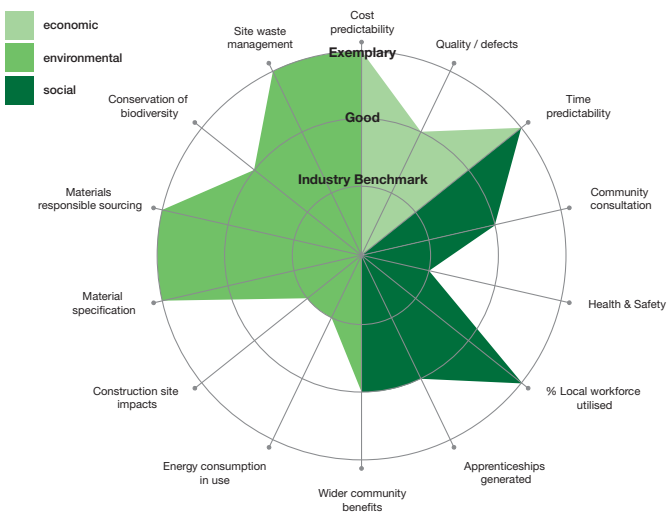
Ffordd Amazon, Swansea

Ffordd Amazon Stage 2 is a new highway being built as an extension of the Stage 1 scheme, running from the rear of the new Amazon Warehouse, along Fabian Way, eastern Swansea, up to a point adjacent to Gower Chemicals.

The main purpose of the road is to provide a bus route from the Coed Darcy Urban Village towards Swansea, which will eventually link into the road at its eastern end, and to open up development opportunities either side of the road to land adjacent to Fabian Way and the Port Tennant Canal. It will also support the concept of sustainable living and transportation. The road is 1.4km long, most of which is on embankment through a heavily contaminated brownfield area and which is being largely formed by imported fill.

Following initial development of the project by the client, Welsh Government, and its designer URS, the contractor, Dawnus, was appointed on a design and build basis following a competitive tendering process based on price and quality criteria in the ratio 40:60. The delivery team, led by Dawnus, has responsibility for completing the design and construction of the scheme within a 12 month timescale. To achieve this, Dawnus engaged Mott MacDonald as design partners and RPS as environmental and contamination specialists in order to advise appropriate strategies for dealing with brownfield site issues. This is a key feature of what makes this project exemplar.

The second key feature of the project is the positive impact which the delivery team is aiming to deliver for the local community in terms of employment and up-skilling opportunities.



project details

client:	**Welsh Government**
client rep:	**URS**
main contractor:	**Dawnus**
main designer:	**Mott MacDonald**
environmental consultant:	**RPS**
value:	**£3 million**
procurement strategy:	**Single stage D&B (Price/Quality)**
contract strategy:	**NEC option A**

what is an Exemplar project?

An Exemplar is defined as 'something worthy of being copied'. The purpose of the Exemplar programme is to identify what actions have taken place at key stages of a project that has led to a successful outcome, so that this learning can be adopted on other projects. The Exemplar programme has been developed to help identify the reasons why certain projects are successful in a standardised, quantifiable way, and to share with the industry what enabled these successes. An Exemplar considers all aspects of sustainability, including economic, social and environmental factors. Projects must demonstrate that they have been innovative in one or more of these aspects in a way that exceeds normal industry practices, while achieving at least minimum standards in all other areas of the project. This is to demonstrate that the scheme is well rounded and has not sacrificed one aspect to be successful in another, while also incorporating best practice measures that can advance the state of the industry. An Exemplar project therefore reflects the ideal industry goal of achieving a scheme's primary aims in a sustainable way, at acceptable costs.

what will make the project successful

- Leadership via the main contractor in integrating the delivery team
- Significant involvement by the end user (the adopting local authority) at key stages to agree specification changes
- A team commitment to periodic reviews of the materials specifications to ensure minimal removal of "waste" material to landfill
- A voluntary commitment by the contractor to pursue employment opportunities to the long term unemployed
- A commitment to excellence through CEEQUAL accreditation

notable achievements

- A whole team approach to value engineering and risk management has allowed significant design and specification changes to improve environmental and social outcomes whilst maintaining time and cost predictability
- The main contractor is locally based and is committed to increasing the value of project spend within the local community and region
- The project is on target to achieve a CEEQUAL Excellent rating, with a score in excess of 75%
- An integrated team approach including the end user has facilitated changes to material specification to significantly reduce the volume of material taken to landfill and increase the use of recycled and secondary materials without compromising performance and quality
- Changes to the design of elements of the project will further reduce the whole life cost and maintenance of the project without compromising performance and quality
- Many new features are being incorporated into the design of the surrounding landscape to improve the environment and the facilities for the users
- Early consultation with schools and the local community has led to a greater understanding locally of the impacts and benefits of the scheme
- A proactive but voluntary approach by the delivery team will deliver opportunities for the long term unemployed
- Training opportunities for existing and new employees will be maximised

economic considerations

A whole team approach to value engineering and risk management has allowed significant design and specification changes to improve environmental and social outcomes whilst maintaining time and cost predictability

Following appointment the delivery team have worked closely with the client and end user to review material specifications from the initial design stages and have proposed amendments to reduce carbon impacts, ensure cost effectiveness and certainty and maintain as much benefit locally as possible. A close working relationship, a shared focus on the joint environmental benefits to be gained and a rigorous testing regime should ensure that timely changes can be delivered to maintain certainty of delivery.

Co-location of the client's representative and delivery team with close and regular contact with local authority "adopting" officers and good communication channels have and will continue to support this approach.

Although the contract in place does not include specific "incentivisation" clauses the contractor is actively motivated to continually seek the best value options for the project and continual dialogue will ensure the whole team can positively manage potential innovations in terms of cost effectiveness, environmental impacts and local benefits.

The main contractor is locally based and is committed to increasing the value of project spend within the local community and region

Local spend opportunities are being progressed in two ways:

- Directly employed labour
- Directly sourced plant
- Sub-contract labour and plant and material suppliers

A significant proportion of labour on the site will be directly employed by the main contractor. Being a local employer this will, naturally, be a direct investment in the local economy.

Technical and economic decisions relating to the project will also consider local supply chain issues with a view to maximising local opportunities.

environmental considerations

The project is on target to achieve a CEEQUAL Excellent rating, with a score in excess of 75%

The project team has been proactive in its approach to achieving CEEQUAL credits.

The contractor's representative is a qualified CEEQUAL assessor which will ensure that benefits and credits can be proactively captured and recorded.

An integrated team approach including the end user has facilitated changes to material specification to significantly reduce the volume of material taken to landfill and increase the use of recycled and secondary materials without compromising performance and quality

The team are seeking to reduce the volume of material taken to landfill to close to zero and, combined with an extensive use of recycled and secondary materials, hope to generate a positive impact on the carbon status of the project ie at least carbon neutral. A number of proposals are being implemented to achieve this within the overall cost envelope for the project:

- Granular 1A, IB and 6F2 material was originally specified as acceptable earthworks material for the extensive embankment construction (c.60,000 tonnes, up to 6 meters height with 1 in 2 slopes). Alternative specifications have been proposed which incorporate pulverised fuel ash (PFA) above the 100 year flood level which will be sourced from the south Wales area. Further details are available via www.cewales.org.uk
- Below the flood level existing "clinker" material on the site will be crushed and reused. PFA will not be used below this level to avoid potential leaching of metals
- Locally imported slag will be used in place of virgin granular Type 1 sub-base
- Site recovered sand will be used for pipe bedding

Clay recovered by a local waste management company will be used to line attenuation ponds and ditches

Site recovered topsoil will be supplemented with fertilizer to landscape areas on the site

All these proposals will be tested to ensure suitability and whole life performance against cost effectiveness and local benefits.

environmental considerations

Changes to the design of elements of the project will further reduce the whole life cost and maintenance of the project without compromising performance and quality

The long term sustainability of the project has been improved by re-designing elements of the drainage works:

- Open ditches have been introduced in place of more traditional filter drains. This will reduce initial impacts and improve longer term maintenance
- The design of smaller headwalls has been revised from reinforced concrete structures to sand and cement bags

Many new features are being incorporated into the design of the surrounding landscape to improve the environment and the facilities for the users

The delivery team are keen to leave a positive legacy for the community surrounding the site. This will be assessed as part of the CEEQUAL process. Two specific features are:

- The upgrading of allotments to the west of the site
- Specific improvements to the infrastructure of the existing "War Museum" at the west of the site

social considerations

Extensive consultation locally with schools and the local community has led to a greater understanding locally of the impacts and benefits of the scheme

Newsletters, public meetings and direct communication have been utilised to engage and communicate with the local community, local businesses and local schools to ensure that community concerns are addressed in a timely way.

Site activities and their impact on the local community are being monitored and measured through the Considerate Constructors Scheme (CCS).

A proactive but voluntary approach by the delivery team will deliver opportunities for the long term unemployed

In seeking partners to develop the project the client did not specify a contractual commitment to the provision of local employment and training opportunities. However, the delivery team, led by the locally based main contractor, is making a voluntary commitment to employment from disadvantaged groups. Pre-construction proposals include the employment of 2 individuals through the South West Wales Workways programme. The sustainability of this employment will be considered beyond the life of the project to ensure that the individuals have meaningful continuity and the prospect of long term employment.

Training opportunities for existing and new employees will be maximised

Funding from the South West Wales Workways programme will allow a combination of experiential and NVQ opportunities to be pursued as part of the project.