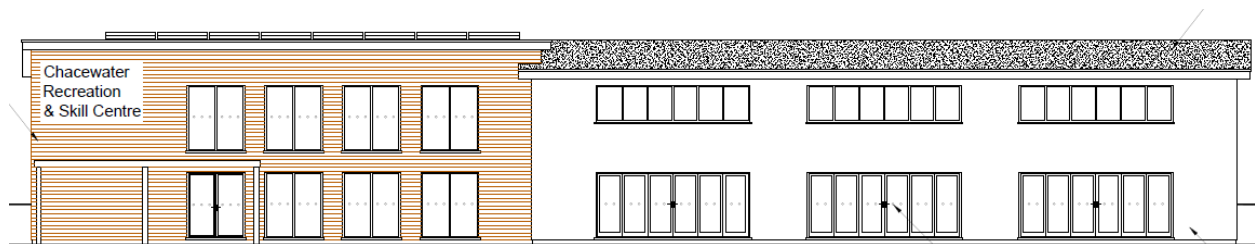


# Chacewater Recreation Centre

The Recreation Ground, Falmouth Road,  
Chacewater, Truro, Cornwall TR4 8LP

## Building Specification Document for Tendering Process



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## Chacewater Recreation Centre – Building Specification

### Document Change Log

#### Version 1:

NONE

### Material manufacturers clarification statement

Throughout all the documentation and building regulation drawings certain material manufacturers have been stated. These manufacturers are provided to show the relevant performance standards of a particular product. Other manufacturers can be selected but it is up to the contractor to supply the evidence that the materials are of equivalent or above the specified standards. i.e. Celetex, the insulation can be of any manufacturer as long as it has the correct performance standards.

**Principle Designer: Julian Murch DPC Architectural Services**

**Client Project Manager: Paul Bearham South West Community Builds**

### Preamble

The drawings have been prepared under the supervision and instructions of the above-named designer for the sole purpose of obtaining Local Authority Planning Permission and/or Building Regulation approval only and are not intended to be a complete working drawing.

The Contractor / Builder shall assume full & complete responsibility for all, and any works constructed as a result of obtaining these permissions / approvals whether the drawings are referred to or otherwise, all dimensions should be checked. The contractor/Builder should satisfy himself as to the suitability of all materials and details referred to and their intended use.

The builder/contractor shall be responsible for including for all works described or being apparent on the drawings or can be reasonably inferred as being necessary for the proper execution of the works. All work is to comply with the Local Authorities requirements, Planning conditions, British Standards, the current Building Regulations & recognised good building practice.

All material and workmanship is to be carried out in accordance with current British Standards and Codes of Practice, and Agreement Certificate where applicable.

The contractor/builder shall be responsible for checking all dimensions and levels prior to commencement of work on site.

Where demolition of a building (or part) which is greater than 1750 cubic feet (50m<sup>3</sup>) will require the owner/builder/person undertaking the demolition work to serve a demolition notice as required by

Section 80 of The Building Act 1984 at least six weeks before commencement. A copy of this notice must also be sent/given to occupiers of any building adjacent to the demolition works as well as the statutory undertakers. Demolition works shall not commence unless the council has served a counter notice under Section 81 of The Building Act 1984 or after six weeks having elapsed since the Section 80 notice was served on the council. The contractor shall remove from site all debris relating to any demolition and any excavated/broken up material required in order to carry out the work. The contractor shall remove all rubbish, debris and surplus materials from the site as they accumulate. On commencement of works the client/contractor must notify local authority building control service and agree an inspection plan for the project as these are tailored for each individual project. If works are carried out without the notifying the council when the works are ready at the defined inspection stages, then the council has the right to refuse issuing a completion certificate at the end of the project. Work on site should not commence until approved by the Local Authority.

The contractor shall be responsible for ensuring that the approved drawing/specification are being followed. Any deviations shall be agreed with the client and the Local Authority prior to commencement of those works on site.

The position and depth of all services within the vicinity are to be checked prior to commencement of work on site and any relevant permission obtained before construction work commences. Any deviations from the approved specification and details may also affect the energy efficiency aspects of the construction. This may result in costly remedial works being necessary to achieve compliance with the Building Regulations. Any deviations shall be agreed with the SAP energy assessor and the Local Authority prior to commencement of those works on site.

Health & Safety Contractor is to comply with all relevant Health and Safety legislation, which governs the provision of his duties, including: The Construction (Design & Management) Regulations 2015 (CDM Regulations), The Control of Substances Hazardous to Health (COSHH) Regulations, The Work Place Regulations, the Personal Protective Equipment Regulations, the Manual Handling Regulations, the Electricity at Work Regulations, the Abrasive Wheels Regulations, The Control of Asbestos at Work Regulations, the Control of Lead at Work Regulations, Scaffold Regulations, and all other controlling legislation relating to the construction work, plant on site and the handling, use, storage and disposal of materials. The Workplace Health, Safety and Welfare Regulations: Any building or part of a building which will be used as a workplace must comply with the Workplace Health, Safety and Welfare Regulations. This includes requirements for heating, lighting and ventilation, the provision of drinking water, hot water, sanitary and changing facilities, layout of workspaces for inclusive access/use etc. It shall be the Client and/or the principal contractor to employ a fully qualified CDM co-ordinator, or alternatively notify HSE to ensure the requirements of the current legislation are covered by The Construction (Design and Management) Regulations 2015 and the Health and Safety at Work Act are complied with by all site staff/suppliers etc during the various stages of the design and construction works.

The contractor must obtain all installation drawings, instructions or the like issued by manufacturers, suppliers and specialists of all materials or components specified on the drawings to ensure correct use and installation of such specified items. The contractor is to ensure the stability of the works at all times with particular attention being paid to the temporary condition of the various structural elements of the works as well as any adjacent buildings/structures during construction and demolition.

This project comprises work for a commercial client and is notifiable to the HSE if the construction phase will exceed more than 30 working days or involves more than 500 man days. Summary of client's role/duties:

- Make suitable arrangements for managing a project, including making sure other duty holders are appointed as appropriate, and that sufficient time and resources are allocated to the project
- Provide pre-construction information as soon as is practicable to every designer & contractor appointed/considered for appointment
- Make sure that the principal designer and principal contractor carry out their duties
- Make sure that welfare facilities are provided on this project our role as designer is to secure building regulation approval and, accordingly, we have fulfilled our duties under the CDM 2015 regulations up to that point.

At this stage the role as principal designer will cease. All relevant health and safety information will be passed to the client for distribution to the principal contractor. For the construction stage of this project all designers will have designer duties under the CDM Regulations 2015. Designers include any person who as part of their business prepares or modifies a design arranges for, or instructs, any person under their control to do so, relating to a structure, or to a product or mechanical or electrical system. Design hazard elimination & risk reduction - The scope of the works is clearly illustrated on the drawings. The following risks have been assessed and are judged to be no more stringent or unusual than a capable contractor would be expected to manage or to be aware of.

### Non Domestic Developments

The waste collection authority should be consulted for guidance on resolving the requirements taking into consideration to the volumes of waste, storage containers, location of storage areas, collection points, vehicle access, fire hazards and protection etc.

## Risks

Risk	Action
Structural collapse	The superstructure design should be carried out in accordance with the relevant temporary works design guidance to ensure stability is maintained during the construction phase. Contractor/client to seek engineers' advice prior to the commencement of those works on site.
Fire precautions and flammable/explosive materials	The contractor should carry out a risk assessment in accordance with HSG 168 - Fire Safety in Construction and take actions based on the outcome of this. Where timber frame construction is to be used follow the Structural Timber Association guidance taking into account the 16 steps to fire safety.
Noise & disturbance to neighbours	The contractor should have due regard for the neighbours privacy and maintain noise to a minimum level, or time period to reduce the impact. The working hours during which noisy operations can be undertaken shall be restricted to 8am to 5pm Monday to Saturday.
Health & respiratory injuries	The client/contractor must undertake a site specific survey of hazardous materials including asbestos prior to the commencement of works on site. Any hazards must be remediated and/or removed by a specialist removal/remediating contractor prior to any demolition/alteration works being undertaken. All demolition works should include suitable damping down to minimise dust.
Site access & construction facilities	The site is directly accessed from the public highway. The contractor should layout the storage of materials and welfare facilities such that clear visibility is provided for vehicles accessing and leaving the site. The contractor should minimise the transfer of mud and dirt from the construction site onto the surrounding roads. Site signage to be provided and maintained.
Injury to trespassers	The contractor should provide suitable hoarding/fencing.
Falls from height	Contractor to provide suitable safe access. Check security of ladders, guard rails and scaffolding on a daily basis
Falling debris and objects	Contractor to provide suitable and adequate protection to operatives and occupants. Manual handling of materials Ensure all operatives have adequate training, provided with protective gear and warning signs.

Collapse of structure	Contractor to provide adequate temporary support as required. Liaise with the structural engineer regarding support of existing structure or potential collapse of excavated foundations/retaining wall/service trenches. Provide support of any unstable ground. Provide vehicle barriers to prevent overturning/surcharge of trenches and pedestrian barriers to prevent falls into excavation.
Buried services	A site specific survey has not been carried out of the buried services and this should be undertaken prior to works commencing on site by the main contractor. Services exposed during construction to be isolated/made safe by qualified person during which time the area shall be cordoned off until such time it is deemed to be made safe.
Mobile cranes, moving plant/ machinery	Provide suitable protective gear, safety barriers along with warning signs.
Flammable and explosive materials	Risk assessments must also be undertaken of the materials being used on site considering the risks of fire and explosions from the substances used, considering ignition sources and method of storage on site. Provisions will also be necessary for the existing and/or the new tank.
On-site welding	Provide suitable protective gear.
Fire	Hot works can only be undertaken following an appropriate risk assessment by the contractor. All access/egress routes should remain free of obstructions at all times.
Employees, trades & subcontractors	Ensure all work personnel have the necessary Health and safety training prior to starting work on site.
Close proximity to school and public spaces	Ensure all work personnel are aware of such risks, adjust the delivery times to reduce risk during school drop off and pick up.



## The Party Wall Act

The Party Wall Act 1996 provides a framework for preventing and resolving disputes in relation to party walls, boundary walls and excavation near neighbouring buildings. Where a building owner is proposing to start work covered by the Act, notice must be given to adjoining owners of their intentions as set down in the Act. Adjoining owners can agree or disagree with what work is proposed. Where they disagree, the Act provides a mechanism for resolving disputes. Before starting work, you should check if you intend works will trigger the requirements of the Act. Generally, the Part Wall Act will be required in the following situations: -

- Building a free-standing wall or wall of a building up to or astride the boundary wall with a neighbouring property.
- Work on an existing party wall or party structure
- Excavating near a neighbouring building If the work falls within the Act, you must notify the adjoining owners.

The Act covers:

- Various works that is to be carried out directly to an existing party wall or structure
- New building at or astride the boundary line between properties
- Excavation within 3 or 6 metres of a neighbouring building(s) or structure(s), depending on the depth of the hole or proposed foundations.

A party wall agreement is to be in place prior to start of works on site. A copy of the Party Wall Act 1996 and explanatory notes can be viewed and downloaded from [www.gov.uk](http://www.gov.uk) website which also provides FAQ's and example templates. If you are not sure or in doubt whether the Act applies to the work you are planning, you may wish to seek professional advice from a Party Wall Surveyor.

## Construction Site

### Site Set up & Demolition

The main construction site for the main is an open space and this is available at the start of the contract. As part of the contract process, the main contractor will organise the site layout, allowing for minimum disruption for the existing users as well as continuing access to the football pitch (currently organised football matches will not take place during the construction) and playground.

The existing toilet block and pavilion will be demolished as part of this contract.

### Foundations

All trees will be removed from the area as part of this contract.

Prior to preparing oversite, remove all topsoil, vegetable matter from the area of the proposed construction.

All excavations shall be adequately supported, protected, and kept free from water at all times. All excavated surfaces shall be cleaned of any loose and/or disturbed materials prior to and during pouring concrete.

Foundation design to be carried out by structural engineer. Traditional strip foundations will be used. No ground investigation has been undertaken.

Any depth of foundation indicated is indicative only.

Under external walls - Concrete foundations to be 450mm x 225mm C30 concrete strip to BS 5328 1997. (see dotted lines on plan) All at a depth to local authority approval upon site inspection but a minimum 600mm to 50mm below finished ground level or alternatively they shall be taken down below the invert of any adjacent drains within 1.0m of the excavations. For the tendering process it will be assumed that the foundation will be costed at an average depth of 1200mm. Assured ground condition - shilleted.

### Ground Floor

0mm concrete screed to be laid on top of 500g polythene vapor barrier over 150mm PIR (Celotex flooring insulation) or similar. With 25mm PIR insulation 'up standing' insulation around perimeter to prevent 'cold bridging'. All to be sat upon the existing 150mm reinforced concrete slab.

Floor U value to achieve 0.10 W/M<sup>2</sup>K or less

Radon grade membrane (a non-recycled) 400 micron (1,600g) barrier (dpm) to be installed over block and beam screed floor and carried through DPC to outer edge of footprint.

### Structural Calculations

Any structural engineer's details and calculations that may be required for the project to be read in conjunction with construction notes. Any deviations to calculations and/or details to be referred to engineer for their approval.

## External Walls (Timber Frame) & Internal Walls

External walls will be the following standard make up with either type A, or type B (see details on Drg 2004-14).

Construction from external finish in to be: finish: 9mm OSB or PLY boarding onto 140mm x 38mm CLS timber frame. Studs at 600mm. ACTIS Hybris 114 to be fitted the inside of the timber frame (leaving 35mm clearance) ACTIS H Control insulation fitted to inner face of timber frame. This will have all joints lapped and taped to create a vapor control layer (VCL) held in place using 38mm x 50mm battens to create a service void. Inner face to be finished with 12.5mm acoustic plasterboard and 5mm thick gypsum skim to receive decoration.

Walls U value to achieve 0.14 W/M<sup>2</sup>K or less.

Internal stud partitions: 90mm x 38mm CLS studwork at 600mm centres with head and sole plates and half height noggins. 90mm Rockwool insulation to centre (density of 10-60Kg/M<sup>3</sup>). Internal face to be finished with 12.5mm Acoustic plasterboard and 5mm thick gypsum skim to receive decoration.

All cladding must achieve B s3, d2, plus all external wall to achieve 60-minute fire resistance. Ensure Solid state (Intumescent) cavity barriers are used at: around all window and door openings, and the head and foot of the cladding.

## Lintels

Lintels to be incorporated with the premanufactured timber frame to comply with structural engineers' calculations.

## Cladding

The external cladding will be two manufacturers' systems.

The Milboard Envella Shadow line cladding and the Cedral Click Wood system will be fixed to the timber frame as per manufacturer instructions, using timber battens with adequate ventilation and insect ingress protection. These will include fire intumescent strips for fire protection.

The main building colour will be **Milboard Envella Shadow Line Cladding in Burnt Cedar** and the Sports hall building will be **Cedral Click Wood in C05 Platinum Grey**.

## Roof Structure & Ceiling

Flat roof to be of a '**warm roof construction**' using Posi-Joist (metal web) ceiling joists set @ 400mm centres as per specialist manufacturers design and specification. To this fix a VAPOR barrier and 18mm OSB T&G with 2 layers of 120mm thick (240mm total) PIR Celotex or similar. To this fit 18mm thick OSB T&G sheeting ply to top face, finished with GRP roofing supplied and fitted in accordance to manufacturers specification and instructions. GRP roof finish to Broof (t4) class fire rating. Internal ceiling to finished with 12.5mm Acoustic Gyproc plasterboard skimmed to client's choice. The ceiling in the sports hall will NOT be skimmed but taped, jointed & filled, then decorated. (reason: to reduce cracking on the large ceiling, due to expansion and contraction).

Roof U value to achieve 0.12 W/M<sup>2</sup>K or less.

### Lateral Restraining

Lateral restraining to gable wall to be provided by 30mm x 5mm thick galvanised mild steel straps at a maximum of 2,000mm centre located over / under in-line noggins and fixed to min. 3 No. roof rafters using 50mm long No. 12 wood screws into each truss and noggin.

### Soffit, facias, and Rainwater Goods

All soffits, facias and rainwater goods will be upvc and will be coloured anthracite grey to best match the cladding/roofing profile.

### Fire protection

All steel beams are to be fire protected to a minimum 30mm fire resistance by cladding with 15mm Gypsum Glasroc F Firecase fireboard. To be installed as per manufacturers data sheet.

### Notches, Recesses and Holes Etc

Vertical chases should not be deeper than 1/3rd of the wall thickness or, in the cavity walls, 1/3rd the thickness of one leaf. Horizontal chases should not be deeper than 1/6th the thickness of the wall leaf. Chases should not be positioned as to impair the stability of the wall.

Notches and holes in simply supported floor and ceiling joists should be within the following limits:

Notches should not be deeper than 0.125 times the depth of the joist and should not be cut closer to the support than 0.07 of the span, nor further than 0.25 times the span. Holes should have a diameter not greater than 0.25 the depth of a joist and should be drilled at the joist centreline. They should not be less than 3 diameters (centre to centre) apart and should be located between 0.25 and 0.4 times the span from the support. Notches or holes should not be cut in rafters, purlins or binders unless approved by an engineer. Rafters retained by ceiling ties at eaves level may be birds mouthed at supports to a depth not exceeding 1/3rd of the rafter depth

### Insulation

The building fabric should be constructed so that there are no reasonable thermal bridges in the insulation layers caused by gaps within the various elements such as those around windows and door openings. Reasonable provision should also be made to reduce unwanted air leakage through all elements of the proposed works. Insulation material to be protected from moisture damage during construction.

All insulation to be confirmed that it will achieve the required U value within the walling, roof and floor systems, before installation.

### Windows & External Doors

All external doors to be Aluminium and windows to be uPVC - colour to be Anthracite grey on white, with 28mm Low E Argon filled insulated and double glazed sealed units with 20mm air gap. Trickle vents equivalent to 8,000 sq. mm. Glazing to windows with a sill height less than 800mm to be fitted with toughened safety glass to BS 6206.

Additional mechanical ventilation to rooms in the following areas:-

Kitchen - 60 litres / second

WC - 15 litres / second

(extractor fans to run for a minimum of 15 minutes after room occupancy in rooms without windows)  
Ensure a 10mm air gap to WC doors. Extractor fans to be installed in accordance to Approved document F1v2 appendix E. All new windows and doors to be rebated minimum 25mm behind external cladding.

Ensure all new windows achieve 1.6W/M<sup>2</sup>K. Maximum sill height 1,100mm.  
Fixed mechanical ventilation and any associated controls must be commissioned and tested. Notice of test results are to be provided on completion.

Ensure all new external doors achieve a minimum U value of:-  
3.0W/M<sup>2</sup>K for solid door up to 40% glassed  
1.8W/M<sup>2</sup>K for doors with 40% - 60% glassing  
1.6W/M<sup>2</sup>K of doors with more than 60% glassing

All doors to be fitted with toughened or laminated safety glass and any glazing within 300mm of a door to be toughened or laminated safety glass. All to BS 6206. All windows and doors to be 'Secured by design' - SBD or equivalent security standard and installed in accordance with the manufacturers details. Intumescent cavity closer's to be fitted around all window and door openings.

D2, D3, D4, D5, D6 & W3, W4, W5, W12, W13, W14 & W15 must have some form of manifestation on glazing. This could be in the form of 'Chacewater Recreation Centre' logo to prevent any collisions. This will be set between 850mm to 1,000mm and also between 1,400mm to 1,600mm.

### Principal Entrance Doors

The access to the principal entrance doors of the building is considered level. The new doorway will have an overall minimum clear opening width of 800mm.

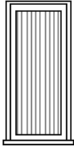
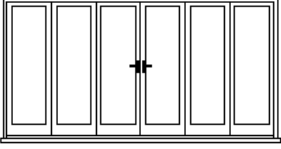
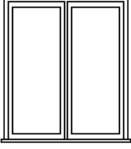
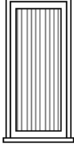
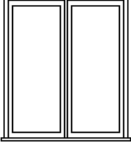


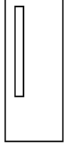


### Doors To Accessible Entrances

Maximum 20N force required at the leading edge of the door Clear widths as Table 2 below. Ideally vision panels should be provided

### Manually Operated Non-Powered Entrance Doors

300mm unobstructed space on pull door side of door. Contrasting door furniture that can be operated with a closed fist (ie. Lever)

## Exterior Door Schedule

Ref	Size	Clear opening size	Comment	
D1	1,000 x 2,100	800mm minimum	'Push bar to open' fire door	
D2 to D4	4,800 x 2,100	800mm minimum	Bi fold door	
D5	2,000 x 2,100	1,000mm minimum	Disabled Threshold	
D6	950 x 2,100	800mm minimum		
D7	2,000 x 2,100	1,000mm minimum	Disabled Threshold	
D8 & D9	1,100 x 2,100	800mm minimum	Howdens Buckmore Flat panel door No glass Disabled WC FD30 (s)	
D10 to D17	838 x 2,100	800mm minimum	Howdens Buckmore Flat panel door No glass	
D18 to D23	838 x 2,100	800mm minimum	Howdens Buckmore Flat panel door WITH glass FD30 (s)	
D24 & D25	760 x 2,100	N/A	Howdens Buckmore Flat panel door No glass	
D26 to D31	610 x 1,800	N/A	Shower cubicle door	

## Window Schedule

W1	1,800 x 600	Obscure glaze
W2	1,800 x 600	Obscure glaze
W3	1,800 x 2,100	
W4	1,800 x 2,100	
W5	1,800 x 2,100	
W6	1,800 x 600	Obscure glaze
W7	4,800 x 1,200	
W8	4,800 x 1,200	
W9	4,800 x 1,200	
W10	1,800 x 1,050	
W11	1,800 x 2,100	
W12	1,800 x 2,100	
W13	1,800 x 2,100	
W14	1,800 x 2,100	
W15	1,800 x 600	
W16	1,800 x 600	

## Drainage

### Manholes

To be 300/450mm dia. pre-formed plastic manhole bases and chambers on concrete base. Where in vehicular area suitable heavy duty covers to be provided with sides surrounded in concrete in accordance with manufacturers details.

Any manhole or inspection chamber located within the building to have a double sealed airtight screw down cover and frame suitable to accept the desired floor finish treatment.

### Foul Water Drainage

All below ground drainage in accordance with BS 8301 to existing system.

Lay 100mm dia. flexible jointed pipes and fittings laid to a minimum fall of 1 in 60 on with 150mm granular surround of 10mm nominal single sized aggregate or 14mm to 5mm graded. Where drains have less than 450mm cover, provide 100mm thick reinforced concrete over to prevent crushing.

Provide 65 x 100mm pre-stressed concrete lintels where drains pass through walls with minimum 50mm clearance around pipe. Mask around all pipe entries to protect against fill and vermin entry.

Drainage trenches should not be lower than the foundations of any building unless a trench within 1m of a foundation is filled with concrete up to the underside of the foundation. Where the foundation is further than 1m from the building the trench is filled with concrete to a level below the lowest level for the building equal to the distance of the building less 150mm.

Drains under driveway with less than 900mm cover to have minimum 150mm minimum granular pea gravel surround and 100mm reinforced spanning over trench and supported either side of trench.

ABS solvent welded wastepipes to BS EN 12056. Branch pipe diameter to wash hand basin and bidet 32mm. Bath, shower, urinal bowl, sink, dishwasher and washing machine 40mm diameter. Unvented bath, shower, urinal bowl, sink, dishwasher and washing machine branch pipes to be 40mm for maximum 3m run and 50mm for maximum 4m run. Fall of pipe should be between 18 and 90 mm/m. Unvented wash hand basin branch pipe 32mm for maximum 1.7m run and 40mm for maximum 3m run. Fall of pipe should be between 20 and 120mm/m depending on length of branch (see diagram 3(b) of AD Part H). 100mm diameter WC branch maximum 6m run with minimum fall 18mm/m. No branch pipe to connect to stack less than 450mm above drain invert.

All wastes to have 50/75mm deep seal traps (See table below). If waste pipe exceeds the maximum permitted lengths either fit anti-siphon traps or anti-siphon valve at head of run. Showers to be fitted with easy access lift out traps for maintenance purposes. Cleaning access to be provided on all changes in directions.

100mm diameter soil vent pipe (SVP) to be provided at head of run and taken up through roof and fitted with proprietary balloon cage terminal or fitted with proprietary roof vent. SVP to terminate minimum 900mm above any opening window within 3m. Other than head of run SVP's can be fitted with air admittance.



BRANCH CONNECTIONS			
Appliance	Diameter/max length pipe	Gradient	Trap depth
Sink	3m max for 40mm pipe 4m max for 50mm pipe	18 to 90mm per m	75mm
Washbasin	1.7m max for 32mm pipe 3m max for 40mm pipe	20 to 120mm per m See graph AD part H	75mm
WC	6m max for 100mm pipe	18 to 90mm per m	50mm
Shower	3m max for 40mm pipe 4m max for 50mm pipe	18 to 90mm per m	50mm
Bath	3m max for 40mm pipe 4m max for 50mm pipe	18 to 90mm per m	50mm
Washing machine	3m max for 40mm pipe 4m max for 50mm pipe	18 to 90mm per m	75mm
Dishwasher	3m max for 40mm pipe 4m max for 50mm pipe	18 to 90mm per m	75mm

Ensure all pipes, fittings and joints are capable of withstanding an air test of positive pressure of at least 38mm water gauge for at least 3 minutes.

Every trap should maintain a water seal of at least 25mm.

SVP to be encased in duct of 2 x 12.5mm plasterboard and skim on sw batten framing with insulation quilt surrounding SVP.

WC cisterns to be fitted with an internal overflow. Ensure boxing and services where they pass through walls, floors and ceilings are sealed where they penetrate to limit outside air infiltration.

### Surface Water Drainage

All new rainwater goods to match fascia and soffits, with continuous downpipes discharging to roddable gullies to an underground 10,000l rainwater harvesting tank (connected to the grey water system for toilets, washing machines & watering) then to a soakaway a minimum 5m from buildings, roads or areas of unstable ground. Soakaway made with soakaway crates or equivalent above. The actual size of the soakaway should be determined by a percolation test. Below ground surface water pipes to have a minimum fall of 1 in 80 on 9mm granular bed with 150mm granular surround, with drains being provided with 100mm thick (1:2:4 mix) reinforced concrete cover where they have less than 450mm cover. Provide ACO or similar profile channel against external wall wherever the ground to dpc clearance is less than 150mm.

### Fire Alarm System

The building should be provided with a suitable electronically operated automatic fire warning system, designed and installed in accordance with BS5839. A commissioning certificate must be provided to the Local Authority prior to the occupation of the building.

### Water Supply & Sewage Connections

The existing water supply to be adapted and extended as necessary to serve the altered and extended works. All works are to be carried out by a certified plumber and in accordance with all current water authority regulations.






The existing sewerage connection will be connected into, and all works are to be carried out in accordance with all current water authority regulations.

## Joinery

### Internal Doors

Internal doors supplied will be FD30 but currently the building regulations only require them to be FD30 for some of the doors. (see table below). All FD30 doors where specified will be installed as per the manufacturer's instructions to maintain the FD30 rating. If they are **not** required to be FD30 these doors will be installed with 3 fire rated hinges and door closers but without the intumescent strip. All door furniture to be of a commercial standard (TBC). All doors to be rated as per the door schedule and building regulation drawings.

Internal Doors for the main public doors to use Howdens Buckmore Light Grey Oak Foil Flush FD30 Fire Doors, some with privacy panels.

D8 & D9	1,100 x 2,100	800mm minimum	Howdens Buckmore Flat panel door No glass Disabled WC FD30 (s)	
D10 to D17	838 x 2,100	800mm minimum	Howdens Buckmore Flat panel door No glass	
D18 to D23	838 x 2,100	800mm minimum	Howdens Buckmore Flat panel door WITH glass FD30 (s)	
D24 & D25	760 x 2,100	N/A	Howdens Buckmore Flat panel door No glass	
D26 to D31	610 x 1,800	N/A	Shower cubicle door	

### Internal Doors Required

Where internal doors are opened manually the opening force required at the leading edge of the door must not exceed 29N. The effective clear width through a single leaf door to be a minimum 750mm in accordance with Table 2 of Approved Document Part M.

## Community Kitchen

To install a 1 ½ bowl sink & tap

Cupboards: White Gloss, handleless – See Howdens quotation.

Worktop: - High standard “black with flecks” 40mm laminate installed using a masons mitre.

See additional specification from Howdens estimate.

## Kitchen Equipment

The following kitchen equipment is to be domestic Howdens cupboards and the following is required: -

- 1 x built in double oven (Electric)
- 1 x built in microwave
- 1 x built in undercounter fridge
- Water heater (see assumptions)

The cost of the kitchen, without discount (see assumptions) for cupboards, appliances, sink, tap, panels, plinths and worktops have been included in the cost. (see assumptions)

## First Floor Kitchenette Equipment

- 1 x built in Larder fridge freezer
- Water heater (see assumptions)

The cost of the kitchenette, without discount (see assumptions) for cupboards, appliances, sink, tap, panels, plinths and worktops have been included in the cost. (see assumptions)

## Messy Room Kitchen Units

The cost of the storage cupboards and Belfast sink, without discount (see assumptions) for cupboards, sink, tap, plinths, panels, and worktops have been included in the cost. (see assumptions)

## Architrave & Skirting

All Architrave and skirting to be mechanically fixed with glued mitres, and all holes and joints to be caulked. The architrave and skirting profile will be or similar to Howdens Burford contemporary MDF profiles. (Skirting at 96mm and architrave at 70mm).

## Benching for Changing Rooms

A combination of 2000mm and 1000mm units to fit within the changing rooms, and one unit in the referee changing room. To be robust sports changing room benches with coat hooks, ash slatted seats (450mm height).

[Changing Room Benches | Single Sided Island with Ash Slats \(commercialwashrooms.co.uk\)](https://commercialwashrooms.co.uk)

## Stairs

Design is to conform to BS 5395-5 and constructed as follows:-

- Rise to be 16 @ 165.60 mm
- Going between 250mm with 25mm nosing
- Width - 1,000mm minimum clear between strings.
- Headroom – minimum 2M measured vertically above nosing.
- Guard-rail to landing - 1.1M high and non-climbable.
- No space in the construction to exceed 99mm.
- Maximum pitch of staircase to be 42°.

- Stairs to have a handrail on both sides.
- Handrail to extend min 300mm at bottom of stairs.

Stairs should be of limited combustibility ie: **manufactured from galvanized steel.**

## Mechanical & Electrical

### Renewables

The building will be heated using an Air Source Heat Pump through underfloor heating, The main room will require a range of heating requirements. The average temperature required will be: -

- Meeting rooms & training Rooms 20°C
- Lobbies, kitchens, changing rooms & WCs 18°C
- Sports hall 15°C

The building will have at least 25KW of solar PV installed on the eastern roof utilising 30KW of batteries (10kw per phase)

### Utilities Connections

The site currently has single phase electric, water and foul water connected.

Services	Existing	New connection point
<b>Electrical</b>	Single phase	3 phase, In Plant Room
<b>Water</b>	Connected to SWW	Extended to new entry point in the new building.
<b>Foul</b>	Connected to SWW manhole within site boundary.	Connecting into the existing manhole within the site boundary.
<b>Surface water</b>	Surface run off into grass area.	To rainwater harvesting tank and in to soak away within the site boundary.
<b>Telephone</b>	None	New fibre broadband connection

### Electrical

- Switches/controls requiring precise hand movement 750 – 1200mm above floor level.
- Pull cords for emergency alarms to be red with 50mm diameter bangles at 100mm and 800 – 1100mm height above floor level.
- Sockets no closer than 350mm to corners of room.
- Sockets to be located between 400 – 1000mm above floor level.
- General public use switches to have large push pads aligning with door handle between 900 – 1100mm above floor level.
- Front plates to contrast with background.

Room	No. of Double Sockets	Additional requirements
Plant Room	X 4	Requirements for the heating system Rainwater Harvesting pump connection Connections for Extraction for changing room areas. Cat 6 network point
Changing Room x 2	X 2 (one with USB A&C)	
Referee Changing/Disabled WC	N/A	Hand dryer Call Point
Lower Lobby	X 4 (one for digital signage display)	Cat 6 ceiling network point for WIFI point Cat 6 Network for tv
FF Disabled WC	N/A	Hand dryer Call Point Electric fan
WC (2 x public & 2 x changing room)	N/A	Electric hand dryer connection
Community Kitchen	X 8 (2 with USB A&C)	Hot water heater Fridge Oven Microwave
Sports Hall Storage cupboard	X 4	Connections for Extraction for changing room areas.
Sports Hall	X 8	Audio Visual equipment (see assumptions) Cat 6 ceiling network point for WIFI point Connection point for West elevation extractor fan
Meeting room 1	X 5 (4 walls and 1 TV point)	Cat 6 Network for tv Cat 6 ceiling network point for WIFI point

Large storage cupboard in Messy Room	X 4	Cat 6 switching unit for WIFI points Connections for Extraction
Meeting room 2	X 5 (4 walls and 1 TV point)	Cat 6 Network for tv
Upper Lobby (kitchenette)	X 4 (4 walls and 1 TV point for digital signage display)	Hot water heater Fridge / freezer
Messy Room	X 8	Cat 6 ceiling network point for WIFI point Cat 6 Network for ceiling projector 20amp fused spur for lift
Exterior	4 waterproof double sockets	

*Electrical installation for each room.*

A Hand dryer (Gorillo Junior) will be installed in each toilet. (See assumptions)

A complete Wi-Fi network will be installed throughout which will be connected to fibre broadband, to be connected and installed within these works. Additional CAT6 network points will be installed behind TV displays x 4 and projector mount.

### Protection Security Alarm & Door Access Control System

This will be fitted to the current regulations and will include sensors on all doors as well as PIR detection in all main rooms and corridors. It shall be fitted with a telephone dialler to notify individuals of the activation. It shall provide an external siren. It will need to be deactivated via Bluetooth devices, key fobs and keypad. The main entrance door will be Bluetooth enabled such as the Yale system, that can be linked to the Hall Master Booking software. All other entrance doors to be normal locks with thumb turns on the inside.

An 8 camera CCTV system will be installed covering the outside of the building and the main entrance doors. This will be a simple IP addressable system with monitoring and playback over the network/internet.

### Lighting

Emergency lighting and exit signage will be installed to the latest regulations. All lighting, except the sports hall will be LED recessed downlight spots to achieve the lux levels for the specific areas, designed to provide suitable consistent lighting across each area. The sports hall will use LED high bay luminaires. The lights will include emergency M3 as part of the lighting layout. The lighting scheme will NOT use surface mount NM3 fittings for emergency lighting requirement, but they will be integral to the general luminaire.



Provide 100% energy efficient internal light fittings and lamps throughout to be capable of taking lamps having a luminous efficiency greater than 40 lumens per circuit-Watt. Energy efficient external security lighting to be a maximum wattage of 150w and fitted with movement detecting (PIR) and daylight cut-off devices. External lighting should be LED and to be switchable from inside the property.

External lighting will be downlighters recessed into the soffits along the East, North and West Elevations, As well as under the entrance canopy. To provide an even light spread across the building facade.

All external lighting connected to the building to be controlled by a daylight sensor with the ability to easily switch off all exterior lighting, if required. Additional solar powered external lighting to provide low level lighting to illuminate the pathway to be included.

Room	Lux Level	Dimmable
Plant Room	500	No
Changing Room 1	150	No – PIR
Changing Room 2	150	No – PIR
Referee Changing/Disabled WC x 1	150	No - PIR
FF Disabled WC	150	No - PIR
WC x 4	150	No - PIR
Sports Hall Storage cupboard	300	No - PIR
Community Kitchen	500	No - PIR
Lower Lobby	300	No
Sports Hall	500	No
Meeting room 1	500	Yes
Large storage cupboard in Training Room	300	No
Meeting room 2	500	Yes
Upper Lobby (kitchenette)	500	No
Messy/Training Room	500	Yes

Exterior	Downlighters only within soffits and canopies	Dawn to dusk sensor with override switch. Additional PIR on corner of building.
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*Required Lux levels for each room.*

## Plumbing

All plumbing to be to the latest regulations, including MV3 mixing valves on all hot water taps and shower units.

## Hot Water & Heating System

An air source heat pump to generate heat for the heating and the hot water system. The hot water system is to have a return pump fitted and will utilise underfloor heating within the floor screed.

The hot water and heating will be provided by the air\* source heat pump and associated equipment. The heating system will be delivered through under floor heating designed for low temperature water from the air source heat pump.

The hot water system will have two hot water tanks. A 750 litre thermally insulated tank for the showers and a 250 litre water tank for the pumped return hot water system for taps.

The air source heat pumps will be Vaillant AroThemro in a cascade system, (or equivalent heat pumps that can operate as a cascade and with similar SCOP values) with an estimated heat pump load of approximately 22-26KW (installer to clarify and confirm their own heat load calculations).

*\*Ground source heat pump will be utilised if funds allow. This will be determined with the selected contractor before the ordering and installation of the system.*

## Mechanical Ventilation

The building to be fitted with continuous mechanical ventilation and heat recovery system (MVHR) to be designed and installed by specialist contractor. Provide any fire collars that may be required where any ducts etc pass through structural elements of structure or protected corridors etc. Mechanical ventilation systems upon installation to have air flow rates etc measured and system effectiveness tested on site and a copy of the results and commissioning certificate to be given to Building Control. Conditional approval required for the design of the MVHR system. Ground floor – the MVHR system will be mounted in the Plant room and/or the sports hall storage cupboard. It could be provided by either a single or two systems. The first-floor system will be mounted in the Messy/training room storage cupboard. To balance the system fresh air could be provided across both floors to maintain a constant air flow.

Sports Hall – a high level extraction fan will be installed on the West elevation at the highest level. To remove heat and to circulate the air within the sports area.

## Toilets

Taps capable of being operated using a clenched fist eg lever type. Light action privacy bolts that allow doors to open outward from outside in the case of emergency. Surface finish of sanitary fittings and grab bars should contrast with the wall and floor. There should be a visual contrast between the wall and floor. Layout of WC and provision/arrangement of fittings should be in accordance with current building regulations. Emergency assistance alarm system to be provided.

Each cubicle to have a toilet, sink with push mono tap (inc MV3 mixing valve) which has a water run time of at least 7 seconds. Each WC will have a separate Hand dryer to be Gorillo Junior (White and Blue).

All disabled Doc M packs to be chrome/stainless steel in colour with a contrasting black/dark grey upvc wall panels on two walls and white painted finish on the remaining two walls.

### Shower Cubicles

3 showers cubicles for each changing room.

The shower cubicles will be purchased through [Toilet Cubicles Online | Shower Cubicles](#). The colours of the Triple units will be Clay Sangha Wenge for the Doors and Aluminium for the pilasters. One unit will be a right hand and one is a left hand configuration.

The shower walls will be covered with Altro White Rock or equivalent covering the wall and connecting to the cap and cove flooring, all installed to the manufacturer's instructions.

Drainage for showers to be specialist Altro connected floor surface drains, with the floor fleted to allow water run away.

The referee changing rooms will have specialist Altro connected floor surface drains, with the floor fleted to allow water run away with Altro White Rock or equivalent covering the wall and connecting to the cap and cove flooring, all installed to the manufacturer's instructions.

All shower panels to be surface mounted with a push button operation with a built-in shower head (See Assumptions).

### Rainwater Harvesting

The rainwater harvesting tank will be a 10,000 litre below ground system with a pressurised non return pump to directly feed the toilets and an outdoor tap mounted in the plant room. The system will have an expansion vessel (minimum 30 litres) to reduce the number of pump operations. (See Assumptions).

### Platform Lift

The platform lift from Ability Lifts will have fire rated doors and be suitable for the commercial sector. Such as the Optimum 100c. (See assumptions)

## Final Finishes

### Flooring

All flooring to be laid in accordance with the manufacturer's recommendations.

Altro – **Hippo (AQ12013)** with cap & coving.). To be installed as per manufacturer's instructions.

LVT Planking – **Blackened Spa Wood (SS5W3025)** by Amtico (Spacia range). To be installed as per manufacturer's instructions.

Komfort Elite – This is a specialist sports hall sprung flooring system manufactured by Dynamik, finished in oak. The price in the assumptions is supplied and fitted including door thresholds and hardwood skirting board.

Room	Flooring Type	Skirting Type
Plant Room	Altro	Altro Cove & Cap
Changing Room 1	Altro	Altro Cove & Cap
Changing Room 2	Altro	Altro Cove & Cap
Referee Changing/Disabled WC x 1	Altro	Altro Cove & Cap
FF Disabled WC	Altro	Altro Cove & Cap
WC x 4	Altro	Altro Cove & Cap
Sports Hall Storage cupboard	Komfort Elite	Fitted with flooring
Community Kitchen	LVT	Wood
Lower Lobby	LVT	Wood
Sports Hall	Komfort Elite	Fitted with flooring
Meeting room 1	LVT	Wood
Large storage cupboard in meeting room 1	LVT	Wood
Meeting room 2	LVT	Wood
Upper Lobby (kitchenette)	LVT	Wood
Messy Room	LVT	Wood

### *Flooring requirements for each room*

#### Wall & Woodwork Finishes

All walls will be painted white with 2 layers of base coat and then a topcoat of a durable finish (e.g. Dulux Trade Diamond Matt). All woodwork to receive at least 2 coats of water-based stain in Mid-grey (TBC).

#### Pathways & Landscaping

There will be a pathway between for the main entrance and across the building front constructed using coloured and pressed, patterned concrete.

### Specialist Works & Assumptions

#### Baby Changer

To provide a horizontal baby changer within the disabled WC on both floors. (see Assumptions)

#### Audio Visual Equipment

The audio-Visual Equipment has been specified in an additional document. The exact location of the items will be confirmed before ordering and installation of these items with the project team. (See Assumptions)

#### Acoustic Panels

Meeting rooms 1 & 2 – Full height to ceiling oak acoustic panelling across the long wall.

Training/Messy room – 5 off 1200mm x 40mm circle acoustic ceiling raft

Main Hall – 12 (Ceiling) & 9 (Walls) off 2400cmm x 120mm x 40mm white acoustic wall panels

(For all acoustic panels see Assumptions)