



# **Paddock Wood Community Centre Design Summary Statement**

## **Client Brief:**

The brief is to provide a community centre for Paddock Wood that is self-sufficient financially and can accommodate a wide range of groups from cubs/ brownies to amateur dramatic performances. The pre-school nursery is critical to the future financial plan for the community centre.

The requirements are:

- A hall that can accommodate 300 people but also be split into 3 smaller halls for smaller groups
- A kitchen that can either serve as a café area or as a function of the hall for events.
- A café seating area with links to outside
- A reception office
- A small dedicated meeting room
- A variety of stores in a range of sizes to be rented out to groups to link to regular bookings
- Toilets to suit hall use
- A suitable plant room for the building's use
- An entrance lobby that provides the building with protection from wind
- A pre-school nursery including 2 classrooms to accommodate 40 children.
- Car and Bicycle Parking for the proposed use including the existing playing fields
- Delivery bay which can also be used for external catering if needed
- A design that minimises impact on the playing fields and ensures there are suitable tennis facilities
- A design which takes on board the character of the area but also creates its own presence.
- A suitable location for a memorial sign to be on the building to remember those fallen in wars.
- A building that meets the budget and is deliverable.



## **Design History of the project**

Frankham Consultancy Group Ltd was appointed by Paddock Wood Town Council to develop up to RIBA Stage 3 proposals for a new community centre in Paddock Wood. Their commission ran from 2017 to the end of 2019.

The proposals include a community centre with complementary pre-school nursery as per the client's brief. The design was rectangular in both elevation and plan and with a modern appearance. The car park wrapped around the building to the north, and to allow for a delivery vehicle turning, took a corner off the existing tennis courts. It included an external plant room located close to the road, as well as a nursery play area, that was separated from the classrooms by a public footpath.

This design went out to tender in 2019 for a 2 stage design and build contract which allowed the tenderers to review the existing design to find improvements with a specific request to minimise impacts on the playing fields.

In September 2020 Baxall Construction were appointed by Paddock Wood Town Council for the pre-construction stage for the Paddock Wood Community Centre, on the Memorial Field Site off Maidstone Road, as a design and build contractor. The original scheme developed by Frankham Consultancy Group Ltd was reviewed by Baxall Construction and developed with new design consultants including:

- Miller Bourne Architects
- Lizard Landscape Design and Ecology
- Evans and Langford LLP
- Kench Consultants
- DHA Planning and Transport
- Anderson Acoustics
- Harwood Building Control Approved Inspectors

Between September to November 2020 the design team met with members of Tunbridge Wells Borough Council, Paddock Wood Town Council and the Paddock Wood Community Centre Working Group to refine and finesse the layout, appearance and setting of the building. During these client engagement meeting, the design has been developed to take into account the following:

- Develop a building with an architectural appearance that is high quality, attractive and responds positively to its setting and function
- Develop the site layout for the Memorial Field Site that minimises the land take of the new Community Centre; locates the new building, roadways and car parking in the most logical location as well as relocating tennis courts and enable the potential for future extensions to take place, should they be required
- Develop a Masterplan Layout for the Memorial Field Site that maximises the retention of as much of the existing Recreation Field as possible by developing



architectural designs that have “tight” internal planning and associated car parking with the minimum number to provide an optimum solution

- Develop a Masterplan Layout for the Memorial Field Site that retains the open surface car parking provision for users of the existing Recreation Field and retains and aims to enhance it with new car parking spaces appropriate for users of the new Community Centre
- Develop a Masterplan Layout for the Memorial Field Site that provides pedestrians, cyclists, motor cyclists, car users and disabled users with appropriate and adequate routes in to and around the developed site to serve the new Community Centre and its facilities
- Develop a building design with floor areas and room adjacencies in accordance with the criteria set by Paddock Wood Town Council
- Develop further and select appropriate materials and constructions that are robust, long lasting, fire resistant, easily maintained, sustainable and future proof

The Baxall team have developed the Frankham’s design principally through reviewing the location of 3 key items, the car park, tennis court and nursery. This document provides a brief summary of each of the disciplines as a development of the previous reports issued by Frankham’s.

We have provided draft planning reports, drawings and statement to cover the following elements ahead of further discussions on the 8<sup>th</sup> December at the council meeting:

- Architectural Drawings
- Landscaping Drawings
- M&E Drawings and Renewables Report
- Drainage Strategy
- Draft Transport Statement
- Draft Planning Statement
- Acoustic Noise Report
- Air Quality Assessment
- Arboricultural and Ecology Reports
- Site Investigation Reports

Please note all reports and drawings are in draft format and are continuing to be updated. They will consider all public consultation feedback, feedback from the Council meeting on the 8<sup>th</sup> December 2020 and design co-ordination and development ahead of the planning application.



## **Architectural Design Strategy**

It was critical that the areas of accommodation previously agreed were maintained, but the layout needed to become as efficient as possible to bring the project within budget. It was important that the impact on Memorial Field should be reduced, and if possible, sufficient space maintained on the field for a cricket pitch. The nursery layout also needed to be reconfigured so that it was DfE compliant and it was agreed that the resulting building still needed to harmonise with the character of the area, whilst creating its own presence.

### Use and Layout

The layout of the Paddock Wood Community Centre has been carefully developed to create a compact and efficient footprint: this will both reduce the impact on Memorial field and make for an affordable, sustainable building. The new building will offer a flexible, modern and accessible venue for many local groups to use, such as the U3a, brownies, sports clubs, and amateur dramatics, as well as providing a DfE compliant nursery.

The decision to relocate the tennis courts (to the north corner of the field), means that the building itself can be pushed towards the north west. This in turn makes space for a compact car parking layout to fit entirely to the east of the centre, with no need to wrap around the building or extend south into the field. This is a significant reduction in the area of the Memorial field impacted by the scheme, and also means a cricket pitch will still be viable. It is hoped that the centre will offer facilities for existing users of the Memorial Field pitches, whilst also encouraging more community use of the area.

On arrival at the site, visitors are welcomed by a fully glazed central entrance area, which will house both a small reception office and a café facility. Café seating within will mean a strong visual connection between those approaching the building and those inside. An additional external door to the south will allow for outdoor café seating when weather permits.

The heart of the community centre is the large, airy hall positioned to the south of the building, which has generously sized windows and doors looking out across the Memorial Field. The hall can be divided into a combination of smaller spaces, using acoustic partitions and has a number of stores to house event furniture and staging. A large community kitchen has been positioned so that it can serve both the front entrance area and the hall, with the option to be divided into two smaller spaces in the future if required.

The central circulation spine of the building is an efficient space, accessing all parts of the community centre, including the meeting room to the west, toilets to the north and several additional stores, including a wash up area for craft activities. A rooflight will provide natural daylight to this space.

The nursery is positioned to the north of the building and offers two classrooms, each

for 20 children. The sloping roof means that the classrooms will feel light and spacious, with large north-facing windows to provide daylight, but avoid excessive solar gain. The layout now complies with DfE minimum areas, ensuring that the facility will meet the needs of any private company wishing to operate here. The nursery connects directly to a dedicated outside hard play area, which is separated from public areas to ensure suitable safeguarding. Although the Community Centre and the Nursery sit alongside each other, the nursery operates independently, with separate internal circulation, entrance and sanitary facilities, in the interests of child safety.

### Appearance and Materials

The proposed butterfly roof arrangement for the new community centre results in an easily recognisable and distinctive form. The shape of the building also conveys the functions within; the single-storey central circulation spine behind the glazed front entrance, flanked by the strong sloping forms of the hall and nursery to either side. The pitched roofs will also create light, airy, high ceilings to the Hall and Nursery within, aiding with natural ventilation of these spaces.

The new centre is a contemporary design, but the chosen materials aim to harmonise with the local properties and the 'Kent Vernacular'. The building does not attempt to mimic the red brick and black shiplap boarding of the surrounding traditional farms and oast houses, but rather suggests a contemporary twist on these materials, by using a horizontal timber-effect cladding in a pleasing palette of three natural colours.

The central core of the building features red brindle, stretcher bond brickwork panels and glazed walling to allow the two separate elements of the hall and the nursery to remain distinct forms. The building is grounded with a matching brick plinth which continues along the perimeter of the entire building. The natural ventilation chimneys spaced evenly along the hall roof signpost the building's sustainable credentials – and are a nod to the rows of traditional oast cowls.

The timber-effect composite cladding has also been selected as it is a durable, impact-resistant, low-maintenance product that will mean reduced running costs, especially compared with real timber. It has an 'A2-S1-D0' fire rating meaning it is of limited combustibility, produces little or no smoke and does not contribute to the spread of fire.



## Landscape Design Strategy

The landscape design scheme for the proposed Paddock Wood Community Centre would seek to complement the quality of the architectural design proposals whilst enhancing the associated circulation areas and external layout of the new community buildings.

The proposed planting strategy would include ornamental species to the Community Centre and Nursery softening the approach to the building and strengthening its identity and legibility.

The soft landscape proposals to the Community Centre would feature 'signature' tree planting to the frontage entrance to help define the environmental character and long-term identity. Flowering groundcover shrub planting providing structure to the scheme, incorporating accent and specimen planting providing seasonal interest as well as texture, colour and scent.

The scheme would incorporate hedgerow planting to the car park - softening and filtering visibility of vehicles within the space, to be maintained at an appropriate height to aid visual permeability across the space. Additional robust shrub planting would be implemented to the building facades as a defensive aid to circulation about the external environment. The planting scheme would seek to promote on site biodiversity gain and increased habitat provision.

The landscape scheme seeks to maintain as far as possible the current provision of the playing fields whilst providing new and improved sports provision through relocated tennis courts secured, as through the rest of the scheme, with considered boundary treatments and site specific fencing. The proposed Community Centre Nursery would be provided with secure areas of external play and learning space above minimum required provision, enhancing the opportunity for socialisation and interaction for the younger pre-school children within the community.

Feature / Specimen Tree Planting



Mixed Perennial Planting - textural interest, colour and movement



Flowering Shrub / Groundcover Planting



Defensive shrub and ornamental hedgerow planting.



Species-rich UK provenance flowering lawns and wildflower grassland



Structure and year round form. Species selection to include Plants for Pollinators, encouraging opportunities for species of invertebrate such as butterflies and bees.



## **Trees and Ecology**

The scheme has been designed to retain and protect boundary vegetation throughout the scheme to both maintain the existing setting and character of the playing fields but also to ensure continued preservation of existing ecological habitats. Impacts upon the ecological and arboricultural resource have been designed out wherever possible following on site survey and assessment and an iterative involvement throughout the design process to support of the design team.

Ecological and Arboricultural recommendations have been brought through the design to incorporate ecological enhancements, for example, through the soft landscape species rich planting proposals or through the inclusion of bird and bat boxes to the Community Centre building. The design has sought to protect trees in accordance with current best practice recommendations to maintain the character and setting to both the existing playing fields and the Maidstone Road and to integrate the scheme within the context of the surrounding environment.



## **Mechanical and Electrical Proposals Summary**

### Plantroom

The main plantroom has now been relocated internally to the building to reduce costs & service distribution energy losses. All central plant will be located within the plantroom with pipework all distribution leaving the plantroom at high level to distribute within ceiling voids.

### Domestic Hot & Cold Water Services

A gas fired water heater located within the plantroom will serve high usage areas, such as toilets and the kitchen. This allows high 1<sup>st</sup> hour performance to deliver sufficient water during peak periods, while being extremely efficient of up to 95%. Low usage outlet areas could consider utilising point of use, if required.

### Ventilation

The ventilation strategy has been completed redesigned. We have moved away from a full mechanical ventilation strategy and have introduced hybrid and natural ventilation solutions, this allows the building to utilise free cooling during summer nights without the need for full packages MVHR systems. Internal offices and spaces which do not have enough openable windows will utilise MVHR, however on a much smaller scale.

### Space Heating

All areas except nursery & community hall will utilise underfloor heating, this allows lower F&R temperatures to increase boiler efficiencies and run in condensing mode. Nursery & Community Hall will be heated via hybrid heater batteries which will warm the air (fresh or recirculated) to provide the space with conditioning.

### Electrical

We have proposed LED lighting and rationalised the existing electrical distribution design to provide a more economic solution that is easier to maintain.

The car park includes electric vehicle charging bays as well as external lighting and CCTV cameras. The main lighting circuit will be controlled with a central time clock to ensure that lighting is only provided when necessary, the system will also be provided with Dusk-to-Dawn sensors which will override the timeclock to allow for changing seasons.

### Sustainability Approach

To provide the centre with an economical yet sustainable solution the proposals for the project include a variety of sustainable systems as well as making use of gas.

There is a significant amount of solar panels planned to be located on the roof and nursery building which will offset the carbon emissions of the building and the building has mechanically assisted natural ventilation. This removes the need for air conditioning and ensures fresh air throughout the building.



The heating system will utilise high efficiency gas fired boilers within Duty / Assist configuration to provide resilience in the event of a breakdown, from the gas fired boilers secondary distribution pipework will be utilised to provide heating throughout the building. All pipework is to be well insulated to prevent energy loss during circulation.

The majority of the community centre will be heated via wet underfloor heating, which utilises a lower flow & return temperature in comparison to radiators. This allows the gas boilers to utilise a condensing mode, thus increasing efficiency and utilises rejected flue heat to preheat water as it circulates through the boiler.

The Nursery Classrooms & the Community Hall will be supplied with Hybrid Thermal Mixing units which have integral heat batteries to temper incoming fresh air and provide heating conditioning to each space.

The Nursery classrooms shall be provided with a single hybrid thermal mixing unit installed at high level which will control room CO2 & temperature during operations. This device monitors the room conditions and provides natural ventilation until the room conditions require additional ventilation by utilising a low energy fan within the unit.

The Community Hall utilises a combination of Hybrid Thermal Mixing units and three Wind Catchers. Both systems will operate in unison, both defaulting to natural ventilation first until the fan is required from the Hybrid Thermal Mixing unit to boost ventilation requirements.

Designs will ensure that should the facility ever wish to switch across to alternative environmental options, this can be accommodated to a degree at a later date.



## **Civil Engineering Summary**

### Drainage Proposals

For this scheme reference is made to the requirements of Sustainable Urban Drainage as detailed in the Ciria Suds Manual Version 2. The principle of the surface water design is to attenuate the runoff within the carpark pavement build-up, with an outfall that is limited to the greenfield runoff rate. The Type 3 sub-base acts as the attenuation tank, which keeps the drainage system to a shallow depth. During the soil investigation groundwater was found, so by utilising a near surface storage, as opposed to a deeper tank, the risk of floatation and groundwater contamination is minimised. The outfall will be via a Hydrobrake limited to 5.4L/s as noted in the Flood Risk Assessment, which will then connect to the existing surface water sewer in Maidstone Road.

For the foul drainage a connection will be made to the existing foul sewer in Maidstone, and we are currently in discussion with Southern Water.

### Foundation and Ground Conditions Proposals

The site is underlain successively by clay Head and the Weald Clay Formation, with these two materials separated by a thin layer of River Terrace Deposits (sand/gravel), that is of variable composition and thickness, and not always present. Conventional trench fill foundations will be appropriate, but these will need to be designed to isolate the structure from seasonal volume changes in the clay soil, which are exacerbated near trees. The conifers adjacent to the tennis courts were removed recently enough that their presence, and potential drying effects on the clay beneath, will need to be taken into account in the design, however, the high water table encountered on the site will mitigate this to a degree.

Groundwater levels have been monitored since the ground investigation fieldwork took place and recorded at between 0.47-1.20m below ground level. Groundwater will need to be managed carefully throughout the groundworks.

Analytical testing shows that the site can be regarded as uncontaminated and no remediation works are likely to be necessary, unless something unexpected is found during excavation work. It is likely that any soil arising can be taken to an inert waste landfill, but this will need to be confirmed with the waste carrier.



## **Superstructure Approach**

Baxall Construction are proposing a Closed Panel Timber Frame for the building working with The Timber Frame Company (TTFC). The choice of this modern method of construction using offsite manufacturing will provide a sustainable robust system which meets the needs of the building.

Construction processes are responsible for 11% of the world's carbon emissions. Offsite construction helps reduce this through the selection of materials and manufacturing processes. With the careful management of all manufacturing logistics and sequencing, this enables the reduction of potential waste, risk and costs without any compromise to product quality.

Responsible procurement for the construction of any building can mean not only a reduction in carbon emissions in during the construction process but also throughout the lifetime of the building.

TTFC's modular timber panel system has been developed to produce a standardised low carbon building envelope which is also durable and cost efficient that meets and enhances the standards set.

### Durability

TTFC Modular timber frame panels are externally faced with 9.5mm OSB3 which has the durability in accordance to EN300 and has an estimated expected service life of at least 60 years, provided the product is installed and maintained in accordance with the manufacturer's instructions.

The panels are internally face with 12.5mm Rigidur board which has a Brinell surface hardness of 35N/mm<sup>2</sup> and has an estimated expected service life of at least 60 years, provided the product is installed and maintained in accordance with the manufacturer's instructions.

### Sustainable sourcing

All timber based products used in the Modular panel system are sourced from sustainably managed forests through our certified supply chain.

All insulation products used are manufactured with zero ODP and use CFC and HCFC free materials.

Rigidur board is manufactured from recycled paper.

### Gains versus traditional building method

Constructing in timber frame can reduce the amount of water used in construction by up to 50%.

Heating a timber frame building can save up to 4% in energy versus a traditionally built house with the same designed performance levels.



With a timber frame system, it is a lightweight structure which can reduce the amount of concrete in the foundation saving the stakeholder time, money and reducing the amount of carbon footprint in the construction process.

Timber is the only sustainable renewable commercially available building material. With trees absorbing 1 tonne of CO<sub>2</sub> for every cubic of growth.

Speed of build – up to 30% quicker.

Timber is a sustainable material which is sourced from managed forests making it a renewable product. In Sweden alone, there are 12 saplings planted every second to replace harvested trees.

The harvesting, production and transport of timber produces 5 times less CO<sub>2</sub> than traditional construction materials.



## Acoustic Summary

The hall and nursery spaces have been designed to provide suitable acoustic conditions appropriate to the intended use of each space with reference to relevant standards and guidance. The noise impact assessment for amplified music noise breakout from events has been carried on the basis of a draft noise management plan set out below. This plan should be further discussed and agreed with the Client to ensure that the plan can be implemented. This should be added to the design risk register until the noise management plan has been agreed.

- › Amplified music to cease by 23.00 hrs.
- › Amplified music events to be kept to reasonable sound levels as condition of hall hire (responsibility of booker).
- › Hall management committee to be mindful of bookings where amplified music proposed (frequency and
- › duration of events, permissible size of sound system).
- › Doors/glazing to south façade to remain shut during parties and events with amplified music.
- › Smoking area to be restricted to north side/car park area (where lobbied entrance doors are provided to
- › control breakout noise).
- › Display signage reminding patrons to leave premises promptly and quietly, limiting noise and being
- › considerate of neighbours when leaving premises.
- › Display (both inside and outside hall and online) notice of site contact details in case of noise complaint.
- › Glass bottle recycling to be restricted to 07.00-23.00 hrs.

A sound limiter to control amplified music levels within the hall is not proposed at this stage, as these can cause operational issues where the limiter is set too low and can also result in tampering of the system. Some bands and DJs will actively avoid bookings in halls with sound limiters. Therefore, the hall has been designed to provide acoustically attenuated natural ventilation units and sound insulated glazing and façade constructions that will allow for sufficiently high levels of amplified music without the need for a limiter. This approach relies on reasonable management of hall bookings and this should be added to the design risk register for sign off by the Client.

Where appropriate and technically justified in accordance with Building Bulletin 93, alternative performance standards (APS) are proposed as clarified in Table 3.1. Note this is provided for information only, there is no Statutory Requirement for the Employer or Building Control to provide written confirmation to agree and sign off areas of alternative performance standards however this list is useful to summarise potential design risks.

**Table 3.1: BB93 Alternative performance standards and areas of non-compliance**

Area of non-compliance	BB93 recommended standard	Proposed APS	Justification
R119 Kitchen to R125 Main Hall airborne sound insulation	$\geq 55$ dB $D_{nT,w}$	18 dB $R_w$ hatch	BB93 exception 1.2.3 a) Hatch and access door between kitchen and hall. Client will need to accept reasonable management of kitchen will be necessary when R125 is in use for an unconnected booking.  RISK: LOW
RR03 Staff Work to R15 Class 01 airborne sound insulation	$\geq 45$ dB $D_{nT,w}$	35 dB $R_w$ door 45 dB $R_w$ wall	BB93 exception 1.2.3b)  RISK: LOW
R04 Group Room to R15 Class 01 airborne sound insulation	$\geq 45$ dB $D_{nT,w}$	35 dB $R_w$ door 45 dB $R_w$ wall	BB93 exception 1.2.3b)  RISK: LOW
R08 Hygiene to R12 Class 02 airborne sound insulation	$\geq 45$ dB $D_{nT,w}$	undercut door 35 dB $R_w$ wall	Use to be managed in classroom  RISK: LOW
R13/R14 WCs to R12/R15 Class 01/02  Airborne sound insulation	$\geq 40$ dB $D_{nT,w}$	No acoustic rating – open plan	Open arrangement needed for supervision. Toilets are not shared by other classrooms and use will be managed. RISK: LOW
Between Hall 01/Hall 02  Between Hall 02/Hall 03  Airborne sound insulation	$\geq 50$ dB $D_{nT,w}$	55 dB $R_w$ moveable wall 40-45 dB $D_{nT,w}$	BB93 exception 1.2.3 c) The end user should be made aware that reasonable management of activities is required when independent bookings use adjacent spaces simultaneously.  RISK: LOW