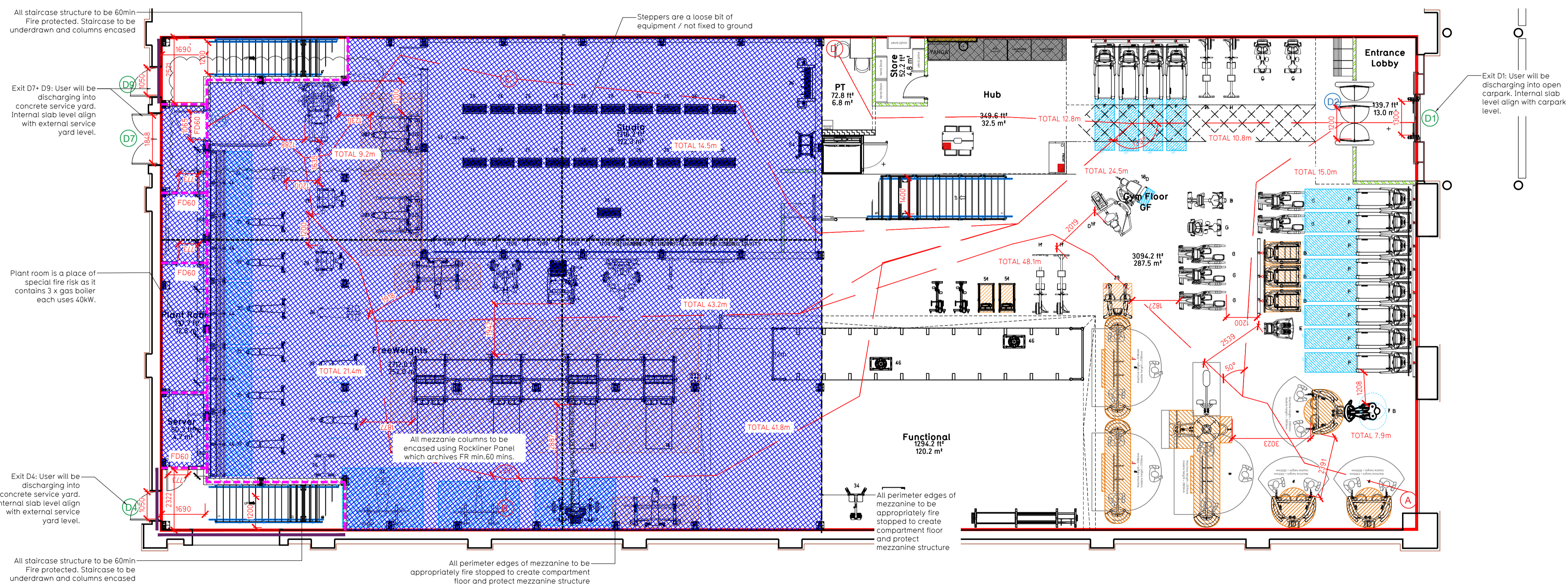


Proposed Mezzanine Floor Plan



Proposed Ground Floor Plan

**Fire Evacuation Key**

	Existing wall to achieve min 30 minute fire rating (suitability of wall to be confirmed on site by Pure Gym Main Contractor)		Fire Escape Route
	Existing wall to achieve min 60 minute fire rating (suitability of wall to be confirmed on site by Pure Gym Main Contractor)		Minimum Clear Widths
	New wall to achieve min of 30min fire rating		Exit No.
	New wall to achieve min of 60min fire rating		Shared Escape Route
	Protected areas: walls, floors, ceilings and doors to achieve 30minute fire resistant construction.		Vertical Cavity Barrier: Siderise RV Cavity Barrier RV90/30 (Fire resistance 30min Integrity 30min) Please refer to drawing: 279-XXX-003b-FEE
	Protected areas: walls, floors, ceilings and doors to achieve 60 minute fire resistant construction.		Horizontal Cavity Barrier: Siderise RH Cavity Barrier RF50-30/30 (Fire resistance 30min Integrity 30min) Please refer to drawing: 279-XXX-003b-FEE

NOTE:

- Proposals must comply with all acoustic, fire & building regulation requirements
- No dimensions are to be scaled from this drawing. The contractor is responsible for checking all dimensions on site

**Escape Route Widths**

In line with Section 2.9.8 of the Technical Handbook - Non Domestic, the aggregate unobstructed width in mm of all escape routes from a room, or storey, should be at least 5.3 x the occupancy capacity of the room or storey.

**Ground Floor**

Aggregate Clear Opening Width of Escape Routes Calculation:  
 Final Fire Exit DR1 clear opening width = 1300mm but is limited by DR2 clear opening width 1060mm  
 Final Fire Exit DR8, clear opening width = 1065mm

Total Aggregate Width for Ground Floor 2125mm (Less Largest Opening Width 1065mm from Fire Exit DR8) = 1060mm

Ground Floor Maximum Occupancy Capacity = 1060 / 5.3 = 200 people

**Mezzanine Floor**

Aggregate Clear Opening Width of Escape Routes Calculation:  
 Storey Exit DR2, leading to Final Fire Exit DR4 at GF level = 965mm  
 Storey Exit DR21, leading to Final Fire Exit DR9 at GF level = 965mm

Total Aggregate Width for Ground Floor 1930mm (Less Largest Opening Width 965mm from Fire Exit DR21) = 965mm

Mezzanine Floor Maximum Occupancy Capacity = 965 / 5.3 = 182 people

**Combined Occupancy Provision**

Ground floor maximum occupancy: 200  
 Mezzanine floor maximum occupancy: 182  
 Total occupancy provision: 387

Based on PG existing occupancy data of comparable sites, Pure Gym designed maximum occupancy of a Pure Gym at this size will not exceed 280 people, which sits in line with the proposed sanitary ware provision (section 3.2.5) and is smaller than the max. no of 387 persons (see calculation above). Therefore thought to meet with the Section 2.9 of Technical Handbook - Non Domestic.

The designed maximum occupancy of 280 people derives from the vast amount of data collected via 340+ Pure Gyms of comparable size; data collection is conducted through access control ironmongery at turnstiles and can be viewed on Pure Gym app and website.

**Escape Distance and Angle of Divergence**

**Position A**  
 Total escape distance to nearest Final Exit DR1 = 24m  
 Distance before divergence is 8.5m  
 A.O.D to be > (2.5 X 9) + 45 = 66.25°  
 Drawn A.O.D = 118° thus complies

**Position B**  
 Total escape to nearest Final Exit DR8 = 22.6m  
 Distance before divergence is 0.5m  
 A.O.D to be > (2.5 X 4.5) + 45 = 47°  
 Drawn A.O.D = 175° thus complies

**Position C**  
 Total escape to nearest Final Exit DR8 = 11.8m  
 The total escape distance is less than 15m and thus complies

**Position D**  
 Total escape to nearest Final Exit DR2 = 20.5m  
 Distance before divergence is 10.2m  
 A.O.D to be > (2.5 X 10.2) + 45 = 70.5°  
 Drawn A.O.D = 168° thus complies

**Position E**  
 Total escape to nearest Final Exit DR12 = 16.2m  
 Distance before divergence is 6.6m

**Position F**  
 Total escape to nearest Final Exit DR13 = 11.2m  
 The total escape distance is less than 15m and thus complies.

**Position G**  
 Total escape to nearest Final Exit DR12 = 19.1m  
 Distance before divergence is 11.3m  
 A.O.D to be > (2.5 X 11.3) + 45 = 73.25°  
 Drawn A.O.D = 167° thus complies

**Position H**  
 Total escape to nearest Final Exit DR22 = 9.7m  
 The total escape distance is less than 15m and thus complies.

**Position I**  
 Total escape to nearest Final Exit DR7 = 12.2m  
 The total escape distance is less than 15m and thus complies.

Rev	Date	Description	DRAWING TITLE	Drawn/Checked
Falkirk Unit 4a, Central Retail Park, Falkirk FK11 1LW			Fire Evacuation Plan Ground and Mezzanine Floor Plans	
SK/KL	16.06.23	1:100 @ A1	2179	003-FEP
CONSTRUCTION				CO1

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