



WJ GROUNDWATER
Expert in Groundwater





We are WJ GROUNDWATER

Leading the way in dewatering, remediation and instrumentation since 1983.

WJ operates throughout Europe and the Middle East and has completed over 2,500 projects.



Dewatering Services

It is no secret that groundwater can pose one of the largest risks to a construction project. WJ not only aims to help our clients understand and manage these risks, but also provide competitive and practical solutions that:

- Improve working conditions
- Produce pumped water free of silts and sands
- Improve excavation stability often allowing increased angle of battered slopes
- Reduce additional temporary works measures
- Improve earthworks productivity
- Reduce environmental impacts
- Improve safety for your work force
- Reduce project costs and programme time

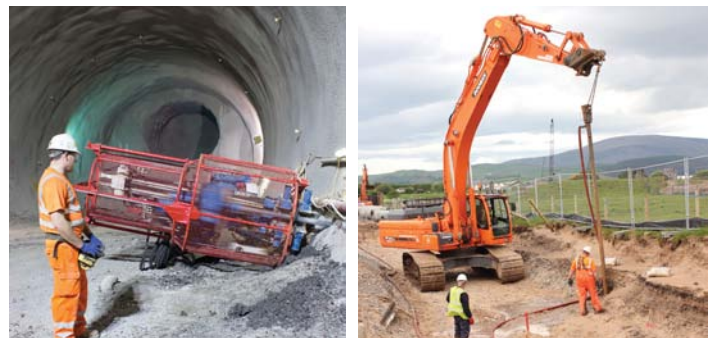


Wellpoints

Wellpoints are used to lower groundwater levels and improve working conditions in shallow excavations. Groundwater is abstracted from the wellpoints by suction generated by a central pump. A wellpoint is capable of drawing water from the ground up to a depth of 6m.



Installation is achievable by jetting or rotary drilling.



Pumping options include surface electric or diesel suction pumps and super-silenced systems for residential areas.



Wellpoints are ideal for Shallow Excavations, Basements, Pipelines, Confined Spaces, Underpasses and Tunnels





Deepwells

Deepwell dewatering systems lower groundwater levels using a series of drilled wells, each fitted with its own electric submersible pump. Large drawdowns can be achieved as the only limits are well depth, pump performance, and prevailing ground conditions. WJ carefully designs and installs deepwell systems to maximise drawdown and pump efficiency whilst ensuring a discharge free of suspended solids.



WJ provides a central control cabin which powers and controls multiple pumps from a single location. Control options include automatic mains failure (AMF) switchover to standby power, visual/audio/GSM text alarm systems, and a remote data logger for monitoring flows and groundwater levels.



Ejectors

Ejector – also known as eductor - dewatering systems are used to control pore pressures. They also lower groundwater levels in silty fine sands and laminated silts and clays. Ejector pumps at ground level feed high-pressure water to the ejector nozzle and venturi located at the base of the wells. The flow of water through the nozzle generates suction in the well drawing in groundwater.



Ejectors can dramatically improve ground conditions up to depths of 50m. WJ is the industry leader in the design, installation and maintenance of ejector systems.



Deepwells and Ejectors are ideal for Deep Excavations, Shafts, Basements, Underpasses and Tunnels

Remediation and Groundwater Treatment

WJ designs, installs and operates groundwater treatment systems.

This system may be used as part of a site remediation strategy or to treat water pumped from a dewatering system prior to discharge to sewer or surface waters.

WJ has experience dealing with petroleum hydrocarbons, chlorinated solvents, metals, pesticides and radioactive materials.

WJ hold a mobile plant licence and have experience liaising with the EA to obtain consents

Treatment technologies deployed include:

- Settlement tanks
- Weir tanks
- Oil/water separators
- Sand filters
- Plate/tower air strippers
- Carbon filters
- Ion exchange filters.



Ground Source Energy

WJ have experience in both open and closed loop geothermal systems. For open loop systems we have extensive experience drilling and installing abstraction and recharge wells, as well as undertaking pumping tests to obtain the necessary abstraction and discharge consents.

For closed loop systems in-situ measurement of the thermal properties of soils and rocks can play an important part in developing cost-effective and sustainable designs for ground energy systems.

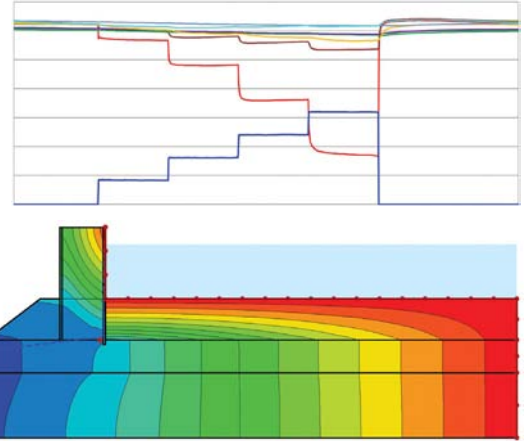
WJ has carried out thermal response tests (TRT) in various ground conditions to determine in-situ thermal properties.



In-house Design and Consultancy

WJ provides expert advice on geotechnical, geochemical, and hydrogeological issues. We have particular expertise in site investigations, pumping tests, and the design of groundwater management, dewatering and recharge schemes. WJ is able to provide a range of consultancy services:

- Computer modelling of groundwater (e.g. MODFLOW, SEEP/W, Aquiferwin32)
- Assessment of site investigation data
- Investigation of settlement risks
- Supply of borehole CCTV surveys
- Pumping test design and interpretation
- Development of groundwater control strategies



Drilling Operations

WJ operates a fleet of over 15 drilling rigs with the capacity to drill in excess of 150m deep at diameters of up to 400mm. Equipment includes both rotary and cable percussion rigs set-up for both cased and uncased drilling using rotary bits, mud flush, augers and hammers. Cutting handling can be undertaken using air, water, foam, or polymer mud flush systems.

WJ drilling crews and supervisory staff are trained to the highest standards and have global experience in water well, geotechnical, and geothermal drilling. WJ has the know-how and equipment to drill and probe in a wide range of environments including confined spaces such as basements, tunnels and shafts.

WJ has extensive experience working in restricted access situations such as small diameter shafts and tunnels, including installation of angled, horizontal and upward wells.



Health & Safety

WJ Groundwater is fully committed to safeguarding the Health & Safety and wellbeing of each employee, other site staff and the general public.

WJ has an experienced workforce that is trained and qualified to a range of standards that include CSCS/CPCS/NVQ who are committed to hazard and risk minimisation alongside safe working practices.



UK Head Office WJ Groundwater Ltd, Bournehall House, Bushey, Hertfordshire, WD23 3HP United Kingdom T: +44 (0)20 8950 7256 F: +44 (0)20 8950 7959 E: info@wjgl.com W: www.wjgl.com	Nottingham WJ Groundwater Ltd, Unit H, Mansfield Road, Clipstone Village, Mansfield, Nottinghamshire, NG21 9AP United Kingdom T: +44 (0)162 363 4290 M: +44 (0)782 570 6626	Glasgow WJ Groundwater Ltd, Centrum House, 38 Queen Street, Glasgow, G1 3DX United Kingdom T: +44 (0)141 548 8295 M: +44 (0)773 883 7011	Poland WJ Groundwater Polska, Pl. Piłsudskiego 1, 00-078 Warszawa, Polska T: +48 (0)784 376 705	Dubai WJ Groundwater Ltd, GCC Regional Office, Dubai Investment Park, Falcon House, Office 101, PO Box 49204, Dubai, United Arab Emirates T: +971 (0)4 885 5254 F: +971 (0)4 885 5257 E: info@wj-me.com W: www.wj-me.com
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