



RobertNicholas™

Working above and Below the water line

Civil Engineering

Temporary Works

Access and Inspections



Acclaim
Accreditation





About Robert Nicholas	1
Temporary Dams	2
Supporting your Temporary Works	3
Geodesign Temporary Works Barriers	4 - 5
High Capacity Flow Bypass—Flume pipes	6 - 8
Limpet & Mini-limpet Dams	9 - 10
Canal Dams	11
Headwall Dams	12
Site Specific Designs	13
Temporary Works Design Checks	14
Pontoons & Rescue Boats	15
Civils Contracting	16 - 17
Scour Protection	18
Reinforced Concrete Works	19
Steel Fabrication	20
Culvert Maintenance	21
In-channel Works	22
Water Control Structures	23
Inspections & Surveys	24
3D Geospatial Surveys	25
Bathymetric Surveys	26
Core drilling	26
Confined Space surveys/access	26



“At Robert Nicholas, we are committed to designing and delivering the best temporary dam and civils solutions, to the highest standard, in the safest possible way and with the lowest environmental impact.”

Who we are

At Robert Nicholas Ltd we work hard to understand every aspect of your project before proposing the best possible solution. Our highly-skilled team takes into account the working methods, risks and constraints associated with each individual site so our installation team are prepared to deploy your temporary works solution without delay. Our ultimate aim is to balance customer needs with the statutory requirements of flood and environmental management, as well as to provide specialist solutions that allow you to access the necessary areas regardless of the complexities involved.

Why we do it

To us, the science behind water is fascinating, and we make daily use of the rules of hydro pressure to create pioneering and inventive options for our clients. No challenge is too great and we take pride in developing practical solutions to new problems. We don't just want our service to be 'good enough' – we want to deliver the best possible outcome for our customers every time.





Temporary Dams

Robert Nicholas are designers, manufacturers and installers of temporary dam systems. The temporary dam is an essential component for any activities taking place below the water line.

We operate in all environments and have developed a range of systems to help you reduce risk, time and cost.

We are Solution Driven

Robert Nicholas supply Temporary Works for construction and inspection in water. There is never a one size, or one system that fits all and we are a company determined to provide the right solution for you. If there isn't currently a solution then we will design and build one.

Design



Build



Install



The complete package

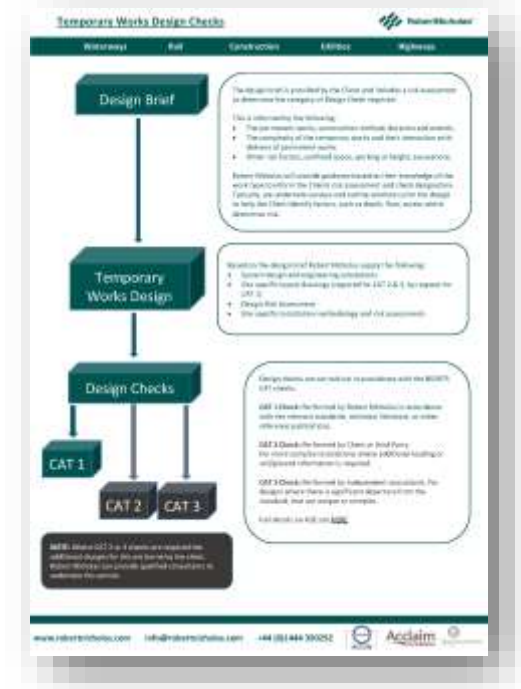
- ◆ Installation and hire of the temporary dam
- ◆ Dewatering and seepage pumps
- ◆ Flow management (over-pumping/fluming)
- ◆ Civils capabilities

In deep water?

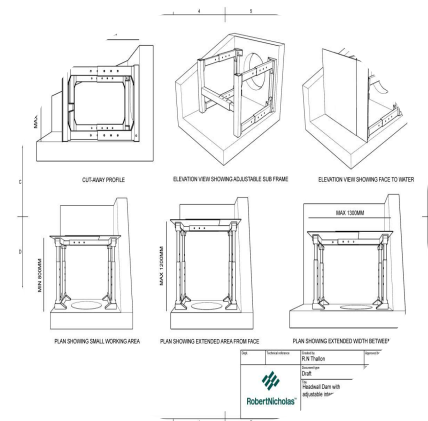
- ◆ Temporary frame dams as standard to 3m, with full design and calculations for up to 4.2m
- ◆ Limpet dams for vertical walls in any depth.

Supporting your Temporary Works Projects

- ◆ Project designers and consultants—We can assist through early contractor involvement on either a formal or informal basis.
- ◆ Contractors—we are happy to visit sites and advise on the best solutions for your project.
- ◆ Installing the dam is just part of the process, we can also provide you with:
 - ◆ Design guidance and consultancy
 - ◆ Design check requirements
 - ◆ System design and engineering calculations
 - ◆ Site specific layout drawings (required for CAT 2 & 3, by request for CAT 1)
 - ◆ Design Risk Assessment
 - ◆ Site specific installation methodology and risk assessments



Robert Nicholas supports successful projects by adhering to industry temporary works procedures under BS5975; SIM 02/2010/04 and conforming with regulatory bodies standards such as The Eels (England and Wales) Regulations 2009 Statutory Instrument No. 3344’.



The Geodesign Temporary Works Barrier



- ◆ The only PAS/Kitemark carrying system on the market
- ◆ With standard barrier heights from **0.85m to 3m**
- ◆ Certified designs to **4.2m**
- ◆ The system is designed to over-top should water levels exceed the performance limit
- ◆ There is a stability safety margin of 1.5
- ◆ Used by Network Rail contractors, Environment Agency , Principal contractors and the Canal & Rivers Trust
- ◆ Modular design and lightweight, making it portable and adaptable to site constraints

The Geodesign Temporary Works Barrier



FRAME	WATER DEPTH
EUR85	0.85m
EUR125	1.25m
EUR150	1.50m
EUR180	1.80m
EUR240	2.40m
EUR300	3.00m
EUR360	3.60m
EUR420	4.20m
EUR200S (Specific design for silty/ slippery beds such as canals. Lower face angle and wider footprint generates increased bed friction)	2.00m



Flume Pipes

- ◆ A cheaper alternative to over-pumping
- ◆ No pumping or generator noise that may cause a problem in residential areas
- ◆ Flumes allow fish passage which can also be improved, in lower flows, by introducing baffles to the flumes thereby increasing turbidity
- ◆ We have delivered countless schemes, including full river re-alignments, where this has provided a quick and easy solution





Open Flume

When solid flume pipes don't provide sufficient flow capacity open flumes can be an excellent alternative. We have two types of open flume

- ◆ Standard Geodesign temporary works barriers to create an open channel
- ◆ Our purpose designed open flume system is ideal where a smaller footprint is required



Over Pumping

Over-pumping is required when fluming is not possible, either due to the location, nature of the work, or flow volumes. Used in conjunction with our frame dams we can hold the flow back from the work area and pump the flows through or around the site. We are highly experienced in flow management and can advise on the type and numbers of pumps that are required.

Advantage for you

- ◆ We can arrange and manage the over-pumping delivery and set-up as part of a complete flow management package
- ◆ Multiple pumps can be set with float switches so that they come into operation only when required



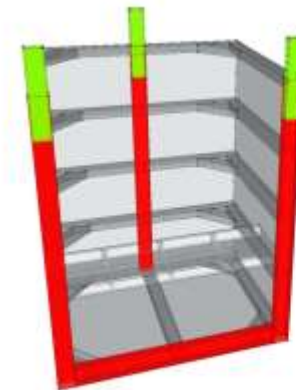
Limpet Dams

Our Limpet dams are designed, built and installed by ourselves.

The system is built in sections and can be put together on site. Thick rubber seals sit between the frame and the wall. Once suspended in position the limpet is de-watered and hydrostatic pressure clamps the dam to the wall face.

Advantages

- ◆ Perfect for creating dry working on walls and buildings in deep water such as harbours, marinas and docks
- ◆ Can be utilised in channels too narrow for conventional frame dams
- ◆ Built in sections, transported to and completed on site





Mini-Limpet Dams

Robert Nicholas designed the mini-limpet to solve the problem of tight spaces and access that may render conventional damming methods unviable. Perfect for small culverts, intakes and outfalls to carry out inspections or maintenance.

It is 3-sided, with or without a base, depending on the site in question. No base is required if installing onto a concrete apron.

Advantages

- ◆ Quicker and cheaper to install and remove than conventional methods.
- ◆ Generates an excellent seal
- ◆ Man-portable



Canal Dams

The canal dam is specifically designed for locations where silt is prevalent. It is a version of the proven Geodesign temporary dam but whilst the standard design has a wide base plate for stability and friction the silt dam is narrower so that it can be installed into silty locations more easily. To compensate for the loss of friction it has a lower face angle and a wider footprint to create a greater downwards force thereby increasing the friction coefficient and reducing the tendency for sliding.

Advantages

- ◆ Does not require any vertical poles driven in so can be used on lined lakes and ponds
- ◆ Up to 2m water depth so ideal for most canals.
- ◆ Man-portable.

Headwall Dams

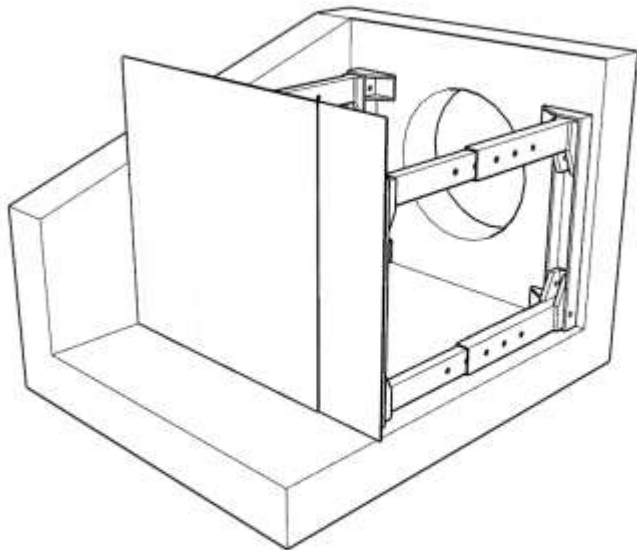
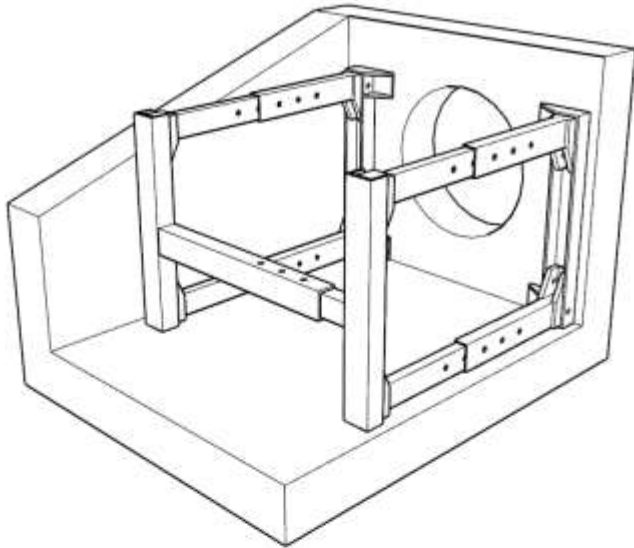
The Headwall dam was designed for intakes and outfalls positioned within a precast concrete headwalls. Installed in minutes rather than hours, it is ideal for inspections and maintenance works.

The system has adjustable legs that brace against the headwall face meaning that no fixings are required. The sealing plate can then be positioned to allow the required working/access area. The plate is adjustable so that the system can be used in headwalls of varying sizes. It seals with the thick rubber seals on the vertical edges and the rubber flap on the base and is held in situ with the hydrostatic pressure.

It is a lightweight construction meaning that installation and removal requires minimal manpower.

Advantages

- ◆ Fast to install and remove.
- ◆ Minimal time and cost for de-watering
- ◆ Man-portable.



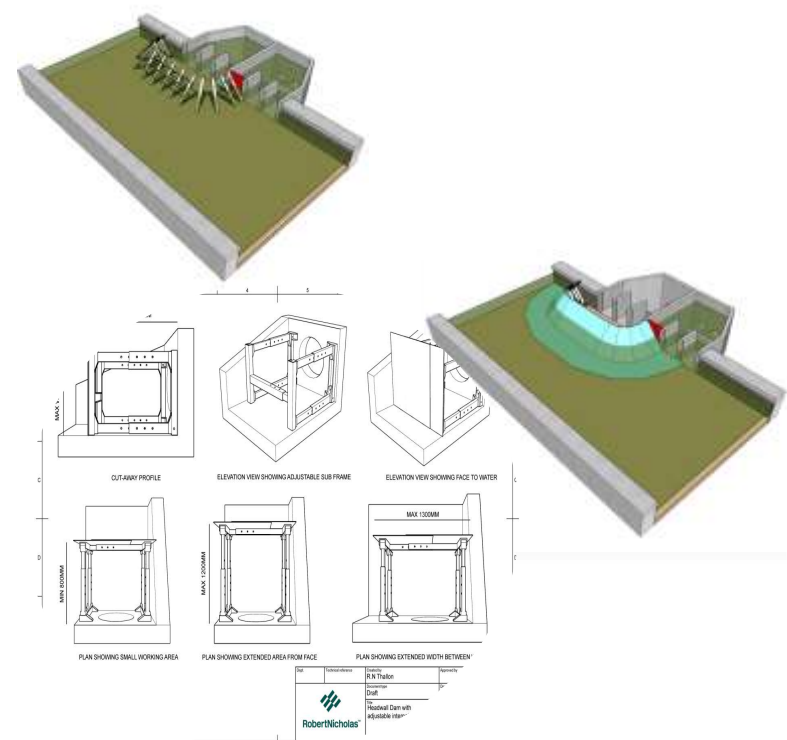


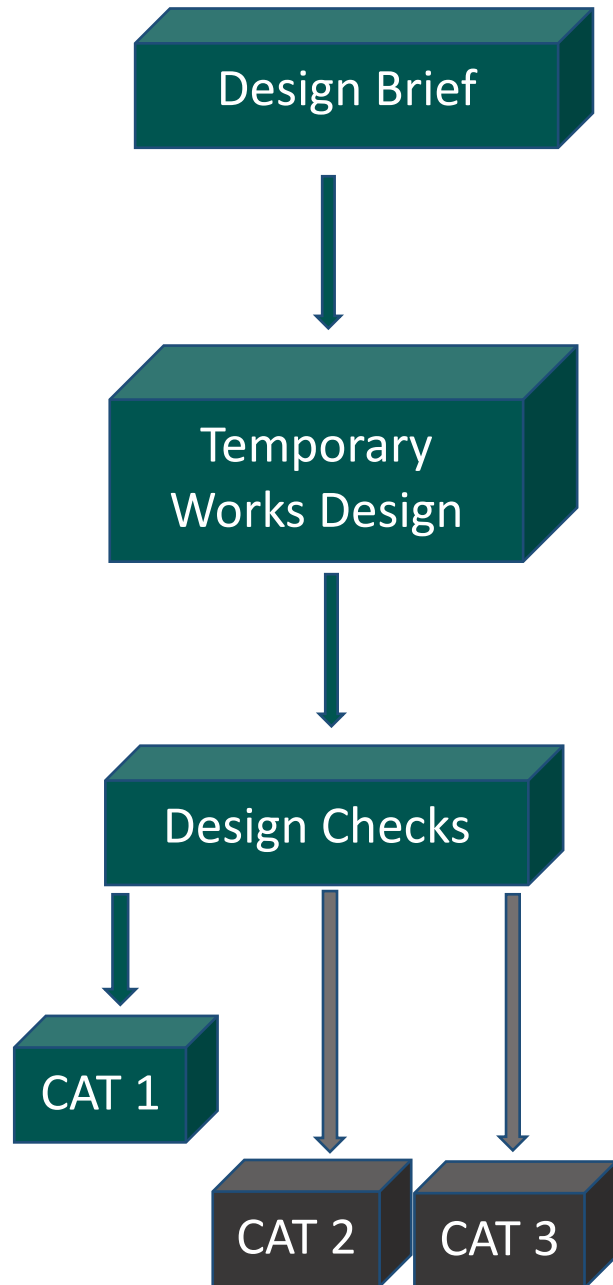
Site Specific Dams

Thinking outside of the box, beyond conventional frame dams, we are specialists in designing and building purpose made solutions, in order to provide maximum effectiveness and safety for the temporary works.

We are solution driven and will work with you to provide a workable system to enable you to carry out your works.

We design in-house and have all the required CAT checks and design approvals carried out.





The design brief will determine the category of Design Check required.

Robert Nicholas will provide guidance based on their knowledge of the work type to inform the Clients risk assessment and check designation.

We supply the system design and engineering calculations and site specific layout drawings. (required for CAT 2 & 3, by request for CAT 1)

In accordance with the BS5975 CAT checks.

CAT 1 Check: Performed by Robert Nicholas in accordance with the relevant standards, technical literature, or other reference publications.

CAT 2 Check: Performed by Client or Third Party.

For more complex installations where additional loading or soil/ground information is required.

CAT 3 Check: Performed by independent consultants. For designs where there is significant departure from the standard, that are unique or complex.

Pontoon & Rescue Boat Hire

We can supply pontoons of any size . With rails and access step ways if required.

Rescue Boats, manned or unmanned.

- ◆ 3.6m Safety Boat, 9.9hp
- ◆ 3.9m Safety Boat, 25hp



RobertNicholas™

Specialist in-water
Civils Contractor



Acclaim
Accreditation



We believe the longevity of our customer relationships is a testament to our approach to delivering our temporary and permanent work solutions. We pride ourselves on providing our customers with an innovative, efficient service – facilitating proactive risk management while optimizing working methods and saving money with robust solutions.

Our engineers and operatives work to the highest industry standards – fully compliant with current legislation, our teams are regularly trained on methods of creating and managing safe environments for our customers. Whether you need us to secure a full development or simply help you mitigate risk on a small aspect of your project, we're always happy to adapt to your requirements and find the perfect solution.



Scour Protection and Repair

We provide a comprehensive scour protection service with detailed surveys and innovative system design to consider environmental and flood risk issues.

- ◆ Cast insitu
- ◆ Inverts
- ◆ Riprap, Rock armour
- ◆ Concrete & Reno mattresses
- ◆ Gabion baskets



Reinforced Concrete Works

Specialising in below the water line delivering flawless results at an exceptionally high standard. Working within government legislation, we can deliver safe and compliant reinforced concrete wherever required.

- ◆ In-house reinforcement fabrication
- ◆ Abutments
- ◆ Retaining walls & Head walls
- ◆ Under-pinning and benching works



Steel Fabrication

Using the latest technology and equipment to facilitate our fabrication process, making it possible for us to provide steel components of almost any shape or size.

- ◆ Flow control structures
- ◆ Access structures



Culvert Maintenance

Providing dewatering, inspections and repair capabilities.

- ◆ Access and isolation
- ◆ Inspection and man-entry services
- ◆ Headwall and structural Repairs
- ◆ Replacement
- ◆ Grouting



Channel Works

A wide range of remediation and restoration services within and alongside waterways, including.

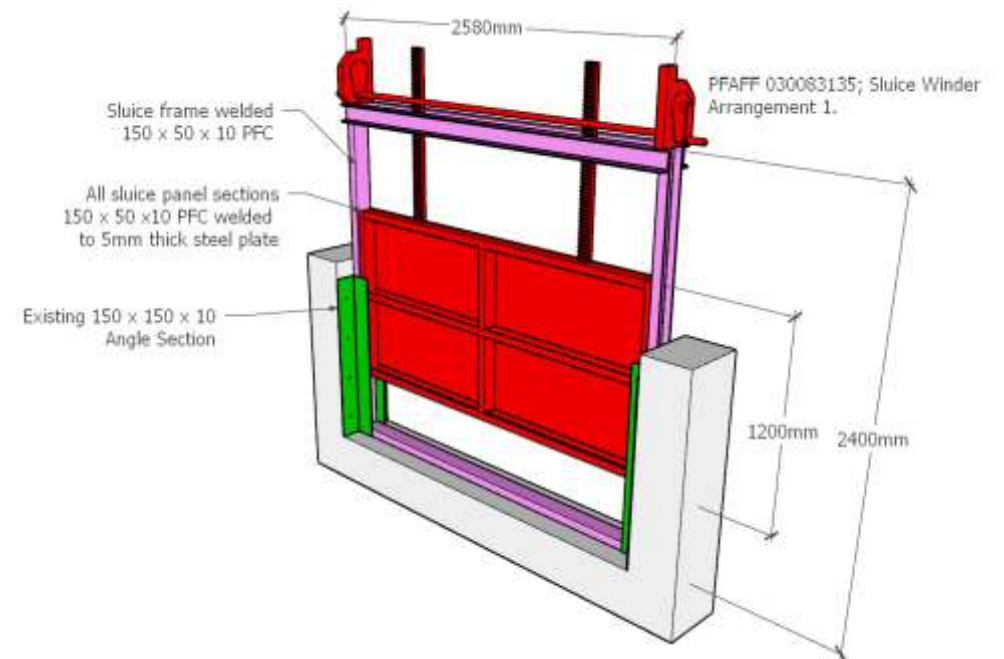
- ◆ Erosion protection and bank restoration
- ◆ Bank Stabilization and repair
- ◆ Outfall and headwall repairs
- ◆ Channel isolation and flow control
- ◆ Revetments and timber piling



Water Control Structures

Design, manufacture, installation, isolation and repairs to a variety of water control structures, including;

- ◆ Sluices
- ◆ Flap valves & Penstocks
- ◆ Radial gates
- ◆ Weirs and tilting weirs



Inspections & Surveys

At Robert Nicholas Ltd we are highly experienced in carrying out or providing access for asset surveys and inspections.

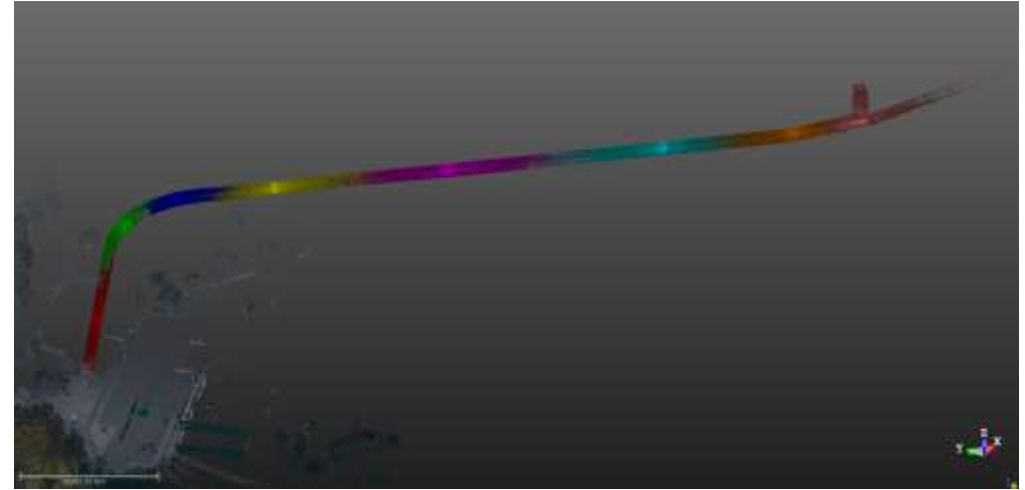
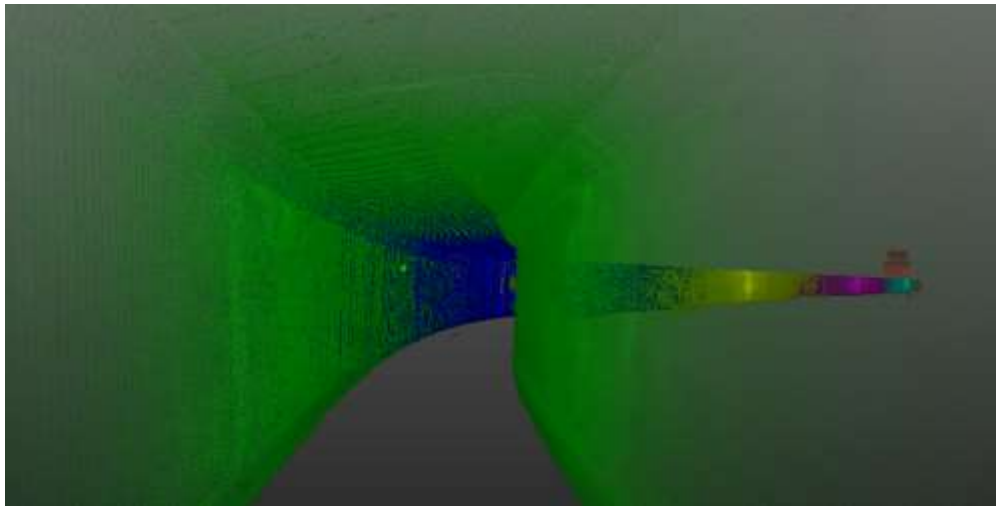
Operating over ground, underground and underwater we can support you with a wide range of surveying services including, but not limited to, confined space entry, either man entry or ROV (remote operated vehicles), Bathymetric and sonar surveys, structural surveys, core drilling, 3D geospatial surveys and aerial inspections.

We can either carry out the full survey with comprehensive reporting back to the client or assist your engineers with any in-water elements of a survey.

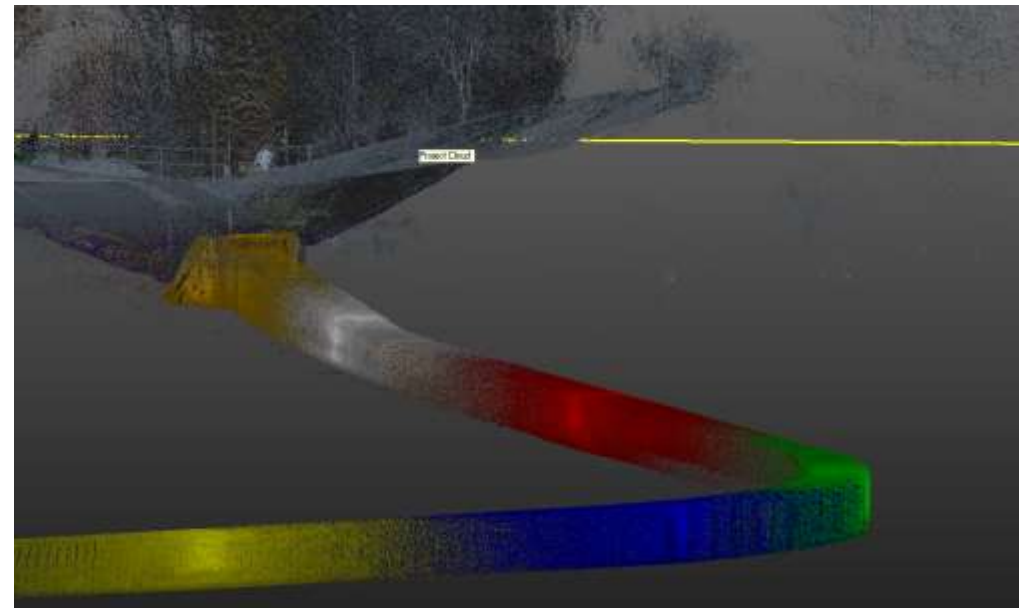


3D Geospatial Surveys

Our survey team can provide 3D mapping for previously unmarked assets using complex multi-layered surveys. Geospatial surveying utilising technologies such as satellite imagery, laser mapping and GPS to quickly create layers of interconnected geographic information in a 3D format. We can provide 3D mapping of everything from the interior of building and other man-made structures such as underground water ways, tunnels, culverts, drainage and sewerage systems to land profiles.



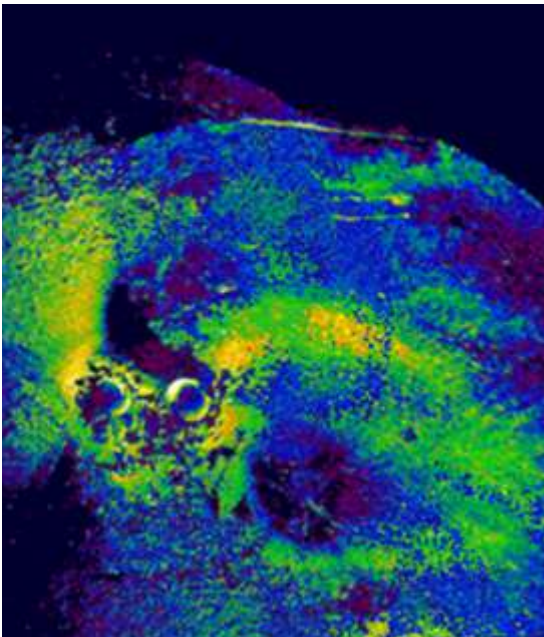
A previously un-marked culvert



Bathymetric (Sonar) Surveys

Our team can provide precise measurements and images that are unaffected by flow or visibility. An excellent solution that measures the depth of a water body whilst also mapping underwater features.

Multi-beam surveying: A multibeam echo sounder attached to a boat sends out a wide array of beams across a "swath" of the waterbody floor.



Survey Core-Drilling

Our expert teams can carry out survey core drilling to obtain depth and formation information or sample analysis reporting around or below the water line.

We can provide instant detailed site information or present the results in the form of a report with video and photographic inclusion if required.



Confined Space

For culvert inspections, pipelines, under-bridges and flow control structures we offer both trained confined space entry teams and ROV/CCTV inspection.

These extend to clear and repair services, delivered in conjunction with our access and water diversion systems.





In-water specialists for Temporary Works
and Civils Contracting.

If what your looking for isn't listed please
contact us:

Email: info@robertnicholas.com

Telephone: +44 (0)1444 390292

www.robertnicholas.com

