

# Appendix 1: Whitchurch Swimming and Fitness Centre Feasibility Study





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## **APPENDICES**

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## 1.0 Introduction and background

Built in 1974, Whitchurch Swimming Centre comprises a 5-lane, 25m pool and changing facilities.

The centre has been closed since March 2020, initially due to the national lockdown as a result of the Covid-19 pandemic, and further to that as a result of the structural problems identified whilst investigating the cause of a leak from the pool tank, which include underpinning issues and deterioration in the fabric of the building.

Shropshire Council's Property Services Group has commissioned investigation work to identify the immediate, medium and, longer term maintenance requirements and costs associated with these to be able to re-open the existing facility and maintain it to an acceptable standard. However further structural investigation work has also taken place which has resulted in the structural engineer stating:

*"We caution that the swimming pool is likely to continue to settle due to the inadequate foundations to the swimming pool and structure. Further cracking and lifting of tiles to the pool and pool surround will continue to occur. Whilst further remedial works can be undertaken to address issues at movement joints, lifting tiles, etc we advise that this is not considered cost effective due to the inadequate foundations and the age of the structure. Consideration should be given to the whole life cost of a replacement building and pool over the ongoing running and maintenance costs of the existing facility".*

Alongside the maintenance investigation works an outline feasibility study was commissioned, through Strategic Leisure Ltd, to review the business case for investment in a new facility to be able to compare this option with carrying out the necessary repairs on the existing facility.

Of the six options considered for replacement, the option recommended by the Council to be taken forward is **option B new build**, with a 6-lane, 25m pool with movable floor, 35-station fitness suite, dance studio and café with 20 covers.



### Architects



### Roberts Limbrick Ltd

The Carriage Building  
Bruton Way  
Gloucester GL1 1DG  
Tel. 03333 405500  
Email: mail@robertslimbrick.com

### Quantity Surveyor



### Press & Starkey

3rd Floor, West Wing  
Rosanne House, Parkway  
Welwyn Garden City AL8 6HG  
Tel. 01707 325408  
Email: welwyngardencity@pressandstarkey.com

### Structural / Civils



### Furness Partnership

The Paper Hall  
Anne Gate  
Bradford BD1 4EQ  
Tel. 01274 392092  
Email: reception@furnesspartnership.com

### MEP / Sustainability



### CGP | MEP

Royal House  
28 Sovereign Street  
Leeds LS1 4BA  
Tel. 0113 255 2042  
Email: enquiries@cgpmp.com

### Ecology



### Wildwood Ecology

Queen Anne House  
66 Cricklade Street  
Cirencester GL7 1JN  
Tel. 01285 610145  
Email: info@wildwoodecology.com

### Client objectives

To improve health and well-being at all stages of life and that physical activity is an integral part of this.

### Client vision

Shropshire will be a county where healthier, active lifestyles are encouraged, supported and facilitated for everyone. Key aspects include:

- Support for the creation of a high quality and sustainable indoor leisure facility mix, which provides accessible and inclusive activities for all Shropshire residents leading to increased participation and active lifestyles, thereby meeting community need
- Recognising the importance of leisure facilities as relevant community spaces, accessible to all and offering opportunities for the delivery of a wide range of activities, services, support and entertainment to local communities and people
- A commitment to work with a wide range of partner organisations and individuals as co-creators and co-deliverers of leisure facilities so that they best reflect the differing needs of local communities.
- There is a collective priority (Shropshire Council, Health and Wellbeing Board, Energize (Active Partnership) to improve community health and well-being at all stages of life, and that physical activities are integral to this, with a focus on older and young people and families
- There is also a need to ensure that provision (services, activities and facilities) is relevant and sustainable

### Other client project outcomes

- Put Shropshire back into the community
  - The development of a new facility could present significant opportunities to implement Social Value initiatives
- Consider the impact of the development on the climate:
  - The development of a new facility will be significantly more energy efficient
  - There will be opportunities for renewable energy generation as part of the new building.

- Carbon off-setting or mitigation: there may be an opportunity for tree planting within a landscaping scheme for a new facility
  - A commitment to quantifying carbon performance as part of any detailed design for a new facility will be included in a design brief
  - Climate change adaptation: building designed in such a way as to respond to climate change so will have a positive or no effect
  - Sustainability requirements
    - Carbon neutrality: Shropshire Council declared a climate emergency in 2019 and in 2020 adopted its Strategy for achieving net zero on carbon emissions by 2030. In line with this, this project should explore the potential for Passivhaus and ensure that the Council is able to track the lifetime carbon performance of the building
    - Building expected to achieve a BREEAM Excellent rating and will be subject to a formal assessment. The minimum standard accepted will be 'Very Good'
    - DEC A rating
    - Design to provide for a passive standard of operation at the facilities, the aim being to achieve as low a carbon footprint as possible at a reasonable cost over the life cycle of the project. A commentary on the reasons for not adopting the full Passivhaus accreditation route for the design will be helpful as part of our sustainability audit trail for the project
    - Provision of an audit trail, including quantitative performance measures (including Sport England Sustainability Target Metrics, see link below for information), that provide documentary evidence on a design stage by stage approach, to minimising the carbon footprint of the facilities and climate change impact. Provides for tracking the journey of the development through a lifetime carbon performance study which demonstrates how the design and materials used have taken account of the carbon reduction and climate change agenda and that the performance of the building is operating within the design parameters
    - The design must incorporate Sport England design guidance on sustainable facilities: [www.sportengland.org/how-we-can-help/facilities-and-planning/sustainability](http://www.sportengland.org/how-we-can-help/facilities-and-planning/sustainability)
    - Providing a report comparing the sustainability performance of the existing facility with the new development with the aim that this demonstrates a net improvement
    - Design must take account of the opportunity to be serviced by air or water source heat pumps and on site renewable energy generation such as PV
  - Focus on outcomes for customers
    - New facilities will provide greater opportunities for participation which supports living a healthy lifestyle
  - Value for money
    - Business modelling has been carried out on the new build option to compare the life cycle costings of developing a new facility against the costs of the current facility.
    - New facilities provide opportunities for generating significant operational surplus compared to the current subsidy levels required
  - Other aims
    - Social Value: The project will reflect Shropshire Council's Social Value Policy.
- The key themes to be reflected in this project are:-
- Support for the local economy through use of local contractors / sub-contractors; local employment; skills building through training and work placements; apprenticeships; supply chain spend
  - Carbon reduction initiatives through low- or no-emission vehicles; low carbon construction techniques and materials; building efficiency; travel schemes
  - Wellbeing schemes targeted at specific groups of people to increase participation in physical activity
  - Minimising non-recyclable waste from activities
  - A section of Shropshire Council's website is also dedicated to Social Value: <https://www.shropshire.gov.uk/social-value/>
- ### The Active Environment
- In line with Uniting the Movement, the 2021 Sport England Strategy the design proposals should comply with Sport England's published Design Guidance. Sport England Design Guidance is available for download at: <https://www.sportengland.org/how-we-can-help/facilities-and-planning/design-and-cost-guidance>
  - PRINCE 2
    - The Council's preference is to follow the PRINCE2 approach and its principles for this project. The Council's Project Boards adopt this approach in terms of key roles and responsibilities; the structure and context provided by PRINCE 2 provides the basis for the Council's approach and decision-making

### Feasibility study aims and objectives

- To test the deliverability and affordability of option 6 to further understand the potential to meet the outcomes, costs and ability to generate increased participation and income. (Option 6 is new alternative build, 6-lane x 25m with moveable floor, 35-station fitness suite, dance studio, café 20 covers)
- To explore the potential to co-locate the town's library within the development. It should be noted that if co-locating the library emerges as a feasible proposition, as part of the spatial analysis and site capacity and, forms part of the emerging preferred option a specific public consultation on this element will need to be carried out by Shropshire Council prior to any further recommendation to Cabinet
- Engagement of the Whitchurch community, partners and stakeholders in the feasibility study, including exploring the opportunities for co-location of appropriate other services, e.g. library, is a key objective

### Feasibility study output

Feasibility to be developed to RIBA stage 0-1 and must include the following:-

- Project requirements
- Accommodation schedule
- Site appraisals to inform an opportunities and constraints diagrams to identify opportunities and initial key project risks
- Strategic appraisal of planning considerations
- Project brief including outcomes
- Scoping and commissioning relevant surveys (including but not limited to ground investigation, drainage, utilities and ecological but excluding topographical which is available on request). Collateral warranties from sub-contractors will be required for survey works
- Block plans
- Quantity Surveyor costings (including demolition of the existing building and site preparation costs for the construction of a new facility)
- Indicative project programme
- Initial block plan, massing, 3D views and sections to explain relationship with the existing building and scale of proposal(s).
- Precedent image and concept images for the proposal
- Development of project strategies
- Pre-application planning advice

- Support the Council, through the provision of information and plans, for a review and testing of the business case modelling, by others, to reflect the emerging proposal
- Support the Council with the development and implementation of a public / stakeholder engagement / consultation exercise, including the provision of information, plans and imagery
- The demise of the pool coincides with the transformation plans for Shropshire Council's library services.
- The land adjacent to the current pool footprint accommodates the former youth centre which is not currently used. This is currently owned by Shropshire Council. The feasibility work will need to explore the potential to utilise this area to provide an extended footprint and additional facilities, including the option to relocate the current library service and co-locate this with any new leisure facility development on the site
- The study must consider and compare the pros and cons, including; capital cost, life span, life cycle costings, sustainability and value for money of providing a modern high quality modular facility with a surface mounted pool, compared to a more traditional build

### Outcome

Production of a feasibility study report which provides the evidence and insight to enable a recommendation on a preferred development option to be made to Cabinet.

### Timescale

Initial draft report by 14 February 2022

Final report week commencing 21 February 2022



### Proposed facilities

#### Sports centre

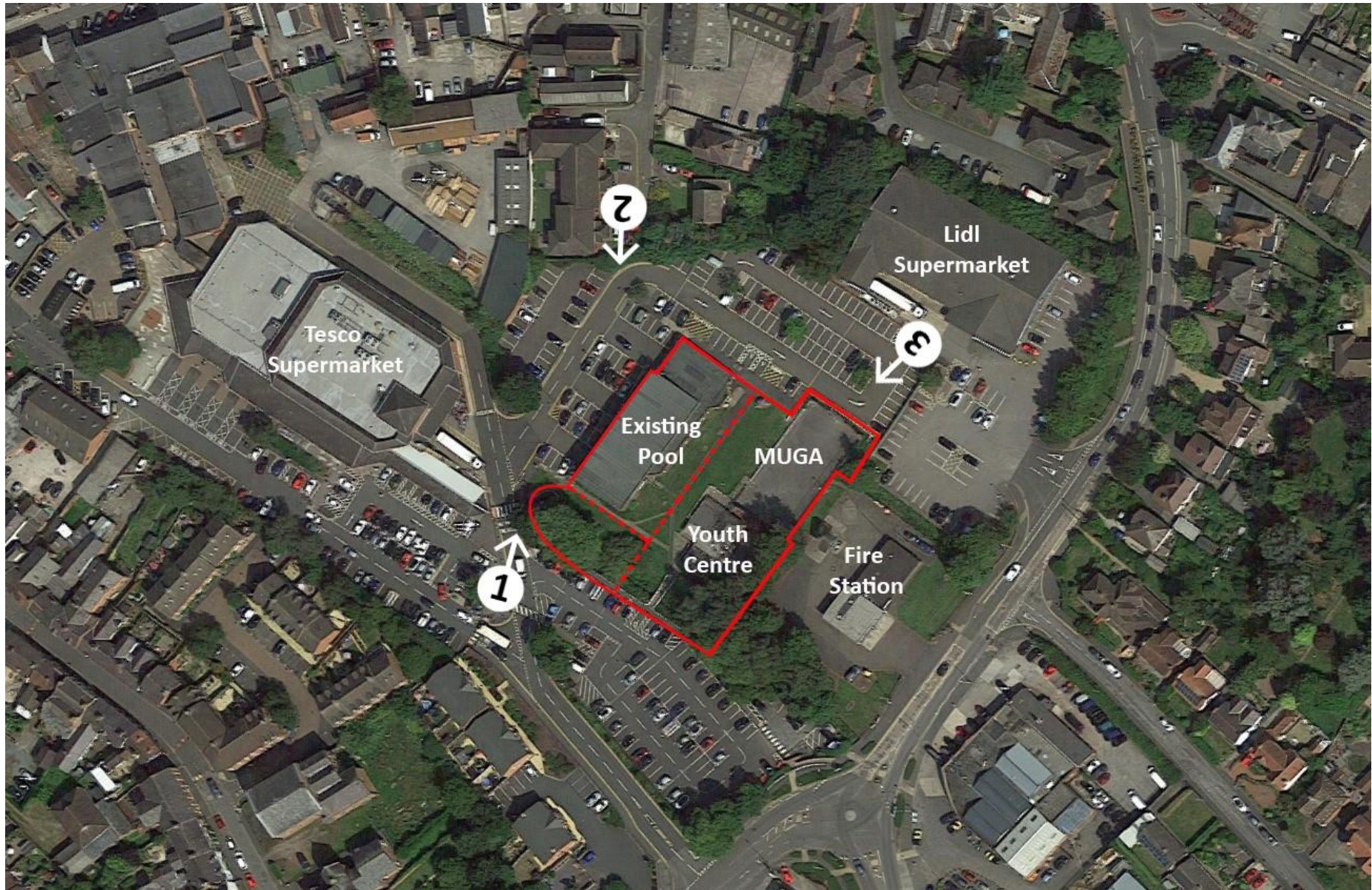
- Reception
- Café, 20 covers
- 6-lane, 25m pool with a movable floor
- Changing village
- 35-station fitness gym
- Multi-purpose room divisible into two, each half to accommodate 20 persons

#### Library

Co-locating the library with the sports centre is to be considered as part of this feasibility study. The brief for the library is to be confirmed.

#### Rationale for facility mix

- Increased participation and revenue impact from a larger pool; the existing operator has identified significant potential for increasing swimming lessons in the area based on demand. The existing facility delivered 600 swimming lessons per month. Equally, there is potential to increase the number of swim memberships from the existing 180.
- A facility offering both fitness and swimming is likely to appeal to a wider range of participants; this provides the opportunity to offer a new swim and gym membership and provide opportunities for revenue generation.
- Increased water space also facilitates an increased capacity for casual i.e., pay and play swimming.
- A new facility could also be designed to allow for the potential future provision of a new library facility in Whitchurch as part of the library transformation programme.





### Overview

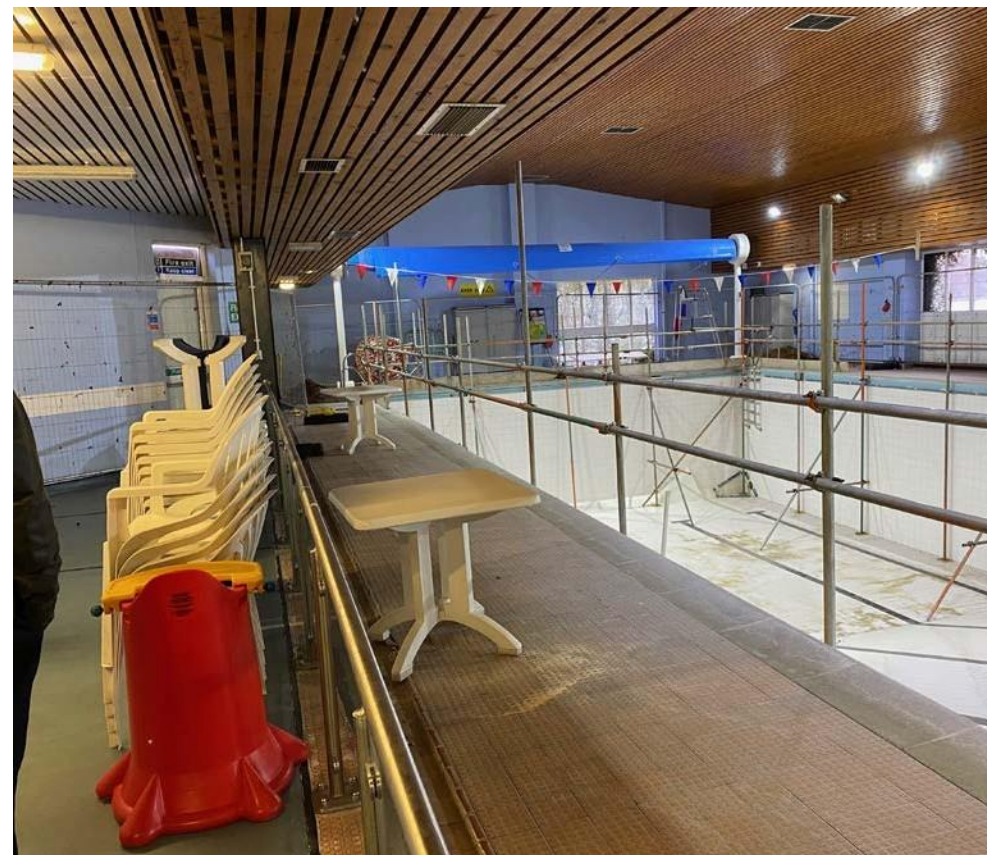
- Whitchurch Swimming Centre is located in the market town of Whitchurch in northern Shropshire, approximately 20 miles (30km) north of the county town of Shrewsbury. The centre is on a retail park with shared access roads and car parking facilities. Access is from Bridge Water Street (B5395) off the London and Chester Roads (B5395) via the main A41 (Whitchurch Bypass).
- Site address: Whitchurch Swimming Centre, White Lion Meadow, off, Bridgewater Street, Whitchurch SY13 1BA.
- The approximate total site area covers approx. 3,500m<sup>2</sup>
- The current facility is located on top of the site which then slopes down a grassed area to an unused multi-use games area (MUGA) The current building is rectangular in plan layout, and mostly open plan around the main pool area with segregated changing and office / welfare facilities
- The land adjacent to the current pool footprint accommodates the former youth centre and MUGA which is not currently used. This is currently owned by Shropshire Council. The feasibility work will need to explore the potential to utilise this area to provide an extended footprint and additional facilities, including the potential to relocate the current library service and co-locate this with any new leisure facility development.

### Existing swimming pool

- Size: the measured survey confirms the net internal area is 718m<sup>2</sup>
- Use: leisure
- Age: the swimming pool was built in 1974 (47 years old)
- Heritage designation: N/A
- Building fabric: steel frame building consisting of steel column and beams at regular intervals over clad with cavity brickwork and profiled metal cladding panels. Under mono-pitched and flat roofs with bitumen felt coverings. Windows and doors are double glazed powder coated metal.
- The centre has been closed since March 2020, initially due to the national lockdown as a result of the Covid-19 pandemic, and further to that as a result of the structural problems identified whilst investigating the cause of a leak from the pool tank which include underpinning issues and deterioration in the fabric of the building. A structural engineer's investigation cautioned that the swimming pool is likely to continue to settle due to the inadequate foundations to the swimming

pool and structure, and that further cracking and lifting of tiles to the pool and pool surround will continue to occur.

- The building has a three phase electrical supply. The building has a gas meter with 54mm connection and feeds an 80mm steel gas pipe supplying the low temperature hot water boilers. The main pool is ventilated by a ducted ventilation system with a central air handling unit with heater / frost batteries and a crossover heat exchanger.
- No 'As built' drawings are available.



Existing pool interior

### Existing site

#### Boundaries and ownership

The site comprises the footprint of the existing swimming pool and the land adjacent to it on the east that accommodates the former youth centre and MUGA and which is currently owned by Shropshire Council. The car parking to the west and north of the site is used as overspill parking by Tesco and the legal agreement with Tesco needs to be clarified by the Council, including the number of spaces assigned to the existing swimming pool, existing youth centre and MUGA and any other legal restrictions. The access road to the car park off Bridgewater Street is within the area leased to Tesco and is understood not to be adopted.

#### Arboriculture

There are a number of existing mature trees on the site, particularly on the southern boundary adjacent to the existing stream. The proposed location of the leisure centre offers the opportunity to retain many of these trees where they are deemed an asset to the overall development and an arboricultural survey will need to be provided. This should also include the root zones for any trees in adjacent properties (particularly on the eastern boundary) to ensure that these are unaffected by building work.

#### Acoustics

The closest building to the proposed site is the existing fire station immediately to the east of the site. However, there are residential properties approximately 60-70m from the building to the west (along Pearl Yard), the east (along Bridgewater Street), and to the south beyond the car park access road. It is anticipated that an acoustic report will be required to measure the existing background noise and to establish the



Site view ed from the south (view 1)





Showing existing swimming pool viewed from the north (view 2)



Showing existing MUGA viewed from the north (view 3)



performance requirements for the building fabric and any plant associated with the new building. Internally, Sport England guidance provides details of the reverberation time required for the pool hall.

### Drainage

- Foul water

The existing site foul drainage infrastructure comprises commercial and industrial (trade effluent) sewage from the existing swimming pool building. A drainage survey is planned to confirm where the existing foul water from the site discharges. Details of utilities records are contained in section 8.0.

- Surface water

The existing site comprises predominantly brownfield (buildings, car parking and hardstanding) land. A drainage survey is planned to confirm where the existing surface water from the site discharges. Once a drainage survey has been carried out, the proposed strategy for both foul and surface water will be updated to reflect its findings. For further details and recommendations please refer to section 8.0 of this report, together with details of the utilities records obtained.

### Ecology

A preliminary ecological appraisal of the site has been carried out by Wildwood Ecology (December 2021), consisting of a desk study and field survey.

The Stagg's Brook local Wildlife Site runs along the southern boundary of the site and, although the proposals will have no direct impact on it, there is the possibility that it will be indirectly impacted by the proposed new building during its construction. It is therefore recommended that a Construction Environmental Management Plan (CEMP) is produced outlining how the works can proceed with due regard to the local wildlife site. The report identified that the development may result in impacts on wildlife and habitats affecting the following protected species: bats, European otter, nesting birds and water vole. Recommendations are given regarding the protection required prior to and during construction (including a bat survey) and the report concludes that, provided these are successfully implemented, it should be possible for the proposed development to proceed and for there to be no long-term impact upon the key protected species present at the site.

The report also highlighted that there are wall Cotoneaster bushes present on the site in the planters adjacent to the existing pool. These are invasive plant species included in schedule 9 of the Wildlife and Countryside Act (1981) and should be removed in a way that will not risk its spread into the wild.

### Asbestos

A copy of the asbestos register for the building has been received and has informed the cost plan. An intrusive asbestos survey of the existing buildings on the site that are to be demolished is required to identify the location and extent of hazardous materials.

### Flood risk

The site is generally in Flood zone 1, with a strip of zone 3 to the south of the site next to the water course. In accordance with Environment Agency guidance, a site specific flood risk assessment is not required as the total area of the site is less than 1 hectare; however, as there is a section of Zone 3 to the south a Flood Risk Assessment may be required by the LLFA. A small area of the site is subject to localised surface water flooding according to the EA data; however, the area of the site at risk does not clash with the proposed building location or other proposed site infrastructure. For further details and recommendations please refer to section 8.0 of this report

### Ground investigations

A geo-technical site investigation needs to be undertaken with a full report to deem the exact ground conditions on the site. Initial assumptions on the ground conditions have been based on geological maps and historic boreholes in close proximity to the site. These suggest that piled foundations and a suspended ground floor slab will be required for the new building. For further details and recommendations please refer to section 8.0 of this report.

### Topography

The site generally slopes down from the west (location of the existing swimming centre) to the east (existing MUGA location), and along its southern edge there is a steep bank falling towards the stream. A topographical survey based on OS data was prepared by Shropshire Council Property Services Group in November

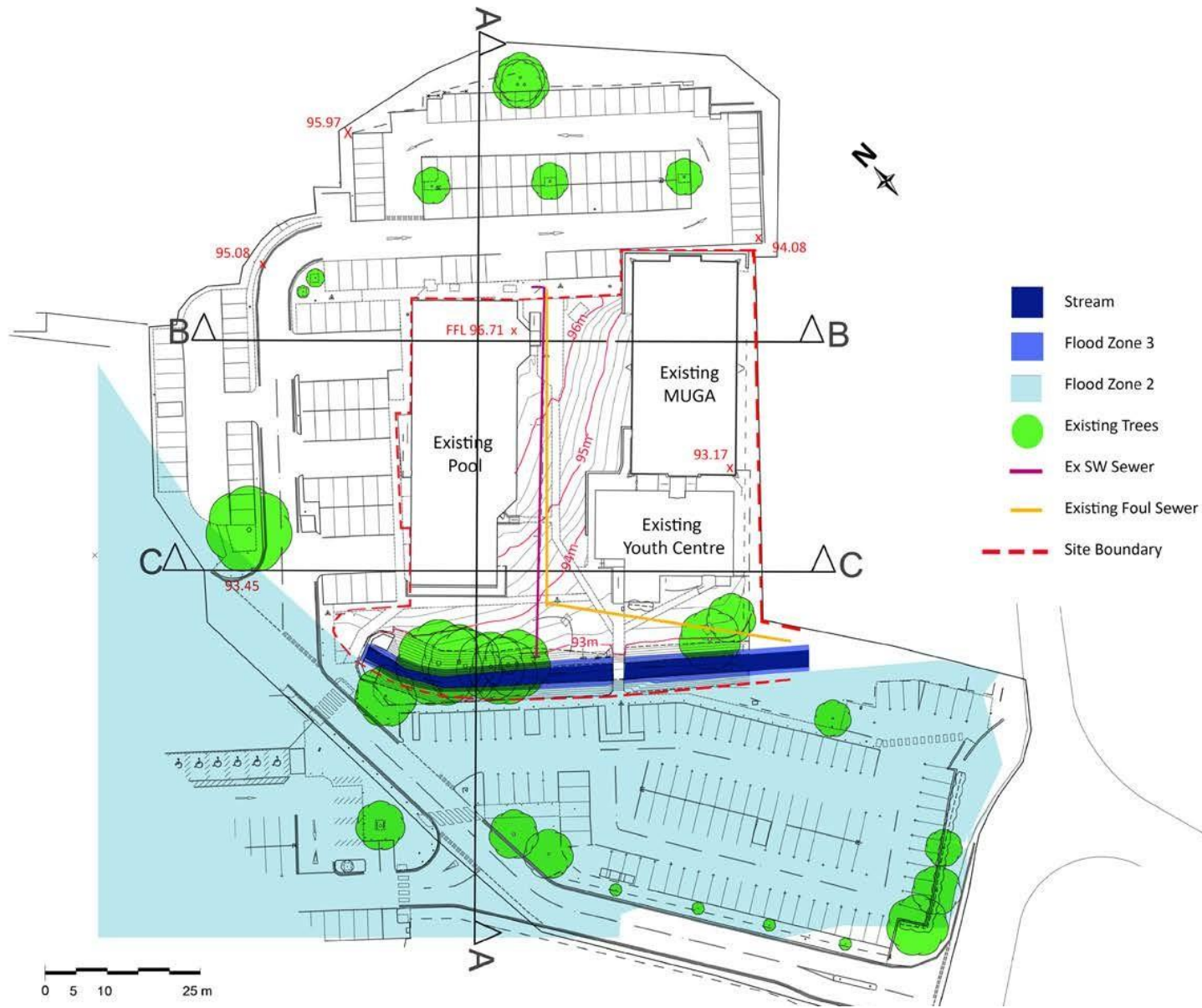
2019, which was used by the design team in the preparation of preliminary design proposals. A more detailed topographical and below ground services survey has been commissioned for the next stage of the design process.

### Traffic and highways

The site is well located centrally within the town. It is a 10-15 minute walk from the railway station and is served by adjacent bus stops. There is parking adjacent to the site; however, this is subject to a legal agreement with Tesco which needs clarification (see Boundaries and ownership earlier). A Transport Assessment is likely to be required to determine the parking requirement for the next stage and to assess any traffic impact.

### Utilities

A report of the existing utilities on the site has been commissioned from Groundwise Searches Ltd, as summarised in the MEP and sustainability report (section 9.0).

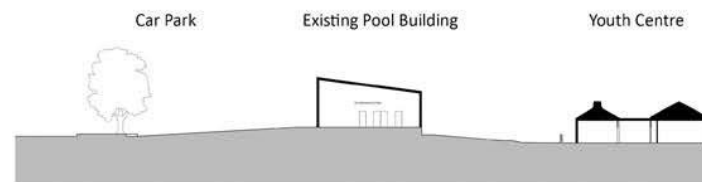




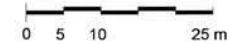
Existing Section A-A



Existing Section B - B



Existing Section C - C



### Consultation

No formal pre-application consultation has yet taken place with the planning authority, as this is anticipated to be most usefully undertaken during RIBA stage 2 based on this formalised report. The headings below represent our assumptions and are based on our experience and understanding of typical planning considerations.

### Summary of potential planning considerations

#### Access and transport

A key aspect of the design and suitability of the site for the proposed development will be the additional traffic and parking required to serve the enlarged facilities. The Highway Authority is to advise their parking standards. It is assumed that a transport assessment or statement will be required which will include a parking survey and Green Travel Plan. We have assumed that the additional parking will be to a max. car parking of 1 space per 22m<sup>2</sup> floor area, with c6% of these provided as accessible spaces, based on the additional floor area created. However, we would expect that this may be reduced from the maximum provision due to its proximity to the bus station and central town centre location. It is also anticipated that the parking arrangements should make provision for coach / minibus parking (for schools, etc.) and for drop-off.

#### Proximity to conservation area

Although the site is adjacent to, but not in, the conservation area, its proximity may impact on the conservation area setting and consideration should therefore be given to materials and colours to enhance the setting.

#### Environmental Impact Assessment

The local authority planners are to advise if a formal screening process is required.

#### Arboriculture

An arboricultural survey and tree protection plan will be required to accompany the planning application.

#### Ecology

The potential for bats may influence the design of the external lighting in order to minimise impact.

#### Impact on neighbours

The design will need to consider the impact of noise from internal and external activities (including parking) and building plant on the nearest residential receptors. Additionally, any external lighting will need to be designed to minimise any impact on residential amenity.

#### External landscaping

The external landscaping around the building and within the parking area should reflect the client's objectives to enhance site ecology, and also designed with consideration of Sport England's 'Active Design Principles' that aim to encourage the inactive to become active through the provision of informal and formal structures that support physical activity.

#### Flood risk and drainage strategy

The proximity to the stream will generate a requirement to provide an FRA. Surface water run-off will typically require some attenuation and SuDS principles applied.

#### Signage

A separate external signage application is anticipated to be required.



### **Stakeholder feedback on public / stakeholder engagement / consultation exercise**

No further public consultation has been undertaken at this stage but it is anticipated during RIBA stage 2 and / or stage 3.

### **Utilities**

The utilities companies have been consulted. Details of utilities records have been obtained. The extent of any upgrade to the supplies will depend on clarification by the Council of their sustainability objectives and requirements for electric vehicle charging points within the new parking areas.

### **Building Control**

No contact has been made at this stage. It is assumed that the Council's preference would be to use their internal Building Control rather than use an Approved Inspector.

### **Client consultation**

Shropshire Council have consulted internally regarding the development of the initial brief and in response to this study. This has included consultation with officers in the Culture, Leisure and Tourism team regarding the library and with Youth Services. Further consultation will be required with schools as a key user group in order to establish their method of transport, patterns and frequency of use and child protection requirements.

Further valuable input into the design and brief has been provided by the client's appointed specialist sports advisors, Design Active Ltd, who have commented on the development of the design throughout the stage 1 design period.

### Whitchurch Library

The potential to relocate the existing library from its the town centre location to the proposed new swimming and fitness centre was reviewed in the early stages of the feasibility study.

Discussions were held with the portfolio holder and officers in the Culture, Leisure and Tourism (CLT) team including the Assistant Director Communities and Homes, Head of CLT, Culture and Communities Manager and Head of Libraries. This included a review of a previous report on the civic centre and library which stated that following approval of the Council's Library Services Strategy, 2018 – 2023, the library in Whitchurch has been confirmed as a tier 1 library hub. Library hubs are intended to be conveniently located, multi-functional spaces, gateways to a range of services, and co-located with partners.

It was noted that Whitchurch Civic Centre is on a 99-year lease to Town Council which provides for free occupancy for the Library and that the Library has had significant money spent on it recently.

It was concluded that there were no operational benefits to moving the library, it would add significant capital costs to the proposed swimming and fitness centre and such a move could adversely impact on high street footfall. The potential relocation of the library was therefore removed from the feasibility study remit.

### Initial discussions with Shropshire Council Youth Services

Initial discussions have been held with colleagues from Shropshire Council's Youth Service. The proposed new facility provides an opportunity to engage more young people in physical activity and sport and is a positive development in this respect.

Engaging with young people will be important through the initial stakeholder engagement and public consultation process. Youth Service colleagues will be happy to support this process.

The development of an informal external activity area with the ability to provide for a range of informal physical and sporting activities, is seen as an important aspect of the new facilities offer to young people and is required to replace and enhance the offer currently provided by the aging Multi Use Games Area.

### Proposed leisure centre facilities and use

#### Proposed uses / users

- Customer outcomes: new facilities will provide greater opportunities for participation which supports living a healthy lifestyle targeted at the Local Community and meeting community needs
- Wellbeing schemes targeted at specific groups of people to increase participation in physical activity
- Collective priority (Shropshire Council, Health and Wellbeing Board, Energize (Active Partnership) to improve community health and well-being at all stages of life, and that physical activities are integral to this, with a focus on older and young people and families
- Facilities to be relevant
- Swimming pool
  - Swimming lessons: larger swimming pool provides opportunity to increase use for swimming lessons based on demand (existing facility delivered 600 / month)
  - Opportunity to increase swim memberships from the existing 180
  - Larger pool allows increase participation
  - Increased water space also facilitates an increased capacity for casual i.e. pay and play swimming
  - Movable floor allows flexibility of use, from water confidence and lessons to training and competition
- A facility offering both fitness and swimming is likely to appeal to a wider range of participants; this provides the opportunity to offer a new swim and gym membership and provide opportunities for revenue generation
- Leisure facilities are important relevant community spaces, accessible to all and offering opportunities for the delivery of a wide range of activities, services, support and entertainment to local communities and people
- School use

On completion of this study, we understand that the Council anticipates commissioning Strategic Leisure to review and update their business case in relation to the proposed RIBA stage 1 design.

## Schedule of accommodation

### Ground floor

- Entrance lobby
- Foyer
- Office / staff room
- Café (20 covers), including reception counter, combined with reception and vending area
- Kitchen
- Café toilets, including accessible toilet (pre-turnstile)
- Changing Places (with dual access both from within and outside of the wet changing area)
- Circulation to ground floor and stairs / lift(s) to first floor
- Changing village with a combination of single, double and family cubicles (44 spaces total)
- 2 school group changing rooms (15 persons each)
- Accessible changing room (wet side)
- Toilets (male / female / accessible)
- Showers (open and enclosed)
- Pool hall, including 25m x 13m pool with moveable floor, easy access steps and pool pod
- First aid
- Moveable floor plant room
- Pool store
- Plant room / pool water treatment / wet plant (incl. 2 chemical stores)

### First floor

- 2 studios to accommodate 20 persons each (approx. 100m<sup>2</sup>) with moveable wall between
- Studio storage (this may be a separate space or an enlargement of the studio space)
- 35-station fitness gym
- Fitness changing and showers
- Fitness toilets (male / female / accessible)
- Accessible change (dry side)

### Roof

- Roof mounted plant with screening
- Space for PVs / ASHPs if applicable (refer to section 9.0 MEP and sustainability report)

## Design strategies and layout

### Site layout

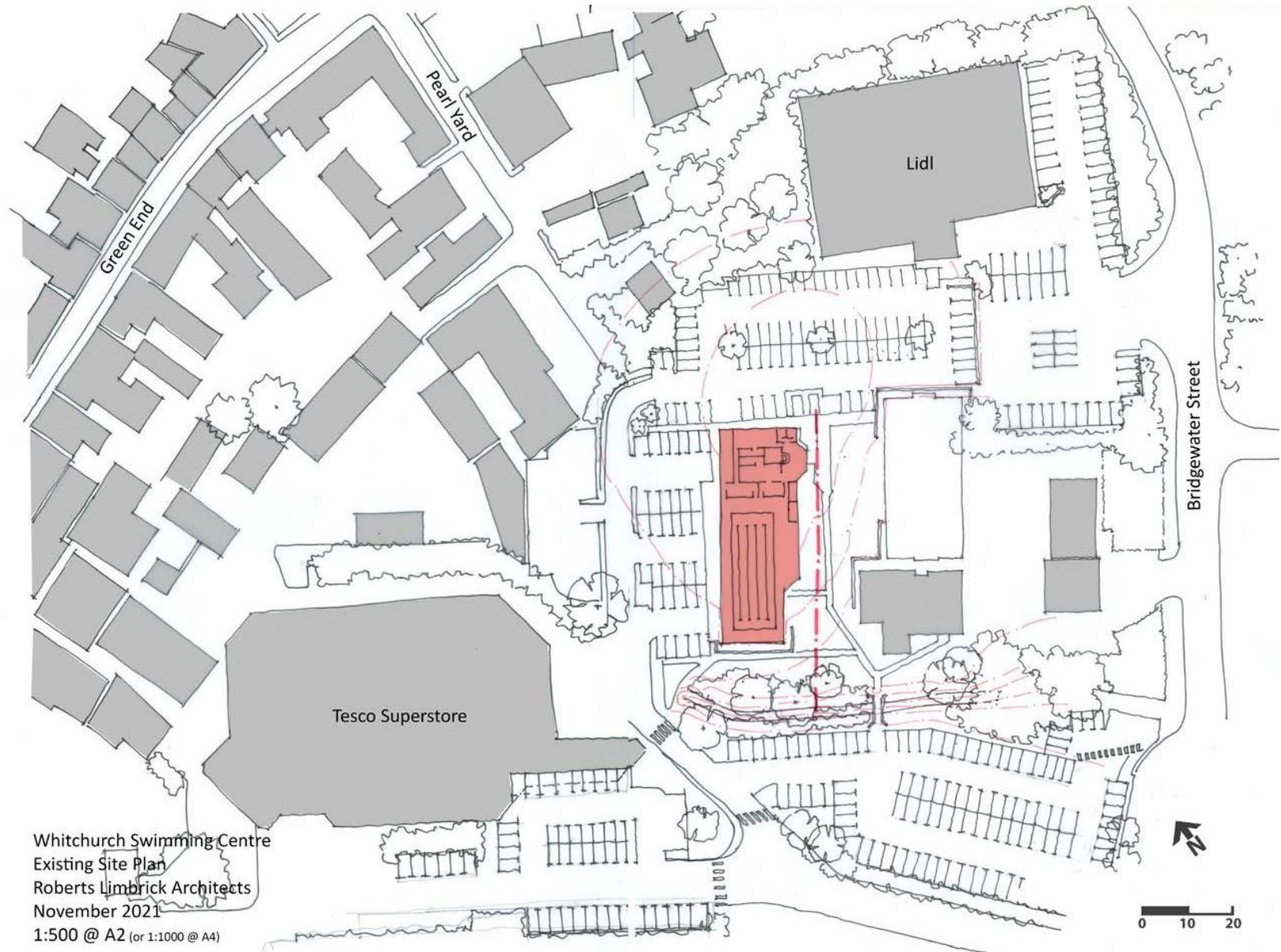
The building is positioned to the east of the site where the existing MUGA and Youth Centre are currently located, close to the boundary with the fire station. This location allows the maximum expansion of the Tesco's overspill carpark and the opportunity to create a drop-off and gathering area in front of the main entrance, which will be to the west elevation. This location places the building equal distances from the residential buildings to the west, east, and south reducing the potential for noise disturbance to residential neighbours.

The pool hall is placed on the south side of the building, with glazing looking towards the stream, but located back from the trees to limit shading from the trees that line the bank over the stream. As the pool hall is a single storey, the massing of the building can be reduced along this southern edge, reducing the impact of the building above the stream and as viewed from the new housing developments opposite.

The 2 storey element of the building is to the north of the site, with the fitness gym and studios placed on the upper floor. The north orientation will reduce the need for cooling. The fitness gym, which will be extensively glazed, is placed along the west elevation above the reception and café, presenting an active and welcoming façade to the primary approach to the building from the west, while the two studios look out over the parking to the north, bringing life and activity to this elevation. The plant room and service areas are to the east where they face the boundary and rear façade of the fire station.

### Parking

The proposed facility has a GIFA of approximately 1,680m<sup>2</sup>, which is 960m<sup>2</sup> greater than the existing facility. Using a simple ratio of 22m<sup>2</sup> per parking bay, this would suggest an increase of 44 spaces from the current provision. Considering the



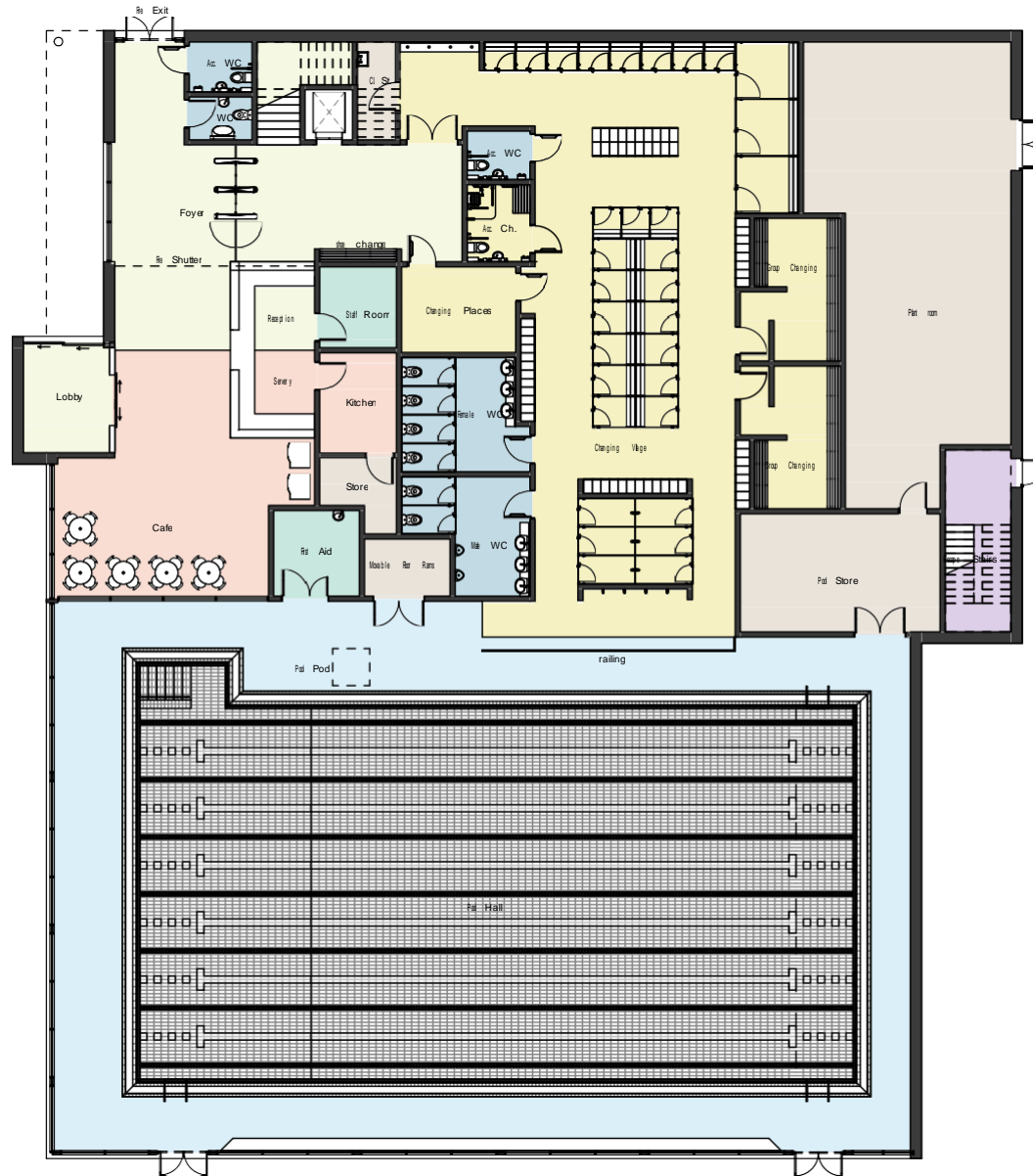
Whitchurch Swimming Centre  
Existing Site Plan  
Roberts Limbrick Architects  
November 2021  
1:500 @ A2 (or 1:1000 @ A4)

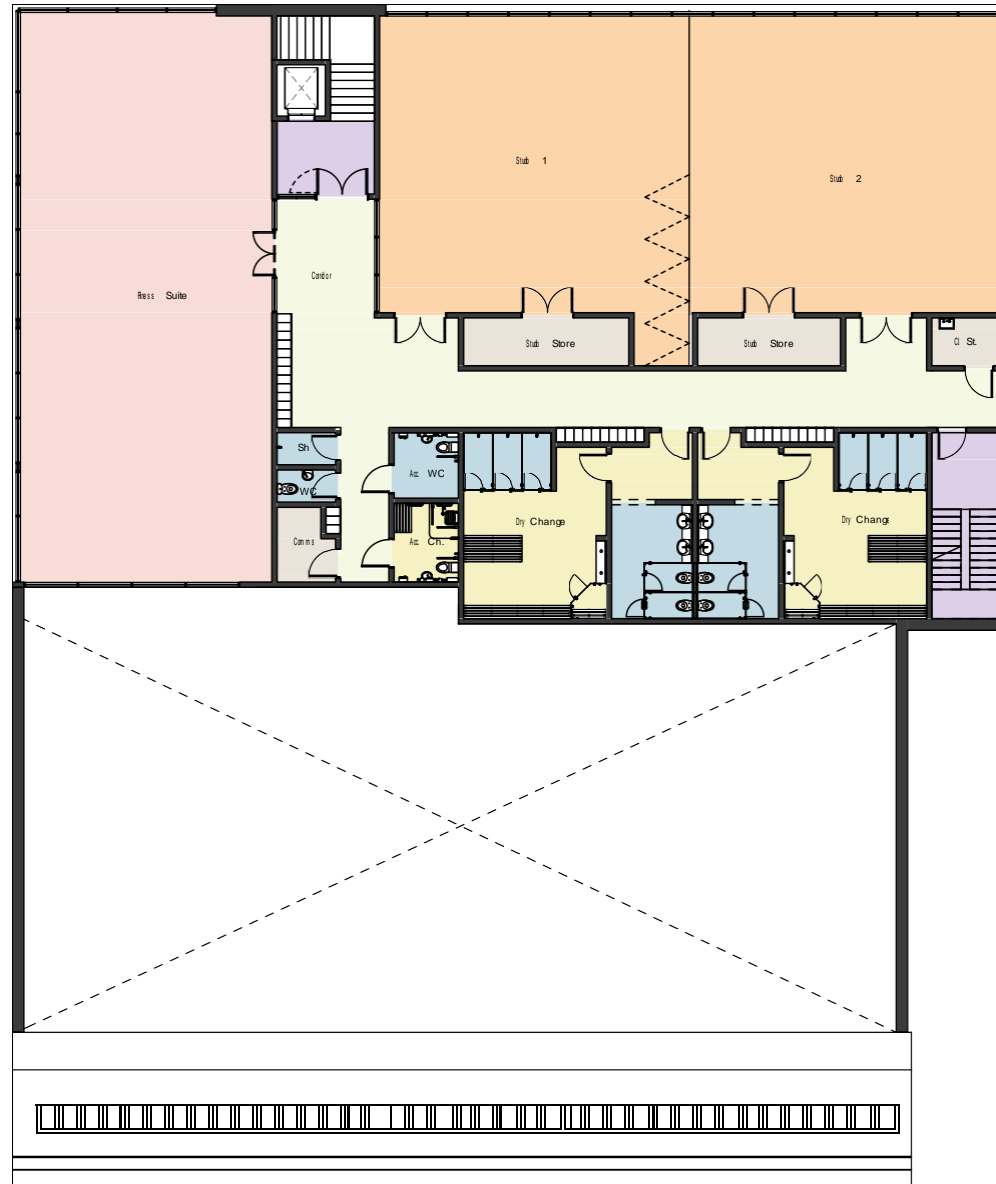


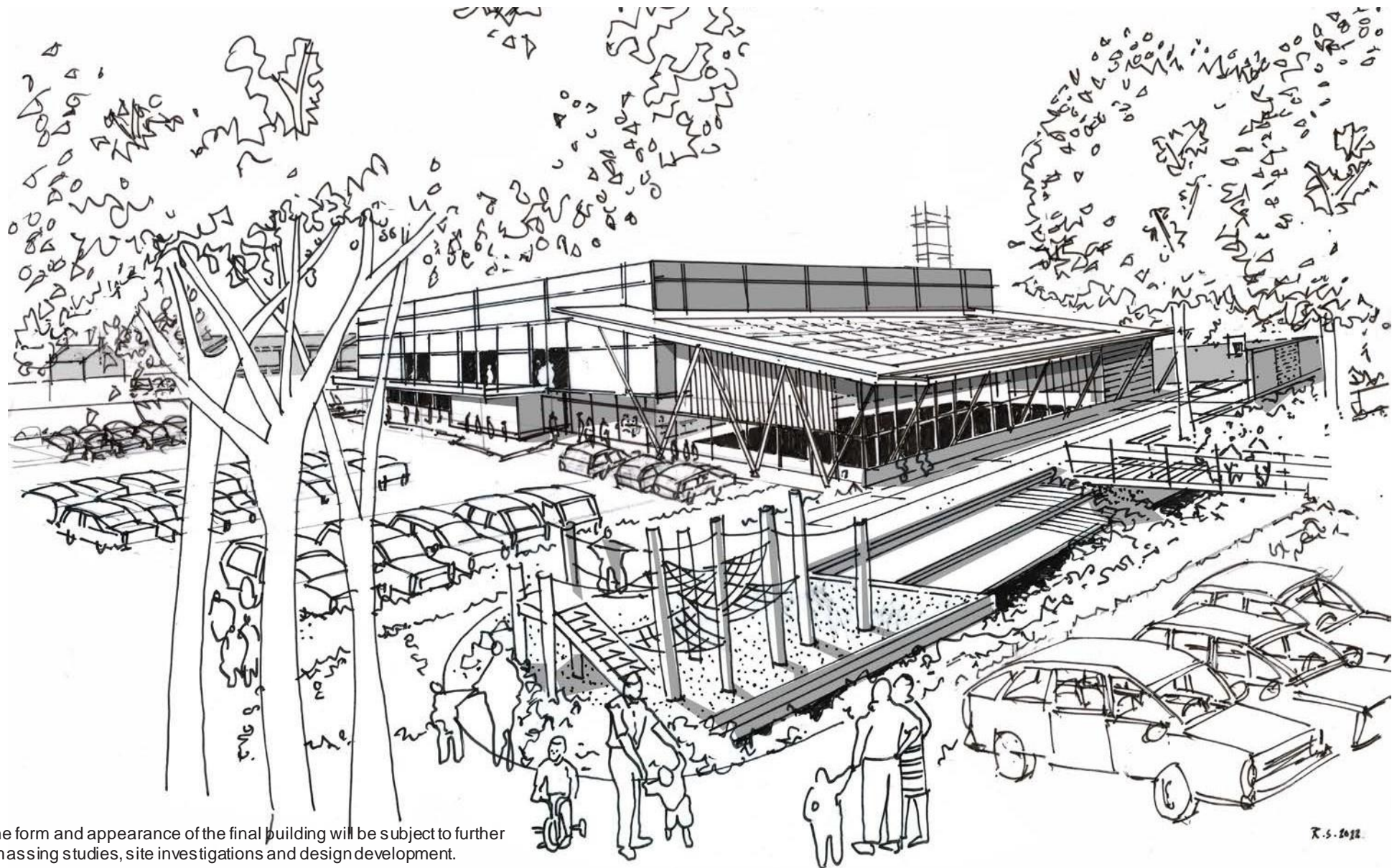


Whitchurch Swimming Centre  
**Option 2 - site plan; alt. 2 Rev A**  
Roberts Limbrick Architects  
November 2021  
1:500 @ A2 (or 1:1000 @ A4)









\* The form and appearance of the final building will be subject to further massing studies, site investigations and design development.

constraints of the existing site, it is unlikely that this figure will be achieved and a Transport Assessment and a close interrogation of the current arrangement with Tesco will be required to assess the actual additional parking spaces required, in order to limit the amount of additional parking to be provided.

The external layout will provide a car drop-off area adjacent to the main entrance and disabled parking provision (number to be determined by the Transport Assessment Parking Strategy). Previously, coach drop-off to the existing pool was provided in the upper parking area (adjacent to Lidl) and it is proposed that this remains the strategy for the new pool. Coach parking areas could also be provided in this area, if required, although this needs to be factored into the overall parking strategy.

Cycle parking will be provided in close proximity to the main entrance. This is typically required to be covered.

### MUGA / outdoor activity space

The preferred location for the new building is on the site of the existing MUGA. Consultees to the client have stressed the importance to provide some freely accessible outdoor activity space as part of the overall development. The design team investigated a number of site options which could incorporate a free access MUGA (see appendix). These options significantly reduced the potential for providing adequate parking on the site and compromised the ability to provide a drop-off and gathering space outside the main entrance. It has therefore been suggested that alternative activity provision be considered which might be a smaller, more informal hard play area with basketball hoop and goals, outdoor gym equipment, skate boarding areas, bike jump track, or adventure activity area (perhaps within the wooded landscape), or a combination of these. Further consultation will be required to determine the final brief for these, which are to be aimed at the local youth but which could also include facilities that could be attractive to the wider community.

### **Internal layout**

The building has been designed as a high quality facility, meeting the expectations of the users and operators. The facilities are designed to be accessible and inclusive, with clear wayfinding a key consideration. The building is designed to comply with Sport England's published Design Guidance.

### Ground floor

#### Entrance foyer and café area

Users of the building will enter the spacious foyer via a draught lobby and arrive directly at the reception desk where they will be greeted by staff. The space will allow for customer queuing and provide secure controlled access to the facilities (via turnstiles if required). The entrance foyer is also designed to act as café with tables and chairs looking into the pool hall. The reception desk and servery for the café will be joined, helping to reduce staffing demand during quiet periods of the day. Behind the desk is a management office / staff room and a kitchen. Storage is provided for kitchen and vending supplies. Turnstiles adjacent to the reception desk (if provided) will control access to the primary circulation corridor with direct access to all the primary activity spaces and changing rooms at both ground and first floor levels.

#### Pool changing rooms

The final configuration of the pool changing area will require further discussion during the next consultation phase with the client and stakeholders. The current design proposes a mixture of changing village and 2 group changing rooms for school / group use or to suit varying customer requirements, which could include movable signage to allow additional use as male / female change. The changing areas include disabled changing and toilet facilities and there is a Changing Places facility which is accessible from both the wet changing area and from the dry side to optimise the use of this provision. Consideration is to be given to any requirement for gender neutral toilets.

#### 6-lane, 25m pool

The pool is a 6-lane, 25m pool with a movable floor over half the area, allowing for a wide range of uses. The steps into the pool adjust along with the floor level and allow for easy access to the pool for all user groups. There is also a pool pod hoist for wheelchair user access. A first aid room is provided. The location shown allows for access to the outside to the dry side facilities. Further consideration is to be given to the potential for this to be accessible directly from the outside without blocking views from the foyer.



### First floor

#### Access to first floor

A lift and main staircase are provided to the first floor facilities immediately after the turnstiles where they can be seen from the foyer for ease of wayfinding (note: during the design process it was agreed that in the next phase consideration should be given to the provision of a second lift in accordance with Sport England recommendations).

#### Fitness gym

The fitness gym is designed to accommodate 35 stations (based on an approximate area of 4.5m<sup>2</sup> per station). With external views across the forecourt, and internally into the pool hall, this will be an attractive and animated space. The primary entrance to the fitness gym is at the head of the main circulation stair. The detailed layout of the fitness gym and the possible inclusion of a separate assessment room will be developed in the next phases in consultation with the operator. Such a room could also be used for GP referrals, if required.

#### Studios

There are 2 studios, each approximately 100m<sup>2</sup> to accommodate classes of 20+ persons. These studios are divided by a retractable wall that can allow for them to operate as one large studio space. The detailed design of these spaces, from finishes (floor, wall and ceiling), acoustic and audio visual requirements, storage, any black-out requirements, etc. will all be subject to detailed consideration during the next phase of user group consultation and is subject to the range of activities envisaged for the spaces.

#### Fitness changing

The design incorporates separate male and female changing rooms for the fitness gym and studio spaces. There is also an accessible changing room and separate accessible WC, as well as a unisex toilet and unisex shower for those who would prefer not to use the main changing room. As is common in these facilities, it is envisaged that many users will come to the facility already changed and lockers for sports bags, etc. are provided in the circulation spaces and it has been assumed

that standard changing provision set out in some Sport England guidance could be discounted by c65%.

#### **Plant space**

A dedicated wet plant / pool water treatment plant room has been included on the ground floor, with an associated service yard to allow for chemical deliveries and storage of recycled and non-recycled waste. PVs are anticipated to be included on the south facing pool hall roof, with ASHPs and other AHU plant located in a screened enclosure on the flat roof area above the first floor facilities. Stair access to this will be required.

#### **Built form and appearance**

The new leisure centre will be built with high quality materials of an appropriate standard to enhance the setting of the building and provide an attractive, durable facade. This will include glazing to the main activity spaces to provide an active frontage which is important both in planning terms and for the commercial success of the facilities.

#### **Access / maintenance / inclusion**

Consideration should be given to the maintenance of the building. Externally, this will include providing level areas for maintenance equipment and provision for safe access to the roof. Internally, provision should be relatively straightforward, but access to maintain lighting in the pool hall is a particular consideration.

#### **Acoustics**

Considerations include limiting sound break-out from facilities and between facilities, sound attenuation of plant and reverberation within the pool hall, as well as generally within all areas in order to provide good speech intelligibility.

#### **Sustainability**

##### Minimising waste from activities

Related to the use of the building, this is mainly the operation of the cafe. Ways to do this will include minimising the use of single use receptacles, e.g. coffee cups,



and consideration of how deliveries will be packaged. In terms of the operation of the building, this might include the use of alternative media for pool water filtration (reducing use of chemicals). Regarding the build, use of pre-fabricated components will reduce on-site waste, such as pre-cast floor planks, structural steelwork, cladding, etc.

### Low carbon building techniques

Options will include re-use of masonry materials, resulting from the demolition of the building, use of alternative low carbon concrete (where appropriate), use of materials with good longevity and use of renewable materials that can potentially be re-used in the future on demolition.

### Building efficiency

The building may be designed to high levels of insulation, airtightness and associated detailing to minimise any loss and cold bridging. Passivhaus principles can still be applied even if accreditation is not required (which would require a bespoke standard to be written). Any comparable loss of performance could be off-set by an increase in PVs, etc. which potentially could be a more economical approach than achieving Passivhaus accreditation.

### Carbon off-setting / mitigation

The external landscaping will allow opportunities for carbon off-setting via tree planting around the building / within the car parking. However, this will be limited by the site area available. The Council may consider other opportunities for carbon off-setting by incorporating planting / trees at other sites they own and providing renewables, e.g. PVs, at these other sites.

### Climate change

The building and external works will need to be designed to take into account climate change. This will entail applying SuDS techniques to limit and attenuate surface water run-off and avoid risk of flooding resulting from the development.

### Sport England design guidance

Reference to the sustainability guidance will be made in the developing design. It is noted that this guidance is being updated to reflect current thinking. From our ongoing involvement in developing this guidance, we understand that the general approach is to design the building to use electricity from renewable sources (on-site and grid) to heat, light and power the building, whilst acknowledging that domestic hot water generation can be most economically achieved by retaining the use of natural gas. However, the Council can choose to go beyond this, i.e. using electricity for all aspects, if desired. A carbon consultant may be appointed during the next stage to provide the necessary calculations to document and inform design decisions going forward, as well as lifetime performance and tracking.

### **Modular construction**

Due to the topographic ground conditions and other site constraints, it is unlikely that an 'off the shelf' modular building will meet the requirements of this site and associated brief, including design quality requirements. However, modular building techniques can be used as appropriate. This will include:-

- Improved programme
- Improved quality
- Improved safety
- Reduced wastage
- Reduced risk
- Reduced cost
- Improved labour benefits: factory built, more work in fixed location

The following modern methods of construction have been considered and should be further reviewed as the scheme develops during RIBA stage 2.

#### i. Off-site

- Volumetric / modular construction: pre-fabricated buildings, good for smaller buildings, e.g. changing rooms, pavilions, spaces of a size and scale that can be bolted together on site or incorporated in larger buildings. However, due to the size of the building, this is unlikely to be suitable for this building.

- Hybrid construction: due to size of spaces in leisure centres, hybrid construction is more relevant, i.e. opportunity to incorporate smaller modular units within the building. However, the design layout of the changing areas are bespoke to this facility, i.e. there are no repeating blocks of changing rooms, etc. as might be the case with multiple changing rooms for football.
- Non-systemised primary structure: framed or mass engineered timber (CLT / SIPs / Glulam, etc.), cold rolled or hot rolled steel or precast concrete members, e.g. load bearing beams, columns, walls, staircases, core structures, slabs, ring beams, piles caps, driven piles and screw piles, pre-cast concrete or stainless steel pool tanks. Some of these methods of construction may be suitable.
- Non-structural assemblies: on-structural walling systems (e.g. pre-cast / finished wall assemblies), roof cassettes, non-loadbearing sanitary area pods, risers and plant rooms, as well as pre-formed wiring looms and mechanical engineering composites, e.g.:-
  - Packaged boiler plant
  - Prefabricated service distribution
  - Prefabricated pool plant

Some of these methods of construction may be applicable to this project as it develops in detail.

#### ii. Off-site / on-site

- Composite floors: pre-cast combined with in-situ concrete which can be power floated avoiding screeds; this may be applicable to this project.

#### iii. On- site improvements

- Flat slab construction: flat floor slabs with no beams, quicker to install on site, reduced floor to floor height; perhaps more useful for smaller spans?

#### **Modern methods of design**

- Use of BIM / clash detection, potential for better coordinated design, reduction in site errors
- Better developed design enables pre-fabrication
- Designing to reduce wastage

These methods of design will be applicable to this project, i.e. use of BIM.

#### **Adaptability**

The building is proposed to be a wide span framed structure. This will allow for future adaptation to allow for possible changing trends in the future.

#### **Fire**

The building is proposed to form a single compartment, with areas of higher fire risk enclosed with enhanced fire resistant construction. Two alternative means of escape have been provided to the first floor; these include the use of the main stair as a protected stair and may entail the use of a fire curtain to separate the stair from the adjacent space, and a fire alarm interface on any turnstiles. Boundary conditions will need to be assessed to establish the degree of fire resistance required and the extent of unprotected glazing. A preliminary fire strategy based on BS9999 will need to be developed in the next stage. The client's requirements beyond life safety will also need to be established, if any.

#### **Option for co-location of the library**

The initial assessment of site capacity has established that there is insufficient space to accommodate a relocated library and associated parking. In addition, consultation with library services has established that the current town centre location is better than this site and that relocation may negatively impact on the existing, predominantly older user group.

### 1. INTRODUCTION

Furness Partnership has been appointed as the structural consultant for the design and construction of a new leisure centre in Whitchurch, Shropshire. This report provides an outline of what information about the site can already be found before we conduct our own site investigations. Presented in this document are the preliminary solutions for the scheme. The proposed developments include the following works:-

- Demolition of the single storey swimming pool
- Construction of a 6-lane swimming pool with 2 storeys to make way for fitness suites and studios
- Construction of additional car parking spaces and other external works.

### 2. SITE AND GROUND CONDITIONS

#### Site location map and boundaries

The proposed development is located on the site of the existing Whitchurch Leisure Centre. It is located in the town centre situated between a Tesco (West) and a Lidl (East). The leisure centre shares an unnamed road with Tescos for primary access and parking which you turn on to off Bridgewater Street. To the South West there is also the Whitchurch fire station acting as a boundary for the site.

Initially there were two proposals considered on the site. Option one was to have the new leisure centre situated roughly a little further east, with the patch of grassland to the East being used for the new structure creating new car parking spaces. Option two, the preferred option, would see the pool rotated and the site located on the edge of the East boundary. In the second option the building to the Southeast of the existing leisure centre (the disused Youth Centre) would in turn have to be demolished to accommodate this option. This report focuses on the feasibility of the preferred second option.

#### Site surveys

At the time of when this report was written no surveys had been undertaken in the location of the proposed new building.



Phase 1 desk study and 2 site investigations have been carried out recently. At the time of writing the findings of the intrusive survey have not been issued, therefore there is limited current information regarding the ground conditions of the site. This report will be updated during the next design stage and once the survey report has been published.

To gather some initial information, the British Geological survey website has been used looking at borehole data from previous investigations as well as MAGIC map provided by the government. There are a number of additional surveys that are required to provide further information in order to progress at the detailed design stage.

These include:

- Detailed Geotechnical and Geoenvironmental site investigation
- Ecology survey
- Flood risk Assessment (FRA)
- Archaeological survey

### Ground investigation

A geo-technical site investigation needs undertaking with a full report to follow to deem the exact ground conditions on the site. From this, preliminary recommendations can be made on the type of foundations needed or any mitigation methods needed for geo-environmental matters.

In absence of a site investigation ground conditions have been assumed from nearby historical boreholes.

#### 1. Soil strata

Inspecting geological maps it can be seen the site is located in an area of Halite stone and Mudstone with the area also being located in floodplain clayey and loamy soils. There are five historical boreholes in very close vicinity of the site with one actually being located on the south of the site which date back to 1979 and 1987. There is one that goes down 9m below ground level (bgl) with the rest down to 3.5m bgl. The results showed variation but can be characterised as follows:-

0.0 - 0.4m	Topsoil / car park tarmac
0.4 - 2m	Made ground
2.0 - 3.5m	Soft dark brown sandy and silty clay with organic matter and fragments of pottery
3.5 - 21m	Stiff medium to coarse gravelly sandy clay

In the borehole log to the north of the site, roughly 4m higher up in ground level, firm ground was found at 2m bgl; this may be due to being at the top of the incline. In some of the boreholes, the ground found between 3-5m was peaty at times, which shows infiltration of groundwater. Apart from the borehole north of the site, firm ground was not encountered until 8m bgl, with no rock encountered or hard ground, which indicates pile foundations are needed and hence why the existing pool is slumping down into the ground and a closure of the leisure centre was forced.

Also, due to the brownfield nature of the site, it is likely that made ground is present within the ground make-up. If made ground is present and is determined to be widespread across the site, it may be advisable to found

both the pool and the buildings on piled foundations and to suspend the ground floor slab to minimise the risk of settlement.

#### 2. Infiltration testing

To date there has been no infiltration testing carried out. This will be included as part of the site investigation report to be issued after Stage 2.

#### 3. Groundwater

In the historical boreholes data, groundwater is encountered at depths of 1.4m to 2m, with one borehole filling up to a depth of 1.3m bgl upon revisit. This means that it is likely dewatering will need to be carried out while in construction phase, but is subject to confirmation until a recent ground investigation has been carried out.

#### 4. Contamination testing

To date there has been no contamination testing carried out. This will be included as part of the site investigation report to be issued after Stage 2. Contamination testing will compare select soil samples from site to the appropriate trigger levels as specified in the relevant industry guidelines for the following contaminants (among others):-

- Analysis for metals / metalloids
- Analysis for TPH
- Analysis for speciated PAHs
- Analysis for asbestos

Based on the results of the laboratory analysis, a remediation strategy will be recommended which may impact the design of the structure, and may limit the reuse of site-won soil on site within the landscaped areas.

#### 5. Ground gas

To date there has been no contamination testing carried out. This will be included as part of the site investigation report to be issued after Stage 2.

### 6. Concrete grade

The aggressive chemical environment for concrete (ACEC) for the site is currently unknown as laboratory testing is yet to be carried out on soil samples from site. This will be included as part of the site investigation report to be issued after Stage 2.

### Existing services

An underground services survey is in the process of being carried out after receiving quotes back, which will produce an AutoCAD drawing of all the existing services, as well as a CCTV drainage survey to be carried out.

### Topographical survey

The topology of the site is yet unknown. A quote has been received for a topographical survey so, like the services survey at the time when the report is written, it has not been completed but will be finished for Stage 2.

### Arboricultural survey

There has been no arboricultural survey carried out. This will also be included as part of the site investigation report to be issued after stage 2. This will give us information on any trees within the site and whether they are of any importance and what quality of life they have.

## 3. DESIGN STANDARDS

Except as may be modified by the latest edition of specifications, drawings and the requirement of the local Authority, the latest edition of the current standards shall apply, and shall include, but not be limited to, the following:-

1. Building Regulations and Approved Documents
2. EN 1990 Eurocode 0:- Basis of structural design
3. EN 1991 Eurocode 1:- Actions on structures
4. EN 1992 Eurocode 2:- Design of concrete structures
5. EN 1993 Eurocode 3:- Design of steel structures
6. EN 1996 Eurocode 6:- Design of masonry structures

7. EN 1997 Eurocode 7:- Geotechnical design
8. Design Manual for Roads and Bridges
11. CIRIA document: - C753 The SUDS Manual
12. CIRIA document: - C736 Containment Systems for Prevention of Pollution
13. BS 7533-13:2009:- Guide for the design of permeable pavements
14. Satisfaction of current Environment Agency guidelines

## 4. BASIS OF DESIGN

### Structural design drivers

The main drivers governing the structural design solutions are:-

- Large roof span over pool area
- Open plan studios on the 1st floor
- Dynamic performance of first floor structure
- Potentially require a suspended ground floor slab (subject to site investigation results)
- Pool tank construction
- Lateral stability of building frame

### Design life

The elements of steelwork and reinforced concrete within the new building will provide a minimum life of 50 years by means of consistent protective coatings or quality concrete and appropriate cover to steel reinforcing bars.

### Substructure proposals

There are various factors affecting the foundation systems, including:-

- The building loads
- Recommendations from the site investigation report which has not yet been undertaken; potential for recommendation of piled foundations for columns and suspended ground floor slab if existing ground conditions are found to be poor.
- Suitability of soil conditions for design of ground bearing swimming pool



slab; as above it is likely that the SI will recommend piles / deep trench strips if the soil will lead to large differential settlement.

### 1. Typical foundations within the 2 storey building

Based on the expected loads the ground information we currently have available from local boreholes, it is expected that the soil will not be suitable for shallow foundations with firm ground not encountered until deep depths. This could mean that pile foundations will be needed if significant made ground or peaty soil is encountered as the foundations will need to extend to the rock layer or decent soil which would allow for a significantly larger bearing pressure.

If the rock is found to be within 4m of the surface (however unlikely), then the most economical approach may be to use trench strip foundations for under the pool slab, deep mass concrete pads for column loads and suspended RC ground beams to support the masonry façade. If the rock is found to be more than 4m down, then a piled pool slab and piled foundation solution are likely to be the most economical option. The number of piles is subject to the pile capacity following the ground investigation. The diameter of piles will be subject to confirmation of pile capacities following further site investigation. The pile caps will generally be incorporated within the depth of the in-situ reinforced ground floor slab where appropriate and should be assumed to be typically 750mm deep.

### 2. Ground floor slab

If ground conditions prove not suitable for a ground bearing slab (and by extension pad foundations), an RC suspended ground floor slab c250mm thick will be designed to span between pile caps. Where there are no internal columns in open plan areas, additional piles would be required for support of the ground floor slab.

### **Pool tank options**

There are two main options for constructing a pool for Whitchurch Leisure Centre, which are:-

- A stainless-steel pool which consists of stainless-steel walls supported on a cast in-situ RC base slab;
- A cast in-situ reinforced concrete (RC) pool tank.

The choice of pool system is a critical strategic decision for the client. The Client should deliberate the maintenance implications of both options.

### **Superstructure proposals**

#### 1. Superstructure options

The layout for the proposed Whitchurch Leisure comprise an open pool hall with studios and fitness suite on the 1st floor above the wet changing and foyer. The whole structure comprises of Pool hall, wet and dry changing, a plant room, reception with café, two studios and a fitness gym.

The superstructure will be formed of a reinforced concrete ground floor slab and a two storey steel frame build up. There will also be access to the roof for additional plant that will be fixed to the roof top situated above the dry changing areas.

#### 2. Roof structure

The roof structure is yet to be designed as of yet and is waiting of approval from the architect therefore no framing has been designed. There will be large spanning beams over the pool hall that could be glulam, deep steelwork beams or trusses supporting the roof or a structural deck could span across the pool supporting the roof. Whichever materials used in the process will need to be treated properly to resist corrosion due to the pool environment, and is perforated to aid the acoustics of the pool.



### 3. Corrosion protection

All steelwork within the pool environment, including the pool hall and changing village will be hot rolled and galvanised to combat corrosion. As previously mentioned, one option for the pool hall roof is a structural roof deck. This must be formed of aluminium if it is to be installed in the pool environment as steel would corrode. As the changing rooms will also be within the pool environment as they are open to the pool hall, all steel would need treating as well. This is due to the chlorides in the air of the pool environment will corrode the metal.

### 4. Vibration

All suspended floors will be designed to provide a vibration response of 8Hz or better in accordance with SCI guidance for floors subject to rhythmic loading.

### 5. Deflections and movements

The structure will be designed to control deflections to acceptable limits according to the Eurocodes. In general, imposed load deflection will be limited to span / 360. Horizontal deflections due to lateral loading will be limited to height / 300 both for total deflection and sway, subject to cladding requirements.

## 5. DRAINAGE

### Existing site details and proposed development

The existing site extends over an area of brownfield land adjacent to Bridgewater Street in Whitchurch. The site currently comprises the Whitchurch Swimming Centre building and associated car parking, Youth Centre and sports courts. The total area within the site boundary is approx. 1.62 ha.

The proposed development involves demolishing the existing pool building and constructing a new 2-storey leisure centre facility on the site. The existing car park will be remodelled to suit the finalised building proposal.

### Flood risk statement

Considering the Environment Agency Flood Mapping, the site is generally shown to be located within Flood Zone 1 which is defined in the National Planning Policy Framework (NPPF) Planning Practice Guidance (PPG) as: *“Land having a less than 1 in 1,000 annual probability of river or sea flooding”*. There is a strip of zone 3 to the south of the site next to the water course.



In accordance with Environment Agency guidance, a site-specific flood risk assessment is not required as the total site area is less than 1 hectare, however as there is a section of Zone 3 to the south a Flood Risk Assessment may be required by the LLFA.

Whilst a site-specific flood risk assessment will assess the risks to the site in detail, the flood risk from river and sea, surface water and reservoir flooding using the Environment Agency Flood Maps has been outlined below:

The site is in flood zone 1 and has a low risk of flooding from the river or sea, according to EA flood maps. A small area of the site is at medium to high risk of localised surface water flooding according to the EA data. However, it is noted that the area of site at risk does not clash with either of the proposed building locations or any of the other proposed site infrastructure.

The site is not at risk of flooding from other sources, such as reservoirs.

### Surface water drainage

#### Existing

The existing site comprises predominantly brownfield (buildings, car parking and hardstanding) land. A drainage survey is planned to confirm where the existing surface water from the site discharges to. Once a drainage survey has been carried out this strategy will be updated to reflect its findings.

The nearest watercourse for discharge is to be confirmed in the next stage. The existing impermeable area within the site boundary is approx. 3500 m<sup>2</sup> and the existing outflow volume and location from site is to be confirmed following the site survey as part of the next stage of design.

#### Proposed

The surface water discharge from the proposed development will be made up from the following elements:-

- Building roof area
- Access roads
- Paved areas around new development
- Car parking bays

#### Surface water discharge hierarchy

The recommended surface water discharge hierarchy set out in the CIRIA SuDS Manual is to utilise soakaways, or infiltration as the preferred option, followed by discharging to an appropriate watercourse. If these options are not feasible then the final option is to discharge to an existing surface water sewer, followed by discharge into a combined public sewer. The strategy is to be completed in the next stage.

#### SuDS considerations

SuDS will be considered when producing this drainage strategy in an effort to provide effective surface water treatment and slow down the rate of surface water runoff in accordance with National Planning Policy recommendations

and the lead local flood authority SuDS Design Guidance. The following sustainable drainage systems will be considered:-

- Infiltration systems: subject to site infiltration rates.
- Porous pavements: porous / permeable surfaces are proposed for the car park construction as they can provide an effective way to reduce the flow rate of surface water runoff and give the necessary 2-stage treatment required to remove hydrocarbons prior to discharge into the receiving water body.

A suitable maintenance plan for all SuDS features will be produced at detail design stage and should be developed and implemented by the operator once the drainage proposals have been finalised to ensure sufficient operation and treatment is maintained throughout the design life of the development.

#### Design criteria

All private surface water drains will be designed and constructed in accordance with BS EN 752:2017 and Building Regulations Approved Document H. All adoptable surface water drainage will be designed and constructed to 'Sewerage Section Guidance (SSG) Codes for Adoption' standards, in accordance with the SSG Design & Construction Guidance document.

### Foul water drainage

#### Existing

The existing site foul drainage infrastructure comprises commercial and industrial (trade effluent) sewage from the swimming pool building. A drainage survey is planned to confirm where the existing foul water from the site discharges to. Once a drainage survey has been carried out this strategy will be updated to reflect its findings.

#### Proposed

#### Discharge method

A pre-development enquiry will be submitted to confirm whether they have any assets adjacent to the site boundary. This drainage strategy will be updated

once a response is received, however for the purposes of this report it has been assumed that a suitable discharge location will be available. Formal approval to connect into the public drainage network will be agreed through the submission of an S106 application.

### Design criteria

New foul drains will be provided to serve all foul producing appliances within the proposed development. All drains will be designed in accordance with BS EN 752:2017 and Building Regulations Approved Document H. All adoptable foul water drainage will be designed and constructed to 'Sewerage Section Guidance (SSG) Codes for Adoption' standards, in accordance with the SSG Design & Construction Guidance document.

### Trade effluent

At this stage of the project there is the option to use a microfiltration system rather than a traditional backwashing facility for the proposed swimming pool filters. If a microfiltration system is used then there will be no requirement to discharge trade effluent however for the purposes of this report it has been assumed that a traditional filtration system will be used and trade effluent will be discharged.

Foul waste classified as 'trade effluent' must be connected into the proposed foul network. Formal approval is required to discharge trade effluent and a trade effluent agreement will need to be arranged between the site operator and the operator's chosen water retailer. The trade effluent agreement will stipulate the frequency, volume, and maximum rate at which the operator will be able to discharge trade effluent from their site.

In addition, a pre-development enquiry will be submitted to confirm whether there is capacity within their foul network to accommodate the trade effluent discharge. This drainage strategy will be updated once a response is received however for the purposes of this report it has been assumed that the network will have available capacity.

It is proposed that the discharge rate and discharge volume from the backwashing facilities will be restricted as part of the trade effluent agreement

as it is unlikely that the public network would be able to accommodate the unrestricted backwash rate. Trade effluent from the swimming pool filters will therefore discharge into an isolated foul drainage network and make a separate connection into the main foul drainage network, downstream of a dedicated sampling chamber. The trade effluent network will have a suitably sized backwash storage facility and a mechanism to restrict the flow rate into the main foul drainage network in accordance with the approved trade effluent agreement.

## 6. CARBON REDUCTION

At Furness Partnership, we understand that as structural engineers we have a huge responsibility to mitigate carbon emissions within the built environment. We calculate the embodied carbon in our structural solutions as standard practice, both early on and at key stages of the project journey. This allows the client to make quantified decisions towards carbon reduction. We follow the following process to achieve embodied carbon reduction in our designs:-



### **Effective carbon reduction - leisure complex case study**

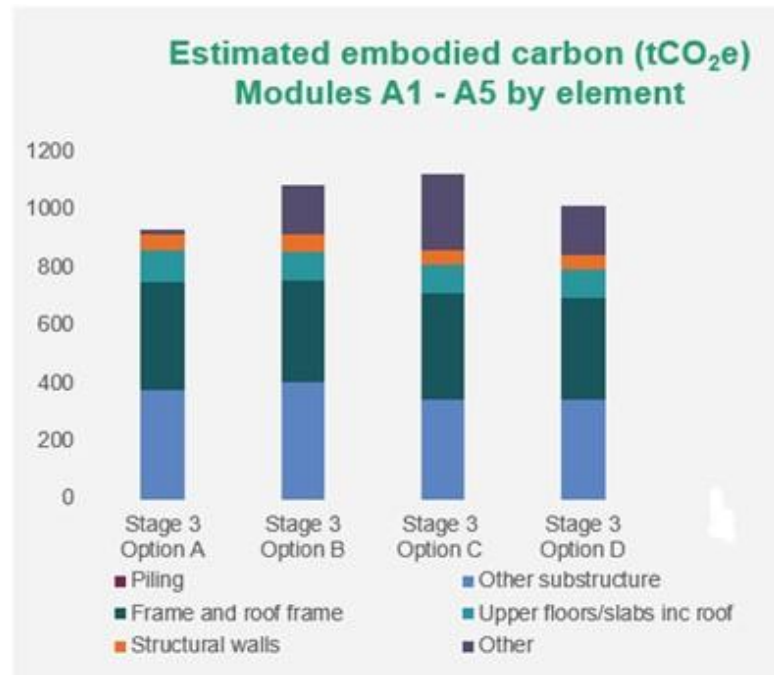
As part of the feasibility and design process we complete a calculation to determine the carbon with our designs and look to mitigate the impacts where possible. At the next design stage, once the structural form is completed for the proposed Whitchurch Leisure Centre, we will be including the assessment we have made to offset the carbon.

In order to inform our designs we have undertaken a theoretical case study to establish design principles for effective carbon reduction. The following paragraphs explain our process:

Carbon calculations were adopted early on in a large-scale sports and leisure complex which ultimately enabled us to achieve a significant carbon reduction of 56kgCO<sub>2</sub>e/m<sup>2</sup>. The project involved the structural design of the following:-

- Swimming pool
- First floor fitness suite
- Sport hall
- Changing rooms
- Communal areas

At the first stage of design, 4 schemes were put forward so that the carbon emissions could be compared, and high impact areas identified. The schemes were calculated as follows



These calculations enabled us to target carbon reduction and ultimately improve the SCORs rating by a grade. The following strategies were used to achieve this reduction:-

- Low cement concrete specifications
- Modification of the cladding design to reduce secondary steel used
- Re-use of existing structure where possible
- Improved ground conditions to reduce sub structure
- Optimising the efficiency of design to reduce steelwork

We use these principles at the beginning of the design process to not only design an efficient structural design, but as low carbon option as possible.

### 7. CIVIL AND STRUCTURAL RISK ITEMS

- Pool tank base design also dependant on findings of further site investigation. Existing ground conditions at pool base level will determine whether pool tank will be designed as ground bearing, suspended between mass concrete trench foundations or piled.
- Clay heave due to removal of trees across the building footprint, and removal of overburden pressure within the pool hall
- Pool type (Myrtha vs traditional reinforced concrete)
- Roof structural form and size of the building still to be finalised by architect.
- Existing foul and surface water drainage connection details still to be finalised following receipt of existing drainage CCTV survey
- Further surveys required to ascertain locations of any existing buried services

### 8. FURTHER INFORMATION REQUIRED

The further information/surveys are required in order to continue to the next stage:-

- Flood risk assessment
- Geo-technical and geo-environmental site investigation
- CCTV survey of existing drainage
- Survey of existing buried services
- Confirmation of pool type
- Up to date topographical survey
- Arboricultural survey

### 1. SITE / INCOMING SERVICES

To be read in conjunction with record drawings received and Groundwise report. Excerpts found at the end of this section.

- It is anticipated that a new sub-station will be required to serve the refurbishment due to the extent of works required and the services strategy. The required load has been applied for from the utility provider. Budget cost of providing new connection is £81,466.
- The existing incoming gas supply will be stripped out, no gas will be provided to the development. This is due to the design team receiving further information since issuing the original document that, where feasible, sites should be 100% fossil fuel free. A detailed energy strategy will be developed as the design progresses to maximise the use of renewable energy resources and carbon reduction.
- The existing incoming water supply will be stripped back to the main branch and a new connection provided to serve the new development. The incoming supply will connect to the cold-water storage tank only and serve all sanitary outlets within the building and pool equipment, no outlets will be served directly from the mains cold water supply.
- It is envisaged that new telecommunications supplies will be required from the local infrastructure, however the provision will need to be confirmed by the Client / end user.

### 2. PERFORMANCE

Shropshire Council declared a climate emergency in 2019 and in 2020 adopted its Strategy for achieving net zero on carbon emissions by 2030. Design to provide for a passive standard of operation at the facilities, the aim being to achieve as low a carbon footprint as possible at a reasonable cost over the lifecycle of the project. The design will adopt lean, green, mean hierarchy of design strategies to ensure that the building is as energy efficient and produce minimum Carbon as possible. An LZCT assessment will be carried out to ascertain the viability of appropriate technologies to meet the project energy and Carbon higher level objectives.

A fabric first approach will be adopted to limit energy input requirement; however this will not quite be Passivhaus standards as can cause issues with lack of connection to the external environment and once air leakage goes below a low number the savings in energy rapidly diminish. Heat recovery technology yields far more energy savings

which will be adopted everywhere possible.

The building will be designed BREEAM to achieve BREEAM 'Excellent', with BREEAM 'Very Good' as a minimum. An EPC A rating is targeted and all design strategies will be applicable to provide this. The EPC will be calculated at all design gateways to ensure progressive compliance.

Throughout the design stages continuous monitoring of the design will be undertaken, this will be done using a combination of thermal analysis and data obtained from monitoring of similar projects so both the fabric and building services designs can be aligned to the requirements of the building to maximise efficiency and performance whilst achieving the operational requirements for the building.

### 3. BUILDING SERVICES STRATEGIES SUMMARY

The mechanical and electrical services strategies will be developed to ensure compliance with the regulations, clients requirements and energy strategy to provide an energy efficient building services solution.

### 4. PLANT LOCATIONS

The building has 2 main plant areas, one located at ground floor level and the second on the roof which is open to atmosphere.

#### Ground floor

- Cold water and Cat 5 storage tank
- Cold water booster set
- Hot water generation: likely via ASHP, ground source heat and / or gas boilers
- Low temperature hot water (LTHW) heating generation: likely via ASHP, ground source heat pump
- LTHW pumps, low loss header, pressurisation unit, etc.
- Chilled water pumps (if applicable)
- Mechanical control panel
- Electrical panel and distribution boards
- LV switch room
- Any local ventilation with highly efficient heat recovery devices
- Specialist swimming pool plant



### Roof

- External condenser units
- Air handling units with highly efficient heat recovery units

### External

- Air source heat pumps (if applicable)
- PV if applicable

### 5. ENERGY

Energy use within the building will be a key factor as the design progresses with ensure the building not only achieves Building Regulation Part L2A (2013) compliance but also provides an efficient “in use” design solution. Our approach will be:-

- Fabric
- Energy efficient plant and equipment
- Intelligent controls
- Renewable technologies: roof mounted photo-voltaic (PV) cells and ASHP

### 6. BUILDING

The mechanical, electrical and public health engineering services will be carefully considered throughout ensuring they are aligned with the aesthetic aspirations and requirements for each space whilst providing the required performance for the area served.

Where identified, all mechanical, electrical and public health services within the C4 corrosion zone will be suitably designed and specified as required, this will include all services and associated supporting equipment both within the space and ceiling void of the space.

The ventilation strategy will be designed to ensure a positive environment is provided around the C4 area to contain the corrosive environment to the pool hall as much as possible.

This will be achieved by designing the pool hall to have a negative pressure environment to the surrounding rooms/areas, make-up air to the pool hall will be provided from the wet changing area ventilation system to protect, where possible, areas outside of the pool hall

### 7. ELECTRICAL SERVICES

The electrical services systems will include the following:-

- Distribution
  - Main board
  - Split metered distribution boards
  - Containment
- Small power and data
- LED Lighting and emergency lighting
- Fire alarm system
- Earth bonding
- Lightning protection
- Security
  - Intruder alarm
  - CCTV
  - Access control
- Pool alarm (if applicable)
- PA system
- Disabled Disability Act
  - Induction loops / arrays
  - Assistance alarms
  - Refuge system (if applicable)

## 8. MECHANICAL SERVICES

The mechanical services systems will include the following:-

- Heating and cooling
  - Air source heat pump generation
  - VRF to areas
  - Electric panel heaters
  - Ventilation system
- Central air handling units with heat recovery
- Local extract systems where required
  - Controls / building management system
- Public health services
  - Domestic water
- Above ground drainage
- Central cold-water storage and booster set
- Central hot water generation

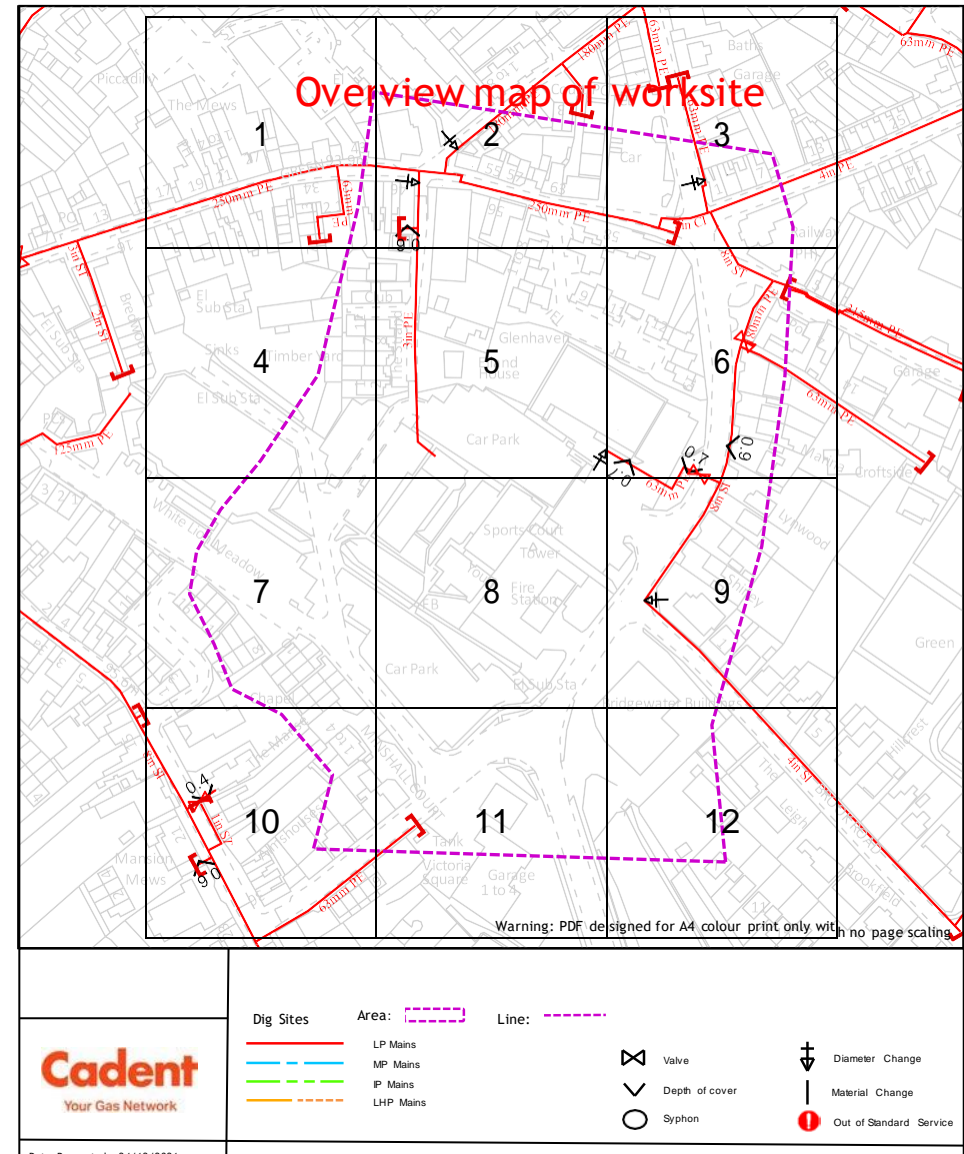
## 9. EXTERNAL

Externally with building will be provided with electrical vehicle charging points, external lighting and CCTV coverage.

## 10. BUILDING EFFICIENCY

The different options for each system will be assessed at the next stage of design to ascertain the most efficient and effective solutions for providing the mechanical and electrical services within the building.

As part of the assessment the performance and net carbon impact on the building will be reviewed to ensure all options are clearly defined and their impacts, positive and negative, documented for client review prior to any conclusion.



figy - Gas

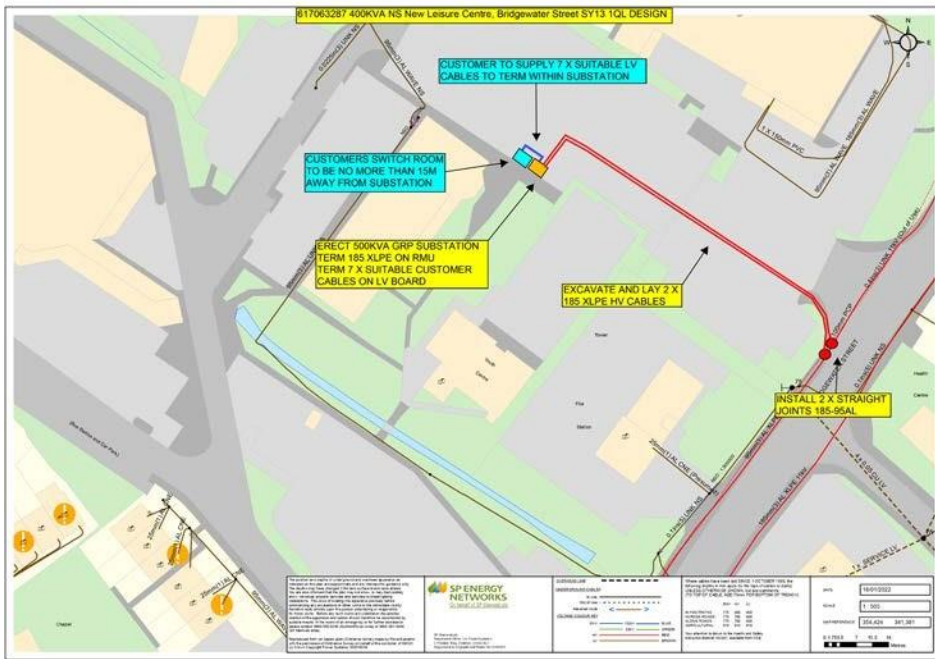
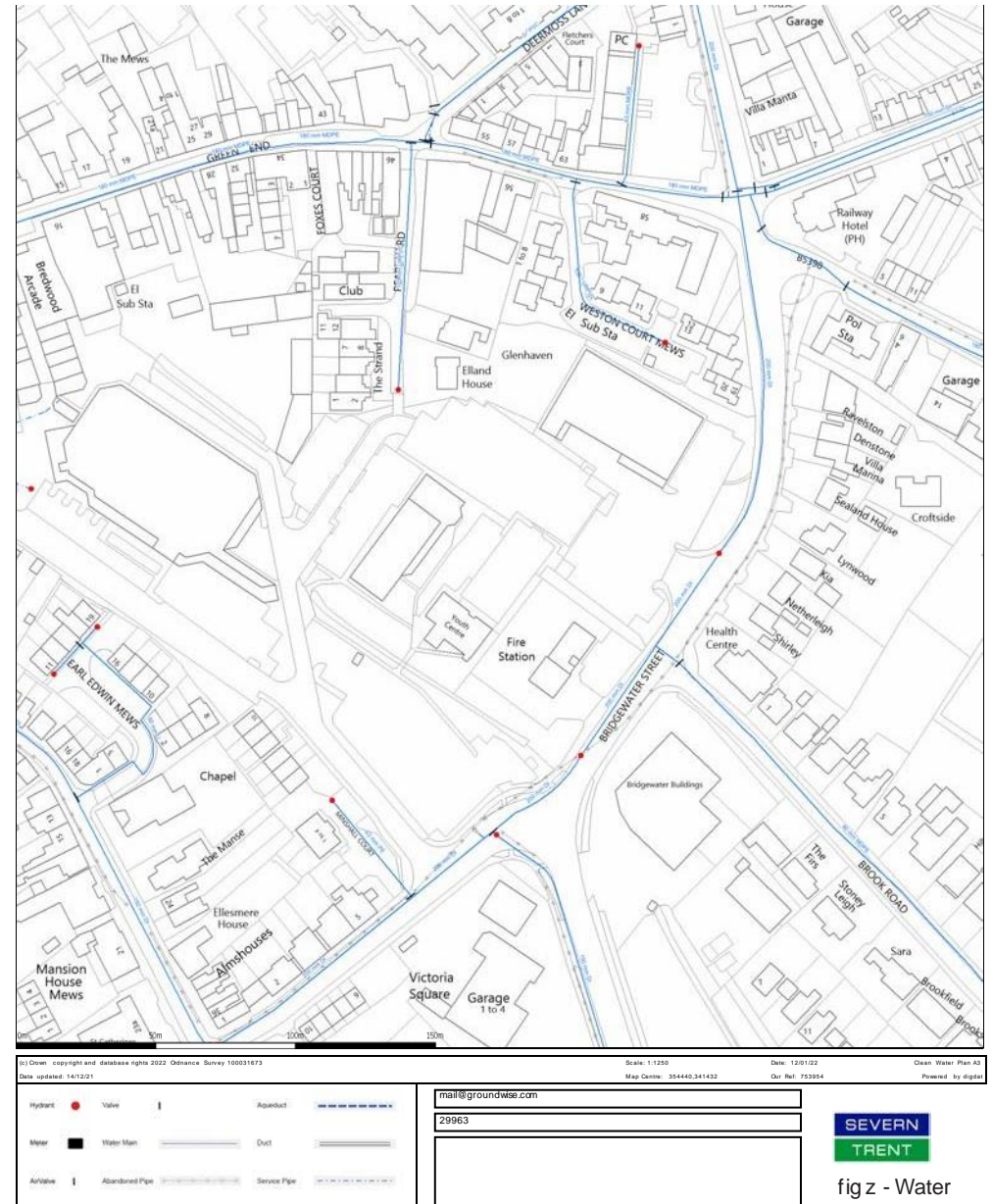
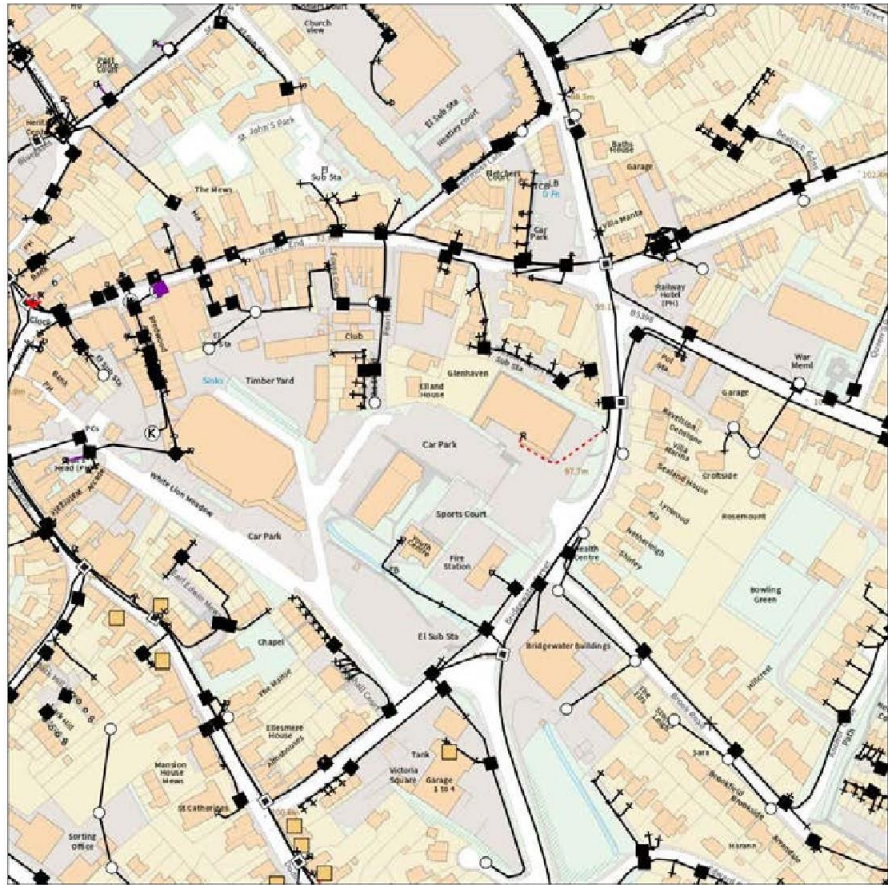


fig x - Electricity







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 Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



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**Accidents happen**

If you do damage any Openreach equipment please let us know by calling 0800 3 2023 (opt 1 + opt 1) and we can get it fixed ASAP

KEY TO BT SYMBOLS		Change Of State	+	Matchings	+
Planned	Live	Split Coupling	X	Built	+
PCP		Duct Tee	A	Planned	+
Pole		Building	+	Inferred	+
Box		Kiosk	K	Duct	+
Manhole		Other proposed plants is shown using dashed lines. BT Symbols not listed above may be disregarded. Existing BT Plant may not be recorded. Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.			
Cabinet					
Pending Add	In Place	Pending Remove	Not In Use		
Power Cable	+	+	+		
Power Duct	+	+	N/A		

fig q - Telecoms

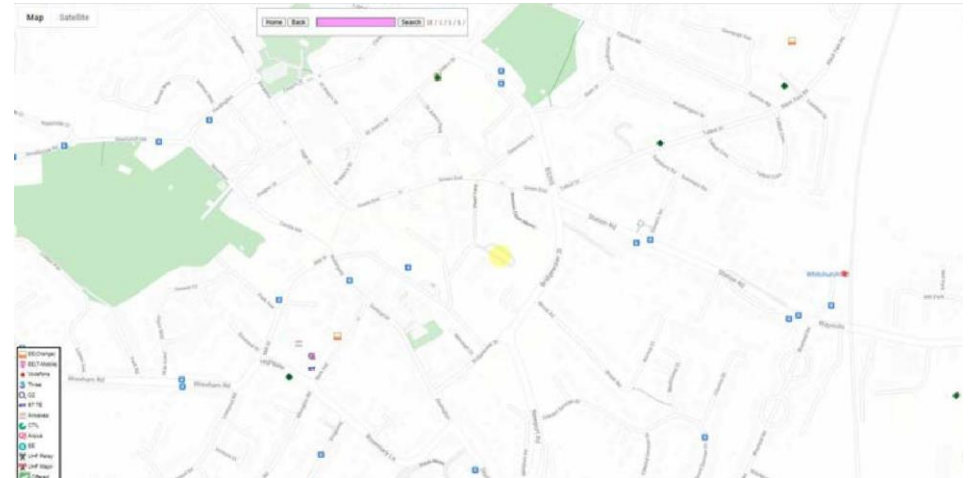


fig w - Mobile phone masts

### NOTES ON APPROXIMATE ESTIMATE COSTS

1. The approximate costs in this estimate have been based on the proposed ground and first floor plans issued 19.11.21, the roof plan dated 12.11.21 and site plans dated 12.11.21. It has been assumed that the roof top plant room and access stair as shown on the original drawing dated 12.11.21 will be required. Assumptions on the level of specification required have been made which will require verification with the Architect and Client.
2. We have noted the comments in the brief regarding the problems with the foundations of the existing building, and include an allowance for piled foundations to the new Centre.
3. An existing asbestos survey has been provided which indicates that there is some asbestos present in the existing building. We have therefore included a provisional allowance for asbestos removal.
4. It has been assumed for the purpose of the estimate that a competitive price will be obtained for the works using a Design and Build procurement route.
5. The figures have been based at current price levels. An allowance for inflation has been included based on the proposed programme of a Commencement in the 3rd Quarter of 2023 and Completion in the 2nd Quarter of 2025.
6. We have allowed for a PV panel installation to the roof as shown on the roof drawing issued on 12 November 2021, together with an allowance for an Air Source Heat Pump primary heating source to the building with gas back up.
7. The project build costs have been benchmarked against recent projects that have achieved BREEAM VERY GOOD ratings and a further allowance has been made to upgrade this to BREEAM Excellent rating.
8. No other sustainability options or measures to achieve carbon reduction or a carbon 'neutral' project, other than those stated in item 6 and 7 above have been included in the estimate. Further confirmation will be required from the client during RIBA stage 2, to establish the extent of additional fabric improvements beyond Building Regulations compliance, to achieve the low carbon aspirations as proposed in section 7.

The figures exclude:-

1. VAT
2. Operator procurement
3. Legal costs
4. Ground remediation or measures to deal with contamination.
5. Diversion or lowering of any existing services which may run under, over or adjacent to the site.
6. External works or landscaping beyond the immediate vicinity of the new swimming centre and associated parking as shown on the option 2 base plan dated 12 November 2021.
7. ICT / F,F&E, loose equipment including sports and fitness equipment and Furniture.
8. Any allowance for major cut and fill requirements or retaining works, pending further detail on site levels.
9. Potential Covid 19 impacts or related events
10. Finance charges and legal costs



# 10.0 Cost report, programme and procurement

Whitchurch Swimming Centre  
Option 2 A & 2 Rev A  
Approximate Estimate

AREA BUILD COSTS		BASE AREA SCHEDULE				
INTERNAL WORKS	Area	Area m2	Total Area -m2	Rate (m2)	Cost	Cost
<b>General</b>						
<b>Entrance, Reception and Office Areas</b>						
	Entrance lobby	12		£2,400	£28,944	
	Cafe/Pool Viewing, Inc. Survey	66		£2,400	£157,920	
	Cafe Kitchen	7		£2,400	£22,226	
	Cafe Kitchen Store	6		£2,400	£13,440	
	Staff Room	9		£2,400	£18,168	
	Gamma Room	5		£2,400	£12,144	
	Foyer / Reception	80		£2,400	£191,136	
	Foyer WC	3		£2,400	£9,016	
	Foyer Acc. WC	4		£2,400	£9,440	
	First Floor WC	2		£2,400	£5,280	
	Cleaner's Store (Ground Floor)	5		£2,400	£10,824	
	Cleaner's Store (First Floor)	6		£2,400	£18,552	
	<b>Sub total</b>		<b>206</b>			<b>£495,360</b>
<b>Wet Side</b>						
<b>Pool Hall</b>						
	8 Lane x 25m Community Pool (ASSEMBLY - movable Room FF&E)	558		£3,800	£2,097,202	
	Pool Store	79		£3,300	£263,393	
	Movable Floor Ramps	6		£3,300	£19,767	
	Pool First Aid	9		£3,300	£28,941	
<b>Changing</b>						
	Village Changing	182		£3,300	£600,072	
	Group Changing	32		£3,300	£104,148	
	Changing Places	12		£3,300	£38,544	
	Changing Village Male WC	17		£3,300	£55,374	
	Changing Village Female WC	15		£3,300	£48,907	
	Changing Village Accessible WC	4		£3,300	£12,441	
	Changing Village Accessible Change	8		£3,300	£19,569	
	Spectator seating -NA	0		£3,300	£0	
	<b>Sub total</b>		<b>868</b>			<b>£3,031,358</b>
<b>Health and Fitness</b>						
<b>Fitness Suite</b>						
	Fitness Suite	167		£3,000	£502,260	
<b>Studio</b>						
	Studio 1 (part of divisible room)	112		£2,900	£324,207	
	Studio 1 store	13		£2,900	£38,279	
	Studio 2 (part of divisible room)	113		£2,900	£326,827	
	Studio 2 store	9		£2,900	£26,100	
	Gender Shower adjacent to Fitness Suite	2		£2,900	£6,426	
<b>Dry Change</b>						
	Dry changing (2 Dry Changing Rooms, including Lockers, Showers & WCs)	95		£3,100	£295,899	
	Accessible Changing	6		£3,100	£18,476	
	Accessible WC	5		£3,100	£14,911	
	<b>Sub total</b>		<b>322</b>			<b>£1,550,694</b>
<b>Plant - see allowance below</b>						
	Filtration / boiler/yard & Chemicals / rain room / pump pit - assumed OP Plant Room	98		£1,100	£106,200	
	Boiler plant room	111		£1,100	£121,961	
	<b>Sub total</b>		<b>208</b>			<b>£277,913</b>
<b>Circulation - see allowance below</b>						
	Circulation gl - inc. above	0		£2,300	£0	
	Main stair	16		£2,300	£36,938	
	Lifts	6		£2,300	£12,788	
	Fire escape stairs / Roof Plant Room Stair	10		£2,300	£113,961	
	Circulation Floor Finish	97		£2,300	£223,146	
	<b>Internal Works allowance</b>			£2,300	£347,300	
	<b>Sub total</b>		<b>309</b>			<b>£710,633</b>
<b>Total Internal Works</b>						
	<b>Total GFAm2</b>		<b>2113</b>	<b>£2,871</b>		<b>£6,643,308</b>
<b>Fixed Fixtures, fittings and equipment</b>						
	General allowance for fixed equipment (excludes Fitness equipment & other loose equipment)			any	£150,000	
	Allowance for Air Source Heat Pump Installation with gas back-up			any	£150,000	
	Allowance for rooftop PV			any	£75,000	
	<b>Sub total</b>					<b>£375,000</b>
<b>Allowances</b>						

	Allowance for Asbestos Removal			any	£50,000	
	Allowance for Piled Foundations / Sloped Site			any	£400,000	
	Provision of excavator			item	£60,000	
	<b>Sub total</b>					<b>£550,000</b>
<b>TOTAL CONSTRUCTION COSTS (EXCLUDING EXTERNAL WORKS, CONTINGENCY, FF&amp;E, FEES, SURVEYS, VAT &amp; INFLATION)</b>						
	<b>Total GFA</b>		<b>2113</b>	<b>£3,285</b>		<b>£8,940,308</b>

EXTERNAL WORKS						
<b>External Works and Car parking</b>						
External Works (Drainage)	Building Ground Floor Footprint + Car Parking + Service Yard		5144	£40.00	£205,763	
External Works (Lighting)				any	£30,000	
External Works (Landscaping)			320	£35.00	£11,200	
External Works (Allow for remedial works to bridge over stream)				any	£25,000	
External Works (Protection of existing trees)				any	£25,000	
External Works (Paths - assumed tarmac)			582	£135.00	£78,570	
External Works (Provision of above Landscape Area including tarmac, basketball practice and play areas)			611	item	£180,000	
External Works (Allow for provision of basketball hoops and tarmac back markings)				any	£3,500	
External Works (Allow for works to stream)				any	£2,500	
External Works (Service Yard - assumed tarmac)			60	£85.00	£5,100	
Car parking - Assumed mix of tarmac access ways and block paved parking spaces			4160	£150.00	£624,000	
Statutory Services / Utilities - Assumed re-connection of existing service connections				any	£200,000	
<b>Sub Total</b>						<b>£1,391,583</b>
<b>Demolition</b>						
Demolition removal to existing single storey Youth Centre Building			316	any	£70,000	
Demolition of existing facilities and site clearance including breaking out of existing carpark and hard landscaped areas				any	£150,000	
<b>Sub Total</b>						<b>£160,000</b>
<b>Total External Works</b>						
						<b>£1,551,583</b>

<b>TOTAL CONSTRUCTION COSTS INCLUDING EXTERNAL WORKS, CONTINGENCY, FF&amp;E, FEES, SURVEYS, VAT &amp; INFLATION</b>						
	<b>Total GFA</b>		<b>2113</b>	<b>£4,919</b>		<b>£8,491,891</b>
<b>Allowance for BREXIT EXCELLENCE</b>						
				2.0%		£169,638
<b>TOTAL CONSTRUCTION COSTS INCLUDING EXTERNAL WORKS, EXCLUDING CONTINGENCY, FF&amp;E, FEES, SURVEYS, VAT &amp; INFLATION</b>						
						<b>£8,661,529</b>

CONTINGENCY						
Design development contingency				5.0%		£424,595
Client contingency				5.0%		£424,595
<b>Sub Total</b>						<b>£849,190</b>
<b>FITTINGS, FIXTURES &amp; EQUIPMENT (FF&amp;E)</b>						
Allowance for loose FF&E / ICT not covered above	Excluded					
<b>PROFESSIONAL FEES</b>						
Professional Fees & Surveys	5% of total construction cost and contingency allowances			9.0%		£855,983
<b>Sub Total</b>						<b>£10,266,991</b>

INFLATION TO MID POINT OF CONSTRUCTION						
Provision for inflation based on a Central Bank Point of 02/2024 - 02/2023 when contract start to Q2 2025 completion				11.85%		£1,146,181
<b>Sub Total</b>						<b>£11,512,881</b>

<b>TOTAL PROJECT COSTS (EXCLUDING VAT)</b>						
						<b>£11,512,881</b>
<b>Optim. for Movable Floor to Main Pool</b>						
Allowance for inflation as above				11.92%		£55,000
Allowance for inflation as above						£65,552
<b>Total Movable Floor Optim. Allowance</b>						<b>£120,552</b>

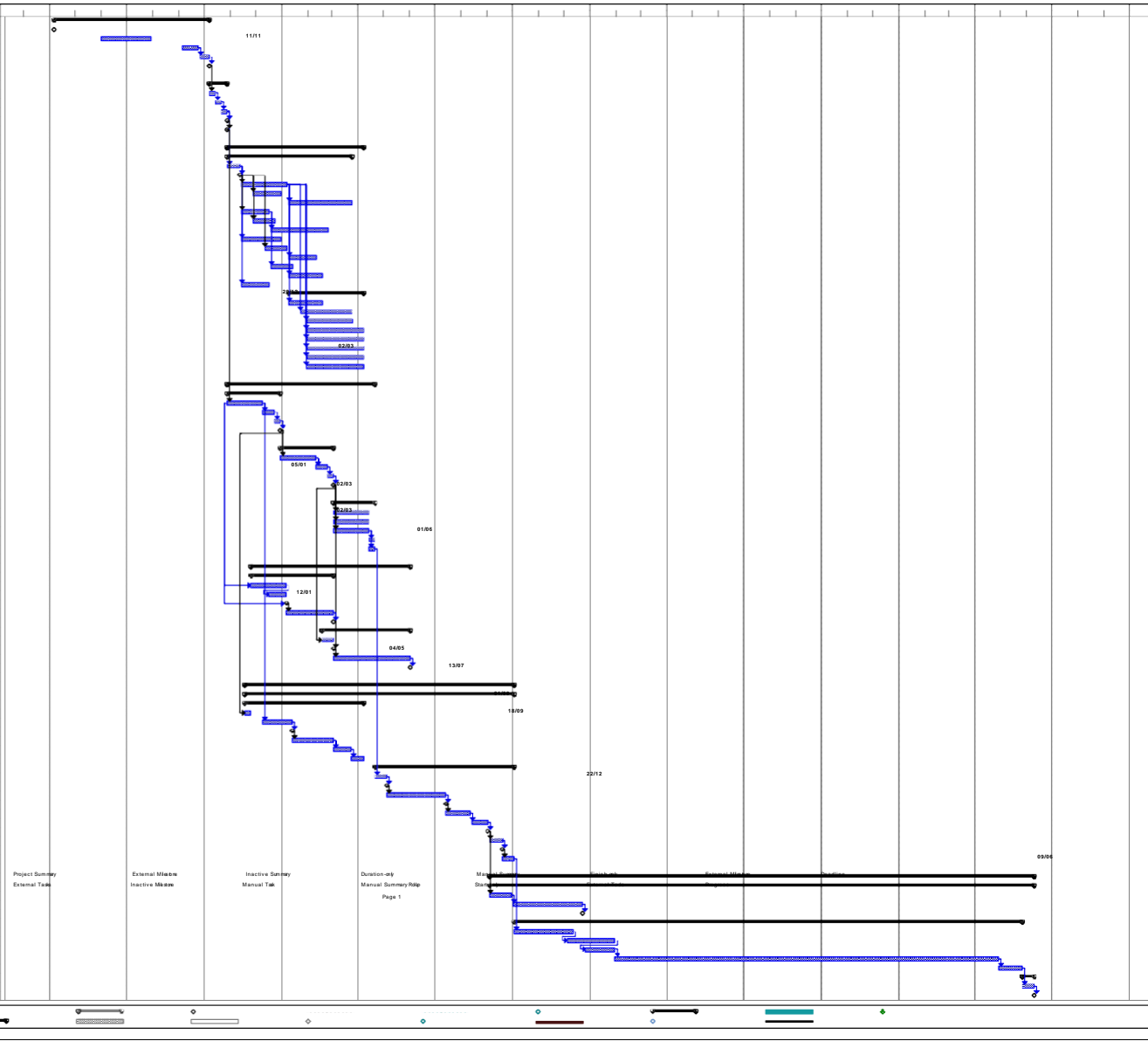
APPROXIMATE ESTIMATE SUMMARY			
Over Internal Floor Area		2113	m2
Total construction cost rate per m <sup>2</sup> (excluding external works, FF&E, Fees, Contingency, Inflation & VAT)		£3,285	£/m2
Total construction cost rate per m <sup>2</sup> (including external works, excluding FF&E, Fees, Contingency, Inflation & VAT)		£4,919	£/m2
Total construction cost rate per m <sup>2</sup> (including external works, Fees, Contingency, excluding FF&E, Inflation & VAT)		£4,996	£/m2
Total project cost per m <sup>2</sup> (including external works, FF&E, Fees, Inflation, excluding FF&E & VAT)		£5,448	£/m2
Typical Parking Standards = 1 space per 21m2 for D2 uses		101	

WINDFARM SCHEME  
WYFELONG WIND CENTRE  
PRELIMINARY DRAFT OVERALL MASTER PROGRAMME BASED ON SINGLE STAGE DESIGN & BUILD TENDER WITH SO

ID	Task Name	Date	Finish	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1	CABINET REPORTS / PUBLIC CONSULTATION	Wed 04/04/22	Thu 04/04/22															

2	Feasibility/Outline Report	Wed 06/04/2024 09:42Z	0 days
3	Public Consultation	Wed 01/06/24 Fri 29/07/24	43 days
4	Report to Cabinet on behalf of Public Consultation (Pre-Dev)	Mon 05/09/24 Fri 20/09/24	15 days
5	Recommendation to Council to Capitalize Phase 2	Mon 26/09/24 Thu 01/10/24	5 days
6	Council Authorisation Proceeds RBA Stage 2	Thu 06/10/24 Thu 06/10/24	0 days
7			
8	<b>APPOINTMENT</b>	<b>Fri 07/10/24 Thu 27/02/25</b>	<b>15 days</b>
9	Agree Procurement Strategy/Design & M	Fri 07/10/24 Thu 01/10/24	1 wk
10	Design Team/RFI/RFQ/RFI	Fri 14/10/24 Thu 30/10/24	1 wk
11	Authority Consideration/Agree	Fri 21/10/24 Thu 27/10/24	5 days
12	Design Team/RFI/RFQ/RFI		0 days
13	Project Launch/Meeting/Task	Thu 27/10/24 Thu 27/10/24	0 days

14			2716
15			2716
16	<b>SURVEYS</b>	<b>Fri 28/10/24 Fri 08/11/24</b>	<b>114 days</b>
17	<b>SITE SURVEY INVESTIGATIONS</b>	<b>Fri 28/10/24 Fri 24/03/25</b>	<b>106 days</b>
18	Review Information Summary/submit	Fri 28/10/24 Fri 11/11/24	11 days
19	Confirm Top of Survey/prepare	Fri 11/11/24 Fri 11/11/24	0 days
20	Prepare Brief/Outline Survey/prepare	Mon 14/11/24 Fri 05/12/24	40 days
21	Demolition/Access Survey	Mon 28/11/24 Fri 30/12/24 09:50	25 days
22	Outline Investigation Survey (Stage 1 & Stage 2 Survey)	Mon 05/12/24 Fri 20/12/24	15 days
23	Detailed Topographic Survey	Mon 14/11/24 Fri 01/12/24	25 days
24	Designing Firm/submit	Mon 28/11/24 Fri 23/12/24 09:50	20 days
25	Finalize Survey/submit/Design/Survey	Mon 01/12/24 Fri 20/12/24	19 days
26	Utilities/Services/Survey/Access/submit	Mon 14/11/24 Fri 20/12/24	35 days
27	OPN Services/Solution/Survey	Mon 27/12/24 Fri 09/01/25 09:50	20 days
28	CCPV/Design/Survey	Mon 09/01/25 Fri 09/01/25	0 days
29	Archaeological/Tree Survey/Conservation Plan	Mon 19/12/24 Fri 03/01/25	20 days
30	Noise Survey	Mon 09/01/25 Fri 19/02/25	30 days
31	Ecology Survey	Mon 14/11/24 Fri 19/02/25	26 days
32	Archaeological/Desk Top Survey	Mon 09/01/25 Fri 19/02/25	30 days
33	Traffic Impact/submit/submit/submit	Mon 20/01/25 Fri 24/02/25 09:50	40 days
34	Daylight/Consultation	Mon 30/01/25 Fri 24/02/25 09:50	40 days
35	Energy Strategy Report	Mon 30/01/25 Fri 07/03/25 09:50	50 days
36	Air Quality Assessment	Mon 30/01/25 Fri 07/03/25 09:50	50 days
37	Fire Strategy Report	Mon 30/01/25 Fri 07/03/25 09:50	50 days
38	Sustainability Statement	Mon 30/01/25 Fri 07/03/25 09:50	50 days
39	BREEM Pre-Assessment	Mon 30/01/25 Fri 07/03/25 09:50	50 days
40			
41	<b>DESIGN</b>	<b>Fri 28/10/24 Thu 09/01/25</b>	<b>135 days</b>
42	<b>RIBA STAGE 2 DESIGN CONCEPT</b>	<b>Fri 28/10/24 Thu 28/12/24</b>	<b>40 days</b>
43	Stage 2 Concept Design	Fri 28/10/24 Thu 08/12/24	6 wks
44	Stage 2 Cost Ref	Fri 08/12/24 Thu 20/12/24	2 wks
45	Report	Fri 20/12/24 Thu 20/12/24	1 wk
46	Authority Signoff	Thu 20/12/24 Thu 20/12/24	0 wks
47			
48	<b>RIBA STAGE 3 DESIGN DEVELOPED</b>	<b>Fri 30/12/24 Thu 09/01/25</b>	<b>45 days</b>
49	Stage 3 Detailed Design	Fri 30/12/24 Thu 08/01/25	6 wks
50	Stage 3 Cost Ref	Fri 08/01/25 Thu 20/01/25	2 wks
51	Report	Fri 20/01/25 Thu 20/01/25	1 wk
52	Authority Signoff	Thu 20/01/25 Thu 20/01/25	0 wks
53			
54	<b>RIBA STAGE 4 (BIM) TECHNICAL DESIGN</b>	<b>Fri 03/01/25 Thu 28/02/25</b>	<b>35 days</b>
55	Stage 4 Technical Design/submit/submit/submit/submit	Fri 03/01/25 Thu 09/02/25	6 wks
56	Room Data Sheet	Fri 03/01/25 Thu 09/02/25	6 wks
57	Stage 4 Effort/submit/submit	Fri 03/01/25 Thu 09/02/25	6 wks
58	Architect Review/submit/submit	Fri 14/02/25 Thu 20/02/25	1 wk
59	QS Prepare/submit/submit	Fri 14/02/25 Thu 20/02/25	1 wk
60			
61	<b>PLANNING</b>	<b>Fri 28/10/24 Thu 09/01/25</b>	<b>135 days</b>
62	<b>PLANNING PRE-APP PROCESS</b>	<b>Fri 28/10/24 Thu 09/01/25</b>	<b>10 days</b>
63	Initial Planning Pre-application Consultation	Fri 28/10/24 Thu 08/11/24 09:50	6 wks
64	Prepare Planning Application	Fri 11/11/24 Thu 09/12/24 09:50	3 wks
65	Submit Planning Application	Thu 08/12/24 Thu 08/12/24 09:50	0 days
66	Pre-App Decision Made	Fri 06/01/25 Thu 20/01/25	3 wks
67	Pre-App Response	Thu 02/01/25 Thu 02/01/25	0 days
68			
69	<b>PLANNING APPLICATION</b>	<b>Fri 17/02/25 Thu 09/03/25 09:50</b>	<b>2 wks</b>
70	Submit Planning Application	Thu 02/03/25 Thu 02/03/25	0 days
71	Planning Decision Made	Fri 03/03/25 Thu 03/03/25	0 wks
72	Planning Approval/submit	Thu 01/06/25 Thu 01/06/25	0 days
73			
74	<b>PROCUREMENT</b>	<b>Fri 14/11/24 Mon 02/01/25</b>	<b>227 days</b>
75	<b>MAIN CONTRACTOR PROCUREMENT (Single stage DBB with Prequal)</b>	<b>Fri 14/11/24 Mon 02/01/25</b>	<b>227 days</b>
76	Pre-Selection Process	Fri 14/11/24 Fri 07/12/24	161 days
77	Agree Procurement Rules	Fri 14/11/24 Thu 21/12/24 09:50	1 wk
78	Prepare SO Document/Project/submit	Fri 08/12/24 Thu 01/01/25	5 wks
79	Submit Contract Ref	Thu 12/01/25 Thu 12/01/25	0 days
80	SO Response/submit	Fri 15/01/25 Thu 02/02/25	30 days
81	Score Responses	Fri 03/02/25 Thu 20/02/25	15 days
82	Shortlist/Interview/Interview & Site	Fri 24/02/25 Fri 07/03/25	11 days
83	Main Contract/submit/submit	Fri 15/02/25 Mon 03/03/25	17 days
84	Finalize IT Package	Fri 21/02/25 Thu 06/03/25	19 days
85	Dispatch/submit	Thu 04/03/25 Thu 04/03/25	0 days
86	Tender Point	Fri 08/03/25 Thu 18/03/25	50 days
87	Tender Return	Thu 13/03/25 Thu 03/04/25	0 days
88	Review/Score/submit/submit	Fri 14/03/25 Fri 11/04/25	27 days
89	Interview/Contract/submit	Mon 14/03/25 Fri 03/04/25	15 days
90	Select Contract	Fri 01/04/25 Fri 01/04/25	0 days
91	Submit/submit	Mon 04/04/25 Mon 04/04/25	0 days
92	Appoint/submit	Mon 18/04/25 Mon 18/04/25	0 days
93	Formal Contract/submit	Thu 18/04/25 Mon 02/05/25	10 days
94			
95	<b>CONSTRUCTION</b>	<b>Mon 04/09/25 Mon 04/09/25</b>	<b>461 days</b>
96	<b>DEMOLITION CONTRACT</b>	<b>Mon 04/09/25 Mon 04/09/25</b>	<b>461 days</b>
97	Mobilisation	Mon 04/09/25 Fri 05/09/25	4 wks
98	Demolition/submit	Mon 02/10/25 Fri 27/12/25	12 wks
99	Completion/submit	Fri 27/12/25 Fri 27/12/25	0 days
100	<b>MAIN CONTRACT</b>	<b>Thu 01/11/24 Mon 02/01/25</b>	<b>405 days</b>
101	Contractor/submit/submit	Thu 01/11/24 Mon 11/12/24	10 wks
102	Discharge/submit/submit	Thu 01/11/24 Mon 29/12/24 09:50	8 wks
103	Contractor/submit/submit	Thu 01/11/24 Mon 29/12/24 09:50	8 wks
104	Contract/submit/submit	Thu 01/11/24 Mon 29/12/24	8 wks
105	Testing & Commissioning	Thu 01/11/24 Mon 29/12/24	4 wks
106	<b>CLIENT FIT-OUT TRAINING</b>	<b>Thu 27/05/25 Mon 09/06/25</b>	<b>10 days</b>
107	Client/submit/submit/submit	Thu 27/05/25 Mon 09/06/25	2 wks
108	Leave/submit/submit/submit	Mon 09/06/25 Mon 09/06/25	0 days







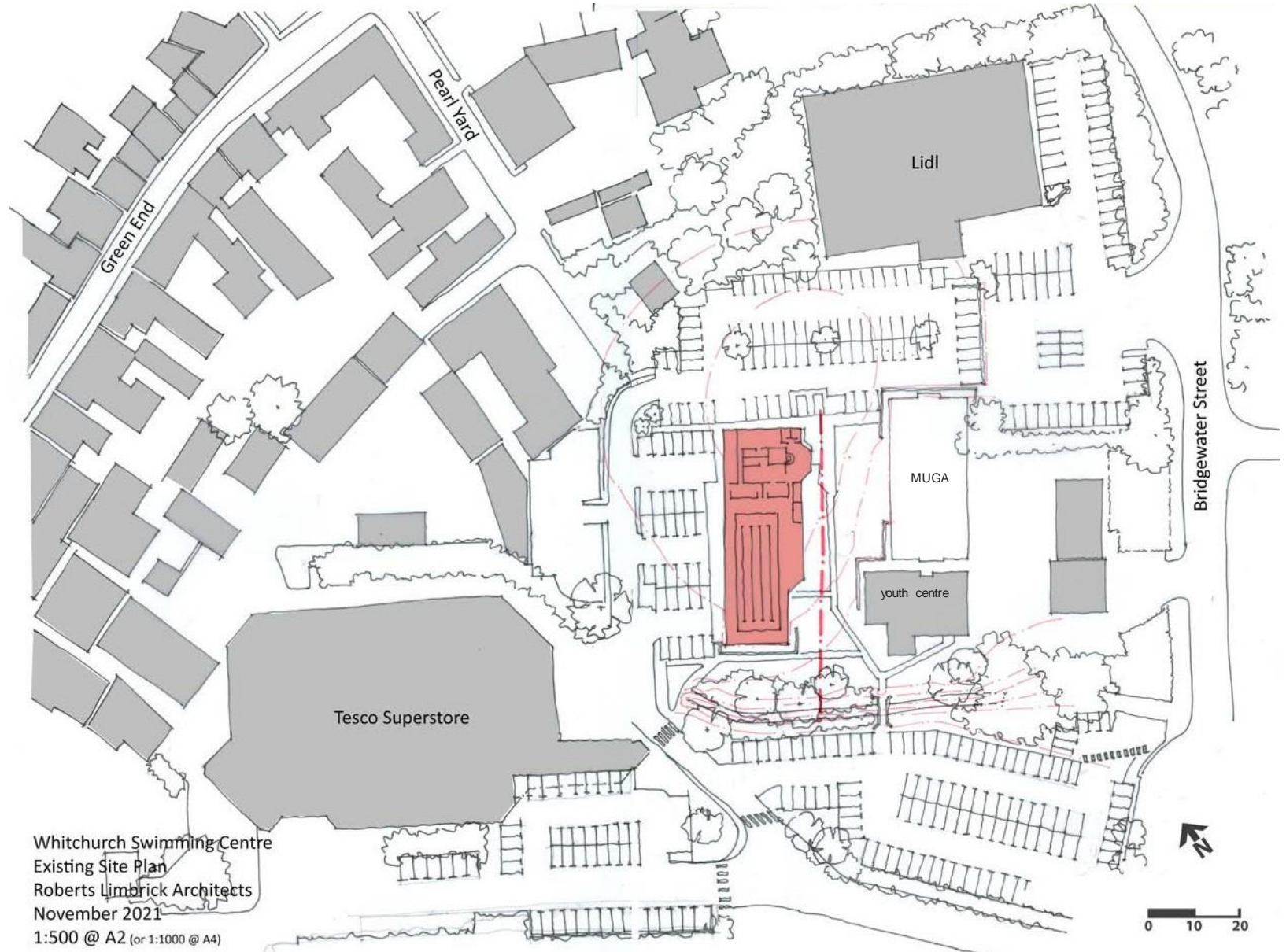
**Appendix 1:** Alternative site layouts considered during the design process

**Appendix 2:** Business case



**Appendix 1: Alternative site layouts  
considered during the design process**

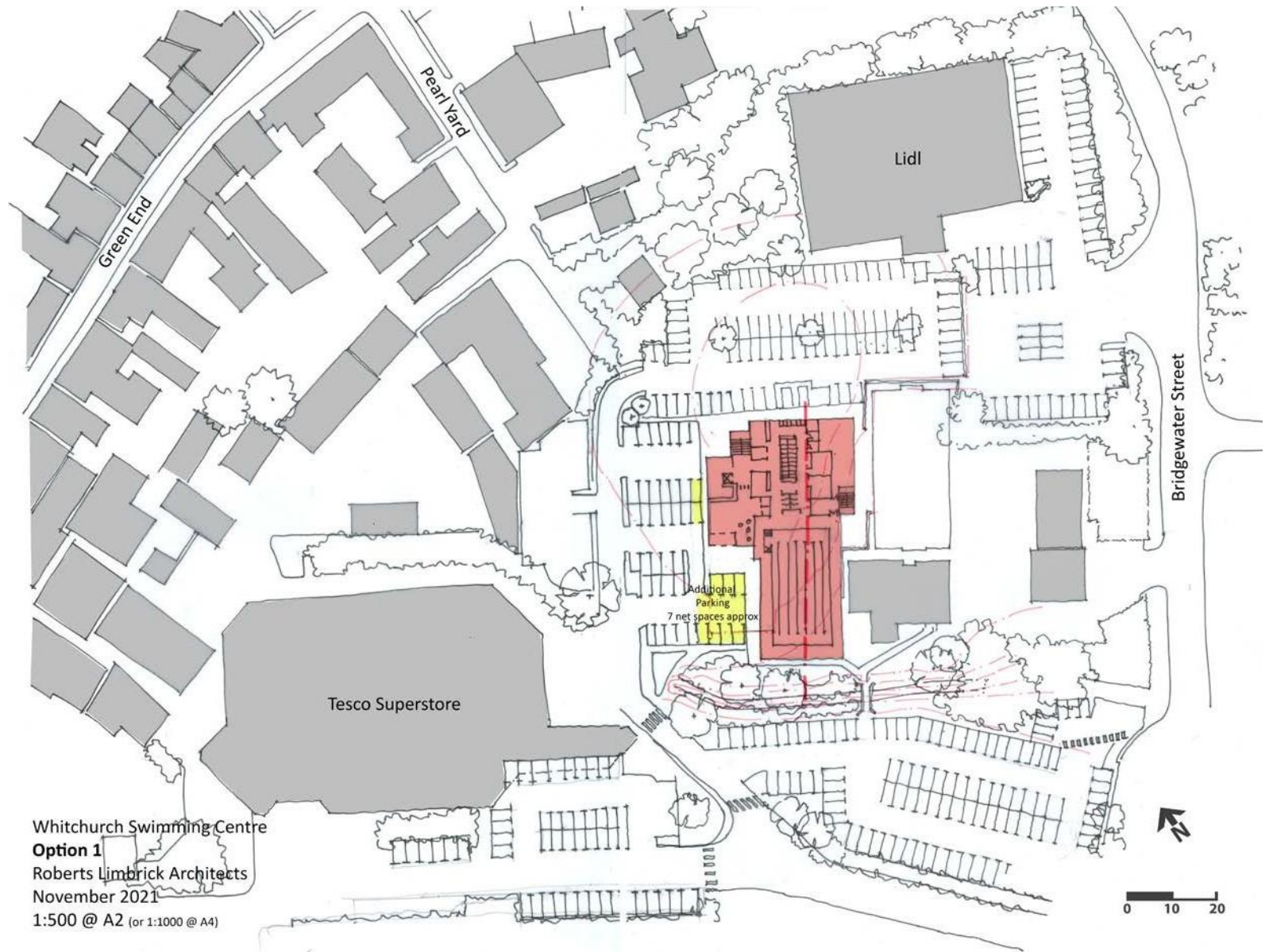
- The existing pool is indicated in red.
- The parking to the north and east of the existing pool building is leased by Tesco.
- The disused MUGA and youth centre are to the east of the existing pool building.



Whitchurch Swimming Centre  
Existing Site Plan  
Roberts Limbrick Architects  
November 2021  
1:500 @ A2 (or 1:1000 @ A4)

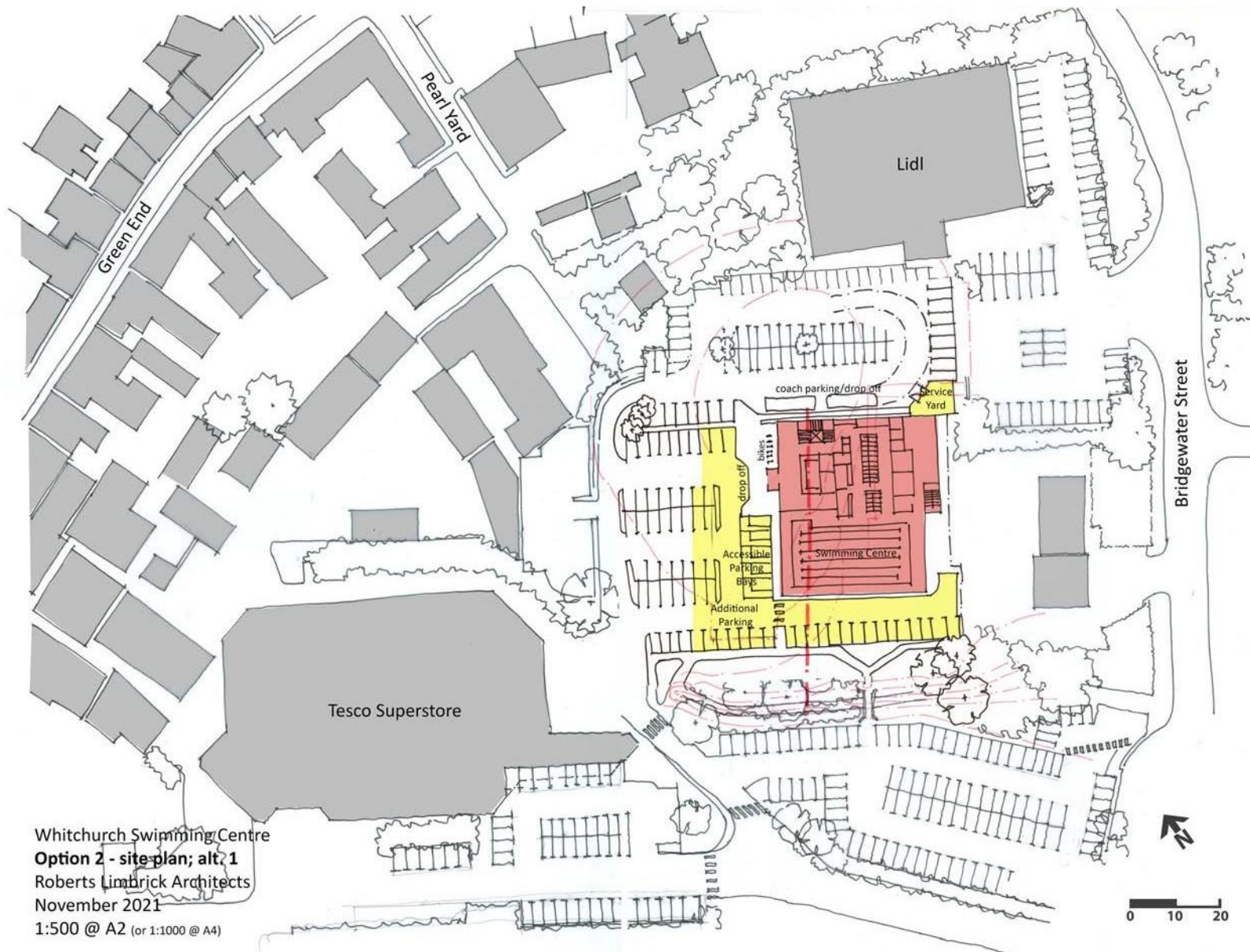


- This proposal places the new leisure centre over the footprint of the existing pool building and the existing disused MUGA and youth centre remain.
- The building arrangement is 'long and thin' and encroaches upon the bank to the stream and the flood zone.
- Very limited additional car parking is provided.





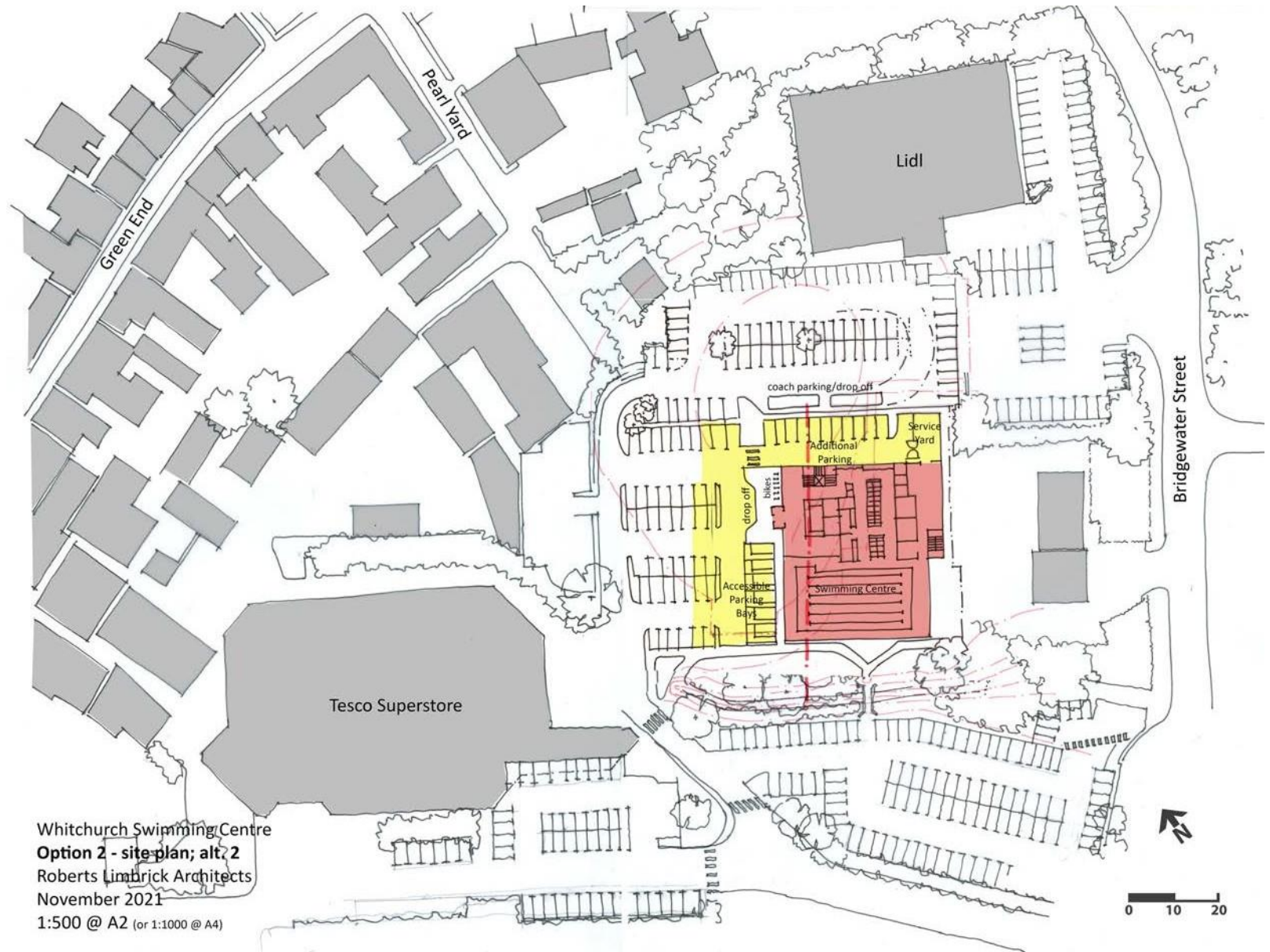
- The new leisure centre is placed northeast of the site.
- The building is approximately square in plan and sits over the disused MUGA and youth centre.
- Additional parking is provided to the west and south of the new building. A drop-off area and gathering space is provided at the main entrance to the building to the west.



Whitchurch Swimming Centre  
**Option 2 - site plan; alt. 1**  
Roberts Limbrick Architects  
November 2021  
1:500 @ A2 (or 1:1000 @ A4)



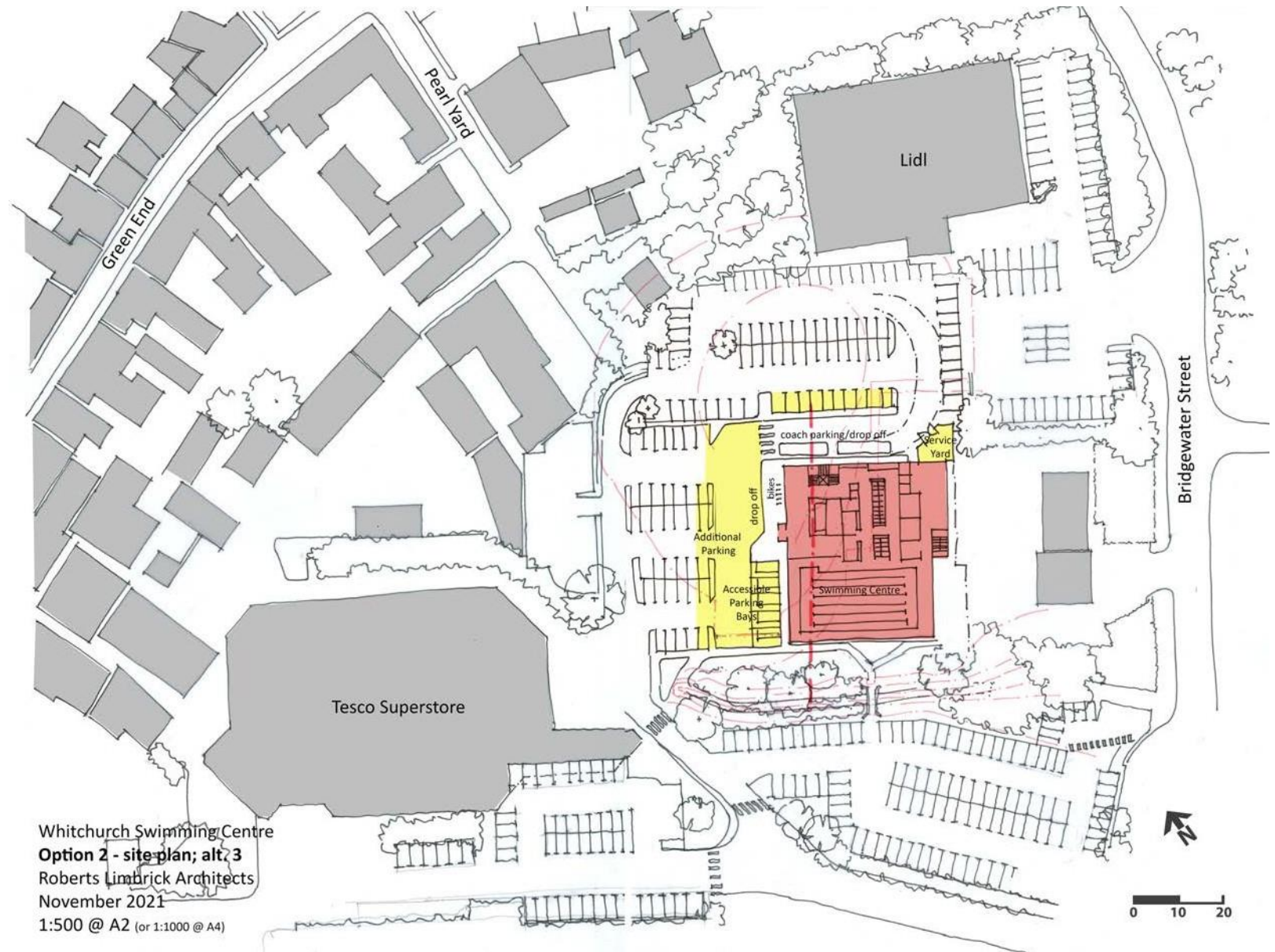
- As option 2 alt 1, but to the south of the site providing parking and service yard to the north.
- **This is the preferred arrangement adopted for the design** (see section 7.0 proposal).





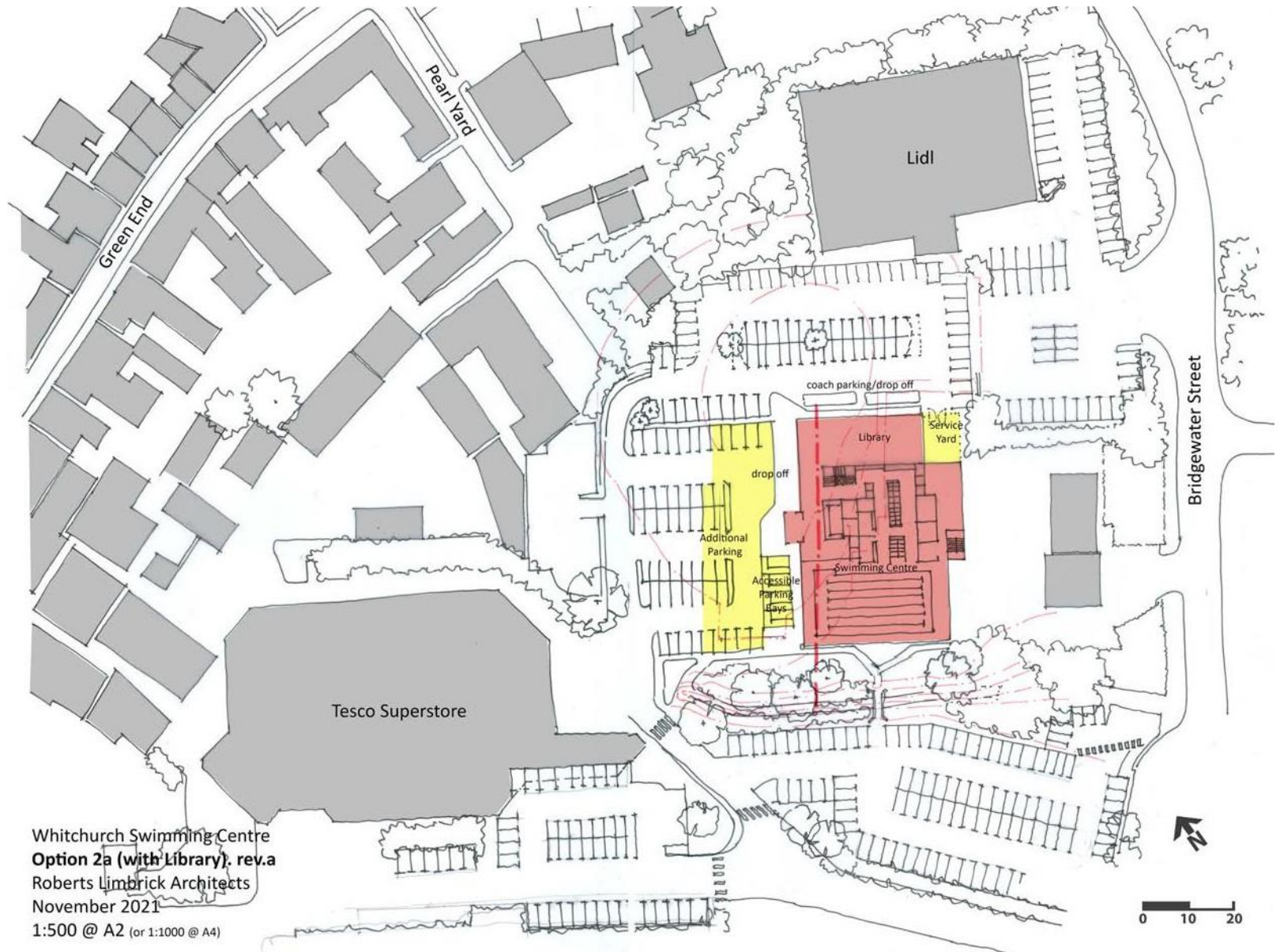


- As option 2 alt 2, but with coach drop-off and parking relocated adjacent to the new building.
- The decision was taken to maintain the existing coach circulation and drop-off arrangement.



Whitchurch Swimming Centre  
**Option 2 - site plan; alt. 3**  
Roberts Limbrick Architects  
November 2021  
1:500 @ A2 (or 1:1000 @ A4)

- General arrangement as option 2 alt 2, but demonstrating how the library (or other complementary use) could be accommodated to the north of the leisure centre.
- Following the consultation process, the relocation of the library was considered not to be desirable (see section 6.0 other consultation).
- An extension of the new building in this location would reduce the ability to provide additional parking whilst increasing the demand.



Whitchurch Swimming Centre  
**Option 2a (with Library). rev.a**  
 Roberts Limbrick Architects  
 November 2021  
 1:500 @ A2 (or 1:1000 @ A4)

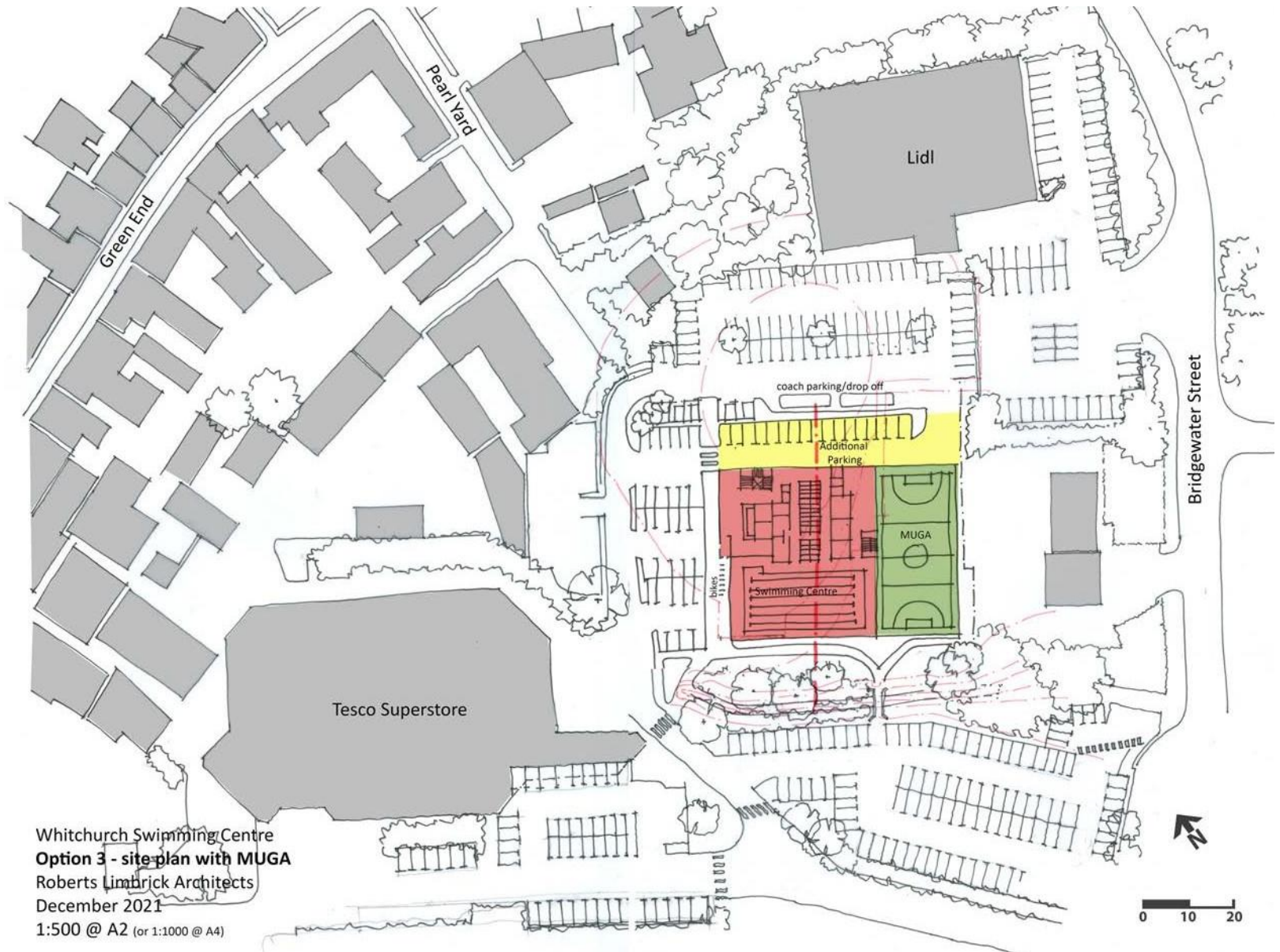


- To replace the existing MUGA, a new MUGA is proposed on the roof of the swimming pool.
- The additional load of the MUGA on the roof will increase the cost of the structure of the building. Two means of escape will be required from the roof.
- The roof top MUGA was considered to be a potential noise nuisance to the neighbouring residences.





- To retain the existing MUGA, the proposed building is moved to the west of the site.
- The provision of additional parking and drop-off / gathering space at the entry to the building is compromised.
- An alternative provision to a formal MUGA comprising an integrated 'active landscape' was proposed during the design process and in consultation with Youth Services (see section 6.0 other consultation).



Whitchurch Swimming Centre  
**Option 3 - site plan with MUGA**  
 Roberts Limbrick Architects  
 December 2021  
 1:500 @ A2 (or 1:1000 @ A4)

**Appendix 2: Business case**

Please see Section 5: Financial Implications in the Cabinet report.





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Also at:  
Newport, South Wales

ISO 9001 : 2015  
ISO 14001 : 2015  
ISO 45001 : 2018