



Linda Grant Health and Safety Awards 2006

Application by

John Mee Construction Ltd.
Vacuum Excavation site team

By
John Patrick Mee

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Contract: Sheffield NRQ Enabling works for a New Retail Quarter.

Clients: Wrekin Construction (Phase 1)

Costain (Phase 2)

Vacuum Excavation techniques used on 'Sheffield NRQ Enabling Works' has allowed the Construction Industry open up to a new method of approaching complicated and unsafe excavations.

Sheffield NRQ Ducting Works (Phase 1)

We received a tender from Wrekin Construction to price the laying of:

- 290m 4way 100mm diameter ducts
- 190m 6way 100mm diameter ducts
- 110m 4way 100mm diameter ducts
- 130m 4way 100mm diameter ducts

The scheme specified that excavation would be by hand dig due to the presence of a heavily congested site of both charted and uncharted services. The tender was priced on this basis.

Services ranged from multiple fibre optics, 33KV cables, 11KV cables, HP Water and Gas pipes, steam heating pipes (which supply hospitals and universities), street lighting cables amongst others. Potential strikes could have disrupted the heart of Sheffield's businesses, private and public housing, emergency services, retail parks and the shopping community in general.

The date for the grand re-opening of Sheffield's re-furbished City Hall together with Barkers Pool newly landscaped area was set. This put increased pressure on everyone involved in the project.

As a consequence, we presented to the Wrekin Construction site team a possible solution to all the problems raised. We explained the advantages of the new methods of excavation (vacuum excavation) versus the traditional hand-digging techniques.

Neither party had any real contract experience of using this technique. However, both John Mee Construction and Wrekin Construction could see the advantages of using

this new system as the site presented numerous problems. It was the ideal opportunity to demonstrate that the vacuum excavation unit could potentially be faster, cheaper and ultimately safer.

Wrekin was enthusiastic about the new method. To reassure our potential client, we offered to revert back to the traditional proven techniques if the vacuum excavation was not achieving the client's expectations. On that principle, we agreed to commence the works.

To find out more about the Phase 1, please refer to page 4.

Sheffield NRQ Enabling Works (Phase II)

On successful completion of phase 1, John Mee Construction's Vacuum Excavation Team was brought in to continue with its high safety record and performance to carry out works in Phase II of the 'Sheffield NRQ Enabling Works'. The Principle Contractor, Costain, required 50 trial holes (half road crossings) excavated to determine locations of existing services.

Once again these works were to be carried out within a 500 m radius in the heart of Sheffield's main shopping area/precincts, where we would have a lot of interaction with the public, retailers and the business community.

All 50 trial holes were required to be excavated to a depth of 1500 mm x 3000 mm long to expose all existing services.

Like in Phase 1, we were required to expose utilities such as: multiple fibre optics, 33KV cables, 11KV cables, HP Water and Gas pipes, steam heating pipes (supplying hospitals and universities), etc. It was therefore vital not to disrupt or damage any services.

urged to ter new kit

Manufacturers yet to use free registration scheme. Recommendations, but also doing something for their customers," Purbrick said. "As part of its Top 10 Tips for plant owners, the Home Office commends registering equipment with TER to give the police a complete record that is accessible 24 hours a day. Purbrick said his organisation's national database of equipment serial identification numbers is the best way of certifying a piece of equipment's true identity and owner. "Equipment theft costs the construction industry millions of pounds each year. Recovered

stolen plant that hasn't been registered has little chance of ever being returned to its rightful owner," he said. "One manufacturer that hasn't yet registered is Hyundai. According to its regional sales manager Alan Palling, the register is particularly useful to customers and insurance companies. "I can see the benefits and we're in the process of signing up," he said. Manufacturers that currently register their kit with TER include: JCB; Caterpillar; Kubota; Liebherr; and CompAir.

Mee uses Vac-Tron to uncover cables

DIG DEEP: Excavation work is made simpler with the Vac-Tron. Specialist contractor John Mee has used a Vac-Tron PMD300GT vacuum excavation unit to uncover buried utility cables during

about 16m³/min of soil. It is fitted with an on-board water system capable of delivering up to 11 lit/min pressurised to 28bar.

EC calls for over noise

Call for exemption for specific types of plant equipment

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The European Commission (EC) is proposing that eight types of plant equipment should be exempt from a European Union (EU) noise directive that would have forced them to be scrapped if they did not meet its stringent requirements. The directive 2000/14/EC initially names 22 types of plant equipment that must comply with maximum permissible sound levels - one imposed in June 2002, and another due to be implemented next year. However, the EC's Working Group on Outdoor Equipment has advised the EU that items of machinery cannot be exempt from the second Stage II noise standard by the legal deadline January 2006 without causing serious production headaches. The Commission has proposed that the following plant need not comply for the time being: tractors, wheel loaders less

In brief

Speedy Hire signs £150m debt facility
Speedy Hire has completed the signing of a new five-year debt facility totalling £150m. The deal will refinance the company's existing three-year £125m revolving credit facility.

Snap-on posts 20% profit rise for Q2
UK Equipment's parent

Cante

The Health and Safety advantages of using the Vacuum Excavation Process in both Phases 1 and 2 were:

Phase 1	Timing - Meeting the programme for the grand opening of the newly re-furnished City hall where there would be television and press coverage.
Phase 1	Pilot slit trenches 150mm wide x 1700mm deep could be excavated to establish the best lines avoiding potential level and line clashes.
Phase 1&2	Liaised with retailers and businesses to maintain accesses, and kept areas clean, tidy and safe.
Phase 1&2	The guarantee of no cable strikes and 0% downtime of existing services to retailers, shoppers and businesses.
Phase 1&2	Reducing the risk of long term health issues which are associated with hand digging techniques such as vibration white finger, arthritis and back trouble.
Phase 1&2	Removing the risk of operatives injuring themselves by striking cables/pipes whilst hand excavating by not: <ul style="list-style-type: none">• Using aggressive tooling• Getting frustrated or rushing the work• Lack of concentration at the end of the day• Taking chances with mini excavators
Phase 1&2	Enabling us to maintain the same labour force throughout the contract therefore improving their health and safety knowledge and experience as the job progressed. The use of traditional methods does lead to a high turnover of operatives.
Phase 1&2	All spoil was immediately removed from excavation (not stockpiled at edge); maintaining good housekeeping for both workforce and public (as rain tends to wash debris into gullies and into pedestrian areas where can get walked into adjacent shops or businesses).
Phase 1&2	Outputs of trench would remain at a constant irrelevant of the number of services present in the ground.
Phase 1&2	No damage to tree root systems encountered within trenches.
Phase 1&2	No work related injuries and strains to our workforce and no claims from public or businesses regarding damage to services.
Phase 1&2	100% attendance of workforce with no sick days taken.
Phase 2	Able to achieve the depth safely by Vacuum Excavating a slit-trench 1500 mm deep x 150 mm wide x 3000 mm long and surveying for

services present. This enabled the trial hole to be excavated to its depth of 1500mm without the need for man entry into the excavation, shoring or stepping back.(As all excavation works and surveys can be carried out from surface)

Phase 2

The amount of material excavated to expose the services required was minimal and far less than that of traditional methods (150 mm wide x 1500 mm deep x 3000 mm long) thus:

- Minimising the time required at each location
- Minimising the amount of excavated spoil to be transported through a busy shopping area
- Minimising the amount of backfill required to fill excavation through transported through a busy shopping area
- Minimising the amount of plant /transport movements required for shoring to each location if works were to be carried out by traditional hand digging methods.
- Minimising the time spent at each location which in turn helped better relations with local businesses, retailers, offices, ect as 70% of all excavations were started and blacked within a 9 hour working day

One of the key factors for making this job a success has been involved with an open minded and forward thinking clients that were not afraid of opening up to new ways and ideas.

We confirm our commitment and belief that Vacuum Excavation is a remarkable method of improving the health, safety and welfare of our workforce and industry where hand dig techniques are previously used.

By this, John Mee Construction Ltd has extended its vacuum excavation solutions to include operated plant for trial holing and also specialist operated plant for larger volume excavation works.



Phase 1 works

Outside Sheffield City Hall.



Phase 2 works

Minimizing the time spent at each location which in turn helped better relations with local businesses, retailers, offices, ect as 70% of all excavations were started and blacked within a 9 hour working day



Phase 2 works

Able to achieve the depth safely by Vacuum Excavating a slit-trench 1500mm deep x 150mm wide x 3000mm long and surveying for services present.

Excavation time 2-3 hours.

This enabled the trial hole to be excavated to its depth of 1500mm without the need for man entry into the excavation, shoring or stepping back.(As all excavation works and surveys can be carried out from surface).



Our commitment to the future.

New to Sept 2006-Dino 3.

Capacity: 6m³

Airflow: 36,000m³/hr

Hose Diameter: Up to 250mm

Cable trench excavations with no spoil left on the roadside as excavation is carried out.