



expertise in stone

# STONEENGINEERING



a division of land engineering (scotland) ltd

**NATURAL STONE** ▪ RESTORATION ▪ CLADDING ▪ FLOORING ▪ PAVING

# Expertise in Stone

Stone Engineering provides a specialist quality contracting service, harnessing years of extensive experience within the natural stone industry.

As part of Land Engineering and corporate members of the Stone Federation and the Scottish Stone Liaison Group, the division has built a team of highly respected and dedicated managers and masons to successfully help plan and deliver a range of projects including restoration work, new-build cladding, rainscreen cladding, natural stone flooring and external paving.

Stone Engineering can support your organisation in all aspects of the natural stone process:

- **Initial selection and sourcing of materials**
- **Design evaluation, testing and production**
- **Complete installation packages using our teams of experienced craftspeople**

Through our worldwide links with quality stone suppliers we are able to source materials for almost every stone requirement.

Our team has acquired significant expertise through working on some of the most prestigious restoration projects and cladding projects throughout the UK.

We offer extensive services including:

- **Design consultancy and material selection**
- **Restoration and conservation of historic masonry**
- **Traditional masonry construction**
- **Stone cleaning**
- **Stone, precast and rainscreen cladding**
- **Internal stone flooring**
- **External stone paving**

**“At Stone Engineering, we possess an unrivalled range of skills and experience that enable us to build positive working relationships with our clients - from the very first meeting to contract completion”**

*Graeme Hadden, Divisional Manager, Stone Engineering*

We choose to work in a manner that ensures effective delivery of service, all within a culture where safety, quality, environmental issues and employee welfare are paramount considerations.



*Ian Wilkinson (left), Charles Barrett (right)  
Graeme Hadden (back)*

How we conduct ourselves in our business relationships, how we interact with our communities and how we treat the people who work for us and with us, are all critical to ensuring our future success.

**“As an organisation we recognise our responsibility to deliver positive outcomes for employees, clients and society in general.”**

*Charles Barrett, Director, Stone Engineering*



## Stone Engineering... Expertise in Stone

### Introduction

When engaging with Stone Engineering you will be provided with a service tailor made for your project. The commitment and experience of our in-house team of designers, managers and skilled masons combine to deliver quality projects that we and our clients are proud of.

Stone Engineering, based in Livingston, is a division of the Land Engineering Group which has an overall turnover in excess of £45M and 550 staff. Whilst operating independently with its own management structure, support staff and operatives, Stone Engineering can provide additional services and support through the Land Engineering Group. The ethos of customer satisfaction, stringent health & safety practice and consistent quality endorsed by the Group is an integral part of Stone Engineering projects.

### Services

Operating successfully throughout the UK either as principal contractor or sub-contractor, Stone Engineering provides the following services:

- **Design consultancy**
- **Restoration and conservation**
- **Traditional masonry**
- **Stone cleaning**
- **Stone, precast and Rainscreen cladding**
- **Internal stone flooring**
- **External stone paving**

Our in-house design service fully backed by Professional Indemnity insurance allows us to take any project to ensuring the design is developed to a conclusion that meets the client's expectations and requirements. A firm eye is kept on budget, risk and value engineering at all times.

A dedicated and skilled team and a strong commitment to training and safety provide Stone Engineering with the cornerstones to deliver quality, value and sustainability in each and every project that we undertake.

## Stone Engineering truly provides... expertise in stone



## Restoration

The process of restoring a building to its former condition is a complex one. Success requires care and attention to the most exacting standards to ensure that the historical and design integrity of a building can be successfully prolonged for future generations. To protect our heritage, Stone Engineering has built a team of highly experienced and dedicated managers and tradesmen to work with our clients in the planning and implementation of the intricate work required to preserve and restore our historic buildings and monuments.

With our extensive depth of resource we can either operate as Principal Contractor on multi trade restoration projects, or as a specialist masonry sub contractor on contracts up to a value of £5 million.

With a fully qualified workforce comprising of time served stonemasons, highly trained support teams and access to the leading masonry production yards in the UK we are the perfect choice for any restoration project. Our teams have gained their experience working on some of the most important and significant listed buildings such as the Scottish National Portrait Gallery, Portencross Castle and The National Museum of Scotland.

We offer an extensive range of services in the conservation and repair market including:

- **Multi trade stone building restoration projects**
- **Restoration and repair of historic masonry**
- **Lime mortar repairs**
- **Stone cleaning**
- **Technical consultancy on stone design and selection**
- **Building inspections**

Underpinning all aspects of this multi-disciplinary activity is a willingness to collaborate with other industry experts and professionals like Historic Scotland, the Scottish Lime Centre and the British Geological Survey. We are also corporate members of the Stone Federation of Great Britain and the Scottish Stone Liaison Group.

We have close working relationships with clients and conservation architects to provide the highest standard and quality of workmanship. We also share our technical knowledge with conservation professionals through the provision of CPD seminars. Looking to the future, Stone Engineering provides opportunities for apprenticeships in stonemasonry to ensure continuity of a well trained and highly skilled workforce for the years to come.



## Natural Stone Cladding

The external façade of a new building is the most significant architectural feature of any project. When the choice is made to use a natural stone cladding solution, a significant benefit will be achieved from quality, sustainability and environmental perspectives.

To deliver these benefits it is imperative that the cladding is correctly procured, designed and installed to meet the needs of the client.

Stone Engineering is ideally placed to provide a comprehensive external cladding service for:

- **natural stone cladding**
- **rainscreen cladding**
- **precast cladding**
- **traditional masonry construction**

With our extensive depth of knowledge and experience gained over many years, we can devise solutions to meet the exact needs of any project.

From the outset, our in-house design team can assist our clients in the development of key factors such as material selection, layout and fixing details, and importantly, construction budgets.

Our management team has experience in the development of innovative fixing solutions in response to site-specific challenges. They are expert in identifying the most practical fixing system, thus creating a value engineering solution for the client.

We can provide a full design and installation service in exterior façades on projects up to a value of £5 million throughout the UK, giving the client and design team confidence and security when specifying an external envelope.

With our wide ranging experience Stone Engineering is the ideal first choice when considering a quality external façade.



## Rainscreen Cladding

Natural stone Rainscreen façades are fast becoming one of the most popular options for designers when it comes to choosing a cladding system.

While retaining much of the elegance and intrinsic value associated with natural stone it can satisfy the needs of the modern client both in terms of the construction cost and the lifetime performance of the building.

Stone Engineering has developed leading expertise in the supply and construction of natural stone Rainscreen, having been involved in the design and build of these façades on some of Scotland's most prestigious contemporary buildings.

Designed to reduce cladding weight and so lower initial load-bearing structure costs, the use of Rainscreen techniques also provides the opportunity to increase thermal efficiency and reduce lifecycle costs.

The sustainability benefits of this form of cladding include:

- **Reduction in volume of natural stone**
- **Lighter façade fixed to primary frame**
- **Shorter construction period**
- **Increased cavity, optimising thermal efficiency**

With a fully trained workforce, backed by our own in-house design service we can provide a full design, supply and installation service of lightweight Rainscreen façades in a wide range of materials for projects up to a value of £5 million throughout the UK.

We urge our clients to access our in-house professional design team at an early stage in future projects to maximise the benefits of our unique expertise.



## Paving

We recognise the importance of combining aesthetic excellence with functional durability in public realm landscaping contacts. Our dedicated management and construction teams appreciate the importance of this and through the application of their skills and expertise, provide consistent quality and construction certainty.

Natural stone paving, pre-cast paving or a mixture of both can be utilised to enhance the beauty and durability of a hard landscape or public realm scheme. Our reputation for delivering the highest quality of work will ensure that this is achieved.

Our construction service incorporates both traditional and performance based specifications and value engineering appraisals to the design team. If required we can provide a full design and construct service for public realm work endorsed with extended warranties on workmanship and materials.

The multi disciplined capability within the Land Engineering Group allows us to offer single point delivery of a complete external works package, from enabling works and infrastructure development, through to the installation of street furniture, lighting and soft landscaping elements.

Complementing this stone paving service we can provide long term certainty on public realm services on both a planned and reactive basis through a maintenance contract with our clients, which we have successfully delivered over the last ten years. This can also include the coordination, management and reinstatement of public realm areas following public utility activities to ensure the integrity of the scheme is not compromised.

# Case Study

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## Hotel du Vin, Edinburgh

Contract Value	£350,000
Contract Period	three months
Client	Thomas Johnstone
Architect	Curious Architecture

### Project summary

Hotel du Vin in Edinburgh's Old Town is one of the city's most exclusive boutique hotels and Stone Engineering is delighted with the part it played in its creation.

The project consisted of refurbishment and restoration of a number of derelict buildings and a new build on an adjacent gap site. Stone Engineering was tasked with the construction of masonry works for the new building - requiring the highest standard of stone cladding - and the complex restoration work on the existing buildings.

Working closely with the project architect and Thomas Johnstone's contract team, Stone Engineering provided technical consultancy on the selection of material, designed and installed the new façade and courtyard and restored and repaired the existing masonry, all within the allotted timescale and budget.

Hotel du Vin - with its historic character and setting - is a truly unique project of which Stone Engineering is rightly proud.



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## Royal Museum Redevelopment

Contract Value	£500,000
Contract Period	34 weeks
Client	National Museums Scotland
Main Contractor	Balfour Beatty
Architect	Gareth Hoskins Architects

### Project summary

The £46 million redevelopment of the Royal Museum in Chambers Street in Edinburgh is one of the most prestigious and challenging projects with which Stone Engineering has been involved.

We have been engaged on the sensitive removal and rebuilding of masonry within the museum basements and the construction of a major feature entrance at ground level.

Work has involved the careful dismantling of structural spine walls, forming openings to create new display areas, redressing stone to match original appearance and the construction of new stone piers.

Our fully trained and experienced stonemasons have revelled in their work, transforming the very heart of this famous building to create new public spaces and areas that will encourage visitors to its famous collections.

The Royal Museum adjoins the new Museum of Scotland and when work is completed they will together provide a world-class visitor experience.



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## The Cube, Edinburgh

Contract Value	£1.3M
Contract Period	8 months
Client	Kilmartin Property Group
Architect	Allan Murray Architects

### Project summary

The Stone Engineering team played a pivotal role in the design and construction of the innovative Rainscreen façade for The Cube, a prestigious six-storey office block in Leith Street in Edinburgh city centre.

The £20million development, with 66,000sq ft of office space, was designed by award-winning Edinburgh architect Allan Murray for the Kilmartin Property Group.

Stone Engineering was engaged to design, supply and construct 2500 square metres of external stone façade for the prestigious development, a landmark project for the company.

Using an innovative Rainscreen system, the Stone Engineering team developed a technical solution to meet the architect's need to construct an open-jointed masonry-clad building and achieve both effective waterproofing of the building and a high degree of thermal efficiency. By adopting the Rainscreen approach, these needs were met and significant benefits were achieved in reducing the weight of individual stone panels, thus assisting economy of construction of the façade.



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## Turnberry Hotel

Contract Value	£1.1M
Contract Period	11 weeks
Client	Interserve Project Services Limited
Architect	Ironside Farrar

### Project summary

Stone Engineering was delighted to play a major role in the £30million restoration and refurbishment of the world famous Turnberry Hotel in preparation for the 2009 Open Championship.

We were awarded the external works package comprising high quality natural stone paving to the hotel courtyard, reconstruction of the brick paved access road, installation of feature fountain, the replacement of the foul and surface water drainage system and significant high quality tree and shrub planting.

Terraces and footpaths at the hotel frontage were also completely renovated and considerable areas of new grass were replaced and new ornamental flowerbeds created.

The programmed period for the completion of the works was exceptionally tight and the completion date had to be met to ensure that the hotel could be re-opened in time for the 2009 Open Championship.

In keeping with a five star hotel environment, the quality of the finishes to the hard and soft landscaping had to be of the highest standard and to this end supervision of workmanship and selection of materials was crucial to meeting the aspirations of the client and the needs of Historic Scotland.

Throughout the construction period, close liaison with Interserve and their other subcontractors was essential to facilitate the progression of the work to meet the client's deadline and aspirations.



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## Merchiston Park House

Contract Value	£70,000
Contract Period	8 weeks
Client	Allan Murray Architects
Architect	Allan Murray Architects

### Project summary

As a direct result of viewing our team's skills and experience at first hand, the client approached us directly to provide the design and construction of a natural stone façade at Merchiston Park House, a private dwelling house.

The house was constructed using a high-spec insulated panelised system, clad with natural sandstone. Our team provided specialist support to facilitate the complex design and thermal efficiency issues associated with the frame. We also sourced the precise materials required by the client to ensure his quality, environment and aesthetic objectives were achieved.

Working within the specified timescale and budget, Stone Engineering proceeded to construct the stone cladding to the very high degree of tolerance and accuracy required.



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## Portencross Castle

Contract Value	£750,000
Contract Period	March 2009 – June 2010
Client	Friends of Portencross Castle
Architect	Gray Marshall Associates

### Project summary

The castle's status as a scheduled ancient monument and its location beside the crashing waves of the Firth of Clyde presented Stone Engineering's team with a number of unusual challenges. The first task on site was to erect specialist cantilever scaffolding without fixing onto the listed building to allow the stonemasons to work safely – particularly on the two sides of the castle overlooking the waters of the Clyde.

Maintaining the historic integrity of the original stonework was paramount throughout the restoration and before each phase of external work could begin the team spent days photographing and recording the position of stones to ensure they would be replaced in exactly the same position.

Stone Engineering sourced samples for the design team and they selected three – Dunhouse buff sandstone for the replacement quoins (cornerstones), Corsehill red sandstone for the replacement wall indents and St Bees stone for the slab and trough parapet walkways. Caithness stone was selected for the floors of the great hall, kitchen and west garret display area on the roof.

The stonemasons welcomed the opportunity to work with these traditional materials and techniques, despite the labour intensive nature of the work and the constant threat of disruption from the Scottish weather. This phase also provided excellent experience for the stonemason apprentice who worked throughout the project alongside experienced workmates.

When the external stonework was complete the team turned to the construction of a new lead roof and an extensive viewing platform offering stunning views across the Clyde. A new steel and oak spiral staircase was built and suspended from the ceiling of the roof and new solid oak doors with hand made looks and latches were installed.

In the final phase the castle gained some modern additions. Electricity was installed along with telephone lines, fire alarms and internet connections.



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