4.12.1 SUSTAINABILITY INTRODUCTION

4.12.1.1 The Kirklees Cultural Heart presents a fantastic opportunity to regenerate the town centre, to provide a thriving cultural hub that excels in terms of energy and sustainability performance.

4.12.1.2 As part of the redevelopment the Council are looking at developing the Cultural Heart on the following principles:

- **Retention and reuse** of a significant amount of the gross floor area of the existing property
- **Retention of some of the existing redundant areas** and repurposed for cultural and community uses
- New and existing buildings to be **'Huddersfield Heat Network ready'** via the sizing and location of new and existing Plant Rooms
- Extensive provision for **Electric Vehicle Charging Points** with the potential to add more as demand increases
- The development of new and existing buildings will actively **engage in a whole-building approach** to achieving Part L of the Building Regulations compliance, particularly with respect to Regulation 25b and so will be looking to **promote decentralised energy supply systems based on energy from renewable sources particularly with respect to PVs**
- **Exploration of low and zero carbon technologies** and products.

Fig. 4.12.1 Existing site and proposed development of the Kirklees Cultural Heart

4 | MASTERPLAN APPROACH
4.12 | SUSTAINABILITY APPROACH

4.12.2 SUSTAINABILITY STRATEGY SUMMARY

4.12.2.1 This page summarises the broad sustainability across the masterplan and individual buildings.

4.12.2.2 Public realm - The public realm will support the ecological improvements of the scheme in addition to providing resilience to flood risk and changes to our climate. The Design Team have reviewed the likely health and air quality benefits the soft landscape will offer as well as planting options and the carbon sequestration potential of the scheme. The public realm will also offer a space to users of all abilities and be an inclusive place for all.

4.12.2.3 Transport - The buildings and public realm will offer best practice facilities for the use of sustainable modes of transport, such as public transport, walking and bicycles. The site will also offer new links for pedestrians and cycle users.

4.12.2.4 Materials and character - The Client and Design Team have set ambitious embodied carbon targets for the scheme and are undertaking a technical review of what materials and components can be feasibly reused in support of best practice circular economy principles. Timber structures and low carbon cladding materials are being investigated where feasible as a means to reduce the inherent embodied impact of the scheme.

4.12.2.5 Museum - The Grade II listed building will be retained and refurbished to ensure the building's energy consumption is dramatically reduced relative to current operational use. The heating systems will be replaced with low carbon technologies to generate heat and hot water. Brand new and efficient building services will be installed to ensure the internal comfort of occupants is improved, in addition to ensuring the correct conditions for exhibited pieces and installations.

4.12.2.6 Food Hall - The Grade II listed Queensgate Market will undertake a sympathetic low energy retrofit to ensure that the listed features are upgraded without compromising their heritage importance. The food hall will allow users to enjoy the refurbished space comfortably during all seasons, avoiding extremes of hot and cold weather.

4.12.2.7 Library - As above, the existing Queensgate Market will undergo a major low energy refurbishment, alongside an extension which is sympathetic to the existing features of historical and heritage importance. The Design Team has worked to find the balance between replacement and improvement with the retention of existing elements in line with best practice energy efficiency, embodied carbon and circular economy principles.

4.12.2.8 Gallery - The new gallery building will look to achieve exemplary levels of energy efficiency and has been designed to be a low embodied carbon building. This has been achieved through the process of structural rationalisation and investigating the use of mass timber structure in appropriate areas.

4.12.2.9 Venue - the venue will look to be built to high energy efficiency standards and has been designed to reduce energy demand during peak operations and low occupancy when not in use. The venue will also look to deploy a large and efficient PV array to maximise the roof area to generate renewable energy for the building.

4.12.2.10 MSCP/ Parking - to encourage low carbon modes of transport 20% of car parking spaces will support electric car charging. The remaining 80% of spaces will have passive provision for future installation of Electric car charging points. This allows for the adoption of new and innovative charging technologies which are emerging and avoids locking in redundant services.

4.12.2.11 See appendices to this report for more information about the sustainability strategy and building performance.

4 | MASTERPLAN APPROACH
4.13 | BREEAM SUMMARY

4.13.1 BREEAM TARGETS

4.13.1.1 All buildings of the Kirklees Cultural Heart development are required to achieve **BREEAM Excellent** rating, this means achieving a minimum score of **70%** inclusive of a number of required mandatory criteria and credits.

4.13.1.2 The Kirklees Cultural Heart development consists of seven individual assessments including:

- Venue – BREEAM 2018 UK New Construction
- Museum – BREEAM 2018 UK New Construction and BREEAM 2014 UK Refurbishment and Fit-Out
- Library – BREEAM 2018 New Construction and BREEAM 2014 UK Refurbishment and Fit-Out
- Gallery – BREEAM 2018 UK New Construction
- Food Hall – BREEAM UK Refurbishment and Fit-out 2014

4.13.2 EARLY STAGE ACTIONS (RIBA STAGE 1-2)

4.13.2.1 To achieve the targeted baseline score, a strategy was set up to initially target the 'Early Action' credits which are to be completed before the end of the Concept Design stage or RIBA Stage 2. These provide a robust base to the target score and cannot be achieved at later stages. The following early actions were undertaken:

Credit	Timescale	Status
1. LE 02 – 03 – Ecology credits, early advice	RIBA Stage 1 or early in the project's development	Completed
2. Mat 03 – Sustainable Procurement Plan		Completed
3. Mat 06 – Materials Efficiency		Completed
4. Mat 01 – Lifecycle Assessment (LCA)	Prior to planning submission and RIBA Stage 2	Completed
5. Man 01 – BREEAM AP	RIBA Stage 2	Completed
6. Man 01 – Project Delivery Planning		Completed
7. Man 01 – Stakeholder Third Party Consultation		Completed
8. Man 02 – Life Cycle Costing		Completed
9. Hea 06 – Security Needs Assessment		Completed
10. Ene 04 – Passive Design and LZC Report		Completed
11. Tra 01 – Travel Plan		Completed
12. Wst 01 – Pre-demolition Waste Audit		Completed
13. Wst 05 – Adaptation to Climate Change		Completed
14. Wst 06 – Disassembly and Adaptation		Completed
15. Mat 06 – Materials Efficiency		Completed

4.13.3 CURRENT SCORES

4.13.3.1 The assessments have seen a number of credits confirmed as achievable during the design and construction processes and have a target score of 72%-75% on average. Those with lower Baseline targets should still see the addition of a few credits as a margin of 5-6% over 70% is recommended to comfortably achieve the desired Excellent rating. Scenarios are the following:

- Baseline: credits that are likely to be achieved.
- Extra: Credits that are less likely to be achieved but may be possible. These may attract further costs or require further appointments
- Achieved: Score achieved to date

4.13.3.2 A full list of targeted credits can be found in the appendices to this report

Assessments	Baseline	Extra	Achieved
Venue 2018 NC	76.3%	85.4%	31.4%
Gallery 2018 NC	77%	85.4%	31.4%
Library 2018 NC	77%	85.4%	31.4%
Museum 2018 NC	76%	84.4%	30.4%
Museum 2014 RFO	73%	76.2%	27.4%
Library 2014 RFO	73%	76.2%	27.4%
Food Hall 2014 RFO	72.9%	76.2%	28.1%

4.13.4 NEXT STEPS

4.13.4.1 At RIBA Stage 4, once the Contractor is appointed, a meeting is required with the BREEAM AP to reaffirm that all the targeted credits will be achieved as part of the technical design.

4.13.4.2 The Contractor shall ensure that all the BREEAM requirements for the targeted credits are included in their Stage 4 reports.

4.13.4.3 The Contractor shall present the Stage 4 design to the BREEAM Assessor and this is to confirm the majority of currently outstanding credits. These can then be awarded where the Assessor is satisfied these were implemented.

4.13.4.4 The BREEAM assessment shall be submitted to the BRE at the end of RIBA Stage 4 for the Interim Certification.