



1.0 OVERVIEW

It was identified during the initial briefing that a clear opportunity existed to increase opportunities for participation in paddles sports as well as attract visiting Olympic and World Class Teams to the venue should an international standard facility be created whilst also improving the day to day revenue generating activities and thus ensuring a sustainable future. The client in consultation with the National Governing Body the BCU, identified that the improvement of the existing facility was key to ensuring a sustainable future for the course at both national and international levels.

It was also acknowledged that there are sensitive issues which need to be respected regarding the site in relation to its ownership and current operational arrangements. A key stakeholder steering committee was formed from a broad, range of disciplines and areas of expertise, a number of the stakeholders represented are listed below;

- Stockton On Tees Borough Council
- British Waterways
- One NorthEast
- British Canoe Union
- Sport England
- Four Seasons
- Cleveland Canoe Club
- Further Education Colleges
- Local Universities
- Local Canoeists

This consultation is being undertaken prior to the submission of a Planning Application, therefore your views and comments would be greatly appreciated by the team which in turn will help to ensure the final design which is delivered is fully encompassing.

Following the input of the stakeholders the initial strategic brief was created.

Improving the existing whitewater course

- Re-grade the course to improve facilities for users
- Create new features
- Create an additional short cut course
- Provide improved slalom gate system
- Increase useable hours through a sustainable pump system
- Create variable flow patterns
- Increase facility mix to ensure long term sustainability through increased footfall, participation and offer at venue.

North East Sport Development

- Fit with BCU National Strategy
- Local Benefits
- International credibility
- Local sport development
- Canoeing/Kayaking/Rafting Benefits

Regeneration Benefits

- Local
- Regional
- National
- International
- Visitor Benefits





2.0 KEY POINTS

Funding - Major funding bids have been made to the Regional Development Agency, One NorthEast and Sport England for nearly £3 million of support. Together with contributions from British Waterways, owners of the barrage and whitewater course and the two local authorities, this will enable the £3.5 million upgrade to proceed.

The Vision - To develop a facility that is;

- Of international standard and significance
- Sustainable in environmental and economic terms
- Recognised by the ICF as an international venue
- A facility to put Tees Valley on the map
- A facility to continually develop regeneration
- To develop a unique project
- To enhance the existing offer
- To attract more visitors to the North East of England
- To create additional employment opportunities

Users - The users are likely to be members of the following groups:

- Elite Athletes
- National Athletes
- Club Members
- Casual Canoeists
- General Public
- Schools
- Youth Groups
- Corporate – Local businesses
- Further Education Groups
- Local Authority Sport Education Groups
- Health Groups
- Disabled User Groups
- Fire and Rescue Services

Artificial Whitewater Course

- Install a sustainable pumped facilities which can generate its own electricity for supply back to the National Grid.
- Improve the existing features and re-grade course to ensure a technically challenging course
- Install improved slalom gate installation
- Install short cut course to increase user numbers
- Improve warm up area to course
- Improve access and health and safety elements to course
- Mimic features likely to be installed on the proposed London 2012 Olympic course.
- Provide the ability to vary flow rates
- Incorporate movable obstacles to be able to adjust future flow patterns

Sustainability

- Use of renewable energy sources
- Green construction techniques
- Energy efficiency in whole lifecycle
- Sustain/Improve local habitat

Links/Transport

- National transport infrastructure network
- Other local sporting facilities to provide the total Olympic discipline offer
- Other local leisure attractions





3.0 THE PRINCIPAL AIMS

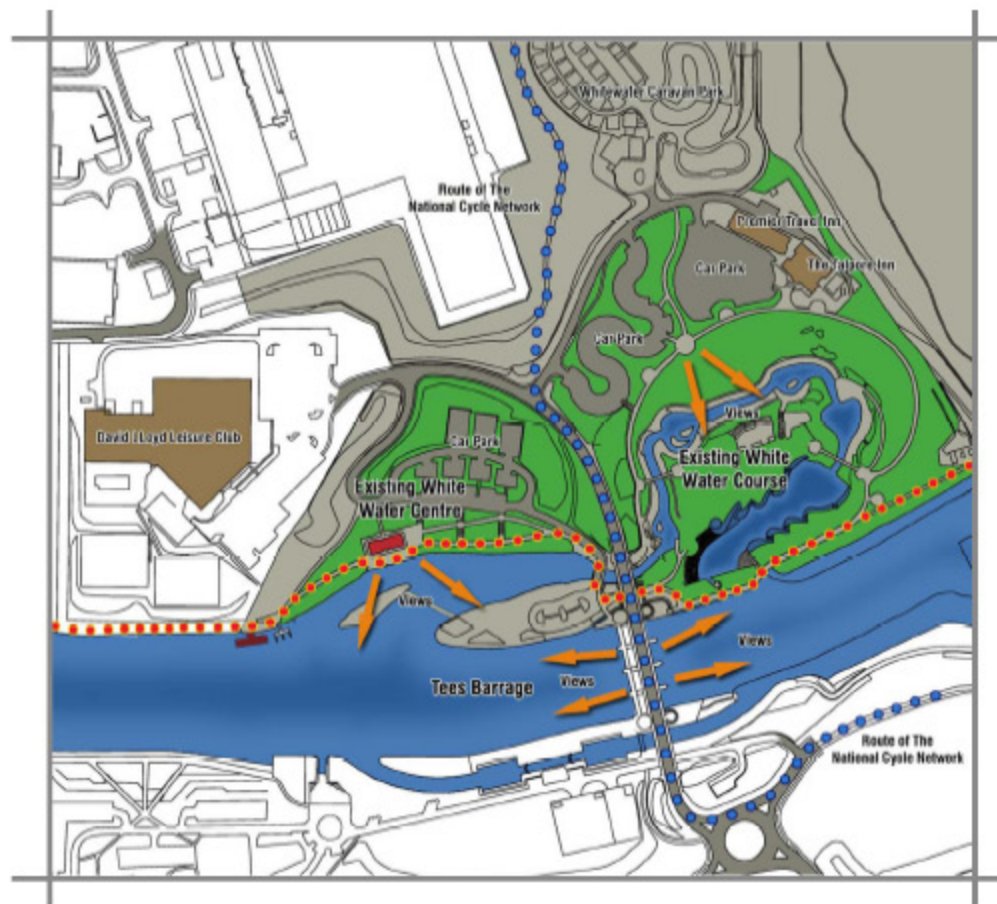
Upgrade to the course,

The existing whitewater course was originally opened in 1994 and at the time it was considered to be exciting and pioneering. Since the opening date of the course, slalom canoeing and the technical requirements of courses have advanced as well as the requirements of other disciplines such as freestyle kayaking.

Deficiencies in the current course are driving factors in the needs for a course upgrade. Examples of existing deficiencies are the lack of depth and variation in water features which have a direct impact on its appeal and the existing channel obstacle system which is dated and thus requires upgrading.

The existing course operates by utilising the differential head available between the impounded water level upstream of the barrage and the tidal level downstream. Hence the time in which the course can operate is controlled entirely by the tidal cycle; thus the course is limited and operates at a different time each day.

The aims of the upgrade are to provide a modern and sustainable course enabling world class competitive training (Olympic Training Camp) and events for paddlesport. In addition, the upgrade will ensure revenue generating activities can be undertaken without restriction, at the same time as recreational / competitive paddlesport thus alleviating the reliance upon tidal cycles.





4.0 THE CONCEPT

Enhance the current channel:

Lift the current channel wall height to increase conveyance and allow the formation of new whitewater features. Conveyance increased from a current maximum of approximately 8 cumecs to 14 cumecs.

(14 cumecs is 14 tonnes of water flowing past a point each second)

Provide new areas of slack water to allow the use of the areas of new whitewater features for competition/recreation and rafting. Reshape channel with a new obstacle system.

New Channel:

Provide a new short course for high level competition and a finale for the rafting experience. 14 cumecs maximum flow. Within the short course, provision to be made for rescue training including the insertion of a vehicle into the channel. This is anticipated to be the steepest whitewater park channel in the world.

Pumps:

Provide a pumping system to supplement the current operation and allow maximum use of the facility and allow supplementary flows to the natural river flows; as required. Provide pumps that are fish friendly given the sensitive location of the barrage and whitewater course.

Conveyor Belt:

In order to provide an interesting visitor spectacle, an enhanced experience for participants on the course and considerably improve disabled paddlers participation a conveyor system is proposed to transport participants from the end of the whitewater course back up to the start. This is likely to be a first in the UK.

EVOLUTION OF THE DESIGN

Design process:

The designers appointed to carry out the design and delivery of TWC's upgrade are an engineering firm dedicated to paddlesport projects, who have first hand experience of what is necessary to deliver a world class white water facility. Local knowledge of user groups has also assisted considerably in the design process. The "tuning" of the present course will be important to the paddlesport community and the commercial rafting experience as well as the borough of Stockton.

To enhance the evolution of the design, proven channel geometry / shapes have been hand picked and purchased from other sites across the globe and will be "tuned" with a suitable in channel obstacle system to provide a proven facility which will deliver the best whitewater experience possible.

Electricity Generation:

During the design of the pumping station involving Archimedean screw pumps, design work examined the prospect of running the screw pumps in reverse during periods of high flow or during the night whilst the tide is out to generate electricity to return to the national grid. As a result of investigations and modelling work it is anticipated that the design, with a demand based pumping timetabling, will be a net value exporter of electricity and thus a highly sustainable development.

Fish Passage:

Consultation with regulatory bodies has encouraged dialogue with regard to the influence of the proposals on fish passage. The proposed upgrade has provided an excellent opportunity to improve the provisions on-site and thus the dialog undertaken to-date has been directly adopted by the development.





TEES WHITEWATER COURSE UPGRADE

STOCKTON-ON-TEES BOROUGH COUNCIL IN PARTNERSHIP WITH BRITISH WATERWAYS





EXISTING



PROPOSED

TEES WHITEWATER COURSE UPGRADE
STOCKTON-ON-TEES BOROUGH COUNCIL IN PARTNERSHIP WITH BRITISH WATERWAYS

