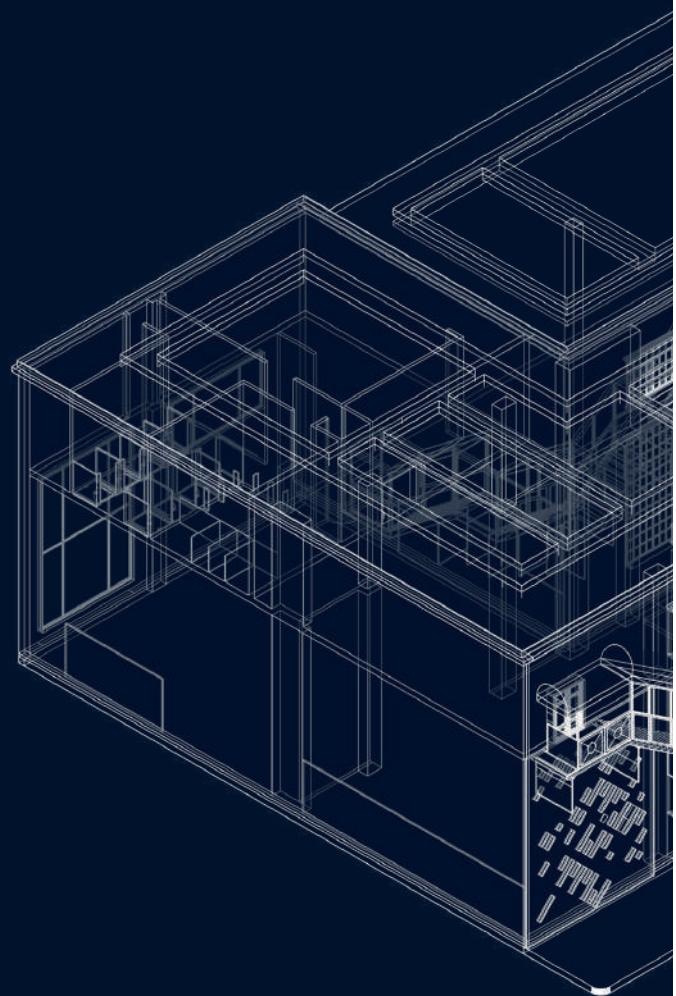
Part K: Protection from Falling

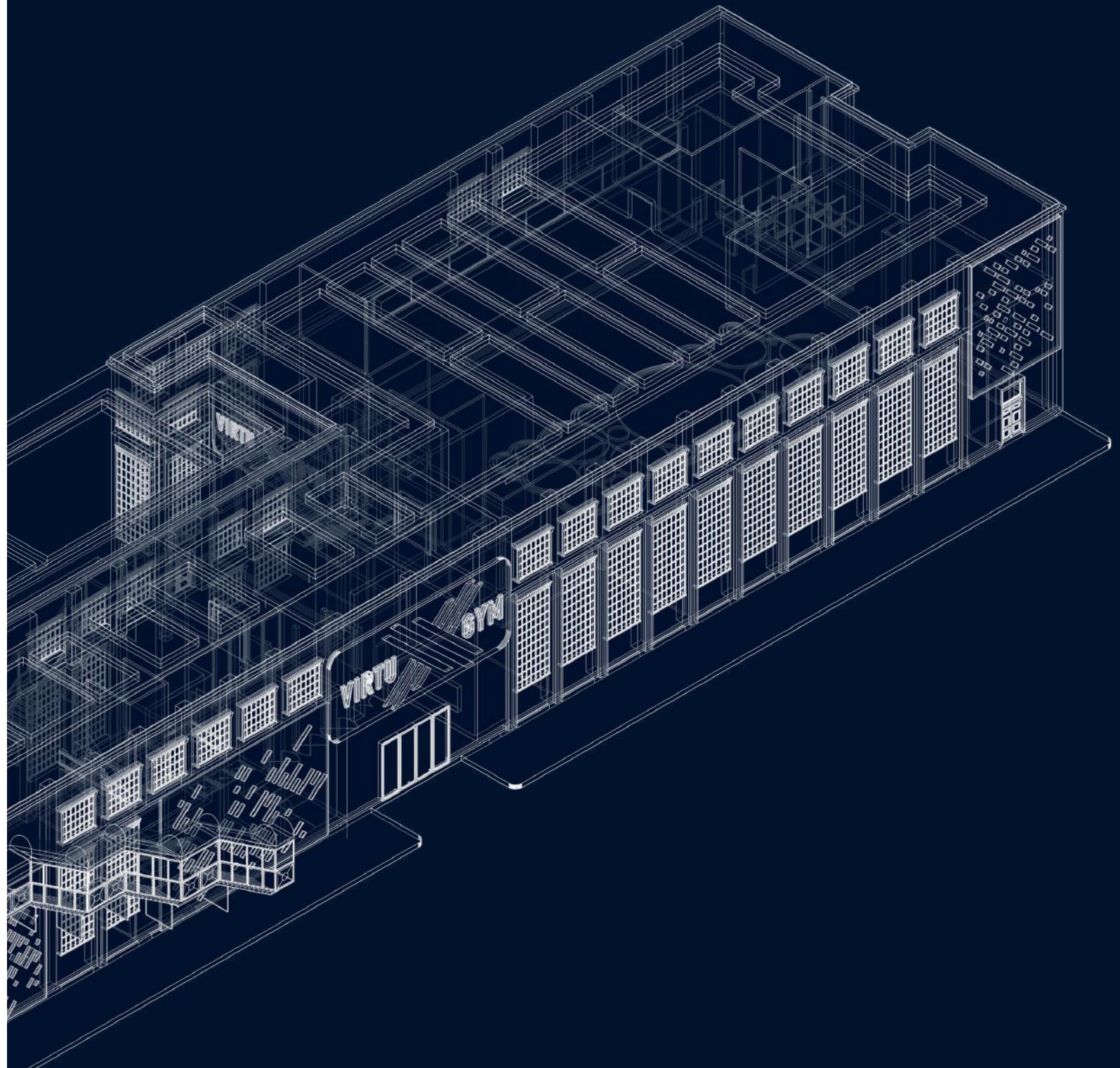
Part M: Accessibility



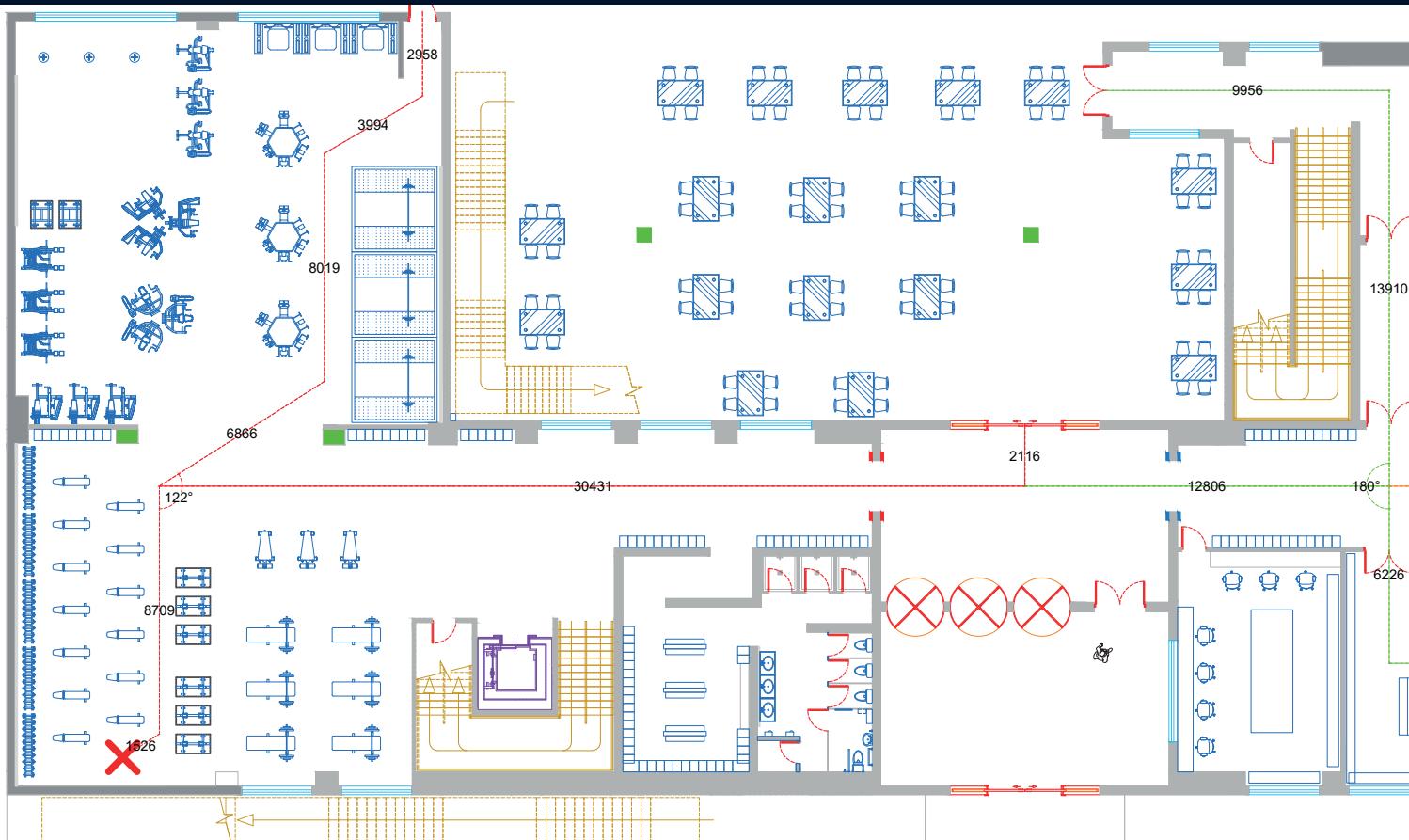


# PART B





## PART B



**Table 0.1 Continued**

Title	Group	Purpose for which the building or compartment of a building is intended to be used
Office	3	Offices or premises used for any of the following and their control: <ul style="list-style-type: none"><li>• administration</li><li>• clerical work (including writing, bookkeeping, sorting papers, filing, typing, duplicating, machine calculating, drawing and the editorial preparation of matter for publication, police and fire and rescue service work)</li><li>• handling money (including banking and building society work)</li><li>• communications (including postal, telegraph and radio communications)</li><li>• radio, television, film, audio or video recording</li><li>• performance (premises not open to the public).</li></ul>
Shop and commercial	4	Shops or premises used for either of the following: <ul style="list-style-type: none"><li>• A retail trade or business (including selling food or drink to the public for immediate consumption, retail by auction, self-selection and over-the-counter wholesale trading, the business of lending books or periodicals for gain, the business of a barber or hairdresser, and the rental of storage space to the public).</li><li>• Premises to which the public are invited either:<ul style="list-style-type: none"><li>– to deliver or collect goods in connection with their hire, repair or other treatment</li><li>– (except in the case of repair of motor vehicles) where the public themselves may carry out such repairs or other treatments.</li></ul></li></ul>
Assembly and recreation	5	Places of assembly, entertainment or recreation, including any of the following: <ul style="list-style-type: none"><li>• bingo halls, broadcasting, recording and film studios open to the public, casinos, dance halls</li><li>• entertainment, conference, exhibition and leisure centres</li><li>• funfairs and amusement arcades</li><li>• museums and art galleries, non-residential clubs, theatres, cinemas, concert halls</li><li>• educational establishments, dancing schools, gyms, swimming pool buildings, riding schools, skating rinks, sports pavilions, sports stadia</li><li>• law courts</li><li>• churches and other buildings of worship, crematoria</li><li>• libraries open to the public, non-residential day centres, clinics, health centres and surgeries</li><li>• passenger stations and termini for air, rail, road or sea travel</li><li>• public toilets</li><li>• zoos and menageries.</li></ul>
Industrial	6	Factories and other premises used for any of the following: <ul style="list-style-type: none"><li>• manufacturing, altering, repairing, cleaning, washing, breaking up, adapting or processing any article</li><li>• generating power</li><li>• slaughtering livestock.</li></ul>

In Approved Document B (Fire Safety) Volume 2, Table 0.1 classifies buildings by purpose. Gyms fall under 'Assembly and Recreation' (Purpose Group 5), which includes sports facilities, cinemas, and concert halls.

**Table 2.1 Limitations on travel distance**

Purpose group	Use of the premises or part of the premises	Maximum travel distance <sup>(i)</sup> where travel is possible in:	
		One direction only (m)	More than one direction (m)
2(a)	Residential (institutional)	9	18
2(b)	Residential (other): <ul style="list-style-type: none"><li>a. in bedrooms<sup>(ii)</sup></li><li>b. in bedroom corridors</li><li>c. elsewhere</li></ul>	9	18
3	Office	18	35
4	Shop and commercial	18	45
5	Assembly and recreation: <ul style="list-style-type: none"><li>a. buildings primarily for disabled people</li><li>b. areas with seating in rows</li><li>c. elsewhere</li></ul>	9	18
6	Industrial <sup>(iii)</sup>	25	45
7	Storage and other non-residential <sup>(iv)</sup>	12	25
2-7	Place of special fire hazard <sup>(v)</sup>	25	45
2-7	Plant room or roof-top plant: <ul style="list-style-type: none"><li>a. distance within the room</li><li>b. escape route not in open air (overall travel distance)</li><li>c. escape route in open air (overall travel distance)</li></ul>	12	25
		9 <sup>(vi)</sup>	18 <sup>(vi)</sup>
		60	100

**NOTES:**

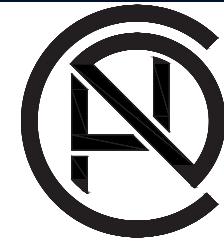
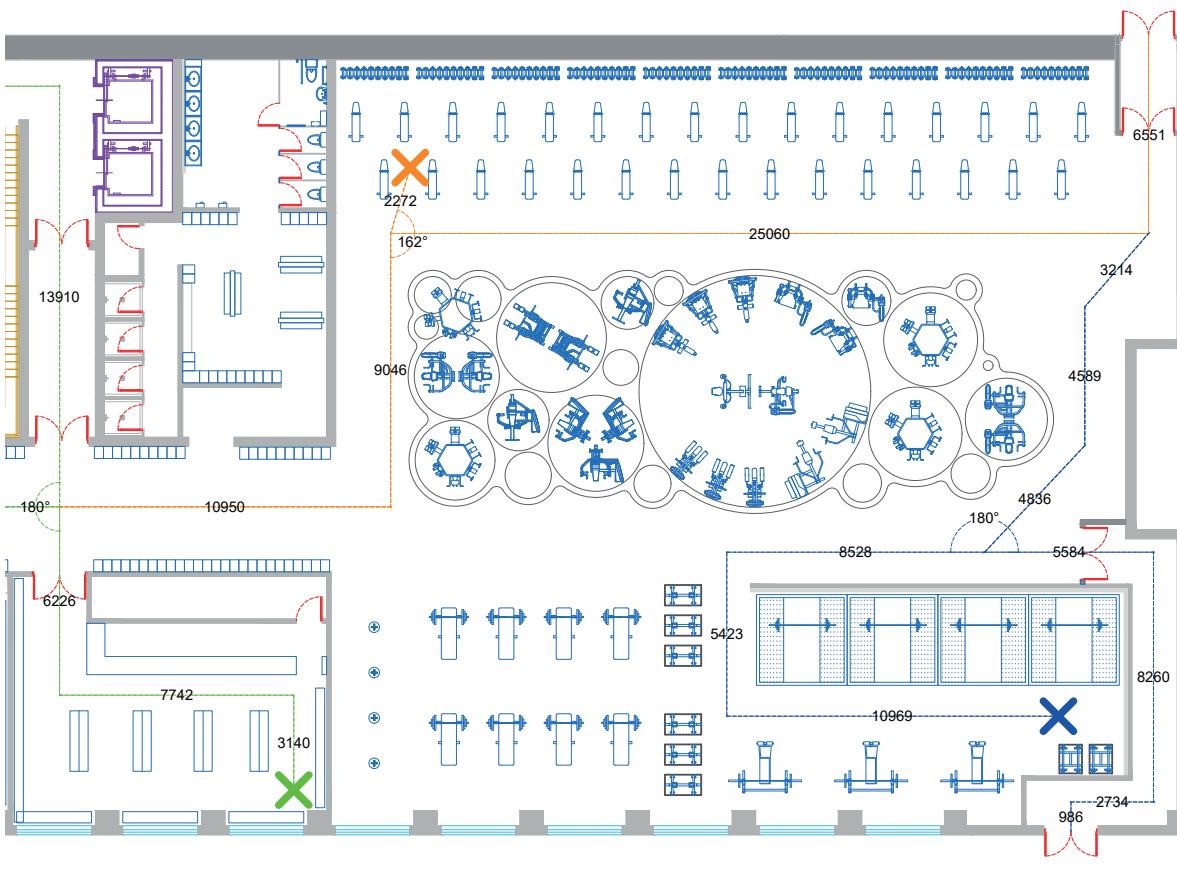
- If the internal layout of partitions, fittings, etc. is not known, direct distances, rather than travel distances, should be assessed. The direct distance should be assumed to be two-thirds of the actual travel distance.
- Maximum part of travel distance within the room. This limit applies within the bedroom and any associated dressing room, bathroom or sitting room, etc. The distance is measured to the door to the protected corridor that serves the room or suite. Sub-item (b) applies from that point along the bedroom corridor to a storey exit.
- In industrial and storage buildings, the appropriate travel distance depends on the level of fire hazard associated with the processes and materials being used.  
Higher hazard includes manufacturing, processing or storage of significant amounts of hazardous goods or materials, including any of the following:
  - Any compressed, liquefied or dissolved gas.
  - Any substance that becomes dangerous by interaction with either air or water.
  - Any liquid substance with a flash point below 65°C, including whisky or other alcoholic liquor.
  - Any corrosive substance.
  - Any oxidising agent.
  - Any substance liable to spontaneous combustion.
  - Any substance that changes or decomposes readily, giving out heat when doing so.
  - Any solid substance with a flash point less than 120°C.
  - Any substance that is likely to spread fire by flowing from one part of a building to another.
- Places of special fire hazard are listed in the definitions in Appendix A.
- Maximum part of travel distance within the room/area. Travel distance outside the room/area should comply with the limits for the purpose group of the building or part.

Gyms fall under **Group 5: Assembly and Recreation** in Approved Document B (Fire Safety) Volume 2 as they are public spaces for group activities, similar to leisure centers and sports halls.

Since evacuation is in **one direction**, Table 2.1 sets the maximum travel distance at **18m**. All travel distances in the gym are within this limit, ensuring full compliance with regulations.



## PART B



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PROJECT:

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PROJECT ADDRESS:

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DRAWING TITLE:

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PART B - FIRE STRATEGY  
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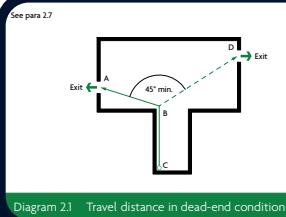


Diagram 2.1 Travel distance in dead-end condition

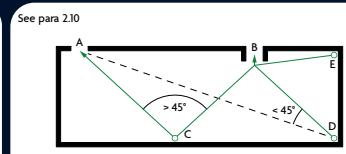


Diagram 2.2 Alternative escape routes

The drawing and references illustrate the **travel distance** from **Table 2.1**, confirming that gyms fall under **Group 5: Assembly and Recreation**. The floor plan outlines a possible **fire exit strategy**, ensuring a safe escape route in case of fire.

According to **Diagrams 2.1 and 2.2**, the angle between two exits must be at least **45 degrees**. All calculated angles exceed this, complying with **Building Regulation Part B**.

**Table 2.1** sets a **maximum travel distance of 18 meters** for one-way escape routes. For multiple escape routes, the angle must be **more than 45 degrees**, ensuring safe evacuation and preventing congestion.

### FIRE EXIT ROUTE A

ROUTE 1 (1526+8709+30,431+2116=42,782MM)  
42,782MM=43M  
43<45 (meaning 43M is less than 45M)

ROUTE 2 (1526+8709+6866+8019+3994+2958=32,072MM)  
32,072MM=32M  
32<45 (meaning 32M is less than 45M)  
32<45  
ROUTE 2 is a quicker route than ROUTE 1

### FIRE EXIT ROUTE B

ROUTE 1 (3140+7742+6226+12806+2116=32,030MM)  
32,030MM=32M  
32<45 (meaning 32M is less than 45M)  
ROUTE 2 (3140+7742+6226+13910+9956=40,974MM)  
40,974MM=41M  
41<45 (meaning 41M is less than 45M)  
32<41  
ROUTE 2 is a quicker route than ROUTE 1

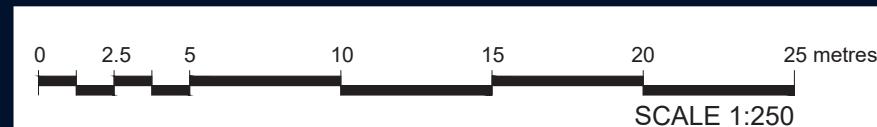
### FIRE EXIT ROUTE C

ROUTE 1 (10969+5423+8528+5584+8260+2734+986=42,484MM)  
42,484MM=42M  
42<45 (meaning 42M is less than 45M)

ROUTE 2 (10969+5423+8528+4836+4589+3214+6551=44,110MM)  
44,110MM=44M  
44<45 (meaning 44M is less than 45M)  
42<44  
ROUTE 1 is a quicker route than ROUTE 2

### FIRE EXIT ROUTE D

ROUTE 1 (2272+25060+6551=33,883MM)  
33,883MM=34M  
34<45 (meaning 34M is less than 45M)  
ROUTE 2 (2272+9046+10950+12806+2116=37,190MM)  
37,190MM=37M  
37<45 (meaning 37M is less than 45M)  
34<37  
ROUTE 1 is a quicker route than ROUTE 2



## PART B



### Width

- D4 Width is measured according to the following.
- For a **door** (or **doorway**), the clear width when the door is open (Diagram D1).
  - For an **escape route**, either of the following.
    - When the route is defined by walls: the width at 1500mm above finished floor level.
    - Elsewhere: the minimum width of passage available between any fixed obstructions.
  - For a **stair**, the clear width between the walls or balustrades. On **escape routes** and stairs, handrails and strings intruding into the width by a maximum of 100mm on each side may be ignored. Rails used for guiding a stair-lift may be ignored, but it should be possible to park the lift's chair or carriage in a position that does not obstruct the stair or landing.

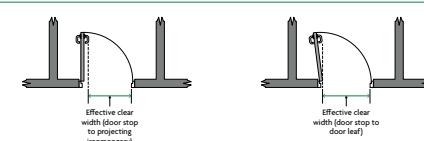


Diagram D1 Measurement of door width

All of the escape route widths shown in the drawing are greater than 2000mm, which exceeds the minimum requirement of 1500mm stated in the Building Regulations. This ensures that the escape routes are wide enough to safely accommodate occupants in case of an emergency and therefore comply with current regulations.

In addition, the door widths are designed in accordance with Diagram D1, which illustrates the effective clear width required for escape doors. These doors provide enough space for safe and easy egress, meeting both safety and accessibility standards.

**Table 2.2 Minimum number of escape routes and exits from a room, tier or storey**

Maximum number of people	Minimum number of escape routes/exits
60	1
600	2
More than 600	3

As my building will have a more than 60 but less than 600 people, 2 escape routes are needed. It is shown on the edge of the building where each doors are located leading to outside. There are 2 fire staircases for the first floor and 6 exits on the ground floor; it complies with table 2.2 of the regulations.

**Table 2.3 Widths of escape routes and exits**

Maximum number of people	Minimum width (mm) <sup>(1)(2)(3)</sup>
60	750 <sup>(4)</sup>
110	850
220	1050
More than 220	5 per person <sup>(5)</sup>

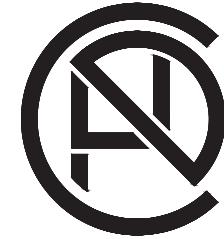
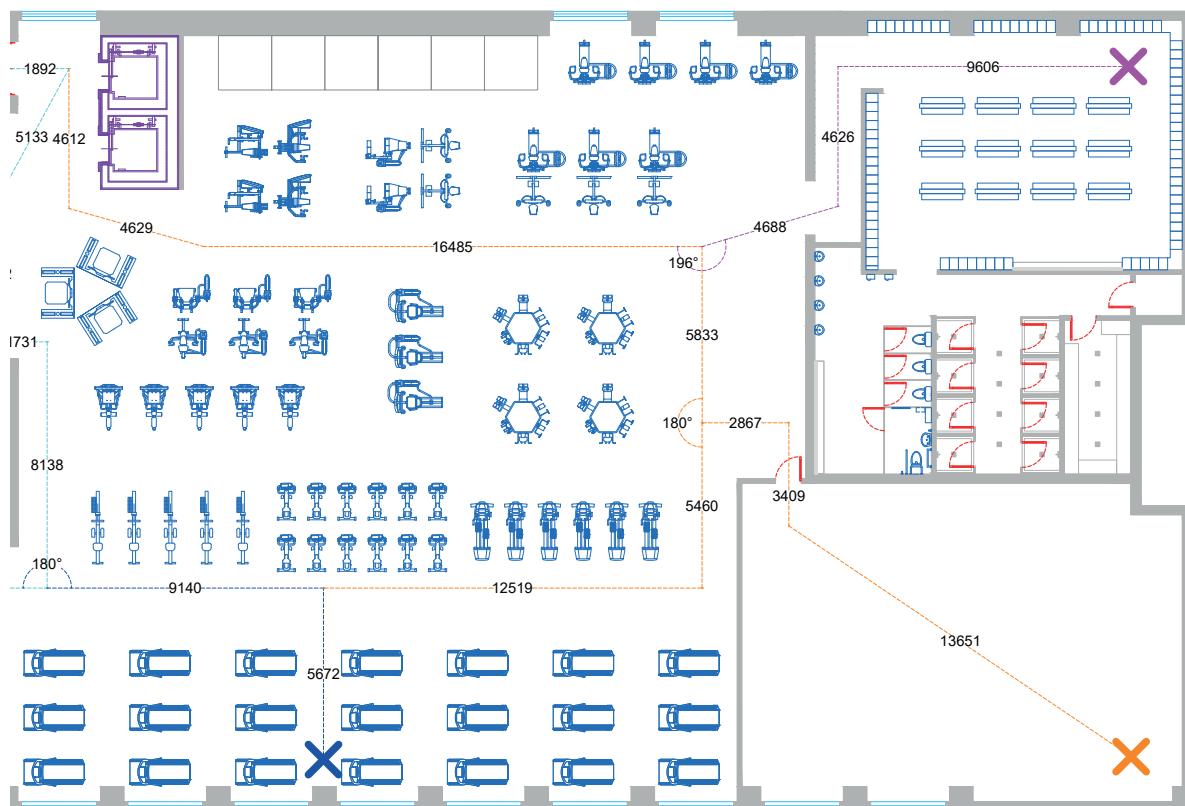
For the maximum of 100 people in the building, it need to be the minimum escape routes and exits must be 850mm. The two escape routes on this floor have a width of 1150 and 1050mm so comply with the regulations stated in table 2.3

### NOTES:

- See Appendix D for methods of measurement.
- Widths may need to be increased to meet guidance in Approved Document M.
- Widths less than 1050mm should not be interpolated.
- May be reduced to 530mm for gangways between fixed storage racking, other than in public areas of 'shop and commercial' (purpose group 4) buildings.
- 5mm/person does not apply to an opening serving fewer than 220 people.



## PART B



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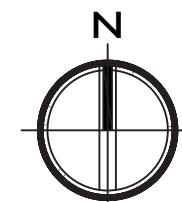
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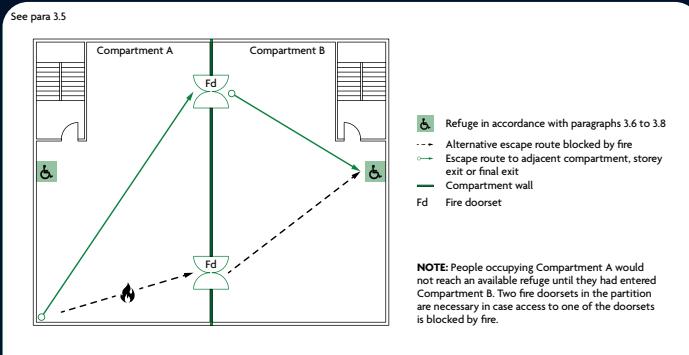


Diagram 3.1 Refuge formed by compartmentation

From point 3.6, the refugee space need to be the minimum of 900mm by 1400mm. The area shows the dimension of 1800mm by 2800mm which this complys with the Approved Document Part B

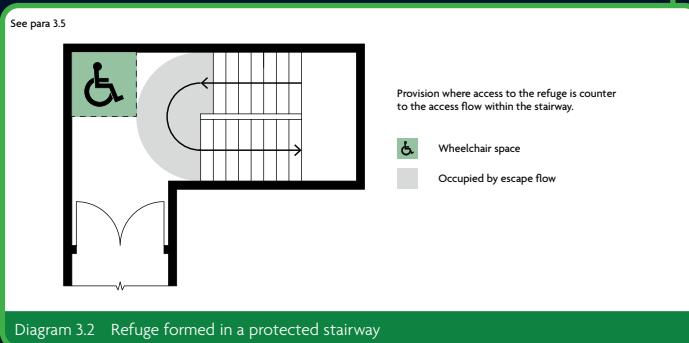
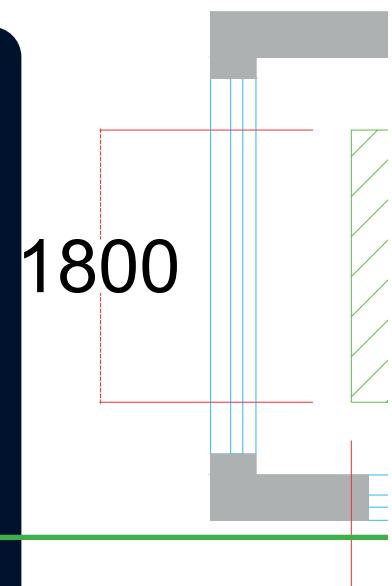


Diagram 3.2 Refuge formed in a protected stairway

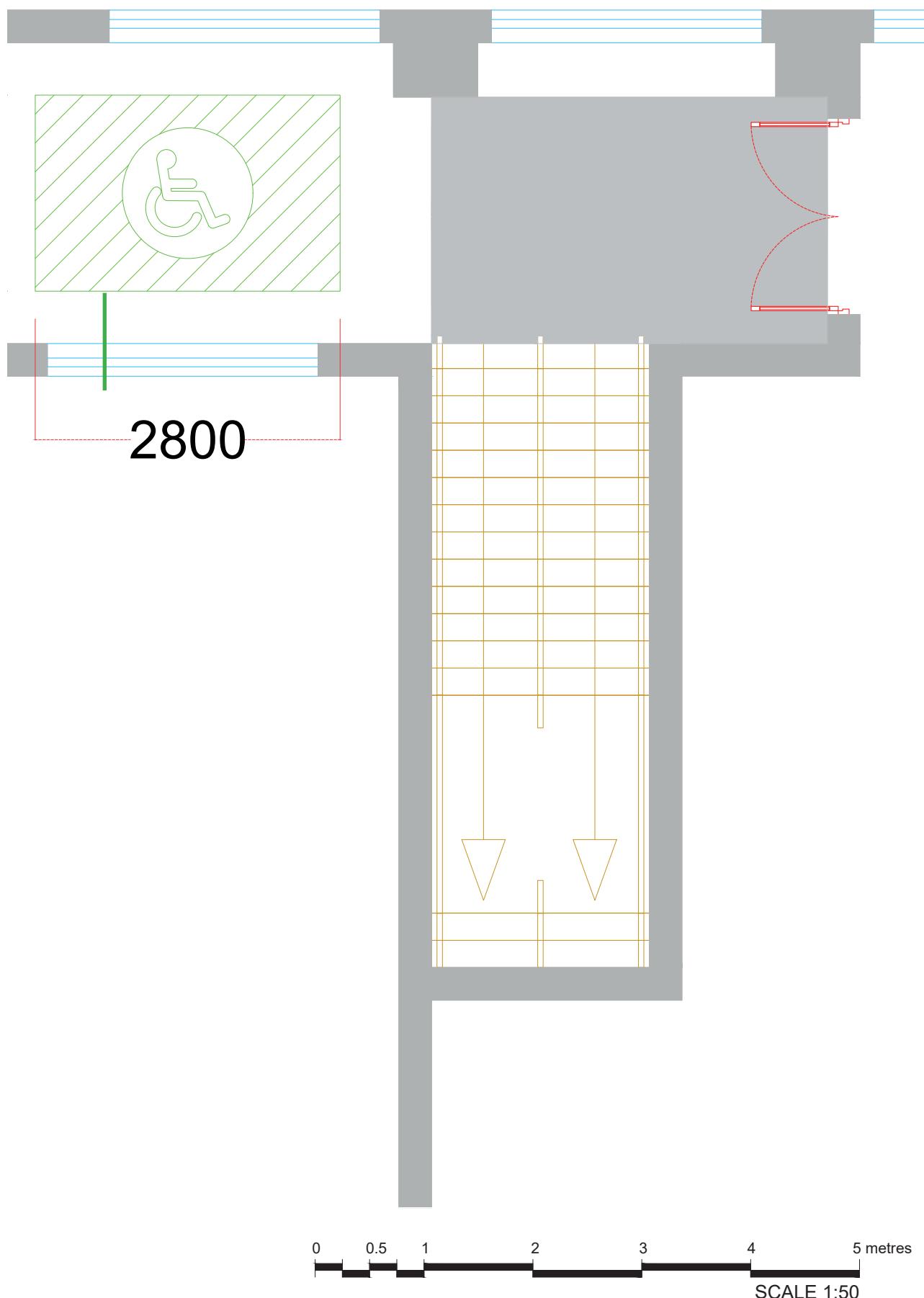
For the refugee space from Diagram 3.2, The wheelchair need to have spaces that is not obstructed the escape flow as it needs to be avoided.

it need to be the minimum of 900mm by 1400mm. The area shows the dimension of 1800mm by 2800mm which this complys with the Approved Document Part B.

- #### Provision of refuges
- 3.4 Refuges form part of the management plan and offer relatively safe areas for people to wait for a short period only. Refuges should meet the following conditions.
- Refuges should be provided on every storey (except ones consisting only of plant rooms) of each protected stairway providing an exit from that storey.
  - Refuges do not need to be located within the stair enclosure, but should enable direct access to the stair.
  - The number of refuge spaces does not need to equal the number of wheelchair users who may be in the building. A single refuge may be occupied by more than one person during the evacuation procedure.
- 3.5 The following are both examples of satisfactory refuges.
- An enclosure such as a compartment (Diagram 3.1), protected lobby, protected corridor or protected stairway (Diagram 3.2).
  - An area in the open air, such as a flat roof, balcony, podium or similar place, that meets both of the following.
    - It is protected (or remote) from any fire risk.
    - It has its own means of escape.
- 3.6 Refuges should be a minimum of 900mm × 1400mm in size and accessible by someone in a wheelchair. Where sited in a protected stairway, protected lobby or protected corridor, they should not reduce the width of the escape route or obstruct the flow of people escaping.
- 3.7 Refuges should be provided with an emergency voice communication (EVC) system complying with BS 5839-9. It should consist of Type B outstations communicating with a master station in the building control room (if one exists) or next to the fire detection and alarm panel. In some buildings, wireless technology may be more appropriate.
- 3.8 Refuges and evacuation lifts should be clearly identified. In protected lobbies and protected stairways there should be a blue mandatory sign worded 'Refuge – keep clear' in addition to fire safety signs.
- 3.9 Paragraph 5.32 gives guidance on using lifts, including evacuation lifts, during a fire.



## PART B



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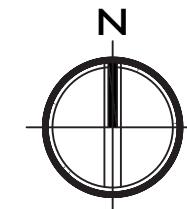
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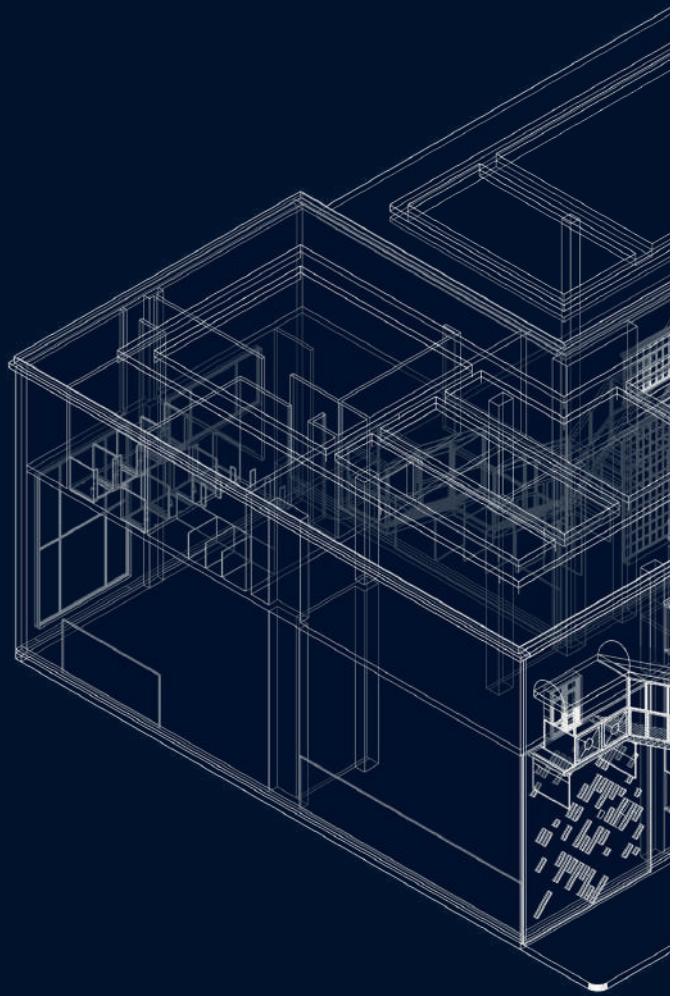
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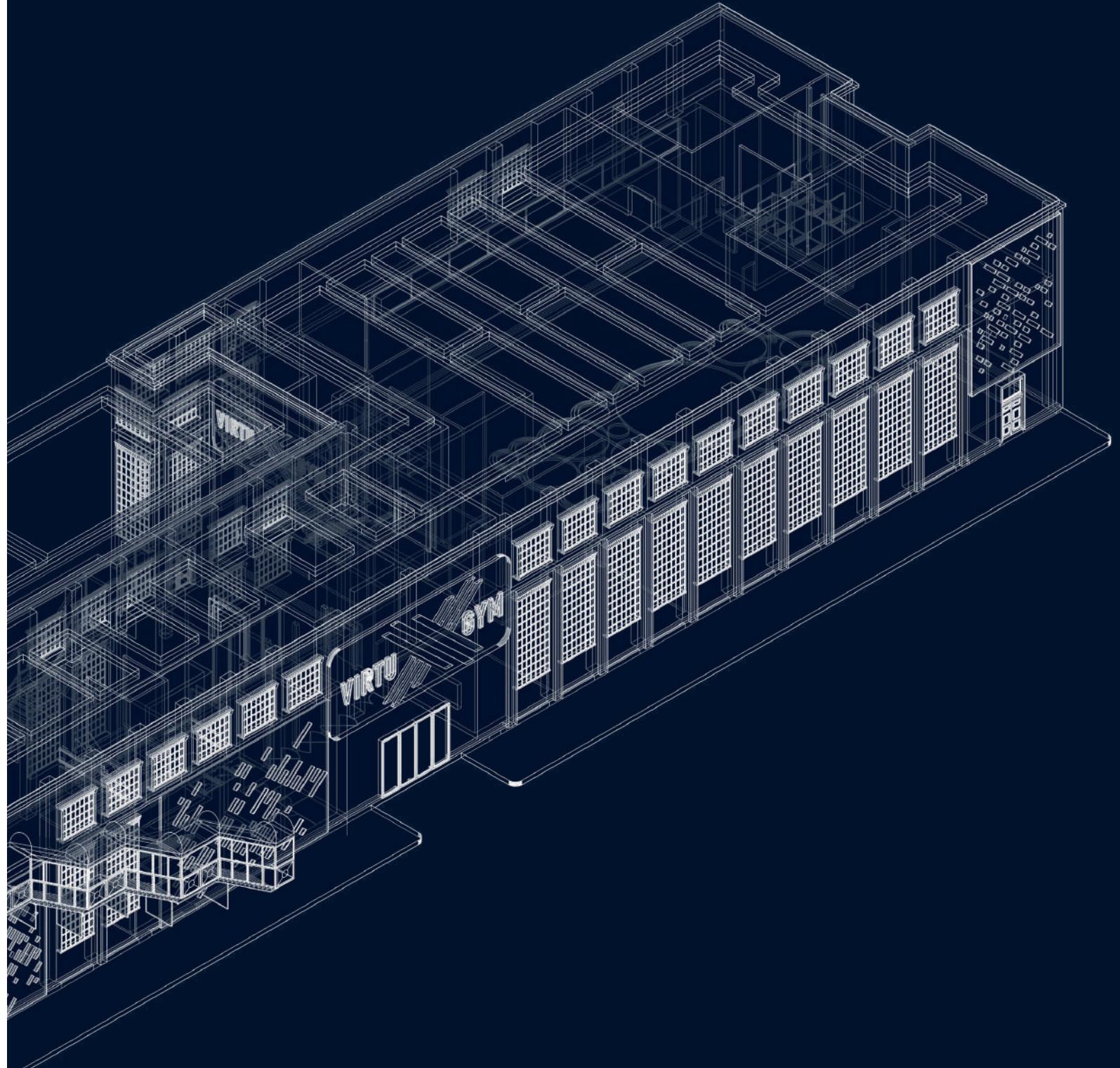


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# PART K





**Table 1.1 Rise and going**

	Rise*		Going*	
	Minimum (mm)	Maximum (mm)	Minimum (mm)	Maximum (mm)
Private stair <sup>1,2</sup>	150	220	220	300
Utility stair	150	190	250	400
General access stair <sup>3</sup>	150	170	250	400

Notes:

- [1] The maximum pitch for a private stair is 42°.
  - [2] For dwellings, for external tapered steps and stairs that are part of the building the going of each step should be a minimum of 280mm.
  - [3] For school buildings, the preferred going is 280mm and rise is 150mm.
- \* The normal relationship between the dimensions of the rise and going is: twice the rise plus the going ( $2R + G$ ) equals between 550mm and 700mm.

For existing buildings the dimensional requirements in Table 1.1 should be followed, unless due to dimensional constraints it is not possible. Any alternative proposal should be agreed with the relevant building control body and included in an access strategy (refer to Approved Document M).

For a gym, the stairs are classified as general access stairs, as they are used by the public and building occupants as part of the primary circulation routes within the building.

According to Table 1.1 of Approved Document K, the required rise must be between 150mm and 170mm, while the going should be between 250mm and 400mm. The stairs I designed have a rise of 170mm and a going of 250mm, which fully complies with Part K of the Building Regulations.

### Width of flights of stairs

#### For buildings other than dwellings

1.14 For stairs that form part of means of escape, refer also to Approved Document B: Fire safety, Volume 2 – Buildings other than dwellinghouses.

1.15 For flights of stairs, provide all of the following.

- A minimum stair width between enclosing walls, strings or upstands of 1200mm.
- A minimum width between handrails of 1000mm.
- If the flight is more than 2m wide, divide it into flights a minimum of 1000mm wide, as shown in Diagram 1.5
- For access for maintenance, see paragraph 1.42.

See para 1.15

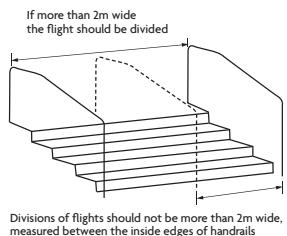


Diagram 1.5 Dividing flights

The width of the stair flight in the gym must comply with Part K of the Building Regulations, which ensures that stairs provide safe and sufficient space for users. This regulation specifies the minimum stair width to accommodate movement efficiently.

While the required minimum width is 1200mm, I have designed the stairs to be 2000mm wide, which remains within compliance. However, according to Diagram 1.5, if the stair width exceeds 2000mm, it must be divided with an additional handrail in the center to improve accessibility and safety. This ensures that users have proper support while navigating the stairs and aligns with the necessary regulations for wider staircases.

### Length of flights of stairs

#### For all buildings

1.17 If stairs have more than 36 risers in consecutive flights, make a minimum of one change of direction between flights, as shown in Diagram 1.6.

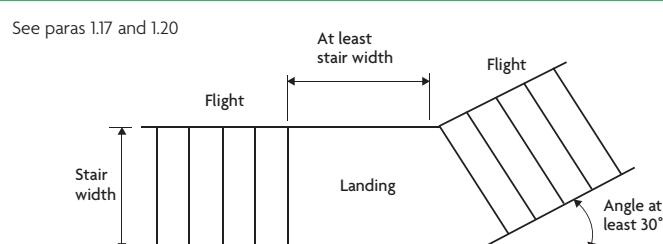


Diagram 1.6 Change of direction in flights

According to Diagram 1.6 of Approved Document K, the flight of stairs in the gym must comply with the regulations to ensure safety and accessibility. This diagram specifies the requirements for the number of risers per flight, ensuring that stairs are not too steep or long, which could make them difficult to use.

The regulations state that a single flight should not exceed 12 risers in public buildings like gyms. If a stair flight exceeds this limit, a landing must be provided to break up the flight and improve safety. The stairs I designed follow this requirement, ensuring compliance with Part K of the Building Regulations and providing a safe and accessible route for gym users.

#### For buildings other than dwellings and common access areas in buildings that contain flats

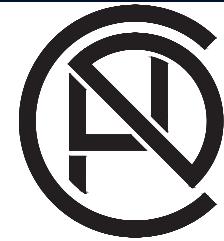
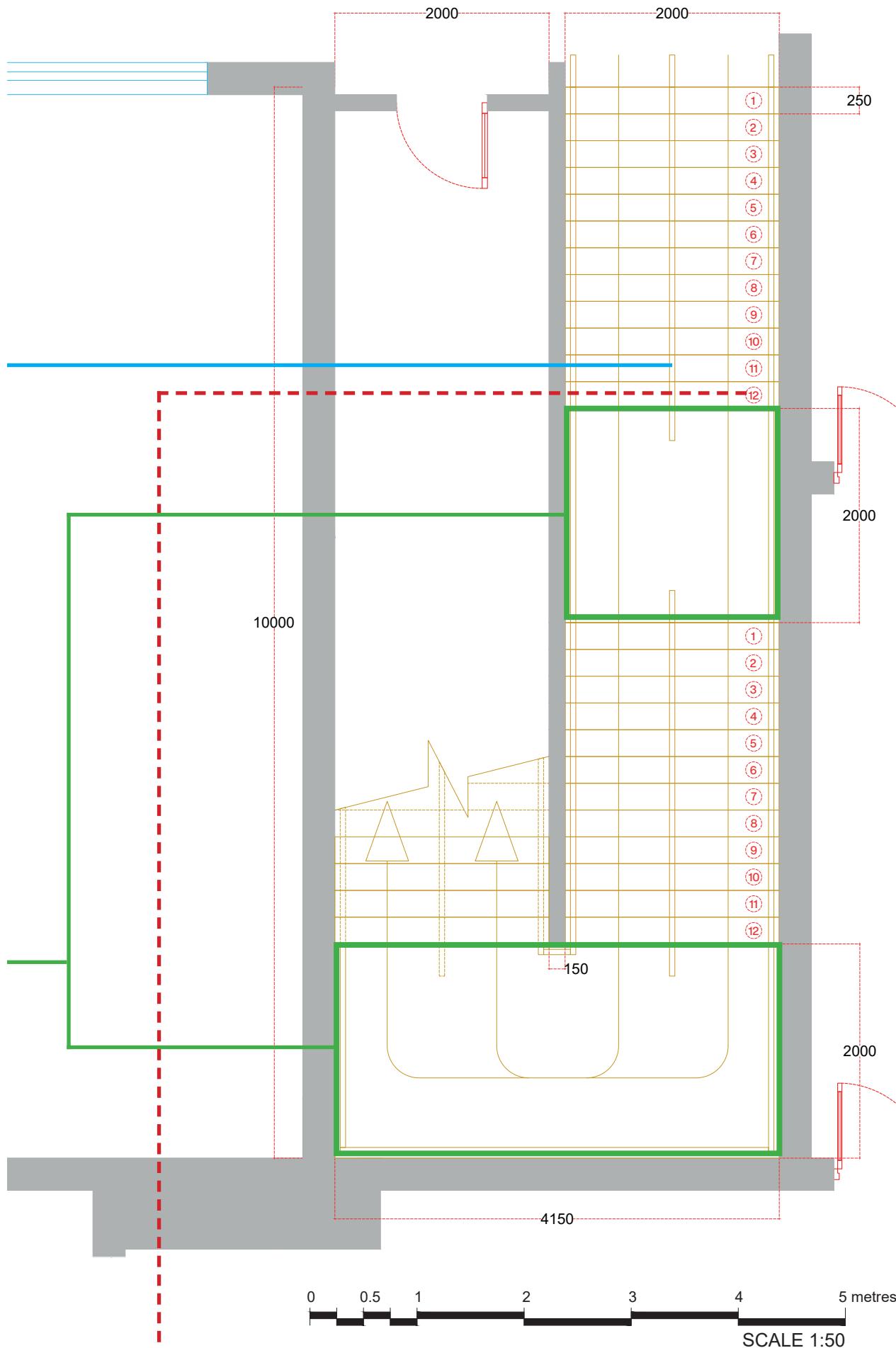
1.18 Comply with all of the following.

- Do not have single steps.
- For flights between landings the maximum number of risers should be:
  - utility stairs – 16 risers
  - general access stairs – 12 risers, but exceptionally no more than 16 in small premises where the plan area is restricted
  - stairs for access for maintenance, see paragraph 1.42.

Based on Approved Document K, The stairs need to have the maximum of 12 riser steps which it need to comply or this will break the regulation of the building. This is the general access stairs where people will use it for public for going above or below to the level they want to go. I made the riser (height) for 170mm and made the going (length) to 250mm which matches the regulation records shown in this diagram. This complies the regulation part k.



## PART K



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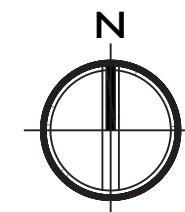
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## Handrails for stairs

### For all buildings

1.34 Provide handrails in accordance with all of the following.

- Position the top of the handrail 900mm to 1000mm from the pitch line or floor.
- The handrail may form the top of a guarding if you can match the heights.
- If the stairs are 1000mm or wider: provide a handrail on both sides.

According to Approved Document K (Section 1.34) for buildings other than dwellings, stairs over 1000mm wide must have handrails on both sides, set between 900mm and 1000mm in height and running the full length of the flight.

In my gym design, the stairs exceed this width, so I've added handrails on both sides, ensuring full compliance with Section 1.34 and providing safe, accessible use for all.

**Table 1.1 Rise and going**

	Rise*		Going*	
	Minimum (mm)	Maximum (mm)	Minimum (mm)	Maximum (mm)
Private stair <sup>1,2</sup>	150	220	220	300
Utility stair	150	190	250	400
General access stair <sup>3</sup>	150	170	250	400

Notes:

- [1] The maximum pitch for a private stair is 42°.
  - [2] For dwellings, for external tapered steps and stairs that are part of the building the going of each step should be a minimum of 280mm.
  - [3] For school buildings, the preferred going is 280mm and rise is 150mm.
- \* The normal relationship between the dimensions of the rise and going is: twice the rise plus the going ( $2R + G$ ) equals between 550mm and 700mm.

For existing buildings the dimensional requirements in Table 1.1 should be followed, unless due to dimensional constraints it is not possible. Any alternative proposal should be agreed with the relevant building control body and included in an access strategy (refer to Approved Document M).

For a gym, the stairs are classified as general access stairs, as they are used by the public and building occupants as part of the primary circulation routes within the building.

According to Table 1.1 of Approved Document K, the required rise must be between 150mm and 170mm, while the going should be between 250mm and 400mm. The stairs I designed have a rise of 170mm and a going of 250mm, which fully complies with Part K of the Building Regulations.

**For buildings other than dwellings and common access areas in buildings that contain flats**

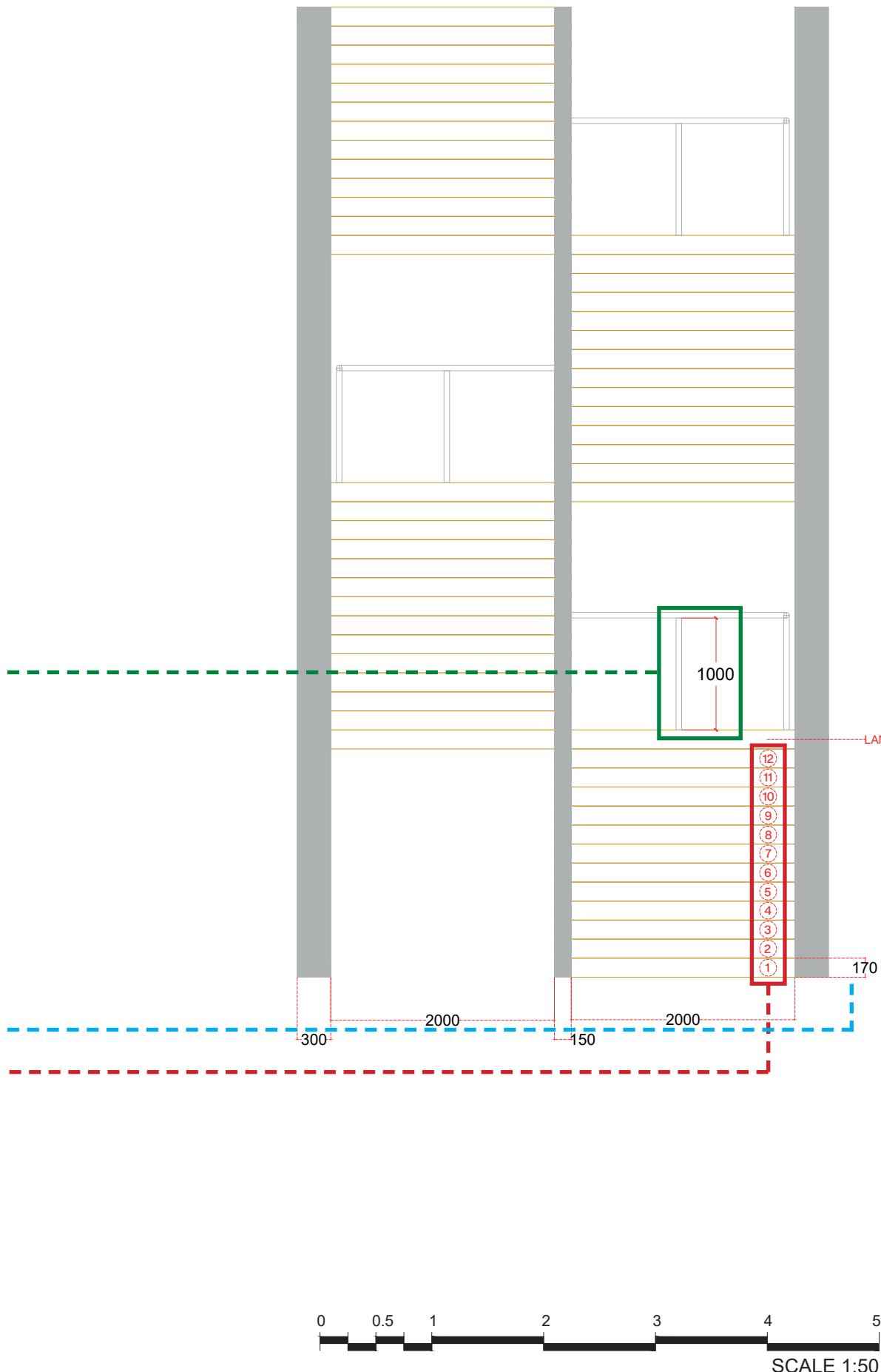
1.18 Comply with all of the following.

- Do not have single steps.
- For flights between landings the maximum number of risers should be:
  - utility stairs – 16 risers
  - general access stairs – 12 risers, but exceptionally no more than 16 in small premises where the plan area is restricted
  - stairs for access for maintenance, see paragraph 1.42.

This information shows the limited risers for the stairs based what facilities does it function with. The stairs are general access stairs for public which it needs 12 risers maximum. The drawing shows 12 risers which complies with the Approved document part K



## PART K



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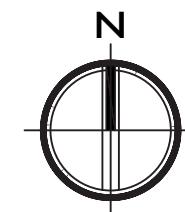
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## PART K

Building Category and location	Height (h)	
Single family dwellings	Stairs, landings, ramps, edges of internal floors External balconies, including Juliette balconies and edges of roof	900mm for all elements 1100mm
Factories and warehouses (light traffic)	Stairs, ramps	900mm
	Landings and edges of floors	1100mm
Residential, institutional, educational, office and public buildings	All locations	900mm for flights otherwise 1100mm
Assembly	Within 530mm in front of fixed seating	800mm (h)
	All other locations	900mm for flights elsewhere 1100mm (h)
Retail	All locations	900mm for flights otherwise 1100mm
Glazing in all buildings	At opening windows except roof windows in flat extensions, see Approved Document B1	800mm
	At glazing to changes of levels to provide containment	Below 800mm

Diagram 3.1 Guarding design

Based on Diagram 3.1, The balcony barrier acts to protect users from falling to ground floor.

For a gym, the stairs are classified as 'Assembly' as they are used by the public and building occupants

The height would be 800mm; the drawing has 800mm.

This complies with Approved Doc Part K

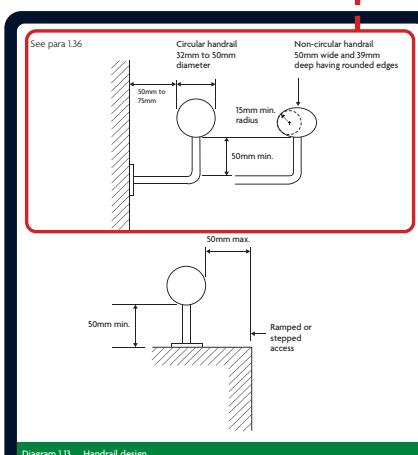
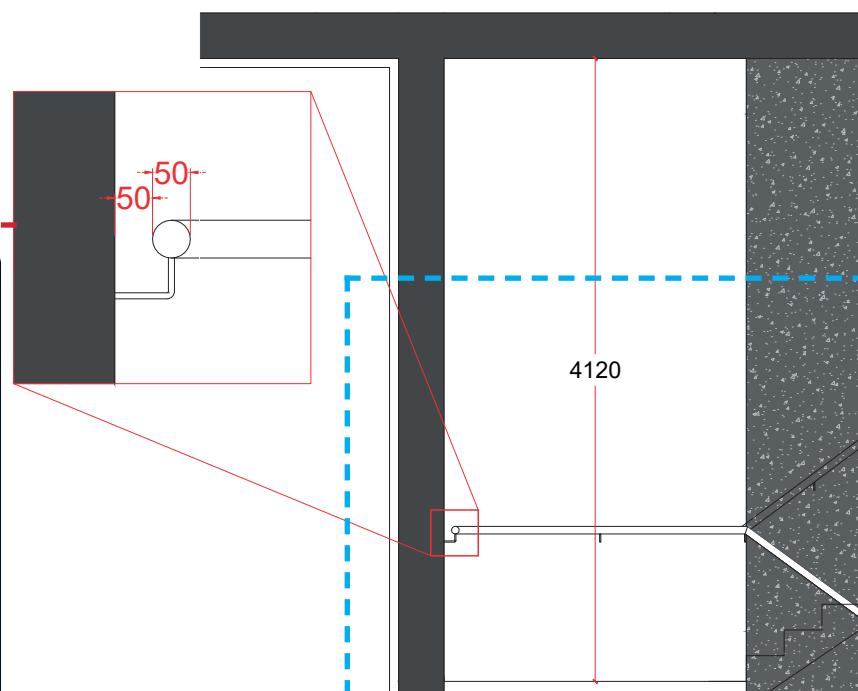


Diagram 1.3 Handrail design

Based on Diagram 1.13 from Approved Document K, the handrail design is priority for users to secure themselves when accessing to the upper floors.

The handrail diameter need to have a maximum of 50mm; The drawing shows the measure of the handrail of 50mm. The distances from the wall needs minimum of 50 or 75mm; The distances from the drawing is 50mm.

Both measurement complies with approved document K.



### For buildings other than dwellings

- 1.36 Provide handrails in accordance with all of the following (in addition to paragraph 1.34).
- Where there is full-height structural guarding, if you provide a second (lower) handrail, the vertical height from the pitch line of the steps (or the surface of the ramp) to the top of the second (lower) handrail should be 600mm.
  - Use continuous handrail along the flights and landings of a ramped or stepped flight.
  - Ensure that handrails do not project into an access route.
  - Ensure that the handrail will contrast visually with the background against which it is seen, without being highly reflective.
  - Use a surface for the handrail that is slip-resistant and which, in locations subject to extremely cold or hot temperatures, does not become excessively cold or hot to touch. In areas where resistance to vandalism or low maintenance are key factors, use of metals with relatively low thermal conductivity may be appropriate.
  - Finish the end of the handrail in a way that reduces the risk of clothing being caught.
  - Use the handrail profile shown in Diagram 1.13.

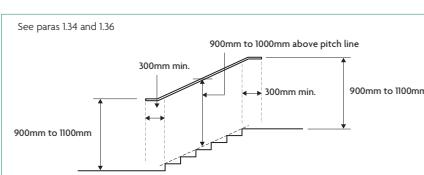


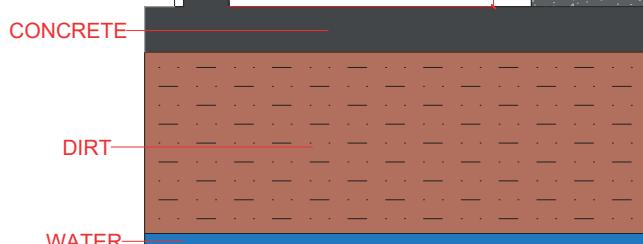
Diagram 1.12 Key dimensions for handrails for stairs in buildings other than dwellings

Based on Diagram 1.12, The handrail dimension for height and length assist users from risk of clothing getting caught and fram falling when tripped.

The height from the surface to the height of the rail is 900 - 1000mm minimum; The drawing shows it has 975mm of the height.

The end of handrail has the measurement of 300mm which it is required; The drawing succeed with 300mm on target.

Both complies with approved document K.



### Headroom for stairs

#### For all buildings

- 1.11 On the access between levels, provide the minimum headroom shown in Diagram 1.3.

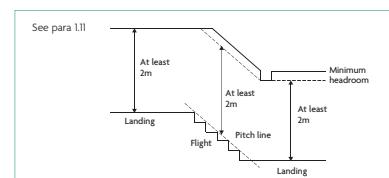


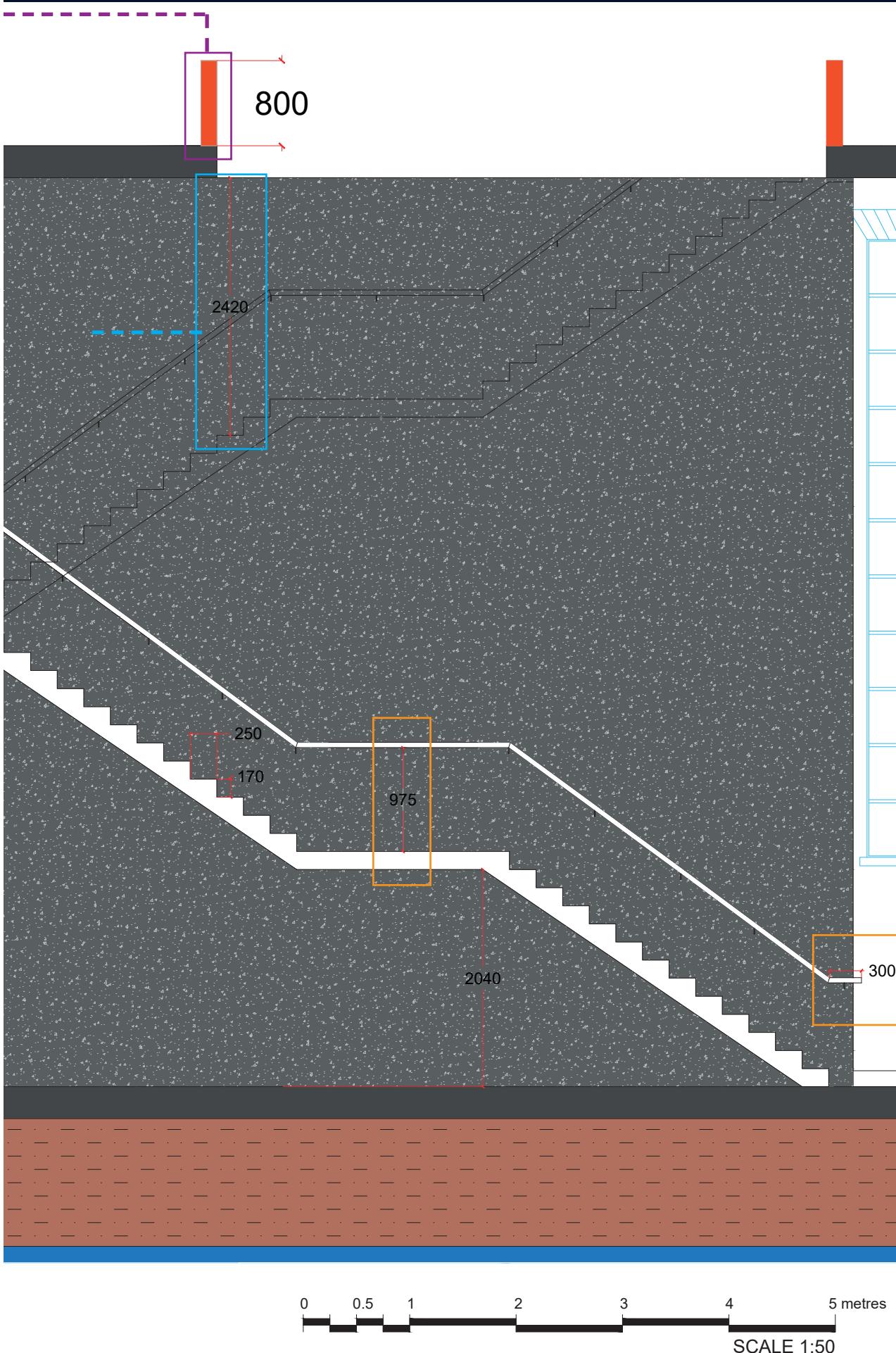
Diagram 1.3 Minimum headroom

Based on Diagram 1.13 from Approved Document K, the handrail design is priority for users to secure themselves when accessing to the upper floors.

The handrail diameter need to have a maximum of 50mm; The drawing shows the measure of the handrail of 50mm. The distances from the wall needs minimum of 50 or 75mm; The distances



## PART K



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PROJECT:

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DESIGN REPORT

PROJECT ADDRESS:

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DRAWING TITLE:

BUILDING REGULATION  
PART K - FIRE STRATEGY  
STAIRCASE SECTION

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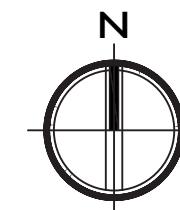
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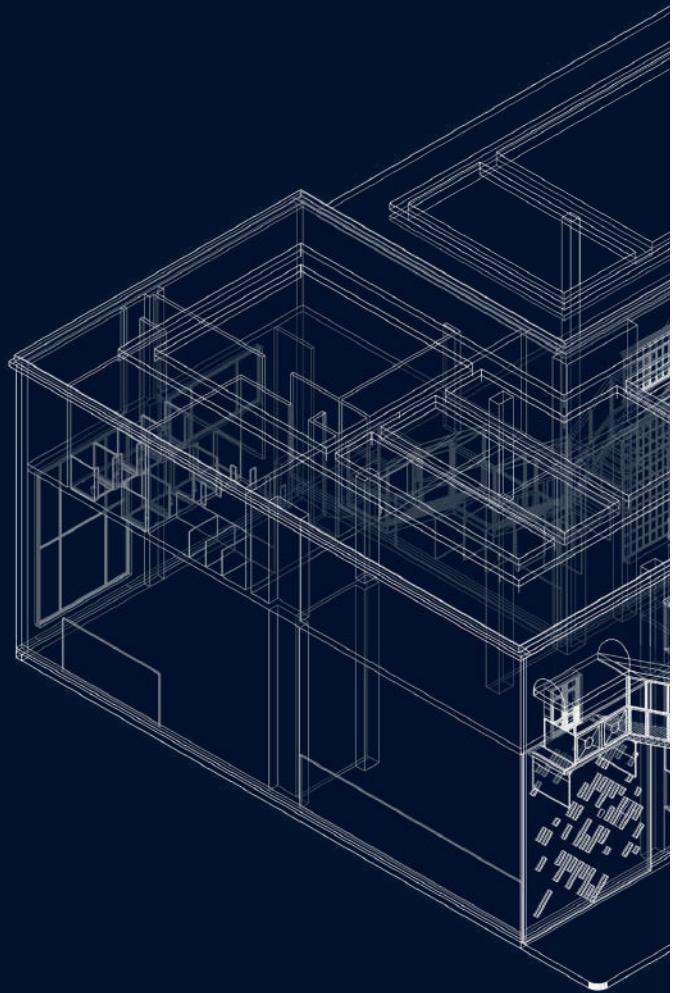
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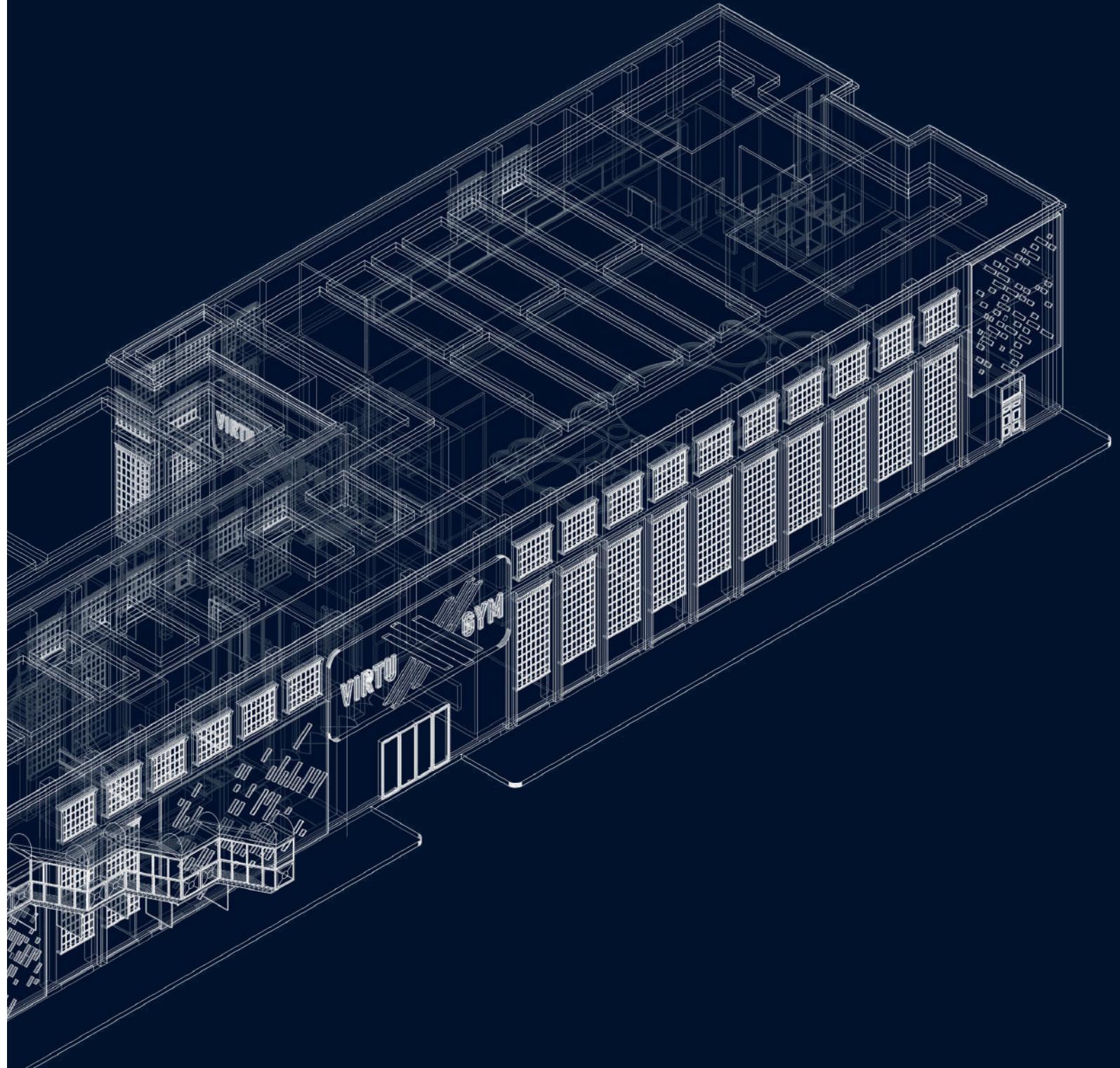
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# PART M





**Passenger lifts****Design considerations**

**3.29** A wheelchair user needs sufficient space and time to enter and leave a passenger lift, particularly when sharing it with other people. Lift sizes should therefore be chosen to suit the anticipated density of use of the building and the needs of disabled people. The minimum size lift car shown in the provisions below accommodates a wheelchair user with an accompanying person. A larger lift size (2000mm wide by 1400mm deep) will accommodate any type of wheelchair together with several other passengers. It will also allow a wheelchair user or a person with a walking frame to turn through 180°.

**3.30** Lift door systems should be designed to allow adequate time for people, and any assistance dogs, to enter or leave the lift without coming into contact with closing doors.

**3.31** People using or waiting for a lift need audible and visual information to tell them that a lift has arrived, which floor it has

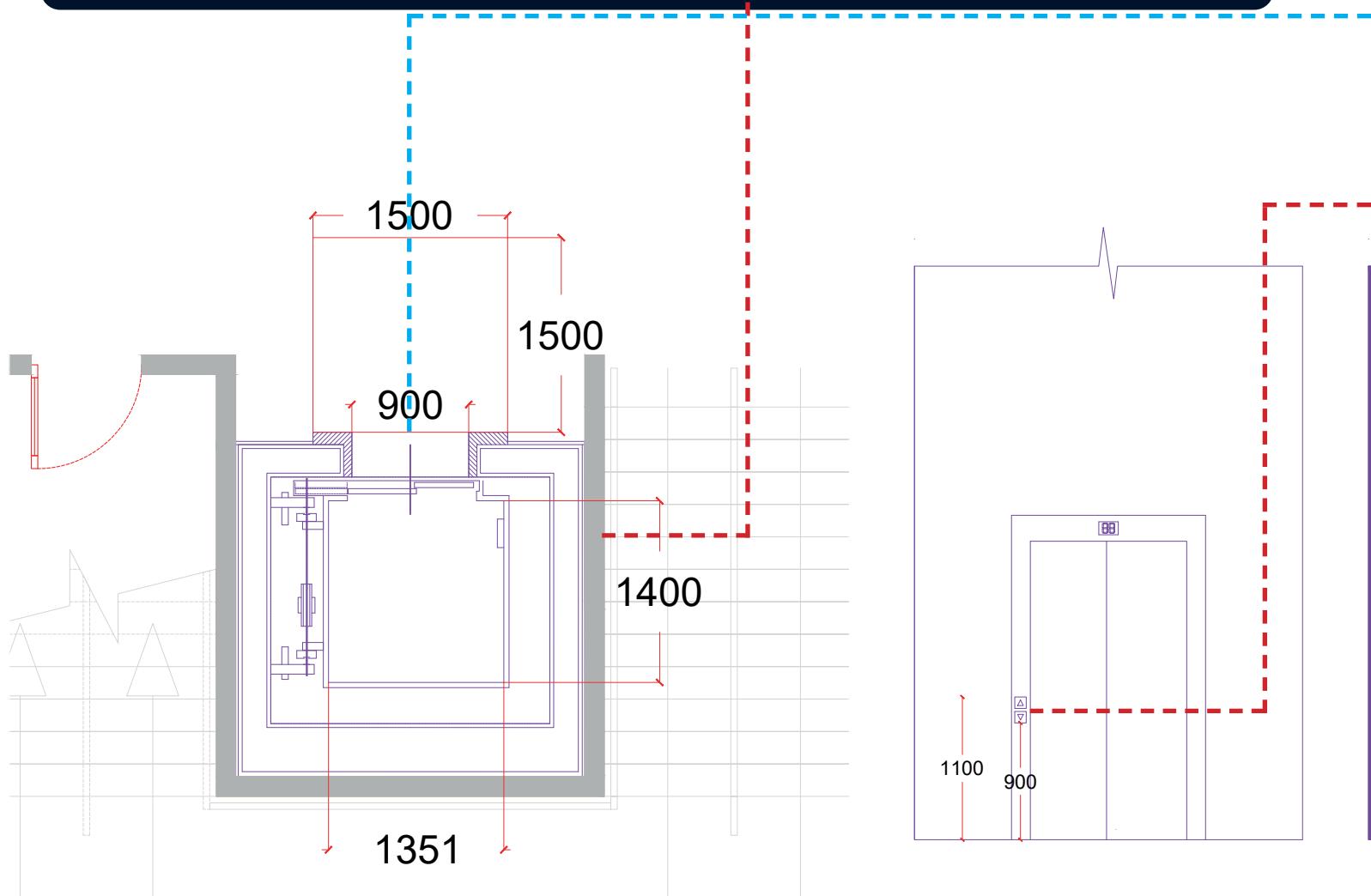
**Provisions**

**3.34** Passenger lifts will satisfy Requirement M1 or M2 if:

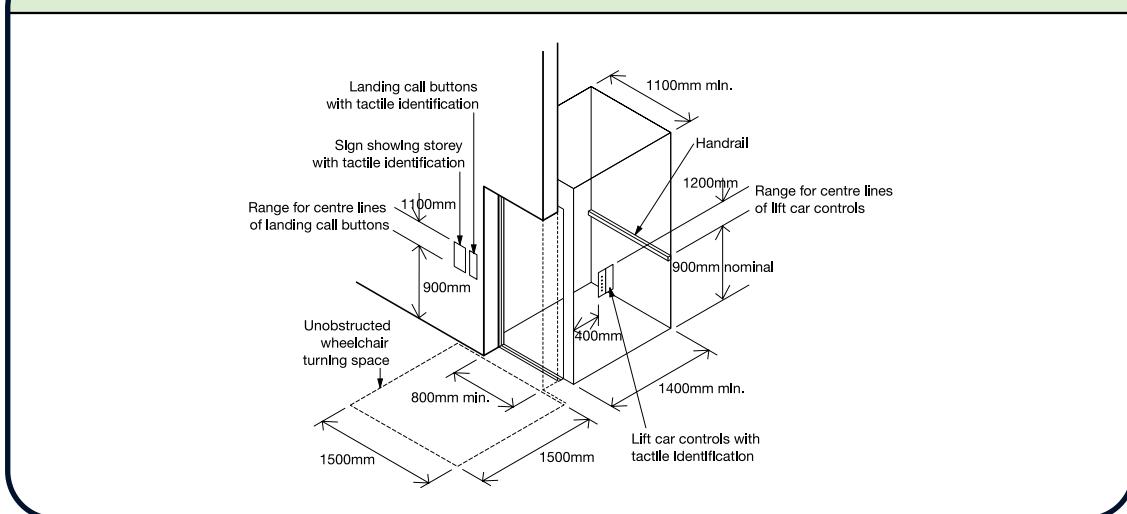
- a. they conform to the requirements of the Lift Regulations 1997, SI 1997/831  
**(Note:** These regulations may be met by compliance with, among other things, the relevant British Standards, EN 81 series of standards, in particular BS EN 81-70:2003 Safety rules for the construction and installation of lifts. Particular applications for passenger and good passenger lifts, or, where necessary, by product certification issued by a Notified Body);
- b. they are accessible from the remainder of the storey;
- c. the minimum dimensions of the lift cars are 1100mm wide and 1400mm deep (see Diagram 11);

The corridors must provide enough space for safe and comfortable movement, especially for wheelchair users. The minimum clear width is typically 1200mm, or 1500mm in certain areas where turning or passing is needed.

In my drawing, the corridor measures 1400mm by 1351mm, which meets and exceeds the basic minimum requirement. This ensures good accessibility and allows for easier circulation, even in tighter parts of the building. The design reflects careful planning to meet Part M standards, providing inclusive access for all users, including those with mobility aids.



**Diagram 11 Key dimensions associated with passenger lifts**



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PART M - ELEVATOR

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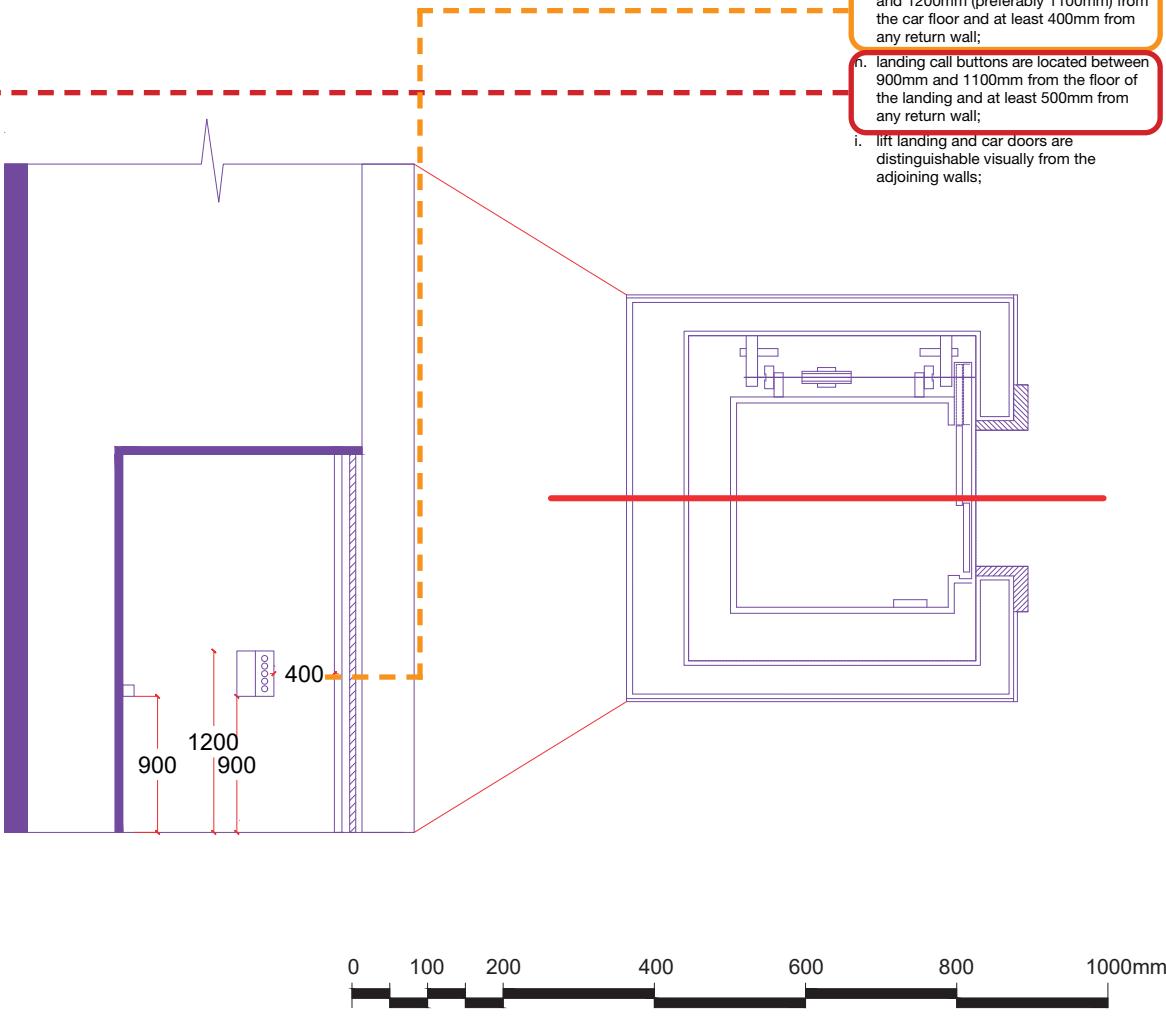
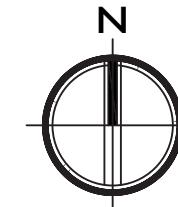
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## Corridors and passageways

### Design considerations

**3.11** Corridors and passageways should be wide enough to allow people with buggies, people carrying cases or people on crutches to pass others on the access route. Wheelchair users should also have access to adjacent rooms and spaces, be able to pass other people and, where necessary, turn through 180°. Corridors narrower than indicated in this guidance, or localised narrowing (e.g. at archways), might be reasonable in some locations, such as in existing buildings or in some extensions.

**3.12** In order to help people with visual impairment to appreciate the size of a space they have entered, or to find their way around, there should be a visual contrast between the wall and the ceiling, and between the wall and the floor. Such attention to surface finishes should be coupled with good natural and artificial lighting design.

**3.13** Good acoustic design should be employed to achieve an acoustic environment that is neither too reverberant nor too absorbent so that announcements and conversations can be heard clearly.

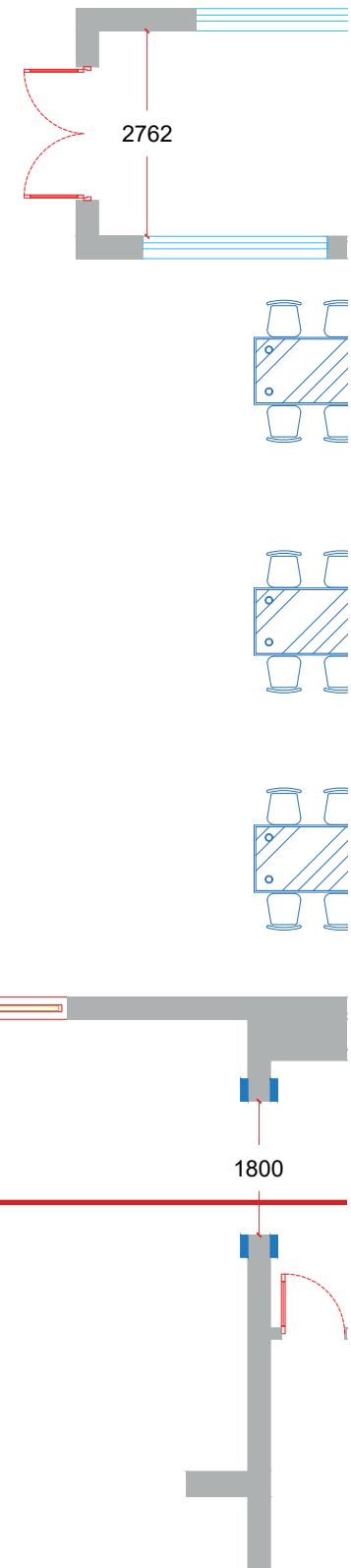
### Provisions

**3.14** Corridors and passageways will satisfy Requirement M1 or M2 if:

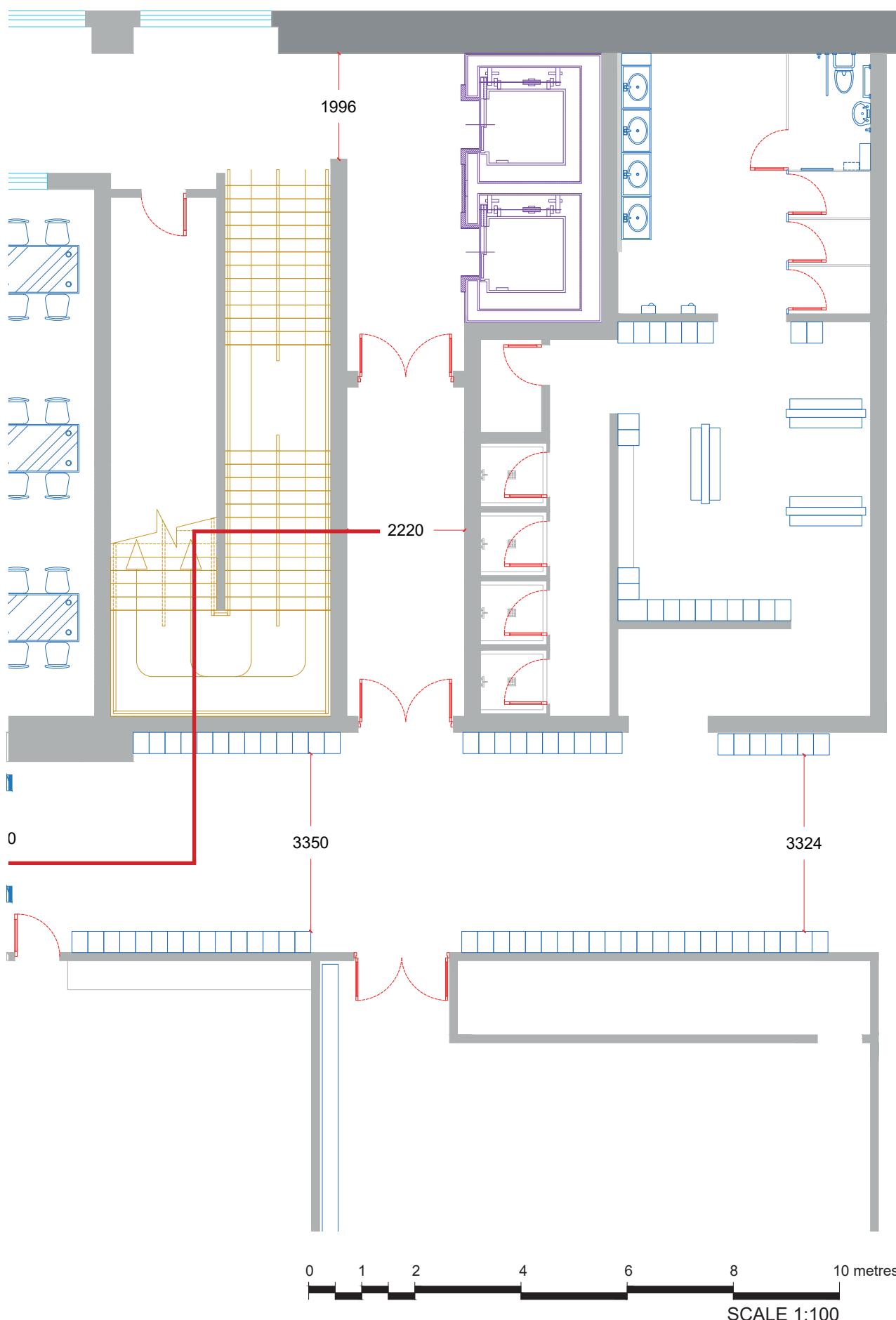
- a. elements such as columns, radiators and fire hoses do not project into the corridor, or where this is unavoidable, a means of directing people around them, such as a visually contrasting guard rail, is provided;
- b. they have an unobstructed width (excluding any projections into the space) along their length of at least 1200mm;
- c. where they have an unobstructed width of less than 1800mm, they have passing places at least 1800mm long and with an unobstructed width of at least 1800mm at reasonable intervals, e.g. at corridor junctions, to allow wheelchair users to pass each other;
- d. the floor is level or predominantly level (with a gradient no steeper than 1:60), with any section with a gradient of 1:20 or steeper designed as an internal ramp and in accordance with Table 1 and Diagram 3;
- e. where a section of the floor has a gradient, in the direction of travel, steeper than 1:60, but less steep than 1:20, it rises no more than 500mm without a level rest area at least 1500mm long (with a gradient no steeper than 1:60);
- f. any sloping section extends the full width of the corridor or, if not, the exposed edge is clearly identified by visual contrast and, where necessary, protected by guarding;
- g. any door opening towards a corridor, which is a major access route or an escape route, should be recessed so that, when fully open, it does not project into the corridor space, except where the doors are to minor utility facilities, such as small store rooms and locked duct cupboards;
- h. any door from a unisex wheelchair-accessible toilet projects when open into a corridor that is not a major access route or an escape route, provided the corridor is at least 1800mm wide at that point;
- i. on a major access route or an escape route, the wider leaf of a series of double doors with leaves of unequal width is on the same side of the corridor throughout the length of the corridor;
- j. floor surface finishes with patterns that could be mistaken for steps or changes of level are avoided;
- k. floor finishes are slip resistant;
- l. any glazed screens alongside a corridor are clearly defined with manifestation on the glass that complies with Approved Document K, section 7.

According to Approved Document M (Access to and Use of Buildings) for buildings other than dwellings, corridors must allow easy and safe movement for all users, including those with disabilities. The minimum clear width for a corridor is typically 1200mm, or 1800mm where wheelchair users need to pass one another.

In my design, all corridors exceed 3350mm in width, which goes well beyond the minimum requirement. This ensures excellent accessibility, easy circulation for large numbers of users, and more than enough space for wheelchair access, passing, and emergency evacuations—fully complying with Part M.



## PART M



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DRAWING TITLE:

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PART M - CORRIDOR

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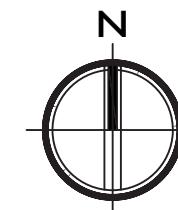
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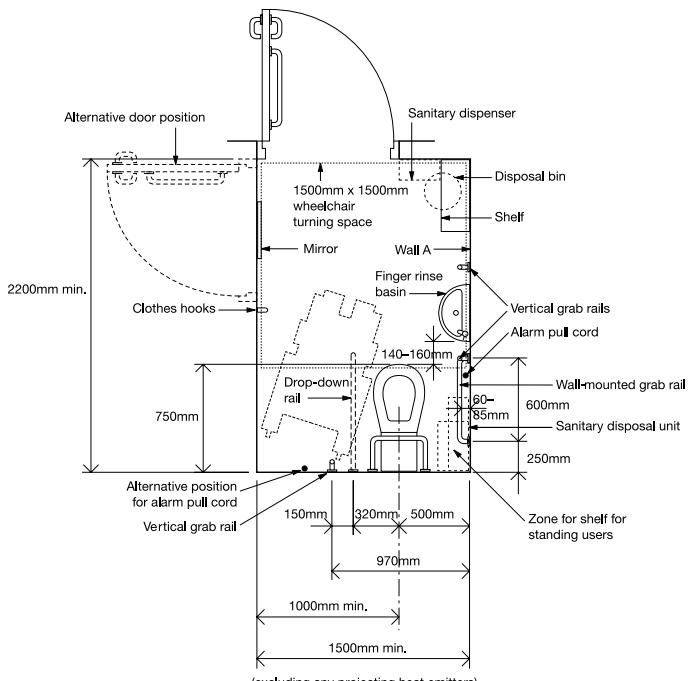
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DOOR POSITION

Diagram 18 Unisex wheelchair-accessible toilet with corner WC



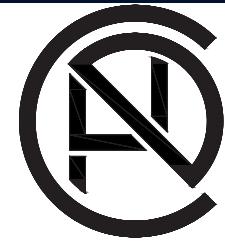
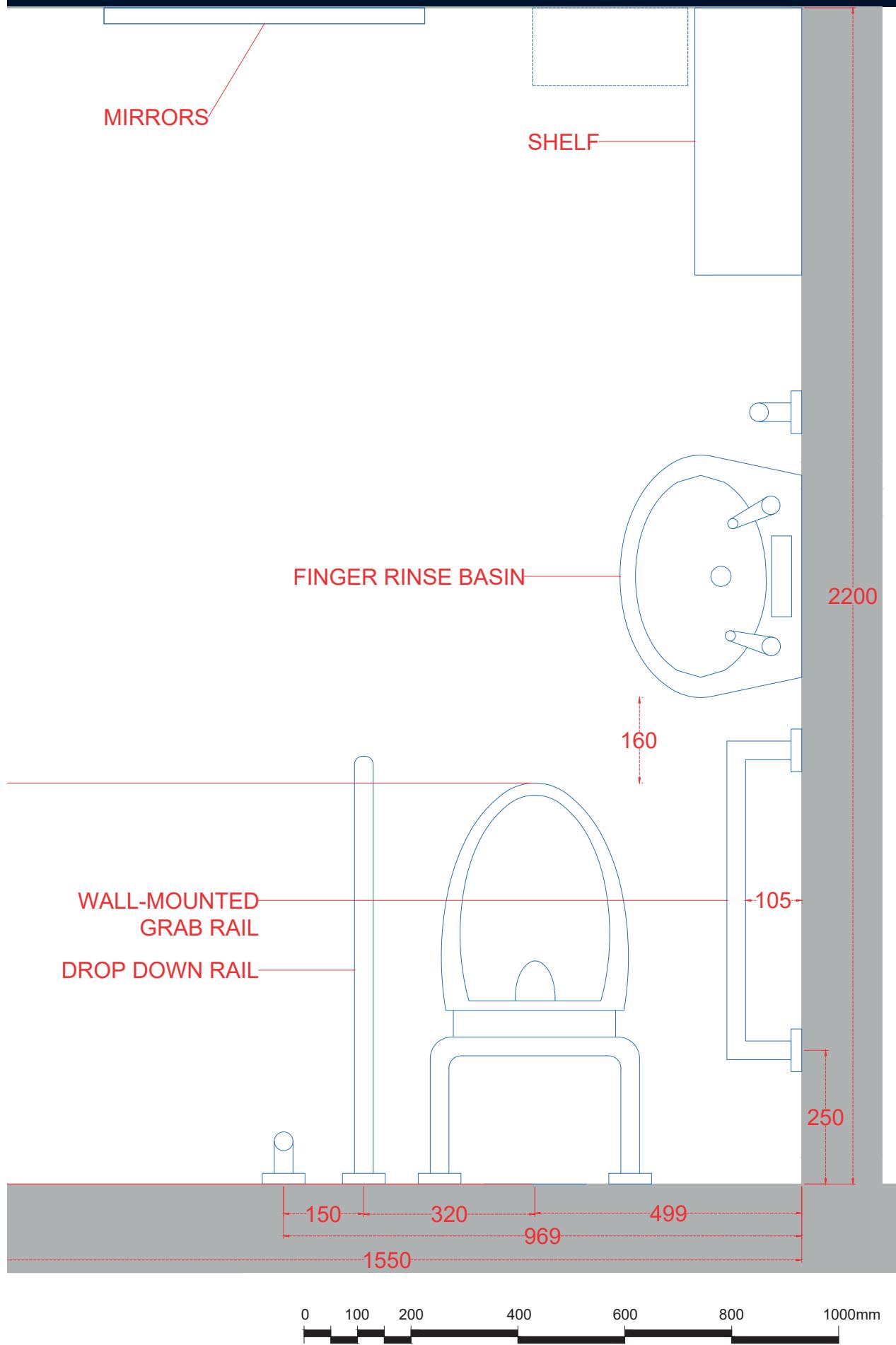
The disabled toilet is essential in a public building like a gym, where people of all abilities are expected to use the space. It supports the principles of accessibility and ensures the building is welcoming and usable for everyone.

According to Approved Document M (Access to and Use of Buildings) for buildings other than dwellings, providing an accessible (disabled) toilet is a key requirement to ensure inclusivity and equal access for all users.

In my design, the disabled toilet has been accurately sized and laid out to meet the required standards, including appropriate clearances, door widths, and fixture positioning. This ensures wheelchair users and those with limited mobility can use the facilities safely and independently.

750

## PART M



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64 CHISENHALE ROAD,  
LONDON, E3 5RG

DRAWING TITLE:

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PART M - DISABLED TOILET

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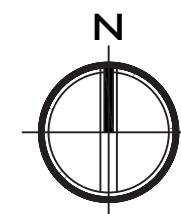
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## CRITICAL REFLECTION

Evaluation of the Design Proposal

Alignment with the Project Brief

Challenges and Areas for Improvement



## EVALUATION OF THE DESIGN PROPOSAL

My final design proposal, including the floor plan, elevations, and 3D renders, effectively reflects the goals and requirements outlined in the original VR Gym project brief. The design supports the vision of creating a futuristic, immersive fitness environment that uses VR and AR technology to promote both physical and mental wellbeing.

The floor plan has been carefully laid out to support zoning by theme, inspired by different planet-like environments. This layout allows for smooth user flow, and separates activities such as cardio, strength training, and cool-down into distinct immersive zones. Each zone supports different user needs—from high-intensity workouts to calm, sensory-friendly environments—fulfilling the brief's focus on accessibility and inclusivity.

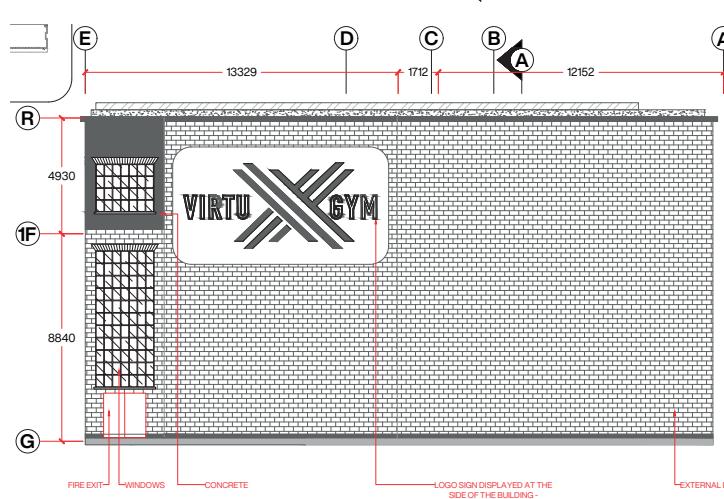
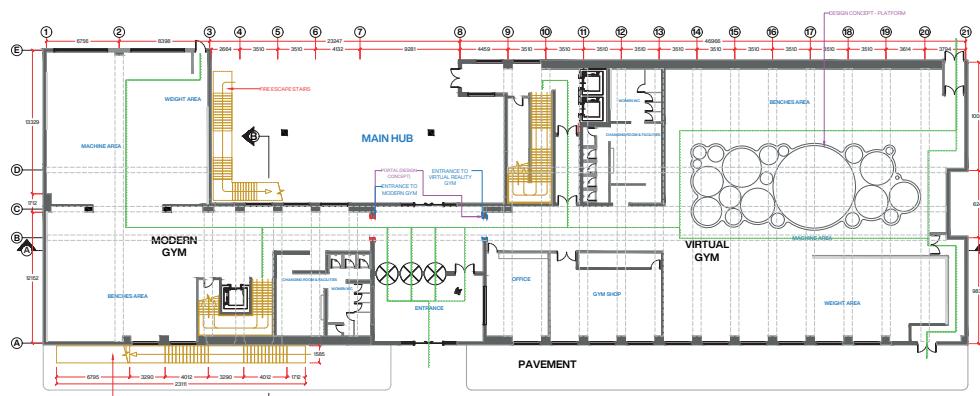
The elevations showcase the futuristic aesthetic described in the brief. This is achieved through the use of curved structures, sleek surfaces, and neon lighting features, all inspired by the movie "Tron" and the interface designs seen in Iron Man's JARVIS system. These visual elements help create a sci-fi feel while keeping the space functional and engaging.

Wall treatments and lighting details in the elevations also reflect the tech-focused theme, using dynamic materials such as metallic panels, glowing trims, and interactive displays. This approach supports the project's goal of creating a visually stimulating and immersive world.

The 3D renders successfully bring the concept to life by visualising what the final space would feel like. The renders highlight:

- Immersive lighting (with glow effects, moody planet-like tones)
- Customisable digital environments

These visualisations help demonstrate how users would feel like they're entering a "parallel universe," completely different from traditional gyms. They also reflect how the gym can be both engaging and accessible for a wide range of users—including those with fitness anxiety or sensory sensitivity.



## ALIGNMENT WITH THE PROJECT BRIEF

### LOCATION

64 Chisenhale Road, London, E3 5RG

### BACKGROUND

The VR Gym is an advanced concept designed to reshape fitness by using Virtual Reality (VR) and Augmented Reality (AR) technologies. Inspired by the UN Goal 3 'Good Health and Well-being', the VR Gym is a futuristic-themed fitness centre that aspires to improve both physical and mental health. The project holds the power of VR and AR to move beyond normal workout spaces to make an environment that entertains users in dynamic, game-like fitness experiences. With inspiration from the "Iron Man" movie's sleek aesthetic and the interactive AI from 'Iron Man' JARVIS and designs, the VR Gym will create a futuristic experience that interests users using the gym that has technology.

### OBJECTIVES

#### Health and Well-being Promotion:

- Promotes physical activity for both fit and unfit people, improving overall health.
- Focusing on mental health by providing distraction for users who have social anxiety.
- Improving stamina, strength, and durability in a fun and engaging way.

#### Innovative Technology Integration:

- Using VR headsets and AR tools to create a workout experience.
- Including AI virtual assistants inspired by 'JARVIS' to direct, encourage, and track progress.
- Includes game mechanics to make fitness fun which contains high-score challenges, fitness objectives, and 'Reps' counters.

#### Design Concept: Futuristic and Immersive:

- Designing a visual design inspired by the movie "Tron" by using neon lighting, smooth curved shapes, and a digital aesthetic.
- Develop a VR setting that makes users feel like they stepped into a new, futuristic world in the present day.
- Concentrating on user-friendly designs to make VR workout equipment and spaces accessible for all fitness levels.

#### Technology Evolution and Engagement:

- Support society's attachment to mobile devices to draw users, displaying VR as the next step in fitness technology.
- Develop plans to keep the VR Gym relevant as technology continues to grow; providing it remains an advanced fitness solution.

### KEY CONSIDERATIONS

#### Target Market:

- Users looking to improve their physical and mental health in a private location.
- Fitness fanatics seeking a unique and exciting workout experience.
- Tech people are interested in merging VR and AR into everyday life.
- Users who experience anxiety or discomfort in traditional gym environments.

#### Exhibition Strategy:

- Create demonstrations of VR Gym technology in favoured tech and fitness expos.
- Host virtual tours to showcase the futuristic design and enchanting environment.
- Cooperate with influencers and VR content creators to generate gossip.
- Offer tests to experience the VR Gym first-hand which can highlight its health benefits and futuristic features.

#### Design and User Experience:

- Using neon lighting and smooth curves inspired by 'Tron' and 'Iron Man' for a fascinating aesthetic.
- Combine VR elements that affect real world activities with a futuristic adjustment.
- Allow users to customise their virtual workout environments which can choose various themes and settings to keep workouts fresh and engaging.
- Creating user interfaces and simple controls for easy access to user experience regardless of fitness level.

The VR Gym aims to recreate the fitness experience by combining the worlds of technology and wellbeing. The aim is to be a sanctuary for health improvement, both mental and physical, by taking advantage of VR and AR as a tool. By using the latest technologies, the VR Gym is created to make exercise accessible, engaging, and anxiety-free; This can offer users a chance to work out in a space that is created to meet their needs. This project relates to UN goals that aim to improve overall wellbeing while remaining on the cutting edge of tech. With a dedication to using technology useful, the VR Gym will assist in the future of fitness and wellness; It can address health inequalities and provide access to essential health services. The VR Gym is not just about working out, it's about growing the way we think about health and fitness, making it as engaging, accessible and sustainable as possible.

My final design for the VR Gym shows full alignment with the aims, objectives, and key considerations outlined in the original project brief. Each element of the design has been carefully developed to reflect the project's core concept of combining futuristic design with innovative technology to promote mental and physical well-being through a highly engaging, immersive experience.

#### HEALTH AND WELL-BEING PROMOTION

- The design supports both physical and mental health, offering a safe, sensory-focused space for users with gym anxiety.
- The VR zones encourage users to move, explore, and enjoy their workouts in a gamified environment that feels more like play than exercise.

#### TECHNOLOGY INTEGRATION

- Fully integrated VR headsets, AR tools, and AI assistants (inspired by JARVIS) are shown in the floor plan and renders.
- Game features such as rep counters, fitness missions, and progress trackers are built into the digital user journey.

#### FUTURISTIC AESTHETIC

- The "Tron"-inspired neon lighting, curved walls, and digital textures are seen throughout the elevations and 3D visuals.
- The space feels like a parallel universe, aligning with the concept and creating an exciting visual identity.

#### USER EXPERIENCE

- Layouts are intuitive and accessible to all fitness levels.
- Zones offer customisable virtual environments, helping users stay motivated and engaged long-term.

#### TARGET MARKET CONSIDERATION

The design speaks directly to:

- Tech-savvy users
- Fitness lovers looking for something new
- People with social anxiety
- Those seeking private, immersive alternatives to traditional gyms

#### EXHIBITION & ENGAGEMENT POTENTIAL

- The futuristic design makes the project suitable for tech and fitness expos.
- The renders and concept can easily support virtual tours, influencer marketing, and user trials, as suggested in the brief.

All objectives, themes, and target user needs from the project brief have been successfully met in the final design. The VR Gym stands as a complete, well-rounded concept that merges futuristic aesthetics, innovative technology, and health-focused design—bringing the vision of a parallel universe fitness space to life.



## CHALLENGES AND AREAS FOR IMPROVEMENT

One of the main challenges was designing a layout that allows people to move freely while incorporating the concept of a '**Parallel Universe**', as I aimed to think on a larger scale. Another difficulty was ensuring there was enough space for users to access key facilities like toilets, stairways, and equipment, while maintaining a functional and accessible design.

This was one of the most challenging projects I've undertaken, often leading to overthinking and frustration. However, I adapted by taking breaks, focusing on other personal activities, and socializing, which helped clear my mind and generate new ideas. As I continued developing the concept, sketching designs, and considering equipment placement, the process became more fluid, and I was able to refine my vision.

Building regulations and Feedback also impacted the interior design, affecting the appearance, dimensions, and layout to ensure compliance. These adjustments sometimes slowed progress and required additional explanations, but they were necessary to meet regulations and the feedback I've given while maintaining the overall design intent.

The Deadline was the challenging part for completing the work within the top quality; this affected my concentration and health by designing during nights. However, I have managed to complete the work and learned that to adapt timing and improvisation if unexpected events occur.





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