DESIGN & CONSTRUCT FOR THE FUTURE

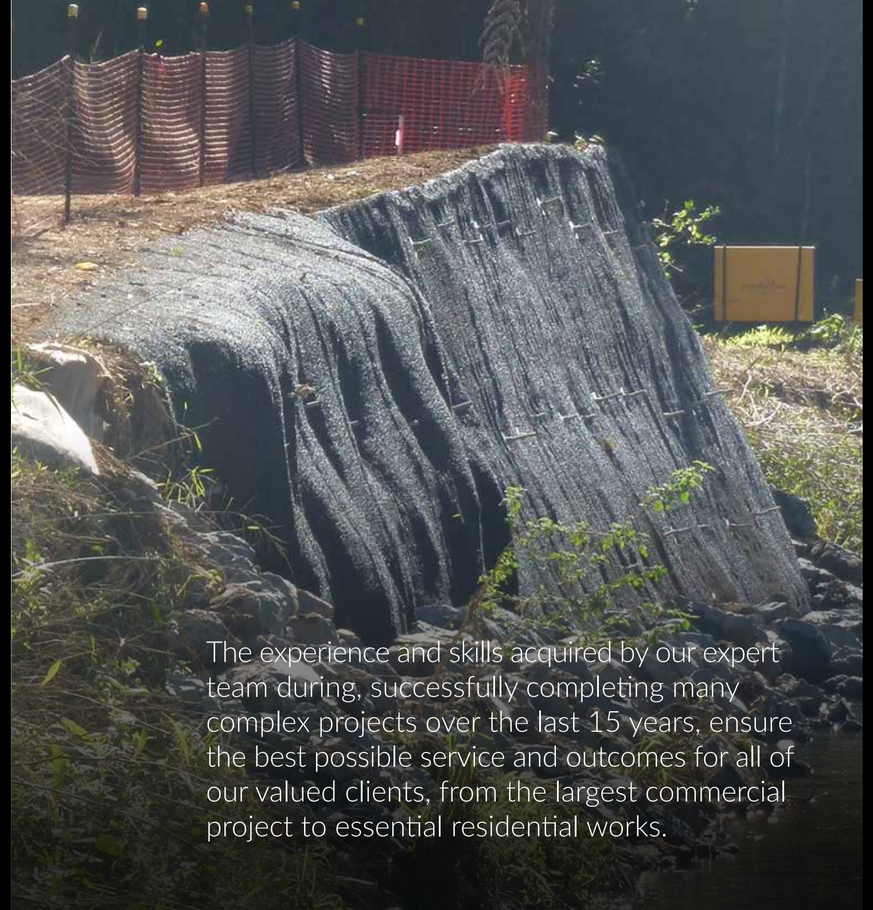
GSS
GROUND STABILISATION SYSTEMS

CAPABILITY STATEMENT

Ground Stabilisation Systems is a recognized industry leader in providing professional and highly specialised engineering services to the Civil construction, mining and transport infrastructure industries.

GSS has built its enviable reputation on quality and service and enjoys constant repeat business from a long list of valued clients by always delivering successful outcomes for client projects while providing:

- Open and transparent planning and progress reports for clients
- The highest professional standards
- The highest standards of safety and compliance
- Innovative solutions using the latest technologies
- On time and on budget completion



The experience and skills acquired by our expert team during, successfully completing many complex projects over the last 15 years, ensure the best possible service and outcomes for all of our valued clients, from the largest commercial project to essential residential works.

WHAT DO WE OFFER?

Ground Stabilisation Systems offers competitive services delivered by professionals with a wealth of knowledge and hands on experience. The directors of Ground Stabilisation Systems have over 15 years of industry expertise.

This commitment, together with the close and mutually beneficial working relationships we enjoy with all of our clients, ensures every project is carefully planned, undertaken and successfully completed. GSS will always ensure your organisation and your project are in safe hands.

GSS is committed to the pursuit of excellence in every area of management and operations.

ROCKFALL PROTECTION

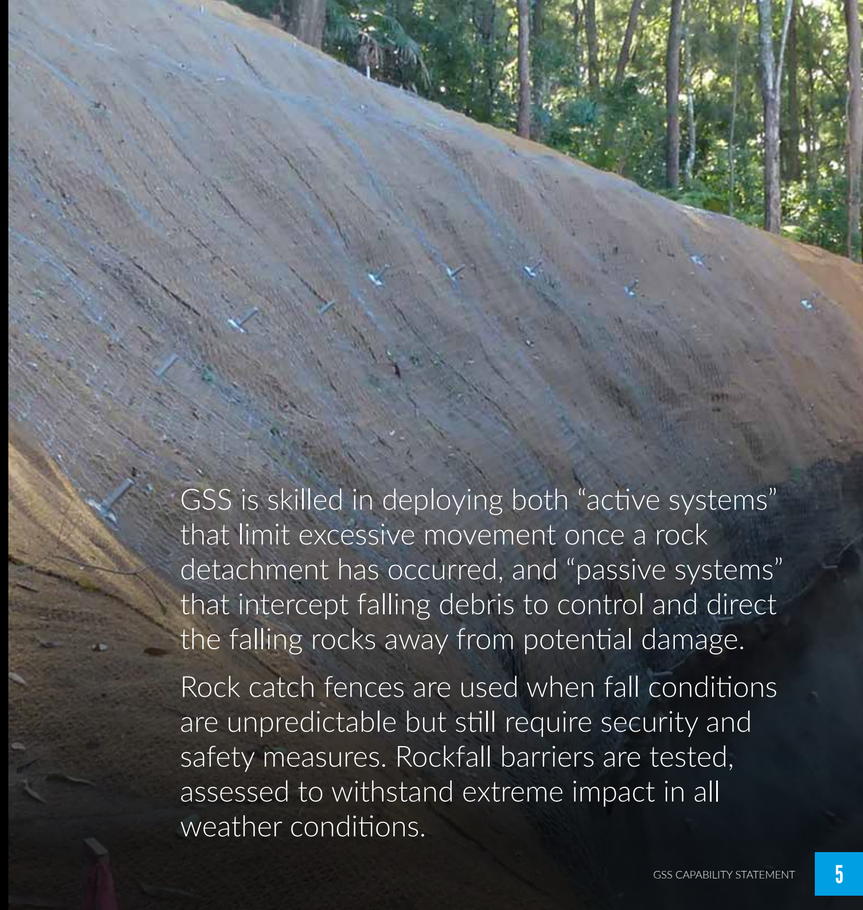
Public safety can be seriously threatened, major transport systems brought to a halt and infrastructure damaged when cliff faces are exposed and degraded, often causing rocks to buckle, slide, fall, or topple down the exposed area onto roads, paths and railway tracks. GSS has vast experience in this specialist area on major remediation projects where falls have occurred, and in planning and preventative maintenance.

Our highly skilled teams use various techniques and the latest technology to identify potential problems and solve them with the most cost effective, long term solutions.

ROCKFALL MESH

Used as a containment solution for crumbling and falling rocks on slopes, cliff faces and open cuts. The process requires high tensile mesh with high stiffness to be applied and securely fixed to the rock by strong anchor points to prevent rocks and debris falling. Experience is critical in correctly identifying the exact points of the rock face for the anchors to ensure the process won't cause further instability or damage to the rock strata, but securing the mesh in place.

Rockfall mesh can be applied efficiently, safely and quickly by the experienced GSS team in almost any terrain. GSS uses the finest materials in rockfall protection, Geofabrics™ and Geobrugg™, industry leaders in providing specialist engineering products for slope reinforcement and Rockfall protection.



GSS is skilled in deploying both "active systems" that limit excessive movement once a rock detachment has occurred, and "passive systems" that intercept falling debris to control and direct the falling rocks away from potential damage.

Rock catch fences are used when fall conditions are unpredictable but still require security and safety measures. Rockfall barriers are tested, assessed to withstand extreme impact in all weather conditions.

ROCK BOLTING

A rock bolt is a long anchor bolt, for stabilising cliff faces, rock excavations, often used in tunnels, rock cuts and on unstable sloping ground. The bolts transfer load from the unstable exterior, to the confined (and much stronger) interior of the rock mass.

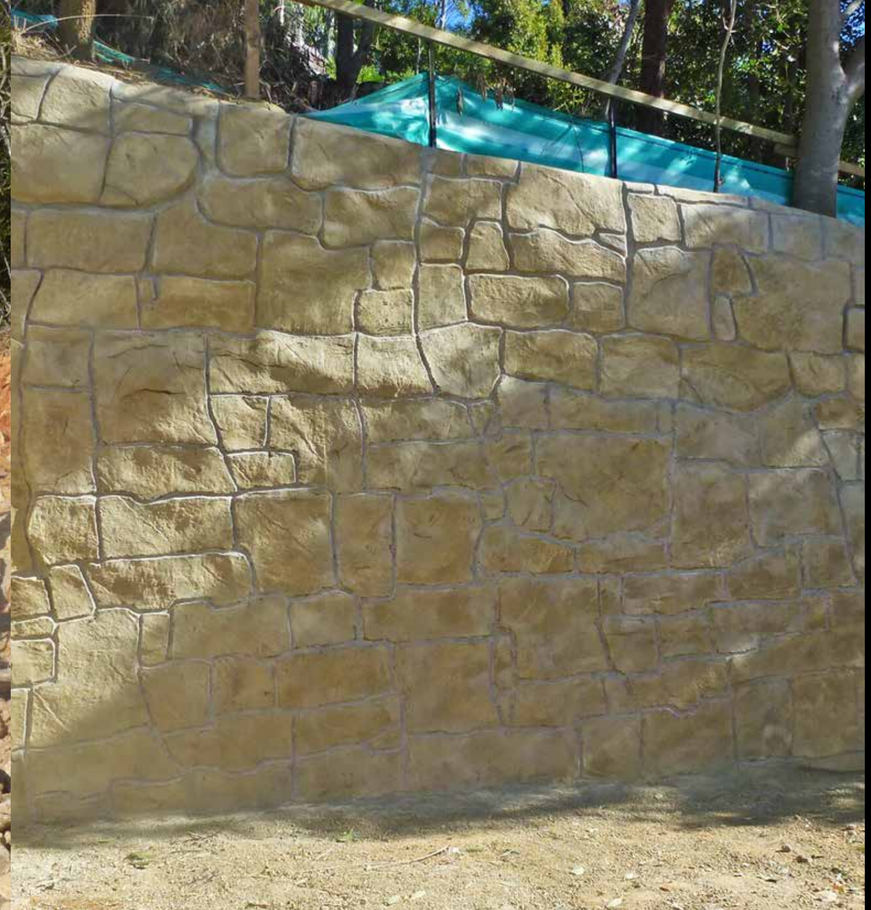
Rock Bolting is necessary for many of the rockfall and containment systems detailed above, especially with rock catch fences and netting systems, as drilling is required to securely anchor these structures into the rock. Specialised equipment and experienced staff are critical in identifying just exactly where and how rock bolts need to be placed.

ROCK SPLITTING

Rock splitting is sometimes necessary to eliminate potential dangers in civil construction, rail and mining environments and must be done by highly skilled operators.

While many operators will often adopt the quickest, most cost effective technique, GSS will always carry out a full assessment for the safest and most effective way in which any rock splitting needs to be carried out.

Careful splitting and removal by skilled mechanical means, is usually the safest and often the most effective manner in which rock splitting can be carried out. GSS has proven that even the largest rocks requiring stabilisation or removal from steep cliff faces can be professionally and safely dealt with.



SHOTCRETE

Shotcrete is concrete conveyed through a hose and pneumatically projected at high velocity onto a surface, as a construction technique. Shotcreting is most often applied where it is impossible to use regular concrete and has, in recent years, become an important construction tool, especially in mining and excavation processes. It is regularly used in slope stabilisation and tunneling.

Shotcreting works particularly well in vertical construction and shoring during excavation stages. It is simple for experienced personnel to apply and renders a quality finish with fast acting results.

GSS utilises many finishes such as:

- Gun finish
- Steel trowel
- Wood float
- Mock rock finish
- Stencil

GROUND STABILISATION

Employing the skills of geotechnical and structural engineers, GSS uses multiple disciplines and techniques to provide control on civil construction, commercial, mining, and residential projects.

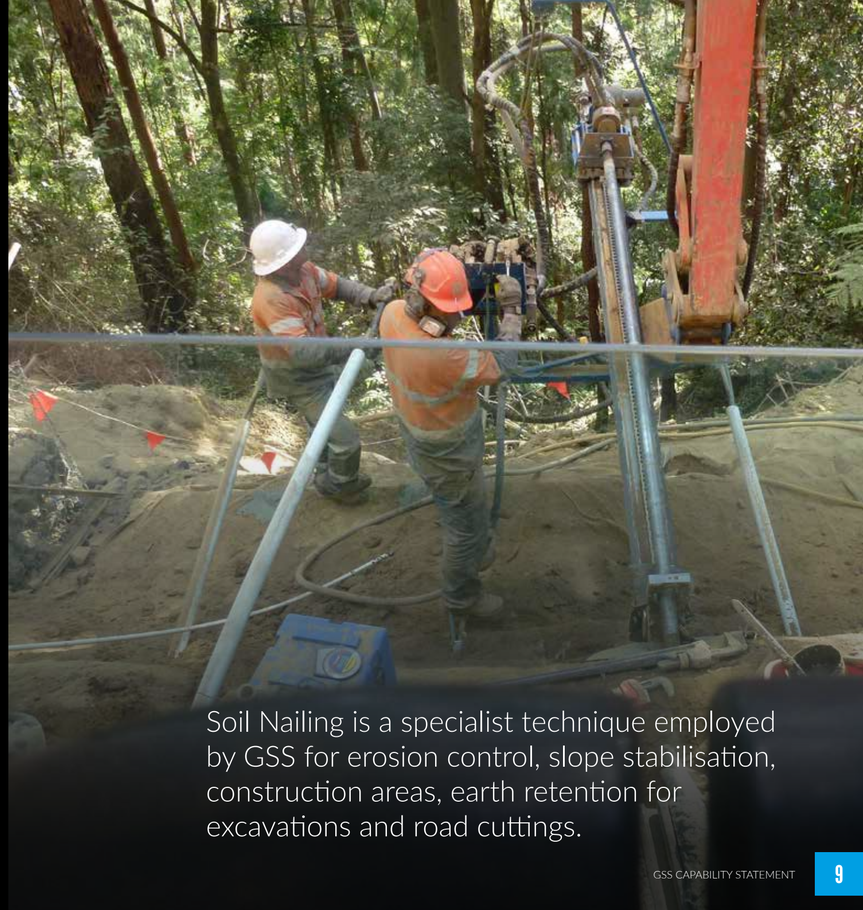
Thorough investigation and planning will ensure that the techniques and equipment used to solve your ground slope engineering task are both efficient and cost effective.

Ground stabilisation is the crucial first step in many civil, commercial and domestic projects. The planning and implementation of the correct procedures and implementation of specific techniques to resolve the challenges of each individual project are often critical to the project's success.

SOIL NAILING

Soil nailing is an earth retention technique using grouted tension-resisting steel or GFRP nails and can be employed for permanent or temporary support.

Fully trained and experienced ground stabilisation crews are needed to correctly execute soil nailing projects. A collaboration of techniques and materials is required to evaluate the ground pressure and to assess which nails and materials are the most suitable for different types of terrain.



Soil Nailing is a specialist technique employed by GSS for erosion control, slope stabilisation, construction areas, earth retention for excavations and road cuttings.

DEWATERING AND DRAINAGE DRILLING

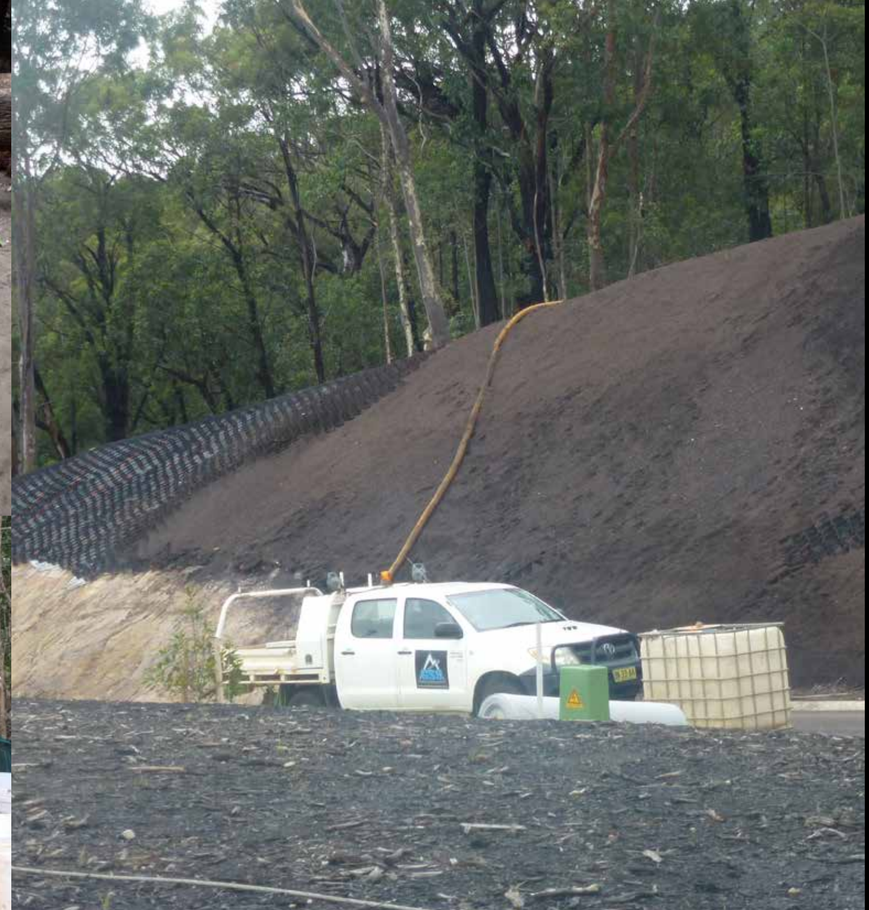
The removal and/or control of ground water pressure or surface water is regularly required to allow civil construction or mining projects to proceed efficiently. GSS has a great deal of experience in solving these issues and offers a range of services in drainage and dewatering. The most common techniques involve either sub horizontal drains drilled at specific angles, large catch drains, v- drains, with water then directed away into to catchment areas.

Our innovative and experienced team utilises the latest techniques and technology to provide best practice solutions in drainage drilling and slope dewatering in even the most extreme terrain.

GROUTING

Grouting can be used to solve problems including soft ground, voids and settlement. It is highly effective in stabilizing slopes and shallow tunnels where a grout mix is applied to fill pores and joints to increase stability.

Grouting provides support and interlocking of fractured joints in the rock and difficult terrain needing stabilisation. Grouting is also used to displace water and air in voids in the soil or rock and in so doing, strengthen the area being treated. Our qualified ground stabilisation crews provide sophisticated, innovative methods in the highly technical process of grout application.



EROSION CONTROL

Effective erosion control is essential for civil construction, building and even maintaining existing buildings and structures when working on or near slopes.

GSS is most often involved in projects from the very early planning stages, carrying out detailed investigation and assessment to identify the correct and most cost effective erosion solutions prior to work commencing. GSS employs numerous techniques and skills to optimise erosion control, subject to the specific project requirements and the type of terrain. These include:

- Rock Bolting
- Shotcrete
- Turf reinforcement matting
- Soil Nailing
- Retaining systems/walls
- Dewatering & Drainage Drilling

RAILWAY AND CORRIDOR PROTECTION

GSS are the experts at keeping your business on track with our many years of experience planning and implementing projects constructing and ensuring the protection of essential rail corridors.

Down time for rail transport is an expensive and in many cases, unnecessary issue. GSS can undertake regular inspections of your rail corridors and related infrastructure to ensure your transport delivery system runs efficiently and trouble free. Our experts will check for potential rockfall and erosion issues, the potential for water damage or unstable slopes and surfaces as well as tunnel infrastructure and maintenance to name but a few of the problems that often adversely affect poorly planned and maintained rail corridors.

We use cutting edge technologies and equipment, backed by an experienced and highly skilled team of professionals and have solved numerous challenges faced by our clients in planning and maintaining their rail transport services.

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MINING AND HIGHWALL PROTECTION

Mining projects bring with them a wide range of special risks and by their nature, require specialist solutions.

The massive weights, vibrations and impacts involved in mining have the potential to destabilise walls, slopes and openings with possible catastrophic results, especially in open cut mining.

Detailed planning and the employment of the correct strategies, equipment and technologies are critical to ensure not only the safety of those completing the task, but the long term structural stability of the area being treated.

Our accredited and experienced team bring with them specialist skills for mining industry projects. GSS works with project engineers to identify potential hazards and provide solutions, minimizing risk to mining personnel and helping to prevent potential damage to infrastructure. GSS uses the latest techniques and equipment to provide a full range of high wall, portal entry and infrastructure stabilisation services for mining.

Ground Stabilisation Systems provides a number of techniques and innovative methods in securing these hard to access areas.

- High Wall Stabilisation
- Portal Entry Stabilisation
- Infrastructure Protection
- High Wall Spot Bolting
- Shaft Repairs

MINING, OIL AND GAS MAINTENANCE

By using difficult access rope techniques our team is able to access essential, areas for inspection and maintenance. Using this technique, our teams are able to detect leaks, undertake repairs, inspect and help plan for scheduled maintenance and provide detailed reports for clients.

Rope access is a highly effective technique for maintaining mining, oil and gas infrastructure where there are often safety concerns regarding the hazardous environment in hard to access areas prone to deterioration and unstable surfaces.

With detailed planning and utilising skilled personnel and innovative technology GSS is equipped to safely undertake and successfully complete hazardous projects safely and efficiently.

DRILLING AND STABILISATION
UTILISING ROPE ACCESS

Rope access is another specialist service provided by GSS and offers a number of benefits in hard to access areas requiring individual solutions. Our fully trained and qualified rope access teams can operate in the most extreme and challenging environments, areas impossible to access with large equipment.

Rope access is most often used on steep, inaccessible or unstable slopes. Using specialised equipment the GSS team can stabilise areas employing drilling techniques for rock bolting, soil nailing, erosion control, drainage systems and rockfall protection to name but a few of the tasks we have successfully completed for many clients using rope access.

This is a specialist skill and one where essential works are sometimes ignored by contractors as being “too difficult.” GSS has the experience, skills and the solution for almost every difficult access slope stabilisation project.

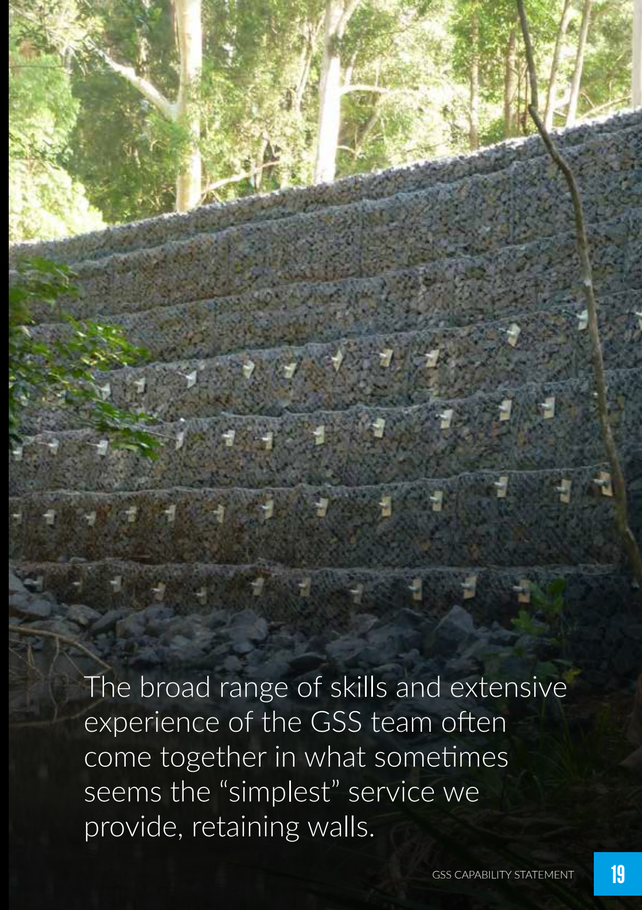
RETAINING
SYSTEMS/WALLS

It is essential that a detailed analysis of the geology of the area and the inherent pressures on any proposed retaining wall are fully and professionally assessed in the planning stage.

Surpisingly however, this can often be one of the most complex project areas, with many retaining walls being subjected to massive forces as well as the extra complications of water and the lack of a stable base on which the retaining wall can sit.

GSS can investigate your particular retaining problem and provide the best and most cost effective solution for a successful outcome. Gabion walls, block walls, gravity walls, drainage, rock bolting, waterproof membranes and shotcreting may all be employed to ensure a successful, long term and worry free solution for the clients.

We offer a range of specialist services in conjunction with retaining systems



The broad range of skills and extensive experience of the GSS team often come together in what sometimes seems the “simplest” service we provide, retaining walls.

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