

John Weaver Contractors Ltd.'s philosophy is to employ best practice in design, construction, procurement and operation of facilities. Sustainable development necessitates consideration of the whole life of buildings, their interaction with the local community and the local economy. The objectives of sustainable development cannot be realised by working in isolation and a development process is required that encourages all parties to work in partnership to challenge and test conventional wisdom and identify improved ways of working.

INTRODUCTION

The construction sector is the largest consumer of materials in the UK. Using resources efficiently is important for reducing environmental impact, reducing waste and minimising costs. Natural resources that we take for granted such as oil, water, some base metals and minerals are now in very short supply.

Responsible sourcing ensures a holistic approach to managing a product from the point at which a material is mined or harvested in its raw state through manufacture and processing, its use, reuse and recycling until final disposal.

Sustainability is finding a balance between economic, social and environmental needs. It involves taking a longterm view in decision making to ensure that our needs are met without compromising the needs of others in the future. Sustainable procurement aims to deliver real long-term value to the organisation, individual and end user. It is concerned with understanding and assessing the effects of goods, works and services and then taking steps to reduce any negative effects and promote benefits when feasible.

Projects should ensure that they operate in the most sustainable way, this includes:

- · Minimising the risks left for future generations to manage
- Utilise resources efficiently
- Strive to leave a positive legacy for the community

GENERAL PURCHASING

Purchasing has a substantial impact on the environment and It is imperative that all contractors and suppliers must check how products are made, what they are made from, how they are packaged and what the environmental impacts are over the product's life span.

Wherever possible purchasing of products with lower life cycle impacts should be prioritised. These product are more likely to have a higher recycled content, be designed to fro energy efficiency in use or be manufactured using more sustainable process or materials.

The location from which products come from must also be given consideration for example countries where there could be human rights or labour abuses.

Whole life costs should be considered when purchasing and hiring equipment and materials. Whole life costs include consideration of running costs, energy requirements, maintenance requirements, decommissioning and outputs including emissions and waste.

RESPONSIBLY SOURCED MATERIALS

The impact of sourcing and using materials incorrectly can be detrimental to the businesses reputation. It is imperative that there is no connections with illegal activities, forced or child labour, significant environmental damage or the lack of respect for workers' rights.



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RECYLED CONTENT

Diverting waste from landfill and limiting the depletion of finite resources by using materials that have been recycled, reclaimed or have a higher recycled content is one way of contributing to sustainable development.

STORAGE

The management of storage areas on site is of upmost importance to reduce the risk of environmental damage (e.g. water pollution), increased wastes production due to damaged materials, injury to site-based staff and theft.

When storing materials:

- Organise the storage area so that frequently used items are easy to access
- Store valuable materials, or those that are hazardous or attractive to thieves, in a secure area, out of sight of public
- Store materials away from waste storage containers and from vehicle movements that could cause accidental damage
- Secure lightweight materials to protect them from wind damage or loss
- Ensure the suppliers' instructions are being followed
- For materials that could potentially cause polluting special considerations need to be made.
- Storage and use of perishable items should follow the 'first in first out' rule
- Protect storage areas from the elements to minimise damage to materials resulting in increased waste and the risk of pollution.

Handling of materials on site should be kept to a minimum to avoid the risk of damage and/or injury to sitebased staff. Materials should be handled using only the appropriate apparatus including fork lifts, trucks, cranes and correct manual handling procedures. Ensure that the suppliers' instructions on their operation of any plant and equipment are always followed.

MATERIAL REUSE

Consider reusing materials on site rather than sourcing virgin materials, this saves money, resources and reduces the amount of waste on site; for example:

- Using excavated soils or aggregates
- · When working with existing buildings potentially valuable construction products could be salvaged
- Using pallets from delivery to the site in temporary works or reusing for future deliveries
- Any materials/products left over from other sites or site areas
- Waste concrete, hardcore or planning materials could be reused i.e. for landscaping or footpaths (may be subject to permits/licences/exemptions)
- Used fencing and shuttering could be reused on current or other sites

TIMBER

All timber must be procured from a sustainable source. FSC or PEFC certified timber ensures change of custody from tree to site and that the timber is sustainably sourced.

To maintain the Chain of Custody (CoC) both schemes require seven key pieces of information to be displayed on the delivery ticket:





- 1) Supplier identification (name and address of the certified supplier providing the timber or timber products, i.e. the company name)
- 2) Delivery address usually the project with the main contractor's name
- 3) Product identification (ie. SW linings, OSB sheets, skirting)
- 4) Dimensional quantity of each product supplied and for UKCG member's volume (m³)
- 5) Date of delivery to site / document issue date
- 6) Formal claim for each certified product (e.g. FSC 100 percent, FSC X percent, X percent PEFC certified).
- 7) Proof of certification (the CoC number of the supplier, i.e. BMT-PEFC-1234).

If the timber is handled before it is delivered to a project and this person / company does not hold CoC then they are breaking the chain. In this instance the timber should be delivered to the project from the supplier with CoC or documentary evidence provided to trace the timber back to the source where the chain was broken.

AGGREGATES AND CEMENT REPLACEMENTS

The use of recycled and secondary aggregates helps to reduce the demand for virgin quarried materials and can be a cost-effective alternative. Of the aggregates used in the UK each year, 70 million tonnes come from recycled or secondary sources.

The Aggregates Levy (AGL) is an environmental tax that is levied on the commercial exploitation of rock, sand and gravel when used as aggregate for construction purposes. The purpose of the levy is to maximise the use of recycled aggregate and alternatives to virgin aggregate, and to promote the efficient use of virgin aggregate. The AGL is designed to encourage a shift in the demand away from virgin aggregate towards recycled and secondary aggregates that can be produced on site through crushing and screening.

The importation, storage and placement of recycled and secondary aggregates on site requires an environmental permit, licence or exemption from the local environmental regulator at all times unless the aggregate has been produced in accordance with a quality protocol, for example the WRAP Quality Protocol for the production of aggregates from inert waste.

PACKAGING

Packaging plays an important role in the protection of materials and products delivered to site, helping with ease of handling and movement when on site. The main issue is too little packaging increases material/product waste and too much increases packaging waste. To maximise the opportunities to reduce the amount of waste material and packaging early engagement with suppliers is critical. Just-in-time deliveries can be adopted to help with reduction of damage and need for overzealous protection packaging. The use of take back schemes, good recycling and segregation of used packaging materials will enable the reduction of site waste.

JUST-IN-TIME (JIT)

Just-In-Time (JIT) deliveries is one element making up Lean Construction and is based on the elimination of waste, including time lost waiting for missed / delayed supplies, unnecessary storage and the value tied-up in large stocks of parts waiting for assembly. A complex and well-organised 'just in time' delivery system requires all staff to be efficient regarding needs and requirements and prevents over-ordering, reducing waste from both the production and construction processes.





Two main measures that can be adopted on site include:

- Plan the timing of purchases so that delivery is just-in-time for the required building
- Avoid keeping materials in storage too long as this ties up funds and may lead to damage

MINIMUM STANDARDS

- · Develop a procurement strategy that considers the environmental life cycle of materials
- Consider the use of high recycled materials over virgin materials
- Source ethically produced materials when possible
- Reduce use of hazardous materials
- Order sustainably sourced materials, such as FSC timber or PEFC timber or procure products certified to BES 6001
- Source materials locally if available
- Order the correct quantity of materials to arrive when they are needed to reduce required storage time and risk of damage and theft
- Find out what form materials will be delivered, so that the appropriate unloading plant can be arranged and space set aside
- Ensure deliveries are received by a member of site-based staff who is able to carry out a quality inspection to avoid wastage
- Select packaging materials for deliveries that can assist effective / secure storage and movement of materials on site
- Discuss opportunities for packaging 'take back' schemes with suppliers
- Avoid sensitive times for deliveries e.g. rush hour, school run
- · Store all containers of potential polluting materials, such as oils and paints, in a bunded area

LEGISLATION AND REGULATIONS

- Climate Change Act 2008
- Control of Substances Hazardous to Health Regulations 2002 (as amended)
- Timber and Timber Products (Placing on the Market) Regulations 2013
- The Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Enforcement Regulations 2008 (as amended)
- Sustainable Communities Act 200
- The Aggregates Levy (General) Regulations 2002 (as amended)
- CRC Energy Efficiency Scheme 2010
- Environmental Damage and Liability Regulations 2009

GUIDANCE

Guide to Sustainable procurement in construction – CIRIA C695

