Bolsover Castle Canopy

Design & Access Statement
June 2021

Version history

Project name: Bolsover Castle Canopy
Project number: 9110
Client: English Heritage

Rev:	Date:	Status	Name	Description
2	11.06.21	Planning	Adam Lewis | Architect	Issued for planning
1	10.06.21	Draft	Adam Lewis | Architect	Issued for comment

Buttress

Buttress Architects Ltd.
41 Bengal St.
Manchester
M4 6AF

T: 0161 236 3303
W: www.buttress.net

1.0 Introduction

1.1 Introduction

1.1.1 This Design & Access Statement (DAS) is provided on behalf of English Heritage for the proposal of a new structural canopy within the Fountain Garden at Bolsover Castle. The application has been developed to ensure that any proposals are fully informed and sensitive to the historic context.

1.1.2 The proposal intends to improve rainwater dispersal from the central chute to the north east elevation of the Little Castle, as well as protect the castle fabric from further deterioration.

1.1.3 The information contained herein should be read in conjunction with all associated drawings, heritage impact assessment and structural engineers report that comprise the application.

2.0 Site Context

2.1 Location & Use

2.1.1 The proposed location of the canopy is to be along the north-east elevation of the Little Castle wall within the Castle's Fountain Garden. The Little Castle at Bolsover is Grade I listed and the site surrounding the structure is a Scheduled Monument. The majority of the site is listed as Grade I in the Register of Historic Parks and Gardens and is also within the Bolsover Conservation Area.

2.2 Historical Context

2.2.1 Bolsover Castle was founded in the late C11. The Castle was neglected from the middle of the C14 and, in 1612, the ruins provided the setting for the Little Castle at the north-west corner of the site. This was to be a retreat for Charles Cavendish from his principal seat at nearby Welbeck.

2.2.2 The Little Castle was inherited by William Cavendish in 1617 upon the death of his father. Over the next half century William added the Terrace and Riding House Ranges, making Bolsover a place of aristocratic reception, entertainment and pleasure.

2.2.3 William fought for the Royalists during the Civil War but he was defeated at the Battle of Marston Moor in 1644 and went into exile. On his return in 1660 he repaired Bolsover, built the Riding House Range and rebuilt the state apartment.

2.2.4 Cavendish's son, Henry, dismantled the state apartment around the late 1680s and by the 1770s the Terrace Range was in ruins. The estate descended to the Duke of Portland who retained the Little Castle as a retreat until the early 19th century, when it was let to John Hamilton Gray, vicar of Bolsover.

2.2.5 After Bolsover Colliery opened in 1889, the castle suffered from the effects of mining subsidence and pollution. In 1946 it was taken into guardianship. The Ministry of Works then stabilized and repaired the fabric. Since 1984 it has been in the care of English Heritage.

2.2.6 The main entrance is on the west side where steps lead up from a viewing platform to an entrance flanked by towers. Balconies on two sides of the building give views out to the west and into the more intimate setting of the Fountain Garden to the south. The building is a highly individual synthesis of architectural styles suffused with the romantic medievalism characteristic of the culture of Elizabethan and Jacobean court circles. The fantastic architectural style is consistent with the fact that it was not originally designed as a principal residence but as a place of entertainment.

3.0 Proposal Overview

3.1 Proposal Background & Justification

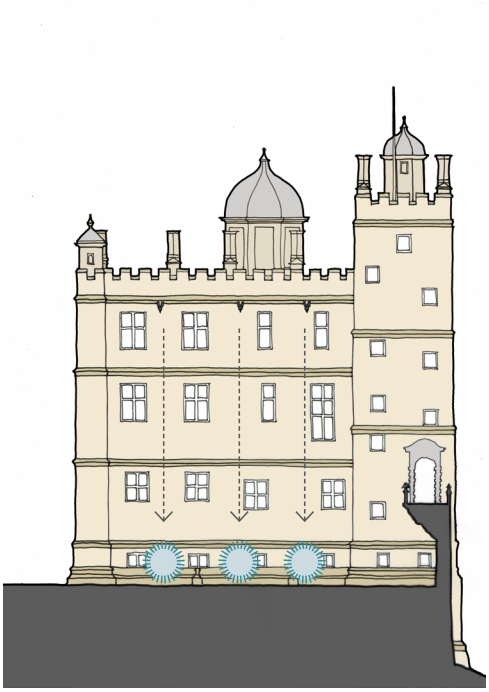
3.1.1 Significant consideration has previously been given to ensuring that rainwater can be adequately removed from the roof of the Little Castle. This has resulted in a number of phases of work to adjust and refine the strategy for this. Following significant water ingress in a number of the principal spaces internally, the strategy for removal of rainwater has been further reviewed.

3.1.2 The current strategy for removal of rainwater utilises the original arrangement, whereby water is discharged via several chutes which project beyond the four principal elevations. The chutes discharge directly onto the ground below. This arrangement is satisfactory to the north-east, south-east and south-west elevations. Water discharging from the chutes to the north-east elevation appears to be saturating the ground and below ground fabric. One of the chutes to the north-west elevation projects over a staircase which provides access to the basement and former kitchen and is part of the principal visitor route. Water discharging from this chute cascades down the staircase and into a gulley. This gulley is not sufficient to adequately remove rainwater from the central chute and this arrangement presents a significant health and safety issue when water is cascading down the staircase and does not allow the expedient removal of rainwater away from the fabric.

3.1.3 Further, such is the extent of saturation that there is evident deterioration and loss of below ground fabric internally to this elevation. Masonry to the basement is saturated and there is significant microbiological growth to the face of plastered surfaces. In other areas internally across this elevation the plasterwork has failed and this has resulted in the requirement for stabilisation and/or removal. This design response proposes to address the issues described above, arrest the progressive deterioration of the fabric and remove the hazard of flowing water on a principal visitor route.

3.1.4 A number of options have been considered to divert rainwater from discharging on the north-east elevation. This commenced with a review of the arrangement and performance of the existing roof covering. To adapt or refine this arrangement would require significant alteration, intervention and loss of historic fabric. This option was therefore discounted.

3.1.5 A comprehensive inspection and review of the existing below ground drainage system was undertaken and works were identified to moderately improve the removal of groundwater away from the north-west elevation. Due to the current arrangement of the central chute this arrangement is unable, without further significant intervention above ground, to address the impact on both fabric and visitors from rainwater exiting the roof in this location. To address this issue it is proposed to provide a canopy over the staircase to divert water away from the fabric and principal visitor route.



Rainwater discharge from chutes on North East Elevation

3.2 Design Response

3.2.1 The principal aim of the canopy is to help protect the basement stairwell directly below the central rainwater chute and allow the expedient removal of rainwater away from the fabric to the north-east elevation. The design was informed by this key aim.

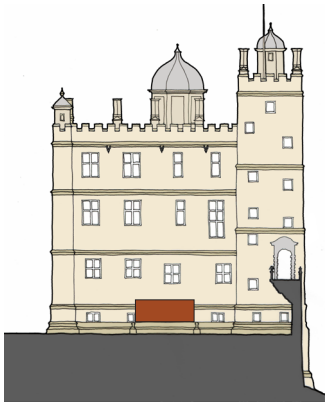
3.3 Design Response Development

3.3.1 A number of different options were considered in order to develop the most appropriate response, both in terms of form and function. By understanding the issues, context and significance, as well as exploring various practical requirements, an elegant, revisable and practical intervention could be established.

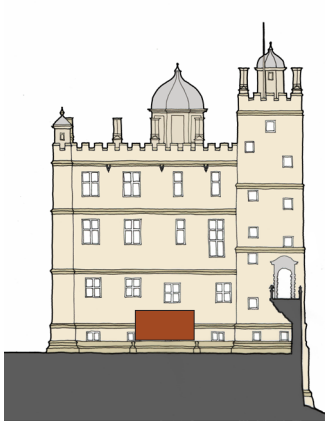
3.3.2 As part of the design process, a number of options were presented to Historic England for comment and feedback was provided against these. This feedback offered the opportunity to reflect on the proposed design of the canopy and has informed the development of the preferred option which it is believed provides a design that is contextual and sympathetic to the fabric.

3.3.3 The preferred option (option 3) consists of a single horizontal plane and two vertical planes. These elements articulate, reflect and enhance the architectural language of the north-east elevation. This option significantly reduces the impact of a canopy on both the structure and landscape, as well as the level of intervention required below ground, compared to options 1 and 2. (Options analysis shown in detail on opposite page).

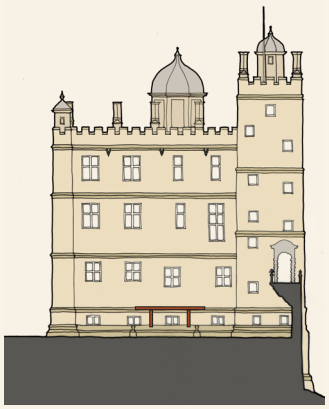
3.3.4 The design response has explored a number of potential approaches to the form of the roof of the canopy. This included a review and interrogation of the potential to incorporate a pitched element within the design. This was tested both architecturally and structurally and discounted due to the impact a pitch would have on overhead clearance (head height), light, ventilation, security, health and safety and the ability for the existing retaining wall to structurally support such an intervention.



Option 1



Option 2

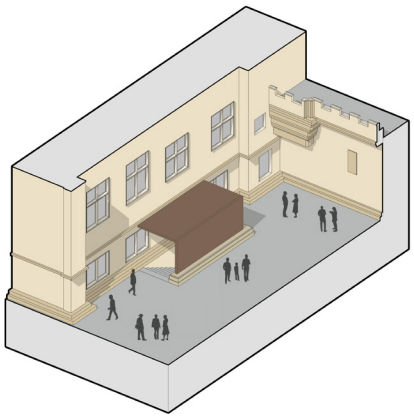


Option 3: Design Response

A refined design comprising of a form reduced in mass with a simple, traditional and elegant palette of materials to ensure any impact on the north-east elevation and contract is minimal.

Principals behind Option 1:

01. Canopy supported on the wall.
02. Pitched design to help rainwater run-off.
03. Opening up the vertical plane.
04. Contemporary alternative.

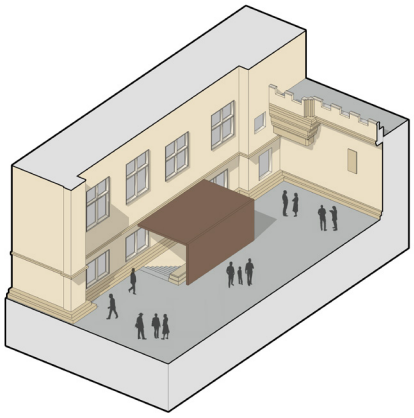


- ✓ Support from wall reduces number of fixings into ground.
- ✓ Openings can be formed to reduce impact of elevation.
- ✓ Sympathetically relates to the historic canopy design.
- ✓ Contemporary in design.

- ✗ Possible fixings required into Little Castle wall.
- ✗ Large area of historic elevation blocked by vertical elements.
- ✗ Requires support from historic structure.

Principals behind Option 2:

01. Free-standing canopy without reliance on historic fabric.
02. Adding elevational interest and reducing the heavy form.
03. Opening up the vertical plane and integrating seating.
04. Contemporary alternative.

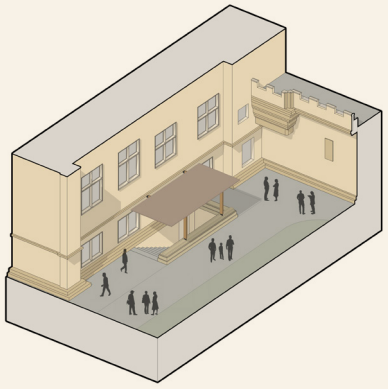


- ✓ Not reliant on historic fabric for support.
- ✓ Openings can be formed to reduce impact on elevation.
- ✓ Sympathetically relates to the historic canopy design.

- ✗ Possible fixings required into Little Castle fabric.
- ✗ Large area of historic elevation obscured by vertical elements.
- ✗ Requires large footprint and increased structure for cantilever.

Principles behind Developed Option:

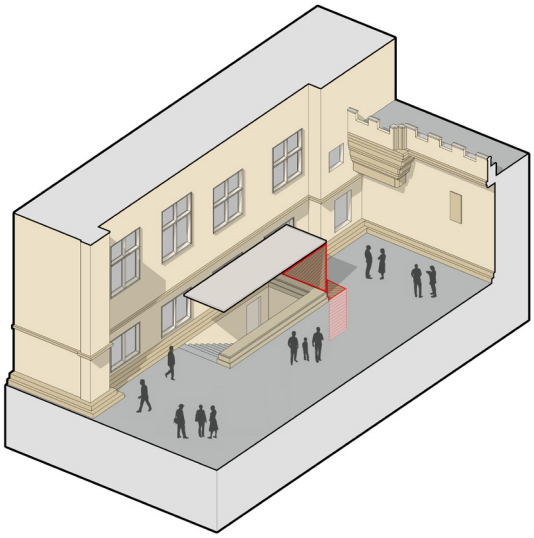
01. No large or intrusive foundations necessary.
02. Adding elevational interest and reducing the heavy form.
03. Opening up the vertical plane and not disrupting site lines from the path.
04. Traditional in form and harmonious to the context.



- ✓ Only minor connections into historic fabric for support.
- ✓ Dramatically reduces visual impact on principal elevation.
- ✓ Sympathetically relates to axis and existing structure.
- ✓ Uses materials that are contextual and traditional.

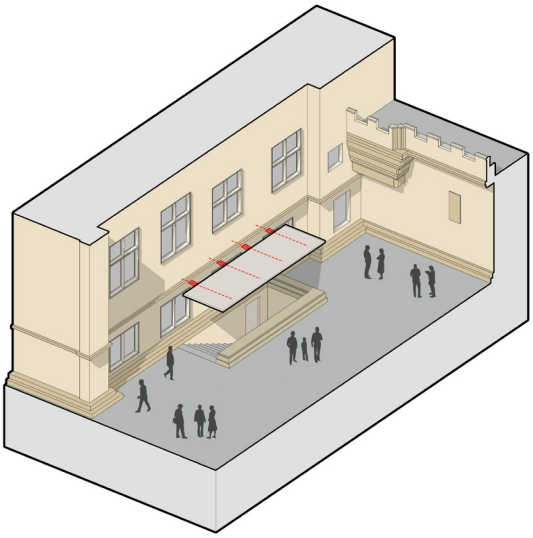
- ✗ Requires fixing into the existing masonry in 4no. locations. However this can be done as discreetly and sensitivity as possible to avoid damage to the fabric.

3.4 Further developing the proposal



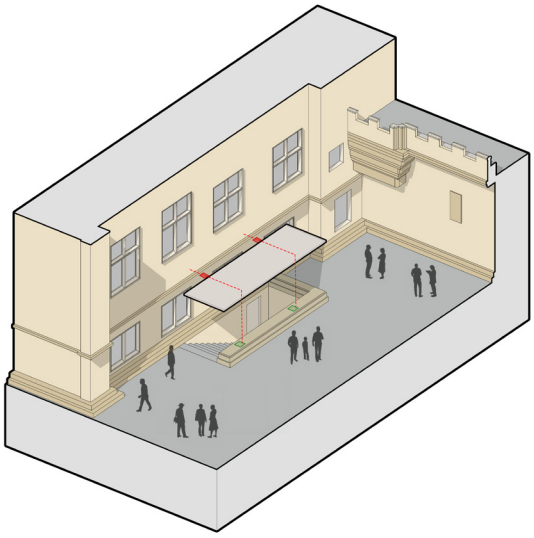
Development 01

Removal of any solid vertical element to reduce visual impact of structure on Little Castle and landscape, maintain visibility of north-east elevation from all aspect and remove requirement for below ground intervention.



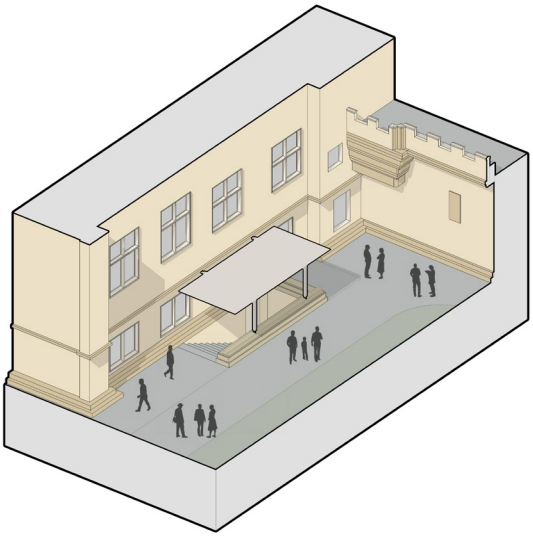
Development 02

Introducing small discrete fixings in isolated locations to support a lightweight canopy structure.



Development 03

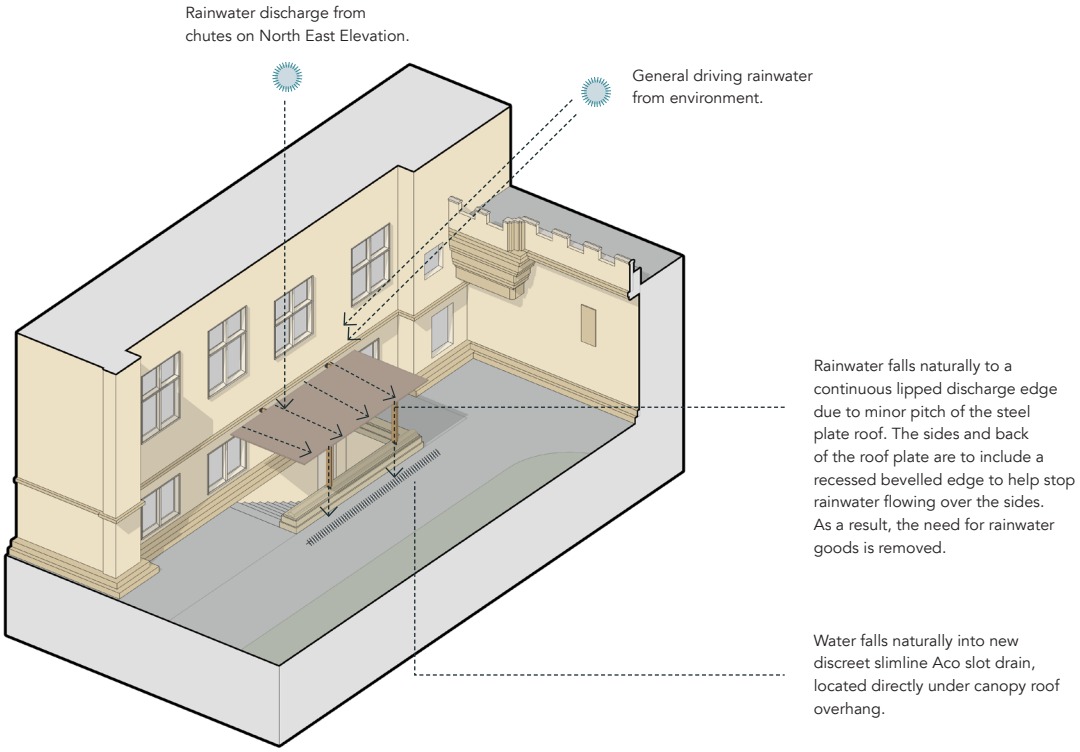
Utilising the retaining wall to the front of the north-east elevation mitigate any requirement for a foundation and/or below ground interventions.



Development 04

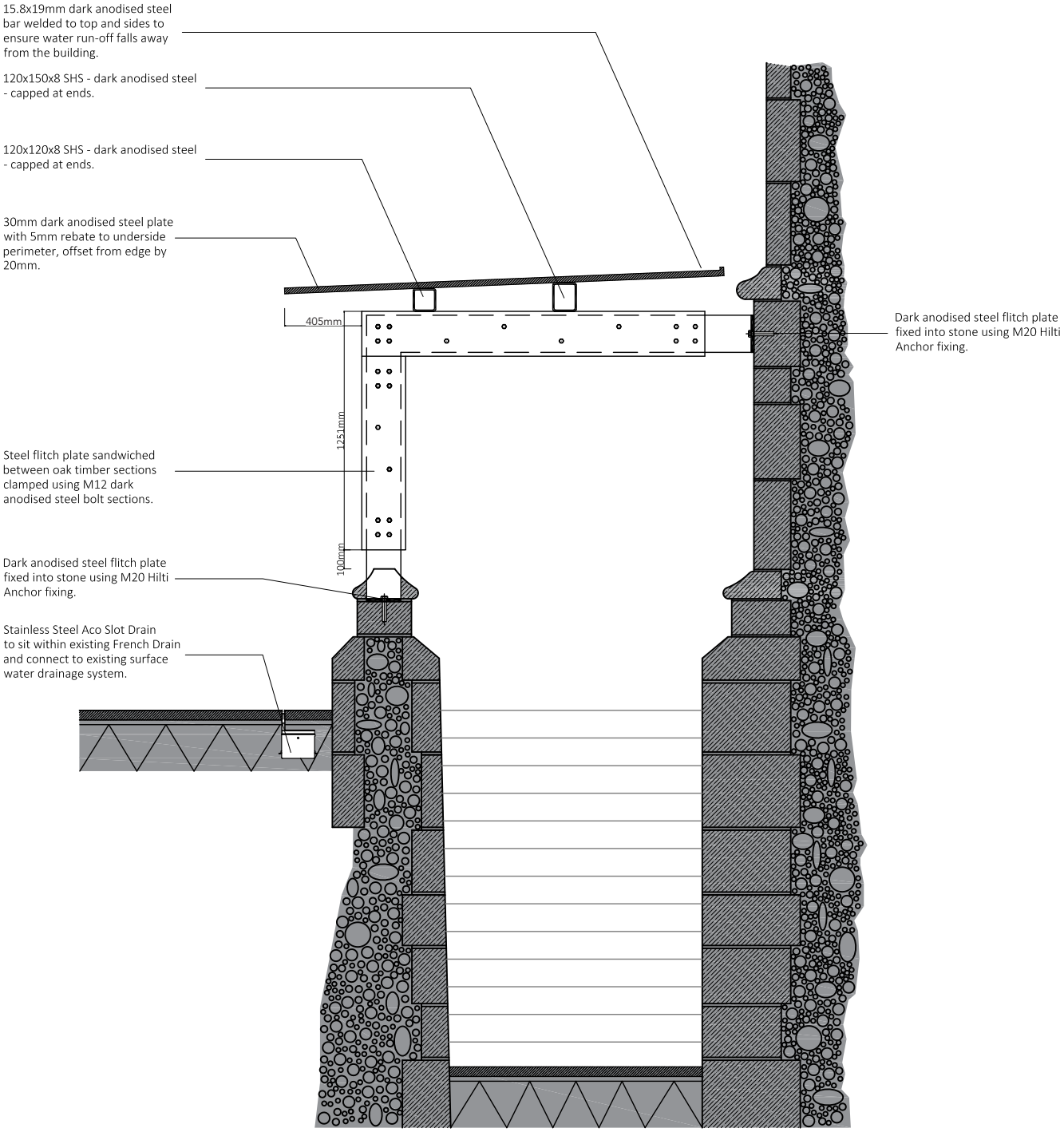
A refined design which is traditional in both form and materiality whilst reducing any requirement for below ground intervention and intrusive fixings. The visual impact on the north-east elevation of the Little Castle and surrounding landscape is further reduced.

3.5 Preferred Developed Option



Rainwater considerations

3.6 Preferred Structural Strategy



4.0 Design

4.1 Amount

4.1.1 The proposal is for a single canopy over the staircase leading to the basement to the north-east elevation.

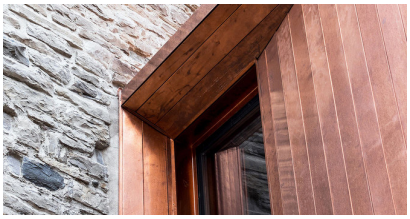
4.2 Materiality

4.2.1 Materials used for the canopy design have been carefully considered in order to minimise the physical and visual impact of the new structure. They have also been chosen to not compete with the listed asset adjacent, but sensitivity complement the castle fabric.

4.2.2 Careful consideration has been given to the development of a traditional palette of materials which do not detract from the historic fabric. The properties of these include non-reflective, robust and high-quality materials.

4.2.3 It is proposed that timber is used for the horizontal and vertical members, and a single thick anodized or oxidized steel sheet would be used to create the canopy roof. Other materials were investigated for the roof of the canopy (eg. a more traditional zinc or copper cladding), but it was believed this may cause unwanted galvanic corrosion to the surrounding fabric, as well as the new canopy itself, due to water falling from a dissimilar metal roof (lead). Cladding the canopy roof would also increase the required structural member sizes, which would create a more visually intrusive intervention.

4.2.4 A single thick steel sheet for the roof also helps to create a more efficient structure for discharging water run-off and more successfully visually aligns the intervention to the existing adjacent fabric.



Materiality precedents showing traditional material palette, tone and colour.

Visualisation showing sensitive and contextual traditional material palette.

5.0 Trees

Trees should be unaffected by any works.

6.0 Accessibility & Maintenance

6.1 Access

6.1.1 The canopy sits adjacent to the 18th century walled garden pedestrian path and is easily accessed by foot. There is currently no vehicular access across this area of the site. The access arrangements will remain as existing.

6.1.2 The proposal seeks to improve and enhance access to the basement of the Little Castle.

6.2 Maintenance & Crime

6.2.1 The proposal is intended to be present on the site 24 hours a day throughout the year and have therefore has been designed to minimise the risk of damage by crime. Although the site is locked at night, considerations have been made to reduce the of risk vandalism and anti-social behaviour.

6.2.2 By choosing robust and hard-wearing materials the risk of vandalism has been reduced for the new canopy structure. There are no glazed or delicate elements to the proposal.

6.2.3 Due to previous metal thefts at the site, it was also decided against using zinc or copper for the roof material as this may cause unwanted crime based on the previous site history.

6.2.4 Due to the small size of the canopy, the structure can be maintained from ground level with a temporary safe access tower scaffold as required, and cleaned using a reach and wash system.

7.0 Supporting Information

Design and Access Statement to be read in conjunction with the following;

- (01) 000_Location plan
- (01) 001_Site Plan
- (01) 002_Plan as Existing
- (02) 001_Existing North East Elevation
- (02) 002_Existing South East Elevation
- (04) 001_Plan as Proposed
- (05) 001_Proposed North East Elevation
- (05) 002_Proposed South East Elevation
- (06) 001_Proposed Section A-A'
- 9110_Canopy Structural Appraisal
- 9110_Heritage Assessment

8.0 Conclusion

The proposal aims to address issues with significant water ingress to the historic fabric below ground level to the north-east elevation, expedite and improve removal of rainwater discharging from the central chute overhead, and mitigate rainwater cascading down the stairs further impacting on the condition of the fabric.

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Architects | Masterplanners | Heritage Consultants