

New East Manchester/English Partnerships



Proposed Redevelopment of Former Weir Pumps Factory Site, Newton Heath, Manchester

Utilities Assessment – Estimated Costs

November 2006

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Proposed Redevelopment of Former Weir Pumps Factory Site, Newton Heath, Manchester - Utilities Assessment

Estimated Costs for Provision of Utility Supplies

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14 th Nov 2006	20 th Nov 2006	21 st Nov 2006

1.0 Introduction

The following cost report is to be read in conjunction with the Utilities Assessment report for the Proposed Redevelopment of the Former Weir Pumps Factory Site, Newton Heath, Manchester (November 2006).

All costs detailed herein are preliminary indicative estimates only which have been provided by the relevant utility companies or are cost estimates based on experience from previous similar schemes using engineering judgement. These costs should be refined further as more details become available regarding the proposed design of the developments proposed on the sites and exact operational requirements.

The costs are present day costs and exclude VAT unless otherwise states and also exclude any contingencies.

2.0 Food Processing Plant Site

Refer to the table in Appendix A for a tabular summary of the utility supply requirements. Reference numbers below refer to the main Utilities Assessment report.

Electricity – refer to Section 5.1.1

- United Utilities system study to determine the point of connection, reinforcement requirements - £3868+VAT.
- United Utilities application cost for new supply - £1638+VAT / £3686 + VAT
- Connection / reinforcement costs unknown, to be determined by UU load study.
- Contribution to new primary substation cost based on pro-rata on demand for 2016 load – cost unknown, to be determined by further study

Gas – refer to Section 5.1.2

- Typical approximate cost for proposed connection - £10,000 - £20,000. If a single connection is made serving the two developments the cost could potentially be shared.

Water – refer to Section 5.1.3

- Approximate cost for the proposed connection to the existing 24” trunk water main on Grimshaw Lane - £30,000
- Approximate cost for the construction of a new feeder main to Alan Turing Way trunk main – £100,000

Foul and Trade Effluent– refer to Section 5.1.4

- United Utilities hydraulic modelling of existing sewer network to determine point of connection £3,000 - £5,000 +VAT (estimate)
- The estimated cost to the developer for the construction of the connection to the 1530mm diameter public combined sewer along Briscoe Lane and new drain to the site boundary is £10,000 - £15,000. This is a very broad cost estimate as the exact depth and location of the existing sewer is unknown and is based on using a direct route from the plot boundary. If a single connection is made serving the two developments this cost could potentially be shared.

Surface Water Drainage – refer to Section 5.1.4

- United Utilities hydraulic modelling of existing sewer network to determine point of connection £3,000 - £5,000 +VAT (estimate)
- Cost of on site attenuation will depend on developers design, whether swales / ponds, oversized pipes or proprietary storage systems beneath car park areas are most appropriate

- The alternative of a new carrier drain extending from the development to discharge into the Rochdale Canal could cost to the order of £75,000 - £100,000 although this could potentially be shared between the two developments.

3.0 Bakery Site

Refer to the table in Appendix A for a tabular summary of the utility supply requirements. Reference numbers below refer to the main Utilities Assessment report.

Electricity – refer to Section 5.2.1

- United Utilities system study to determine the point of connection, reinforcement requirements - £3868+VAT.
- United Utilities application cost for new supply - £1638+VAT
- Connection / reinforcement costs unknown, to be determined by UU load study.
- Contribution to new primary substation cost based on pro-rata on demand for 2016 load – cost unknown, to be determined by further study

Gas – refer to Section 5.2.2

- Typical approximate cost for proposed connection - £10,000 - £20,000. If a single connection is made serving the two developments the cost could potentially be shared.

Water – refer to Section 5.2.3

- Approximate cost for the proposed connection to the existing 4" water main on Lord Street North – £10,000
- For a dual supply an additional connection could be made to the new main serving the Food Processing Plant, with possible sharing of cost for this connection. Estimated cost £5,000 - £10,000 (excluding contribution to new main, connection only)

Foul and Trade Effluent – refer to Section 5.2.4

- United Utilities hydraulic modelling of existing sewer network to determine point of connection £3,000 - £5,000 +VAT (estimate)
- The estimated cost to the developer for the construction of the connection to the 1530mm diameter public combined sewer along Briscoe Lane and new drain to the site boundary is £10,000 - £15,000. This is a very broad cost estimate as the exact depth and location of the existing sewer is unknown and is based on using a direct route from the plot boundary. If a single connection is made serving the two developments this cost could potentially be shared.

Surface Water Drainage – refer to Section 5.2.4

- United Utilities hydraulic modelling of existing sewer network to determine point of connection £3,000 - £5,000 +VAT (estimate)

- Cost of on site attenuation will depend on developers design, whether swales / ponds, oversized pipes or proprietary storage systems beneath car park areas are most appropriate
- The alternative of a new carrier drain extending from the development to discharge into the Rochdale Canal could cost to the order of £75,000 - £100,000 although this could potentially be shared between the two developments.

Appendix A - Summary of Requirements for Utilities Supplies for Each Development at Operation (2009) and at 2016

Site	Electricity Supply Requirements	Gas Supply Requirements	Water Supply Requirements	Foul and Trade Effluent Requirements	Surface Water Drainage Requirements
Food Processing Plant	<p>2009 Estimated Load - 3040 kW (approximately 3700 kVA)</p> <p>United Utilities (UU) advised that they require to carry out a system load study to determine the exact connection point. This study would identify the point of connection, the need for reinforcement works and any requirements for the provision of new primary substations.</p> <p>Unofficially however UU advised that it is unlikely that a new primary substation will be required for one or two developments such as those proposed. More likely that new power cable connections will need to be made to nearby networks with available capacity.</p> <p>2016 Estimated Load - 9300 kW (approximately 10 MVA)</p> <p>Unofficially UU advised that this level of load was likely to trigger the need for a new primary substation. UU advised that the cost for any new primary substation would be shared pro-rata to those customers drawing the load.</p> <p>A load study would be required to identify the point of connection, the need for reinforcement works and any requirements for the provision of new primary substations. Note that this study would be separate from the study related to the 2009 requirements.</p>	<p>2009 Estimated Load - 6200kW (approximately 690m3/hour)</p> <p>Discussions with National Grid confirmed that there is no requirement for any reinforcement works to accommodate the development. National Grid advised that the existing 12" low-pressure pipe on Grimshaw Lane has sufficient capacity for the development.</p> <p>2016 Estimated Load - 10,900kW (approximately 989 m3/hour)</p> <p>As above.</p>	<p>2009 Estimated Load - 3600 m3/day</p> <p>UU advised that for a new development of this type with high water usage, UU would require on-site water storage of between 12 - 24 hours of water usage. The provision of this storage would then allow for a connection to the 24" diameter trunk main on Grimshaw Lane to serve the site for the estimated 2009 demand being 3.6Ml/day.</p> <p>The possibility of provision of a dual supply was discussed to provide surety of supply and to reduce storage capacity requirements. UU confirmed that this could potentially be facilitated by installing a new feeder main along Briscoe Lane to connect into the existing 700mm diameter trunk main on Alan Turing Way. UU advised that the amount of on site storage required by UU could potentially be reduced to 8 hours of water usage if a dual supply was constructed.</p> <p>2016 Estimated Load - 6500m3/day</p> <p>The existing 24" diameter trunk main along Grimshaw Lane is insufficient for the 2016 demand of 6.5Ml/day.</p> <p>Installing the proposed feeder main connecting to the 700mm diameter main on Alan Turing Way (as detailed above) should provide adequate capacity for 2016.</p>	<p>2009 Estimated Discharge Rate - 1170m3/day</p> <p>The effluent from the site is required to be pH balanced on site to an acceptable level (appropriate for the discharge consent limits) and discharged to the adopted foul sewer network, as is currently the case at the existing nearby plant.</p> <p>UU advised that they do not anticipate any major problems in obtaining discharge consent and a suitable connection point to public sewer however there may be financial implications attached to the new consent.</p> <p>UU cannot advise on connections to the existing sewers without undertaking additional hydraulic modelling work of the sewer network. UU advised that the most likely suitable connection point is the existing 1530mm diameter combined sewer along Briscoe Lane.</p> <p>UU further advised that the capacity within this sewer should be satisfactory for the 2009 flows.</p> <p>2016 Estimated Discharge Rate - 2680m3/day</p> <p>For the 2016 flows, UU require to undertake hydraulic modelling to ascertain impact on the sewer network to determine the point of discharge.</p> <p>Comments above relating to effluent treatment will apply.</p>	<p>2009 Estimated Discharge Rate - 1,500 litres/second peak flow (for 30 year storm return period)</p> <p>UU advise that since the existing public sewer capacity in the area is severely limiting, then considerable volumes of storage attenuation on-site will be required within both developments, possibly up to 80 - 90%.</p> <p>UU advise that as an alternative, they would like to explore the possibility of conserving surface water capacity within their combined sewers by draining some or all of the surface runoff in a new drain to the Rochdale Canal. UU have indicated that they would be willing to adopt such a carrier drain to the canal. If this solution is found to be unworkable UU would then allow surface water to be discharged to their combined sewer network via the 1530mm diameter combined sewer along Briscoe Lane.</p> <p>2016 requirements</p> <p>As above.</p>

Site	Electricity Supply Requirements	Gas Supply Requirements	Water Supply Requirements	Foul and Trade Effluent Requirements	Surface Water Drainage Requirements
Bakery	<p>2009 Estimated Load - 320 kW (or approximately 400 kVA)</p> <p>UU advised that they require to carry out a system load study to determine the exact connection point.</p> <p>It is unlikely that a dedicated primary substation would be required for this development. Nevertheless, the Developer may still be required to contribute pro-rata to any cable extensions required for connection to other nearby networks where there is available capacity.</p> <p>2016 Estimated Load - 960 kW (or approximately 1200 kVA)</p> <p>UU advised that they would most likely require to carry out a system load study to determine the exact connection point.</p> <p>Unofficially UU advise that a new primary substation will likely be required, the cost of which may require to be shared pro-rata with those customers drawing the load.</p>	<p>2009 Estimated Load - 804 kW (approximately 75m3/hour)</p> <p>Discussions with National Grid confirmed that there is no requirement for any reinforcement works to accommodate the development. National Grid advised that the existing 12" low-pressure pipe on Grimshaw Lane has sufficient capacity for the site.</p> <p>2016 Estimated Load - 2411 kW (approximately 225m3/hour)</p> <p>As above.</p>	<p>2009 Estimated Load - 40m3 /day</p> <p>UU advised that the existing water supply network would have capacity to supply the Bakery development, but that nevertheless the new facility may be required to provide on site storage as part of demand management proposals for the area as whole.</p> <p>UU confirmed that for a single supply to the site the existing 4" main on Lord North Street would be suitable for a connection. If a dual supply were required by the Bakery this could be achieved by making a connection to the proposed connection main serving the proposed Food Processing Plant.</p> <p>2016 Estimated Load - 120m3/day</p> <p>As above.</p>	<p>2009 Estimated Discharge Rate - 40m3/day</p> <p>UU advise that they do not anticipate any major problems in obtaining discharge consent and a suitable connection point to existing public sewers, however there may be financial implications.</p> <p>UU cannot advise on appropriate connections to the existing sewers without undertaking additional hydraulic modelling. UU advised that the most likely suitable connection point is the existing 1530mm diameter combined sewer along Briscoe Lane.</p> <p>UU further advised that the capacity within this sewer should be satisfactory for the 2009 flows.</p> <p>2016 Estimated Discharge Rate - 120m3/day for discharge to sewer</p> <p>UU require to undertake hydraulic modelling to ascertain impact on the sewer network. This would confirm whether the existing 1530mm diameter sewer is suitable to receive the 2016 predicted discharge flow.</p>	<p>2009 and 2016 Estimated Discharge Rate - 325 litres/second peak flow (for 30 year storm return period)</p> <p>UU advise that since the existing public sewer capacity in the area is severely limiting, then considerable volumes of storage attenuation on-site will be required within both developments, possibly up to 80 - 90%.</p> <p>UU advise that as an alternative, they would like to explore the possibility of conserving surface water capacity within their combined sewers by draining some or all of the surface runoff in a new drain to the Rochdale Canal. UU have indicated that they would be willing to adopt such a carrier drain to the canal. If this solution is found to be unworkable UU would then allow surface water to be discharged to their combined sewer network via the 1530mm diameter combined sewer along Briscoe Lane. .</p> <p>2016 requirements</p> <p>As above.</p>