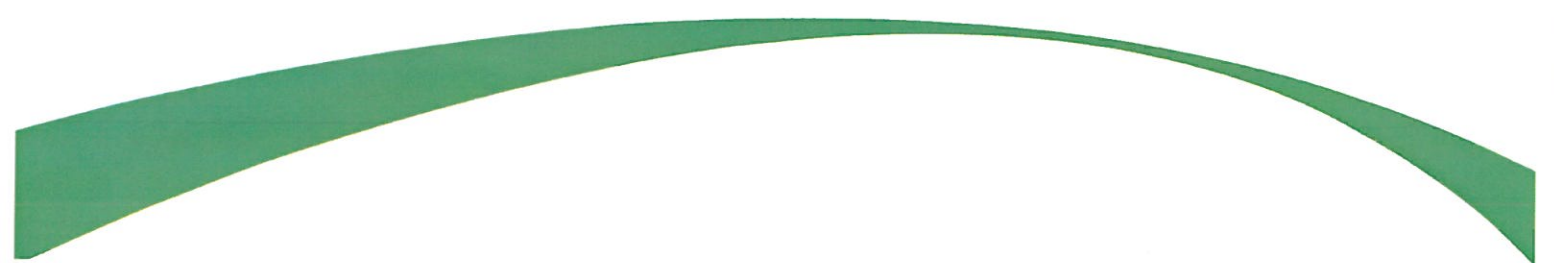




SUSTAINABILITY STATEMENT

Land at former Tharsus Works,
Glen Street, Hebburn



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Land at former Tharsus Works,
Glen Street, Hebburn

homes by
gleeson
builders for generations

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Introduction

The Sustainability Statement has been produced by Gleeson to support the planning application for development of land at the former Tharsus Works, Glen Street, Hebburn. This redevelopment of a brownfield site will result in the provision of around 31 new dwellings.

The format for this statement is based loosely on the Code of Sustainable Homes framework that goes beyond just energy use to cover a wide range of issues that assist to create a holistic approach to sustainable development.

The aim of the scheme is to provide good quality, but primarily affordable private housing for sale housing for the local population. Even so and although there are no specific requirements to achieve Code for Sustainable Homes compliance on this site, the development team aim to optimise the design and delivery to achieve good sustainable homes.

Working towards Code for Sustainable Homes & CO2 Emission Reduction

The Code for Sustainable Homes aims to protect the environment by providing guidance on the construction of high performance homes built with sustainability in mind.

Gleeson Homes are currently working towards compliance with the aims of the code for sustainable homes, and the following information demonstrates the company's progression:-

With reference to Category 1, section Ene1 of the code for sustainable homes Gleeson are currently achieving an improvement in the Dwelling Emission Rate (DER) over the Target Emission Rate (TER) from the current building regulation standards, by implementing the specification below on all new developments. In order to achieve a reduction in Carbon Emissions over and above that of current Building Regulations, Gleeson propose to improve the specification of the insulation in the Roof, External Wall and Floor of each dwelling. In addition to this Gleeson will install energy efficient

internal light fittings, a thermostat with load compensation will be specified on the heating system and a maximum air pressure test result of 5.0 cu.m/(h.sq.m) or less will be achieved. This information will be passed onto an independent SAP Assessor for confirmation of the results. To follow is the proposed insulation specification and construction method highlighting U-Values (based on a typical 3 bed semi)

		U-Value
Ground Floor Construction	75mm structural screed on 1200 gauge polythene DPM with 25mm vertical edge insulation, Beamshield insulation and suspended floor system or equivalent	0.14 W/m ² K
External Cavity Walls	100mm facing brickwork, 100mm cavity with ecobead or equivalent insulation and 100mm lightweight aerated blockwork with 12.5mm plasterboard on dabs with skim finish.	0.25 W/m ² K
Roof Space	200mm of mineral wool insulation laid between ceiling chord of truss rafter with 200mm laid across on top (400mm total insulation thickness).	0.10 W/m ² K
Windows	UPVC Windows	1.4 W/m ² K
Doors	6 Panelled Solid Doors	1.4 W/m ² K

Analysing the specification above and taking into consideration the overall specification, Gleeson Homes can confirm at least two of the key building envelope elements will achieve a relevant Green Guide rating of A+ to D. The UPVC windows will provide a Green Guide rating of minimum C, and the external cavity walls will provide a rating of A, relating to Category 3, Mat 1 of the Code For Sustainable Homes.

To assist in reducing the future heat loss of a dwelling, Gleeson Homes are currently achieving air permeability test results which are of a greater standard than the building regulation standard minimum of 10 cu.m/(h.sq.m) at 50 Pa. The companies average test result is currently 3.5 cu.m/(h.sq.m).

Gleeson Homes currently register with Robust Details E-WM-20 and are regularly compliance checked in this respect.

Gleeson Homes believe the above information demonstrates our progression towards compliance with the aims of the Code for Sustainable Homes, and are continuing to research and improve the sustainability and environmental impact of the dwellings we construct.

Following extensive research on numerous insulation specifications and construction methods, the primary objective for Gleeson, particularly in today's climate was to find the most cost effective approach whilst not compromising on the quality of build. Here at Gleeson we pride ourselves on the quality of our build and it is for that reason we have been able to achieve a reduction in Carbon Emissions over and above that of current Building Regulations without having to make any major changes to our current construction methods.

It is also widely recognised that user behaviour has a very significant role to play in reducing energy use. Gleeson aim to provide homebuyers with good quality, concise information about their home, its appliances and also impacts on future purchasing decisions. Information about Energy labels and energy-saving tips will be included as part of every home's handover pack.

Water Use

Large amounts of energy are used in the purification and transport of potable water. Again education plays a key role here and Gleeson will include leaflets to educate users on simple and efficient ways to save water as part of the handover pack.

Materials

Although there are no particular targets to achieve in this area, the typical construction that Gleeson use for their developments would often achieve A or A+ ratings under the Green Guide to Specification.

Surface Water Runoff

The aim of this theme is to establish/mitigate the level of risk associated with water run-off from the new developments. In this case, this site is brownfield and previously occupied by a former engineering works which will be demolished in due course. There is thus historically a high percentage of impermeable area. Therefore impact of surface water run-off from the new development is not expected to be any worse than that of the previous use.

Waste

Gleeson take their construction responsibilities seriously and actively target the amount of construction waste sent to landfill. They regularly use a construction waste company called Reconomy that is able to recycle a very high percentage of construction waste. This combined with best-practice site management means that waste sent to landfill on this site will be greatly reduced when benchmarked against similar, conventional schemes.

Health and Wellbeing

One of the criticisms levelled at much new housing is the poor quality provision of outdoor space. This is certainly not the case on this development. Every new home has a private garden and the vast majority of these are generous in size, in excess of typical house builder provision. These provide ample opportunity for secure children's play and sitting out space. In addition there is an excellent provision of green amenity space in the wider area within a few minutes walk of the site.

The houses are typically arranged as semi-detached units which as a consequence limit sound transmission routes. In addition all houses will make use of Robust Details for shared walls where flanking sound transmission could occur. This ensures a high quality internal environment for all residents.

Ecology

Sustainable development understandably aims to minimise the impact on the local ecology whilst taking opportunities to enhance the existing. The first step in the hierarchy of responses is to use brownfield land wherever possible. This prevents encroachment onto land that is not previously developed and generally has higher biodiversity value. This site fulfils the criteria as the site has previously been developed some time ago.

Finally in order to enhance the project there will be a landscape proposal submitted to plant trees and introduce areas of soft landscaping in addition to carrying out welfare works to the existing trees/landscaping.

Social and Economic Sustainability

This scheme has an important role to play to achieve wider social and economic sustainability benefits. This current site has been underused for some time with the current buildings in a state of disrepair or previously demolished. By proceeding with this development the regeneration process can be re-invigorated and the physical structure of the community restored. Over time the new residents will create a revitalised and expanded community that has the critical mass to support local services that may otherwise have failed.

The process of construction also offers opportunities for economic development and training in the area. Gleeson would typically employ a proportion of their workforce from the local area and here this development could have significant impact.

Conclusion

As evidenced from the above, this scheme has the potential to make a significant sustainability contribution. Despite the constraints of affordability, there are numerous small interventions that will be made to elevate the approach beyond the expected lowest common denominator response. Capitalising on these opportunities Gleeson are able to deliver a scheme that makes efficient use of resources, reduces waste and uses education to embed the sustainability message and makes a long-term difference. A reduction of CO₂ emissions can be achieved by the implementation of increased specification as detailed above, with the scheme having potential to make a significant

sustainability contribution. Despite the constraints of affordability, there are numerous small interventions that will be made to elevate the approach beyond the expected lowest common denominator response. Capitalising on these opportunities Gleeson are able to deliver a scheme that makes efficient use of resources, reduces waste and uses education to embed the sustainability message and make a long term difference.