Some Interesting Facts about the Newburn Riverside Reclamation

- The quantity of earth moved within the site would be enough to fill Newcastle Telewest Arena 44 times over. 4,290,000m^3.
- Had a traditional 'dig and dump' approach been adopted, all the waste material would have been hauled to a landfill tip, and replaced with fill from other sites and quarries. By pursuing the segregation, treatment and recycling approach, over 100,000 lorry movements have been taken off the local road network - that is equivalent to 220 per day for 2 years.
- The total area of the site is equivalent to 180 football pitches, or enough for over 4,000 people to play all at the same time (including referees).
- 800 tonnes of Graphite were recovered from the waste and 400 tonnes of baked carbon.
- 2,500 tonnes of steel have been recovered from the foundations and sent for recycling.
- The perimeter cycle/footpath is 4.1 km long, the record times are yet to be established.
- 300 bottles have been recovered and "declared" by the finders; a larger number has probably left the site as "souvenirs". Curiously over half of them are for poisons.
- During the course of the works over 35,000 chemical and geotechnical tests have been performed, recorded and analysed. One technician in particular has noted that he tested 1,500 samples in one 30-day period, an average of 50 per day.
- At the Western end of Newburn Riverside, is the site of the battle of Newburn Ford, which took place in 1640, although the archaeological evidence disappeared many years ago. On that occasion, the English were defeated and the City of Newcastle fell to the Scots. King Charles was forced to re-open parliament in order to borrow £200,000 to buy back the city - equivalent to around ££6.6 billion in today's terms. What a bargain!
- During the course of the works we will have planted 21,000 trees within a total of 155,500 plants. Taking this total as enough to fill 550 average size back gardens, and on the basis that 20 Groundforce programmes are produced per year, we will have used enough plants to keep Charlie Dimmock and Co busy for the next 27 years.
- The outfalls from Stella power stations which once occupied the site introduced warm water into the Tyne. This was known to attract basking sharks on occasions. Otters are now present on this part of the river, and seals occasionally are seen basking on the mudflats.

Newburn Riverside

Land Reclamation and Infrastructure

Briefing Notes August 2003

Welcome to Newburn Riverside, one of the largest urban reclamation projects in the United Kingdom. 92 hectares of derelict land are being reclaimed and turned into a prestigious Industry Park on the banks of the River Tyne. The £24m contract is being carried out for Regional Development Agency One NorthEast by Taylor Woodrow.

55 hectares of developable land area are being provided, creating opportunities for 180,000m≤ of industry floor space, equating a platform for 5,000 jobs. 27 hectares have been provided fully serviced by December 2001, creating the platform for the first 1,000 jobs. The £46m total public sector investment is expected to lever in £60m of private sector funding initially, up to £120m ultimately. This investment is already underway with the first buildings by developer UK Land Estates and totalling 70,000 sq feet, already nearing completion.

Works commenced on site in January 2000. The first 4.6 ha development plot was made available in September 2000, with the full 27 ha of Phase 1 serviced plots completed in December 2001. The new access bridge (off-site works) also opened at that time. The remainder of the project is scheduled for completion in the Summer of 2002.

A peak of 160 people at any one time have been at work on the site, with typically two-thirds resident within a 20 mile radius. The project has supported the Workfinder initiative to facilitate local employment opportunities.

For the delivery of the project, Taylor Woodrow partnered with Webfell, a land reclamation and earthworks contractor. The core team is completed by WSP, acting as Project Manager for One NorthEast. The contract was awarded on the basis of Best Value (Cost and Quality) rather than lowest cost and operates on an open book target cost arrangement (ECC Option C). Shared incentives are in place alongside a Project Team Charter which includes a range of key supply chain specialists. These arrangements have proved to be robust in allowing flexibility and responsiveness to the variety of problems which have arisen.

The site was previously occupied by the Stella North coal-fired power station, and the Anglo Great Lakes graphite works. Earlier history left a colliery spoil tip. The course of the River Tyne has varied in the past and old river channels have been infilled at different times. Soft alluvial deposits underlay much of the site, with abandoned mine workings below.

The initial solution to the contaminated waste was to be the construction of an on-site repository, a licensed landfill. By innovative processing methods and rigorous operational control, the waste quantity has been reduced by 90%. The residual waste material has been taken to an existing landfill off site. The 3 principal contaminants and their treatments were:

- PAH's in the graphite waste - mechanically separated by size and density
- Asbestos fibres in unlicensed tip - segregation and sampling
- Low pH in the coal stockyard - addition of lime

Two mobile plant licences and an asbestos licence are in operation on the site under the surveillance of the Environment Agency.

Geotechnical improvement of the site is being achieved by excavation to approximately 3-4m depth, breaking out and crushing where required and characterisation of the materials before compaction back in to the site. Underlying soft alluvial deposits are being consolidated by the placement of surcharge, verified by in-situ instrumentation. A programme of drilling and grouting remediates the abandoned mine-workings.

A philosophy of sustainable re-use and recycling has been followed through the project. Crushed concrete won from the site produced a source of road construction materials and high quality engineering fill. A number of "products" have been disposed of to markets off site.

A dual carriageway spine road has been constructed to lead into the development, with a single carriageway loop road. Full service supply and infrastructure is provided for Phase 1.

With building construction by private sector developers already underway on the Park, and a site reclaimed from so many substantial problems and blights, Newburn Riverside looks set to be a success story of Sustainable Development for the North East.

Principal Quantities

Total Site Area	92 Ha (230 acres)
Development Land	55 Ha (140 acres)
Overall Earthworks movement	4,000,000m^3
Contaminated soils	600,000m^3
Waste disposal off site	30,000m^3
Concrete crushed and recycled	250,000m^3
Material recycled off site	29,500 tonnes
New tree planting	20,800
Bearing capacity/settlement limit	100KN/m^2-footings / 25mm
Dual carriageway length	650m
Single carriageway length	1000m
Electricity supply	30 MVA primary substation, 11KV ring main
Water supply	66 1/s; 315mm feed, 180mm ring main
Gas supply	6000 m^3 / hour; 250 mm feed, 125mm ring main
Telecoms	7-way ducts
Project duration	30 months
Workforce peak	160

Capital Costs

	£m
Investigation/studies/land purchases	4.5
Off-site access/single land purchase by Newcastle City Council	10.9
Reclamation and Phase 1 infrastructure	24.6
Total Phase 1 public sector investment	40.0
Future infrastructure investment	6.0
Ultimate public sector investment	46.0

Phase 1 Funding

	£m On-site	£m Off-site	£m Total
One NorthEast	23.2	4.4	27.6
Capital Challenge	0	5.2	5.2
European Regional Development Fund	5.9	1.3	7.2
Total	**29.1**	**10.9**	**40.0**

Site Areas

	Area	
	Hectares	Acres
Phase 1 Serviced Plots (complete) December 2001)	27.0	66.7
Phase 1 Infrastructure	4.0	9.9
Service Reservation	0.3	0.7
Phase 2 Developable Area (complete 2002)	27.9	68.9
Phase 2 Infrastructure (notional allowance)	4.5	11.1
Public open space - Landscaping	25.7	63.5
Lemington Gut, Tyne Cruising Club site, Primary sub-station	2.3	5.7
Total Scheme Area	**91.7**	**226.5**

Taylor Woodrow

Webfell

WSP

one NorthEast